RESOLUTION NO. 2006-156

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CARLSBAD, CALIFORNIA, CERTIFYING ENVIRONMENTAL IMPACT REPORT EIR 03-05, ADOPTING THE CANDIDATE FINDINGS OF FACT, STATEMENT OF OVER RIDING CONSIDERATIONS, AND THE MITIGATION MONITORING AND REPORTING PROGRAM FOR THE PRECISE DEVELOPMENT PLAN AND DESALINATION PLANT PROJECT, WHICH AFFECTS PROPERTIES AND STREETS IN THE CITIES OF CARLSBAD, OCEANSIDE, AND VISTA.
CASE NAME: PRECISE DEVELOPMENT PLAN AND DESALINATION PLANT
CASE NO: EIR 03-05

WHEREAS, on May 3, 2006, the Carlsbad Planning Commission held a duly noticed public hearing to consider a proposed Environmental Impact Report (EIR 03-05) and adopted Planning Commission Resolution No. 6087, recommending to the City Council certification of EIR 03-05 and adoption of the Candidate Findings of Fact, Statement of Overriding Considerations, and the Mitigation Monitoring and Reporting Program; and adopted Planning Commission Resolutions No. 6088, 6089, and 6090 recommending approval of PDP 00-02, SP 144(H), and DA 05-01, respectively, subject to the City Council certification of EIR 03-05 and adoption of the Candidate Findings of Fact, Statement of Overriding Considerations, and the Mitigation Monitoring and Reporting Program; and

WHEREAS, the City Council of the City of Carlsbad, did on the 13th day of June, 2006, hold a public hearing to consider the recommendations and heard all persons interested in or opposed to EIR 03-05; and

WHEREAS, a Draft Environmental Impact Report was prepared and submitted to the State Clearinghouse and a Notice of Completion filed, published, and mailed to responsible agencies and interested parties providing a 45-day review period; and
WHEREAS, all comments received during the review period are contained in the Final EIR; and

WHEREAS, following publication of the Final EIR and distribution of responses to commenting parties, certain parties continued to submit comments up to and including testimony given at the project’s public hearing held by the City of Carlsbad Planning Commission on the project on May 3, 2006; and

WHEREAS, in order to address all issues raised by the public on the proposed project and provide comprehensive disclosure and documentation of environmental issues associated with the project, additional responses to comments were prepared and revisions to the Final EIR were made as shown on attached Exhibit 1 and as hereby incorporated into the Final EIR for consideration by the Carlsbad City Council; and

WHEREAS, the additional responses to comments and revisions to the Final EIR necessitated new Findings be added to the Candidate Findings of Fact as shown on attached Exhibit 2 and as hereby incorporated into the Candidate Findings of Fact for consideration by the Carlsbad City Council; and

WHEREAS, the information contained in the additional responses, revisions to the Final EIR, and new Candidate Finding of Fact does not rise to the level of “significant information” as described in California Environmental Quality Act (CEQA) Guideline 15088.5(a). Instead, the information provided merely clarifies and amplifies discussion already contained in the Final EIR, and provides background information on past policy decisions and direction taken by the City, primarily with regards to water conservation. As such, recirculation of the Final EIR is not required because the new
information added to the EIR only clarifies, amplifies and makes insignificant
modifications to an adequate EIR (CEQA Guideline, 15088.5(b)).

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of
Carlsbad, California, as follows:

1. That the above recitations are true and correct.

2. The City Council does hereby find that the Final EIR 03-05, as modified by
Exhibit 1 attached hereto, the Candidate Findings of Fact, as modified by Exhibit 2 attached
hereto, the Statement of Overriding Considerations, and the Mitigation and Monitoring Program
have been prepared in accordance with requirements of the California Environmental Quality
Act, the State EIR Guidelines, and the Environmental Review Procedures of the City of
Carlsbad.

3. The City Council has reviewed, analyzed, and considered Final EIR 03-05, as
modified by Exhibit 1 attached hereto, the environmental impacts therein identified for this
project, the Candidate Findings of Fact, as modified by Exhibit 2 attached hereto, the Statement
of Overriding Considerations, and the Mitigation and Monitoring Program prior to approving the
project, and they reflect the independent judgment of the City of Carlsbad City Council.

4. The City Council does accept as its own, incorporate as if set forth in full herein,
and make each and every one of the findings contained in the Candidate Findings of Fact, as
modified by Exhibit 2 attached hereto, including feasibility of mitigation measures pursuant to
Public Resources Code 21081 and CEQA Guidelines 15091, and infeasibility of project
alternatives.

5. The City Council hereby finds that the Mitigation and Monitoring Program is
designed to ensure that during project implementation and operation the Developer and any
other responsible parties implement the project components and comply with the feasible
mitigation measures identified in the Candidate Findings of Fact, as modified by Exhibit 2
attached hereto, and the Mitigation and Monitoring Program.

6. Although certain significant or potentially significant environmental effects caused
by the project will remain, even after the adoption of all feasible mitigation measures and any
feasible alternatives, there are specific economic, social, and other considerations that render
the unavoidable significant adverse environmental effects acceptable, as set forth in the
Statement of Overriding Considerations.

7. The Record of Proceedings for this project consists of the Environmental Impact
Report, as modified by Exhibit 1 attached hereto, Candidate Findings of Fact, as modified by
Exhibit 2 attached hereto, Statement of Overriding Considerations, and Mitigation and
Monitoring Program; the "Record" upon which the City Council bases these Candidate Findings
of Fact and its actions and determinations regarding the project includes, but is not limited to,
the Draft EIR, together with all appendices and technical reports referred to therein, whether
separately bound or not; all reports, letters, applications, memoranda, maps, or other planning
and engineering documents prepared by the City, planning consultant, environmental
consultant, project applicant, or others presented to or before the decision-makers as
determined by the City Clerk; all letters, reports, or other documents submitted to the City by
members of the public or public agencies in connection with the City's environmental analysis
on the project; all minutes of any public workshops, meetings, or hearings, including the scoping
sessions, and any recorded or verbatim transcripts/videotapes thereof; any letters, reports, or
other documents or other evidence submitted into the record at any public workshops, meeting,
or hearings; matters of common general knowledge to the City that the City may consider,
including applicable State or local laws, ordinances, and policies, the General Plan, Zoning
Ordinance, Local Facilities Management Plans, and all applicable planning programs and
policies of the City; and, all findings and resolutions adopted by the City in connection with the
project, including all documents cited or referred to therein.

The custodian of the full administrative record shall be the City Clerk's Office, 1200 Carlsbad
Village Drive, and the Planning Director, 1635 Faraday Avenue, both in Carlsbad, CA 92008.

8. That the Environmental Impact Report (EIR 03-05) on the above referenced
project, as modified by Exhibit 1 attached hereto, is certified; and that the Candidate Findings of
Fact, as modified by Exhibit 2 attached hereto, Statement of Overriding Considerations, and the
Mitigation Monitoring and Reporting Program are adopted and that the condition of the Planning
Commission contained in Planning Commission Resolution No. 6087, on file with the City Clerk
and incorporated herein by reference, is the condition of the City Council.

"NOTICE TO APPLICANT"

"The time within which judicial review of this decision must be
sought is governed by Code of Civil Procedure, Section 1094.6,
which has been made applicable in the City of Carlsbad by
Carlsbad Municipal Code Chapter 1.16. Any petition or other
paper seeking judicial review must be filed in the appropriate court
not later than the ninetieth day following the date on which this
decision becomes final; however, if within ten days after the
decision becomes final a request for the record of the proceedings
accompanied by the required deposit in an amount sufficient to
cover the estimated cost of preparation of such record, the time
within which such petition may be filed in court is extended to not
later than the thirtieth day following the date on which the record is
either personally delivered or mailed to the party, or his attorney of
record, if he has one. A written request for the preparation of the
record of proceedings shall be filed with the City Clerk, City of
Carlsbad, 1200 Carlsbad Village Drive, Carlsbad, California
92008."
PASSED, APPROVED AND ADOPTED at a Regular Meeting of the City Council of the City of Carlsbad on the 13th day of June, 2006, by the following vote, to wit:

AYES: Council Members Lewis, Kulchin, Packard, Sigafoose

NOES: None

ABSENT: Council Member Hall

CLAUDE A. LEWIS, Mayor

ATTEST:

LORRAIN A. WOOD, City Clerk (SEAL)
1.0 INTRODUCTION

The Final EIR for the Precise Development Plan and Desalination Plant project contains a comprehensive disclosure and analysis of potential environmental effects associated with the implementation of the Precise Development Plan and Desalination Plant project. In addition, the Final EIR contains responses to public comments received during the public review period held on the Draft EIR. Following publication of the Final EIR and distribution of responses to commenting parties, certain parties continued to submit comments up to and including testimony given at the project’s public hearing held by the City of Carlsbad Planning Commission on the project on May 3, 2006. In order to address all issues raised by the public on the proposed project and provide comprehensive disclosure and documentation of environmental issues associated with the project, the following additional responses to comments are provided and are hereby incorporated into the Final EIR for consideration by the Carlsbad City Council.

A review of the materials submitted to the City and of the draft minutes of the May 3, 2006, Planning Commission Hearing, identified two primary issues that would benefit from additional clarification:

1) Operation of the desalination plant independent of the Encina Power Station (EPS); and,

2) Water conservation as an “alternative” to the proposed project.

2.0 BACKGROUND

Issue 1: Operation of the Desalination Plant as a stand alone facility – separate from the EPS

The description of baseline conditions and the basis for the analysis in the Final EIR assumes the continued operation of the Encina Power Station (EPS) within the parameters of its historical operating conditions. This approach is based on a determination by the City that such a baseline condition reflects reasonably foreseeable circumstances, and therefore appropriately characterizes existing baseline conditions, in accordance with guidance provided by CEQA. Moreover, all relevant city permits
specify that if the desalination plant were to operate independently, Poseidon or its successors would have to obtain new permits and undergo new CEQA compliance.

Certain public comments received on the EIR reflect different opinions on what is considered to be “reasonable” relative to assumptions for the continued operation of the EPS. Certain commentors asserted that shut-down of the EPS is relatively certain within the foreseeable future. These commentors further assert that the EIR analysis should take into account operation of the desalination plant under a scenario in which the EPS is no longer operating. While as noted above, the City believes it is reasonably foreseeable that EPS will continue to operate, the EIR does contain information that analyzes operation of the desalination plant in the absence of EPS operation. The following summary and clarification is provided to demonstrate more clearly that even if the EPS were to shut down permanently or for extended periods of time, the analysis and conclusions of the Final EIR are still accurate and valid.

Issue 2: Water Conservation as an “Alternative” to the Proposed Project

Comments received as a result of review of the Draft EIR suggest that additional or more aggressive water conservation efforts than are now being employed within the City of Carlsbad and the region could eliminate the need for the proposed project and should be addressed as an alternative to the proposed project. The EIR contains a discussion of water conservation efforts and how they relate to the proposed project, and in addition makes reference to the County Water Authority’s Regional Water Facilities Master Plan, which also includes consideration of water conservation efforts relative to regional water supply. However, the information presented in these additional responses provides additional clarification and amplification on this issue.

3.0 CEQA REQUIREMENTS

CEQA Guideline Section 15088.5 states that, where the Final EIR has not yet been certified, recirculation for public review is not required unless “significant new information” is added to the document (CEQA Guideline, § 15088.5, subds. [a], [b]).

“Significant new information” requiring recirculation includes, for example, a disclosure showing that:

(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project’s proponents decline to adopt it.

The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

None of these conditions exist with respect to the information contained in these additional responses and revisions to the Final EIR. Instead, the information provided merely clarifies and amplifies discussion already contained in the EIR, and provides background information on past policy decisions direction taken by the Carlsbad City Council. This information does not identify any new significant environmental effects, nor does it identify any increase in a previously identified significant effect. Further, information provided on project alternatives does not reveal a new alternative that could feasibly reduce any of the identified significant effects of the project. Therefore, recirculation is not required because the new information added to the EIR only clarifies, amplifies and makes insignificant modifications to an adequate EIR (CEQA Guideline, 15088.5, subd. (b)).

4.0 DISCUSSION

Issue 1: Operation of the Desalination Plant as a stand alone facility – separate from the EPS

The Lead Agency and the Applicant have analyzed the impacts of the project with and without the operations of the Encina Power Station (EPS). This information is included in the Final EIR and Appendix E thereto. The resource areas potentially impacted under the “No Power Plant Operation” scenario are (1) Aesthetics; (2) Air Quality; (3) Marine Biology - brine discharge; (4) Marine Biology - entrainment/impingement; and (5) Land Use. The baseline used by the lead agency for measuring potential environmental impacts of the project under CEQA is the current physical environment (“With Power Plant Operation” scenario), including current operating conditions. However, the worst case scenario in the Final EIR analyzed the No Power Plant Operation scenario to determine the level of significance in the “historical extreme.” The Final EIR contains substantial evidence that shows that the impacts from a No Power Plant Operation scenario to have the same level of significance as the With Power Plant Operation scenario for all of the impact areas.
To provide further clarification on the analysis provided for the No Power Plant Operation scenario, Section 3 of the Final EIR has been revised, and the excerpted text edits are included in Section 5.0 of these Additional Responses.

**Aesthetics** – The significance criteria (section 4.1.3) for Aesthetics in the Final EIR do not take into consideration the surrounding land uses when assessing visual impacts and thus the significance analysis will not change with or without the power plant in operation. Section 4.1.4 – Impacts - states that, “the project is not considered to have a substantial adverse effect on a scenic vista, or a substantially damaging effect on scenic resources because the proposed structure would represent a visual enhancement over what is currently located on the site (Page 4.1-3).” This enhancement of the area would occur with or without the operation of the EPS. Mitigation measures are proposed so that the project features are acceptable to the City of Carlsbad and conform to the City’s long-term vision for the surrounding property, which includes relocation of the power plant to the back of the property and the transition of the front of the property to more public uses.

In June of 2002 the Carlsbad City Council, and in October of 2002 the Carlsbad Housing and Redevelopment Agency, adopted six principals to pursue negotiations for the purchase of water from Poseidon:

1. Improved water reliability and quality in both normal and drought periods at CWA [County Water Authority] water rates.
2. Maximize beach and lagoon access for the public.
3. Maximize open space and recreational opportunities for the public.
4. Redevelop Encina Power Plant to maximize its best public and private uses.
5. Desalination facility protected from power market fluctuations.
6. Accrue a positive economic benefit from the increased industrial development of the coastal corridor.

These principals were used to evaluate the project in addition to the Strategic Goals and 5-Year Vision Statements approved by the City Council. The project was found to be consistent with goal number 4 shown above (see pages 4.8-16 – 4.8.18 of the Final EIR), and would therefore not interfere with any future change in operation at the EPS.

Based on the clarification provided in this response, no revisions to the Final EIR text are considered to be necessary to further clarify aesthetic effects.

**Air Quality.** The potential indirect air quality impacts due to emissions from power generation for the desalination facility are analyzed in the Final EIR with and without the EPS as the source of power. (See page 4.2-18 of the Final EIR). The Final EIR (page 4.2-18) notes that “the desalination plant will not contain any electrical power generation facilities, and will purchase this electrical power from the local electric utility, or a power generator, broker or seller. At this time no contract has been signed for power purchases from any supplier.” Because no supplier of electricity has been designated, the Final EIR
analyzed the indirect emission impacts from power generation for three different scenarios: (1) if power were purchased from EPS; (2) the local utility; (3) or another power provider. The second and third scenario analyzed the No Power Plant Operation scenario impacts studied in the Final EIR, and therefore there would be no change in the Final EIR significance findings if EPS were not operational.

Based on the clarification provided in this response, no revisions to the Final EIR text are considered to be necessary to further clarify air quality effects.

**Marine Biology Brine.** The Final EIR for the desalination plant used the “historical extreme” operation and level of salinity to evaluate the impacts to the marine environment. In Section 4.3, Biological Resources, the Final EIR notes on page 4.3-44 that, “the EPS can run with an “unheated discharge” (i.e., no power plant operation).” The Final EIR modeled impacts of unheated “historical extreme” for flow scenarios using a discharge of 254 million gallons per day, which would represent conditions under the No Power Plant Operation scenario. Therefore the “historical extreme” conditions modeled account for impacts related to operation of the desalination facility without power plant operation and flow rates that would be generated by the desalination plant being operated independently.

On page 4.3-45, the Final EIR notes that in the “historical extreme” the “highest bottom salinities were noted with the ‘unheated’ [i.e., No Power Plant Operation scenario] condition due to its reduced buoyancy.” Again on that page, the Final EIR states that, “...to determine worst-case conditions, the unheated conditions are examined.” Therefore the No Power Plant Operation scenario is the worst case condition studied by the Final EIR.

The Analysis of Significance – Elevated Salinity Exposure Effects section of the Final EIR (page 4.3-50) indicates that significant impacts are found at an extended salinity exposure level of 40 parts per thousand (ppt). The Final EIR (page 4.3-50) indicates that under the “historical extreme” the end of pipe salinity of 40.1 ppt “...is diluted across the ZID [zone of initial dilution] to about 38.2 ppt...” Also on page 4.3-50, the Final EIR concludes that “extended exposure to salinity levels above 40 ppt would be avoided under all proposed operating conditions (emphasis added).” The Final EIR (page 4.3-51) goes on to conclude that “since the ‘historical extreme’ scenarios under all operating conditions would not result in salinity levels exceeding this threshold for an extended period of time, impacts related to elevated salinities would not be significant (emphasis added).”

Therefore the No Power Plant Operation scenario, or “unheated discharge” condition has been analyzed in the Final EIR and the impacts from brine discharge in this worst-case scenario were found to be less than significant.
Based on the clarification provided in this response, no revisions to the Final EIR text are considered to be necessary to further clarify effects of brine discharge on marine organisms.

**Marine Biology Entrainment.** Data presented in Appendix E of the Final EIR (see *Carlsbad Desalination Facility Intake Effects Assessment* (draft), dated March 3, 2005, and prepared by Tenera Enviromental) supports a finding of no significant impact for entrainment. The referenced study demonstrates that entrainment of marine organisms at the EPS is a function of the volume of water flowing through the intake. If the desalination facility were to operate at 106 million gallons per day (MGD) under the No Power Plant Operation scenario, there would be 100% mortality resulting from impingement of the larval fish caught on the desalination plant screens and filters (106 MGD represents a total maximum withdrawal volume, which represents a worst case volume, as compared to the average withdrawal volume of 104 MGD). As shown in Table 1, the entrainment loss would represent between 0.6% and 11.8% of the EPS source water supply of larvae, depending on the fish group modeled. Assuming an additional 200 MGD was allowed to flow through the intake to the discharge channel for dilution of the concentrated seawater discharge from the desalination facility, there could be additional entrainment losses. The level of impact to the organisms and associated mortality due to the diversion of the dilution water under the No Power Plant Operation scenario will be less than the impact had the water been pumped through the condensers as is modeled under the With Power Plant Operation scenario. However, lacking data to document actual mortality under the No Power Plant Operation scenario mode of operation, the possible range is 0% to 100% mortality of the larval fish in the dilution water. Under these conditions the minimum larval fish entrainment loss for the desalination facility (106 MGD) and associated dilution water (200 MGD) would be 0.6% to 11.8% and the maximum would be 1.7% to 34.1%, depending on the design of the facility and species modeled. (Table 1).

<table>
<thead>
<tr>
<th>Fish Group</th>
<th>Desalination Facility Entrainment Loss</th>
<th>Dilution Water Entrainment Loss</th>
<th>Minimum Combined Entrainment Loss</th>
<th>Maximum Combined Entrainment Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIQ gobies</td>
<td>11.8%</td>
<td>0% - 22.3%</td>
<td>11.8%</td>
<td>34.1%</td>
</tr>
</tbody>
</table>

(Table 1)
Significance of Entrainment Losses. The loss of larval fish entrained by the EPS cooling water flows, whether the EPS is operating or not, are a small fraction of marine organisms from the abundant and ubiquitous near-shore source water populations. Using standard fisheries models for adult fishes, the loss of larvae (99 percent of which are lost to natural mortality) due to the desalination facility entrainment at 306 MGD would have no effect on the species' ability to sustain their populations, including the gobies at 34.1%. As noted in Table 1 above, gobies are not substantially impacted because of their widespread distribution and high reproductive potential due to spawning several times a year and are able to sustain conditional larval stage mortality rates of 34% and higher without a decline in adult population level. This absence of population level effects for adult gobies is especially true for the species' early larval stages. The sheer numbers of larvae that are produced by the adult gobies are resistant to the effects of both natural mortality and reasonably high levels of conditional mortality.

The most frequently entrained species are very abundant in the area of EPS intake, Agua Hedionda Lagoon, and the Southern California Bight so that the actual ecological effects due to any additional entrainment from the project at either level of plant operations are insignificant. Species of direct recreational and commercial value constitute a very small fraction (less than 1 percent) of the entrained organisms. Therefore, the operation of the desalination facility does not cause a significant ecological impact. California Department of Fish and Game (2002) in their Nearshore Fishery Management Plan provides for sustainable populations with harvests of up to 60 percent of unfished adult stocks. The incremental entrainment ("harvest") effect of larval fishes from the desalination facilities operations at 106 or 306 MGD is approximately 1 to 34 percent (depending on the species); losses that would have no significant effect on the source water populations to sustain themselves. Additionally, entrainment mortality losses are not harvests in the common sense, because the larval fish are not removed from the ocean, but are returned to supply the ocean's food webs – the natural fate of at least 99 percent of larvae whether entrained or not. Generally less than one percent of all fish larvae become reproductive adults.

Revisions to the Final EIR text have been made to provide additional clarification on entrainment effects under the No Power Plant Operation scenario. Excerpts of the revised text are included in Section 5.0 of these Additional Responses.

Marine Biology Impingement. The Applicant has calculated the approach velocity of the water flowing through the EPS intake under the No Power Plant Operation scenario and determined that the velocity would not exceed 0.5 feet per second. Under these
operating conditions, the intake would meet impingement mortality performance standards established in the revised 316(b) permitting requirements.

Revisions to the Final EIR text have been made to provide additional clarification on impingement effects under the No Power Plant Operation scenario. Excerpts of the revised text are included in Section 5.0 of these Additional Responses.

**Land Use** — The proposed project causes no significant impacts to land use and is consistent with existing land use plans with or without the existence and operation of the EPS. The project is consistent with the Public Utilities (U) land use designation in the General Plan and Zoning Ordinance and is consistent regardless of power plant operations.

In addition the project is consistent with the South Carlsbad Coastal Redevelopment Plan for the area and would continue to be consistent regardless of the operation of the power plant. The Final EIR (page 4.8-16) notes that, “The site of the desalination plant was specifically selected so as not to conflict with two redevelopment plan goals. The first goal relates to facilitating the conversion and possible relocation of the existing power plant to a smaller more efficient facility. The second goal relates to the enhancement of commercial and recreational opportunities in the plan area.” Although any changes in the power plant configuration will require additional environmental review and approval, a siting study was conducted for the desalination plant in which five sites within the EPS property were reviewed to find a location for the desalination facility that was sensitive to the redevelopment plan goal and would “create the least amount of constraints on any future conversion of the Encina Power Station.” (See pages 4.8-16 - 4.8.18 of the Final EIR for details.) Therefore any future changes to the EPS will not be affected by the siting of the desalination plant.

Based on the clarification provided in this response, no revisions to the Final EIR text are considered to be necessary to further clarify land use effects.

**Issue 2: Water Conservation/Recycled Water Only and Increased Conservation/Recycled Water as “Alternatives” to the Proposed Project**

As discussed in Section 9 of the Final EIR (pages 9-1 to 9-7), a baseline assumption incorporated in the Final EIR analysis is that the water conservation and water recycling elements included in Carlsbad Municipal Water District’s 2000 Urban Water Management Plan (UWMP) and San Diego County Water Authority’s 2004 Regional Water Facilities Master Plan (RWFMP) will be fully implemented. However, even with the targeted conservation and recycling in place, both the San Diego County Water Authority (CWA) and Carlsbad Municipal Water District (CMWD) identified a need for
additional local water in an amount equal to or greater than the project capacity. The update to the 2000 UWMP, approved in December 2005, continues to identify that need.

The RWMP projected that in 2002, approximately 13,700 acre-feet of recycled water was used within CWA's service area annually. This number is projected to increase to over 53,000 acre feet per year by 2020. As noted in the Final EIR, while conservation is not technically a water supply "source", it is also an important strategy employed within the region to reduce demand for water supply. Water conservation programs are maintained by MWD, CWA and local water agencies.

Even though the Final EIR references the role of conservation and recycling in local and regional water supply management and the policy direction that has been pursued relative to water conservation and recycling, certain commenting parties indicated that additional conservation/recycling should be considered as a project alternative. A discussion of water conservation and recycling efforts is provided in the Final EIR to further clarify how conservation was a consideration that helped shape policy that relates to the proposed project. Specifically, consideration of water conservation and recycling as alternatives to the proposed project has been given in past policy making. However, the level of water conservation and recycling necessary to replace the need for the proposed project has been rejected as alternatives to the project primarily for public policy reasons that are further explained in the Final EIR.

Section 15126.6(c) of the CEQA Guidelines provides for discussion of any alternatives that were considered by the lead agency but were rejected as infeasible. Additionally, Section 15132(e) states that a Final Environmental Impact Report may consist of "any other information added by the Lead Agency." Staff has included revisions to the Final EIR text to provide additional clarification on the rationale for rejection of alternatives to the proposed project that involve additional conservation and/or recycling. The revised text is included in Section 5.0 of these Additional Responses.

5.0 FINAL EIR TEXT EDITS

The following are excerpts of portions of text from the EIR that have been revised as a result of these Additional Responses. Revisions that have been made as a result of these Additional Responses are noted in strike-through (deletions) and underline (additions) text.

The following text replaces text that appears in Section 3.3 of the EIR (Starting on Page 3-14, under the Subheading "Power Plant Baseline Operating Conditions"):  

Power Plant Baseline Operating Conditions
The PDP will not modify the Encina power plant’s permitted operating capacity. However, the following information is provided to accomplish the City’s objective of establishing baseline conditions for identifying existing facilities and operations on site for the purpose of increasing knowledge and understanding about station operation and onsite facilities. It should be noted this project does not include any modifications that would affect the power plant’s operating capacity.

Power generation capacity, as described in the NPDES Permit, is provided by a total of six power generator units:

- Unit 1 – 107 megawatts (MW)
- Unit 2 – 104 MW
- Unit 3 – 110 MW
- Unit 4 – 287 MW
- Unit 5 – 315 MW
- Gas Turbine – 16 MW

All of these generating units have been designated as “Reliability Must Run” (RMR) by the ISO. The RMR Generation designation represents the minimum generation (number of units or MW output) required by the ISO to be available to maintain system reliability. At full production output, the Encina power plant has the capability to directly or indirectly serve roughly half of the power demand for San Diego County.

Units 1 through 5 are steam turbine generators, each with its own boiler that generates heat up to 1005 degrees Fahrenheit. Purified water runs through the boilers turning to high-pressure steam that is used to spin the turbines to generate electricity. The plant relies on seawater to cool and condense the steam after its energy is expended spinning the turbine. Seawater flows into the Agua Hedionda Lagoon through the jetty west of Carlsbad Boulevard into the outer lagoon and into an intake channel located at the southwestern end of the lagoon. The seawater is then pumped into condensers to condense the steam on a non-contact heat transfer basis, and then is returned to the ocean via a discharge channel located to the south of the lagoon’s confluence with the ocean.

The power plant cooling water discharge is regulated under a National Pollutant Discharge Elimination System (NPDES) permit, issued with the Regional Water Quality Control Board. The plant is currently permitted to discharge a maximum of

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1 NPDES Permit, Order No. 2003-03, Regional Water Quality Control Board, February 16, 2000.
approximately 860 million gallons per day (mgd) of cooling water. For purposes of this analysis, data for power plant operation includes records dating from 1980 to 2000. The generators identified above were phased in from the plant’s initial construction in 1952 through 1978. Therefore, the dataset used in the EIR analysis represents operation of all production units, and is considered to provide data representing the current operational characteristics from which to analyze existing baseline conditions. With that being said however, the analysis of effects associated with seawater intake and discharge are evaluated based on conditions that represent two separate scenarios, with and without operation of the EPS. The average cooling water discharge rate over the 20-year period was 576 mgd. Daily average flow rates have not fallen below 304 mgd in the 20-year dataset. As noted in the analysis presented in Section 5 of this EIR, the 304 mgd flow rate is used as the worst case operating condition, under the assumption that the discharge is “unheated”, which therefore represents conditions without operation of the EPS. For purposes of this discussion, this scenario is referenced as the “No Power Plant Operation” scenario.

The following text replaces text that appears in Section 4.3.4 of the EIR (Starting on Page 4.3-35, under the Subheading “Impingement Effect”):

Impingement Effect

- The desalination plant operation does not require the power plant to increase the quantity of water withdrawn nor does it increase the velocity of the water withdrawn.

- The Carlsbad Desalination Plant will not have a separate direct lagoon or ocean intake and screening facilities, and will only use cooling water that is already screened by the EPS intake.

- Under the No Power Plant Operation scenario, approach velocity of the water flowing through the EPS intake would not exceed 0.5 feet per second. Under these operating conditions, the intake would meet impingement mortality performance standards established in the revised 316(b) permitting requirements.

- Therefore, the Carlsbad Desalination Plant will not cause any additional impingement losses to the marine organisms impinged by the EPS, under the assumed baseline EPS operating conditions, and would not result in significant impingement effects under the No Power Plant Operation scenario.
The following text replaces text that appears in Section 4.3.4 of the EIR (Starting on Page 4.3-36, under the Subheading “Entrainment Losses”):

**Entrainment Losses**

- Based on in-plant testing, the average observed entrainment mortality of the power plant was 97.6 percent (2.4 percent survival). Living fish larvae entrained by the Carlsbad desalination plant would represent an incremental loss of approximately 0.01 to 0.28 percent of the larvae present in the power plant source water, assuming continued operation of the EPS. Under the No Power Plant Operation scenario, living fish larvae entrained by the Carlsbad desalination plant would represent a loss of approximately 0.6% to 34.1% of the source populations, depending on the final design of the desalination facility and on the species.

The cooling water intake structure is part of the EPS existing operations and is presently regulated under Section 316(b). The desalination plant feedwater withdrawal does not include a cooling water intake structure. Therefore, it is not subject to intake regulation under the Federal Clean Water Act (CWA) Section 316(b). However, since the desalination plant will withdraw intake seawater from the EPS discharge flow, the study was conducted consistent with the intent of Section 316(b), which requires that baseline conditions be established. The desalination plant feedwater intake will not increase the volume, nor the velocity of the EPS cooling water intake nor will it increase the number of organisms entrained or impinged by the EPS cooling water intake structure. Therefore, the project would not result in any additional impingement effects of the EPS and therefore, impingement effects are not considered as significant impacts attributable to desalination plant operations. For purposes of this analysis, baseline conditions reflect quantities of larvae present in the seawater intake, regardless of whether the EPS is in operation or not.

**Study Methodology:** The study required an assessment of both the source water for the EPS (lagoon and ocean) and the discharge from the EPS (the desalination plant’s feedwater supply). The source water was analyzed to establish population characteristics (relative abundance) for species potentially impacted by the desalination plant. The desalination plant feedwater was characterized to determine the baseline conditions for potential impacts associated with the desalination facility. Specifically, the feedwater characterization examined the type and quantity of organisms that survive entrainment through the EPS cooling water intake structure that could subsequently be impacted by the desalination plant operations.
The EPS source water was partitioned into lagoon and nearshore ocean areas for modeling purposes; ten sampling stations were chosen so that all source water community types would be represented, including five lagoon stations and five nearshore stations. Samples were also collected from EPS’s discharge (desalination plant feedwater supply) just before the water flows into the power station’s discharge pond.

