

CHAPTER 14

UTILITIES

14.1 AFFECTED ENVIRONMENT

14.1.1 Introduction/Region of Influence

The utility infrastructure systems discussed in this section include stormwater, potable (drinking) water, wastewater, natural gas, electricity, telephone, and solid waste. The ROI for this resource is the project area, including East Cliff Drive and other areas that would be disturbed during the projects and the utility customers served by the infrastructure within the ROI. The ROI for solid waste is the area served by the Buena Vista Landfill.

14.1.2 Regulatory Considerations

The California Integrated Waste Management Act (Cal. Pub. Res. Code § 40000 et seq.) requires municipalities to divert 25 percent of their solid waste from landfills by 1995 and 50 percent by 2000.

14.1.3 Existing Utility Infrastructure

All infrastructure described is underground unless otherwise noted.

Stormwater

The stormwater infrastructure in the project area includes storm drains, pipelines, and stormwater outfalls. Between 32nd Avenue and 41st Avenue, there are 28 storm drains along East Cliff Drive. Nineteen of these drains are on the landside of the drive, while nine are on the oceanside. These drains are connected to the outfalls by pipelines of various sizes and materials, including corrugated metal pipe, ranging from six inches to 18 inches (15 to 46 centimeters) in diameter, reinforced concrete pipe, ranging from 12 inches to 18 inches (30 to 46 centimeters) in diameter, and a 21-inch- (53-centimeter-) diameter pipe of unknown material. The depth to stormwater infrastructure is not known. The following nine stormwater outfalls are present along the East Cliff Drive bluff between 32nd Avenue and 41st Avenue:

- Eighteen-inch corrugated metal pipe at the 33rd Avenue crib wall;
- Eighteen-inch reinforced concrete pipe at 34th Avenue;

- Outfall of unknown diameter and material at the 35th Avenue crib wall;
- Outfall of unknown diameter and material near the stairway and restroom between 35th Avenue and 36th Avenue;
- Eighteen-inch reinforced concrete pipe at 35th Avenue;
- Fifteen-inch (38-centimeter) corrugated metal pipe at Manzanita Avenue;
- Six-inch corrugated metal pipe at Manzanita Avenue;
- Twelve-inch corrugated metal pipe at 38th Avenue; and
- Outfall of unknown diameter and material at 41st Avenue.

Some of the nine outfalls between 35th and 41st avenues would be combined or abandoned, where feasible, in association with parkway improvements (see Table 2-4).

Wastewater

Two wastewater pipelines run down the middle of East Cliff Drive from between 32nd Avenue and 35th Avenue. A single pipeline runs from 35th Avenue to 41st Avenue. The pipeline from 32nd Avenue to 41st Avenue consists of eight-inch diameter clay pipe, while the second pipeline between 32nd Avenue and 35th Avenue is a 10-inch- (25-centimeter-) diameter pipe of unknown material. The depth to the wastewater pipelines from the ground surface ranges from approximately five feet to nine feet (1.5 to 3 meters).

Potable (Drinking) Water

The potable water infrastructure includes a four-inch (10-centimeter) pipeline that runs along the landside of East Cliff Drive from 32nd Avenue to 33rd Avenue, where it terminates in a connection with a two-inch (5-centimeter) pipeline down the avenue. Potable water infrastructure resumes at 34th Avenue, where a six-inch asbestos concrete pipeline crosses East Cliff Drive and continues along the oceanside of the drive to 37th Avenue, where it again crosses the drive. This six-inch pipeline continues along East Cliff Drive to a point east of Larch Lane, where it connects to a two-inch pipeline that heads farther landward, where it travels parallel to the drive beneath the public parking lot. The depth to the potable water pipelines is not known.

Natural Gas

There is natural gas infrastructure only within limited segments of East Cliff Drive. A natural gas pipeline is along the landside of East Cliff Drive, from 33rd Avenue to 35th Avenue. Another pipeline extends from 36th Avenue across East Cliff Drive to a private home. At the eastern end of the project area, a pipeline is along the landside of East Cliff Drive, from Larch Lane to 41st Avenue, where it crosses the avenue and continues north. The depth to the natural gas pipelines is not known.

Electricity and Telephone

Overhead electrical and telephone lines are along East Cliff Drive on utility poles.

Solid Waste

Solid waste generated in Santa Cruz County is transported to the Buena Vista Landfill in Watsonville. The 62-acre (25-hectare) landfill is totally used for solid waste disposal (Matthews 2006). The landfill has adequate capacity to provide service to 2021. The peak maximum daily capacity of the landfill in 2006 will be 844 tons (766 metric tons) of solid waste, based on an allowed two percent increase in capacity each year. The landfill currently receives an average daily amount of 400 (363 metric tons) tons of solid waste (Matthews 2006).

