

## H. UTILITIES AND INFRASTRUCTURE

This section evaluates the effects of the Uptown Mixed Use Project on infrastructure and utilities. Potential impacts to infrastructure and utilities that would result from implementation of the proposed Project are identified, and mitigation measures are recommended, as appropriate.

### 1. Setting

This analysis examines the following infrastructure and utility systems: water supply, wastewater, stormwater, solid waste, energy, and telecommunications. The utilities analyzed here were selected on the basis of discussions with a variety of public officials, utility systems staff, and Project stakeholders.

**a. Water.** The following discussion provides background information on the City's water supplies, treatment facilities, and distribution system.

**(1) Water Supply.** Potable water is provided to the Project site, the City of Oakland, and approximately 1.3 million people throughout portions of Alameda and Contra Costa Counties by the East Bay Municipal Utility District (EBMUD). EBMUD obtains approximately 95 percent of its water from the Mokelumne River, and transports it through pipe aqueducts to temporary storage reservoirs in the East Bay hills. EBMUD has water rights and facilities to divert up to a daily maximum of 325 million gallons per day (mgd) from the Mokelumne River.<sup>1</sup> However, this allocation may be constrained by: upstream water use by prior water right holders; downstream water use and other downstream obligations, including protection of public trust resources; drought, or less-than-normal rainfall for more than a year; and emergency outage.

In addition, EBMUD has been recycling water at its main wastewater treatment facility since the early 1970s. Recycled water is suitable for land uses that do not require potable water sources, such as golf courses, some agricultural areas, and industrial uses. Incentives used by EBMUD to encourage customers to utilize recycled water include rate discounts on recycled water and low-interest loans used to retrofit buildings so that they can accommodate recycled water.

The East Bayshore Water Project, which would provide up to 2.3 mgd of recycled water to residents in Alameda, Albany, Berkeley, Emeryville, and Oakland, is currently in the planning stage. The project would involve the construction of new treatment and disinfection facilities at the EBMUD Main Wastewater Treatment Plant. The service area of the East Bayshore Water Project, which is anticipated to be completed prior to 2010, would include the Project site and its surroundings. In January 2002, the City adopted a dual plumbing ordinance, which requires new development to use recycled water provided by EBMUD, and to install a dual plumbing systems if recycled water is anticipated to be available.

Average daily water demand within the EBMUD service area was 211 mgd in 2002 (the most recent full year for which data are available).<sup>2</sup> Demand is projected to increase to 257 mgd by 2010 and 277

<sup>1</sup> East Bay Municipal Utility District, 2001. *Urban Water Management Plan 2000*. February.

<sup>2</sup> East Bay Municipal Utility District, 2003. *Annual Report 2001-2002*.

mgd by 2020.<sup>3</sup> As of 2001, EBMUD's water supply was insufficient to meet customer needs in multiple year droughts, even taking into account the implementation of water conservation and recycling programs.<sup>4</sup>

**(2) Water Treatment Facilities.** There are six water treatment plants in the EBMUD water supply and distribution system. Combined, the six plants have a treatment capacity of over 375 mgd. The Orinda Water Treatment Plant, which supplies water to Downtown Oakland and the Project site, has a peak treatment capacity of 200 mgd. At the Orinda Water Treatment Plant, water is subjected to coagulation, filtration, and disinfection prior to being distributed to the public.

**(3) Distribution Pipelines.** The Project site is located within EBMUD's Central Pressure Zone, which provides water service to customers within an elevation range of 0 to 100 feet. EBMUD owns and operates distribution pipelines under all of the streets within and in the vicinity of the Project site.<sup>5</sup> Typically, required pipeline relocations and extensions, in addition to other water distribution infrastructure improvements, are made at the expense of the Project applicant in consultation with EBMUD's New Business Office.

