

H. Utilities and Services Systems

Introduction

This section describes existing public utilities on and in the vicinity of the Gateway Community Development project and evaluates the impact of the proposed project on the provision of public utilities and possible adverse physical impacts to the environment that could result from constructing new or expanded facilities. Topics analyzed in this section include public water supply, sanitary sewer (wastewater), stormwater drainage facilities, solid waste, and gas and electricity services. This section focuses on the effect the proposed project would have on the ability of the City of Oakland and other service providers to effectively deliver these services and utilities and identifies potential impacts.

Setting

Water Service

The East Bay Municipal Utility District (EBMUD), a publicly owned utility, supplies water and provides wastewater treatment to parts of Alameda and Contra Costa counties, including the city of Oakland. EBMUD supplies water to approximately 1.3 million people within its estimated 325-square-mile service area, and the city of Oakland comprises slightly less than one-third of EBMUD's customers.

Water Supply System

The EBMUD water supply system consists of a network of reservoirs, aqueducts, treatment plants, and distribution facilities. This network extends from its principal water source, the Mokelumne River Basin in the Sierra Nevada mountain range, to water treatment plants or to reservoirs¹ within its service area, and ultimately to residences and businesses in the East Bay. On average, 95 percent of the water delivered by EBMUD comes from the Mokelumne River watershed, with the remaining five percent originating as runoff within the service area. EBMUD has water rights and facilities to divert up to a maximum of 325 million gallons of water per day (mgd), subject to the availability of Mokelumne River runoff and prior water rights of other users. Also, untreated water from local and Sierra reservoirs is transported to one of EBMUD's six water treatment plants, which can filter and process more than 375 mgd. The Orinda Water Treatment Plant, which serves the city of Oakland and several surrounding communities, has the largest output, with a maximum capacity up 200 mgd, and in early April 2005 had a seven day average production of 111 mgd (EBMUD, 2005).

Water Demand

In early April 2005, EBMUD experienced an average demand of 195.3 mgd (EBMUD Daily Water Supply Report, 2005). During non-drought years, EBMUD customers demand an annual

¹ EBMUD's East Bay service area includes five reservoirs: Briones, Chabot, Lafayette, San Pablo, and Upper San Leandro.

average of about 220 mgd of water. By 2020, EBMUD estimates that water demand will increase to approximately 277 mgd in its service area, although, with successful implementation of water recycling and conservation programs, this demand could be reduced to about 229 mgd (EBMUD Urban Water Management Plan 2005).

As discussed in EBMUD's Urban Water Management Plan 2000, EBMUD adopted a long-term Water Supply Management Program (WSMP) in 1993. The WSMP serves as a planning guide for the reliable provision of quality water to the EBMUD service area through 2020. The WSMP analysis indicates that during a severe drought,² the current water supply is not sufficient to meet customer demand. An estimated supplemental supply need of 87 mgd of additional water supply (representing a 42 percent deficiency) would be needed to limit the deficiency to 25 percent. To limit the water supply deficiency to 25 percent by 2020, a supplemental supply of 154 mgd (representing a 67 percent deficiency) would be needed. EBMUD anticipates that customer demand will continue to exceed supply during severe drought conditions until a supplemental water supply project is implemented and a dependable supply is guaranteed for existing and future needs.

To meet 2020 projected water needs and address deficient supply during severe droughts, EBMUD is working to identify supplemental water supplies, recycled water programs, and continued implementation of water conservation measures.

Water Supply Projects

In September 1995 (two years after adopting its long-term Water Supply Management Program), EBMUD authorized a Water Supply Action Plan to identify supplemental water supplies during multiple-year droughts by pursuing several water supply components concurrently. As a result, on December 8, 2000, the U.S. Bureau of Reclamation, EBMUD, and Sacramento parties mutually agreed to develop a joint water supply from the Sacramento River. Components of this action include a diversion one-mile north of the city of Freeport, pumping facilities, treatment facilities, and transmission pipes. A federal Record of Decision was issued in 2004, and the engineering design work is expected to be complete by the spring of 2006. Construction is expected to be complete by 2009. Once completed, the Freeport Project will provide 165,000 acre-feet of water during a three year drought. This would equate to 49 mgd to incorporate with other water supplies available and distribute to the EBMUD service area (Rehnstrom, 2005).

Other resource options identified in the 1995 Water Supply Action Plan (and its 1996 revision) for meeting future water needs include the Bayside Groundwater Project, which involves storing excess water in a deep underground aquifer beneath the cities of San Lorenzo/San Leandro to increase the available supply of water in the event of a drought. Environmental review for the project has been completed and the project is anticipated to begin operation in 2008, following Board approval and a one-year construction period. A joint effort by the Bay Area's four largest water agencies, EBMUD, the San Francisco Public Utilities Commission, the Contra Costa Water District and the Santa Clara Valley Water District to explore regional desalination facilities to

² Defined by EBMUD as the third consecutive year in a series of multiple dry years.

meet future water needs is also underway, and a detailed feasibility and environmental study is anticipated to be completed by December 2006.