Laboratory processing for both the feedwater and source water consisted of sorting (removing), identifying, and enumerating all larval fishes, pre-adult larval stages of Cancer spp. crabs, and California spiny lobster larvae from the samples. Identification of larval fishes was done to the lowest taxonomic level practicable.

Source Water Larval Abundance Estimates: Data collected from three source water surveys conducted on June 10, June 24, and July 6, 2004, included a total of 27,029 larval fishes, with 4,750 specimens collected from the five nearshore stations and the remaining 22,279 specimens from the lagoon stations. Two taxa comprised 84 percent of the total number of larval fishes collected from all surveys and source water stations combined: three species from the goby family (Clevelandia ios, Ilypus gilberti, Quietula y-cauda) hereinafter referred to as CIQ gobies comprised 65 percent and combtooth blennies (Hypoblemnus spp.) comprised 19 percent. In addition, four species of target invertebrates were collected in the samples from both the lagoon and nearshore sampling stations: California spiny lobster (Panulirus interruptus, 93 specimens), yellow rock crab (Cancer anthonyi, 31 specimens), brown rock crab (Cancer antennarius, 4 specimens), and slender crab (Cancer gracilis, 2 specimens).

The mean concentration of CIQ goby larvae from all source water stations and surveys combined was approximately 4,900/1,000 m³ and the mean concentration of combtooth blennies was approximately 1,200/1,000 m³.

Feedwater (EPS Discharge) Larval Abundance Estimates: A total of 1,648 fish larvae was collected during two surveys of the EPS discharge water conducted on June 16 and July 6, 2004 (Table 4.3-3). Four taxa comprised 95 percent of all of fish larvae in the EPS discharge flows from which the proposed desalination plant would withdraw its feedwater supply. They were combtooth blennies, CIQ gobies, labrisomid kelpfishes (Labrisomidae unid.), and garibaldi (Hypsypops rubicundus). Gobies and blennies combined accounted for nearly 72 percent of the larvae identified in the feedwater. No target invertebrate larvae were found in any of the samples from the EPS discharge.
### TABLE 4.3-3

**Total Counts and Mean Concentrations of Larval Fishes from EPS Discharge**

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Common Name</th>
<th>Total Count</th>
<th>Percent</th>
<th>Cum Percent</th>
<th>Mean Concentration (#/1,000 m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypsoblennius spp.</td>
<td>combtooth blennies</td>
<td>766</td>
<td>46.48%</td>
<td>46.48%</td>
<td>1,119.89</td>
</tr>
<tr>
<td>CIQ gobies</td>
<td>CIQ goby complex</td>
<td>426</td>
<td>25.85%</td>
<td>72.33%</td>
<td>630.94</td>
</tr>
<tr>
<td>Labrisomidae unid.</td>
<td>labrisomid kelpfishes</td>
<td>205</td>
<td>12.44%</td>
<td>84.77%</td>
<td>281.66</td>
</tr>
<tr>
<td>Hypsypops rubicundus</td>
<td>garibaldi</td>
<td>174</td>
<td>10.56%</td>
<td>95.33%</td>
<td>230.14</td>
</tr>
<tr>
<td>Rimicole spp.</td>
<td>kelp clingfishes</td>
<td>13</td>
<td>0.79%</td>
<td>96.12%</td>
<td>17.54</td>
</tr>
<tr>
<td>Gibbonsia spp.</td>
<td>clinid kelpfishes</td>
<td>12</td>
<td>0.73%</td>
<td>96.34%</td>
<td>16.38</td>
</tr>
<tr>
<td>Engraulidae</td>
<td>anchovies</td>
<td>12</td>
<td>0.73%</td>
<td>97.57%</td>
<td>15.83</td>
</tr>
<tr>
<td>Gobiosocidae unid.</td>
<td>clingfishes</td>
<td>8</td>
<td>0.49%</td>
<td>98.06%</td>
<td>10.15</td>
</tr>
<tr>
<td>Sciaenidae</td>
<td>croakers</td>
<td>8</td>
<td>0.49%</td>
<td>98.54%</td>
<td>11.38</td>
</tr>
<tr>
<td>Blennioides</td>
<td>Blennies</td>
<td>7</td>
<td>0.42%</td>
<td>98.97%</td>
<td>9.21</td>
</tr>
<tr>
<td>Atherinopsidae</td>
<td>Silversides</td>
<td>6</td>
<td>0.36%</td>
<td>99.33%</td>
<td>7.36</td>
</tr>
<tr>
<td>larval/post-larval fish unid.</td>
<td></td>
<td>3</td>
<td>0.18%</td>
<td>99.51%</td>
<td>3.50</td>
</tr>
<tr>
<td>Heterostichus rostratus</td>
<td>giant kelpfish</td>
<td>1</td>
<td>0.06%</td>
<td>99.58%</td>
<td>1.14</td>
</tr>
<tr>
<td>Syngnathus spp.</td>
<td>Pipefishes</td>
<td>1</td>
<td>0.06%</td>
<td>99.94%</td>
<td>0.92</td>
</tr>
<tr>
<td>Paralichthys californicus</td>
<td>California halibut</td>
<td>1</td>
<td>0.06%</td>
<td>99.70%</td>
<td>1.28</td>
</tr>
<tr>
<td>Chaenopsidae unid.</td>
<td>Clinids</td>
<td>1</td>
<td>0.06%</td>
<td>99.76%</td>
<td>0.92</td>
</tr>
<tr>
<td>Labridae</td>
<td>Wrasses</td>
<td>1</td>
<td>0.06%</td>
<td>99.92%</td>
<td>1.28</td>
</tr>
<tr>
<td>larvae, unidentified yolk sac</td>
<td></td>
<td>1</td>
<td>0.06%</td>
<td>99.98%</td>
<td>2.45</td>
</tr>
<tr>
<td>Typhlogobius californiens</td>
<td>blind goby</td>
<td>1</td>
<td>0.06%</td>
<td>99.94%</td>
<td>1.96</td>
</tr>
<tr>
<td>Agonidae unid.</td>
<td>Poachers</td>
<td>1</td>
<td>0.06%</td>
<td>100.00%</td>
<td>2.19</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>1,648</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Feedwater Larval Survival Results:* Eleven surveys to estimate the survival of larval fishes in the EPS discharge flow were conducted from June through November 2004. A total of 1,989 fishes was collected from the eleven surveys (*Table 4.3-4*). Larvae that were alive immediately after collection were placed in separate containers and observed for up to three hours after collection. Approximately half of the larvae continued swimming for up to two hours after collection while the others died between 0.5–1.5 hours after collection. The species of larvae that survived entrainment and sampling were CIQ gobies, combtooth blennies, and unidentified clingfishes. The highest concentration of larval fishes (2,444/1,000 m³) was collected July 6, 2004, and the lowest concentration (93/1,000 m³) was collected on October 21, 2004.
The average survey percent survival ranged from 0 percent (November 2 survey) to 9.2 percent (November 30 survey) (Table 4.3-4). The overall average percent survival based on an average of survival data from each sample containing fish (n=223 out of a 291 total surveys) is 2.40 percent with a standard deviation of 11.22. The average percent survival based on each survey’s (n=11) average survival data is 2.71 with a standard deviation of 11.24 among survival averages for the 11 surveys. The surviving larvae that enter the desalination plant will be retained on the pretreatment filters, which could be either granular media facilities or membrane filters. The retained organisms will be removed from the pretreatment filters with the filter media backwash.

### TABLE 4.3-4
Summary Of Larval Fish Data Collected During In-Plant Survival Studies From EPS Discharge Flows During June Through November 2004.

<table>
<thead>
<tr>
<th>Date Collected</th>
<th>Number of Samples</th>
<th>Total Volume Filtered (m³)</th>
<th>Average Larval Fish Concentration (#/1,000 m³) per Survey (s.d. in parenthesis)</th>
<th>Total # Larvae Collected</th>
<th>Total # Alive upon Collection</th>
<th>Average % Survival per Survey (s.d. in parenthesis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/18/2004</td>
<td>8</td>
<td>117</td>
<td>1,289.4 (764.2)</td>
<td>140</td>
<td>2</td>
<td>1.8 (4.7)</td>
</tr>
<tr>
<td>7/06/2004</td>
<td>9</td>
<td>112</td>
<td>2,443.8 (875.0)</td>
<td>276</td>
<td>13</td>
<td>4.3 (4.1)</td>
</tr>
<tr>
<td>7/20/2004</td>
<td>30</td>
<td>301</td>
<td>1,053.3 (674.6)</td>
<td>315</td>
<td>7</td>
<td>1.6 (4.0)</td>
</tr>
<tr>
<td>8/13/2004</td>
<td>30</td>
<td>339</td>
<td>564.4 (832.9)</td>
<td>192</td>
<td>2</td>
<td>0.005 (0.02)</td>
</tr>
<tr>
<td>8/26/2004</td>
<td>32</td>
<td>264</td>
<td>415.4 (350.9)</td>
<td>112</td>
<td>1</td>
<td>0.6 (3.2)</td>
</tr>
</tbody>
</table>
### Table 1: Larval Fish Concentration and Survival

<table>
<thead>
<tr>
<th>Date</th>
<th>Sample</th>
<th>Concentration</th>
<th>Survival</th>
<th>EIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/9/2004</td>
<td>31</td>
<td>2,027.5 (2,246.4)</td>
<td>590 4</td>
<td>0.5 (1.8)</td>
</tr>
<tr>
<td>9/23/2004</td>
<td>30</td>
<td>668.8 (1,134.6)</td>
<td>200 2</td>
<td>1.2 (5.5)</td>
</tr>
<tr>
<td>10/21/2004</td>
<td>31</td>
<td>93.0 (123.9)</td>
<td>31 1</td>
<td>5.9 (24.3)</td>
</tr>
<tr>
<td>11/2/2004</td>
<td>30</td>
<td>182.3 (181.9)</td>
<td>47 0</td>
<td>0</td>
</tr>
<tr>
<td>11/18/2004</td>
<td>30</td>
<td>132.9 (166.7)</td>
<td>34 2</td>
<td>4.6 (13.8)</td>
</tr>
<tr>
<td>11/30/2004</td>
<td>30</td>
<td>264.5 (291.6)</td>
<td>52 4</td>
<td>9.2 (24.2)</td>
</tr>
</tbody>
</table>

1. The number of samples per survey increased beginning July 20, 2004 when the duration of sampling increased to cover 24-hour periods.
2. The average larval fish concentration per survey was calculated by summing the individual sample concentrations and dividing by the number of samples in each survey.
3. The average percent survival per survey was calculated by summing the individual sample survival percentages and dividing by the number of samples containing fish larvae in each survey.

In order to assess any potential effects of the desalination facility feedwater withdrawal on local fishery resources, three taxa were selected: CIQ goby complex, combtooth blennies, and northern anchovy. These taxa were some of the most commonly entrained species in the EPS cooling water intake structure or were species (northern anchovy) that may be of interest to fishery managers. Larvae of species with high value to sport and commercial fisheries such as California halibut were entrained in such low numbers (approximately 0.06 percent of the total number of EPS-entrained larvae) that any effects on source water populations of these species could not be modeled.

**Entrainment Effects Model:** The Empirical Transport Model (ETM) used in the analysis is based on principles used in fishery management. To determine the effects of fishing on a population, a fishery manager needs an estimate of the number of fishes in the population and the number of fishes being removed by the fishery. ETM is recommended and approved by the California Energy Commission (CEC), California Coastal Commission (CCC), Regional Water Quality Control Boards and other regulatory and resources agencies for analyzing impacts to fisheries. This assessment assumes 100 percent mortality of all organisms surviving the EPS upon withdrawal into the desalination facility.

The ETM first takes the estimate of daily mortality (also known as Proportional Entrainment (PE)), and expands the estimate over the number of days the larvae from a single cohort, or batch of larvae, would be exposed to entrainment. The ETM thereby predicts regional effects on appropriate adult populations. Finally, the effects of
entainment are examined in the context of survival data collected from the EPS discharge.

The estimate of daily incremental mortality, or proportional entrainment (PE), was computed as the ratio of the number of larvae in the water withdrawn by the proposed facility to the number of larvae in the surrounding source water. The average concentration of larvae in the feedwater, as noted in Table 4.3-4, was multiplied by desalination facility’s maximum feedwater withdrawal volume of 401,254 m$^3$/day (106 mgd). A total maximum withdrawal volume of 106 mgd (as compared to average withdrawal of 104 mgd) was used as a worst case volume, under a scenario where maximum backwash water volumes would be used during a period of maximum RO production.

Average concentrations of larval fishes from the source water survey data were multiplied by the volume estimates for each of the water body segments (total of three lagoon and nine nearshore areas) and then combined to estimate the average source water population.

The estimated effects of withdrawal for desalination operations on a single cohort of larvae were calculated using the ETM as: $P_m = 1 - (1 - PE)^{duration}$, where $P_m$ is the proportional level of mortality resulting from the water withdrawals by the proposed desalination facility. A larval duration of 23 days from hatching to entrainment was calculated from growth rates using the length representing the upper 99th percentile of the length measurements from larval CIQ gobies collected from entrainment samples during 316(b) studies (Tenera 2004).

The results of the analysis are contained in Table 4.3-5. Estimates of PE ranged from 0.01 percent for northern anchovy to 0.55 percent for CIQ gobies.

**TABLE 4.3-5**
Estimates of Average Daily Mortality (PE)
(Standard Error in parentheses)

<table>
<thead>
<tr>
<th>Fish Group</th>
<th>Feedwater Volume – Maximum Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>401,254 m$^3$/day (106 MGD)</td>
</tr>
<tr>
<td>CIQ gobies</td>
<td>0.55% (2.08)</td>
</tr>
<tr>
<td>Combtooth blennies</td>
<td>0.36% (0.87)</td>
</tr>
</tbody>
</table>
Fish larvae entrained by desalination plant represent an incremental loss of the EPS source water supply of larvae. The average observed entrainment mortality of the EPS was 97.6 percent (2.4 percent survival). Since 97.6 percent of the larvae are dead at the point of the desalination plant intake, the incremental entrainment loss on source water populations is the 2.4 percent survival rate times the desalination plant proportional entrainment for each specific species in the EPS discharge. These incremental effects range from 0.01 percent for northern anchovy to 0.28 percent for CIQ gobies (Table 4.3-6). The incremental mortality assumes 100 percent mortality of all organisms surviving the EPS upon withdrawal into the desalination facility. However, under the No Power Plant Operation scenario, no mortality is attributed to EPS operations and all entrainment effects are assigned to the desalination plant.

<table>
<thead>
<tr>
<th>Fish Group</th>
<th>P_m Based on Maximum Length at Entrainment</th>
<th>Estimate When Applying The Overall Average Survival Estimate Of 2.4 Percent's Incremental Entrainment Loss Due to Desalination Plant Operations</th>
<th>P_m Based on No Power Plant Operation Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIQ gobies</td>
<td>11.8%</td>
<td>0.28%</td>
<td>34.1%</td>
</tr>
<tr>
<td>Comtooth blennies</td>
<td>5.7%</td>
<td>0.14%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Northern anchovy</td>
<td>0.6%</td>
<td>0.01%</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

1. The overall average percent survival (2.4 percent with a standard deviation of 11.22) was based on an average of each sample that contained fish (n=223).
The role of turbulence and temperature and how larvae are affected were not evaluated at the EPS. It is noted that mortality from entrainment through the cooling water intake structure may be primarily due to pressure and turbulence in the water flow, rather than temperature increases resulting from the cooling operation. Since the desalination plant feedwater will be subject to the same turbulence whether or not the EPS is operating, it is reasonable to estimate incremental mortality for the heated and unheated desalination scenarios using the survival data presented in Table 4.3-4. Using those data, and based on typical operation of the EPS, the entrainment loss rate ranges from 0.01 percent to 0.28 percent.

If the desalination facility were to operate at 106 million gallons per day (MGD) under the No Power Plant Operation scenario, there would be 100% mortality resulting from impingement of the larval fish caught on the screens and filters. The No Power Plant Operation scenario would increase the flow volume attributable to the desalination plant by an additional 200 MGD for dilution of the concentrated seawater discharge from the desalination facility. The level of impact to the organisms and associated mortality due to the diversion of the dilution water under the No Power Plant Operation scenario will be less than the impact had the water been pumped through the condensers as is modeled under the With Power Plant Operation scenario. However, lacking data to document actual mortality under the No Power Plant Operation scenario, the possible range is 0% to 100% mortality of the larval fish in the dilution water. Under these conditions the minimum larval fish entrainment loss for the desalination facility (106 MGD) and associated dilution water (200 MGD) would be 0.6% to 11.8% and the maximum would be 1.7% to 34.1%, depending on the design of the facility and species modeled. (Table 4.3-0).

Although combtooth blennies had higher PE estimates, CIQ gobies had higher estimates of $P_m$ because their larvae were exposed to entrainment for a longer period of time (either from multiple spawns of one species or from different species spawning at different times). Adult CIQ gobies and combtooth blennies are very common in Agua Hedionda Lagoon habitats and these levels of mortality would not be expected to result in any population-level effects because these fishes are adapted to estuarine environments where large percentages of their larvae are exported into nearshore areas during tidal flushing. Gobies are abundant in the shallow mudflat and eelgrass habitats that are common in Agua Hedionda middle and inner lagoons. A significant proportion of the CIQ goby larvae in the outer lagoon at the point of entrainment likely originated in the inner and middle lagoon segments and would be exported from the lagoon system on the following
tidal cycle. Adult combtooth blennies are common in outer lagoon habitats including rock jetties, docks, pilings, and aquaculture floats, as well as some sandy areas in the lagoon, which explains the large numbers of the larvae found in the EPS discharge flows. The estimates for northern anchovy are much lower than the other two taxa because they are more common in the nearshore areas than the lagoon. In fact, the estimates for northern anchovy are very conservative because these fish are distributed over a large area and therefore the estimate of their source water population would be much larger than the estimate used in the calculation of PE.

**Significance of Entrainment Losses:** The small proportion of marine organisms lost to entrainment as a result of the desalination plant would not have a substantial effect on the species’ ability to sustain their populations because of their widespread distribution and high reproductive potential. The most frequently entrained species are very abundant in the area of EPS intake, Agua Hedionda Lagoon, and the Southern California Bight, and therefore, the actual ecological effects due to any additional entrainment from the desalination plant are less than significant. California Department of Fish and Game (2002) in their Nearshore Fishery Management Plan provides for sustainable populations with harvests of up to 60 percent of unfished adult stocks. The incremental entrainment (or “harvest”) effect of larval fishes from the desalination plant operations between 0.01 and 0.28 percent up to 34.1% under the No Power Plant Operation scenario depending on the design of the facility and species modeled.

The loss of larval fish entrained by the EPS cooling water flows, whether the EPS is operating or not, are a small fraction of marine organisms from the abundant and ubiquitous near-shore source water populations. Using standard fisheries models for adult fishes, the loss of larvae (99 percent of which are lost to natural mortality) due to the desalination facility entrainment at 306 MGD would have no effect on the species’ ability to sustain their populations, including the gobies at 34.1%. Gobies are not substantially impacted because of their widespread distribution and high reproductive potential due to spawning several times a year, are able to sustain conditional larval stage mortality rates of 34% and higher without a decline in adult population level. This absence of population level effects for adult gobies is especially true for the species’ early larval stages. The sheer numbers of larvae that are produced by the adult gobies are resistant to effects of both natural mortality and reasonably high levels of conditional mortality.
The most frequently entrained species are very abundant in the area of EPS intake, Agua Hedionda Lagoon, and the Southern California Bight so that the actual ecological effects due to any additional entrainment from the project at either level of plant operations are insignificant. Species of direct recreational and commercial value constitute less than 1 percent of the entrained organisms, and considering the fact that in general, less than one percent of all fish larvae become reproductive adults, the operation of the desalination plant would not result in significant impacts on those species. California Department of Fish and Game (2002) in their Nearshore Fishery Management Plan provides for sustainable populations with harvests of up to 60 percent of unfished adult stocks. The incremental entrainment (“harvest”) effect of larval fishes from the desalination facilities operations at 106 or 306 MGD is approximately 1 to 34 percent (depending on the species); losses that would have no significant effect on the source water populations to sustain themselves. Additionally, entrainment mortality losses are not harvests in the common sense, because the larval fish are not removed from the ocean, but are returned to supply the ocean's food webs – the natural fate of at least 99 percent of larvae whether entrained or not. Generally less than one percent of all fish larvae become reproductive adults.

The following text replaces text that appears in Section 6.0 of the EIR (Starting on Page 6-1):

SECTION 6.0
ALTERNATIVES TO THE PROPOSED ACTION

In order to fully evaluate proposed projects, CEQA requires that alternatives be discussed. Section 15126.6 of the State CEQA Guidelines requires the discussion of “a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” The alternatives discussion is intended to “focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives as listed in Section 3.0 of this EIR. The alternatives discussion focuses on the desalination plant aspect of the PDP.

The Alternatives discussion in this EIR focuses on four project alternatives: a No Project/No Development Alternative, an Alternative Site Location Alternative, a Modified Intake Design Alternative, and a Reduced Project Capacity Alternative.
Along with the Alternatives identified in this Section, previous consideration has been given to policy options that are discussed as alternatives that have been considered and rejected for the purposes of this EIR. These alternatives include the Recycled Water Only Alternative and Increased Water Conservation/Recycled Water Alternative. These alternatives are not currently considered to be feasible project alternatives, and for that reason, are not put forward as alternatives that the City Council may select as alternatives actions to project approval. However, based on comments received on the EIR, the City of Carlsbad believes it important to emphasize and clarify past policy decisions relative to water recycling and conservation, and how those water management strategies relate to the proposed project.

**Alternatives Considered but Rejected as Infeasible**

Section 15126.6(c) of the CEQA Guidelines provides for discussion of any alternatives that were considered by the lead agency but were rejected as infeasible. The alternatives, identified as the Recycled Water Only Alternative and Increased Water Conservation/Recycled Water Alternative, have been considered in past decision making by the City and both have been determined to be infeasible, because they require recycling and conservation practices that go beyond what is considered to be acceptable from a public policy perspective. The following discussion provides information that explains how water recycling and conservation have and will continue to play an important role in local and regional water management. This discussion is also intended to provide a framework for understanding past policy decisions that limit the extent to which recycling and conservation can be taken without causing unacceptable social and economic effects.

Water conservation and recycling has long been a part of local and regional water supply strategies. Conservation and recycling involve social and economic impacts that are given consideration by policy makers in terms of how much these strategies are feasibly able to contribute to reducing and/or satisfying demand.

The Department of Water Resources’ draft California Water Plan Update 2005 acknowledges that local efforts to conserve and reuse water must continue to be implemented and new water supplies must be developed (including up to 500,000 acre-feet of desalination) to ensure an adequate water supply for California’s future. (California Water Plan Highlights, page 15.) Update 2005 states that if recent growth trends continue, water conservation and reuse alone will not be adequate to meet Southern California’s future needs. More than 600,000 acre-feet of new supply will be needed to meet the South Coast region’s needs by the year 2030.
The San Diego County Water Authority’s Regional Water Facilities Master Plan has projected that an additional one million people will be added to the county over the next three decades. To keep up with this growth, it is expected that by 2020 water demands will grow by 107,000 acre feet (AF) over 2005 total projected demands to 813,000 acre feet per year (AFY). The contribution from water conservation efforts account for 54,900 AFY of estimated reduced demand today and is expected to grow by nearly 75% to a potential 93,200 AFY in reduced demand over the next 15 years. The increased demand projection of 107,000 AFY is net of the 93,200 AFY of projected savings due to ongoing and planned water conservation efforts, but still requires additional supply to meet the demands of growth in the region.

The City of Carlsbad currently imports 100% of its potable water supply. The City of Carlsbad’s pursuit of seawater desalination is in direct response to growing concern over water supply reliability. This concern is driven by several factors, including climate, limited surface and groundwater supplies, expected population growth, and decreasing reliability of imported water resources stemming from the Colorado River 4.4 Plan and QSA, Sacramento-San Joaquin Bay-Delta Accord, and other regional, state and federal water issues. Conservation programs defer or limit the rate of demand for water; however, these programs cannot reliably address the City’s long-term water supply needs.

The Carlsbad Municipal Water District (“CMWD”) considered a variety of actions to improve its water supply reliability, diversify supplies, and reduce dependence on imported water. These actions include a commitment to implement all cost-effective water conservation and recycling opportunities. Today, CMWD has one of the most aggressive conservation and recycling programs in the San Diego region.

CMWD is also a signatory to the California Urban Water Conservation Council Memorandum of Understanding (“MOU”). Signatories to the MOU implement 14 Best Management Practices that have received a consensus among water agencies and conservation advocates as the best and most realistic methods to produce significant water savings from conservation.

Conservation on a local level is implemented through strategies identified in the Urban Water Management Plan (UWMP). The goals of the City’s water conservation program are to: reduce demand for more expensive, imported water; demonstrate continued commitment to the Urban Best Management Practices (BMPs); and to ensure a reliable
future water supply. The UWMP includes water demand management measures, consisting of:

- Best Management Practices / Audits
- Low consumption toilets / showerheads / faucets
- Leak detection / Metering
- Landscape programs / Drought tolerant plantings
- Public information / School education
- Commercial & Industrial conservation measures
- Water waste prohibitions

In 1991, Carlsbad adopted a five-phase Recycled Water Master Plan designed to save potable water. The result is that CMWD has the most aggressive water recycling program in the region when measured in terms of percent of supply derived from recycled water. The Recycled Water Master Plan is referenced herein.

The implementation of the water conservation and water recycling elements included in CMWD’s UWMP are on schedule and are achieving the desired reduction in potable water use. These programs are designed to work in tandem with the proposed seawater desalination project to accomplish the City Council’s water supply reliability goal of 90 percent water availability during a severe drought. This goal could not be met through conservation and recycling alone.

The CMWD’s current UWMP, approved in 2005 and referenced herein, projects that in the year 2020 the City of Carlsbad will have 102,536 residents in the CMWD Service Area, an increase of almost 22,000 people from the 2005 Service Area population estimate. The projected water demand for the Service Area in 2020 is 28,907 acre feet (AF) per year. The UWMP has projected that 1,945 AF, or approximately 7% of the demand, will be met by conservation, a 500 AF increase over 2005 projected conservation savings. Further, recycled water is estimated to constitute 6,300 AF, or 21%, of CMWD water demand in 2020. This represents a 6% increase over recycled water supplies in 2020 estimated by the 2000 UWMP.

As an alternative to use of desalinated water for the 72% of the City’s water needs that would not be supplied by conservation (7%) and recycled water (21%) in 2020, certain commenters have claimed that it is possible for the City to increase conservation or use of recycled water in a manner which eliminates the need for desalinated water from the desalination facility.
The Recycled Water Only Alternative would involve a situation where the City of Carlsbad would not utilize any external source of potable water. Under this scenario, the residents and businesses in the City would reduce their consumption of water, and only utilize water which is recycled from the City's wastewater system. The current water supply projection for 2020 – 21% recycled water and 7% conservation – would increase by some combination to 100% under this alternative. A variety of different combination of conservation and use of recycled water could be imagined under this alternative.

With this alternative, there would be no need for the desalination facility. The significant effects of the desalination facility related to air quality and growth inducement would be avoided.

Under the Recycled Water Only and Increased Conservation/Recycled Water alternatives, the City would implement more aggressive conservation measures that go beyond current BMPs as a means to meet future water demands. The City would more aggressively apply BMPs going beyond what is locally cost-effective and implement new restrictions on water use, such as limitations on residential landscape irrigating, washing vehicles, irrigating golf courses and parks and other uses, and have appropriate penalties for failure to comply with restrictions.

To more aggressively implement conservation measures beyond the current industry standard, the City would have to implement non-cost-effective BMPs, non-proven potential BMPs, and would have to enforce restrictions that could harm the City's economy and result in a drastic change in life styles. Even with the aggressive conservation measures the City has taken, coupled with planned future conservation projects, the savings would not be sufficient to offset the estimated demand forecast for 2020.

The Recycled Water Only Alternative appears to be infeasible as it does not take into account water loss and replacement. Inevitably, some water will be lost through evaporation, transportation, leaks, application to soil, and water treatment processes in industrial and public utility uses, such as waste treatment systems. Eventually, this lost water will require replacement from another water source “outside” the recycled water system. Accordingly, an argument could be made that this replacement could come from sources other than imported and desalinated water, such as stormwater. However, the City has no way of capturing stormwater for use as a potable supply as the City does not have any stormwater impoundment reservoirs.

No community in the world has achieved the level of recycling and conservation presented in the Recycled Water Only Alternative. Furthermore, the California
Department of Health Services has health based restrictions on the use of recycled water which prevent its use as a complete replacement for potable water. In addition, the general public is unwilling to use recycled water as a complete replacement for water used in cooking, bathing, washing and drinking.

The City has also previously analyzed the Increased Conservation/Recycled Water Alternative, whereby the combined level of conservation and recycled water supply would total somewhere between UWMP projections as used as the baseline assumption in this FEIR and a level of 100%, which is the level analyzed in the Recycled Water Only Alternative discussed above. (The 2000 UWMP estimates 15% of the City’s water demand in 2020 would be met by recycled water; an estimate is not provided for conservation, although the 2000 UMWP discusses conservation, the components to achieve it, and recognizes conservation as a critical part of CMWD’s long term water supply needs.) A variety of different combinations of increased use of recycled water and increased conservation are covered within this alternative. Commentors did not describe a specific level of conservation or use of recycled water that they felt the City could achieve.

The Increased Conservation/Recycled Water Alternative was not presented as an actual alternative to the proposed project. No matter what level of conservation or recycled water is proposed below 100%, the City and other jurisdictions in San Diego County still face a need for potable water from some source. As a result, this is not a feasible alternative to the proposed project. For example, reaching a theoretical goal of supplying water needs through conservation and use of recycled water to meet 50% of the City’s water needs still requires a source of water for the remaining 50% of the water needs. The desalination facility is still needed to supply that remaining 50%, even under this type of Conservation/Recycled Water Alternative. Thus, this Alternative would not eliminate the need for the desalination facility, nor would it eliminate the potential adverse effects of the desalination facility related to a contribution to cumulative air quality or a contribution to regional growth inducement.

An Increased Conservation/Recycled Water Alternative would permit the City to purchase less desalinated water from the desalination facility. If Carlsbad were the only customer for the desalination facility, this could result in a reduced capacity desalination facility. The impacts of a Reduced Project Capacity Alternative are analyzed in Section 6.4 of the EIR. As noted in Section 6.4 of the EIR, a Reduced Project Capacity Alternative would reduce but not eliminate the project’s contribution to a cumulative air quality and cumulative regional growth inducing impacts.
In summary, the City concludes that the Increased Conservation/Recycled Water Alternative also appears to be infeasible for public policy reasons because it would require a level of conservation and use of recycled water that is unacceptable as a matter of public policy. The City previously determined the maximum acceptable levels of conservation and recycled water use that should be mandated by the City in the approval of the UWMP and the Recycled Water Master Plan, and does not believe these levels can or should be increased for many reasons, as set forth in the record before the City Council when those plans were approved. For example, due to current legal restrictions, recycled water cannot be used for bathing, cooking and other household domestic needs. Current mandated low flow toilets, showerheads and other plumbing fixtures represent the maximum feasible level of conservation from these fixtures, and at this time it is infeasible to mandate fixtures which provide higher levels of conservation.

Single family residential households use a large portion of the CMWD water supply. The 2005 UWMP estimates that in 2020, 38% of the total water supply, or 11,013 AF, can be attributed to use by these households. Single family residential water demand includes both indoor and outdoor water usage with 60% of the water usage attributed to outdoor use, primarily for landscaping. Increasing the percentage of water supply available through conservation, above the 7% conservation projection in 2020, would require an equal reduction in demand.