The Project site is served by 8-inch water lines along San Pablo Avenue and Telegraph Avenue. These lines, and associated minor water line connections, are anticipated to have an available capacity of over 5,000 gallons per minute (gpm). The City Fire Department maintains minimum flow standards for pipelines serving residential and commercial uses. The minimum flow standard for lines serving residential uses is 2,500 gpm; the minimum flow standard for lines serving commercial uses is 4,500 gpm.<sup>6</sup>

**b. Wastewater.** Wastewater collected by interceptors in the EBMUD service area flows to the Main Wastewater Treatment Plant (MWWTP), which is located in Oakland near the eastern entrance of the San Francisco-Oakland Bay Bridge. The MWWTP provides both primary and secondary treatment of wastewater. Primary treatment involves the removal of floating materials, oils and greases, sand and silt, and organic solids sufficiently heavy to settle in water. Secondary treatment involves the removal of suspended organic and chemical impurities. The MWWTP has a primary treatment capacity of 415 mgd and a secondary treatment capacity of 168 mgd. The average annual daily flow into the MWWTP is approximately 77 mgd, representing 46 percent of the plant's secondary treatment capacity.<sup>7</sup> Treated effluent is disinfected, dechlorinated, and discharged 1 mile west of the Oakland shoreline into San Francisco Bay.

Sanitary sewer service to the Project site is provided by the City via pipelines on: Thomas L. Berkley Way (20<sup>th</sup> Street); 19<sup>th</sup> Street; William Street; 18<sup>th</sup> Street; and Telegraph Avenue. The current

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<sup>3</sup> East Bay Municipal Utility District, 2001. *op. cit.*

<sup>4</sup> *Ibid.*

<sup>5</sup> Kirkpatrick, William R., 2003. Manager of Water Distribution Planning. Letter to Patricia McGowan, City of Oakland. March 28.

<sup>6</sup> Khalili, Amin, 2003. Korve Engineering. Personal communication with LSA Associates, Inc. July 24.

<sup>7</sup> East Bay Municipal Utility District, 2001. *op. cit.*

capacity of these pipelines is 1.35 mgd.<sup>8</sup> The current average wastewater flow within these pipelines is 6,970 gpd; peak wastewater flow is approximately 23,698 gpd.<sup>9</sup>

**c. Stormwater.** The City of Oakland, including the Project site, is served by stormwater infrastructure that is owned and maintained by the City. Drainage within the Project site is provided by a local collection system that includes the following components:

- Catch basins at 18<sup>th</sup> Street and Telegraph Avenue that drain to a 27-inch storm drain under Telegraph Avenue;
- Catch basins at 19<sup>th</sup> Street and Telegraph Avenue that drain to a 30-inch storm drain under Telegraph Avenue;
- Catch basins at William Street and Telegraph Avenue that drain to a 30-inch storm drain under Telegraph Avenue;
- Catch basins at Thomas L. Berkley Way (20<sup>th</sup> Street) and Telegraph Avenue that drain to a 30-inch storm drain under Telegraph Avenue; and
- Catch basins at Thomas L. Berkley Way (20<sup>th</sup> Street) and Telegraph Avenue that drain to a 15-inch storm drain under Thomas L Berkley Way (20<sup>th</sup> Street).

The storm drains within the Project site (listed above) combine at the intersection of Thomas L. Berkley Way (20<sup>th</sup> Street) and Telegraph Avenue to feed a large storm drain that extends under Telegraph Avenue and 21<sup>st</sup> Street to an outfall on Lake Merritt. This large storm drain ranges in size from 40 inches to 72 inches.

The Project site is covered with impervious surfaces, resulting in a high rate of runoff generation per unit of surface area. Runoff from the Project site generally drains to the north and east; as described above, runoff from the Project site is deposited in Lake Merritt, and ultimately flows to San Francisco Bay. Drains and pipes that currently serve the Project site can adequately accommodate existing stormwater runoff. There is no record of storm drainage problems within or around the Project site.<sup>10</sup>

**d. Solid Waste.** Solid waste and yard trimmings within the City of Oakland are collected by Waste Management of Alameda County. These materials are taken to the Davis Street Transfer Center in San Leandro. The Transfer Center, which has a maximum allowable capacity of 5,600 tons of waste per day, received an average of 3,028 tons per day in 2001.<sup>11</sup> The facility can process up to 320 tons (per day) of concrete, asphalt, dirt, bricks, wood, and metal. After undergoing processing, waste from the Transfer Station is delivered to the Altamount Landfill in eastern Alameda County. The landfill comprises approximately 1,528 acres and is anticipated to have sufficient capacity to operate until 2050.