Recycled Water

The goals of using recycled water are to supplement the existing potable water supply and assist in meeting future water demands. Water for recycling is drawn from water reservoirs containing untreated water, and from wastewater treatment plants. EBMUD's 1996 Nonpotable Water Policy No. 73 mandates that all customers use recycled water for non-domestic purposes when such water is of adequate quality and quantity, available at reasonable cost, not detrimental to public health and not injurious to plant life, fish, and wildlife. EBMUD currently supplies more than 8 mgd of recycled water and other nonpotable water for irrigation, industrial processes and equipment wash-down. The WSMP established goals of delivering an additional 8 mgd of recycled water by 2020, for a total of 5.8 billion gallons a year.

In January 2002, the City of Oakland adopted a recycled water ordinance that requires new developments within the city to use recycled water provided by EBMUD for common area irrigation, if recycled water is available to the development area. This requires installation of a separate non-potable water distribution system on-site.

Water Conservation

EBMUD has adopted water conservation programs to address both water supply and demand. Demand-side water conservation programs are intended to reduce overall consumption of the water supply. The 1994 Water Conservation Master Plan identifies the use of free water audits, rebates, and other incentives, regulations, education, and support activities to reduce water consumption. These programs are designed to achieve annual water savings of 16 mgd by 2020. With an additional 17 mgd expected to result from "natural replacement,"³ the total water conservation savings in 2020 is anticipated to be 33 mgd. EBMUD's supply-side conservation measures are directed toward increasing water use efficiency before or after customer use, and include improvements within EBMUD's distribution system (i.e., leak detection, pipe replacement, and corrosion control) and water recycling programs.

Sanitary Sewer Service

In addition to providing water supply, EBMUD provides sanitary sewer treatment services to approximately 640,000 people within an 83-square-mile area of Alameda and Contra Costa counties, including the city of Oakland. The city of Oakland and about eight other communities⁴ comprise the EBMUD Special District No. 1 sanitary sewer treatment service area.

³ Natural replacement is the installation of conservation hardware such as toilets, showerheads, and faucets without participation in an EBMUD program.

⁴ EBMUD's main wastewater treatment plant treats municipal wastewater from the cities of Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont, El Cerrito, Kensington, and part of Richmond.

Wastewater Collection and Treatment

EBMUD's main wastewater treatment plant is located southwest of the Interstate 580/Interstate 80 (I-580/I-80) interchange in Oakland, south of the San Francisco/Oakland Bay Bridge. Wastewater is collected by 29 miles of interceptor lines that move wastewater from about 1,400 miles of sewers owned and operated by the jurisdictions served. As of 20005, EBMUD's wastewater treatment plant had an average dry weather capacity of 168 mgd, and an average dry weather flow of approximately 77 mgd (45 percent capacity). During wet weather, the treatment plant accepts more flow⁵; the plant has a sustainable primary treatment capacity of 320 mgd, and a maximum secondary treatment capacity of 168 mgd.⁶

The City of Oakland owns, operates, and maintains a local sanitary sewer collection system covering approximately 48 square miles, approximately 1,000 miles of pipe, and seven pump stations. The city's sewer collection system is divided into basins and subbasins. Each numbered subbasin encompasses a specific physical area, and its sewer flows are assigned to a single discharge point from the City's collection system into the EBMUD's interceptor lines. City sewer pipes range from 6 to 72 inches in diameter, with most lines pre-dating 1938 and with some parts of the system over 100 years old. Most of the system is gravity-fed, and about five pump stations service the entire area. Some areas of Oakland, such as former military bases, cemeteries, large parks, and some hillside areas, are not part of the sewer service system. Over 90 percent of the sewer customers are residential users.

Sanitary sewer facilities that would serve the proposed project site include an existing 12-inch main that flows west along 29th Avenue to a 66-inch interceptor located on East 7th Street, west of I-880, and a sewer main of unknown size that flows along East 12th Street to 22nd Avenue where it connects to a 78-inch interceptor. (Korve, 2007)

Inflow/Infiltration Correction Program

A continuing issue with respect to sanitary sewer collection has been inflow and infiltration of stormwater into the EBMUD and Oakland sewer lines, resulting in high flow levels and overflow of untreated wastewater during wet weather events. Most of the stormwater enters sewer systems by infiltration (stormwater that passes through the soil and into deteriorated sewer pipes). Inflow originates from stormwater inlets and manholes that connect to the sanitary sewer system rather than the stormwater system. In 1986, with EBMUD as the lead agency, the Wet Weather Program was initiated to improve treatment capacity for wet weather flows and reduce the amount of inflow and infiltration throughout the EBMUD collection system. The cities of Alameda, Albany, Berkeley, Emeryville, Kensington, Oakland, Piedmont and portions of El Cerrito and Richmond participate in EBMUD's Wet Weather Program. The program has resulted in four new wet weather treatment facilities, two storage basins, 7.5 miles of new interceptors, and expansion of the main wastewater treatment plant. These new facilities accommodate an increase in peak wet weather treatment capacity from 290 mgd to 775 mgd. The City's long-range sewer

⁵ Storage basins provide plant capacity for a short-term hydraulic peak of 415 million gallons per day (mgd).