While reduction of water demand could occur through use of recycled water for landscape irrigation for single-family residences, this would present concerns. Installing the public infrastructure and retrofitting all single-family residences to enable use of reclaimed water for irrigation purposes would be economically infeasible. Moreover, use of reclaimed water for irrigation by private residences is also discouraged by some county health officials.

Further restrictions on outdoor water use, such as a ban on all outdoor water usage, are not acceptable as a matter of public policy. If all outdoor water usage from single family residences were prohibited, for example, a conservation of approximately 6,607 AF of water (60% of 11,013 AF) or 22% of total 2020 demand would be achieved, enhancing the total conservation supply for the City of Carlsbad in 2020 to 29% (7% + 22%). However, among other things, this alternative would require the City of Carlsbad to enact ordinances that allow only non-irrigated landscaping within the City of Carlsbad, and ordinances that ban the use of outdoor irrigation for single family residences.

The City of Carlsbad has determined that prohibition of single family residential outdoor irrigation and most outdoor landscaping is not a desired public policy goal of the City of
Carlsbad, and the City Council does not believe that this action would be in the best interest of the quality of life, or health and well being of the residents of Carlsbad.
AMENDMENT TO ADD THE FOLLOWING SECTION 5.5 TO 
EXHIBIT “EIR-A”
CITY OF CARLSBAD RESOLUTION
NO. ____
CALIFORNIA ENVIRONMENTAL QUALITY ACT
FINDINGS OF FACT
(PUBLIC RESOURCES CODE 521081 CEQA GUIDELINES 315091)
and
STATEMENT OF OVERRIDING CONSIDERATIONS
(CEQA GUIDELINES 515093)
for the
FINAL ENVIRONMENTAL IMPACT REPORT (EIR 03-05)
PRECISE DEVELOPMENT PLAN AND DESALINATION PLANT
(SCH No. 2004041081)
5.5 Alternatives Considered and Rejected for the Purposes of this EIR

5.5.1 Description

Along with the Alternatives identified in this Section 5.0, previous consideration has been given to policy options that are discussed as alternatives that have been considered and rejected as infeasible for the purposes of this EIR. These alternatives include the Recycled Water Only Alternative and Increased Water Conservation/Recycled Water Alternative. These alternatives are not considered to be feasible project alternatives because they require recycling and conservation practices that go beyond what is considered to be acceptable from a public policy perspective. However, based on comments received on the EIR, the City of Carlsbad believes it important to emphasize and clarify past policy decisions relative to water recycling and conservation, and how those water management strategies relate to the proposed project. Section 15126.6(c) of the CEQA Guidelines provides for discussion of any alternatives that were considered by the lead agency but were rejected as infeasible.

Under the Recycled Water Only Alternative, the City would not utilize an external source of portable water. Residents and business would reduce their water consumption and would only utilize water recycled from the City's wastewater system.

Under the Increased Water Conservation/Recycled Water Alternative, which the City has previously analyzed, the City would increase its level of water conservation and use of recycled water whereby the combined level of conservation and use of recycled water would total somewhere between the figures stated in the City’s 2000 Urban Water Management Plan as used as the baseline assumption in the FEIR, and a level of 100%, which is the level analyzed in the Recycled Water Only Alternative described above. In the year 2020, for example, the 2000 UWMP estimates 15% of the City’s water demand would be met by recycled water; an estimate is not provided for conservation, although the 2000 UMWP discusses conservation, the components to achieve it, and recognizes conservation as a critical part of CMWD's long term water supply needs. The update to the 2000 UWMP, approved in 2005 following the release of the FEIR, revises the water supply numbers and notes that in 2020, 21% of the CMWD water supply will be met by recycled water and 7% of the water supply will be met through conservation.

5.5.2 Supporting Explanation

The City finds both the Recycled Water Only Alternative and the Increased Water Conservation/Recycled Water Alternative are infeasible for public policy reasons because they would require a level of conservation and use of recycled water that is unacceptable as a matter of public policy (see FEIR Section 6.0). The City previously determined the maximum acceptable levels of conservation and recycled water use that should be mandated by the City in the adoption of the Urban Water Master Plan and the Recycled Water Master Plan, and does not believe these levels can or should be increased for many reasons, as set forth in the record before the City Council when those plans were adopted.
For example, due to current legal restrictions, recycled water cannot be used for bathing, cooking and other household domestic needs. Current mandated low flow toilets, showerheads and other plumbing fixtures represent the maximum feasible level of conservation from these fixtures, and at this time it is infeasible to mandate fixtures which provide higher levels of conservation. Further, use of recycled water by single family homeowners for irrigation would necessitate installing the public infrastructure and retrofitting all single-family residences to enable use of reclaimed water for irrigation purposes. This likely would prove to be economically infeasible and use of reclaimed water for irrigation by private residences is also discouraged by some county health officials.

It would also be infeasible and undesirable to achieve increased conservation through a ban on all outdoor water usage by single family residences. Under this scenario, a conservation of approximately 6,607 AF of water or 22% of total 2020 demand would be achieved, enhancing the total conservation supply for the City of Carlsbad in 2020 to 29% (7% achieved through already projected conservation + 22%). However, the additional 22% of supply conservation would require that no water be used outdoors in single family residential dwellings. Among other things, this alternative would require the City of Carlsbad to enact ordinances that allow only non-irrigated landscaping within the City of Carlsbad, and ordinances that ban the use of outdoor irrigation for single family residences.

The City of Carlsbad finds and has determined that prohibition of single family residential outdoor irrigation and most outdoor landscaping is not a desired public policy goal of the City of Carlsbad, and the City Council does not believe that this action would be in the best interest of the quality of life, or health and well being of the residents of Carlsbad.

The City also finds that, under the Increased Conservation/Recycled Water Alternative, no matter what level of conservation or recycled water is proposed below 100%, the City and other jurisdictions in San Diego County would still face a need for potable water from some source. As a result, this is not a feasible alternative to the proposed project. For example, reaching a theoretical goal of supplying water needs through conservation and use of recycled water to meet 50% of the City’s water needs would still require a source of water for the remaining 50% of the water needs. Thus, this Alternative would not eliminate the need for the desalination facility nor would it eliminate the potential adverse effects of the desalination facility related to a contribution to cumulative air quality or a contribution to regional growth inducement.

The City also finds, with regards to the Recycled Water Only Alternative, that it is infeasible as it does not take into water loss and replacement. Inevitably, some water will be lost through evaporation, transportation, leaks, application to soil, and water treatment processes in industrial and public utility uses, such as waste treatment systems. Eventually, this lost water will require replacement from another water source “outside”...
the recycled water system. Accordingly, an argument could be made that this replacement could come from sources other than imported and desalinated water, such as stormwater. However, the City has no way of capturing stormwater for use as a potable supply as the City does not have any stormwater impoundment reservoirs.
PLANNING COMMISSION RESOLUTION NO. 6087

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF CARLSBAD, CALIFORNIA, RECOMMENDING CERTIFICATION OF AN ENVIRONMENTAL IMPACT REPORT AND ADOPTION OF CANDIDATE FINDINGS OF FACT, STATEMENT OF OVERRIDING CONSIDERATIONS, AND A MITIGATION MONITORING AND REPORTING PROGRAM FOR THE PRECISE DEVELOPMENT PLAN AND DESALINATION PLANT PROJECT, WHICH AFFECTS PROPERTIES AND STREETS IN THE CITIES OF CARLSBAD, OCEANSIDE, AND VISTA.

CASE NAME: PRECISE DEVELOPMENT PLAN AND DESALINATION PLANT
CASE NO: EIR 03-05

WHEREAS, Poseidon Resources (Channelside) LLC, “Developer,” has filed a verified application with the City of Carlsbad regarding property owned by various owners, “Owners”, described as

- The Encina Power Station, located north of Cannon Road and west of Interstate 5 in the City of Carlsbad at 4600 Carlsbad Boulevard. The desalination plant and some appurtenant facilities are proposed on the grounds of the Power Station; and
- Streets and properties within the boundaries of the Encina Specific Plan, which encompasses approximately 680 acres around Agua Hedionda Lagoon, including the Encina Power Station, proposed desalination plant and some appurtenant facilities, all in the City of Carlsbad; and
- Various streets and properties in an area generally bordered by and including Cannon Road, College Boulevard, Mesa Road, Santa Fe Road, Melrose Drive, Faraday Avenue, and Palomar Airport Road within the cities of Carlsbad, Oceanside, and Vista in which desalination water conveyance pipelines and a pump station are proposed.

(“the Property”); and;

WHEREAS, an Environmental Impact Report – EIR 03-05 was prepared in conjunction with the Precise Development Plan and Desalination Plant project (“Project”) in compliance with the California Environmental Quality Act (CEQA); and
WHEREAS the Planning Commission did on the 3rd day of May 2006 hold a duly noticed
public hearing as prescribed by law to consider said request; and

WHEREAS, the Final Environmental Impact Report (Final EIR) was presented to
the Planning Commission, and the Planning Commission reviewed and considered the
information contained in the Final EIR prior to approving the Project; and

WHEREAS, at said public hearing, upon hearing and considering all testimony
and arguments, examining the Final EIR, Candidate Findings of Fact, Statement of
Overriding Considerations, and Mitigation Monitoring and Reporting Program, analyzing
the information submitted by City staff, and considering any written and oral comments
received, the Planning Commission considered all factors relating to the Final EIR.

NOW, THEREFORE, BE IT HEREBY RESOLVED by the Planning
Commission as follows:

A) That the foregoing recitals are true and correct;

B) That the Final EIR consists of EIR 03-05, dated December 2005, appendices,
written comments and responses to comments, as amended to include the
comments and documents of those testifying at the public hearing and responses
thereto hereby found to be in good faith and reason by incorporating a copy of the
minutes of said public hearing into the report, all on file in the Planning
Department incorporated by this reference, and collectively referred to as
the “Report.”

C) That the Final EIR, EIR 03-05, as so amended and evaluated, is recommended for
acceptance and certification as the FEIR, and that the FEIR as recommended is
adequate and provides reasonable information on the Project and all reasonable
and feasible alternatives thereto, including the “No Project” alternative.

D) That based on the evidence presented at the public hearing, the Planning
Commission hereby RECOMMENDS CERTIFICATION of the Final EIR,
EIR 03-05, and RECOMMENDS ADOPTION of the Candidate Findings of
Fact (“CEQA” Findings); the Statement of Overriding Considerations
(“Statement”), attached hereto marked as Exhibit “EIR-A” and
incorporated by this reference; and the Mitigation Monitoring and
Reporting Program (“Program”), attached hereto marked as Exhibit
“EIR-B” and incorporated by this reference; based on the following findings
that are supported by substantial evidence in the Record and subject to the following condition.

**Findings:**

1. The **Planning Commission** does hereby find that the Final EIR 03-05, the CEQA Findings, the Program, and the Statement have been prepared in accordance with requirements of the California Environmental Quality Act, the State EIR Guidelines, and the Environmental Review Procedures of the City of Carlsbad.

2. The **Planning Commission** has reviewed, analyzed, and considered Final EIR 03-05, the environmental impacts therein identified for this Project, the CEQA Findings, the Statement, and the Program prior to **RECOMMENDING APPROVAL** of the Project, and they reflect the independent judgment of the City of Carlsbad **Planning Commission**.

3. The **Planning Commission** does accept as its own, incorporate as if set forth in full herein, and make each and every one of the findings contained in the CEQA Findings, including feasibility of mitigation measures pursuant to Public Resources Code 21081 and CEQA Guidelines 15091, and infeasibility of Project alternatives.

4. The **Planning Commission** hereby finds that the Program is designed to ensure that during Project implementation and operation the Developer and any other responsible parties implement the Project components and comply with the feasible mitigation measures identified in the CEQA Findings and the Program.

5. Although certain significant or potentially significant environmental effects caused by the Project will remain, even after the adoption of all feasible mitigation measures and any feasible alternatives, there are specific economic, social, and other considerations that render the unavoidable significant adverse environmental effects acceptable, as set forth in the Statement.

6. The Record of Proceedings for this Project consists of the Report, CEQA Findings, Statement, and Program; the "Record" upon which the Planning Commission bases these CEQA Findings and its actions and determinations regarding the Project includes, but is not limited to, the Draft EIR, together with all appendices and technical reports referred to therein, whether separately bound or not; all reports, letters, applications, memoranda, maps, or other planning and engineering documents prepared by the City, planning consultant, environmental consultant, Project applicant, or others presented to or before the decision-makers as determined by the City Clerk; all letters, reports, or other documents submitted to the City by members of the public or public agencies in connection with the City's environmental analysis on the Project; all minutes of any public workshops, meetings, or hearings, including the scoping sessions, and any recorded or verbatim transcripts/videotapes thereof; any letters, reports, or other documents or other evidence submitted into the record at any public workshops, meeting, or hearings; matters of common general knowledge to the City that the City may consider, including applicable State or local laws, ordinances, and policies, the General
Plan, Zoning Ordinance, Local Facilities Management Plans, and all applicable planning programs and policies of the City; and, all findings and resolutions adopted by the City in connection with the Project, including all documents cited or referred to therein.

The custodian of the full administrative record shall be the City Clerk’s Office, 1200 Carlsbad Village Drive, and the Planning Director, 1635 Faraday Avenue, both in Carlsbad, CA 92008.

**Condition:**

1. The Developer shall implement the mitigation measures described in Exhibit EIR-B, the Program, for the mitigation measures and monitoring programs applicable to development and operation of the Precise Development Plan and Desalination Plant project.

PASSED, APPROVED AND ADOPTED at a regular meeting of the Planning Commission of the City of Carlsbad, California, held on the 3rd day of May 2006, by the following vote, to wit:

**AYES:** Chairperson Montgomery, Commissioners Baker, Cardosa, Heineman, Segall, and Whitton

**NOES:**

**ABSENT:**

**ABSTAIN:** Commissioner Dominguez

[Signature]

MARTELL B. MONTGOMERY, Chairperson
CARLSBAD PLANNING COMMISSION

**ATTEST:**

[Signature]

MARCELA ESCOBAR-ECK
Planning Director
EXHIBIT “EIR-A”

CITY OF CARLSBAD RESOLUTION

NO. ____

CALIFORNIA ENVIRONMENTAL QUALITY ACT

FINDINGS OF FACT

(PUBLIC RESOURCES CODE 521081 CEQA GUIDELINES 315091)

and

STATEMENT OF OVERRIDING CONSIDERATIONS

(CEQA GUIDELINES 515093)

for the

FINAL ENVIRONMENTAL IMPACT REPORT (EIR 03-05)

PRECISE DEVELOPMENT PLAN AND DESALINATION PLANT

(SCH No. 2004041081)
Findings of Fact

1.1 INTRODUCTION

The Final Environmental Impact Report (FEIR) has been prepared pursuant to the California Environmental Quality Act (CEQA) to address the potential environmental effects of the Precise Development Plan and Desalination Plant ("Project") and considered by the City Council of the City of Carlsbad (City) in connection with its public consideration of requested approvals for the Project. The full scope of the Project and associated approvals are described in more detail in Section 1.2 below. The Project consists of a Precise Development Plan (PDP) and other permits and actions to: 1) establish general planning policies and development standards for the Encina Power Station (EPS); and 2) obtain land use approvals to construct and operate an approximately 50 million gallon per day (mgd) Carlsbad Seawater Desalination Plant (Desalination Plant) and other appurtenant and ancillary water and support facilities to produce and distribute potable water. The FEIR and its separately bound technical appendices are incorporated herein by reference as though fully set forth.

The following statement of facts and findings ("Findings") has been prepared in accordance with CEQA, for use by the City in connection with its actions as Lead Agency for the Project.

1.1.1 Definitions

As used in this document:

(1) “AFY” means acre feet per year.

(2) "Applicant" means Poseidon Resources (Channelside) LLC - the applicant for the Desalination Plant.

(3) "BMP" means Best Management Practices.

(4) “Cabrillo” means Cabrillo Power I LLC, owner of the EPS and joint applicant with Poseidon Resources (Channelside) LLC for the PDP.

(5) "CDFG" means the California Department of Fish and Game.

(6) "CEQA" means the California Environmental Quality Act.

(7) "City" means the City of Carlsbad.

(8) “CMWD” means the Carlsbad Municipal Water District

(9) "CNPS" means the California Native Plant Society.

(10) "CWA" means the San Diego County Water Authority.

(11) “Desalination Plant” means the Carlsbad Seawater Desalination Plant, a facility that will produce approximately 50 mgd of potable water on an approximately 4-acre site within the PDP area.
Findings of Fact

(12) "EIR" means Environmental Impact Report.

(13) "EPS" means Encina Power Station.

(14) "EWPCF" means Encina Water Pollution Control Facility.

(15) "FEIR" or "Final EIR" means Final Environmental Impact Report dated December 2005.

(16) “GPD” means gallons per day.

(17) “GPM” means gallons per minute.

(18) “MAF” means million acre feet.

(19) “MGD” means millions of gallons per day.

(20) "MHCP" means Multiple Habitat Conservation Plan.

(21) "MMRP" means Mitigation Monitoring and Reporting Program.

(22) “MWD” means Metropolitan Water District.

(23) “NOP” means Notice of Preparation.

(24) "On-site Facilities" means Desalination Plant appurtenant and ancillary water and support facilities that assist in the production and distribution of potable water and that are located within the PDP area. On-site facilities include facilities such as the intake pump station and pipeline, concentrate return pipeline, sewer connection, backwash water treatment facility, electrical transformers, substation, electrical transmission lines, road improvements, and product water pipeline.

(25) "Off-site Facilities" means Desalination Plant appurtenant and ancillary water and support facilities that distribute potable water and that are located outside of the PDP area. Off-site facilities include pipelines and a pump station.

(26) “Planning Director” means the Planning Director, or his or her designee, of the City of Carlsbad or the Planning Director or other appropriate position of another Public Agency.

(27) “Public Agency” means a government agency such as the City of Carlsbad.

(28) "PDP" means Precise Development Plan covering the area comprising approximately 95 acres and encompassing the EPS and its related facilities, and the Desalination Plant and its related On-site facilities.

(29) “Poseidon” means Poseidon Resources (Channelside) LLC.
Findings of Fact

(30) "Project" means the Precise Development Plan and Desalination Plant project, as described in Section 3.0 of the Final EIR, pages 3-1 through 3-33, and as summarized in Section 1.2 of these Findings.

(31) "QSA" means the Quantification Settlement Agreement, which includes a number of agreements among various federal and state agencies to provide a means for California to stay within its annual allocation of Colorado River water.

(32) "SCAQMD" means the South Coast Air Quality Management District.

(33) "SDAPCD" means the San Diego Air Pollution Control District.

(34) "SUSMP" means Standard Urban Storm Water Mitigation Plan.

(35) "SWMP" means Storm Water Management Plan.

(36) "SWPPP" means Storm Water Pollution Prevention Plan.

(37) "TDS" means Total Dissolved Solids.

(38) "UBC" means Uniform Building Code.

(39) "USFWS" means the United States Fish and Wildlife Service.

(40) "ZID" means Zone of Initial Dilution.

Any terms not defined herein shall have the same meanings ascribed to them in the Final EIR.

1.1.2 Record

(1) The "Record" upon which the City Council bases these CEQA Findings and its actions and determinations regarding the Project includes, but is not limited to, the following:

(2) The Draft EIR and Final EIR for the Project, together with all appendices and technical reports referred to therein, whether separately bound or not;

(3) All reports, letters, applications, memoranda, maps, or other planning and engineering documents prepared by the City, planning consultant, environmental consultant, project applicant, or others presented to or before the decision-makers as determined by the City Clerk;

(4) All letters, reports, or other documents submitted to the City by members of the public or public agencies in connection with the City's environmental analysis on the Project;

(5) All minutes of any public workshops, meetings, or hearings, including the scoping sessions, and any recorded or verbatim transcripts/videotapes thereof;
Findings of Fact

(6) Any letters, reports, or other documents or other evidence submitted into the record at any public workshops, meeting, or hearings;

(7) Matters of common general knowledge to the City that the City may consider, including applicable State or local laws, ordinances, and policies, the General Plan and all applicable planning programs and policies of the City; and,

(8) All findings and resolutions adopted by the City in connection with the Project, including these Findings and the Statement of Overriding Considerations, and all documents cited or referred to therein.

The custodian of the full administrative record shall be the City Clerk's Office, 1200 Carlsbad Village Drive, Carlsbad, CA 92008, and the Planning Director, 1635 Faraday Avenue, also in Carlsbad. The City Council received, reviewed, and considered all of the information and documents in the record.

1.1.3 Overview of Project Impacts and CEQA Findings

The Final EIR assesses the potentially significant impacts of the Project and identifies the following categories of impacts:

(1) Potential impacts that would be "less than significant";

(2) Potential impacts that would be mitigated to a level that is "less than significant with the implementation of mitigation measures identified in the Final EIR"; and

(3) Potential impacts that would be "significant and unmitigable" because they could not be reduced to a less than significant level with the implementation of mitigation measures.

City is acting as the Lead Agency for the Project under CEQA. As the Lead Agency, City is responsible for making certain written Findings related to the Project prior to approval of the Project.

Pursuant to CEQA Sections 21081 and 21081.5 and CEQA Guidelines Sections 15091 and 15096(h), for each significant Project impact identified in the Final EIR [i.e., categories (2) and (3) above], the City must make one or more of the following Findings:

(1) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effect.

(2) Such changes or alterations are within the responsibility and jurisdiction of another public agency (other than the City), and such changes have been, or can and should be, adopted by such other agency.
(3) Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or project alternatives identified in the Final EIR.

CEQA defines "feasible" to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors" [CEQA § 21061.1]. The CEQA Guidelines adds "legal" considerations as an additional factor in determining feasibility [CEQA Guidelines § 15364]. In addition, if the Finding in (3) above is made with respect to any significant Project impact, the City must make a Finding, based upon substantial evidence in the record, that specific overriding economic, legal, social, technological, or other benefits of the Project outweigh the significant effects on the environment [CEQA §§ 21081(b), 20181.5; CEQA Guidelines § 15093].

The Findings set forth in this document have been prepared pursuant to CEQA Sections 21081 and 21081.5 and CEQA Guidelines Sections 15091, 15092, 15093 and 15097 to address the environmental effects of the Project set forth in the Final EIR as modified.

1.1.4 Mitigation Monitoring and Reporting Program

A Mitigation Monitoring and Reporting Program ("MMRP") has been prepared and will be adopted as part of the conditions of approval for the Project, pursuant to CEQA Section 21081.6 and CEQA Guidelines Section 15097. A copy of the MMRP is included as Exhibit B to this Resolution and incorporated herein by this reference.

1.2 PROJECT DESCRIPTION

1.2.1 Project Location

The Desalination Plant and On-site Facilities will be located adjacent to the existing EPS located immediately south of the Agua Hedionda Lagoon, within the City of Carlsbad. The EPS and all properties included in the PDP are located at 4600 Carlsbad Boulevard, along the southern edge of the Agua Hedionda Lagoon on the Pacific Ocean. The facilities owned by Cabrillo Power I LLC (Cabrillo) within the PDP area occupy approximately 95 acres of land, generally bounded by SDG&E property on the south, the Pacific Ocean and Carlsbad Boulevard on the west, Interstate 5 on the east, and the southern shore of the outer and middle basins of the Agua Hedionda Lagoon on the north.

The Desalination Plant will occupy an approximately 4-acre parcel in the area currently containing Fuel Oil Tank #3, which is the southernmost of three large fuel oil storage tanks nearest Carlsbad Boulevard. The fuel oil tank will be demolished to accommodate the desalination facility. Construction of the Desalination Plant will be limited to this 4-acre parcel. Associated offsite improvements will be constructed outside of the area covered by the PDP. The North County Transit District (NCTD) railway bisects the power plant north to south just east of the Desalination Plant. Primary access to the site is provided from Carlsbad Boulevard via the Cannon Road interchange at Interstate 5.
The Final EIR also evaluated potential environmental effects associated with the offsite water delivery infrastructure (Off-site Facilities) associated with the Desalination Plant. The Off-site Facilities primarily consist of water delivery pipelines and a pump station. The various water delivery pipeline alignment options generally follow existing and future roadways, including Cannon Road, Faraday Avenue, Avenida Encinas, Orion Street, Palmer Way, College Boulevard, Melrose Avenue, Shadowridge Drive, Sequoia Crest Drive, Lake Boulevard, Mesa Drive, Thunder Drive, and Waring Road, within the cities of Carlsbad, Oceanside and Vista.

1.2.2 Project Description

Poseidon has submitted an amendment to a pending PDP application to the City to obtain land use approvals to construct and operate an approximately 50 million gallon per day (mgd) Desalination Plant. The PDP application was made jointly with Cabrillo, owner and operator of the EPS, which is adjacent to the site of the Desalination Plant.

The Encina Power Station Precise Development Plan will also serve Cabrillo as a planning document that establishes existing land uses at the EPS, as well as general planning policies, review procedures, and development standards for the EPS. The PDP also serves as the primary land use approval mechanism for approval of the Desalination Plant. The PDP establishes baseline conditions for existing facilities and operations on site as well as establishes procedures for administrative approvals for future changes within the PDP area. The development standards will apply to all future onsite development, including major and minor additions and modifications. However, the Project will not modify EPS operations, and, with the exception of discharge channel and electrical connections and removal of a fuel oil storage tank, will also not modify any of the existing EPS facilities. Furthermore, with the exception of the intake pump station and pipeline, concentrate return pipeline, sewer connection, backwash water treatment facility, electrical transformers, substation, electrical transmission lines, road improvements, and product water pipeline (On-site Facilities), none of which will modify the power plant operations, construction of the Desalination Plant will be limited to the 4-acre Desalination Plant site, and to the Off-site Facilities that lie outside of the PDP boundary.

The Desalination Plant will have the capacity to deliver approximately 50 MGD of Reverse Osmosis (RO) permeate (product water). From the Desalination Plant, the product water will be distributed along several pipeline routes, some proposed, some planned and some existing, to the City of Carlsbad and various local water districts as wholesale water purchasers for ultimate use and consumption by homes and businesses in Northern San Diego County. The FEIR analyzed different pipeline alignments through portions of Carlsbad, Oceanside, and Vista.

1.2.3 Project Objectives

The fundamental purposes of the Project include the following:
Findings of Fact

- To provide the primary land use approval mechanism and detailed exhibits for the City’s review and approval of the proposed 50 MGD Carlsbad Seawater Desalination Facility to be located adjacent to the EPS.

- To establish a baseline for identifying existing facilities and operations on site for the purpose of increasing knowledge and understanding about station operations and onsite facilities.

- To establish a procedure for administrative approvals that will enable the City to issue administrative permits, building permits and other ministerial permits, establish amendment procedures for the PDP, and entitlements for property owned by Cabrillo zoned P-U.

- To provide development standards for the power plant.

The specific objectives related to the Project and the land use applications through which it will be processed include the following:

- To provide a local source of potable water to supplement imported water supplies available to the City of Carlsbad and the San Diego region.

- To improve water supply reliability for the City of Carlsbad and the San Diego region.

- To improve water quality for the City of Carlsbad and the surrounding communities.

- To complement local and regional water conservation, and water recycling programs.

- To locate and design a desalination plant in a manner that maximizes efficiency for construction and operation and minimizes environmental effects.

- To increase opportunities for public access to the coastal area through public enhancements and dedications of coastal property.

1.2.4 Discretionary Actions

The following discretionary actions will be required to implement the Project:

City of Carlsbad Actions
- Certification of a Project EIR and approval of the Encina Power Station Precise Development Plan;
- An Amendment to the Encina Specific Plan No. 144 to incorporate the PDP into the specific plan;
Findings of Fact

- A Coastal Development Permit (CDP) for the offsite Project elements located within the Coastal Zone but outside the Agua Hedionda segment of the City’s Local Coastal Program;
- A Floodplain Special Use Permit;
- A Development Agreement
- Approval of Improvement Plans
- Right-of-Way Permit(s)
- Encroachment Permit(s)
- Easements/Acquisition of Right-of-Way
- Grading Permit(s)
- Haul Route Permit
- Water Purchase Agreement
- A Habitat Management Plan Permit
- Redevelopment Permit

California Coastal Commission Action
- A Coastal Development Permit (CDP) for the Desalination Plant, On-site Facilities, and portion of the Off-site Facilities. This permit is necessary as the Encina Power Station and portions of the offsite elements are located in the Agua Hedionda segment of the City of Carlsbad’s Local Coastal Program - a segment over which the City does not have permit authority, because jurisdiction has been retained by the California Coastal Commission.

Other Agency Actions
- A lease for portions of the Project that are state-owned lands under jurisdiction of the California State Lands Commission;
- A Domestic Water Supply Permit from the California Department of Health Services;
- A separate National Pollutant Discharge Elimination System (NPDES) Permit from the San Diego Regional Water Quality Control Board for the desalination plant;
- An Industrial Waste Permit from the Encina Wastewater Authority
- Additional review may be provided by Federal, State and regional agencies including, but not limited to: the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, National Oceanic & Atmospheric Administration, U.S. National Marine Fisheries Service, U.S. Army Corp of Engineers, CALTRANS, and California Department of Fish and Game;
- Land use and development permits from the cities of Oceanside and/or Vista;
- Right-of-Way Permit(s) from the Cities of Vista and/or Oceanside;
- Encroachment Permit(s) from the Cities of Vista and/or Oceanside;
1.3 FINDINGS REGARDING THE ENVIRONMENTAL REVIEW PROCESS

City, acting as Lead Agency for the environmental review of the Project under CEQA, makes the following Findings with regard to the environmental review process undertaken to analyze potential environmental impacts of the Project.

(1) In accordance with CEQA Guidelines Section 15060(d), the City determined the Project would clearly require an EIR and therefore did not prepare an Initial Study.

(2) City issued its Notice of Preparation ("NOP") on April 12, 2004. The NOP was distributed to all responsible and trustee agencies, as well as other agencies and members of the public (Appendix A of the Final EIR), and was published in a local newspaper. A number of written responses were received.

(3) The City held public scoping meetings on April 28, 2004, at the City's Faraday Center. Advance notice of the meetings was given in the NOP. At the scoping sessions, the public was invited to comment on the scope and content of the EIR. Oral and written comments were received at the scoping sessions. A copy of the NOP and the written comments received in response to the NOP and public scoping sessions are included in Appendix A to the Final EIR.

(4) The following substantive potential impact areas were identified for the environmental impact analysis:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use/Planning
- Noise and Vibration
- Transportation and Traffic
- Public Utilities and Service Systems

Additionally, the Draft EIR includes other substantive sections required by CEQA such as...
Findings of Fact

executive summary, project description, cumulative effects, effects found not to be significant, growth inducing effects and alternatives.

(5) The Draft EIR for the Project was circulated for public review for a period of 60 days, which started on May 14, 2005 and ended on July 14, 2005. The Draft EIR was distributed to a variety of public agencies and individuals. A Notice of Completion of the Draft EIR was published in a local newspaper. The Notice included information on locations, including the City’s website, where the EIR would be available to the public.

(6) The City has considered, and responded to, public comments on the Draft EIR. The City determined that recirculation of the Draft EIR was not required. Responses to comments received on the Draft EIR are included in the Final EIR (Volume 2 of the Final EIR).

(7) The City released the Final EIR for public review on December 9, 2005. The Final EIR was distributed to all responsible and trustee agencies as well as all agencies and members of the public that submitted written comments on the Draft EIR. The City made public the release of the EIR through an announcement on its website and in a public hearing notice for a December 21, 2005, Planning Commission meeting. The public hearing notice, published in a local newspaper, provided information on locations, including the City’s website, where the Final EIR would be available to the public. The public hearing notice also provided a description of the Project and the purpose of the Planning Commission meeting, which was to provide the Planning Commission with a Project introduction and overview and offer the public an opportunity to comment on the Project.

