

# CHAPTER 5

---

## Cumulative Impacts

### 5.1 Approach to Analysis

A cumulative impact is created as a result of the combination of the project evaluated in an EIR together with other projects causing related impacts. The purpose of this analysis is to disclose significant cumulative impacts resulting from the Water Treatment and Transmission Improvements Program (WTTIP) elements in combination with other projects or conditions, and to indicate the severity of the impacts and their likelihood of occurrence.

The California Environmental Quality Act (CEQA) Guidelines require that environmental impact reports (EIRs) discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. The discussion of cumulative impacts should include:

- Either: (1) a list of past, present, and probable future projects producing related or cumulative impacts; or (2) a summary of projections contained in an adopted general plan or similar document, or in an adopted or certified environmental document, that described or evaluated conditions contributing to a cumulative impact
- A discussion of the geographic scope of the area affected by the cumulative impact
- A summary of expected environmental effects to be produced by these projects
- Reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects

Due to the breadth and extent of the WTTIP, this chapter separates the analysis of cumulative impacts by first considering the *collective* impacts of all project-level and program-level projects included in the WTTIP, and then analyzing the *cumulative* impacts of the WTTIP as a whole in combination with other projects or conditions in the program area. The *collective* impact discussion provides a synthesis of both project- and program-level impacts for all proposed WTTIP facilities described in Chapter 3 and indicates the potential for overlapping impacts associated with multiple projects proposed for construction within the same timeframe and same geographic area. The *cumulative* impacts analysis follows the CEQA definition, in which the collective WTTIP impacts are analyzed in combination with potential effects associated with other proposed, planned, and approved projects from the recent past, present, and reasonably foreseeable future. The list of

projects used in the cumulative analysis includes projects under the purview of multiple agencies with jurisdiction in the WTTIP project area.

## **5.2 Collective and Overlapping Impacts of the WTTIP**

### **5.2.1 Land Use, Planning, and Recreation**

As described in Chapter 3, Section 3.2, implementation of the WTTIP appears to be consistent with general and regional plans; the WTTIP projects would facilitate local jurisdictions' ability to achieve general plan goals and policies related to providing a high-quality water supply, addressing capacity deficiencies, and improving emergency response capabilities by improving water available for firefighting. However, implementation of some WTTIP projects would result in potential inconsistencies with the land use and zoning designations of local jurisdictions, with the general plans of local jurisdictions related to tree removal, and with policies related to scenic resources and to the temporary closure of public roadways and emergency access routes. Actual determinations of project consistency with general plans would be made by the pertinent land use jurisdictions during project implementation. Consistency with plans and policies would be made on a project-by-project basis, based on site-specific conditions, and therefore there would be no collective or overlapping impacts related to project consistency; collective impacts associated with scenic resources, tree removal or roadway closures are discussed in 5.2.2, Visual Quality, Section 5.2.5, Biological Resources, and Section 5.2.7, Traffic and Circulation, respectively.

None of the proposed project elements would disrupt or divide an established community, as described in Impact 3.2-1; therefore, there would be no collective impacts associated with implementation of the WTTIP as a whole. As described in Impact 3.2-2, the WTTIP would not result in permanent loss of agricultural use and would not result in substantial impacts on agricultural uses, since most of the WTTIP projects are located in urban lands and the few projects located on or adjacent to identified agricultural resources (mostly grazing lands) would result in short-term, temporary impacts during construction.

As described in Impact 3.2-3, construction activities associated with some WTTIP facilities would temporarily disrupt access to or enjoyment of existing recreation facilities, although many of the WTTIP projects are not located within or adjacent to recreation areas. However, the construction and operation of those WTTIP projects affecting recreational resources could result in a collective impact due to increased demand on other regional facilities. While implementation of the WTTIP could result in temporary closure or disruption of several recreation opportunities (such as the Walter Costa Trail at the Lafayette WTP), the effects on regional recreational land uses would be distributed over a relatively large area. Further, given the availability and diversity of recreation opportunities in the vicinity of the WTTIP project components and the entire region, diversion of recreation users would not likely result in overcrowding and associated potential deterioration of recreational resources. Therefore, the collective impact on recreational resources associated with implementation of the WTTIP as a whole would be less than significant.