⁶ *Primary* treatment involves preliminary treatment (screening) and sedimentation (the removal of solid particles from suspension by gravity). *Secondary* treatment involves biological treatment of wastewater to remove remaining organic matter.

improvements are anticipated to reduce peak regional flows from 1.1 billion gallons per day to 775 mgd.

The City of Oakland has a 25-year inflow and infiltration collection maintenance and rehabilitation program that will help eliminate overflow by reducing inflow and infiltration of stormwater to upgrade the existing system. The City's collection system is comprised of local collection mains and a network of trunk systems. The City's system capacity improvements have targeted the trunk network only and assume that the remainder of the system – the local mains – has sufficient capacity. The entire system is divided into drainage basins and subbasins. Each subbasin has a projected allocation for base flow increase based on an anticipated growth rate during the period of the inflow and infiltration collection maintenance and rehabilitation program. Growth (base flow increase) within each subbasin must not exceed projections. If exceeded, the impact of the additional growth must be analyzed on the entire City collection, and trunk system and additional system improvements would be required. If redirection of allocation from other subbasins is needed to accommodate a development project, further review and approval from the City would be required in order to determine locations and the amount of potential reallocation. If growth does not exceed projection within each subbasin, then impact analysis may be limited to the study of local mains serving the development site.

Stormwater Drainage Facilities

In Oakland, stormwater runoff is collected from the southwesterly flows from the Oakland/Berkeley hills to the developed flatlands, where it then flows primarily through underground storm drains and culverts to the San Francisco Bay, via the Oakland Estuary (directly or by way of Lake Merritt) or through the city of Emeryville.

The Alameda County Flood Control and Water Conservation District constructs, operates, and maintains major trunk lines and flood-control facilities in Oakland, and the Oakland Public Works Agency (PWA) is responsible for construction and maintenance of the local storm drainage system within Oakland's public areas and roads.

The City has prepared a comprehensive storm drainage master plan to identify existing deficiencies in the system and develop prioritized recommendations for rehabilitating the system in order to reduce localized flooding. Storm drain complaints are scattered throughout the city and are mostly related to commercial business uses. Based on these complaints, even without televised footage of actual pipes, the City has taken the position that the storm drain system is aged and would not be able to handle increased runoff flows. The City requires development projects to evaluate the onsite and offsite condition and capacity of the existing stormwater collection system and implement necessary improvements that are identified to accommodate the project. Specifically, the City requires developments to detain stormwater to the extent feasible.

Solid Waste

Waste Management and Disposal

Non-hazardous waste in the city of Oakland is collected by Waste Management of Alameda County (WMAC), which provides curbside pickup for residential, commercial and industrial non-hazardous waste, and transports it to WMAC's Davis Street Transfer Station in the City of San Leandro. The Alameda County Waste Management Authority estimates that in 2000, Oakland disposed of approximately 423,200 tons of solid waste or about 1,160 tons per day (CIWMB, 2007).

Transfer trucks haul waste to the Altamont Landfill and Resource Facility, located approximately 35 miles east of Oakland near Livermore. The Altamont Landfill has a permitted maximum daily disposal of 11,150 tons per day, ten percent of which is attributable to the city of Oakland. The Altamont Landfill has recently updated its conditional use permit, which allows for an additional capacity of approximately 40 million tons of disposal over the next 19 to 38 years (CIWMB, 2006a).

Demolition and construction debris generated in Oakland is generally hauled by contractors and local construction companies to recycling facilities in the East Bay or to the Vasco Road Landfill near the city of Livermore. The Vasco Road Landfill, owned by Republic Services of California I, LLC, is estimated to have sufficient capacity through approximately 2015 (CIWMB, 2004b).

Waste Generation and Diversion

As required by enactment of the California Integrated Waste Management Act (AB 939) in 1989 (discussed in Regulatory Framework, below), the City has prepared a Source Reduction and Recycling Element (SRRE), which is a report that describes (1) the chief characteristics of each city's waste, (2) existing waste diversion programs and rates of waste diversion, and (3) the new or expanded programs the city intends to implement to achieve the mandated rates of diversion.⁷ The city of Oakland generated approximately 369,509,000 tons of solid waste in 2003. The City's waste diversion rate has increased from approximately 11 percent in 1990 to an estimated 50 percent in 2002. The City's waste diversion programs and requirements are discussed below under *Regulatory Framework*.

Energy Services

Electricity and gas service in the City of Oakland is provided primarily by Pacific Gas and Electric (PG&E), which owns the gas and electrical utility supply lines. Some users purchase energy services directly from alternate power providers. Throughout most of Oakland, electrical power is delivered via overhead distribution and transmission lines, and natural gas is distributed through underground piping. PG&E expands its services on an as-needed basis and requires the user to fund the extension of service.