(8) Prior to certification of the Final EIR, the City Council has not made any decisions that constitute an irretrievable commitment of resources or a commitment to a definitive course of action with respect to the Project.

2.0 FINDINGS REGARDING POTENTIAL ENVIRONMENTAL IMPACTS DETERMINED TO HAVE NO IMPACT OR TO BE LESS THAN SIGNIFICANT

The City hereby finds that the following potential environmental impacts of the Project are less than significant and therefore do not require mitigation measures.

2.1 Aesthetics

On-site construction-related impacts, such as storage tank demolition and a construction staging area, are short-term in nature and will only affect a limited portion of the overall PDP site. Impacts from offsite construction of the water delivery pipelines and pump station will be short-term and only affect a limited area. Overall, construction activities will not substantially degrade the existing visual character or quality of the site and surroundings, nor will they have a substantial adverse effect on a scenic vista. Therefore they are not significant (Final EIR, p. 4.1-3-10).
Findings of Fact

Aesthetic impacts that are significant but mitigated to a level less than significant are identified in Section 3 below.

2.2 Air Quality

Construction-related emissions are anticipated in association with construction of the desalination facility, and offsite pipelines and facilities. The estimated maximum daily emissions generated onsite during construction are below the thresholds established by SDAPCD Rule 20.2 for CO, ROC, Sox, and PM10. Therefore, impacts to air quality will be less than significant during construction of the Desalination Plant and On- and Off-site facilities (Final EIR, p. 4.2-10-16).

The combination of direct emissions from vehicle use and landscaping and indirect emissions associated with a net increase in power consumption to produce this new water supply during the operational phase of the Project will result in total emissions that will be less than the significance thresholds and will therefore not have a significant adverse effect on air quality (Final EIR, p. 4.2-17-21).

The Project will not directly emit toxic air contaminants and will therefore not have the potential to expose sensitive receptors to substantial pollutant concentrations. Furthermore, the Project does not involve any odor-generating sources and is not classified as an odor-generating process (SCAQMD 1993); therefore, the Project will not create objectionable odors affecting a substantial number of people. The Project's operational impacts will therefore be less than significant (Final EIR, p. 4.2-16, 20 and 21).

Significant unavoidable cumulative impacts on air quality are addressed in Section 4.1 of these Findings.

2.3 Biological Resources

2.3.1 Terrestrial Environment

Construction of the Off-site Facilities will occur in areas with a range of vegetative cover. No plant species listed by the USFWS or the CDFG as rare, threatened, or endangered were detected in the overall study area, which encompasses the Desalination Plant, On-site Facilities, and Off-site Facilities. Impacts on agricultural land, ruderal habitat, and developed land will be less than significant, because of the lack of sensitivity of these land cover types (Final EIR, p. 4.3-19 and 31).

San Diego County viguiera is designated as a CNPS List 4 species. Implementation of the Project will result in direct impacts on a portion of a population of San Diego County viguiera (75 to 100 individuals) located within the City of Carlsbad. Impacts to San Diego County viguiera are not significant because the Project's impacts to this species do not represent a substantial reduction in the population of this species. Further, areas impacted do not include any of the major populations for this species (Final EIR, p. 4.3-32).
Findings of Fact

Project implementation will be consistent with regional and local conservation goals (Final EIR, p. 4.3-33). The Project is not within the Preserve Planning Zones of the Oceanside Subarea Plan. While portions of the offsite pipeline alignments cross hardline preserve areas and standards areas of the Carlsbad Habitat Management Plan (HMP), the alignments will not disturb existing and future habitat areas as all construction will be located within existing or future road rights of way or will be placed underground using trenchless construction methods (Final EIR, p. 4.3-33).

Because of the temporary nature of Project construction impacts and absence of above ground Project features associated with the pipelines that could preclude linkages or movements, there will be no direct or indirect impacts on habitat linkages or wildlife movement corridors (Final EIR, p. 4.3-32).

2.3.2 Marine Environment

Potential effects from chemical additives during the desalination process will be negligible for the proposed operations at the Desalination Plant. Chemicals will be removed through sand filtration, de-chlorinated, or neutralized prior to discharge, with solids removed for further processing and disposal. Only clarified backwash water will be returned to the discharge channel; any chemical additives present will not exceed identified thresholds, and therefore effects will be less than significant (Final EIR, p. 4.3-34).

Operation of the Desalination Plant will not require the EPS to increase the quantity of intake cooling water nor will it increase the velocity of the water at the intake structure. The Desalination Plant and On-site Facilities will not have a separate direct lagoon or ocean intake and screening facilities, and will only use cooling water that is discharged from the EPS cooling system. Therefore, the Desalination Plant will not cause any additional impingement losses of marine organisms associated with EPS cooling water intake (Final EIR, p. 4.3-34 and 35).

Because the volume and velocity of EPS intake water will not increase for Desalination Plant operations, the number of organisms entrained by the EPS cooling water intake structure will not increase. Living fish larvae entrained by the Desalination Plant will represent an incremental loss of approximately 0.01 to 0.28 percent of the larvae present in the power plant source water. The small proportion of marine organisms lost to entrainment as a result of the Desalination Plant operations will not have a substantial effect on the species' ability to sustain their populations because of their widespread distribution and high reproductive potential. The most frequently entrained species are very abundant in the area of EPS intake, Agua Hedionda Lagoon, and the Southern California Bight, and therefore, the actual ecological effects due to any additional entrainment from the Desalination Plant are less than significant. Therefore, the operation of the Desalination Plant will not result in significant impacts on those species (Final EIR, p. 4.3-36-43).
Findings of Fact

The Project will result in increased salinity levels from the Desalination Plant discharge. No endangered or at-risk species occur in the waters around the Project site and none of the coastline has been designated as an area of Special Biological Significance. Due to natural geographic distributions of most of the species within the Project area, many of the species living within the Project vicinity naturally experience a salinity range comparable to or greater than what is predicted for the combined discharge. Based on the modeling completed for power plant operations and coastal oceanographic variables, salinity levels will range from 36.2 ppt (average day bottom salinity at end of pipe) to 40.1 ppt (historical extreme, bottom salinity at end of pipe). The area that will experience elevated salinity levels consists mainly of the sandy bottom habitat beyond the surf zone, just offshore from the jetties. This area has a uniform, sandy bottom and lacks the habitat complexity and biodiversity of the nearby kelp beds. Salinity levels for the hard bottom habitat are below the significance criteria established for this habitat (EPA Guidelines indicating 38.4 ppt), and extended exposure to salinity levels above the identified threshold of 40 ppt will be avoided under all proposed operating conditions. The "historical extreme" scenarios will be short-term and episodic. Plant-specific tests, as well as relevant literature show that salinity levels at or below 40 ppt will not have substantial adverse effects on species within the study area. Therefore, since operating conditions will not result in salinity levels exceeding the identified threshold of 40 ppt for an extended period of time, impacts related to elevated salinities will not be significant (Final EIR, p. 4.3-43-51).

The temperature increases modeled for the combined discharge flow field are in the range of those that occur presently in the heated-only EPS discharge. Presently the EPS only discharges warm water and this forms a lens along the ocean surface that drifts down the coast with the prevailing coastal flow. When the Desalination Plant discharge is added, the discharge will submerge, drifting down coast as it sinks. This will cause a greater extent of bottom warming than occurs within the water column and expand the thermal contours along the bottom. The "historical average day" temperature increase will be about 1.1° C above ambient temperature, whether along the bottom or in the water column. No significant effects associated with combining concentrate discharge with the existing thermal discharge are anticipated (Final EIR, p. 4.3-51). Precautionary monitoring of the discharge will be required to ensure that ongoing operational parameters are within the range of variables assumed in the analysis. The monitoring program is included in the Final EIR mitigation measures and in the MMRP for purposes of tracking and implementation. However, the monitoring measure is not technically a "mitigation measure" in that it is not needed to reduce effects on the marine environment to less than significant levels, since no significant effects were identified.

Impacts to biological resources considered significant but mitigated to a level less than significant are identified in Section 3 below.

2.4 Cultural Resources

Within the Project area and vicinity, there are twelve cultural resource sites that were identified as not culturally significant. Some of these sites have been previously destroyed or are located within developed areas. Impacts to some of the sites have been addressed in previous environmental documents with Project approvals conditioned on mitigation for impacts to those
sites. Impacts to cultural resources that have been determined not to be significant sites are less than significant (Final EIR, p. 4.4-17-19).

Impacts to cultural and paleontological resources considered significant but mitigated to a level less than significant are identified in Section 3 below.

2.5 Geology and Soils

2.5.1 Desalination Plant Site

Groundwater issues will not pose a substantial constraint or hazard to Project development. Therefore, there will be no significant soil suitability impacts related to groundwater proximity (Final EIR, p. 4.5-10 and 11).

Based on the results of subsurface exploration and laboratory testing, the pad grade fill soils are generally considered to have a low expansion potential using the Uniform Building Code (UBC) standard. Therefore, impacts related to expansive soils will not be significant (Final EIR, p. 4.5-10 and 11).

Effects of seismic shaking will be reduced by adhering to the UBC and state-of-the art seismic design parameters of the Structural Engineers Association of California. Accordingly, impacts related to seismic shaking will be less than significant (Final EIR, p. 4.5-11).

Large-scale liquefaction effects at the ground surface are not likely. Current standards in the UBC will be adhered to during the design and construction of the Project, which will reduce the potential for major structural damage. Therefore, liquefaction effects on proposed Project structures will not be significant (Final EIR, p. 4.5-12).

The Desalination Plant and On-site Facilities are located in a gently sloping area with slight topographic relief that is not considered to be subject to landslides. Accordingly, the potential for landslides or other slope instability problems is low, and impacts will be less than significant (Final EIR, p. 4.5-12).

The potential for significant tsunami effects at the locations of the Desalination Plant and On-site Facilities is low, as the orientation of Southern California and its geographic and seismic factors are not conducive to tsunamis. Based on these factors, impacts will be less than significant (Final EIR, p. 4.5-12 and 13).

In Carlsbad, seiches are not expected to affect areas 5 to 10 feet above lagoon water level. As the Desalination Plant site will be located 30 feet above mean sea level relative to the Agua Hedionda Lagoon, the potential for seiches to affect the site are low and any impacts will be less than significant (Final EIR, p. 4.5-12 and 13).

The site-specific geotechnical investigation of the sites for the Desalination Plant and On-site Facilities did not reveal the presence of important mineral resources. There will be no significant impacts related to the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State (Final EIR, p. 4.5-13).
Findings of Fact

2.5.2 Offsite Facilities

Although topography of the pipeline routes varies greatly, landslide hazards associated with the pipelines is minimal since the facilities will be placed underground and ground surface topography will be restored to pre-Project conditions. Impacts will be less than significant (Final EIR, p. 4.5-13 and 14).

Implementation of the Project will not result in substantial adverse effects to people or structures from landslides or seismic activity (Final EIR, p. 4.5-15).

Mineral resources within the City of Carlsbad are no longer being extracted and utilized as exploitable natural resources (City of Carlsbad General Plan). The majority of areas crossed by offsite facilities have not been delineated as an important mineral resource recovery site within the general plans of the applicable cities, and these alignments will not cause any impacts (Final EIR, p. 4.5-16).

Significant geologic and soils impacts mitigated to a level less than significant are identified in Section 3 below.

2.6 Hazards and Hazardous Materials

Construction of the Desalination Plant will not involve extensive excavation or soil removal, and therefore, it is not likely that exposure of contaminated soils or groundwater will result from construction activities. Demolition activities will be required to adhere to appropriate regulatory requirements of the Occupational Safety and Health Administration to protect workers from exposure to potential hazards. Therefore, Project construction is not anticipated to expose people to potential hazards or result in release or upset associated with any hazardous substances, and any impacts will be less than significant (Final EIR, p. 4.6-9).

Project features that are designed to reduce risks associated with chemical use and storage, combined with regulatory requirements for safe handling and storage of materials, will minimize hazards associated with plant operation. The Project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. In addition, the Desalination Plant is not within one-quarter mile of an existing or proposed school. Therefore, impacts from the long-term operational use, storage, and transport of hazardous materials involved in desalination facility operations will be less than significant (Final EIR, p. 4.6-9-14). However, although impacts associated with hazards will be less than significant due to the facility design and proposed operational measures, avoidance measures are included to ensure that these Project features and operational practices are maintained (see Section 3 of these Findings).
Findings of Fact

Operation of the offsite pipeline areas will convey potable water through the pipelines, which will not pose a hazardous risk to the public or the environment and there would be no adverse impacts (Final EIR, p. 4.6-14).

During operation of the Project, the use, storage, transportation, and disposal of hazardous materials will be conducted in accordance with local, state and federal regulatory requirements. With incorporation of a traffic control plan into the Project and adherence to applicable regulations, the Project will not significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No mitigation is required (Final EIR, p. 4.6-10-14).

Hazards and hazardous materials impacts considered significant but mitigated to a level less than significant are identified in Section 3 below.

2.7 Hydrology and Water Quality

Development of the Desalination Plant and On-site Facilities will result in a 2.5-acre increase of impervious surface from the plant building and structures, an expanded access road turnaround, and small parking area associated with the new plant. Construction of the off-site pipelines will not result in increased impervious surfaces and will not impact storm water drainage. Due to its limited size, the offsite pump station will result in a negligible amount of impervious surfaces being created. There are no significant impacts to hydrology and water quality from the On-site or Off-site Facilities (Final EIR, p. 4.7-10-12).

2.7.1 Effects of Desalination Plant Discharge on Ocean Water Quality

2.7.1.1 Salinity

As discussed in Section 2.3.2. above, discharge from Desalination Plant operations will result in increased salinity. Dispersion of increased salinity in nearshore waters will depend on a variety of environmental factors. Salinity in this region of the ocean is relatively constant, with maximum variation over a 20.5-year period of approximately 10%. The present discharge from the EPS causes a surface plume due to the thermally buoyant properties of the effluent. In contrast, the Desalination Plant's concentrate discharge will be denser than the ambient seawater, and the discharge plume will sink under every operational condition. On the seafloor at the edge of the Zone of Initial Dilution ("ZID") (the area extending 1,000 feet from the discharge channel), maximum salinities for the four scenarios of worst-day, worst-month, average-day, and average-month will exceed the range of natural variability by less than 0.8 ppt. The results for the historical worst-case scenarios indicate that the natural range of salinity will be exceeded by less than 15 percent due to reduced flow from the power plant and the simultaneous occurrence of minimal natural mixing conditions in the vicinity of the discharge channel. Under these
conditions, the salinities are projected to be 1.9 to 3.8 ppt above the natural range of ocean salinity.

The historical record of plant flow and environmental variables indicates that 95% of the time the maximum salinity at the edge of the ZID will be less than 36.2 ppt. Extended exposure to salinity levels above 40 ppt will be avoided under all proposed operating conditions.

In addition, as noted in Section 4.3 of the Final EIR, the "historical extreme" scenario, which entails simultaneous occurrence of 254 mgd of net flow and minimal natural mixing, conditions in the vicinity of the discharge channel will have a likelihood of less than 1% occurrence (less than one day in twenty years). Under the "historical extreme" scenario, end-of-pipe salinity could reach 40.1 ppt. However, since the probability of this occurring is less than 1%, it will not result in any substantial adverse effects to marine organisms found within the Project vicinity. No significant effects will occur under this "historical extreme" scenario. The salinity levels for the hard bottom habitat will always be below the significance criteria established for this habitat (38.4ppt). Therefore impacts to ocean water quality resulting from Desalination Plant operations will be less than significant (Final EIR, p. 4.7-13-21).

2.7.1.2 Temperature

Sea surface temperatures in the vicinity of the EPS ranged over a 20.5-year period from 9.9 °C to 25.1 °C (49 °F to 77.2 °F) with a mean of 17.5 °C (63.5 °F). Per the thermal objectives for discharge from new facilities defined in the California Ocean Plan, the discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 2.2 °C (4 °F) at the (a) shoreline, (b) surface of any ocean substrate, or (c) ocean surface beyond 305 m (1000 ft) from the discharge system. The surface temperature limitation shall be maintained at least 50% of the duration of any complete tidal cycle. The combined discharge from the EPS/desalination plan is denser than the ambient seawater, even under conditions when heated discharge from the power plant is assumed. Therefore, the discharge sinks under all operating conditions. The Unit 4 Historical Extreme (heated) does not cause thermal increase of 2.2 °C (4 °F) or greater at any point, thus satisfying the California Ocean Plan objectives. The historical extreme case that assumes no power plant heating has no thermal impacts. Therefore, impacts related to thermal discharge will be less than significant under all operating scenarios (Final EIR, p. 4.7-21).

2.7.1.3 Recirculation and Impact on the Lagoon

The potential for the recirculation of the discharge back into the lagoon and into the intake will be insignificant. The intake for the power plant is located in the southwestern portion of the western basin of the Agua Hedionda Lagoon. The computer models used in the FEIR examined the potential for recirculation by computing dilution throughout the lagoon. The worst-case condition resulted in bottom salinity at the inlet of the lagoon of less than 33.7 ppt. This salinity value falls below the threshold of 36.8 ppt; therefore impacts will be less than significant. Dilution of the combined discharge (heat and sea salt concentrate) within the lagoon varied from
Findings of Fact

1,000:1 at the west end of the West Basin, increasing to 300,000:1 at the plant intake and in the East Basin. Therefore, the recirculation of the combined thermal and saline discharge will be negligible and less than significant (Final EIR, p. 4.7-21 and 22).

2.7.1.4 Sediment Transport

The combined discharge from the EPS/Desalination Plant will have less than significant impacts on sediment transport compared to the currently permitted, power-plant-only discharge. Since the combined discharge volume will be lessened, the discharge-stream offshore velocity will also be lessened, thereby lessening the overall impact on natural longshore sand transport (Final EIR, p. 4.7-22).

2.7.1.5 Chemicals, Metals, and Cleaning Solutions

Various chemicals and cleaning solutions will be used in the desalination process, however the pretreatment of the water with ferric sulfate and the intermittent pulsing of sodium hypochlorite (chlorine) will not substantially affect ocean water quality. The flocculated ferric sulphate will be removed by sand filters, and the chlorine will be scrubbed with sodium bisulfite prior to passing through the RO membranes. The intermittent use of sodium bisulfite may also lower the dissolved oxygen during the period of chlorine treatment. The California Ocean Plan limits the decrease in dissolved oxygen to no more than 10% of the ambient level at the edge of the ZID. The seawater is slightly alkaline (pH of 7.8 to 8.3) and sulfuric acid will be added as needed to make the natural source seawater more neutral before membrane treatment. The maximum dosage of sulfuric acid that may be used for seawater alkalinity neutralization is 30 mg/L, with a typical dosage between 15 and 20 mg/L.

Sulfuric acid is added the seawater to reduce the pH from alkaline (pH of 7.8 to 8.3) to neutral (pH of 7). Sulfuric acid reacts with the seawater creating water and sulfates. When the concentrate is mixed with the power plant discharge, the pH of the combined discharge is increased to 7.8, which is within the range of ambient conditions. Therefore sulfuric acid addition is not expected to result in non-compliance with the Ocean Plan pH limit of 0.2 pH unit deviation from the ambient ocean water (Final EIR, p. 4.7-22 and 23).

All piping and other Desalination Plant and On-site Facilities materials in contact with the seawater will be made of high-grade stainless steel, concrete or plastic. Therefore, no significant amount of corrosion byproducts is likely in the Desalination Plant discharge and impacts will be less than significant (Final EIR, p. 4.7-23).

As shown in Table 4.7-5 of the Final EIR, the minimum initial dilution required to meet the California Ocean Plan water quality objectives will be one part seawater to one part RO discharge. Under all operating scenarios, including the Unit 4 and Historical Extreme case, the 1:1 minimum dilution requirement is achieved. Therefore, impacts will be less than significant (Final EIR, p. 4.7-23).

2.7.1.6 Surfing Points
Findings of Fact

A delta formation has formed seaward of the outlet jetties on an otherwise simple plane beach profile, creating a surfing break. This surfing point is known as "Warm Water Jetties," because the water directly around the jetties is warmer than that of the neighboring beach. By providing relief in the bathymetry, the delta produces surfable waves and is essentially a ramp/focus configuration (Scarfe, Elwany, Black, and Mead, 2003). The ramp acts to reduce the directional spread of waves approaching the shore and steepens them through the shoaling process. Surfing quality varies with tide, swell, and delta shape, and conditions are best when there is a large quantity of sand. During operation of the Desalination Plant, the flow will be reduced by roughly 5%, thus possibly reducing the quantity of sand to the delta. This slight change should not affect surf quality, but it may move the delta slightly inshore. In addition, smaller scale wedge features may appear inshore of the delta. These conditions may create longer surfing rides, but will not substantially affect water quality, or recreational opportunities (Final EIR, p. 4.7-23 and 24).

2.8 Land Use and Planning

The Project is compatible with the existing land use and zoning designations for the property. Because of its compatibility with existing uses, the Project will not cause any significant adverse effects related to division of an established community (Final EIR, p. 4.8-10 and 11).

The Desalination Plant and On-site Facilities are compatible with existing adjacent land uses and zoning, including the Outer and Middle Agua Hedionda Lagoon at its southern shoreline and the beach to the west. There are no land use compatibility impacts expected for the other adjacent land uses, because the Project does not represent a change in land use character or intensity that would have the effect of dividing or disrupting existing land uses within the surrounding community (Final EIR, p. 4.8-11).

Off-site Facilities will primarily be located below-ground within existing easements, rights-of-way or planned roads and will not have local land use effects of significance after installation (Final EIR, p. 4.8-12).

Impacts to land use and planning considered significant but mitigated to a level less than significant are identified in Section 3 below.

2.9 Noise and Vibration

2.9.1 Construction Impacts

Noise and vibration generated by construction equipment onsite will occur with varying intensities and durations during the various phases of construction. The closest residences are located approximately 450 feet or more from the construction area of the closest On-site Facilities and more than approximately 1,800 feet from the Desalination Plant. At both distances the maximum noise level will be approximately 70 dB or less. The equipment used for construction will not generate significant vibration levels. Impacts from onsite construction activities will be less than significant and will represent only a minor temporary increase in noise levels in the Project vicinity (Final EIR, p. 4.9-6).
Findings of Fact

Construction traffic will generate a noise level of approximately 55 dB CNEL at a distance of 50 feet from the road in the worst-case scenario with all heavy trucks using the same route. This noise level will cause a less than significant noise impact, since it will not exceed the applicable significance thresholds related to compliance with existing noise standards, and will not result in substantial temporary increases in noise levels (Final EIR, p. 4.9-7).

Because the Project will be required to comply with construction noise restrictions and will be short in duration, construction of off-site facilities will not result in a significant noise impact, based on the applicable significance criteria (Final EIR, p. 4.9-7-10).

2.9.2 Operational Impacts

The noise sources associated with the on-site mechanical equipment will generate a combined noise level approximately 58 dB CNEL at the closest residential property. With the inclusion of noise attenuation provided by intervening structures as well as the proposed on-site structures, the noise level will be less than approximately 35 dB CNEL at the closest residential property. Implementation of the Project therefore will not substantially increase the ambient noise level at the closest residences or generate noise levels in excess of the City's noise criteria. Thus, the operational noise impact will be less than significant (Final EIR, p. 4.9-10-12).

The mechanical equipment noise associated with the off-site booster pump station will reach approximately 50 dB at the residential property boundary. This noise level will not exceed the City of Oceanside’s noise criteria. Therefore, the noise impact will be less than significant (Final EIR, p. 4.9-13).

The Desalination Plant will require heavy truck deliveries of chemicals, disposal of waste solids, solid residuals, and supply of equipment and spare parts, as well as daily employee traffic for operations. The noise generated by the truck traffic and employees is not anticipated to be perceptible, considering the existing traffic volumes on surrounding roadways, and will therefore not cause a significant impact (Final EIR, p. 4.9-13).

2.10 Transportation and Traffic

2.10.1 Construction Traffic

Construction of the on-site and off-site facilities is not anticipated to cause the Level of Service to fall below acceptable levels on any of the affected roadways. Therefore, traffic impacts associated with Project construction activities will not be significant (Final EIR, p. 4.10-4-9). However, to ensure that localized impacts do not occur as a result of selection of the identified disposal site or additional disposal sites for trench spoils, the applicant will be required to demonstrate that construction operations will not cause unacceptable Levels of Service during peak hour periods on affected roadways (see Section 3.0).

2.10.2 Operational Traffic (Long-term/permanent)
Findings of Fact

Assuming a worst case scenario that all Desalination Plant operational activities were to occur on the same day, combined with the estimated employee and visitor traffic, the total impacts will be approximately 120 trips per day on Interstate 5, Cannon Road and Carlsbad Boulevard. The worst case impact on the affected roadways will be the projected increase on Cannon Road, as the segment of Cannon Road from the Plant site to the freeway currently carries the lowest ADT of the affected roadways. The projected increase in traffic on that segment of Cannon Road will cause a 1.2% increase in additional trips. This is not a substantial increase in traffic, and therefore, the impacts are not significant (Final EIR, p. 4.10-10).

2.10.3 Rail Facilities

The proposed offsite pipelines will cross the right-of-way for the NCTD rail line that runs just east of the Desalination Plant site. In the City of Oceanside, the Melrose Drive and College Boulevard pipeline options will cross the right of way for the NCTD rail line that runs along Oceanside Boulevard. The pipelines crossing the rail lines will be installed using trenchless construction methods, and therefore, no disruption in rail service is anticipated to occur and impacts will be less than significant (Final EIR, p. 4.10-11).

2.10.4 Airport Facilities

One of the offsite pipeline alignments includes a segment along the northern boundary of Palomar Airport, a location that has also been identified as a disposal site for pipeline spoil soils. Both the pipeline and disposal sites are proposed in areas that are not within an active navigational area, and therefore, it is not anticipated that the Project will cause any change in air traffic patterns or any safety risks. However, to ensure that airport operational activities are not adversely affected, the applicant will be required to coordinate with the airport operator (see Section 3.0 of this document).

2.10.5 Growth Management Standards

It is not anticipated that additional traffic resulting from Project construction will represent a substantial increase in daily traffic on affected roadways, and the increase is not anticipated to result in Level of Service on these roadways falling below acceptable levels, including the thresholds established in the City of Carlsbad Growth Management Standards (level C during off-peak hours nor service level D during peak hours). Therefore, it is not anticipated that the Project will result in inconsistencies with the Growth Management Standards related to traffic (Final EIR, p. 4.10-11 and 12). However, to ensure that these standards are met, the applicant will be required to demonstrate that construction operations will not cause unacceptable Levels of Service during peak hour periods on affected roadways and intersections (see Section 3.0).

2.11 Public Utilities and Service Systems
Findings of Fact

2.11.1 Fire Services

The Carlsbad Fire Department currently has the facilities and personnel to accommodate the Project, and it is not anticipated that any adverse impacts to service delivery will result from implementation of the Project, and impacts will be less than significant (Final EIR, p. 4.11-6).

2.11.2 Police Services

Due to the minimal demand for police protection, no additional services, equipment or personnel will be anticipated to service the Project, and impacts will be less than significant (Final EIR, p. 4.11-6).

2.11.3 Parks

The Project will not generate substantial additional population, and therefore will not create substantial demand for recreational facilities or services (Final EIR, p. 4.11-6).

2.11.4 Wastewater

The Project will comply with local discharge limits and pretreatment requirements of the EWPCF. The Project will not require or cause the construction of new wastewater facilities or expansion of existing facilities that could cause significant environmental effects. The City of Carlsbad has sufficient capacity to meet the Project's demands in consideration of existing commitments. Therefore, impacts to wastewater collection and treatment will be less than significant (Final EIR, p. 4.11-7-11). However, to ensure capacity rights are not exceeded, a mitigation measure has been included that quantifies maximum acceptable daily and instantaneous flows at 200,000 gpd and 300 gpm (see Section 3.0).

2.11.5 Water

The Desalination Plant will have multiple treatment processes, including pretreatment facilities, cartridge filters, reverse osmosis membranes, and product water conditioning and disinfection facilities. Intake seawater will be filtered through pretreatment facilities that will be designed to remove over 99.9 percent of all suspended solids and will also remove or inactivate over 95 percent of the bacteria and other pathogens (such as Cryptosporidium, Giardia, and viruses), if they are present in the source seawater. The reverse osmosis facilities will remove essentially all of the remaining suspended solids, bacteria, and pathogens, and therefore there will be no significant impacts related to product water quality (Final EIR, p. 4.11-11-14).

The projected quality of the Desalination Plant's product water after reverse osmosis treatment and post-chemical addition is comparable with the water it will blend with in the distribution system. The Desalination Plant product water will meet the respective DHS water quality limits for odors. In terms of regulated volatile organics, and other compounds that may impact product water taste and odor, product water from the Desalination Plant will comply with all drinking water standards and will not differ substantially from the water quality of the other sources of
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product water in the distribution system. Therefore, no adverse aesthetic effects on water quality will be caused by water blending (Final EIR, p. 4.11-15-16).

Delivery of water from the Desalination Plant will in certain cases involve reversal of water flow in existing water delivery facilities, since the location of the source water supply will change. To protect water users from potential taste and odor problems associated with the startup of facility operations, just prior to startup, a sequential flushing program will be coordinated with the involved water agencies and the City staff to minimize any sediment disturbance that might occur due to flow reversals in the system. A flushing program will minimize any aesthetic issues that might be created through flow reversals. Therefore, no adverse aesthetic effects on water quality are/will be caused by flow reversal (Final EIR, p. 4.11-16).

Distribution of 50 mgd of water from the Project will require continuous pumping to maintain adequate pressure to reach distribution points. Power failure at the pump locations may cause hydraulic impacts on the regional water distribution system due to suction that is created within pipes when water flow is suddenly stopped (referred to a "surge"). Design features will be incorporated into the proposed water delivery system that will minimize potential effects to acceptable levels. Therefore, there will be no adverse effects upon existing water delivery facilities from potential surge (Final EIR, p. 4.11-16 and 17).

2.11.6 Solid Waste

The primary sources of solid waste from the Desalination Plant will consist of sludge generated as a result of the intake water pretreatment filtration and disposal of other wastes such as filter cartridges. Sludge disposal will involve dewatering onsite to a sludge concentration of 20% or higher and disposal in a sanitary landfill. The generation of this additional waste, whether in the form of sludge or filter cartridges, will not significantly affect landfill capacity or require expansion of facilities, due to the relatively small quantities of such waste. Therefore, impacts to solid waste facilities will not be significant (Final EIR, p. 4.11-17).

2.11.7 Energy

Equipment associated with operation of the Desalination Plant and related On-site and Off-site Facilities will utilize electric power. The Project's electricity demand would be approximately 36.05 MWh under maximum operating conditions. The projected demand does not represent a substantial increase in demand on the regional electrical grid. Therefore, it is not anticipated that the increase in energy demand and consumption will require expansion of or improvements to existing facilities within the ISO controlled electricity grid that could cause significant environmental effects. Therefore, impacts to energy resources and facilities will be less than significant (Final EIR, p. 4.11-17-21).