14.2 ENVIRONMENTAL CONSEQUENCES**Impact Methodology**

Potential impacts from the projects described in Chapter 2 were assessed by analyzing the components of each project against known locations of utility infrastructure. Because the projects would not generate new demand for utilities and would not increase infrastructure capacity, no analysis of that capacity has been included. The alternatives were evaluated against the baseline conditions presented in Section 14.1.3. This section relies on the erosion and slope stability impact analysis presented in Chapter 6, Geologic Resources. The effects of each alternative on the stability of the bluff beneath East Cliff Drive were used to evaluate the effects of continued erosion on the infrastructure present above and below East Cliff Drive. Although they would be similar, the erosion-related environmental effects occurring under the alternatives discussed below would occur sooner under those alternatives that are less effective in preventing or reducing erosion. As discussed in Chapter 2, the effectiveness against erosion decreases from Alternative 1 to Alternative 4, with the No Action Alternative being the least effective.

Thresholds of Significance

In this analysis, an alternative is considered to have a significant impact on utilities if it would:

- Disrupt utility service by damaging or requiring relocation of utility infrastructure;
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Exceed the designated landfill's permitted capacity to accommodate the solid waste generated from the projects in addition to the existing solid waste stream; or
- Violate federal, state, or local statutes and regulations related to solid waste.

14.2.1 Full Bluff Armoring (Alternative 1)

Under this alternative, the bluff below East Cliff Drive would be stabilized using soil nail structure construction methods. The abandoned restroom at the 35th Avenue stairway would be demolished and the potable water and sanitary sewer lines for the restroom would be capped at the mains beneath East Cliff Drive. A replacement restroom and outdoor shower would be constructed at Pleasure Point Park. Some of the stormwater outfalls would be replaced under this alternative.

Significant Impacts

Impact 14.1 Disruption of Utility Service - Construction

Drilling into the face of the bluff to construct the protection structures could disturb underground utility pipelines, disrupting service for those served by the water, wastewater, and natural gas infrastructure. Potential damage to the stormwater infrastructure would not disrupt service but would affect the integrity of the stormwater collection system.

Mitigation 14.1

Santa Cruz County Department of Public Works shall minimize the potential for encountering utility infrastructure by coordinating with local utility service providers prior to beginning the projects. These providers shall be consulted to determine both the horizontal and vertical locations of all underground infrastructure within the corridor of the projects. Design of the structures and the drilling locations shall be planned to avoid the infrastructure. By avoiding damaging infrastructure and disrupting utility service, implementing this measure would reduce impacts to a less than significant level.

Nonsignificant Impacts

Stormwater Facilities

Under Alternative 1, some of the stormwater outfalls along East Cliff Drive would be replaced with new outfall pipes, in coordination with the bluff stabilization and road improvement activities. While the bicycle and pedestrian paths would increase the amount of impervious surface along the drive, the new infrastructure would be designed to accommodate any increased stormwater flows. Other than the stormwater improvements described in Chapter 2, no other stormwater facilities would be required as a result of implementing this alternative; therefore, the impacts would be less than significant.

Water Supply and Wastewater Treatment

Alternative 1 would not have significant impacts on water supply or wastewater treatment because the only new facilities requiring these services would be the new restroom and outdoor shower at Pleasure Point Park, which would require a level of water and wastewater service comparable to the historic requirements of the abandoned restroom. This would result in a minimal, if any, net increase in the demand for these services, which would not require new or expanded water supply or wastewater treatment facilities. In addition, wastewater infrastructure from the restroom would be connected to the regional collection infrastructure, which would continue to meet wastewater treatment requirements of the Regional Water Quality Control Board.

Solid Waste

Solid waste generated under Alternative 1 would include rock riprap and concrete rubble removed from the beach and the base of the bluff, excavation material generated from drilling into the bluff to build the protection structures, and general construction waste. All of the riprap removed from the project area would be reused within the county and would not be transported to the Buena Vista Landfill. Approximately 6,000 cubic yards (4,587 cubic meters) of concrete rubble could be removed from the project area, which equates to an average of approximately

100 tons of material per day for approximately 30 days. This material would be transported to the landfill, where it would be ground up and reused. Approximately 1,800 cubic yards (1,376 cubic meters) of excavation material would be transported from the area and disposed of at the landfill or other approved location. This equates to approximately 30 tons (27 metric tons) of material per day for approximately 30 days. Because this alternative involves only limited facilities construction, the amount of solid waste generated by that activity would be minimal. Daily generation by Alternative 1 of up to 130 tons (118 metric tons) of solid waste, when added to the current 400 tons (363 metric tons) received daily by the Buena Vista Landfill, would not exceed its peak maximum daily capacity of 844 tons (766 metric tons). Before the County Redevelopment Agency begins work on this alternative, it would coordinate material disposal with landfill staff.

The solid waste generated under this alternative would need to be accommodated within the county's effort to divert 50 percent of solid waste from landfills, as required by the California Integrated Waste Management Act, Cal. Pub. Res. Code § 40000 et seq. As detailed above, the majority of solid waste generated by this alternative would be diverted from disposal at the Buena Vista landfill. The county could further increase its diversion by requiring construction contractors to submit solid waste management plans detailing the types of waste to be generated, material handling procedures, and the methods of disposal.

Beneficial Impacts

Replacing some of the stormwater outfalls may improve the functioning of the stormwater collection system and water quality.

