SECTION 5 ENVIRONMENTAL ANALYSIS

5.0 Introduction

This section presents potential environmental impacts of the proposed project. The scope of the analysis and key attributes of the analytical approach are presented below to assist readers in understanding the manner in which the impact analyses have been conducted in this EIR.

5.0.1 Scope of the Environmental Impact Analysis

Based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the *Integrated Water Plan Program Environmental Impact Report* (IWP Program EIR)(City, 2005a), and the Notice of Preparation/Initial Study and related scoping process described in **Section 2, Introduction,** this EIR addresses the following environmental resource topics in detail:

Subsection #	Subsection Title
5.1	Hydrology and Water Quality
5.2	Marine Biological Resources
5.3	Terrestrial Biological Resources
5.4	Land Use, Planning, and Recreation
5.5	Air Quality and Climate
5.6	Noise and Vibration
5.7	Geology and Soils
5.8	Cultural Resources
5.9	Utilities and Service Systems
5.10	Aesthetics
5.11	Hazards and Hazardous Materials
5.12	Traffic and Transportation

For each resource topic, the EIR describes the existing environmental setting and regulatory framework, evaluates potential project impacts, and recommends mitigation measures that could reduce or avoid potentially significant impact(s).

The Notice of Preparation/Initial Study determined that no impacts to Agriculture and Forestry Resources, Mineral Resources, and Public Services would occur as a result of the development of the proposed project. Accordingly, these topics are not further evaluated in this EIR; please refer to **Section 9, Other CEQA Considerations and Environmental Effects** and **Appendix A, Scoping Report City of Santa Cruz and Soquel Creek Water District (scwd²) Regional Seawater Desalination Project,** for a discussion regarding these topics.

5.0.2 Definition of Baseline or Existing Conditions

The Existing Conditions subsections present the existing environmental setting of the region and study area in relation to each of the resource topics. According to CEQA Guidelines Section 15125 (Environmental Setting), an EIR must include a description of the existing physical environmental conditions in the vicinity of the project, to provide the "baseline physical conditions" against which project-related changes can be compared. Based on the CEQA Guidelines, the baseline condition is normally the physical condition that exists when the Notice of Preparation is published. The Notice of Preparation for the proposed project was published on November 15, 2010, establishing the baseline for this EIR as 2010. Throughout this EIR, 2010 data is used for the description of the environmental setting to the extent available. Where such information is not available, data is used that is representative of baseline conditions.

5.0.3 Definition of Project Area and Study Area

The project area consists of: (1) locations for the seawater intake structure, intake pipeline, pump station, and transfer piping alternatives; (2) the seawater desalination plant alternative locations; (3) the brine disposal and conveyance system locations; (4) the potable water distribution system improvement locations; and (5) potential energy project locations. These locations were previously described in **Section 4, Project Description,** and are further described throughout this section.

The extent of any additional study area beyond the project area itself varies among resource topics, depending on the extent of the area in which impacts could be expected. For example, for traffic impacts, the study area includes not just the project area, but also roadways and intersections in the City of Santa Cruz, County of Santa Cruz, and City of Capitola that might experience traffic from project construction; whereas cultural resource impacts are assessed only for the project area and immediate vicinity, which are the only areas in which cultural resources could be affected by the proposed project. A study area for each environmental topic is defined beyond the project area, as necessary and warranted, in the various subsections of this section.

5.0.4 Impact Determinations

As required by CEQA, an EIR must identify and evaluate the significance of impacts caused by a proposed project. Evaluation of the significance of an impact involves a variety of factors, such as the applicable standards of significance, the use of standard analytical methodologies and modeling approaches, an assessment of the extent and characteristics of the project effect, consistency with conclusions reached for similar projects, and principles derived from CEQA case law. The standards of significance, analytical methodologies, and other aspects of the analyses are described in detail in each section. The impact significance determinations listed below were used in this analysis. The abbreviations shown are included in the impact summary contained in each subsection of this section and in **Section 1, Executive Summary**.

Significant (SU) – This category applies to those impacts that have been determined to be significant or potentially significant and cannot be mitigated to less than significant. This determination is made when there is no mitigation available, or the available feasible mitigation measures would not reduce the impact to less than significant. A statement of overriding considerations must be made by the City and the District for any project approval that will involve significant impacts that cannot be mitigated to less than significant.

Less than significant with mitigation (LTSM) – This category applies to those impacts that may be significant or potentially significant, but can be reduced to less than significant through either project modifications or feasible mitigation measures.

Less than significant (LS) – This category applies to effects of the project on the environment that could be adverse but are not significant or potentially significant, and therefore do not require mitigation.

No impact (NI) – This category refers to effects of the project on the environment that are not considered adverse.

Beneficial Impacts (B) – CEQA does not require that beneficial impacts of a proposed project be identified and evaluated. However, such effects are identified in this document if they address one or more of the identified project objectives, as identified in **Section 4, Project Description**.

5.0.5 Numbering Systems

Each of the environmental resource topics is evaluated in the numbered subsections shown above. The standards of significance and the impacts and mitigation measures in each subsection are also numbered. An example of the number system for each resource topic is provided below:

Numbering System for **Section 5.2, Marine Biological Resources**:

- Standards of Significance –The standards of significance are numbered 2a, 2b, 2c, 2c, etc.
- Environmental Impacts – The impacts are numbered Impact 5.2-1, Impact 5.2-2, Impact 5.2-3, etc.
- Mitigation Measures – The mitigation measures are numbered based on which impact they address. For example, mitigation measures for Impact 5.2-1 are numbered Mitigation Measure 5.2-1a, Mitigation Measure 5.2-1b, Mitigation Measure 5.2-1c, etc.

5.0.6 Cumulative Impacts

In addition to the potential for direct and indirect impacts associated with the proposed project, the project may contribute to broader cumulative impacts, when considered together with other development that may cause related impacts. **Section 7, Cumulative Impacts,** analyzes these potential effects.