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<sup>8</sup> Khalili, Amin, 2003. Korve Engineering. Personal communication with LSA Associates, Inc. July 24.

<sup>9</sup> Ibid.

<sup>10</sup> Toothman, Robert, 2003. Korve Engineering. Personal communication with LSA Associates, Inc. August 28.

<sup>11</sup> Kaufman, Debra, 2003. Alameda County Waste Management Authority. Personal communication with LSA Associates, Inc. July 14.

In 1989, the California Legislature enacted the California Integrated Waste Management Act (AB 939), which requires the diversion of waste materials from landfills in order to preserve the decreasing capacity of landfills. Cities and counties in California were required to divert 25 percent of solid waste by 1995, and 50 percent of solid waste by the year 2000. AB 939 further requires every city and county to prepare two documents demonstrating how the mandated rates of diversion will be achieved. The *Source Reduction and Recycling Element* describes the chief source of the jurisdiction's waste, the existing diversion programs, and current rates of waste diversion and new or expanded diversion programs. The *Household Hazardous Waste Element* describes each jurisdiction's responsibility in ensuring that household hazardous wastes are not mixed with non-hazardous solid wastes and subsequently deposited at a landfill. Oakland's Source Reduction and Recycling Element and its Household Hazardous Waste Element were approved in 1991 by the California Integrated Waste Management Board.<sup>12</sup>

The City provides curbside recycling to Downtown Oakland and the Project site. Curbside recycling includes the following materials: glass, aluminum and tin, motor oil, cardboard, magazines and newsprint, and plastic. Recyclable materials are delivered to the Davis Street Transfer Center where they are processed.

Oakland Municipal Code Chapter 15.34 requires building permit applications for new construction, demolition, or alterations and additions (with a valuation of \$50,000 or greater) to be accompanied by an approved Waste Reduction and Recycling Plan (WRRP). The WRRP is required to document the ways that the applicant will reduce the quantity of construction and demolition debris disposed at landfills by 50 percent or more. The City will not approve a building permit for a project until the WRRP is approved.

**e. Energy.** The Pacific Gas & Electric Company (PG&E) provides electricity and natural gas service to Downtown Oakland and the Project site. Most of Oakland's electrical power is delivered via 12-kilovolt (kV) transmission lines from PG&E Substation L. Substation L receives 155 kV and distributes power to upper downtown Oakland and West Oakland. Local electric and gas distribution lines are located within the Project site.

**f. Telecommunications.** SBC Communications (SBC) provides residential and commercial telephone service within Downtown Oakland and the Project site. SBC also provides or hosts a variety of other telecommunications services, including Digital Subscriber Lines (DSL), Internet Service Provider (ISP), web hosting, virtual private networking, and wireless/cellular and paging services.

The California Public Utilities Commission requires that SBC anticipate and serve new growth. To meet this requirement, SBC continually upgrades its facilities and infrastructure, adding new facilities and technology to remain in conformance with California Public Utilities Commission tariffs and regulations and to serve customer demand in the City.

Additions to the City's infrastructure and proposals for development would result in a need for expansion or changes to SBC's infrastructure, which would involve suitable siting for equipment place-

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<sup>12</sup> California Integrated Waste Management Board, 2002. *Waste Stream Information Profiles*. Website: [www.ciwmb.ca.gov/profiles/](http://www.ciwmb.ca.gov/profiles/).

ment. Suitable sites must meet requirements for the physical transmission of telecommunication services and conform to the City's guidelines. SBC also works with the City to ensure that construction of new facilities does not interfere with any new or newly-paved streets.