⁷ Waste diversion is defined as the total waste that a jurisdiction generates less the amount that is disposed at a landfill or transformation facility. Waste diversion occurs through reduction, reuse, recycling, and composting programs.

Electricity Service Demand

Following restructuring of the electricity industry in 1996, California experienced a number of problems related to energy supply and demand. These problems were largely driven by increases in demand from population and economic growth paired with insufficient local supply.

Inadequate supply was due to the lack of new power plants constructed in the state, and the sale of a number of power plants to privately owned, out-of-state energy companies. As a result, Bay Area consumers have been experiencing rising costs and uncertainty regarding the supply of electricity. The State of California Energy Action Plan, adopted in May 2003, and as outlined in the Action Plan, the California Energy Commission (CEC) is currently considering applications for the development of new power generating facilities in the Bay Area and elsewhere in the state to establish adequate, reliable, and reasonably priced energy for Californians (CEC, 2005).

The project site is currently fully developed and is served by existing electric and natural gas utilities which are available in all street frontages adjoining the site.

Regulatory Framework

Water Quality, Supply, and Distribution

Safe Drinking Water Act

The U.S. Environmental Protection Agency (U.S. EPA) administers the Safe Drinking Water Act (SDWA), the primary federal law that regulates the quality of drinking water and establishes standards to protect public health and safety. The Department of Health Services (DHS) implements the SDWA and oversees public water system quality statewide. DHS establishes legal drinking water standards for contaminants that could threaten public health.

Senate Bill (SB) 610 / Senate Bill (SB) 221

Senate Bill (SB) 610, codified as Sections 10910-10915 of the California Public Resources Code, requires local water providers to conduct a water supply assessment for projects proposing over 500 housing units⁸, 250,000 square feet of commercial office space (or more than 1,000 employees), a shopping center or business establishment with over 500,000 square feet (or more than 1,000 employees), or equivalent usage. Local water suppliers must also prepare or have already prepared an Urban Water Management Plan to guide planning and development in the water supplier's service area, and specifically pursue efficient use of water resources.

Stormwater Drainage

Regulations related to the quality and quantity of stormwater runoff (i.e., Federal Clean Water Act / National Pollutant Discharge Elimination System [NPDES] are discussed in Section IV.G, Hydrology and Water Quality. As previously stated, this section focuses on whether the proposed project would result in the need for new or expanded stormwater drainage facilities.

⁸ Senate Bill (SB) 221 similarly amended the Subdivision Map Act to ensure confirmation that public water supply is sufficient to serve proposed development projects of 500 dwelling units or more.

Solid Waste

Assembly Bill (AB) 939

The California Integrated Waste Management Act of 1989, or Assembly Bill (AB) 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans and also mandated that local jurisdictions divert at least 50 percent of all solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. As required by AB 939, the City of Oakland has prepared a Source Reduction and Recycling Element (SRRE) which requires proposed development projects to undergo, as part of the required environmental review, an assessment of project impacts on the City's ability to maintain the mandated 50 percent waste diversion rates. Projects that would have an adverse effect on the City's waste diversion goals are required to include waste diversion mitigation measures to assist in reducing these impacts to less than significant levels.

Alameda County Waste Reduction and Recycling Initiative (Measure D)

In addition to AB 939, the 1990 Voter Initiative Measure D (Alameda County Waste Reduction and Recycling Initiative) mandates all cities in Alameda County to divert 75 percent of their solid waste from landfills by the year 2010.

Construction and Demolition Debris Waste Reduction and Recycling (Ordinance No. 12253 C.M.S.)

The City of Oakland's construction and demolition (C&D) debris waste reduction and recycling requirements are intended to further the goals of AB 939 and Alameda County's Measure D. As part of the application for a building permit, a project applicant is required to prepare and submit a Construction and Demolition Debris Waste Reduction and Recycling Plan (WRRP) to divert at least 50 percent of all C&D debris generated by project development from landfill disposal.

Energy

Buildings constructed after June 30, 1977 must comply with standards identified in Title 24 of the California Code of Regulations. Title 24, established by the California Energy Commission (CEC) in 1978, requires the inclusion of state-of-the-art energy conservation features in building design and construction including the incorporation of specific energy conserving design features, use of non-depletable energy resources, or a demonstration that buildings would comply with a designated energy budget.

Impacts and Mitigation Measures

Significance Criteria

A utilities and service systems impact would be considered significant if it would result in any of the following:

1. Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board;
2. Require or result in construction of new stormwater drainage facilities or expansion of existing facilities, construction of which could cause significant environmental effects;

3. 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;
4. 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;
5. 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;
6. Violate applicable federal, state, and local statutes and regulations related to solid waste;
7. Violate applicable federal, state and local statutes and regulations relating to energy standards; or
8. 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.