## 5.2.2 Visual Quality

Chapter 3, Section 3.3 addresses the aesthetic and visual quality impacts associated with construction and operation of the WTTIP. With a few exceptions, construction at proposed sites would occur within generally developed urban/suburban areas, where visual impacts for individual facilities would be less than significant or could be mitigated to a less-than-significant level. The potential visual impacts include short-term visual effects during construction (considered less than significant, although the District would nevertheless implement measures to maintain clean and inconspicuous construction sites), alteration of the appearance at project sites, effects on views and scenic vistas, and new sources of light and glare as described in Impacts 3.3-1 through 3.3-5. At nearly all WTTIP facility sites, these impacts would be less than significant with implementation of measures, to implement landscaping plans, to restore sites to pre-project conditions, to use aesthetic design elements, and to employ temporary and permanent lighting that is directed onsite and downward to minimize glare (see Measures 3.3-1, 3.3-2a, 3.3-2b, and 3.3-2c).

Proposed WTTIP projects that would not be located at currently developed sites include the New Highland and Leland Pressure Zone Reservoirs and the Tice, Sunnyside, and Happy Valley Pumping Plants. However, with two exceptions, visual impacts at these sites could be mitigated with implementation of the measures described above. One exception is the facility at the Highland Reservoir site, which is situated on an undeveloped hillside within a publicly accessible area; proposed tree removal at this site (also see the discussion in Section 5.2.5, Biological Resources) would adversely affect views from a nearby recreational trail and would be considered significant and unavoidable. The New Leland Pressure Zone Reservoir site (a program-level project) would be located on a prominent ridgeline and would be highly visible from a state-designated highway (Interstate 680). Depending on the tank's design characteristics, visual impacts could remain significant and unavoidable.

Visual impacts would generally be site specific and would be mitigated on a site-specific basis. Measures to be implemented addressing potential tree loss and damage would help ensure that long-term visual impacts are reduced to less than significant levels in most cases. The WTTIP sites with above-ground facilities are, for the most part, visually separated due to distance, surrounding topography, structures, landscaping, or natural vegetation, and none of the WTTIP sites share the same public viewshed or major view corridor. Therefore, there would be no substantial additive or collective visual impacts from the proposed project elements. Therefore, the collective impacts of the WTTIP as a whole on visual quality and aesthetics would be the same as the individual facilities' impacts presented in Chapter 3.

## 5.2.3 Geology, Soils, and Seismicity

Chapter 3, Section 3.4 presents the potential geologic and seismic impacts of each WTTIP project facility, which include impacts associated with unstable slopes, groundshaking, expansive/compressible soils, liquefaction, and squeezing ground as described in Impacts 3.4-1 through 3.4-5. All potential impacts are either less than significant or could be mitigated to a less-than-significant level by Measures 3.4-1, 3.4-2, 3.4-3a, 3.4-3b, 3.4-4, and 3.4-5. These impacts

would be site specific, dependent on local geologic and soil conditions, and would be mitigated on a site-specific basis. Therefore, the collective impacts of the WTTIP as a whole on geology, soils, and seismicity would be the same as the individual facilities' impacts presented in Chapter 3.

## 5.2.4 Hydrology and Water Quality

Chapter 3, Section 3.5 presents the hydrology and water quality impacts of each WTTIP facility. Potential water quality impacts associated with construction activities, including sedimentation and erosion, discharge of dewatering effluent, and discharge of chloraminated water (as described in Impacts 3.5-1, 3.5-2, and 3.5-4), would be mitigated through compliance with applicable regulations, EBMUD standard procedures and Measures 3.5-1a and 3.5-1b, and there would be no collective water quality impacts associated with construction of the WTTIP as a whole. As described in Impact 3.5-3, potential flooding impacts would be less than significant at all proposed project sites with implementation of Measure 3.5-3. Since all construction would occur at elevations higher than base flood elevations and no stockpiling of materials would occur in identified floodprone areas, there would be no collective flooding impacts of significance associated with the WTTIP as a whole for largely the same reasons. Potential impacts associated with the operational release of chloraminated water to surface water bodies, as described in Impact 3.5-5, would be less than significant at all sites, assuming the proposed facilities would be constructed and operated in compliance with applicable permits. For the same reason, there would also be no collective impacts associated with these discharges. Impact 3.5-6 describes the long-term increase in runoff associated with WTTIP implementation; collectively, the total net increase in new impervious surfaces associated with construction of all proposed facilities would be about 130,850 square feet (approximately 3 acres) for Alternative 1 and 134,850 square feet for Alternative 2. When compared to the number of square miles of existing impervious surfaces in the affected watersheds, this increase in impervious surfaces and associated runoff would be negligible under either alternative. Furthermore, projects that create or replace greater than 10,000 cubic feet of impervious surfaces would minimize stormwater flows as specified in Measure 3.5-6. Overall, the collective incremental impacts of increased runoff that would result from construction of the WTTIP would not be cumulatively considerable.