## 2. Impacts and Mitigation Measures

This section discusses potential impacts to infrastructure and utility systems that could result from implementation of the proposed Project. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed Project and identifies mitigation measures, if appropriate. Less-than-significant impacts to infrastructure and utilities are listed first, followed by significant impacts. Stormwater and storm drain-related impacts are discussed in Section IV.C, Hydrology and Water Quality.

**a. Significance Criteria.** The proposed Project would have a significant impact on the City's infrastructure and utility systems 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.

**b. Less-than-Significant Utilities and Infrastructure Impacts.** The following discussion describes less-than-significant impacts to infrastructure and utilities systems that would result from implementation of the proposed Project.

(1) **Water.** The proposed Project would require water for a variety of uses, including household uses, commercial uses, and irrigation of the proposed 25,000 square-foot park. Based upon anticipated uses within the Project site, implementation of the proposed Project would result in an average daily demand for water of 329,000 gpd (120,085,000 gallons per year).<sup>13</sup> The anticipated daily water demand that would result from implementation of the proposed Project represents approximately 0.2 percent of average daily water demand within the EBMUD service area. The proposed Project would be outfitted with water-conserving fixtures, as required by the Uniform Building Code, and would incorporate dual plumbing systems, to take advantage of available recycled water supplies. Private, water-consuming lawns would not be developed as part of the proposed Project. Therefore, the proposed Project, which represents an efficient use of water, would not require the construction of new water supply facilities. EBMUD representatives have given a preliminary indication that they can serve this Project's water demand, and the EBMUD Board will confirm that determination by the end of September 2003.

Anticipated daily water demand that would result from implementation of the proposed Project represents 0.2 percent of the treatment capacity of the EBMUD water supply and distribution system. Sufficient water treatment capacity exists within the EBMUD system to accommodate water demand generated by the proposed Project. Therefore, implementation of the proposed Project would not require expansion of the existing water treatment system.

The average daily water demand associated with the proposed Project would be approximately 228 gallons per minute, or approximately 4 percent of available water line capacity.<sup>14</sup> Sufficient capacity exists to accommodate this increased demand, although select lines may need to be improved depending upon their age and condition. Line improvements would be made during the Project construction period and are not anticipated to result in significant environmental impacts.

Requirements for minimum water flow (for the purpose of fighting fires) at project sites in the City are based on negotiations with the Oakland Fire Department. Typically, fire flow requirements are 2,500 gpm for residential uses, and 3,500 gpm for commercial uses. As noted in subsection a(3), Distribution Pipelines, water lines that serve the Project site are anticipated to have an available capacity of over 5,000 gpm. Based on the anticipated capacity of water lines serving the Project site, and correspondence with EBMUD, it is expected that minimum water flow would be available within the Project site without a major upgrade of water lines.<sup>15</sup>

(2) **Wastewater.** Implementation of the proposed Project would result in the generation of approximately 280,000 gpd of wastewater.<sup>16</sup> Wastewater generated by the proposed Project represents less than 0.2 percent of the MWWTP's secondary treatment capacity. This wastewater would be accommodated by the MWWTP, which is currently operating at 46 percent of its secondary treatment capacity. Therefore, wastewater generated by the proposed Project would be subject to both primary and secondary treatment and would not violate the wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board. The wastewater lines that serve the

<sup>13</sup> Khalili, Amin, 2003. Korve Engineering. Personal communication with LSA Associates, Inc. July 24.

<sup>14</sup> Ibid.

<sup>15</sup> Toothman, Robert, 2003. Korve Engineering. Personal communication with LSA Associates, Inc. September 2.

<sup>16</sup> Ibid.

Project site have a capacity of 1.35 mgd based on average existing wastewater flow (6,970 gpd), and could accommodate the increase in flow that would result from the proposed Project.<sup>17</sup> Public Works Agency staff have indicated that as part of the final public improvement plans for the Project, the conveyance system will be evaluated to confirm what repairs, if any, will be incorporated into the final public improvement plans and specifications. Therefore, implementation of the proposed Project would not require the construction of new wastewater treatment or transport facilities.

