Chapter 3
Environmental Impact Analysis

Introduction

Organized by environmental resource area, this chapter provides an integrated discussion of the regulatory setting, environmental setting, and impact analyses (including mitigation measures for potentially significant impacts) associated with the construction, operation, and maintenance of the Proposed Project and the Atwater Station Alternative.

This analysis is based on the environmental footprints for the Proposed Project and for the Atwater Station Alternative (Appendix B, *ACE Ceres–Merced Extension Environmental Footprint*), 15 percent preliminary engineering plans (Appendix C, *ACE Ceres–Merced Extension 15% Preliminary Engineering Plans*), and the conceptual service plan and projected ridership (Appendix D, *ACE Ceres–Merced Extension Ridership, Revenue, and Benefits Report*). The analysis presented in this section uses a "reasonable worst-case" (i.e., the greatest level of impact) approach to analyzing potential impacts. The environmental footprints that have been identified for the Proposed Project and for the Atwater Station Alternative represent the greatest level of impact that could occur. In certain areas, the environmental footprints may be reduced in the future; however, because it is not known where the environmental footprints could be reduced, this analysis considers the reasonable worst-case scenario.

Chapter Organization

This chapter is organized into the following environmental resource sections.

- 3.1, *Aesthetics*
- 3.2, *Agricultural Resources*
- 3.3, *Air Quality*
- 3.4, *Biological Resources*
- 3.5, *Cultural Resources and Tribal Cultural Resources*
- 3.6, *Energy*
- 3.7, *Geology and Soils*
- 3.8, *Greenhouse Gas Emissions*
- 3.9, *Hazardous Materials*
- 3.10, *Hydrology and Water Quality*
- 3.11, *Land Use and Planning*
- 3.12, *Noise and Vibration*
- 3.13, *Population and Housing*

- 3.14, *Public Services*
- 3.15, *Recreation*
- 3.16, *Safety and Security*
- 3.17, *Transportation*
- 3.18, *Utilities and Service Systems*

Each environmental resource section in this chapter includes the following information.

- **Introduction**—Presents an overview of the environmental resource and cross-references related issues addressed elsewhere in the environmental impact report (EIR).
- **Regulatory Setting**—Identifies the federal, state, regional, and local laws, as well as regulations, ordinances, and policies that are relevant to each environmental resource area and would be applicable to the construction, operation, and maintenance of the Proposed Project and the Atwater Station Alternative. Appendix G, *Regional Plans and Local General Plans*, provides a list of applicable goals, policies, and objectives from regional and local plans of the jurisdictions in which the Proposed Project and the Atwater Station Alternative would be located.
- **Environmental Setting**—Provides an overview of the existing physical considerations of an environmental resource in the area at the time of, or prior to, the publication of the Notice of Preparation, which could be affected by implementation of the Proposed Project and the Atwater Station Alternative. A specific study area is identified for each environmental resource as the extent of a study area varies with each resource. The *study area* is defined as the limits of an area in which impacts could be expected to occur for each environmental resource. The environmental setting provides the basis of analysis of potential impacts related to each resource.
- **Impact Analysis**—Describes the methodology used for the analysis, the criteria used to determine the significance of potential impacts, and corresponding discussion of impacts associated with the Proposed Project and the Atwater Station Alternative. For each potential impact, the analysis makes a significance determination (i.e., no impact, less than significant, potentially significant, less than significant with mitigation, or significant and unavoidable). If required to reduce a potentially significant impact, feasible mitigation measures are identified. The *Approach to Impact Analysis* section describes the contents of the impact analysis discussion in further detail.

A discussion how the Proposed Project or the Atwater Station Alternative contribute to cumulative impacts is discussed separately in Chapter 4, *Other CEQA-Required Analysis*.