Impacts and Mitigation Measures

Water Service

Impact UTIL-1: The project would not exceed water supplies available to serve the project from existing entitlements and resources, nor require or result in construction of water facilities or expansion of existing facilities, construction of which could cause significant environmental effects. (Less than Significant)

Pursuant to Sections 10910-10915 (SB 610) of the California Water Code, the City of Oakland submitted a request to EBMUD to prepare a water supply assessment (WSA) for the proposed project.⁹ In the WSA, which was prepared in response to the City's request, EBMUD determined that the project's estimated water demand is accounted for in EBMUD's 2020 water demand projections (Kirkpatrick, WSA, July 2005). According to EBMUD, at buildout, the total increase in water demand resulting from the Gateway Community Development Project would be approximately 239,000 gpd, an increase of approximately 235,000 gpd over the existing onsite demand of 3,800 gpd. This increase constitutes approximately 0.10 percent of total EBMUD water demand. The proposed project would not change EBMUD's 2020 water demand projection and would not result in a new significant increase in water use. While the project would require water main extensions to create service connections to new buildings on each development site,

⁹ A "project," as defined by SB 610, includes proposals for new residential use over 500 units; retail use over 500,000 square feet; office use over 250,000 square feet; hotel/motel use over 500 rooms; industrial use over 40 acres or 650,000 square feet; a mixed-use project including any use as large as the above; or any project that would demand water greater than the equivalent of 500 dwelling units.

which would be coordinated and financed by the project sponsor, the project would not exceed existing or projected water supply or result in the need for new or expanded water facilities.

EBMUD further recommends incorporating water conservation measures into the design and construction of all new development projects to ensure that sufficient water capacity is available through EBMUD's planning horizon year 2020. Internal conservation measures include incorporation of water-efficient equipment and devices, such as low-flush toilets, into building design; external conservation measures include the use of drought-resistant and native plants for landscaping and minimization of turf areas. Although not required to address Impact UTIL-1, the project applicant will be subject to the following uniformly-applied standard condition of approval by the City that further reduce the less-than-significant Impact UTIL-1:

Standard Condition UTIL-1: As feasible and applicable, the project sponsor shall implement the following water-efficient equipment and devices into building design and project plans, consistent with the Landscape Water Conservation section of the City of Oakland Municipal Code (Chapter 7, Article 10): low-, ultra-low, and dual flush flow toilets and showerheads; water efficient irrigation systems that include drip irrigation and efficient sprinkler heads; evapotranspiration (ET) irrigation controllers; drought-resistant and native plants for landscaping; and minimization of turf areas.

Mitigation: None Required.

Sanitary Sewer Service

Impact UTIL-2: The project's projected wastewater demand would not result in the City of Oakland exceeding its *citywide* projected base flow allocation, however, it would exceed base flow allocation for Subbasins 60-04 and 62-01, which may require construction of new or expanded facilities, the construction of which could cause significant environmental effects. (Potentially Significant)

The loads on the sanitary sewer system are a factor of water use, in addition to the design, capacity, and condition of the sanitary sewer facilities. In general, the average dry-weather demand sewer flow is 90 percent of the average water use. The wet weather demand sewer flow adds a factor for inflow and infiltration of the system from stormwater and wet soils. Therefore during wet weather, peak sanitary sewer flows can be greater than dry weather flows.

Based on the *Sanitary Sewer Impact Analysis Initial Submittal* prepared by Korve Engineering (Korve, 2007), estimated sanitary sewer flow from the proposed project would result in a net increase in peak base flow over existing conditions as shown in **Table IV.H-1**, the project would result increase existing peak base flow of 30, 968 gallons per day (gpd) to an estimated 559,600 gpd (estimated peak flow) to 601,862 gpd (estimated peak wet-weather flow).

**TABLE IV.H-1
EXISTING AND PROPOSED SANITARY SEWER FLOWS**

Location	Existing Peak Wastewater Flows (GPD)	Proposed Base Wastewater Flows (GPD)	Proposed Peak Wastewater Flows (GPD)	Proposed Peak Wet-Weather Wastewater Flows (GPD)
West of 29 th Avenue	20,954	102,030	374,910	382,480
East of 29 th Avenue	10,014	58,714	215,722	219,382
TOTAL	30,968	160,744	590,632	601,862

GPD – gallons per day

NOTE: Prepared in accordance with the *City of Oakland Sanitary Sewer Design Guidelines*, November 2004 (revised August 2005), a peaking factor of 2.0 was used to estimate total existing peak base flow. A 3.66 coefficient of peak flow was used to calculate proposed peak flow. The proposed peak wet-weather flows include a rate of infiltration of 1,000 gpd per acre.

Source: Sanitary Sewer Impact Analysis Initial Submittal Korve Engineering, 2007

The project site is located in Subbasins 60-04 and 62-01, where the total allocation for these two sub basin is 0.07 mgd base flow, assuming no other development.

Upon review of the above data and project plans, Oakland Public Works estimated that the proposed net increase for sewer base flow from buildings east of 29th Avenue is 0.0915 mgd and proposed net increase for sewer base flow from buildings east of 29th Avenue is 0.0537 mgd. Public Works further concluded that these net increases exceed the 20 percent growth rate of both Subbasins. As a result, the project would be required to implement an off-site sewer rehabilitation (infiltration/Inflow reduction) project that would be required to offset the base flow increase. Oakland Public Works has indicated that there are potential rehabilitation projects upstream of the project site. In addition, the potential may exist to extend or enlarge existing onsite sewer mains to serve new buildings on each development site. As proposed, Sites I through IV would have a 6-inch connection to and 8-inch main in East 12th Street (west of 29th Avenue); Sites V and VI would connect to the 8-inch main in East 12th Street (east of 29th Avenue) (Korve, 2007).