2.11.8 Local Facilities and Improvements Plan/Local Facilities Management Plans (LFMP)

The City of Carlsbad Local Facilities and Improvements Plan/Local Facilities Management Plans (LFMP) were adopted to ensure that growth occurs in concert with public facilities and service systems. The Project will not cause the provision of additional residential units or substantial
Findings of Fact

employment opportunities that could be directly tied to additional growth. Therefore, the Project will not conflict with these policy documents' standards or thresholds for the City of Carlsbad's administrative facilities, fire, schools, libraries and park and recreation facilities (Final EIR, p. 4.11-21). In addition, the remaining LFMP standards regarding wastewater treatment capacity, sewer collection, drainage facilities, water distribution, open space, and circulation, are applicable to the project. As discussed above, impacts to wastewater collection and treatment capacity will be less than significant (Final EIR, p. 4.11-7-11), and a mitigation measure has been added to ensure capacity rights are not exceeded (see Section 3). Further, while the Project is not anticipated to result in inconsistencies with circulation standards (Final EIR, p. 4.10-11 and 12), mitigation measures have been included to ensure unacceptable levels of service will not result on certain roads and intersections during construction operations (see Section 3.0). Further, the Project will result in no significant impacts to drainage facilities or water distribution (Final EIR, p. 4.11-21). Finally, as noted in the LFMP applicable to the Desalination Plant, the open space threshold has already been met.

2.12 Cumulative

2.12.1 Aesthetics

Because the On-site Facilities are located within an industrial area, and because the Off-site Facilities that will be visible (off-site pump station) after construction are minimal, the Project will not contribute substantially to changes in aesthetics associated with development of cumulative projects, and impacts would be less than significant (Final EIR, p. 5-8).

2.12.2 Biological Resources

The City of Carlsbad's HMP and the Oceanside Subarea Plan serve as the local implementation plans for the sub-regional MHCP. The HMP and Subarea Plan provide mitigation programs to address the effects of cumulative development. If a Project is determined to be consistent with the HMP and Subarea Plan, and/or provides appropriate mitigation to ensure the integrity of the plans, its cumulative effects will not be significant. As noted in Section 4.3, Biological Resources of the Final EIR, the Project is consistent with both the HMP and Subarea Plan, and therefore no significant cumulative impacts to biological resources will result from Project implementation (Final EIR, p. 5-9).

As discussed in detail in Section 4.3, Biological Resources of the Final EIR, the Project design and operating parameters will not result in significant impacts to marine organisms. Specific analyses for each of the cumulative projects considered may yield different results, depending on the proposed operational characteristics of each desalination plant proposed along the southern California coast (as identified in Table 5-1 of the Final EIR) and the resources found locally. However, it is reasonable to conclude that the absence of localized impacts to populations of species that occur throughout the cumulative projects' study area resulting from the Project indicate that the Project's contributions to cumulative effects on marine organisms will be less than significant (Final EIR, p. 5-10).
2.12.3 Cultural Resources

The mitigation measures required for this Project and the mitigation standards required by the City in its CEQA review provide for avoidance, documentation and/or recovery of significant cultural resources, and as a result, all significant cumulative impacts related to cultural resources are avoided (Final EIR, p. 5-10).

2.12.4 Geology and Soils

The Desalination Plant site, On-site Facilities, and Off-site Facilities will require relatively minor site preparation and excavation of soils. Project mitigation to control and address erosion and seismic and soils hazards, in conjunction with similar standard measures required of cumulative projects, will avoid significant cumulative impacts (Final EIR, p. 5-11).

2.12.5 Hazards and Hazardous Materials

The cumulative impacts analysis for hazards and hazardous materials considered the area surrounding the Desalination Plant (together with the On-site and Off-site facilities), specifically, the projects listed in Table 5-1 of the EIR. The Project will not contribute to cumulative considerable increases in hazards or hazardous materials, and in fact will contribute to cleanup of potential contamination on the Project site (Final EIR, p. 5-11).

2.12.6 Hydrology and Water Quality

The cumulative impacts analysis for hydrology and water quality considered the area that could be impacted by the Desalination Plant, specifically, the watershed for the Desalination Plant and On-site and Off-site Facilities and the portion of the ocean that could be affected by discharges. As noted above in Section 2.12.2 of this document, water quality impacts related to effects on marine biological resources that are associated with desalination plant discharge will not be cumulatively significant. Other water quality and hydrology issues associated with the plant will be temporary (construction-related) in nature and would not contribute to cumulatively significant impacts (Final EIR, p. 5-11).

2.12.7 Land Use and Planning

The Desalination Plant and On-site Facilities constitute a utility use proposed entirely within the boundaries of an existing utility site. The Off-site Facilities that would convey product water from the plant and into the surrounding communities would be primarily located within existing street rights of way and installed underground. The Project therefore will not contribute to significant impacts from cumulative development that may have the effect of dividing an established community or conflicting with environmental policies. (Final EIR, p. 5-11).

2.12.8 Noise and Vibration

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The Project will contribute to short-term cumulative noise impacts; however, due to the short duration of Project construction and requirements of city noise ordinances and standards, it is not anticipated that those cumulative effects would reach a level of significance. Therefore, the Project, in conjunction with cumulative projects, will not cause significant cumulative noise impacts (Final EIR, p. 5-12).

2.12.9 Transportation and Traffic

Similar to noise impacts, Project traffic impacts are primarily associated with construction. Since the time frame for construction is relatively short, it is not anticipated that a substantial increase in current traffic levels resulting from cumulative development will occur prior to completion of Project construction. Therefore, temporary traffic impacts associated with the Project will cease prior to any substantial cumulative traffic impacts being realized on local roadways. With mitigation, impacts related to Project construction alone are considered to be less than significant (Section 3). Therefore, the Project is not anticipated to contribute to any significant cumulative traffic impacts (Final EIR, p. 5-12 and 13).

2.12.10 Public Utilities and Services

The cumulative impacts analysis for energy considered potential statewide cumulative impacts. As noted in Section 4.11 of the EIR, the Project will not generate the need for additional public facilities or services and will not contribute to considerable increases in demand for public services. Additionally, the Project will not result in increased energy demand that would necessitate additional electrical generating or transmission facilities. This conclusion is primarily based on capacity and reliability features built into the electrical transmission grid. Implementation of the cumulative projects will therefore not cause energy demand that will require additional energy-related facilities beyond those planned to serve proposed development (Final EIR, p. 5-13).

The Project will not cause increased wastewater production that would require additional wastewater treatment capacity. Additional cumulative projects would also increase wastewater treatment demand. However, the relevant cumulative projects are generally consistent with land use planning assumptions included in the Encina Wastewater Authority's (EWA) planning assumptions. This conclusion is based on the EWA Phase V expansion plans. Implementation of the cumulative projects will not increase wastewater treatment demand such that additional wastewater facilities would be required (Final EIR, p. 5-13).

3.0 FINDINGS REGARDING ENVIRONMENTAL IMPACTS DETERMINED TO BE MITIGATED TO A LEVEL OF LESS THAN SIGNIFICANT

The Final EIR identifies certain mitigation measures which have been incorporated, in all substantive respects, into the MMRP for the Project. The City, as Lead Agency, will incorporate the MMRP into the conditions of approval of the Project.

The City finds, pursuant to CEQA Section 21081(a)(1)-(2) and CEQA Guidelines Section 15091(a)(1)-(2), that changes or alterations have been required in, or incorporated into, the...
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Project, which would avoid or substantially lessen the potentially significant effects, or, such changes or alterations are within the responsibility and jurisdiction of another Public Agency and have been, or can and should be, adopted by that other agency, in the following environmental categories: (1) Aesthetics; (2) Biological Resources; (3) Cultural Resources; (4) Geology and Soils; (5) Hazards and Hazardous Materials; (6) Hydrology and Water Quality; (7) Land Use and planning; (8) Transportation and Traffic; and (8) Public Utilities and Service Systems.

The City finds that the potentially significant effects in the environmental categories specified above have been mitigated to a level that is less than significant after implementation of mitigation measures identified in the Final EIR and incorporated into the MMRP. The impacts which have been reduced to a less than significant level with mitigation, together with the basis for such determination, are set forth below.

The City further finds that, to the extent that certain impacts will occur outside of the City’s jurisdiction, the mitigation measures identified in the Final EIR and incorporated into the MMRP can and should be implemented by the respective Local Agencies.

3.1 Aesthetics

3.1.1 Potentially Significant Impacts

Exposure of certain features of the proposed facilities, such as chemical storage tanks, could potentially result in degradation of the visual character or quality of the site and represents a potentially significant impact.

To the extent practical, the mature vegetation that is currently providing partial screening of the tank area from Carlsbad Boulevard will be preserved in place. However, the existing vegetative screening of the site, particularly on the east side of the Desalination Plant, may be affected by activities necessary for Project construction, and a potentially significant impact to scenic resources could result.

The On-site Facilities are visually within the Carlsbad Boulevard Theme Corridor and subject to the Scenic Corridor Guidelines (adopted July 1, 1988). The On-site Facilities are also adjacent to the NCTD railroad corridor and will be subject to the City's Scenic Corridor Guidelines for this corridor as well. The exterior design of the Desalination Plant, proposed screening of chemical storage tanks, and replacement landscaping along the widened access roadway will provide screening of visual impacts that will meet the intent of the Scenic Corridor Guidelines.

Exterior nighttime lighting of the Desalination Plant will likely exceed current levels in use in the tank area, creating a new source of light. The primary light sources will be on and around the building, with the pretreatment area that is closest to the lagoon receiving minimal lighting. Although the new sources of light are not substantial, because of the sensitive nature of the adjacent lagoon habitats, control of lighting features is necessary to avoid potential impacts to those habitats. The surface coatings and materials proposed for the exterior of the new building and structures is not expected to result in substantial glare impacts, however, use of reflective glass could result in a potentially significant source of glare.
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3.1.2 Mitigation Measures

The following mitigation measures will reduce potential aesthetic impacts to a less than significant level:

3.1.2.1 Replacement planting for trees that are removed along the railroad corridor shall be provided to screen views from the rail line towards the facility. Tree or other plant species, quantity, and size shall be in keeping with the adopted City of Carlsbad Scenic Corridor Guidelines, City Landscape Manual, and the vegetative character of the Agua Hedionda Lagoon to the extent that the species are compatible with existing vegetation. Planting shall be sufficient to provide screening when mature. Verification of the adequacy of the proposed plantings will occur through City review and approval of the Project’s landscape plan. The Project landscape plan shall also be sent to the North County Transit District for review and comment to ensure that replacement planting poses no potential rail hazards.

3.1.2.2 Desalination Plant exterior mechanical equipment and facilities, including tanks, heating, air conditioning, refrigeration equipment, plumbing lines, duct work and transformers, shall be screened from view on all sides visible to the public. The design and material used for screening shall be architecturally compatible with the building.

3.1.2.3 To the extent practical, the existing mature landscape on the slope facing Carlsbad Boulevard adjacent to the Desalination Plant site shall remain in place and be protected from construction impacts through the use of fencing and signage. Replacement planting for trees and shrubs that are removed along the slope facing Carlsbad Boulevard shall be provided to screen views from Carlsbad Boulevard towards the facility. Tree or other plant species, quantity, and size shall be in keeping with the adopted City of Carlsbad Scenic Corridor Guidelines, City Landscape Manual, the vegetative character of the Agua Hedionda Lagoon area and shall be sufficient to provide screening from the ground up when mature. Verification of the adequacy of the proposed plantings will occur through City review and approval of the Project’s landscape plan.

3.1.2.4 Construction staging areas within the PDP area shall be screened from public view or located in an area away from direct public view. Plans showing the staging area locations and screening shall be submitted to the City Planning Director and his/her designee for review and approval.

3.1.2.5 Exterior lighting for the On-Site Facilities shall serve the purpose of operations, security and safety only. The applicant shall submit for approval a lighting plan for the proposed facilities prior to building permit issuance. The lighting plan shall demonstrate that Project lighting is shielded from surrounding areas, and that only the minimum amount of lighting required for safety purposes is provided to avoid adverse effects on surrounding areas. In general, lighting fixtures shall be shielded downward and away from the adjacent Agua Hedionda Lagoon and adjacent properties. Construction of the desalination plant and related facilities and improvements shall be in conformance with the approved plan.
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3.1.2.6 Building elevations, including those visible from the NCTD railroad, shall substantially conform to the plans approved for the desalination plant pursuant to PDP 0002.

3.1.3 Supporting Explanation

The proposed mitigation measures will ensure vegetative screening of potentially obtrusive structures and features of the Project that may be viewed from offsite areas. In addition, architectural treatments and control of exterior lighting will avoid substantial light and glare that may be emitted or reflected from proposed structures. Control of the location of the construction staging area will avoid substantial adverse temporary aesthetic impacts related to construction. Furthermore, requiring compliance with approved plans will ensure a quality building appearance. The proposed measures will reduce potentially significant effects on visual resources to a less than significant level and ensure conformance with the Scenic Guidelines.

3.2 Biological Resources

3.2.1 Potentially Significant Impacts

The Project will result in potential significant impacts to biological resources in the terrestrial environment. Impacts include sensitive habitats and sensitive wildlife species. Both direct and indirect impacts are anticipated during construction, maintenance and operation activities. Although impacts to the marine environment have been found to be less than significant (see Section 2.3), changes in Desalination Plant operations that increase salinity levels outside the parameters analyzed could have potentially significant impacts.
Findings of Fact

3.2.1.1 Vegetation Communities

Implementation of the Project would result in the direct loss of the vegetation community acreages intersecting the proposed 40-foot construction corridor associated with open trench construction techniques. Direct impacts on sensitive vegetation communities, including chamise chaparral, coastal sage scrub (undisturbed and disturbed), coyote brush scrub, scrub oak chaparral, non-native grassland, herbaceous wetland (undisturbed and disturbed) open channel (jurisdictional waters of the U.S.), and southern willow scrub will be significant. Acreages representing temporary impacts are shown below in Table 1. In addition to the direct effects associated with vegetation removal, potential effects associated with ground surface rupturing during horizontal directional drilling may occur.

3.2.1.2 Sensitive Plants

<table>
<thead>
<tr>
<th>TABLE 1</th>
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<tbody>
<tr>
<td>Temporary Impacts On Plant Communities</td>
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<tr>
<td>Habitat Type</td>
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<tr>
<td><strong>Native Habitats</strong></td>
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<tr>
<td>Coastal Sage Scrub</td>
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<tr>
<td>Disturbed Coastal Sage Scrub</td>
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<tr>
<td>Coyote Brush Scrub</td>
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<tr>
<td>Herbaceous Wetland</td>
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<tr>
<td>Disturbed Herbaceous Wetland</td>
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<tr>
<td>Open Channel</td>
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<td>Southern Willow Scrub</td>
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<td><strong>TOTAL NATIVE IMPACTS</strong></td>
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<td><strong>Non-native Habitats</strong></td>
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<td>Annual (non-native) Grassland</td>
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<tr>
<td>Agriculture</td>
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<td>Developed</td>
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<td>Disturbed Habitat</td>
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<td>Ornamental</td>
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<td>Ruderal</td>
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<tr>
<td><strong>TOTAL NON-NATIVE IMPACTS</strong></td>
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<td><strong>TOTAL IMPACT</strong></td>
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A population of Nutall's scrub oak (*Quercus dumosa nuttallii*) occurs adjacent to the limits of work northeast of the intersection of El Camino Real and Palomar Airport Road. The pipe alignment in this area avoids the species, however construction activity will occur in close proximity to the habitat.

3.2.1.3 Sensitive Animals

Implementation of the Project would result in the temporary loss of suitable habitat for three pairs and one individual coastal California gnatcatcher. No other sensitive animals will be substantially impacted by the Project.
Findings of Fact

3.2.1.4 Indirect Impacts

Indirect impacts on vegetation communities and sensitive species will primarily result from adverse "edge effects." During construction of the Project, edge effects may include dust from soil disruption, which could affect plant vitality, or construction-related soil erosion and run-off. Impacts associated with dust are potentially significant and require mitigation. Long-term indirect impacts on vegetation communities most likely will not increase as a result of this Project because all impacts are temporary and resources will be revegetated to their pre-construction conditions.

3.2.2 Mitigation Measures

The following mitigation measures will reduce potential impacts to biological resources to a less than significant level:

3.2.2.1 Proposed mitigation for temporary impacts to sensitive habitats shall be based on the ratios listed below in the Table 2, below. It should be noted that acreage figures are based on estimated "worst case" impacts. Actual impacts may be less and would be subject to the same mitigation ratios, but the mitigation acreages could change as a result. With the exception of temporary impacts on habitats designated as Groups E and F by the HMP (i.e., disturbed lands, eucalyptus and agricultural lands) mitigation shall consist of, at a minimum, 1:1 revegetation of in-kind habitats at the location of impact, and, for the portion of ratios greater than 1:1, off-site purchase or acquisition as described below. Temporary impacts on non-native habitats designated as Groups E and F by the HMP are expected to recover on their own and therefore are not included in revegetation efforts; however, impacts to these habitat groups are subject to payment of a fee pursuant to the Habitat Management Plan Mitigation Fee Program. Mitigation acreages for disturbed and undisturbed habitats have been added together. Sensitive vegetation communities shall be restored to the pre-existing vegetation type. Restoration of wetlands shall be discussed in a Conceptual Wetlands Mitigation and Monitoring Plan which shall, at a minimum, include discussion of impact assessment, recording of pre-construction site conditions, post-construction site preparation, planting, irrigation, five-year maintenance and monitoring, and long-term preservation. Restoration of uplands shall be discussed in an Uplands Mitigation and Monitoring Plan which shall, at a minimum, include discussion of impact assessment, recording of pre-construction site conditions, post-construction site preparation, planting, irrigation, five-year maintenance and monitoring, and long-term preservation. These measures will reduce significant direct effects to a level less than significant.
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#### Table 2
Mitigation Ratios

<table>
<thead>
<tr>
<th>Habitat Type</th>
<th>In Coastal Zone</th>
<th>Outside Coastal Zone</th>
<th>Total</th>
<th>Mitigation Ratio</th>
<th>In Coastal Zone</th>
<th>Outside Coastal Zone</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Sage Scrub</td>
<td>0.90</td>
<td>3.6</td>
<td>4.5</td>
<td>2:1</td>
<td>1.80</td>
<td>7.20</td>
<td>9.00</td>
</tr>
<tr>
<td>Coyote Bush Scrub</td>
<td>0.00</td>
<td>0.03</td>
<td>0.03</td>
<td>2:1</td>
<td>0.00</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>Herbaceous Wetland</td>
<td>0.00</td>
<td>0.06</td>
<td>0.06</td>
<td>3:1</td>
<td>0.00</td>
<td>0.18</td>
<td>0.18</td>
</tr>
<tr>
<td>Open Channel</td>
<td>0.00</td>
<td>0.07</td>
<td>0.07</td>
<td>1:1</td>
<td>0.00</td>
<td>0.07</td>
<td>0.07</td>
</tr>
<tr>
<td>Southern Willow Scrub</td>
<td>0.00</td>
<td>0.44</td>
<td>0.44</td>
<td>3:1</td>
<td>0.00</td>
<td>1.32</td>
<td>1.32</td>
</tr>
<tr>
<td>Annual (non-native) grassland</td>
<td>0.68</td>
<td>3.71</td>
<td>4.39</td>
<td>Fee</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Agriculture/disturbed/Ruderal</td>
<td>3.12</td>
<td>4.53</td>
<td>7.65</td>
<td>Fee</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Sensitive vegetation communities shall be restored to the pre-existing vegetation type. Restoration of wetlands shall be discussed in a Conceptual Wetlands Mitigation and Monitoring Plan which shall, at a minimum, include discussion of impact assessment, recording of pre-construction site conditions, post-construction site preparation, planting, irrigation, five-year maintenance and monitoring, and long-term preservation. Restoration of uplands shall be discussed in an Uplands Mitigation and Monitoring Plan which shall, at a minimum, include discussion of impact assessment, recording of pre-construction site conditions, post-construction site preparation, planting, irrigation, five-year maintenance and monitoring, and long-term preservation.

3.2.2.2 Mitigation ratios identified in the Table 2 that require more than 1:1 mitigation (e.g., 2:1) shall satisfy the mitigation that is in addition to the 1:1 in one or both of the following ways and in a manner acceptable to local, state, and federal agencies:

- Through purchase of mitigation bank credits
- Through acquisition and preservation of suitable habitat in the vicinity of the Project

3.2.2.3 Indirect impacts including dust, soil erosion, pollution, siltation, and runoff shall be reduced through implementation of construction best management practices (BMPs) and implementation of an approved SWPPP. At a minimum, implementation of these practices shall include the following:

- Placement of stockpiles of soils and materials such that they cause minimal interference with onsite drainage patterns.
- Hay bale barriers or gravel bags shall be placed along areas of exposed soil to help reduce sedimentation during grading operations.
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- Placement of a silt curtain or other drainage control device around construction areas shall be required to protect natural drainage channels from sedimentation.
- Any dewatering that is needed shall be conducted in accordance with the standard regulations of the RWQCB. A permit to discharge water from dewatering activities will be required.
- Use of paved roadways or designated staging areas (existing developed areas) for all equipment and vehicle refueling and maintenance.
- Implementation of dust control measures such as watering.
- Temporary fencing of the limits of the construction area with clearly visible orange construction fencing.
- Temporary fencing of the Nuttall's scrub oak population located adjacent to the work area and northeast of the intersection of El Camino Real and Palomar Airport Road to avoid impacts.

In order to assure that these measures are adequately protecting adjacent biological resources, construction activity shall be monitored by a qualified biologist familiar with the sensitive flora and fauna of the area. Biological monitoring shall be of a frequency and duration necessary to reasonably assure that indirect impacts are minimized. This shall include implementation of a contractor education program, verification of proper construction and maintenance of staking/fencing, full-time monitoring of vegetation removal, periodic monitoring of construction activity adjacent to sensitive resource areas, and reporting of contractor compliance and impact minimization measures on a monthly basis. These measures shall ensure that indirect impacts on vegetation communities, including dust, erosion, sedimentation, pollution, siltation, and runoff are reduced to level below significant.

3.2.2.4 The potential for direct impacts on coastal California gnatcatcher individuals shall be mitigated by restricting the clearing of coastal sage scrub within the Project alignment to outside of the gnatcatcher breeding season (August 16 through February 14).

3.2.2.5 The potential short-term increase in noise related to construction shall be mitigated through avoidance of construction during the gnatcatcher breeding season or maintenance of noise levels below 60 dBA Leq at occupied nest locations if construction takes place during the breeding season (i.e., February 15 through August 15). The maintenance of appropriate noise levels shall be confirmed through protocol gnatcatcher surveys to determine presence of all gnatcatcher within 500 feet of project construction and noise measurements at nest locations during peak construction activity by a qualified acoustician.

3.2.2.6 To avoid potential adverse effects from hydro-fracturing that could occur as a result of horizontal directional drilling or micro-tunneling, the Applicant shall provide evidence to the local jurisdiction that demonstrates that the design of the drilling operation provides sufficient horizontal distance and depth from sensitive habitat areas. Information provided shall provide appropriate engineering calculations to demonstrate to the local jurisdiction's satisfaction that surface rupture will not occur within sensitive habitat areas.
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These measures have been made conditions of approval for the Project.

3.2.3 Supporting Explanation

For loss of terrestrial resources that are directly associated with the proposed construction activities, creation of like habitat at a ratio of 3:1 for herbaceous wetland and southern willow scrub, 2:1 for coastal sage scrub and coyote bush scrub, and 1:1 for open channel will mitigate the impacts to these habitats by establishing like-habitat in the same eco-region with similar functions and values in terms of occupied flora and fauna and ecosystem processes.

Creation of like-habitat through revegetation of in-kind habitats at the location of impact and off-site purchase or acquisition of suitable habitat in the vicinity of the Project or through purchase of mitigation bank credits will mitigate Project impacts to sensitive habitats and species that are dependent on those habitats.

The Project will temporarily directly impact coastal sage scrub habitat occupied by coastal California gnatcatcher. The potential for direct impacts to coastal California gnatcatcher pairs and individuals shall be reduced by restricting the clearing of coastal sage scrub within the Project alignment to dates outside of the gnatcatcher breeding season (August 16 through February 14) thus protecting against direct nest harm and breeding failure. Construction noise is also a potential impact. Protection shall be provided through the avoidance of construction during the gnatcatcher breeding season (February 15 through August 15). If construction takes place during the breeding season, noise levels shall remain below 60 dBA Leq at occupied nest locations. The maintenance of appropriate noise levels shall be confirmed through protocol gnatcatcher surveys to determine the presence of all gnatcatchers within 500 feet of Project construction and noise measurements at nest locations during peak construction activity by a qualified acoustician. Implementation of these mitigation measures will reduce impacts to coastal sage scrub habitat to less than significant.

The Project will result in indirect short-term impacts to vegetation communities during construction. These impacts may include dust, soil erosion, pollution, siltation, and runoff and are considered significant. Implementation of typical construction BMPs and implementation of an approved Storm Water Pollution Prevention Plan will mitigate indirect impacts to vegetation communities during construction. In addition, a biological monitor shall be present during construction to implement a contractor education program, verify proper construction staking/fencing of sensitive habitats, monitor vegetation removal, periodically monitor construction activity adjacent to sensitive resource areas, and report contractor compliance and impact minimization measures on a monthly basis. Implementation of these mitigation measures and biological monitoring will ensure that indirect impacts on vegetation communities will be minimized to a level below significant.

Horizontal directional drilling or micro-tunneling can cause an adverse effect of hydro-fracturing. The applicant will be required to provide appropriate engineering plans and calculations to demonstrate to the appropriate local jurisdiction's satisfaction that the design of the drilling operation provides sufficient horizontal distance and depth from sensitive habitat.
areas to minimize the risk of surface rupture within sensitive habitat areas. Adherence to adequate design criteria will reduce impacts from horizontal directional drilling in and maintenance on terrestrial resources to less than significant.

3.3 Cultural Resources

3.3.1 Potentially Significant Impacts

The Project is located in areas formerly inhabited by the Luiseño tribe of Native American Indians. Within the Project area and proposed pipeline alignments, eight sites were identified as significant, eight sites have unknown site status, one site is partially significant, and one site is partially significant with portions identified as unknown site status. Potential impacts to unrecorded Native American cultural sites or human remains are considered significant and require mitigation.

Implementation of the Project may potentially disturb unknown buried paleontologic resources. Grading at the Desalination Plant site and for the On-site Facilities is not expected to impact Quaternary Age alluvial deposits (Loma Linda Terrace deposits) which have the potential to contain fossiliferous rock from Pleistocene terrace deposits. However, significant impacts will occur if these resources are encountered during excavation.

For the Off-site Facilities, grading and earthwork impacts to Cretaceous and Tertiary Age deposits could disturb potentially occurring fossils and the information in the fossils could be lost. This would cause a significant impact.

3.3.2 Mitigation Measures

The following mitigation measures will reduce potential impacts to cultural resources and paleontological resources to less than significant:

Cultural Resources

3.3.2.1 Where Project construction will impact cultural resources that have been determined to be significant, mitigation shall include either avoidance, or if avoidance is not feasible, then a data recovery program shall be completed to recover a large enough sample of cultural material so that information of importance in addressing regional research questions will not be irretrievably lost. The data recovery program shall be developed by a qualified archaeologist and approved by the City of Carlsbad or other Public Agency.

3.3.2.2 In cases where the precise alignment of the pipeline is not available, and therefore the potential to affect cultural resources cannot be specifically determined, the applicant shall be required to retain a qualified archaeological monitor during construction so that buried cultural resources can be identified in the field. The archaeological monitor shall meet the minimum qualifications as required by the City of Carlsbad or other Public Agency. If significant resources are identified within the areas that could be affected by
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construction, the resources shall be tested (pursuant to the mitigation measure 4.4-1) to determine significance with appropriate mitigation measures employed as necessary.

**Monitoring Program Requirements:** The evaluation and monitoring program will be used for cultural resources within the Project study area that are located within developed areas where surface evaluation is precluded and specific mitigation cannot be determined at this time. For these sites, a monitoring program is required if construction is to occur within or adjacent to the cultural resource site. Components of such a monitoring program would include, but not be limited to the following:

**Prior to Preconstruction (Precon) Meeting:**

*Planning Department (PD) Plan Check:* Prior to the first Precon Meeting, the Planning Director of the appropriate Public Agency or his/her designee, shall verify that the requirements for Archaeological Monitoring and Native American monitoring, if applicable, have been noted on the appropriate construction documents.

*Submit Letter of Qualification to Planning Director:* Prior to the first Precon Meeting, the applicant shall provide a letter of verification to the Planning Director or his/her designee stating that a qualified Archaeologist has been retained to implement the monitoring program.

*Records Search Prior to Precon Meeting:* At least thirty days prior to the Precon Meeting the qualified Archaeologist shall verify that a records search has been completed and updated as necessary and be prepared to introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities. Verification includes, but is not limited to, a copy of a confirmation letter from South Coast Information Center or, if the search was in-house, a letter of verification from the Archaeologist stating that the search was completed.

**Precon Meeting:**

*Monitor Shall Attend Precon Meetings:* Prior to beginning any work that requires monitoring, the Applicant shall arrange a Precon Meeting that shall include the Archaeologist, Construction Manager and/or Grading Contractor and Planning Director or his/her designee. The qualified Archaeologist shall attend any grading related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.

*Identify Areas to be Monitored:* At the Precon Meeting, the Archaeologist shall submit to the Planning Director or his/her designee a copy of the site/grading plan (reduced to 11x17) that identifies areas to be monitored as well as areas that may require delineation of grading limits.
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During Construction:

Monitor Shall be Present During Grading/Excavation: The qualified Archaeologist shall be present full-time during grading/excavation of native soils within or adjacent to a cultural site and shall document activity via the Consultant Monitor Record. This record shall be sent to the Planning Director or his/her designee, as appropriate, each month.

Monitoring of Trenches Will Include Mainline, Laterals, and all Appurtenances: Monitoring of trenches is required for the mainline, laterals, services and all other appurtenances that impact native soils within or adjacent to a cultural site one foot deeper than existing as detailed on the plans or in the contract documents identified by drawing number or plan file number. It is the Construction Manager’s responsibility to keep the monitor(s) up-to-date with current plans.

Discoveries: In the event of a discovery, and when requested by the Archaeologist, or the Principal Investigator (PI) if the Monitor is not qualified as a PI, the Construction Manager (CM), as appropriate, shall be contacted and shall divert, direct or temporarily halt ground disturbing activities in the area of discovery to allow for preliminary evaluation of potentially significant archaeological resources. The PI shall also immediately notify the Planning Director or his/her designee of such findings at the time of discovery.

Determination of Significance: The significance of the discovered resources shall be determined by the PI. For significant archaeological resources, a Research Design and Data Recovery Program shall be prepared, approved by the City and carried out to mitigate impacts before ground-disturbing activities in the area of discovery will be allowed to resume.

Minor Discovery Process for Pipeline Projects: For all projects: The following is a summary of the criteria and procedures related to the evaluation of small cultural resource deposits during excavation for pipelines.

Coordination and Notification: Archaeological Monitor shall notify PI, CM and the Planning Director or his/her designee, as appropriate.

Criteria Used to Determine if it is a Small Cultural Resource Deposit
a. The deposit is limited in size both in length and depth; and,
b. The information value is limited and is not associated with any other resources; and,
c. There are no unique features/artifacts associated with the deposit.
d. A preliminary description and photographs, if available, shall be transmitted to the Planning Director or his/her designee.

The information will be forwarded to the Planning Department for consultation and verification that it is a small historic deposit.
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Procedures for documentation, curation and reporting: The following constitutes adequate mitigation of a small historic deposit to reduce impacts due to excavation activities to below a level of significance.

a. 100% of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of sidewalls, recovered, photographed after cleaning and analyzed and curated.

b. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.

c. The Final Results Report shall include a requirement for monitoring of any future work in the vicinity.