## 5.2.5 Biological Resources

Chapter 3, Section 3.6 presents the potential impacts of each WTTIP facility on biological resources, including the following: protected trees; streams, wetlands, and riparian habitat potentially subject to state and federal protection; special-status plant and wildlife species; and migratory wildlife corridors. With the exception of impacts to protected trees at the Highland Reservoir, all identified impacts would be either less than significant or less than significant locally with implementation of proposed mitigation measures.

As described in Table 3.6-4 and Impact 3.6-1, the total number of protected trees that would be removed at all sites would be approximately 200 to 280 trees under either Alternative 1 or 2, although there would be somewhat greater potential tree loss at the Lafayette WTP under Alternative 1 than at the Orinda WTP under Alternative 2. In addition, more trees could be

damaged during project construction. At the Highland Reservoir site, removal of 30 to 35 multi-stemmed, large-diameter protected oak trees was determined to be a significant and unmitigable local impact. At all other WTTIP project sites, tree removal would be less than significant with implementation of proposed mitigation. At the Highland Reservoir and all other sites where the removal of protected trees would occur, protected trees would be replaced at a ratio of 3:1 for native trees and 1:1 for non-native trees. Additional measures would be implemented to minimize disturbance to protected trees adjacent to construction areas and monitor replacement trees (described in Measures 3.6-1a through 3.6-1e). When considered collectively within the geographic scope of the proposed project and with implementation of proposed mitigation, the number of protected trees to be removed at all sites combined, including the Highland Reservoir site, would not represent a substantial portion of the protected trees present in the surrounding 925-acre Lafayette Reservoir Recreation Area or the program area as a whole. Therefore, the removal of protected trees under the WTTIP projects collectively would not be considered significant.

Streams, wetlands, and riparian habitat potentially subject to state and federal protection either do not occur or could be avoided at many facility sites, as described in Impact 3.6-2. At 12 of the proposed sites, Lafayette Creek, Lauterwasser Creek, Las Trampas Creek, San Pablo Creek, and other drainages as well as Lafayette Reservoir could be directly affected through the removal of habitat during open-trench construction across drainages and/or indirectly affected through sedimentation and erosion, especially if grading and excavation occur during the rainy season. However, these impacts would primarily be temporary and could be mitigated to a less-than-significant level through avoidance or minimization of construction disturbance near streams and wetlands; establishment of a construction exclusion zone; acquiring and complying with applicable permits; and implementation of erosion control measures (including energy dissipators), special construction techniques and water quality protection measures (see Measures 3.6-2a through 3.6-2f). The collective impact of multiple WTTIP projects on streams, wetlands, and riparian habitat potentially subject to state and federal protection in the program area would be mitigated on a project-by-project basis and would not be cumulatively considerable.

As described in Impacts 3.6-3, 3.6-4, 3.6-5, 3.6-6, and 3.6-7, some of the project sites provide potential habitat for special-status plants and wildlife species, including both terrestrial and aquatic species. However, implementation of preconstruction surveys, habitat avoidance, and revegetation of disturbed areas, and other District-proposed mitigation measures (see Measures 3.6-3a through 3.6-3c, 3.6-4a through 3.6-4c, 3.6-5, 3.6-6, and 3.6-7a through 3.6-7c) would reduce potential impacts to these species to a less-than-significant level, and there would be no significant collective impacts on special-status species.

As discussed in Impact 3.6-8, 10 project sites could be considered part of existing migratory wildlife corridors. At project sites that provide habitat for migratory wildlife, potential impacts to wildlife corridors would be temporary, construction disturbance would be minimized in sensitive habitats, disturbed areas would be revegetated with native species upon project completion to prevent an increase in invasive plant species and habitat degradation, and low-impact lighting

would be focused away from sensitive habitat. New above-ground structures would not interfere significantly with wildlife movement, and habitat surrounding the project site would continue to facilitate wildlife movement through the project area. Therefore, WTTIP projects individually would have less-than-significant impacts. Collectively, the projects would have less-than-significant cumulative impacts on migratory wildlife corridors.

## 5.2.6 Cultural Resources

As described in Chapter 3, Section 3.7, at all WTTIP project sites there is a potential to encounter previously undiscovered cultural resources, including archaeological and paleontological resources as discussed in Impacts 3.7-1 and 3.7-2; however, implementation of Measures 3.7-1a, 3.7-1b, and 3.7-2 would reduce impacts to less than significant. Similarly, while there is a potential for adverse effects to historic settings at or near some of the project sites as discussed in Impact 3.7-3, the proposed construction and design would not result in substantial changes to the historic settings, and impacts would be less than significant. Collective impacts of the WTTIP as a whole on cultural resources would be the same as the individual facilities' impacts presented in Chapter 3 and would not be cumulatively considerable.