The project would be required to comply with the following standard condition regarding implementation of off-site sewer rehabilitation projects:

Standard Condition UTIL-2a: Prior to completing the final design for the project's sewer service, confirmation of the capacity of the City's surrounding stormwater and sanitary sewer system and state of repair shall be completed by a qualified civil engineer with funding from the project applicant.

The project applicant shall be responsible for the necessary stormwater and sanitary sewer infrastructure improvements to accommodate the proposed project. In addition, the applicant shall be required to pay additional fees to improve sanitary sewer infrastructure if required by the City. Improvements to the existing sanitary sewer collection system shall specifically include, but are not limited to, mechanisms to control or minimize increases in infiltration/inflow to offset sanitary sewer increases associated with the proposed project. To the maximum extent practicable,

the applicant will be required to implement Best Management Practices to reduce the peak stormwater runoff from the project site. Additionally, the project applicant shall be responsible for payment of the required installation or hook-up fees to the affected service providers.

Implementation of a rehabilitation project or alterations to existing onsite facilities would result in construction impacts. Those impacts would be considered less than significant with implementation of standard conditions identified throughout this EIR in Section IV.C, Transportation, Circulation, and Parking; IV.D, Air Quality; Section IV.E, Noise; Section IV.F, Hazardous Materials; and Section IV.I, Hydrology and Water Quality. Standard Condition UTIL-2b: The project shall implement the following standard conditions of approval identified elsewhere in this EIR if the City determines the need for new or expanded sanitary sewer facilities that the project sponsor would implement:

- **Standard Condition TRANS-11 (Construction Traffic)**
- **Standard Conditions AIR-1a and AIR-1b (Asbestos Removal and Construction Dust and Emission)**
- **Standard Conditions NOI-1a through NOI-1i (Construction Period Noise)**
- **Standard Conditions HYD-1 and HYD-2 (Water Quality during Construction; Contaminated Groundwater Discharge)**
- **Standard Conditions HAZ-1a through HAZ-1f; HAZ-2a through HAZ-2e; HAZ-3 and HAZ-4 (Hazardous Materials).**

Overall, it is not anticipated, that the proposed project would exceed wastewater treatment requirements of the RWQCB or cause adversely affect the sufficient system-wide conveyance and treatment capacity dedicated to the City of Oakland. Therefore, with implementation of Standard Condition UTIL-2a and the combined measures identified in Standard Condition UTIL-2b to address construction-period impacts, the project would result in a less-than-significant impact on sanitary sewer facilities.

Level of Significance after Implementation of Standard Conditions: Less than Significant.

Stormwater Drainage Facilities

Impact UTIL-3: The project would not require or result in construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

As evaluated in Section IV.I, Hydrology and Water Quality, overall stormwater runoff from the project site is not anticipated to change substantially with the project. This is primarily due to the fact that the project site is currently developed with buildings, paved areas, and vacant lots and contains mostly impervious surfaces. According to the *C.3 Storm Water Quality Control Analysis*

report prepared for the project by Luk and Associates, approximately 99 percent of the project site is currently covered with impervious surface, and the project proposes landscaping and other pervious surface area that would reduce the total impervious surface on the project site to approximately 84 percent (Luk and Associates, 2007) (Also see Impacts HYD-3 and HYD-4). If the stormwater drainage system is found to be inadequate in meeting the drainage requirements of the project, the project sponsor may be required to provide storm drainage improvements and/or pay the required installation fees, pursuant to Standard Condition UTIL-2a, above. The project sponsor would also be required to coordinate with the Alameda County Flood Control and Water District (ACFCWCD) and the Oakland PWA to ensure adequate provisions of storm drain services to all residents and businesses within the project. Also, as discussed in Section IV.I, Hydrology and Water Quality, as part of standard conditions of approval, the project sponsor would be required to implement Standard Condition of Approval HYD-1, which requires the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and the use of Best Management Practices (BMPs) (see Standard Condition I-1a).

Overall, because the project is not expected to require significant upgrades existing stormwater mains that would serve the project and because the project sponsor would be required to prepare a SWPPP and SWPMP and implement post-construction measures to reduce runoff (Standard Conditions HYD-3a and HYD-3b) and would increase the area of pervious surface on the project site, any potential impacts associated with surface water runoff are considered less than significant.

Mitigation: None Required.