Approach to Impact Analysis

Significance Criteria

The significance criteria used in this EIR to define the level at which an impact would be considered significant in accordance with the California Environmental Quality Act (CEQA) are presented under the subheading *Thresholds of Significance* in each environmental resource section. In accordance with Section 15022(a) of the CEQA Guidelines, the San Joaquin Regional Rail Commission uses

significance criteria based on CEQA Guidelines Appendix G; factual or scientific information and data; and regulatory standards of federal, state, regional, and local jurisdictions in which Proposed Project facilities are proposed.

Impact Identification and Levels of Significance

Each environmental resource section identifies, and lists impacts sequentially. For example, CUL-1 denotes the presentation of the first impact in the cultural resources section. An impact statement precedes the discussion of each impact and provides a summary of the impact topic.

The level of significance associated with an impact is determined by comparing the environmental effects of constructing, operating, and maintaining the Proposed Project or the Atwater Station Alternative, with the existing environmental conditions, and applying the identified significance threshold. This EIR uses a variety of terms to describe the levels of significance of impacts identified within the environmental analysis. Each impact is categorized as one of the following.

- **No impact**—The Proposed Project or the Atwater Station Alternative would not cause any adverse change in the environment.
- **Less-than-significant impact**—The Proposed Project or the Atwater Station Alternative would not cause a substantial adverse change in the environment as the specified standard of significance would not be exceeded; thus, no mitigation measures are required. An impact is considered *beneficial* if it would result in the improvement of an existing physical condition of the environment. Beneficial impacts are identified within this *less-than-significant impact* significance category.
- **Potentially significant impact**—The Proposed Project or the Atwater Station Alternative would cause a substantial adverse change in the physical conditions of the environment in excess of the specified standard. This is typically the level of significance of an impact prior to the application of feasible mitigation measures.
- **Less than significant impact with mitigation**—The Proposed Project or the Atwater Station Alternative would cause a substantial adverse change in the physical conditions of the environment in excess of the specified standard of significance; however, one or more feasible mitigation measures would reduce environmental effects to levels below the specified standard of significance.
- **Significant and unavoidable impact**—The Proposed Project or the Atwater Station Alternative would cause a substantial adverse change in the physical condition of the environment; there is no feasible mitigation available or, even with implementation of feasible mitigation measures, the Proposed Project or the Atwater Station Alternative would cause a significant adverse effect on the environment in excess of the specified standard of significance.

Mitigation Measures

CEQA Guidelines Section 15126.4(a) (1) states that an EIR "shall describe feasible measures which could minimize significant adverse impacts." Mitigation measures identified in this EIR were developed during the analysis and are designed to reduce, minimize, or avoid potential environmental impacts associated with the Proposed Project and the Atwater Station Alternative. The mitigation measures are numbered to correspond to the impacts they address. For example, Mitigation Measure CUL-2.1 refers to the first mitigation measure for Impact CUL-2 in the cultural

resources section. The description of the mitigation measure identifies which specific facility (e.g., proposed alignment, proposed or alternative station, layover & maintenance facility) to which the measure would apply.

The *ACE Extension Lathrop to Ceres/Merced EIR* (Prior EIR) identified mitigation measures that would apply to the Proposed Project and the Atwater Station Alternative. This EIR incorporates the mitigation measures from the Prior EIR and makes updates to the mitigation measures, as needed.

Topics Considered but Dismissed from Further Analysis

Although forestry resources are identified in Appendix G of the CEQA Guidelines, this EIR does not include this topic because there would be no impact.

Forestry Resources

The Proposed Project would not be located in or intersect forest lands within identified timberland production zones (TPZ), which are lands dedicated to timber growing for a 10-year period. There are no TPZs identified in the vicinity of the Proposed Project throughout the two counties (Stanislaus, and Merced) where facilities are proposed (Ballard pers. comm.; Maxey pers. comm). In addition, the Proposed Project is generally located within or adjacent to the existing Union Pacific Railroad right-of-way where forestry resources would not likely occur. Thus, there would be no impact on forestry resources.

Likewise, the Atwater Station Alternative would not be located in or intersect forest lands within an identified TPZ. As such, implementation of the Atwater Station Alternative would result in no impact on forestry resources.