Human Remains: If human remains are discovered, work shall halt in that area and procedures set forth in the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) as follows:

a. Notification
   (1) Archaeological Monitor shall notify the PI, CM and the Planning Director or his/her designee.
   (2) The PI shall notify the County Coroner after consultation.

b. Stop work and isolate discovery site
   (1) CM/ the Planning Director or his/her designee, as appropriate, shall stop work immediately and overlay adjacent human remains until a determination can be made by the County Coroner in consultation with the PI concerning the origin of the remains and the cause of death.
   (2) The County Coroner, in consultation with the PI, shall determine the need for a field investigation to examine the remains and establish a cause of death.
   (3) If a field investigation is not warranted, the PI, in consultation with the County Coroner, shall determine if the remains are of Native American origin.

c. If Human Remains are Native American
   (1) The Coroner shall notify the Native American Historic Commission (NAHC). (By law, ONLY the Coroner can make this call.)
   (2) NAHC will identify the person or persons it believes to be the Most Likely Descendent (MLD).
   (3) The MLD may make recommendations to the landowner or PI responsible for the excavation work to determine the treatment, with appropriate dignity, of the human remains and any associated grave goods (PRC 5097.98).

    d. If Human Remains are not Native American
       (1) The PI shall contact the NAHC and notify them of the historical context of the burial.
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(2) NAHC will identify the person or persons it believes to be the MLD.

(3) The MLD may make recommendations to the landowner or PI responsible for the excavation work to determine the treatment of the human remains (PRC 5097.98).

(4) If the remains are of historic origin, they shall be appropriately removed and conveyed to the Museum of Man for analysis. The decision for reinterment of the human remains shall be made in consultation with the Planning Director or his/her designee, the landowner, the NAHC and the Museum of Man.

e. Disposition of Human Remains

The landowner, or his/her authorized representative, shall reinter the Native American human remains and any associated grave goods, with appropriate dignity, on the property in a location not subject to further subsurface disturbance, IF:

(1) The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 24 hours after being notified by the NAHC; OR;

(2) The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner.

Notification of Completion: The Archaeologist shall notify the Planning Director or his/her designee, in writing of the end date of monitoring.

Post Construction:

Handling and Curation of Artifacts and Letter of Acceptance: The Archaeologist shall be responsible for ensuring that all cultural remains collected are cleaned, catalogued, and permanently curated with an appropriate institution; that a letter of acceptance from the curation institution has been submitted to the Planning Development; that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate. Curation of artifacts associated with the survey, testing and/or data recovery for this project shall be completed in consultation with the Planning Director or his/her designee and the Native American representative, as applicable.

Final Results Reports (Monitoring and Research Design and Data Recovery Program): Within three months following the completion of monitoring, two copies of the Final Results Report (even if negative) and/or evaluation report, if applicable, which describes the results, analysis, and conclusions of the Archaeological Monitoring Program (with appropriate graphics) shall be submitted to the Planning Director or his/her designee for approval. For significant archaeological resources encountered during monitoring, the Research Design and Data Recovery Program shall be included as part of the Final Results Report.
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Recording Sites with State of California Department of Park and Recreation: The Archaeologist shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Results Report.

Paleontological Resources

3.3.2.3 A qualified paleontological monitor shall be present at a pre-grading meeting with the construction contractor and environmental review coordinator. The purpose of the meeting would be to consult and coordinate the role of the paleontologist during construction. The paleontological monitor shall have adequate knowledge and experience with fossilized remains likely to be present to identify them in the field. The paleontological monitor shall be adequately experienced to remove paleontological resources for further study.

3.3.2.4 The paleontological monitor shall be present during the applicable stages of grading and construction (including trenching) as determined at the pre-grading meeting. The paleontological monitor shall have the authority to temporarily direct, divert, or halt grading in the area of an exposed fossil to facilitate evaluation and, if necessary, salvage. At the discretion of the monitor, recovery may include washing and picking of soil samples for microvertebrate bone and teeth. The contractor shall be aware of the random nature of fossil occurrences and the possibility of a discovery of such scientific and/or educational importance which might warrant a long-term salvage operation or preservation. All fossils collected shall be donated to a museum with a systematic paleontological collection, such as the San Diego Natural History Museum. The City of Carlsbad Engineering Division (or the applicable division of the appropriate Public Agency for work outside the City of Carlsbad), shall ensure the grading contractor is aware of this provision. Conflicts regarding the role and authority of the monitor shall be resolved by the Planning Director or his/her designee.

3.3.2.5 A paleontological monitoring report shall be submitted to the City of Carlsbad (or appropriate Public Agency for work outside the City of Carlsbad). The report shall describe the materials recovered by the monitoring program.

3.3.3 Supporting Explanation

Construction monitoring is considered to be the most prudent method of ensuring that substantial adverse impacts to cultural and paleontological resources are avoided. Monitoring enables the City to identify potential resources as Project earthwork is being conducted, and provides the ability to halt construction for the recovery of resources. With the implementation of the mitigation measures, impacts to cultural or paleontological resources will be less than significant.
3.4 Geology and Soils

3.4.1 Potentially Significant Impacts

During construction of the Desalination Plant and On-site Facilities, erosion could be accelerated that could undermine slopes, cause siltation of surface waters, and expose and damage underground facilities. Implementation of the Project will require grading to remove the inner earthen wall of the containment berms surrounding the existing fuel oil storage tank, and to compact and smooth the existing topography of the site. Construction activities associated with the Project will temporarily expose underlying soils, thereby increasing their susceptibility to erosion until the Project is fully implemented. While loss of soil onsite will not lead to any substantial impacts to the site itself, erosion resulting from site preparation could affect water quality downstream of the Project site.

Some components of the Desalination Plant and On-site Facilities are proposed to be located on recompacted fill soils. Without proper grading and recompaction or remedial design features for building foundations, impacts related to soil stability are considered significant.

Regarding Off-site Facilities, potentially significant construction-related impacts associated with the Project include encountering unstable soil and rock conditions and exposure of oversize rock material during grading. Potential impacts could also arise from temporary stockpiling during pipeline construction activities.

3.4.2 Mitigation Measures

The following mitigation measures will reduce potential impacts to geologic and soil resources to less than significant:

3.4.2.1 To provide a uniform bearing for the proposed facility, the fill/residual soils beneath the desalination facility site shall be removed and recompacted. As an alternative, all the building footings may be deepened through the compacted fill soils and be founded into the formational materials of the Santiago Formation, in accordance with the recommendations contained in the geotechnical report (GeoLogic Associates 2004).

3.4.2.2 A pre-construction geotechnical investigation shall be prepared to address geotechnical considerations related to constructing and operating all of the offsite project components including water delivery pipelines, the pump station, and surge control facilities. The report shall contain all necessary requirements to address any adverse soils conditions that may be encountered in final design of the facilities. The Project will be required to adhere to all such requirements. The report shall include a discussion of site-specific geology, soils and foundational issues, a seismic hazards analysis to determine the potential for strong ground acceleration and ground shaking, potential groundwater issues, and structural design recommendations. The soil engineer and engineering geologist shall review the grading plans prior to finalization to verify the plans'
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compliance with the recommendations of the report. A third party review of the
geotechnical report and final grading plans shall be conducted by the Engineering
Department of the appropriate local jurisdiction (e.g., the City of Carlsbad) prior to
issuance of grading permits and encroachment permits. Compliance with this measure
shall be verified by the local jurisdiction.

3.4.3 Supporting Explanation

The Desalination Plant and On-site Facilities will be constructed in an area that has fill and
residual soils. The expansion potential of the onsite fill soils is in the low range (expansion
index from 21 to 50 per the UBC). Proper grading and recompaction or remedial design features
for building foundations, will ensure that substantial adverse impacts associated with soil
stability are avoided. Adherence to the City's Grading Ordinance and incorporation of the
mitigation measure noted above will ensure that fill soils are removed and recompacted prior to
construction.

The impact analysis for the Off-site Facilities first considers that depending on the selected
alignment, approximately 50 to 80 percent of the pipeline will be located within existing road
right-of-ways. For these pipelines, issues involving constructability, seismic hazards, landslides,
liquefaction, and mineral resources are not anticipated to pose substantial constraints on Project
development, given the developed nature of the existing roadways and the fact that various
utility lines currently exist along the alignment. These issues can be appropriately and
adequately addressed in design-level geotechnical evaluations that will identify specific design
measures related to soils, seismicity, hazards, groundwater, and structural design issues for all
offsite Project components. Pipeline construction would also be subject to erosion control
measures identified in Section 4.7.5 of the Final EIR, as further outlined below.

3.5 Hazards and Hazardous Materials

3.5.1 Potentially Significant Impacts

Project features that are designed to reduce risks associated with chemical use and storage,
combined with regulatory requirements for safe handling and storage of materials will minimize
hazards associated with plant operation. It is not anticipated that the Project will create a
significant hazard to the public or the environment through the routine transport, use, or disposal
of hazardous materials, or create a significant hazard to the public or environment through
reasonably foreseeable upset and accident conditions involving the release of hazardous
materials into the environment. However, although impacts associated with hazards are
considered to be less than significant with the facility design and proposed operational measures,
mitigation measures are included to ensure that these Project features and operational practices
are maintained.

Forty potentially hazardous sites have been identified in proximity to the construction areas for
the offsite pipelines. Release or exposure of existing subsurface contamination could result from
Project construction activities.
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Several of the offsite pipeline areas will be located within the Palomar-McClellan Airport Influence Area; some portions of the pipelines will also be located in the Flight Activity Zone and Runway Protection Zone. Construction activities for the segments of alternative pipeline alignments located at and near Palomar-McClellan Airport must be coordinated with airport operations to avoid presenting a potential hazard to airport and aircraft operations. Mitigation to ensure this coordination is contained in Section 3 G., Land Use and Planning, of this document.

3.5.2 Mitigation Measures

The following mitigation measures will reduce potential impacts from hazards and hazardous materials to less than significant:

3.5.2.1 To mitigate the potential for exposure of existing contamination during construction of offsite pipelines, construction monitoring will be provided in areas identified as having the potential for such risks, and appropriate actions, as determined by the City’s construction inspector shall be taken if such materials are encountered. Such actions may include avoidance or removal of contaminated materials, or special handling measures to avoid exposure to materials.

3.5.2.2 In accordance with all applicable federal, state and local regulations, plant personnel shall regularly inspect all hazardous materials handling facilities for compliance with applicable regulations and shall ensure that any deficiencies are promptly repaired. In addition, the facility shall be subject to regular inspections by the County Department of Public Health and City’s Fire Department, which will ensure compliance with appropriate regulatory requirements for hazardous materials and regulated substances handling.

3.5.2.3 All hazardous materials shall be handled, stored, transported and disposed in accordance with all applicable federal, state and local codes and regulations. Specific requirements of the California Fire Code that reduce the risk of fire or the potential for a release of hazardous materials that could affect public health or environment include:

- Provision of an automatic sprinkler system for indoor hazardous material storage areas;
- Provision of an exhaust system for indoor hazardous material storage areas;
- Separation of incompatible materials by isolating them from each other with noncombustible partition;
- Location of incompatible materials as far away from each other as practical;
- Spill control in all storage, handling and dispensing areas;
- Separate secondary containment for each liquid chemical storage system. The secondary containment shall be designed to hold 110% of the entire contents of the tank. Adequate storage shall be provided inside the RO building to hold water for the fire suppression system that could be used for fire protection for a period of 20 minutes in the event of a catastrophic spill. The secondary containment of the chemical storage tanks located outside the RO building shall have extra storage capacity to hold precipitation form a 25-year, 24-hour event.
- Use of chlorine in liquid form (sodium hypochlorite) to mitigate concerns...
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associated with accidental toxic gas plume releases and potential odor emissions from the chlorine storage facility;

- Use of aqua ammonia of concentration below the regulatory threshold limit of 20% and amount below the regulatory threshold of 20,000 gallons to mitigate concerns associated with accidental release of significant toxic ammonia gas plume releases.

- All liquid chemical storage tanks shall be equipped with a pressure relief valve, vapor equalization, a carbon filter vent, and vacuum breaker. Any potential vapor fume releases from the storage tanks shall be absorbed by the carbon filter vent, thereby providing an effective odor control for volatile chemicals, such as ammonia and chlorine.

3.5.2.4 Each of the liquid chemicals used on site shall be stored in a tank with a concrete secondary containment surrounding the tank. The containment area shall have a sloped floor, which shall direct the liquid to a drain centered below the tank. This drain shall lead to a covered sump. Each of the chemical storage tanks shall be equipped with continuous level monitors, automated leak detection system, temperature and pressure monitors and alarms, and excess flow and emergency block valves. All storage tanks shall be constructed of appropriate, non-reactive materials, compatible with the recommendations of the supplier of the hazardous material.

3.5.2.5 In the event of an accidental liquid chemical spill, the chemical shall be contained within the concrete containment structure and evacuated through an individual drainage system, and pumped into hazardous waste containment trucks and transported off-site for disposal at an appropriate facility accepting such waste. This operation shall be completed by a specialized contractor licensed in hazardous waste handling and disposal. Appropriate agencies, such as the City of Carlsbad Fire and Police Departments, shall also be contacted if necessary.

3.5.2.6 The chemical conveyance piping system connecting chemicals from their storage areas to their points of application shall be protected from leaks utilizing one of the following leak protection measures:

- Use of piping with double containment walls to prevent potential chemical leaks from reaching the soil or groundwater; and

- Installation of chemical conveyance and feed pipelines in designated plastic or concrete trenches that will contain potential leaks and drain the leaking chemical(s) to a designated containment sump or tank, from where the chemical(s) will be evacuated and disposed of in compliance with all applicable federal, state, and local codes.

3.5.2.7 Appropriate safety programs shall be developed addressing hazardous materials storage locations, emergency response procedures, employee training requirements, hazard recognition, fire safety, first aid/emergency medical procedures, hazard communication training, and release reporting requirements. These programs shall include a Hazardous Materials Business Plan, worker safety program, fire response program, a plant safety program.
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program, and the facility’s standard operating procedures. The Project shall also be in compliance with all applicable hazardous material storage and management regulations and shall prepare all safety planning documentation associated with compliance with these regulations. For security purposes, the desalination facility would allow site access to authorized personnel only via a secured entry point with a 24-hour guard.

3.5.3 Supporting Explanation

Operation of the Desalination Plant will involve the storage and use of chemical cleaning solutions to remove deposits from the reverse osmosis membranes as well as chemicals used to treat product water. The chemicals used for cleaning RO membranes are non-flammable and will be stored and used in quantities below the threshold quantity levels defined by applicable federal, state and local hazardous materials handling and management regulations. Chemicals used for water treatment will also be transported, used and stored according to the applicable regulations. In order to ensure that the regulations are adhered to and impacts remain below the threshold for significance, a mitigation measure has been included to require regular inspections by plant personnel as well as the County Department of Public Health and the City’s Fire Department. Additional mitigation measures require that all hazardous materials be handled and stored in accordance with all applicable federal, state and local codes and regulations.

There are forty potentially hazardous sites in proximity to the offsite pipeline alignments. Although not expected, construction could expose potentially contaminated soils or groundwater. Construction monitoring will serve to identify appropriate actions if such materials are encountered. Implementation of the above described mitigation measures will ensure that impacts from hazards or hazardous materials remain below a significant level.

3.6 Hydrology and Water Quality

3.6.1 Potentially Significant Impacts

During construction of the Desalination Plant, On-site Facilities and Off-site Facilities, bare soils will be exposed; soil and material stockpiles will be established; and fuels, lubricants and solid and liquid wastes will be stored within active construction areas. If the construction areas are not properly managed to contain loose soils and liquid and solid contaminants, potentially significant short-term water quality impacts could occur.

Some of the off-site pipeline areas are located in 100-year flood zones and placement of construction materials could temporarily impede or redirect flows during construction. Although temporary, these impacts are potentially significant.

3.6.2 Mitigation Measures

The following mitigation measures will reduce potential impacts to hydrology and water quality to less than significant:
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3.6.2.1 Prior to issuance of a grading permit, building permit or demolition permit, whichever occurs first, the project applicant shall demonstrate compliance with all applicable regulations established by the United States Environmental Protection Agency (USEPA) as set forth in the National Pollutant Discharge Elimination System (NPDES) permit requirements for urban runoff and storm water discharge and any regulations adopted by the city within which construction will take place, pursuant to the NPDES regulations or requirements of that city (Carlsbad, Oceanside and Vista). Further, the applicant shall file a Notice of Intent (NOI) with the State Water Resources Control Board to obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activity and shall implement a Storm Water Pollution Prevention Plan (SWPPP) concurrent with the commencement of grading activities. The SWPPP shall include both construction and post-construction pollution prevention and pollution control measures and shall identify funding mechanisms for post-construction control measures. The SWPPP shall also be sent to the North County Transit District for review and comment.

3.6.2.2 The following best management practices shall be adhered to during construction:

- Gravel bags, silt fences, etc. shall be placed along the edge of all work areas as determined appropriate by the City’s construction inspector in order to contain particulates prior to contact with receiving waters.
- All concrete washing and spoils dumping will occur in a designated location.
- Construction stockpiles will be covered in order to prevent blow-off or runoff during weather events.
- A pollution control education plan shall be developed by the General Contractor and implemented throughout all phases of development and construction.
- Severe weather event erosion control materials and devices shall be stored on site for use as needed.
- Other best management practices as determined necessary by the cities.

3.6.2.3 Prior to issuance of grading or building permits, whichever occurs first, the applicant shall submit for City approval a SWMP. The SWMP shall demonstrate compliance with the city of Carlsbad SUSMP, Order 2001-01, issued by the San Diego Region of the California Regional Water Quality Control Board and City of Carlsbad Municipal Code.

- Construction within any area the City of Carlsbad identifies as a 100-year flood hazard shall occur only during dry months (May 1 – September 30). The City may waive this restriction if the applicant satisfactorily demonstrates, as determined by the City, that construction would not impede or redirect flood flows and would not expose people or structures to flooding. Such demonstration shall occur before the City issues grading or other permits to permit construction in the flood hazard area in the wet...
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months and may require the applicant to submit plans and details regarding the type, location, quantities and duration of construction equipment and materials as well as any other information that the City may require.

3.6.3 Supporting Explanation

Significant impacts to water quality will be avoided through implementation of BMPs that will address erosion/sedimentation, spill prevention, waste management, dust suppression, cleaning and maintenance measures that will be part of the General Construction Activity Stormwater Permit. For impacts related to the development of the Desalination Plant in particular, the Project shall also prepare a SWMP to demonstrate compliance with the City of Carlsbad SUSMP. Impacts to water quality during construction also will be mitigated to less significant through implementation of the SWPPP. The SWPPP will describe the site-specific BMPs to reduce the amount of sediment-laden runoff entering the lagoon and other waterways. Potentially significant impacts due to construction in a flood hazard area will be mitigated by limiting construction to dry months only unless the applicant can satisfactorily demonstrate to the City, before grading or other construction permits are issued, that construction would not impede or redirect flood flows or expose people or structures to flooding.

With implementation of the above listed mitigation measures, the potential impacts related to hydrology and water quality described above will be reduced to a less than significant level (Final EIR, p. 4.7-25).

3.7 Land Use and Planning

3.7.1 Potentially Significant Impacts

Off-site Facilities may be constructed within the Palomar Airport Influence Area, particularly the Runway Protection Zone. While the impact on airport operations will be temporary and construction-related, construction and construction equipment could potentially present a hazard to aircraft and airport operations.

3.7.2 Mitigation Measure

The following mitigation measure will reduce potential impacts to land use and planning to a less than significant level:

3.7.2.1 The applicant shall coordinate with and receive approval from the McClellan-Palomar Airport Operations Manager before constructing within the Airport Influence Area and particularly within any Flight Activity Zone and Runway Protection Zone or on airport property.
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3.7.3 Supporting Explanation

While the impact on airport operations would be temporary and construction-related, construction and construction equipment could present a hazard to aircraft and airport operations. Coordination with the McClellan-Palomar Airport operations manager will ensure the necessary communication between the airport operator and the Project Applicant to avoid potential conflicts that could result in safety hazards, and ensure that impacts remain below a level of significance.

3.8 Transportation and Traffic

3.8.1 Potentially Significant Impacts

It is not anticipated that additional traffic resulting from Project construction will represent a substantial increase in daily traffic on affected roadways, and the increase is not anticipated to cause Levels of Service on these roadways to fall below acceptable levels, including the thresholds established in the City of Carlsbad Growth Management Standards (service level C during off-peak hours or service level D during peak hours). Therefore, it is not anticipated that project-generated traffic will be inconsistent with the Growth Management Standards related to traffic. However, to ensure that these standards are met, the applicant shall demonstrate that construction operations will not cause unacceptable Levels of Service during peak hour periods on affected roadways and intersections.

3.8.2 Mitigation Measures

The following mitigation measures will reduce potential impacts to transportation and traffic to a less than significant level:

3.8.2.1 Prior to issuance of grading permits and/or encroachment permits for work within public rights-of-way, the Applicant shall provide the ultimate location of soil disposal sites to the appropriate city (if they are different from the disposal site identified in this analysis), and shall further demonstrate that transport of soil and materials to and from the proposed sites will not result in Levels of Service during peak hour periods on affected roadways and intersections falling below acceptable standards established by the affected cities.

3.8.2.2 Prior to improvement plan approval, a traffic control plan will be prepared for approval by each jurisdiction within which the Project is proposed to be located. The traffic control plan will show all signage, striping, delineate detours, flagging operations and any other devices which will be used during construction to guide motorists safely through the construction zone and allow for adequate access and circulation, to the satisfaction of the city or agency with applicable jurisdiction. The traffic control plan will also include provisions for coordinating with local emergency service providers regarding construction times and locations of lane closures as well as specifications for bicycle lane safety. The Applicant's construction contractors will coordinate traffic diversions, street and lane closures, and obstruction of intersections with each
jurisdiction’s engineering department prior to commencing construction activities through the development of routing and detour plans.

This Traffic Control Plan will be prepared in accordance with each Local Agency’s traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties and businesses, and that emergency access will not be restricted. Additionally, the Plan will ensure that congestion and delay of traffic resulting from Project construction are not substantially increased and will be of a short-term nature.

The limits of construction work area(s) and suggested alternate traffic routes for through traffic will be published in a local newspaper periodically throughout the construction period. In addition, the construction contractor shall provide not less than a 2-week written notice prior to the start of construction by mailing to owners/occupants along streets to be impacted during construction.

During construction, the Applicant’s contractor will ensure that continuous, unobstructed, safe and adequate pedestrian and vehicular access to and from public facilities such as schools, parks, post offices and fire stations. If normal access to these facilities is blocked by construction for more than four hours in any given workday, alternative access will be provided. The Applicant’s contractor will coordinate with each facility’s administrators in preparing a plan for alternative access.

During construction, the Applicant’s contractor will ensure that continuous, unobstructed, safe and adequate pedestrian and vehicular access remains to commercial/industrial establishments during regular business hours. If normal access to business establishments is blocked by construction for more than four hours in any given workday, alternative access will be provided. The Applicant’s contractor, and possibly the city, will coordinate with the businesses in preparing a plan for alternative access.

During construction, the Applicant’s contractor will maintain continuous vehicular and pedestrian access to residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. For example, when the pipeline is initially being excavated, access to individual driveways may be closed during the course of a workday. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, the Applicant’s construction contractor shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure.

Methods to maintain safe, vehicular and pedestrian access includes the installation of temporary bridge or steel plates to cross over unfilled excavations. Whenever sidewalks or roadways are removed for construction, the contractor will place temporary sidewalks or roadways promptly after backfilling until the final restoration has been made.
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The traffic control plan will include provisions to ensure that the Applicant’s construction contractor’s work in any public street does not interfere unnecessarily with the work of other agencies such as emergency service providers, mail delivery, school busses and waste services.

3.8.3 Supporting Explanation

To ensure that localized impacts do not occur as a result of construction traffic, the above mitigation measures require the Applicant to demonstrate that construction operations will not cause unacceptable Levels of Service during peak hour periods on affected roadways. These measures will ensure that, regardless of traffic conditions at the time the construction commences, or where the ultimate disposal sites for soil may be located, there will not be substantial additional traffic that will exceed LOS standards on local roadways. The primary control mechanisms provided through this mitigation are restriction of construction hours, or redirection or alternate routes for construction traffic if potential problems are identified. Additional traffic control measures to address lane closures and safety issues are also required so that traffic flow and safety is maintained.

3.9 Public Utilities and Service Systems

3.9.1 Potentially Significant Impacts

The industrial waste streams generated by the Project include granular media filter or microfiltration membrane filter backwash water and spent membrane cleaning solutions. Although the total suspended solids content of these waste streams would not exceed 500 pounds per day, these discharges have the potential to increase the total dissolved solids (TDS) content of the influent to the EWPCF. The increased TDS may have an adverse impact on water recycling facilities operating in the Encina sewer service area. If membrane pretreatment is used in operations, then a maximum flow of 198,000 gallons per day (gpd) could occur and the Project would result in a permanent increase in TDS levels for the water recycling facilities in the Encina sewer service area. This is a potentially significant impact.

Further, waste discharge flows in excess of an instantaneous maximum of 300 gallons per minute (gpm) or a daily maximum of 200,000 gpd could cause the City to exceed its capacity rights in the Vista/Carlsbad Sewer Interceptor or the EWPCF. This is also a potentially significant impact.

3.9.2 Mitigation Measure

The following mitigation measure will reduce potential impacts to public utilities and service systems to a less than significant level:

3.9.2.1 The combined waste discharge from the desalination facility to the EWPCF shall not exceed an instantaneous maximum of 300 gpm and a daily maximum of 200,000 gpd. The combined total suspended solids discharged to the EWPCF shall not exceed 500 pounds per day. Should the Project operations cause the monthly average TDS of the
effluent at the local water recycling facilities to exceed 1,000 mg/L, or contribute to the monthly average TDS at the local water recycling facilities exceeding 1,000 mg/L, the Applicant shall take steps to reduce the TDS increase or reimburse the operators of local water recycling plants for its proportional share of the cost to reduce the increase in TDS resulting from Project operations. In addition, the Applicant shall provide the City a minimum 2 years worth of data that establishes a baseline water quality and TDS levels of the effluent at the local water recycling facilities prior to commencement of Project operations. Upon commencement of operations, the applicant shall establish a monitoring program which regularly reports the TDS contribution of the desalination plant. The City shall determine monitoring program parameters, including the frequency of monitoring and duration of the program.

3.9.3 Supporting Explanation

The proposed mitigation provides a performance standard for TDS that must be achieved. This adequately addresses the issue of unacceptable levels of TDS in the waste stream that may adversely affect the operation of the EWPCF, and provides a control mechanism that will be in place throughout the life of the Project. To ensure capacity rights are not exceeded, a mitigation measure quantifies maximum acceptable daily and instantaneous flows at 200,000 gpd and 300 gpm.

4.0 FINDINGS REGARDING SIGNIFICANT UNAVOIDABLE IMPACTS

The City, acting as the Lead Agency under CEQA, finds that the Final EIR identifies significant unavoidable impacts in the following environmental categories:

- Cumulative Air Quality
- Indirect Growth Inducement

CEQA Sections 21081 and 21081.5 and CEQA Guidelines Section 15091 provide that the City shall not approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the City makes one or more of the following Findings for each significant effect, based on substantial evidence in the record:

(1) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effect;

(2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding, and such changes have been, or can and should be, adopted by such other agency; and/or

(3) Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or project alternatives identified in the Final EIR.
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The City has determined that certain mitigation measures identified in the Final EIR will substantially lessen the significant impacts identified above in Section 3 of these Findings. Such mitigation measures have been incorporated into the MMRP, which will be included as a condition of the City's approval of the Project. However, the City has determined that the mitigation measures will not or may not reduce the impacts identified above in this Section 4 to a less than significant level and those impacts therefore remain significant and unavoidable or potentially significant and unavoidable. The City's Findings relating to the significant unavoidable impacts and the bases therefor are set forth below, pursuant to CEQA Sections 21081 and 21081.5 and CEQA Guidelines Sections 15091, 15092 and 15093. A Statement of Overriding Considerations with respect to these impacts is included in Section 8.0 of these Findings, below.

4.1 Cumulative Air Quality

Because of their long-term nature, emissions from operations of the Desalination Plant (which, for purposes of this cumulative Air Quality discussion, includes the On-site and Off-site Facilities) for pollutants for which the San Diego air basin is not in attainment with state and federal standards are considered cumulatively significant. The San Diego air basin is currently in non-attainment for PM$_{10}$ and ozone, and NO$_x$ and reactive organic compounds (ROC) are ozone precursors. Long-term operational emissions will largely be caused indirectly through the Desalination Plant's use of electrical energy, the generation of which causes emissions of pollutants. Given that the electricity the Desalination Plant uses could come from a variety of sources (including, for example, geothermal or nuclear plants that emit little or no pollutants) and could ultimately be generated outside of the San Diego air basin, it is very difficult to quantify what contribution to a cumulative impact the Project will have. However, it is likely that at least part of the mix of electricity that the Desalination Plant uses will come from pollutant-emitting sources located in the San Diego air basin. In that case, the Desalination Plant will contribute to a significant cumulative impact to air quality regarding PM$_{10}$ and ozone. Health effects associated with these pollutants are identified in the Final EIR and are summarized as follows:

**Ozone.** Ozone is considered a photochemical oxidant, which is a chemical that is formed when ROC and nitrogen oxides, both byproducts of combustion, react in the presence of ultraviolet light. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone. (Final EIR p. 4.2-2).

**Fine Particulate Matter.** Particulate matter, or PM$_{10}$, refers to particulate matter with an aerodynamic diameter of 10 microns or less. Fine particulate matter, or PM$_{2.5}$, refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in this size range has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM$_{10}$ and PM$_{2.5}$ arise from a variety of sources, including road dust, diesel exhaust, combustion, tire and break wear, construction operations, and windblown dust. PM$_{10}$ and PM$_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and
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chronic bronchitis. Fine particulate matter (PM$_{2.5}$) is considered to have the potential to lodge deeper in the lungs. (Final EIR p. 4.2-4).

There are no feasible mitigation measures that could be implemented on a project-by-project basis that would reduce this cumulative impact to below a level of significance. Therefore, no measures are available to the Project that could feasibly avoid or substantially lessen this effect.

4.2 Growth Inducement

CEQA Guidelines Section 15126.2 (d) requires that an EIR evaluate the growth-inducing impacts of a project (Final EIR, p. 9-1). This evaluation should address the ways in which the Project could encourage economic and population growth, or the construction of additional housing, either directly or indirectly.

Typically, the growth-inducing potential of a project is considered significant if it stimulates population growth or a population concentration above what is assumed in local and regional land use plans, or in projections made by regional planning authorities such as the San Diego Association of Governments (SANDAG). Significant growth impacts could also occur if a project provides infrastructure or service capacity to accommodate growth levels beyond those anticipated by local or regional plans and policies. The key issue related to growth inducement for the Precise Development Plan and Desalination Plant project is whether or to what extent water supplies provided by the Project would have indirect growth-inducing impacts. Existing water supply issues within the Project's service area must be considered along with water supply in the context of other growth-related constraints. Growth-limiting factors in San Diego County are primarily related to availability of buildable land and adequate infrastructure to support growth in new areas. Therefore, there is no linear relationship between water availability and growth.

The Project is being implemented on a local level and represents implementation of a portion of the water supply component that has been planned at a regional (San Diego County) level. The CWA wholesales imported water to its member agencies, which in turn deliver the water to individual homes and businesses throughout the county. The CMWD, the Valley Center Municipal Water District, the Rincon del Diablo Municipal Water District and the Olivenhain Municipal Water District, all of which are anticipated to be potential purchasers of desalinated seawater from the Project, are member agencies of the CWA. Implementation of the Project at a local level will have the same potential for growth inducement as the CWA's recently adopted Regional Water Facilities Master Plan (RWFMP), which noted that development of a local desalinated water supply may foster additional growth indirectly by removing barriers to growth.