**(3) Stormwater.** Implementation of the proposed Project would not alter drainage patterns within the Project site; after the conclusion of Project construction, runoff from the Project site would drain to the north and east, as occurs under existing conditions.

The proposed Project includes the development of an approximately 25,000 square foot public park, which would include turf areas, tree and shrub plantings, and minimal hardscape. In addition, trees in tree wells would be installed throughout the Project site. Because the Project site is currently covered by impervious surfaces, development of the park and tree wells (as part of Project implementation) would reduce the amount of impervious surfaces within the Project site. Implementation of the proposed Project would result in the development of pervious surfaces over approximately 5.5 percent of the Project site.

The total amount of runoff from a site is directly proportional to the coverage of the site by impervious surfaces; thus, any decrease in the coverage of a site by impervious surfaces would result in an overall decrease in both peak runoff volume and total runoff volume. Therefore, implementation of the proposed Project, which would introduce pervious greenscape features into the Project site, would reduce the amount of runoff from the Project site. Because stormwater infrastructure that currently serves the Project site can accommodate existing flows, and no records have been found of any storm drainage problems in or around the Project site, implementation of the proposed Project would not require the construction of new storm drain facilities or the expansion of existing facilities.

**(4) Solid Waste.** The proposed Project would be designed and developed in accordance with State and local solid waste regulations (federal solid waste regulations do not apply to the proposed Project). Proposed buildings would be outfitted with designated areas for drop-off of recyclable material, and recycling receptacles would be installed throughout the Project site, including in the open space area. In addition, the Project applicant would prepare a WRRP, consistent with the Oakland Municipal Code. Implementation of the WRRP would ensure that the quantity of construction and demolition waste generated by the proposed Project would be reduced by at least 50 percent, and would not substantially affect the remaining capacity of the Davis Street Transfer Station or the Altamont Landfill.

According to the California Integrated Waste Management Board, the average resident in Alameda County generates 1.4 pounds per day of solid waste; the average employee generates 5.1 pounds of waste per day.<sup>18</sup> Although solid waste generation rates can vary substantially by geographic locality, type of industry, or type of residential unit, these County-wide average waste generation rates can be used to approximate the amount of waste that would be generated by the proposed Project. Based on

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<sup>17</sup> Ibid.

<sup>18</sup> California Integrated Waste Management Board, 2003. Profile for Alameda County. Website: [www.ciwmb.ca.gov/Profiles/County/CoProfile1.asp](http://www.ciwmb.ca.gov/Profiles/County/CoProfile1.asp)

these generation rates, the anticipated 3,266 persons that would live within the Project site and the 182 persons that would be employed within the Project site as a result of Project implementation would generate approximately 5,500 pounds of waste per day and 2,007,719 pounds of waste per year. As noted previously in this section, the Davis Street Transfer Center has a maximum capacity of 5,600 tons of waste per day. The increase in waste generation resulting from the proposed Project represents less than 0.1 percent of the total capacity of the Davis Street Transfer Center. The anticipated life of the Altamount Landfill would not be reduced by implementation of the proposed Project.

**(5) Energy and Telecommunications.** The proposed Project would include energy-saving appliances, as required by the Uniform Building Code, and would be in conformance with all existing energy regulations. New construction would take place in or immediately adjacent to developed areas currently served by electricity, gas, and telecommunications lines. Connecting new construction to existing lines would involve relatively minor improvements, such as connections to existing distribution mains. The increase in demand generated by the proposed Project would not exceed the planned or existing energy supply, according to a PG&E representative.<sup>19</sup>

**c. Significant Utilities and Infrastructure Impacts.** The proposed Project would not result in significant impacts to infrastructure and utilities.

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<sup>19</sup> Chew, Rodney, 2003. Industrial Power Engineer, Pacific Gas and Electric Company. Personal communication with LSA Associates, Inc. June 18.