14.2.2 Partial Bluff Armoring with Full Improvements (Alternative 2)

Potential construction-related impacts on utilities under Alternative 2 would be similar to those under Alternative 1. The projects that could affect utilities are the same as those described for Alternative 1, except that construction of the bluff protection structures would be completed only partially up the bluff face, with the bluff top remaining unprotected.

Significant Impacts

Impact 14.2 Disruption of Utility Service - Construction

The significant disruption of utility service and proposed mitigation for this alternative would be similar to those described under Alternative 1. In areas where the bluff protection structure would not extend to the top of the bluff, drilling to install the structure would not likely disturb underground infrastructure.

Mitigation 14.2

Mitigation shall be the same as that described for Alternative 1. Implementing that mitigation would reduce this potential significant impact to a less than significant level.

Impact 14.3 Disruption of Utility Service - Erosion

Under this alternative, the foundation of East Cliff Drive may be undermined due to future continued bluff top erosion, which could damage utility infrastructure beneath the road. Continued erosion also could affect the overhead utility lines by destabilizing the utility poles.

This damage to the utility infrastructure could disrupt service for those served by that infrastructure.

Mitigation 14.3

To minimize impacts associated with the disruption of utility service under this alternative, the County of Santa Cruz shall install replacement infrastructure outside the affected area prior to damage or loss of infrastructure along East Cliff Drive. Implementing this mitigation measure would reduce this potential significant impact to a less than significant level.

Nonsignificant Impacts

Stormwater Facilities

The nonsignificant stormwater facilities impacts under this alternative would be the same as those described under Alternative 1.

Water Supply and Wastewater Treatment

The nonsignificant water supply and wastewater treatment impacts under this alternative would be the same as those described under Alternative 1.

Solid Waste

The nonsignificant solid waste impacts under this alternative would be the same as those described under Alternative 1. Because of reduced drilling for bluff stabilization, this alternative may generate a lesser amount of excavation material for disposal than under Alternative 1.

Beneficial Impacts

Replacing some of the stormwater outfalls could improve the functioning of the stormwater collection system.

14.2.3 Partial Bluff Armoring with Limited Improvements (Alternative 3)

Potential impacts on utilities under Alternative 3 would be similar to those under Alternative 2. The activities that could affect utilities are the same as those described for Alternative 2, except that construction of the bluff protection structures would protect only the Purisima Formation at the base of the bluff.

Significant Impacts

Impact 14.4 Disruption of Utility Service – Erosion

The significant disruption of utility service under this alternative would be the same as those described under Alternative 2.

Mitigation 14.4

Mitigation under this alternative shall be the same as that proposed under Alternative 2. Implementing this mitigation measure would reduce this potential significant impact to a less than significant level.

Nonsignificant Impacts

Disruption of Utility Service - Construction

There would be no potential for utility service disruption from drilling into the face of the bluff under this alternative because drilling would occur at a depth greater than that of the underground utility infrastructure.

Stormwater Facilities

The nonsignificant stormwater facilities impacts under this alternative would be the same as those described under Alternative 1.

Water Supply and Wastewater Treatment

The nonsignificant water supply and wastewater treatment impacts under this alternative would be the same as those described under Alternative 1.

Solid Waste

The nonsignificant solid waste impacts under this alternative would be the same as those described under Alternative 2. Because of reduced drilling for bluff stabilization, this alternative may generate a lesser amount of excavation material than under Alternative 2.

Beneficial Impacts

Replacing some of the stormwater outfalls could improve the functioning of the stormwater collection system.

14.2.4 Groins and Notch Infilling (Alternative 4)

Potential impacts on utilities under Alternative 4 would be similar to those under Alternative 3. The activities that could affect utilities are the same as those described for Alternative 3, except that no bluff protection structures would be constructed.

Significant Impacts

Impact 14.5 Disruption of Utility Service - Erosion

The significant disruption of utility service under this alternative would be the same as those described under Alternative 2.

Mitigation 14.5

Mitigation under this alternative shall be the same as that proposed under Alternative 2. Implementing this mitigation measure would reduce this potential significant impact to a less than significant level.

Nonsignificant Impacts

Disruption of Utility Service - Construction

The nonsignificant disruption of utility service impacts under this alternative would be the same as those described under Alternative 3.

Stormwater Facilities

The nonsignificant stormwater facilities impacts under this alternative would be the same as those described under Alternative 1.

Water Supply and Wastewater Treatment

The nonsignificant water supply and wastewater treatment impacts under this alternative would be the same as those described under Alternative 1.

Solid Waste

The nonsignificant solid waste impacts under this alternative would be the similar to those described under Alternative 2. The excavation and reduced drilling for groin construction may generate a lesser amount of excavation material than under Alternative 2.

Beneficial Impacts

Replacing some of the stormwater outfalls could improve the functioning of the stormwater collection system.

14.2.5 No Action Alternative

Disruption of Utility Service from Erosion

No disruption of utility service is expected under the No Action Alternative. However, the foundation of East Cliff Drive could be undermined in the future due to continued bluff erosion, which could damage utility infrastructure beneath the road. Continued erosion also could affect the overhead utility lines by destabilizing the utility poles. This damage to the utility infrastructure could disrupt service for those served by that infrastructure.