The Project contributes to the new supplies identified in the RWFMP and constitutes a portion of the new water supplies that have been considered and analyzed on a regional level. The Project is not anticipated to provide additional supplies over and above what is already contemplated for the San Diego region. Therefore, it is not anticipated that delivery of water from a different
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supplier other than the CWA will have any effect on planned growth within the service area of the Project.

Further, it is not anticipated that the purchase of water from a different supplier by any of the affected water agencies would result in any changes to existing land use plans, growth projections or growth management policies of the local land use authorities within the respective service areas of the districts. Local water agencies purchase and deliver water to retail customers, and do not have direct authority over land use, and cannot approve or disapprove any changes in land use that would directly affect population projections. The agencies with local land use authority within the Project's service area are the cities of Carlsbad, Oceanside, Vista, and San Marcos. These communities are nearing or close to build out, and the availability of developable land is the primary factor in future growth potential. Desalinated seawater is already considered in regional growth analyses conducted by SANDAG, as contained in its 2004 Regional Comprehensive Plan, and in demand projections by the CWA as contained in its 2003 RWFMP. The Project will not supply water in excess of what is already anticipated to meet future projected needs.

The Project will not cause significant direct growth-inducing impacts. However, City recognizes that replacement of imported water supplies with locally produced desalinated water supplies could have the effect of making the imported water supplies that are displaced by the desalinated water supplies available for other use. Determination of the specific potential indirect growth-inducing effects outside of the Project’s service area would require speculation that is beyond the scope of the environmental analysis for the Project. Therefore, City considers the possibility of indirect regional growth inducement a potentially significant effect and finds that there is no feasible mitigation for this potential impact.

5.0 FINDINGS REGARDING INFEASIBLE ALTERNATIVES

Because the Project will potentially cause unavoidable, significant environmental effects, as outlined above, the City must consider the feasibility of alternatives to the Project, as proposed. The City must evaluate whether one or more of these alternatives could avoid or substantially lessen the Project's unavoidable significant environmental effects. [Pub. Res. Code § 21002]

In preparing and adopting findings, a lead agency need not necessarily address the feasibility of both mitigation measures and alternatives when contemplating approval of a project with significant impacts. Where a significant impact can be mitigated to an acceptable level solely by the adoption of mitigation measures, the agency, in drafting its findings, has no obligation to consider the feasibility of environmentally superior alternatives, even if their impacts would be less severe than those of the project as mitigated. [Laurel Hills Homeowners Association v. City Council (1978) 83 Cal. App. 3d 515, 521; Kings County Farm Bureau v. City of Hanford (1990) 221 Cal. App. 3d 692, 730-731; Laurel Heights Improvement Association v. Regents of the University of California (1988) 47 Cal. 3d 376, 400-403.] Accordingly, in adopting findings concerning Project Alternatives, the City considers only those environmental impacts for the Project that are significant and cannot be avoided through mitigation. The Final EIR also provided a comparative analysis of impacts related to other issues for which impacts were determined to be less than significant for the Project. These Findings discuss alternatives only in
the context of those impacts that were determined to be significant and not mitigated (cumulative impacts on air quality and indirect growth inducement outside of the Project service area).

The Final EIR examined a reasonable range of Alternatives to the Project to determine whether any of these Alternatives could meet the Project's objectives, while avoiding or substantially lessening its significant, unavoidable impacts. [CEQA Guidelines § 15126.6; Final EIR p.6-1]

Pursuant to CEQA requirements, the City, as the CEQA Lead Agency for the Project, conducted a comprehensive Alternatives identification and selection process. Four alternatives were determined to have the potential to meet most of the Project objectives, reduce impacts when compared to the Project, and/or be potentially feasible. The four alternatives examined were:

- Alternative 1: No Project/No Development Alternative
- Alternative 2: Alternative Site Alternative
- Alternative 3: Modified Intake Design Alternative
- Alternative 4: Reduced Project Capacity alternative

These Findings examine these Alternatives to the extent they lessen or avoid the Project's significant environmental effects. The City need not consider the Alternatives with respect to the Project's environmental impacts that are insignificant or avoided through mitigation.

The Carlsbad City Council hereby makes the following findings regarding the feasibility of Project alternatives.

5.1 "No Project/No Development" Alternative

5.1.1 Description

Under this alternative, the Project would not be adopted by the City of Carlsbad. Existing conditions on the site and existing operations within the PDP area would continue – Fuel oil tank #3 would remain and the EPS would continue to operate in its current condition. Regional planning for a desalination plant would likely continue under the No Project/No Development Alternative.

The "No Project/No Development" Alternative is not feasible because it fails to meet Project objectives related to providing a local source of potable water supply to supplement imported water supplies, improving water supply reliability, or improving water quality for the City of Carlsbad.

5.1.2 Supporting Explanation

The No Project/No Development Alternative would consist of continued use of the existing EPS with no change to existing operations within the PDP. No cumulative impacts to air quality, or
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indirect growth inducement would occur with the No Project Alternative, however, this alternative does not meet any of the City's objectives for the Project.

5.2 Alternative Site Alternative

5.2.1 Description

Based on siting limitations relative to proximity of existing intake and outfall structures, feasible alternative locations for the Project are limited. However, an alternative project location was identified on land associated with the Encina Water Pollution Control Facility (EWPCF). The EWPCF is a wastewater treatment facility owned by the six member agencies of the Encina Wastewater Authority. The alternative site is located within a 37-acre parcel immediately south of the EWPCF facility. The Alternative Site Alternative would utilize the existing EWPCF treated wastewater ocean outfall. However, because of size limitations of the EWPCF outfall pipeline, the maximum product water capacity of the desalination plant would be 10 mgd. Source water for the plant would be piped from the EPS cooling water discharge, or alternatively, a new intake structure would be constructed offshore of the EWPCF. Additionally, this alternative also considers the option of a separate outfall structure which would not provide "in-pipe" dilution.

The Alternative Site Alternative would not alleviate any significant unavoidable impacts associated with the Project that can be achieved with the required Project mitigation measures. In addition, this alternative would not provide the capacity of water supply to meet anticipated demand for the local area. Additional or expanded facilities would be required in other locations to meet projected regional supply goals. Therefore, the alternative would not effectively satisfy most of the basic objectives of the Project.

5.2.2 Supporting Explanation

The City considered the Alternative Site Alternative as a means of reducing potential impacts associated with the EPS site. However, this Alternative does not provide substantial environmental benefits in terms of impact reductions for air quality or growth inducement, and therefore does not provide a comparative environmental advantage over the Project.

The reduced capacity of the Alternative would result in reduced air emissions, associated with construction and operation, but even with the reduction, would not fully mitigate the cumulative significant air quality impacts identified for the Project. Because the facility would have the capacity to produce only 10 mgd of product water, the size of the facility and related construction emissions would be reduced, as would pumping and other operational requirements.

The alternative would not provide the capacity of water supply to meet anticipated demand for the local area, and would not effectively satisfy most of the basic objectives of the Project.
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5.3 Modified Intake Design Alternative

5.3.1 Description

In developing the design for the Project, a number of alternatives for source water intake were examined to determine the feasibility of options in place of the proposed co-location of intake with the EPS cooling water discharge. The purpose of examining these alternatives was to avoid impacts associated with impingement/entrainment related to an open water intake system.

The Modified Intake Design Alternative meets some of the Project objectives but does not provide for superior impact reduction over the Project, and may result in additional adverse impacts to visual and recreational resources.

5.3.2 Supporting Explanation

One of the modified intake designs includes the use of vertical intake wells that consist of water collection systems that are drilled vertically into a source water aquifer. The approximate yield from a vertical well would be approximately 1 mgd; therefore the Project would require 100 vertical wells to produce the volume of source water necessary to produce 50 mgd of product water. Siting, construction and operation of 100 wells would not be practical and could result in potentially significant impacts depending on the locations of the wells. Therefore, this design alternative is infeasible.

Horizontal intake wells were considered as another design alternative. Such wells comprise a caisson that extends below the ground surface with laterals extending horizontally in multiple directions into the surrounding aquifer. Use of such wells for the Project would require location of the wells along the beach to access ocean water. These wells have an output capacity of approximately 5 mgd. The caissons would house the pump mechanism, and would be approximately 10 to 15 feet high by 15 to 30 feet in diameter concrete structures. Approximately 25 of the wells would be required, spaced a minimum of 400 feet apart (lateral length would be approximately 200 feet). Siting of 25 beach wells along 4 miles of the Carlsbad beaches would likely result in significant unmitigable impacts to visual resources and recreation. In addition, temporary impacts to biological resources would also likely be significant. Therefore, this design alternative is not feasible.

Infiltration galleries consist of a trench that is excavated and filled with filtration media, similar to filter media used in water treatment operations. An infiltration gallery 4 feet wide and 500 feet long would have a capacity of up to 2.5 mgd. For the Project, the infiltration gallery would need to be sited along the beach to access seawater. The estimated depth for each well would be approximately 30 feet, over an approximately 4-mile stretch of beach, requiring the removal and disposal of extensive quantities of earth material and resulting in potentially significant temporary impacts to biological resources. Because of these potentially significant construction-related impacts, this design alternative is not being considered.

Since the Project does not result in substantial losses of marine organisms due to entrainment, and because of the infeasibility and/or significant temporary and permanent impacts resulting
from the design alternatives that are available, the co-located EPS intake is the best means of obtaining source water for the Project.

5.4 Reduced Project Capacity Alternative

5.4.1 Description

The Reduced Project Capacity Alternative consists of a desalination facility with a maximum product water output of 25 mgd, or half that of the Project. This alternative would meet the minimum requirements for the first phase of water delivery identified in the Water Purchase Agreement between the City of Carlsbad and Poseidon. This alternative is considered to be the Environmentally Superior Alternative.

The Reduced Project Capacity Alternative would not effectively satisfy the Project objectives and would likely require additional similar facilities to be constructed in order to meet regional water supply needs.

5.4.2 Supporting Explanation

The Reduced Project Capacity Alternative would not provide sufficient production capacity to meet planned water supplies for seawater desalination as a component of regional water supplies and additional regional desalination supply alternatives would likely need to be explored to satisfy regional objectives for local water supply reliability. No significant unavoidable adverse impacts have been identified for the Project, with the exception of cumulative air quality and indirect growth inducing impacts, which cannot be mitigated to less than significant levels by this alternative. Therefore, the Reduced Capacity Alternative would not provide mitigation or avoidance of impacts that cannot be otherwise mitigated.

The Reduced Capacity Alternative would result in reduced air emissions, both associated with construction and operation, because the size of the facility and related construction emissions would be reduced, as would pumping and other operational requirements. However, the alternative would not substantially reduce or eliminate the significant cumulative impact to air quality identified for the Project.

Therefore although the Final EIR identifies Alternative 4 as the "Environmentally Superior Alternative," it does not offer substantial benefits in terms of impact reduction, when compared to the effects of the Project with application of the required mitigation measures.

6.0 FINDINGS REGARDING SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

The Project will require commitment of nonrenewable resources associated with construction and long-term operation, including but not limited to, lumber and other related forest products, sand, gravel and concrete, asphalt, petrochemical construction materials, steel, copper, lead and other metals, water, fuels and energy. Use of these resources will have an incremental effect on the regional consumption of these commodities.
Construction and operation of the Desalination Plant and On-site and Off-site facilities will also involve consumption of energy resources, such as electricity and natural gas, derived from non-renewable sources such as fossil fuels. However, the Project will not result in the degradation or destruction of important or sensitive natural resources.

7.0 FINDINGS REGARDING THE MITIGATION MONITORING AND REPORTING PROGRAM

The City Council hereby adopts the Mitigation Monitoring and Reporting Program attached to this Resolution as Exhibit B. In the event of any inconsistencies between the mitigation measures set forth herein and the Mitigation Monitoring and Reporting Program, the Mitigation Monitoring and Reporting Program shall control. The Mitigation Monitoring and Reporting Program will be adopted as part of the conditions of approval for the Project, pursuant to CEQA Section 21081.6 and CEQA Guidelines Section 15097.

8.0 STATEMENT OF OVERRIDING CONSIDERATIONS

Pursuant to CEQA Guidelines Section 15092, 15093 and 15043, decision-makers are required to balance the economic, legal, social, technological and other benefits of a project against its unavoidable environmental risks in determining whether to approve the project. If the benefits of the project outweigh the unavoidable adverse effects, the adverse environmental effects may be considered "acceptable." When a public agency approves a project which will result in significant effects which are identified in the Final EIR but are not avoided or substantially lessened, the CEQA Guidelines require that the agency state in writing the specific reasons to support its action based on the Final EIR and other information in the record.

To the extent that any significant environmental effects associated with the Project are not avoided or substantially lessened, the City, acting as the CEQA Lead Agency for the Project, having reviewed and considered the information in the Record, and having balanced the benefits of the Project against the unavoidable adverse effects which remain, finds such unmitigated effects to be acceptable, based upon the considerations set forth below. This statement of overriding considerations shall be included in the record of Project approval and shall be mentioned in the Notice of Determination for the Project.

8.1 Significant Unavoidable Adverse Impacts

The Final EIR identified two environmental impacts resulting from the Project which will be significant and unavoidable. These are: (1) Cumulative Impacts on Air Quality and (2) Indirect Growth Inducement.

8.1.1 Cumulative Impacts to Air Quality

The San Diego air basin is currently not in attainment with state and federal standards for PM10 and ozone. The Desalination Plant will be powered by electrical energy, at least some of which is likely to come from pollutant emitting sources in the San Diego air basin. Accordingly, the
Findings of Fact

Project will contribute to a significant cumulative impact to air quality with respect to PM10 and ozone as well as nitrogen oxide (NO\textsubscript{X}) and reactive organic compounds (ROC), both of which are ozone precursors (Final EIR, p. 5-9) and there are no feasible mitigation measures that would reduce this cumulative impact to below a level of significance (FEIR, p. 5-9).

8.1.2 Indirect Growth Inducement

Although the Project will not cause significant growth-inducing impacts locally, replacement of imported water supplies with a locally produced desalinated water supply could make the displaced imported water supplies available for other use.

The City finds that the possibility of indirectly inducing growth in areas outside the area served by the Project has a potentially significant effect and finds that there is no feasible mitigation for this possible impact.

8.2 Overriding Considerations

Based on the Final EIR and other information in the Record, the City has determined that the Project may result in significant environmental impacts in the following environmental resources areas: (1) Cumulative Impacts on Air Quality and (2) Indirect Growth Inducement. The City has further determined that there are no feasible mitigation measures that would reduce these impacts to less than significant levels. Therefore, the Project will still result or potentially will result in significant unmitigated environmental impacts.

The City, acting as the Lead Agency for the Project under CEQA, having reviewed and considered the information contained in the Final EIR and the Record, finds as follows:

(1) All feasible mitigation measures have been imposed to reduce Project impacts.

(2) The Alternatives to the Project are infeasible because (a) they fail to provide the benefits provided by the Project, (b) they fail to satisfy the "Primary Objectives" of the Project (as discussed below), or (c) they are otherwise socially or economically infeasible as fully described in the CEQA Findings to which this Statement of Overriding Considerations is attached.

(3) The Project will provide a local source of desalinated water for the City and for other water purveyors in San Diego County. This will supplement imported water supplies currently available to the City, improve water supply reliability and water quality for the City and other purchasers of the product water and will complement the City's water conservation and water recycling programs. The project will also increase public access to the coastal area.

(4) Although certain significant adverse impacts have been identified pursuant to the environmental analysis under CEQA, specifically Cumulative Impacts to Air Quality and Indirect Growth Inducement, the City recognizes and finds that the overall benefits of the Project far outweigh these impacts.
Findings of Fact

(5) The Project benefits, discussed below, which the City considers to be overriding considerations with respect to the identified adverse impacts include the City's ability to replace a significant portion of its existing water supply, which is heavily dependent upon imported water, with a local, reliable source.

8.2.1 Project Benefits

Implementation of the Project will meet all of the project purposes and objectives:
The fundamental purposes of the Project include the following:

- To provide the primary land use approval mechanism and detailed exhibits for the City's review and approval of the proposed 50 mgd Carlsbad Seawater Desalination Facility to be located adjacent to the EPS.

- To establish a baseline for identifying existing facilities and operations on site for the purpose of increasing knowledge and understanding about EPS operations and onsite facilities.

- To establish a procedure for administrative approvals that will enable the City to issue administrative permits, building permits and other ministerial permits, establish amendment procedures for the PDP, and entitlements for property owned by Cabrillo zoned P-U.

- To provide development standards for the EPS.

The specific objectives related to the Desalination Plant include:

- To provide a local source of potable water to supplement imported water supplies available to the City of Carlsbad and the San Diego region.

- To improve water supply reliability for the City of Carlsbad and the San Diego region.

- To improve water quality for the City of Carlsbad and the surrounding communities.

- To complement local and regional water conservation, and water recycling programs.

- To locate and design a desalination plant in a manner that maximizes efficiency for construction and operation and minimizes environmental effects.

- To increase opportunities for public access to the coastal area through public enhancements and dedications of coastal property.
Findings of Fact

8.2.1.1 Security of Water Supply:

The need for a diverse water portfolio was illustrated by the early 1990's drought, when the CWA reduced water supplies to its member agencies, including Carlsbad, by 30% and was considering 50% reductions. According to the CWA Regional Water Facilities Master Plan (RWFMP), the CWA currently imports nearly 600,000 AFY from the MWD, but is only legally entitled to approximately 300,000 AFY. This makes the region’s imported water supply highly vulnerable to water shortages and supply disruptions. The Colorado River is a major source of water supply for California, Nevada and Arizona. California has traditionally used more than its allocated 4.4 MAF per year because Arizona and Nevada did not use their full allocations. Arizona and Nevada’s increasing water needs have led to demands that California reduce its usage to its 4.4 MAF allocation. Potential threats to future deliveries of water from the Sacramento-San Joaquin Bay-Delta, such as a severe decline in fish populations, levee instability and a series of adverse court rulings, may also lead to reductions in the amount of water that can be delivered from Northern to Southern California through the State Water Project.

The Project will allow the CMWD to purchase 100% of its potable water supply needs from the desalination plant, thus providing a secure, local water supply that is not subject to the variations of drought or political and legal constraints on water supplies. (Appendix B to FEIR, Sections 1.2 and 10.1)

The Project will provide water supply redundancy for the City, strengthening security and reliability of water supply for residents and businesses. The CMWD will maintain its membership in and right to purchase water at the CWA, while receiving 100% of its potable water supply needs from the Project, thereby creating a redundant supply of water available in the event of catastrophe or unforeseen circumstances (Appendix B to FEIR, Section 13). The Project will add approximately 21,000 AFY dedicated to CMWD, thus replacing its current supply and increasing the reliability of CMWD’s water supply.

8.2.1.2 Reliability:

The Project will provide a reliable water supply for 30 years with two possible 30-year extensions. (Appendix B to FEIR, Section 2.) The City is protected from shortfalls in delivery under the terms of the Water Purchase Agreement. (Appendix B to FEIR, Sections 9 and 14.)

8.2.1.3 Improved Water Quality:

The Project will provide high quality drinking water that will compare favorably with the water supply that can be purchased from the CWA. The project will deliver a drinking water supply to the City that meets all State and Federal health standards, as well as provide a reduction in the TDS compared to imported water from the Colorado River and Sacramento-San Joaquin Delta provided by the CWA. The desalinated water TDS will be monitored on a weekly basis and shall not exceed 350 mg/L in more half the samples taken. Additionally, 90% of the samples shall be less than 400 mg/L. The City is not obligated to accept or pay for water that does not meet the quality standards (Appendix B to FEIR, Section 8 and Schedule 8.2.). Imported water
Findings of Fact

has a TDS of 466-574 mg/L (Metropolitan Water District 2005 Water Quality Report for the Skinner Filtration Plant).

8.2.1.4 Economic Benefits:

The Project will provide City with desalinated water at a predictable and reasonable price through the long-term Water Purchase Agreement, which sets agreed-upon water rates. (Appendix B to FEIR, Section 3.)

The Project will generate up to $2.4 million per year in increased property tax revenue. Because the Project site is located within the South Carlsbad Redevelopment Project, an estimated $2.0 million per year of the tax revenue will be allocated directly to the Redevelopment Agency. (Exhibit 2, page 7, of CMWD Agenda Bill 577, dated September 28, 2004, regarding adoption of Resolution 1226, approving the Water Purchase Agreement) The Project will also generate up to $2.9 million per year in increased business tax revenue.

8.2.1.5 Public Access and Coastal Act Consistency:

The Project will advance the goals of the South Carlsbad Coastal Redevelopment Plan and the California Coastal Act to develop new beach and coastal recreational opportunities. The Project is consistent with and includes elements specifically intended to advance the goals of the State of California and the City related to the protection, maintenance, and enhancement of the overall quality of the coastal zone environment, while maximizing public recreational opportunities along the coast. The Project will achieve the South Carlsbad Coastal Redevelopment Plan goals to enhance commercial and recreational functions and increase parking and open space amenities in the Project area.

The Project will dedicate several acres of ocean and lagoon front property to the public to enhance public recreation, open space, provide opportunities for the City to develop future public parking, and provide area for additional marine research and aquaculture. Further, a condition of approval will also enhance recreation through the dedication of an easement for the Coastal Rail Trail. The Project includes public dedication or deed restriction of ocean and lagoon front property including:

- **Fishing Beach** – An easement for this site, along the shore of Agua Hedionda Lagoon and next to Carlsbad Boulevard, would be dedicated for public recreational and coastal access use, including public parking.

- **Bluff Area** – The Bluff Area, located on the west side of Carlsbad Boulevard and opposite the Power Station, is proposed to be dedicated in fee title to the City for recreational and coastal access uses.

- **Hubbs Site** – The Hubbs Site, along the lagoon north shore, consists of the land between the existing Hubbs Seaworld Research Institute and the railroad tracks. The site is proposed to be deed restricted to uses such as a fish hatchery, aquatic research, and trails.
Findings of Fact

- South Power Plant Public Parking Area – An easement for this site, along the east side of Carlsbad Boulevard and near the south entrance to the power plant, would be dedicated for public parking.

These areas are currently being surveyed to determine precise acreages for each of the areas, as shown in the PDP.

8.2.1.6 Positive Economic Impact on Ability to Attract and Retain Business:

The Project will create a drought-resistant, reliable water supply for the City of Carlsbad that will provide the stability necessary to attract and retain high-tech and biotechnology businesses which are dependent on a reliable water supply for their research and manufacturing processes. These businesses provide high skill, high wage jobs in the City of Carlsbad that enhance the overall economy of the community.

The Project will provide an extraordinary benefit to the residents and businesses of the City by generating approximately $2.4 million per year in property tax revenue, 85% of which will remain in the City to support schools, municipal services, and the Redevelopment Agency (Exhibit 2, page 7, of CMWD Agenda Bill 577, dated September 28, 2004, regarding adoption of Resolution 1226, approving the Water Purchase Agreement). Among other things, this revenue can be used to support the proposed public improvements identified in Exhibit C of the Redevelopment Plan. Additionally, the Project will generate substantial tax revenues that will go to the general funds of Carlsbad and other San Diego County cities to support police, fire, health, welfare and transportation. Good public services help to attract high quality businesses.

The City finds that the foregoing benefits provided to the public through the approval and implementation of the Project outweigh the identified significant adverse environmental impacts of the Project that cannot be mitigated. The City finds that the Project benefits outweigh the unavoidable adverse environmental effects identified in the Final EIR and therefore finds those impacts to be acceptable.
EXHIBIT "EIR-B"

CITY OF CARLSBAD

RESOLUTION NO. __________

CALIFORNIA ENVIRONMENTAL QUALITY ACT
MITIGATION MONITORING AND REPORTING
PROGRAM

for the

FINAL ENVIRONMENTAL IMPACT REPORT
(EIR 03-05) (SCH No. 2004041081)

PRECISE DEVELOPMENT PLAN AND DESALINATION
PLANT PROJECT
EXHIBIT B: MITIGATION, MONITORING, AND REPORTING PROGRAM

The following environmental mitigation measures for this project were incorporated into the Conditions of Approval in order to mitigate identified environmental impacts to a level of insignificance. A completed and signed checklist for each measure indicates that this measure has been complied with and implemented, and fulfills the City’s monitoring requirements with respect to Assembly Bill 3180 (Public Resources Code Section 21081.6). The City recognizes that it does not have authority to mitigate impacts in other jurisdictions; other jurisdictions will be required to adopt the applicable mitigation measures herein and/or adopt other mitigation measures as necessary to mitigate identified environmental impacts to a level of insignificance.

**SUMMARY OF MITIGATION MEASURES**

<table>
<thead>
<tr>
<th>MITIGATION MEASURE</th>
<th>RESPONSIBLE MONITORING PARTY</th>
<th>TIMING OF COMPLIANCE</th>
<th>DATE OF &amp; SIGNATURE INDICATING COMPLIANCE</th>
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<tbody>
<tr>
<td><strong>Aesthetics</strong></td>
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<tr>
<td>AES-1: Replacement planting for trees that are removed along the railroad corridor shall be provided to screen views from the rail line towards the facility. Tree or other plant species, quantity, and size shall be in keeping with the adopted City of Carlsbad Scenic Corridor Guidelines, City Landscape Manual, and the vegetative character of the Agua Hedionda Lagoon to the extent that the species are compatible with existing vegetation. Planting shall be sufficient to provide screening when mature. Verification of the adequacy of the proposed plantings will occur through City review and approval of the project’s landscape plan. The project landscape plan shall also be sent to the North County Transit District for review and comment to ensure that replacement planting poses no potential rail hazards.</td>
<td>City of Carlsbad Planning Department; North County Transit District</td>
<td>Prior to issuance of grading or building permits, whichever occurs first</td>
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<tr>
<td>AES-2: Desalination Plan exterior mechanical equipment and facilities, including tanks, heating, air conditioning, refrigeration equipment, plumbing lines, duct work and transformers, shall be screened from view on all sides visible to the public. The design and material used for screening shall be architecturally compatible with the building.</td>
<td>Construction Contractor, City of Carlsbad Planning Department and Building Department</td>
<td>Prior to issuance of grading or building permits, whichever occurs first; prior to City approval of plant occupancy</td>
<td></td>
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<tr>
<td>AES-3: To the extent practical, the existing mature landscape on the slope facing Carlsbad Boulevard adjacent to the desalination plant site shall remain in place and be protected from construction impacts through the use of fencing and signage. Replacement planting for trees and shrubs that are removed along the</td>
<td>Construction Contractor, City of Carlsbad Planning Department</td>
<td>Prior to issuance of grading or building permits, whichever occurs first</td>
<td></td>
</tr>
<tr>
<td>MITIGATION MEASURE</td>
<td>RESPONSIBLE MONITORING PARTY</td>
<td>TIMING OF COMPLIANCE</td>
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<tr>
<td>slope facing Carlsbad Blvd. shall be provided to screen views from Carlsbad Blvd. towards the facility. Tree or other plant species, quantity, and size shall be in keeping with the adopted City of Carlsbad Scenic Corridor Guidelines, City Landscape Manual, the vegetative character of the Agua Hedionda Lagoon area and shall be sufficient to provide screening from the ground up when mature. Verification of the adequacy of the proposed plantings will occur through City review and approval of the project's landscape plan.</td>
<td>Construction Contractor, City of Carlsbad Planning Department</td>
<td>Prior to issuance of grading or building permits, whichever occurs first</td>
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<tr>
<td>AES-4: Construction staging areas within the FDP area shall be screened from public view or located in an area away from direct public view. Plans showing the staging area locations and screening shall be submitted to the City Planning Director or his/her designee for review and approval.</td>
<td>City of Carlsbad Planning Department</td>
<td>Prior to issuance of building permits; prior to City approval of plant occupancy</td>
<td></td>
</tr>
<tr>
<td>AES-5: Exterior lighting for the desalination facilities shall serve the purpose of operations, security and safety only. The applicant shall submit for approval a lighting plan for the proposed facilities prior to building permit issuance. The lighting plan shall demonstrate that project lighting is shielded from surrounding areas, and that only the minimum amount of lighting required for safety purposes is provided to avoid adverse effects on surrounding areas. In general, lighting fixtures shall be shielded downward and away from the adjacent Agua Hedionda Lagoon and adjacent properties. Construction of the desalination plant and related facilities and improvements shall be in conformance with the approved plan.</td>
<td>City of Carlsbad Planning Department</td>
<td>Prior to issuance of grading or building permits, whichever occurs first; prior to City approval of plant occupancy</td>
<td></td>
</tr>
<tr>
<td>AES-6 Building elevations, including those visible from the NCTD railroad, shall substantially conform to plans approved for the desalination plant pursuant to PDP 0002.</td>
<td>City of Carlsbad Planning Department, Construction Contractor</td>
<td>Prior to issuance of grading or building permits, whichever occurs first; prior to City approval of plant occupancy</td>
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</tbody>
</table>

**Biological Resources**

**BIO-1:** Proposed mitigation for temporary impacts to sensitive habitats shall be based on the ratios listed below in Table 4.3-9. With the exception of temporary impacts on habitats designated as Groups E and F by the HMP (i.e., disturbed lands, eucalyptus and agricultural lands) mitigation shall consist of, at a minimum, 1:1 revegetation of in-kind habitats at the location of impact, and, for Cities of Carlsbad, Oceanside, California Department of Fish and Game; United States Fish and Wildlife Service; and United States Army Corps of Engineers, as applicable | Prior to approval of improvement plans |  |
the portion of ratios greater than 1:1, off-site purchase or acquisition as described in mitigation measure 4.3-2. Temporary impacts on non-native habitats designated as Groups E and F by the HMP are expected to recover on their own and therefore are not included in revegetation efforts; however, impacts to these habitat groups are subject to payment of a fee pursuant to the Habitat Management Plan Mitigation Fee Program. Mitigation acreages for disturbed and undisturbed habitats have been added together. It should be noted that acreage figures are based on estimated “worst case” impacts. Actual impacts may be less and would be subject to the same mitigation ratios, but the mitigation acreages could change as a result.

<table>
<thead>
<tr>
<th>Habitat Type</th>
<th>Impacts (acres)</th>
<th>Mitigation Ratio</th>
<th>Mitigation (acres) @ ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In Coastal Zone</td>
<td>Outside Coastal Zone</td>
<td>Total</td>
</tr>
<tr>
<td>Coastal Sage Scrub</td>
<td>0.90</td>
<td>3.6</td>
<td>4.5</td>
</tr>
<tr>
<td>Coyote Bush Scrub</td>
<td>0.00</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Herbaceous Wetland</td>
<td>0.00</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>Open Channel</td>
<td>0.00</td>
<td>0.07</td>
<td>0.07</td>
</tr>
<tr>
<td>Southern Willow Scrub</td>
<td>0.00</td>
<td>0.44</td>
<td>0.44</td>
</tr>
<tr>
<td>Annual (non-native) grass/and</td>
<td>0.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture/disturbed/ ruderal</td>
<td>3.12</td>
<td>4.53</td>
<td>7.65</td>
</tr>
</tbody>
</table>

Sensitive vegetation communities shall be restored to the pre-existing vegetation type. Restoration of wetlands shall be described in a Conceptual Wetlands Mitigation and Monitoring Plan which shall, at a minimum, include discussion of impact assessment, recording of pre-construction site conditions, post-
These measures will reduce significant direct effects identified in Section 4.3-4 to a level less than significant.