Solid Waste Service

Impact UTIL-4: The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, and would not require or result in construction of landfill facilities or expansion of existing facilities, construction of which could cause significant environmental effects. Additionally, the project would not impede the ability of the City to meet the waste diversion requirements of the California Integrated Waste Management Act or the Alameda County Waste Reduction and Recycling Initiative or cause the City to violate other applicable federal, state, and local statutes and regulations related to solid waste. (Less than Significant)

Project Construction

Project construction would generate construction waste and debris. Waste generated by total construction of the project is estimated at a total of 3,600 tons (approximately 4.38 pounds per square foot of development) (US EPA, 1998). The construction-generated waste would be removed from the project site and disposed of primarily at the Vasco Road Landfill, which is estimated to have sufficient capacity to serve existing users through approximately 2015 (CIWMB, 2004b). Pursuant to AB 939 and City of Oakland Ordinance No. 12253, the project would prepare and implement a Construction and Demolition Debris Waste Reduction and Recycling Plan (WRRP) to ensure diversion of at least 65 percent of the construction and

demolition debris from each stage of project implementation. The project would also adhere to and participate in all other waste reduction and diversion requirements and programs administered by the Alameda County. As such, the project would not prevent the City of Oakland from being able to meet mandated state or local diversion rates.

Project Operations

The amount of solid waste that would be produced by the proposed project was estimated based on wastestream disposal rates provided by the CIWMB and shown in **Table IV.H-2**.

**TABLE IV.H-2
ESTIMATED SOLID WASTE GENERATION (TONS PER YEAR)**

Development Proposed by Project	Development (Units or Square Feet)	CIWMB Disposal Rate: Tons/Employee-Resident/Year	Estimated No. of Residents or Employees	Estimated Tons of Solid Waste/Year (rounded)
Residential ^a	810 units	0.44 tons per resident ^b	2,130 residents ^c	937.2 tons/year
Commercial	25,950 sf	0.3 tons per employee ^d	135 employees ^e	40.5 tons/year
TOTAL				977.7 tons/year

- a Assumes a variety of housing types (townhomes and condominiums)
- b Based on 1999 estimated disposal rates for California residents
- c See Section IV.K, Population, Housing, and Employment
- d Using estimate for Retail Trade – General Merchandise
- e Based on estimate of 250 square feet per employee plus 15 people employed by the residential buildings.

SOURCE: California Integrated Waste Management Board, 2007

As presented in **Table IV.H-2**, development proposed as part of the project could generate an estimated 980 (rounded) tons per year of solid waste, or an estimated stream of 2.7 tons per day, assuming full-calendar-year operation at the Altamont Landfill. In 2000, the city of Oakland disposed of approximately 423,000 tons at the Altamont Landfill. The additional 980 tons of solid waste per year generated by the project represents an increase of 0.23 percent in Oakland’s total. When the potential increase in Oakland’s wastestream is compared against the total amount disposed of at the Altamont Landfill, the potential increase further diminishes. In 2000, the landfill received about 1.6 million tons. The potential increase (980 tons) to Oakland’s wastestream would therefore represent an increase of approximately 0.06 percent of the total tonnage received at the landfill. The Altamont Landfill currently has adequate permitted capacity to accommodate this increase in solid waste disposal. Neither the total annual solid waste generated estimated to be generated by the project, nor the degree of increase from existing conditions, would be considered a significant level that would potentially exceed landfill capacity or cause landfill capacity to be reached substantially sooner than otherwise expected.

In addition, the project would participate in the City and County's recycling and waste diversion programs. The project would ensure suitable storage locations and containers for recyclable materials in or around the project buildings and public outdoor spaces, and the design, location, and maintenance of recycling collection and storage areas would comply with the City Planning Commission's *Guidelines for the Development and Evaluation of Recycling Collection and Storage Areas*, (Policy No. 100-28). Therefore, the project's contribution to Oakland's overall waste stream in and of itself is not considered significant, and with continued participation and adherence to these programs, the proposed project would not require or result in new or expanded landfill facilities or impede the City's ability to meet mandated waste diversion requirements. As required for all City development projects, the project would be required to comply with the following standard conditions of approval, which the City will incorporate as a condition of approval for the project:

Standard Condition UTIL-4a: Prior to issuance of demolition, grading, or building permit The project applicant will submit a Construction & Demolition Waste Reduction and Recycling Plan (WRRP) and an Operational Diversion Plan (ODP) for review and approval by the Public Works Agency.

Chapter 15.34 of the Oakland Municipal Code outlines requirements for reducing waste and optimizing construction and demolition (C&D) recycling. Affected projects include all new construction, renovations/alterations/modifications with construction values of \$50,000 or more (except R-3), and all demolition (including soft demo). The WRRP must specify the methods by which the development will divert C&D debris waste generated by the proposed project from landfill disposal in accordance with current City requirements. Current standards, FAQs, and forms are available at www.oaklandpw.com/Page39.aspx or in the Green Building Resource Center. After approval of the plan, the project applicant shall implement the plan.

Standard Condition UTIL-4b: The ODP will identify how the project complies with the Recycling Space Allocation Ordinance, (Chapter 17.118 of the Oakland Municipal Code), including capacity calculations, and specify the methods by which the development will meet the current diversion of solid waste generated by operation of the proposed project from landfill disposal in accordance with current City requirements. The proposed program shall be implemented and maintained for the duration of the proposed activity or facility. Changes to the plan may be re-submitted to the Environmental Services Division of the Public Works Agency for review and approval. Any incentive programs shall remain fully operational as long as residents and businesses exist at the project site.

