

## 4.10 UTILITIES AND SERVICE SYSTEMS

This section describes the potential impacts from the proposed Siena Hill project on wastewater and storm water systems. Analysis of water and solid waste services was conducted during the Initial Study on the project. Since the project was found to have less-than-significant impacts on these services, water and solid waste services are not addressed any further in this EIR. The Initial Study on the project is attached as Appendix A of this EIR. The hydraulic calculations referenced in this chapter are included as Appendix G.

### *A. Existing Setting*

#### **1. Regulatory Setting**

Existing regulations in California, such as Senate Bill 610, require detailed assessment of available water service for proposed projects of over 500 units. The proposed project falls below this threshold, and is therefore not subject to these regulations.

#### **2. Existing Conditions**

This section describes the current conditions of and current demands on existing wastewater and storm water systems in Oakland.

##### **a. Wastewater Service**

The City of Oakland owns, operates and maintains the local sanitary sewer collection system through the Public Works Agency. Oakland's sewer collection system includes over 1,000 miles of pipe ranging from 6 to 72 inches in diameter. The majority of the pipes are over 65 years old.

The East Bay Municipal Utility District (EBMUD) provides wastewater treatment service to the City of Oakland, including the proposed project site. Wastewater from the project site would be transported via City of Oakland pipes to EBMUD's Special District No. 1 treatment facility (SD-1) in Oakland. The SD-1 facility is EBMUD's main wastewater treatment plant. It has the capacity to provide primary treatment for up to 320 million gallons per day (MGD) on a consistent basis, and to treat peak flows of up to 415 MGD.

The plant has the capacity to provide secondary treatment for up to 168 MGD. The current average dry weather flow at the plant is approximately 65 MGD, and average wet weather flow is 83 MGD.<sup>1</sup> Higher wet-weather flows are treated at the SD-1 plant as well as at four additional wet-weather treatment plants. The total combined wet weather capacity is 775 MGD.

In 1999, EBMUD completed its 13-year Wet Weather Program to address problems with inflow and infiltration (I/I) into existing sewer lines and wastewater treatment facilities. Inflow is the flow of stormwater directly into the sewer system, and infiltration is the flow of stormwater through the soil and through the permeable walls of deteriorated sewer pipes. I/I causes the amount of water in the wastewater treatment system to increase dramatically and can lead to overflows of untreated wastewater. The Wet Weather Program dramatically increased the wet-weather capacity of the SD-1 treatment plant from 290 MGD to 775 MGD. In addition to these efforts, the City of Oakland has undertaken a 25-year effort to maintain and improve its existing network of sewer pipes to further reduce I/I impacts on the wastewater facilities of the City and EBMUD.

The proposed project site is in Sub-basin 85-502, which is scheduled for rehabilitation by the City in approximately 2008 to 2009. The site is served by an 8-inch pipe under Keller Avenue, which extends from the end of Rilea Way to a connection with the 8-inch pipe under Greenridge Avenue.

b. Storm Drainage

The City of Oakland owns, operates and maintains the system of storm water pipes, inlets and manholes serving the City. In addition, the Alameda County Flood Control and Water Conservation District (ACFCD) owns and operates a system of pipelines, drainage channels, erosion control devices and pumping stations to manage the storm water collected in the City. In general, the ACFCD is responsible for design of new storm drain systems, and

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<sup>1</sup> Dave Freitas, EBMUD Wastewater Shift Operator, personal communication, September 16, 2004.

the City is responsible for maintenance of existing pipes and other facilities. Alameda County is also responsible for preparing and administering county-wide storm water protection programs.

The City of Oakland is a member of the Alameda County Clean Water Program (ACCWP), a group of agencies that discharge storm water into the San Francisco Bay. The ACCWP is responsible for obtaining an NPDES permit approved by the RWQCB.

Existing storm water infrastructure in the proposed project site includes curbs and gutters along Keller Avenue, which carry runoff north-northwest to two drop inlets, one along Keller Avenue and the other along Greenridge Drive. These drop inlets connect to an existing 18-inch pipe under Keller Avenue, which ties in to a 21-inch pipe at the intersection of Keller Avenue and Greenridge Drive. As shown in Table 6 in Chapter 4.6, Hydrology, the existing pipe capacity of the Keller Avenue inlet is estimated to be 11.40 cubic feet per second (cfs) and existing peak discharge flows into the inlet during a 10-year event are estimated to be 8.90 cfs. The capacity of the Greenridge Drive inlet is estimated to be 30.80 cfs and existing peak discharge flows into the inlet during a 10-year event are estimated to be 11.30 cfs.

The project site is located in the watershed of Arroyo Viejo Creek. The Arroyo Viejo watershed has its headwaters in the foothills of East Oakland, east of I-580. Arroyo Viejo generally travels west, draining urban development west of I-580. The creek discharges to San Leandro Bay at the northern boundary of the Oakland Coliseum. The lowermost reaches of the creek are tidally influenced.