**BIO-2:** Mitigation ratios identified in Mitigation Measure BIO-1, above, that require more than 1:1 mitigation (e.g., 2:1) shall satisfy the mitigation that is in addition to the 1:1 in one or both of the following ways and in a manner acceptable to local, state, and federal agencies:
- Through purchase of mitigation bank credits
- Through acquisition and preservation of suitable habitat in the vicinity of the project

**BIO-3:** Indirect impacts including dust, soil erosion, pollution, siltation, and runoff shall be reduced through implementation of construction best management practices (BMPs) and implementation of an approved SWPPP. At a minimum, implementation of these practices shall include the following.
- Placement of stockpiles of soils and materials such that they cause minimal interference with onsite drainage patterns.
- Hay bale barriers or gravel bags shall be placed along areas of exposed soil to help reduce sedimentation during grading operations.
- Placement of a silt curtain or other drainage control device around construction areas shall be required to protect natural drainage channels from sedimentation.
- Any dewatering that is needed shall be conducted in accordance with the standard regulations of the RWQCB. A permit to discharge water from dewatering activities will be required.
- Use of paved roadways or designated staging areas (existing developed areas) for all equipment and vehicle refueling and maintenance.
- Implementation of dust control measures such as watering.
- Temporary fencing of the limits of the construction area with clearly visible orange construction fencing.

<table>
<thead>
<tr>
<th>MITIGATION MEASURE</th>
<th>RESPONSIBLE MONITORING PARTY</th>
<th>TIMING OF COMPLIANCE</th>
<th>DATE OF &amp; SIGNATURE INDICATING COMPLIANCE</th>
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<tbody>
<tr>
<td>monitoring, and long-term preservation. Restoration of uplands shall be discussed in an Uplands Mitigation and Monitoring Plan which shall, at a minimum, include discussion of impact assessment, recording of pre-construction site conditions, post-construction site preparation, planting, irrigation, five-year maintenance and monitoring, and long-term preservation. These measures will reduce significant direct effects identified in Section 4.3-4 to a level less than significant.</td>
<td>Cities of Carlsbad and Oceanside; California Department of Fish and Game; United States Fish and Wildlife Service; and United States Army Corps of Engineers, as applicable</td>
<td>Prior to approval of improvement plans</td>
<td></td>
</tr>
</tbody>
</table>
### Mitigation Measure

- Temporary fencing of the Nuttall's scrub oak population located adjacent to the work area and northeast of the intersection of El Camino Real and Palomar Airport Road to avoid impacts.

In order to assure that these measures are adequately protecting adjacent biological resources, construction activity shall be monitored by a qualified biologist familiar with the sensitive flora and fauna of the area. Biological monitoring shall be of a frequency and duration necessary to reasonably assure that indirect impacts are minimized. This shall include implementation of a contractor education program, verification of proper construction and maintenance of staking/fencing, full-time monitoring of vegetation removal, periodic monitoring of construction activity adjacent to sensitive resource areas, and reporting of contractor compliance and impact minimization measures on a monthly basis. These measures shall ensure that indirect impacts on vegetation communities, including dust, erosion, sedimentation, pollution, siltation, and runoff are reduced to level below significant.

| BIO-4 | The potential for direct impacts on coastal California gnatcatcher individuals shall be mitigated by restricting the clearing of coastal sage scrub within the project alignment to outside of the gnatcatcher breeding season (August 16 through February 14). | Project Biologist; cities of Carlsbad and Oceanside, as applicable | Prior to approval of improvement plans; |
| BIO-5 | The potential short-term increase in noise related to construction shall be mitigated through avoidance of construction during the gnatcatcher breeding season or maintenance of noise levels below 60 dBA Leq at occupied nest locations if construction takes place during the breeding season (i.e., February 15 through August 15). The maintenance of appropriate noise levels shall be confirmed through protocol gnatcatcher surveys to determine presence of all gnatcatcher within 500 feet of project construction and noise measurements at nest locations during peak construction activity by a qualified acoustician. | Project Biologist; Project Acoustician; cities of Carlsbad, Oceanside, and Vista, as applicable | Prior to approval of improvement plans; during construction |
| BIO-6 | To avoid potential adverse effects from hydro-fracturing that could occur as a result of horizontal directional drilling or micro-tunneling, the applicant shall provide evidence to the local jurisdiction that demonstrates that the design of the drilling operation provides sufficient horizontal distance and depth from sensitive habitat areas. Information provided shall provide appropriate engineering calculations to demonstrate to the local jurisdiction's satisfaction that surface rupture will not occur within sensitive habitat areas. | Cities of Carlsbad, Oceanside, and Vista, as applicable | Prior to approval of improvement plans |
### MITIGATION MEASURE

**BIO-7:** The operator of the desalination plant shall continuously monitor the desalination plant and EPS discharge flow rates and salinity levels. The operator of the desalination plant shall on at least a semi-annual frequency monitor and conduct testing to measure and evaluate the combined EPS/desalination plant discharge for compliance with Ocean Plan acute and chronic toxicity requirements. The operator of the desalination plant shall maintain records of the monitoring results to ensure compliance with Ocean Plan criteria and EPA guidelines. All semi-annual monitoring and testing required by this mitigation measure shall be summarized in a report and submitted to the RWQCB within 45 days of completion, and any noncompliance with Ocean Plan acute and chronic toxicity requirements shall be reported to the RWQCB. Such monitoring results shall be available for inspection by the City of Carlsbad and the RWQCB. Should the RWQCB adopt a permit requirement that is intended to provide equal or greater protection to the marine environment, the Planning Director is authorized to amend this mitigation measure to conform to the RWQCB order.

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<tr>
<th>RESPONSIBLE MONITORING PARTY</th>
<th>TIMING OF COMPLIANCE</th>
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<tbody>
<tr>
<td>City of Carlsbad Engineering Department; Regional Water Quality Control Board (RWQCB); and Applicant</td>
<td>During operations throughout project life or as amended by RWQCB</td>
</tr>
</tbody>
</table>

### Cultural Resources

**CULT-1:** Where project construction will impact cultural resources that have been determined to be significant, mitigation shall include either avoidance, or if avoidance is not feasible, then a data recovery program shall be completed to recover a large enough sample of cultural material so that information of importance in addressing regional research questions will not be irretrievably lost. The data recovery program shall be developed by a qualified archaeologist and approved by the City of Carlsbad.

<table>
<thead>
<tr>
<th>RESPONSIBLE MONITORING PARTY</th>
<th>TIMING OF COMPLIANCE</th>
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<tbody>
<tr>
<td>City of Carlsbad; Project Archeologist</td>
<td>Prior to approval of improvement plans; during construction; within three months following the completion of archaeological monitoring</td>
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</table>

**CULT-2:** In cases where the precise alignment of the pipeline is not available, and therefore the potential to affect cultural resources cannot be specifically determined, the applicant shall be required to retain a qualified archaeological monitor during construction so that buried cultural resources can be identified in the field. The archaeological monitor shall meet the minimum qualifications as required by the City of Carlsbad. If significant resources are identified within the areas that could be affected by construction, the resources shall be tested (pursuant to the mitigation measure CULT-1, above) to determine significance with appropriate

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<tbody>
<tr>
<td>Cities of Carlsbad, Oceanside, and Vista; Project Archeologist; Project Construction Contractor or Manager</td>
<td>As applicable: Prior to approval of improvement plans; at preconstruction meeting; during construction; within three months following the completion of</td>
</tr>
</tbody>
</table>
mitigation measures employed as necessary.

**Monitoring Program Requirements**

The evaluation and monitoring program will be used for cultural resources within the project study area that are located within developed areas where surface evaluation is precluded and specific mitigation cannot be determined at this time. For these sites, a monitoring program is required if construction is to occur within or adjacent to the cultural resource site. Components of such a monitoring program would include, but not be limited to the following:

**Prior to Preconstruction (Precon) Meeting**

**Planning Department (PD) Plan Check:** Prior to the first Precon Meeting, the Planning Director of the appropriate jurisdiction or his/her designee shall verify that the requirements for Archaeological Monitoring and Native American monitoring, if applicable, have been noted on the appropriate construction documents.

**Submit Letter of Qualification to Planning Director:** Prior to the first Precon Meeting, the applicant shall provide a letter of verification to the Planning Director or his/her designee stating that a qualified Archaeologist has been retained to implement the monitoring program.

**Records Search Prior to Precon Meeting:** At least thirty days prior to the Precon Meeting the qualified Archaeologist shall verify that a records search has been completed and updated as necessary and be prepared to introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities. Verification includes but is not limited to, a copy of a confirmation letter from South Coast Information Center or, if search was in-house, a letter of verification from the Archaeologist stating the search was completed.

**Precon Meeting**

**Monitor Shall Attend Precon Meetings:** Prior to beginning any work that

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<tr>
<td>Monitoring Program Requirements</td>
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<td>archaeological monitoring</td>
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requires monitoring, the Applicant shall arrange a Precon Meeting that shall include the Archaeologist, Construction Manager and/or Grading Contractor and Planning Director or his/her designee. The qualified Archaeologist shall attend any grading related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.

**Identify Areas to be Monitored:** At the Precon Meeting, the Archaeologist shall submit to the Planning Director or his/her designee a copy of the site/grading plan (reduced to 11x17) that identifies areas to be monitored as well as areas that may require delineation of grading limits.

**During Construction**

*Monitor Shall be Present During Grading/Excavation:* The qualified Archaeologist shall be present full-time during grading/excavation native soils within or adjacent to a cultural site and shall document activity via the Consultant Monitor Record. This record shall be sent to the Planning Director or his/her designee, as appropriate, each month.

*Monitoring of Trenches Will Include Mainline, Laterals, and all Appurtenances:* Monitoring of trenches is required for the mainline, laterals, services and all other appurtenances that impact native soils within or adjacent to a cultural site one foot deeper than existing as detailed on the plans or in the contract documents identified by drawing number or plan file number. It is the Construction Manager's responsibility to keep the monitor(s) up-to-date with current plans.

*Discoveries:* In the event of a discovery, and when requested by the Archaeologist, or the Principal Investigator (PI) if the Monitor is not qualified as a PI, the Construction Manager (CM), as appropriate, shall be contacted and shall divert, direct or temporarily halt ground disturbing activities in the area of discovery to allow for preliminary evaluation of potentially significant archaeological resources. The PI shall also immediately notify the Planning Director or his/her designee of such findings at the time of discovery.
**MITIGATION MEASURE**

**Determination of Significance:** The significance of the discovered resources shall be determined by the PI. For significant archaeological resources, a Research Design and Data Recovery Program shall be prepared, approved by the City and carried out to mitigate impacts before ground-disturbing activities in the area of discovery will be allowed to resume.

**Minor Discovery Process for Pipeline Projects:** For all projects: The following is a summary of the criteria and procedures related to the evaluation of small cultural resource deposits during excavation for pipelines.

**Coordination and Notification:** Archaeological Monitor shall notify PI, CM and the Planning Director or his/her designee, as appropriate.

**Criteria Used to Determine if it is a Small Cultural Resource Deposit**

a. The deposit is limited in size both in length and depth; and,
b. The information value is limited and is not associated with any other resources; and,
c. There are no unique features/artifacts associated with the deposit.
d. A preliminary description and photographs, if available, shall be transmitted to the Planning Director or his/her designee.

The information will be forwarded to the Planning Department for consultation and verification that it is a small historic deposit.

**Procedures for documentation, curation and reporting:** The following constitutes adequate mitigation of a small historic deposit to reduce impacts due to excavation activities to below a level of significance.

a. 100% of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of sidewalls, recovered, photographed after cleaning and analyzed and curated.
b. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.
c. The Final Results Report shall include a requirement for monitoring of any future work in the vicinity.
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**Human Remains:** If human remains are discovered, work shall halt in that area and procedures set forth in the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) as follows:

a. Notification
   1. Archaeological Monitor shall notify the PI, CM and the Planning Director or his/her designee.
   2. The PI shall notify the County Coroner after consultation.

b. Stop work and isolate discovery site
   1. CM/ the Planning Director or his/her designee, as appropriate, shall stop work immediately and overlay adjacent human remains until a determination can be made by the County Coroner in consultation with the PI concerning the origin of the remains and the cause of death.
   2. The County Coroner, in consultation with the PI, shall determine the need for a field investigation to examine the remains and establish a cause of death.
   3. If a field investigation is not warranted, the PI, in consultation with the County Coroner, shall determine if the remains are of Native American origin.

c. If Human Remains are Native American
   1. The Coroner shall notify the Native American Historic Commission (NAHC). (By law, ONLY the Coroner can make this call.)
   2. NAHC will identify the person or persons it believes to be the Most Likely Descendent (MLD).
   3. The MLD may make recommendations to the landowner or PI responsible for the excavation work to determine the treatment, with appropriate dignity, of the human remains and any associated grave goods (PRC 5097.98).

d. If Human Remains are not Native American
   1. The PI shall contact the NAHC and notify them of the historical context of the burial.
   2. NAHC will identify the person or persons it believes to be the MLD.
   3. The MLD may make recommendations to the landowner or PI responsible for the excavation work to determine the treatment.
of the human remains (PRC 5097.98).

(4) If the remains are of historic origin, they shall be appropriately removed and conveyed to the Museum of Man for analysis. The decision for reinterment of the human remains shall be made in consultation with the Planning Director or his/her designee, the landowner, the NAHC and the Museum of Man.

e. Disposition of Human Remains
The landowner, or his/her authorized representative, shall reinter the Native American human remains and any associated grave goods, with appropriate dignity, on the property in a location not subject to further subsurface disturbance, IF:

(1) The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 24 hours after being notified by the NAHC; OR;

(2) The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner.

**Notification of Completion:** The Archaeologist shall notify the Planning Director or his/her designee, in writing of the end date of monitoring.

**Post Construction**

**Handling and Curation of Artifacts and Letter of Acceptance**

a. The Archaeologist shall be responsible for ensuring that all cultural remains collected are cleaned, catalogued, and permanently curated with an appropriate institution; that a letter of acceptance from the curation institution has been submitted to the Planning Development; that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.

b. Curation of artifacts associated with the survey, testing and/or data recovery for this project shall be completed in consultation with the Planning Director or his/her designee and the Native American representative, as applicable.
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<td><strong>Final Results Reports (Monitoring and Research Design and Data Recovery Program)</strong></td>
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<td>a. Within three months following the completion of monitoring, two copies of the Final Results Report (even if negative) and/or evaluation report, if applicable, which describes the results, analysis, and conclusions of the Archaeological Monitoring Program (with appropriate graphics) shall be submitted to the Planning Director or his/her designee for approval.</td>
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<tr>
<td>b. For significant archaeological resources encountered during monitoring, the Research Design and Data Recovery Program shall be included as part of the Final Results Report.</td>
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<td><strong>Recording Sites with State of California Department of Park and Recreation.</strong></td>
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<td>The Archaeologist shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Results Report.</td>
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<td><strong>CULT-3:</strong> A qualified paleontological monitor shall be present at a pre-grading meeting with the construction contractor and environmental review coordinator. The purpose of the meeting would be to consult and coordinate the role of the paleontologist during construction. The paleontological monitor shall have adequate knowledge and experience with fossilized remains likely to be present to identify them in the field. The paleontological monitor shall be adequately experienced to remove paleontological resources for further study.</td>
<td>City of Carlsbad, Project Paleontologist</td>
<td>Preconstruction meeting</td>
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<td><strong>CULT-4:</strong> The paleontological monitor shall be present during the applicable stages of grading and construction (including trenching) as determined at the pre-grading meeting. The paleontological monitor shall have the authority to temporarily direct, divert, or halt grading in the area of an exposed fossil to facilitate evaluation and, if necessary, salvage. At the discretion of the monitor, recovery may include washing and picking of soil samples for microvertebrate bone and teeth. The contractor shall be aware of the random nature of fossil occurrences and the possibility of a discovery of such scientific and/or educational importance which might warrant a long-term salvage operation or preservation. All fossils collected shall be donated to a museum with a systematic paleontological collection, such as the San Diego Natural History Museum. The City of Carlsbad Engineering Division shall ensure the grading contractor is aware of this provision. Conflicts</td>
<td>City of Carlsbad Engineering Department and Planning Department; Project Paleontologist; Project Construction Contractor</td>
<td>Preconstruction meeting; during construction</td>
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MITIGATION MEASURE

regarding the role and authority of the monitor shall be resolved by the Planning Director or his/her designee.

| CULT-5: | A paleontological monitoring report shall be submitted to the City of Carlsbad. The report shall describe the materials recovered by the monitoring program. | City of Carlsbad Planning Department, Project Paleontologist | Three months following termination of paleontological monitoring program |

**Geology and Soils**

| GEO-1: | To provide a uniform bearing for the proposed facility, the fill/residual soils beneath the desalination facility site shall be removed and recompacted. As an alternative, all the building footings may be deepened through the compacted fill soils and be founded into the formational materials of the Santiago Formation, in accordance with the recommendations contained in the geotechnical report (GeoLogic Associates 2004). | City of Carlsbad Building Department and Engineering Department, | Prior to issuance of grading or building permits, whichever occurs first |

| GEO-2: | A pre-construction geotechnical investigation shall be prepared to address geotechnical considerations related to constructing and operating all of the offsite project components including water delivery pipelines, the pump station, and surge control facilities. The report shall contain all necessary requirements to address any adverse soils conditions that may be encountered in final design of the facilities. The project will be required to adhere to all such requirements. The report shall include a discussion of site-specific geology, soils and foundational issues, a seismic hazards analysis to determine the potential for strong ground acceleration and ground shaking, potential groundwater issues, and structural design recommendations. The soil engineer and engineering geologist shall review the grading plans prior to finalization to verify the plans' compliance with the recommendations of the report. A third party review of the geotechnical report and final grading plans shall be conducted by the Engineering Department of the appropriate local jurisdiction (e.g., the City of Carlsbad) prior to issuance of grading permits and encroachment permits. Compliance with this measure shall be verified by the local jurisdiction. | Cities of Carlsbad, Oceanside, and Vista, as applicable | Prior to approval of improvement plans |

**Hazards and Hazardous Materials**
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<th>MITIGATION MEASURE</th>
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<tr>
<td>HAZ-1: To mitigate the potential for exposure of existing contamination during construction of offsite pipelines, construction monitoring will be provided in areas identified as having the potential for such risks, and appropriate actions, as determined by the City's construction inspector shall be taken if such materials are encountered. Such actions may include avoidance or removal of contaminated materials, or special handling measures to avoid exposure to materials.</td>
<td>Cities of Carlsbad, Oceanside, and Vista; County of San Diego Dept. of Public Health and Construction Contractor</td>
<td>Prior to approval of improvement plans; during construction</td>
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<td>HAZ-2: In accordance with all applicable federal, state and local regulations, plant personnel shall regularly inspect all hazardous materials handling facilities for compliance with applicable regulations and shall ensure that any deficiencies are promptly repaired. In addition, the facility shall be subject to regular inspections by the County Department of Public Health and City's Fire Department, which will ensure compliance with appropriate regulatory requirements for hazardous materials and regulated substances handling.</td>
<td>County of San Diego Dept. of Public Health; City of Carlsbad; Applicant</td>
<td>During operations throughout project life</td>
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<td>HAZ-3: All hazardous materials shall be handled stored, transported and disposed in accordance with all applicable federal, state and local codes and regulations. Specific requirements of the California Fire Code that reduce the risk of fire or the potential for a release of hazardous materials that could affect public health or environment include:</td>
<td>County of San Diego Dept. of Public Health; City of Carlsbad; Applicant</td>
<td>Prior to issuance of grading or building permits, whichever occurs first; during operations throughout project life</td>
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<td>• Provision of an automatic sprinkler system for indoor hazardous material storage areas;</td>
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<td>• Provision of an exhaust system for indoor hazardous material storage areas;</td>
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<td>• Separation of incompatible materials by isolating them from each other with noncombustible partition.</td>
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<td>• Location of incompatible materials as far away from each other as practical.</td>
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<td>• Spill control in all storage, handling and dispensing areas;</td>
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<td>• Separate secondary containment for each liquid chemical storage system. The secondary containment shall be designed to hold 110% of the entire contents of the tank. Adequate storage shall be provided inside the RO building to hold water for the fire suppression system that could be used for fire protection for a period of 20 minutes in the event of a catastrophic spill. The secondary containment of the chemical storage tanks located outside the RO building shall have extra storage capacity to hold precipitation from a 25-</td>
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Precise Development Plan and Desalination Plant Project MMRP
January 2006
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<th>MITIGATION MEASURE</th>
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<th>DATE OF &amp; SIGNATURE INDICATING COMPLIANCE</th>
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<td>year, 24-hour event:</td>
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<td>• Use of chlorine in liquid form (sodium hypochlorite) to mitigate concerns associated with accidental toxic gas plume releases and potential odor emissions from the chlorine storage facility;</td>
<td>County of San Diego Dept. of Public Health; City of Carlsbad</td>
<td>Prior to issuance of grading or building permits, whichever first occurs; during operations throughout project life</td>
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<tr>
<td>• Use of aqua ammonia of concentration below the regulatory threshold limit of 20 % and amount below the regulatory threshold of 20,000 gallons to mitigate concerns associated with accidental release of significant toxic ammonia gas plume releases.</td>
<td>County of San Diego Dept. of Public Health; City of Carlsbad</td>
<td>During operations throughout project life</td>
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<tr>
<td>• All liquid chemical storage tanks shall be equipped with a pressure relief valve, vapor equalization, a carbon filter vent, and vacuum breaker. Any potential vapor fume releases from the storage tanks shall be absorbed by the carbon filter vent, thereby providing an effective odor control for volatile chemicals, such as ammonia and chlorine.</td>
<td>County of San Diego Dept. of Public Health; City of Carlsbad</td>
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<td>HAZ-4: Each of the liquid chemicals used on site shall be stored in a tank with a concrete secondary containment surrounding the tank. The containment area shall have a sloped floor, which shall direct the liquid to a drain centered below the tank. This drain shall lead to a covered sump. Each of the chemical storage tanks shall be equipped with continuous level monitors, automated leak detection system, temperature and pressure monitors and alarms, and excess flow and emergency block valves. All storage tanks shall be constructed of appropriate, non-reactive materials, compatible with the recommendations of the supplier of the hazardous material.</td>
<td>County of San Diego Dept. of Public Health; City of Carlsbad</td>
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<td>HAZ-5: In the event of an accidental liquid chemical spill, the chemical shall be contained within the concrete containment structure and evacuated through an individual drainage system, and pumped into hazardous waste containment trucks and transported off-site for disposal at an appropriate facility accepting such waste. This operation shall be completed by a specialized contractor licensed in hazardous waste handling and disposal. Appropriate agencies, such as the City of Carlsbad Fire and Police Departments, shall also be contacted if necessary.</td>
<td>County of San Diego Dept. of Public Health; City of Carlsbad; Applicant</td>
<td>During operations throughout project life</td>
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<td>HAZ-6: The chemical conveyance piping system connecting chemicals from their storage areas to their points of application shall be protected from leaks utilizing one of the following leak protection measures:</td>
<td>County of San Diego Dept. of Public Health; City of Carlsbad</td>
<td>Prior to issuance of grading or building permits, whichever</td>
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### Mitigation Measure

- Use of piping with double containment walls to prevent potential chemical leaks from reaching the soil or groundwater; and
- Installation of chemical conveyance and feed pipelines in designated plastic or concrete trenches that will contain potential leaks and drain the leaking chemical(s) to a designated containment sump or tank, from where the chemical(s) will be evacuated and disposed of in compliance with all applicable federal, state, and local codes.

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<tr>
<td>HAZ -7:</td>
<td>County of San Diego Dept. of Public Health; City of Carlsbad; Applicant</td>
<td>During operations throughout project life</td>
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### Hydrology and Water Quality

**HYDRO-1:** Prior to issuance of a grading permit, building permit or demolition permit, whichever occurs first, the project applicant shall demonstrate compliance with all applicable regulations established by the United States Environmental Protection Agency (USEPA) as set forth in the National Pollutant Discharge Elimination System (NPDES) permit requirements for urban runoff and storm water discharge and any regulations adopted by the city within which construction will take place, pursuant to the NPDES regulations or requirements of that city (Carlsbad, Oceanside and Vista). Further, the applicant shall file a Notice of Intent (NOI) with the State Water Resources Control Board to obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activity and shall implement a Storm Water Pollution Prevention Plan (SWPPP) concurrent with the commencement of grading activities. The SWPPP shall include both construction and post-construction pollution prevention and pollution control measures and shall identify funding mechanisms for post-construction control measures. The SWPPP shall also be sent to the North County Transit District, Construction Contractor.

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<th>Hydrology and Water Quality</th>
<th>RESPONSIBLE MONITORING PARTY</th>
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<tr>
<td>HYDRO-1</td>
<td>Cities of Carlsbad, Oceanside, and Vista; Regional Water Quality Control Board; North County Transit District, Construction Contractor</td>
<td>Prior to issuance of a grading permit, building permit or demolition permit, whichever occurs first, during construction</td>
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The following best management practices shall be adhered to during construction:

- Gravel bags, silt fences, etc. shall be placed along the edge of all work areas as determined appropriate by the City's construction inspector in order to contain particulates prior to contact with receiving waters.
- All concrete washing and spoils dumping will occur in a designated location.
- Construction stockpiles will be covered in order to prevent blow-off or runoff during weather events.
- A pollution control education plan shall be developed by the General Contractor and implemented throughout all phases of development and construction.
- Severe weather event erosion control materials and devices shall be stored onsite for use as needed.

Other best management practices as determined necessary by the cities.

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<th>Mitigation Measure</th>
<th>Responsible Monitoring Party</th>
<th>Timing of Compliance</th>
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<tr>
<td>HYDRO-2: Prior to issuance of grading or building permits, whichever occurs first, the applicant shall submit for City approval a Storm Water Management Plan (SWMP). The SWMP shall demonstrate compliance with the City of Carlsbad Standard Urban Storm water Mitigation Plan (SUSMP), Order 2001-01, issued by the San Diego Region of the California Regional Water Quality Control Board and City of Carlsbad Municipal Code.</td>
<td>City of Carlsbad City Engineer</td>
<td>Prior to issuance of grading or building permits, whichever occurs first</td>
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<tr>
<td>HYDRO-3: Construction within any area the City of Carlsbad identifies as a 100-year flood hazard shall occur only during dry months (May 1 – September 30). The City may waive this restriction if the applicant satisfactorily demonstrates, as determined by the City, that construction would not impede or redirect flood flows and would not expose people or structures to flooding. Such demonstration shall occur before the City issues grading or other permits to permit construction in the flood hazard area in the wet months and may require the applicant to submit plans and details regarding the type, location, quantities and duration of construction equipment and materials as well as any other information that the City may require.</td>
<td>City of Carlsbad City Engineer</td>
<td>Prior to issuance of grading or other permits or approval of improvement plans for the applicable pipeline, whichever occurs first</td>
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**Land Use and Planning**

<p>| Land Use 1: The applicant shall coordinate with and receive approval from the McClellan-Palomar Airport Operations Manager before constructing within the Airport. | City of Carlsbad Planning Department and Public Works | Prior to approval of improvement plans |</p>
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<td>Influence Area and particularly within any Flight Activity Zone and Runway Protection Zone or on airport property.</td>
<td>Department, Applicant</td>
<td>for applicable pipeline</td>
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<td><strong>Traffic and Circulation</strong></td>
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<tr>
<td><strong>TRAFFIC-1:</strong> Prior to issuance of grading permits and/or encroachment permits for work within public rights-of-way, the Applicant shall provide the ultimate location of soil disposal sites to the appropriate city (if they are different from the disposal site identified in this analysis), and shall further demonstrate that transport of soil and materials to and from the proposed sites will not result in Levels of Service during peak hour periods on affected roadways and intersections falling below acceptable standards established by the affected cities.</td>
<td>Cities of Carlsbad, Oceanside, and Vista,</td>
<td>Prior to issuance of a right of way permit or approval of improvement plans, whichever occurs first</td>
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<tr>
<td><strong>TRAFFIC-2:</strong> Prior to improvement plan approval, a traffic control plan will be prepared for approval by each jurisdiction within which the project is proposed to be located. The traffic control plan will show all signage, striping, delineate detours, flagging operations and any other devices which will be used during construction to guide motorists safely through the construction zone and allow for adequate access and circulation, to the satisfaction of the city or agency with applicable jurisdiction. The traffic control plan will also include provisions for coordinating with local emergency service providers regarding construction times and locations of lane closures as well as specifications for bicycle lane safety. The Applicant’s construction contractors will coordinate traffic diversions, street and lane closures, and obstruction of intersections with each jurisdiction’s engineering department prior to commencing construction activities through the development of routing and detour plans. This Traffic Control Plan will be prepared in accordance with each jurisdiction’s traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties and businesses, and that emergency access will not be restricted. Additionally, the Plan will ensure that congestion and delay of traffic resulting from project construction are not substantially increased and will be of a short-term nature. The limits of construction work area(s) and suggested alternate traffic routes for through traffic will be published in a local newspaper periodically throughout the construction period. In addition, the Applicant’s construction contractor shall provide not less than a 2-week written notice prior to the start of construction by</td>
<td>Cities of Carlsbad, Oceanside, and Vista, Construction Contractor</td>
<td>Prior to issuance of a right of way permit or approval of improvement plans, whichever occurs first; during construction</td>
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mailing to owners/occupants along streets to be impacted during construction.

During construction, the Applicant's contractor will ensure that continuous, unobstructed, safe and adequate pedestrian and vehicular access to and from public facilities such as schools, parks, post offices and fire stations. If normal access to these facilities is blocked by construction for more than four hours in any given workday, alternative access will be provided. The Applicant's contractor will coordinate with each facility's administrators in preparing a plan for alternative access.

During construction, the Applicant's contractor will ensure that continuous, unobstructed, safe and adequate pedestrian and vehicular access remains to commercial/industrial establishments during regular business hours. If normal access to business establishments is blocked by construction for more than four hours in any given workday, alternative access will be provided. The Applicant's contractor, and possibly the city, will coordinate with the businesses in preparing a plan for alternative access.

During construction, the Applicant's contractor will maintain continuous vehicular and pedestrian access to residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. For example, when the pipeline is initially being excavated, access to individual driveways may be closed during the course of a workday. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, the Applicant's construction contractor shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure.

Methods to maintain safe, vehicular and pedestrian access includes the installation of temporary bridge or steel plates to cross over unfiled excavations. Whenever sidewalks or roadways are removed for construction, the Applicant's contractor will place temporary sidewalks or roadways promptly after backfilling until the final restoration has been made.

The traffic control plan will include provisions to ensure that the Applicant's construction contractor's work in any public street does not interfere unnecessarily
with the work of other agencies such as emergency service providers, mail delivery, school busses and waste services.

<table>
<thead>
<tr>
<th>MITIGATION MEASURE</th>
<th>RESPONSIBLE MONITORING PARTY</th>
<th>TIMING OF COMPLIANCE</th>
<th>DATE OF &amp; SIGNATURE INDICATING COMPLIANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Services and Utilities</strong></td>
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<tr>
<td><strong>PS-1:</strong></td>
<td>City of Carlsbad City Engineer; Applicant</td>
<td>During operations throughout project life</td>
<td></td>
</tr>
</tbody>
</table>

The combined waste discharge from the desalination facility to the EWPCF shall not exceed an instantaneous maximum of 300 gpm and a daily maximum of 200,000 gpd. The combined total suspended solids discharged to the EWPCF shall not exceed 500 pounds per day. Should the project operations cause the monthly average TDS of the effluent at the local water recycling facilities to exceed 1,000 mg/L, or contribute to the monthly average TDS at the local water recycling facilities exceeding 1,000 mg/L, the Applicant shall take steps to reduce the TDS increase or reimburse the operators of local water recycling plants for its proportional share of the cost to reduce the increase in TDS resulting from project operations. In addition, the applicant shall provide the City a minimum 2 years worth of data that establishes a baseline water quality and TDS levels of the effluent at the local water recycling facilities prior to commencement of project operations. Upon commencement of operations, the applicant shall establish a monitoring program which regularly reports the TDS contribution of the desalination plant. The City shall determine monitoring program parameters, including the frequency of monitoring and duration of the program.