Mitigation: None Required.

Energy

Impact UTIL-5: The project would not violate applicable federal, state and local statutes and regulations relating to energy standards; nor would the proposed project 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. (Less than Significant)

The proposed project would result in an incremental increase in the demand for gas and electrical power given the increase in development on the project site. Overall, the level of public energy required of the proposed project would not be expected to violate applicable federal, state and local statutes and regulations relating to energy standards or exceed PG&E's service capacity or require new or expanded facilities. The project would be required by the City to comply with all standards of Title 24 of the California Code of Regulations, aimed at the incorporation of energy-conserving design and construction. Also, PG&E infrastructure exists on the project site, and any improvements and extensions required to accommodate the project would be determined in consultation with PG&E prior to installation. As a result, although the project would increase energy consumption, it would not result in a significant impact related to the provision of energy services.

Mitigation: None Required.

Cumulative Impacts on Utility and Service System

Impact UTIL-6: The increased development resulting from the proposed project, in conjunction with population and density of other foreseeable development in the city, would not result in cumulative impacts on utilities and service systems. (Less than Significant)

Water Supply

The proposed project, in conjunction with reasonably foreseeable future projects, could result in a cumulative increase in demand for water service. However, as discussed in the above analysis, the project would not exceed water supplies available to serve the project, nor cause significant environmental effects due to the construction of new or expanded water facilities. Additionally, the increases in demand attributable to other future development would be addressed on a site-by-site basis by EBMUD prior to approval of new development. Additionally, all future projects would be required to comply with City ordinances and policies regarding water supply, as well as water conservation measures, and wherever feasible, participate in water recycling programs established by EBMUD to address effects of severe drought. Development of the project and other future projects may involve improvements to existing water utility lines and may result in construction impacts. Construction related impacts are addressed throughout this EIR and would address any construction activities related to water utilities. Overall, the effect of the proposed project on water supply, in combination with other foreseeable projects would be less than significant.

Sanitary Sewer Facilities

The proposed project, in conjunction with reasonably foreseeable future projects, could result in a cumulative increase in sewage generation, resulting in increased demand on EBMUD's wastewater treatment facility serving the project site. However, it is not anticipated that the

wastewater demands of the project combined with future projects in Oakland would result in the City exceeding its citywide allocation under the Wet Weather Program or East Bay Municipal Utility District's (EBMUD) capacity to serve the project's projected demand in addition to its existing commitments within its service area.

The City would continue to implement its infiltration/inflow correction program intended to reduce the amount of inflow and infiltration, but this would not provide additional capacity beyond that projected for future years, and other foreseeable future projects would be required to comply with the City's programs and ordinances regarding adequate function and capacity of the sanitary sewer system. As previously stated, any construction related effects that may result from future projects' improvements to existing sanitary sewer facilities are addressed by other mitigation measures in this EIR. Overall, the effect of the proposed project on the need for new or expanded wastewater facilities, in combination with other foreseeable projects would be less than significant.

Stormwater Drainage Facilities

As discussed earlier in this section, the project would decrease the amount of existing impervious areas on the project site from 99 percent to 84 percent. Furthermore, no major change in the total annual stormwater discharge from the site into the storm drain system is anticipated, due to the required implementation of stormwater management strategies, including the preparation of a SWPPP and the use of BMP, as well as the proposed reduction of impervious surface on site. Foreseeable future project also would be subject to all regulatory requirements and programs aimed to reduce impacts on the storm drain system citywide, including compliance with the City's stormwater guidelines (see Standard Conditions HYD-1 through HYD-4); thus the proposed project, in conjunction with reasonably foreseeable future projects, would not result in a cumulative increase in stormwater runoff, requiring the need for new or expanded stormwater drainage facilities.

Solid Waste

The proposed project, in conjunction with reasonably foreseeable future projects, could result in a cumulative increase in solid waste and debris generated by project construction and operations. However, comprehensive implementation of City and County waste reduction and diversion requirements and programs by the project and future project would reduce the potential for exceeding existing capacities of existing landfills, which have indicated that adequate capacity currently exists. As a result, the project and future project would not result in new or expanded landfill facilities or impede the City's ability to meet mandated waste diversion requirements, and the impact would be less than significant.

Energy

Despite annual statewide increases in energy consumption, development of the project and other reasonably foreseeable future projects in Oakland, which is mostly already served by gas and electricity infrastructure, and the net increased power demand from these projects relative to the regional service area, would be minimal and not require expanded or new power facilities as a direct result of project development. Further, all future project would be required to comply with

all standards of Title 24 of the California Code of Regulations, (or other similar building codes that would apply to residential and/or commercial developments), therefore, the effect of the proposed project on energy consumption levels, in combination with other foreseeable projects, would be less than significant.

Mitigation: None Required.

References – Utilities and Service Systems

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