### *B. Standards of Significance*

The project would have a significant impact on the environment if it would:

- ◆ Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board;

- ◆ Require or result in construction of new storm water drainage facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
- ◆ Exceed water supplies available to serve the project from existing entitlements and resources, and require or result in construction of water facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
- ◆ Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new wastewater treatment facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
- ◆ Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs and require or result in construction of landfill facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
- ◆ Violate applicable federal, state, and local statutes and regulations related to solid waste;
- ◆ Violate applicable federal, state and local statutes and regulations relating to energy standards; or
- ◆ Result in a determination by the energy provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects.

### *C. Impacts and Mitigation Measures*

As discussed in the Introduction of this chapter, analysis of water and solid waste services was conducted during the Initial Study on the project, and the project was found to have less-than-significant impacts on these services. They are not discussed further in this EIR. Impacts to wastewater and storm water are discussed below.

#### **1. Wastewater**

**Impact UTIL-1: The proposed project would generate increased wastewater, which would require conveyance by and treatment at existing facilities. (Less Than Significant)**

The proposed project would be expected to generate about 9,600 gallons per day of wastewater,<sup>2</sup> which is a very small amount relative to available wet and dry weather treatment capacity. As described above, current capacity at the EBMUD SD-1 treatment plant is more than adequate to serve the project site, no additional wastewater pipes or wastewater treatment facilities would need to be constructed as a result of the proposed project.

A new sewer line extension from the existing sanitary sewer system to the project site would be needed to serve the proposed project. This extension would connect to an 8-inch pipe under Keller Avenue running from the end of Rilea Way to the intersection of Keller Avenue and Greenridge Drive. The existing sewer line currently serves only the residences on Rilea Way, and the City of Oakland Sanitary Sewer Maintenance Department has no record of any complaints from homes along this line.<sup>3</sup> This pipe is currently serving approximately 25 homes, and would serve an additional 32 homes for the proposed project, for a total of 57 homes. Since a typical 8-inch pipe would be expected to serve over 100 homes, and since there are no known existing

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<sup>2</sup> Memo from A.C.K. Engineering to applicant, September 4, 2003.

<sup>3</sup> Memo from Lorraine Purcell, City of Oakland Public Works Agency, March 15, 2004.

problems along the existing pipe, it is expected that the existing sanitary sewer line would have sufficient capacity to serve the proposed project. Therefore, impacts to sanitary sewer service would be less than significant.

**Mitigation:** None required.

## 2. Storm Water

**Impact UTIL-2:** Existing inlets at Keller Avenue and Greenridge Drive may not have adequate capacity to accommodate runoff from the proposed project site from a 100-year storm event. This could create localized flooding in the area immediately surrounding the existing inlets. (Potentially Significant)

**Impact UTIL-3:** The existing pipe capacity in subbasin 1 would be inadequate to convey flows from the 100-year storm event under both existing and proposed conditions. (Significant)

Figure 18 in Chapter 4.6 shows the drainage patterns from the proposed development on the project site. The proposed project would result in an increase in impervious surface area across the project site and lead to a reduction in the amount of ground surface which would otherwise be available for absorption and infiltration of rainfall. Consequently, the volume and rate of storm water runoff would increase. If downstream drainage infrastructure is undersized, increased runoff volume and peak discharge rates could potentially create downstream drainage problems.

According to the City of Oakland Public Works Agency, there are no existing drainage problems in the vicinity of the project site.<sup>4</sup> The Alameda County Flood Control District (ACFCD) has also indicated that there are no drainage or flooding problems along Arroyo Viejo Creek, which is approxi-

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<sup>4</sup> Telephone conversation with Dale Smith, City of Oakland Public Works Agency. December 18, 2002.

mately 1.5 miles downstream of the project site.<sup>5</sup> However, as shown in Table 6 in Chapter 4.6, Hydrology, hydraulic calculations completed for the proposed project concluded that the pipe capacity in subbasin 1 would be inadequate to convey flows from the 100-year storm event under both existing and proposed conditions. This would be a significant impact.

**Mitigation Measure UTIL-2:** The proposed project shall provide additional drop inlets along the new Siena Drive.

**Mitigation Measure UTIL-3:** Potential impacts to subbasin 1 would be mitigated to a less-than-significant level by the implementation of Mitigation Measure HYDRO-3.

As described in Chapter 4.6, the proposed project would be required to demonstrate to the City Public Works Agency that on-site drainage facilities will have adequate capacity to accommodate the 10-year storm event, and will withstand a 100-year storm event without failure, as required by the ACFCD. Preliminary calculations based on a conceptual drainage plan indicate that the capacity of the storm drain pipes under Keller Avenue, which would serve the proposed project, are adequate to handle the storm water runoff from the proposed project. However, as stated in Mitigation Measure HYDRO-3, the applicant would be required to demonstrate to the satisfaction of the City's Public Works Agency that storm water runoff from the project will be contained by the on-site drainage system, and will not exceed existing subbasin or conveyance system capacity.

**Significance After Mitigation:** Less than Significant.

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<sup>5</sup> Messages left by Anderson Allen, Alameda County Flood Control District, December 18 and 20, 2002.