## 5.2.7 Traffic and Circulation

As described in Chapter 3, Section 3.8, implementation of the WTTIP would result in potential impacts on traffic and circulation, including increased construction vehicles and traffic delays, reduced road width, loss of parking, traffic safety issues, access disruption, transit disruption, and roadway wear and tear as discussed in Impacts 3.8-1 through 3.8-7. With the exception of impacts associated with the lack of detour routing, all identified impacts would be less than significant or could be mitigated to a less-than-significant level.

On the basis of the proposed construction scheduling of specific facility projects, simultaneous (overlapping) construction is likely to occur for multiple WTTIP facilities. The implication of overlapping construction pertains to the potential for construction-generated traffic for more than one facility to use the same road(s); that is, the total number of vehicle trips added to the common route(s) due to concurrent construction of multiple projects could be cumulatively higher than the maximum number of daily and hourly vehicle trips used to determine impacts of a single facility project. However, the period of time of maximum trip generation would vary among the facility projects, and therefore the maximum traffic flows on the common route(s) would not necessarily be the sum of the maximum trips generated by the overlapping projects. Nonetheless, so as to not underestimate the potential traffic and circulation impacts resulting from simultaneous construction projects, those impacts were assessed assuming that the maximum trips generated by the overlapping projects would occur at the same time.

Examples of simultaneous use of roads by construction workers and trucks for more than one facility project (based on proposed construction scheduling) are the following:

- Camino Pablo (two-lane section north of Miner Road): Traffic generated by construction at the Orinda WTP (Alternative 2) and the Orinda-Lafayette Aqueduct (tunnel portion) would use this

road during the years 2015–2017. If the maximum trip-generating phase for those two project elements were to overlap, the collective trip generation would be about 626 vehicles per day (i.e., about 3 percent above the existing daily traffic volume on this section of Camino Pablo). That level of increased traffic would not likely be perceptible to the average motorist because it would fall within the typical daily fluctuation of traffic volumes (which vary by as much as  $\pm 5$  percent). The impact determination for the overlapping use of the two-lane Camino Pablo would be the same (less than significant with mitigation) as for the Orinda WTP (Alternative 2) or Orinda-Lafayette Aqueduct (tunnel portion) alone.

- Camino Pablo (four-lane section between Highway 24 and Miner Road): Traffic generated by construction for the Orinda WTP (Alternative 1) and Happy Valley Pumping Plant and Pipeline projects would both use this road during the years 2011–2013. If the maximum trip-generating phase for each of those two project elements were to overlap, the collective trip generation would be about 210 vehicles per day (i.e., about 1 percent above the existing daily traffic volume on this section of Camino Pablo). That level of increased traffic would not likely be perceptible to the average motorist because it would fall within the above-cited typical daily fluctuation of traffic volumes. The impact determination for the overlapping use of the four-lane Camino Pablo would be the same (less than significant with mitigation) as for the Orinda WTP (Alternative 1) or Happy Valley Pumping Plant and Pipeline projects alone.
- Acalanes Road (El Nido Ranch Road to Mt. Diablo Boulevard): Traffic generated by construction at the Lafayette WTP (Alternative 1) and the Sunnyside Pumping Plant would both use this road during the years 2012–2013. If the maximum trip-generating phase for each of those two project elements were to overlap, the collective trip generation would be about 346 vehicles per day. The daily traffic volume on this road is not known, but based on volumes for similar nearby roads, the collective trip generation for both above-cited scenarios is assumed to represent an increase of less than 5 percent above the existing daily traffic volume on this section of Acalanes Road (i.e., within the above-cited typical daily fluctuation of traffic volumes). The impact determination for the overlapping use of this section of Acalanes Road would be the same (less than significant with mitigation) as for the individual project elements alone.
- Moraga Road (Mt. Diablo Boulevard to Rheem Boulevard): Traffic generated by construction for the Fay Hill Pumping Plant and Pipeline and the Moraga Reservoir projects would both use this road during the years 2016–2017. If the maximum trip-generating phase for each of those two project elements were to overlap, the collective trip generation would be about 226 vehicles per day (i.e., about 1 percent above the existing daily traffic volume on this section of Moraga Road). That level of increased traffic would not likely be perceptible to the average motorist because it would fall within the above-cited typical daily fluctuation of traffic volumes. The impact determination for the overlapping use of this section of Moraga Road would be the same (less than significant with mitigation) as for the Fay Hill Pumping Plant and Pipeline project or Moraga Reservoir project alone.
- El Nido Ranch Road (Highway 24 to Upper Happy Valley Road): Traffic generated by construction of the Orinda-Lafayette Aqueduct (tunnel portion) under Alternative 2 and the Sunnyside Pumping Plant would use this road, but not at the same time, so there would be no additive (overlapping) impacts.

As would be the case for each facility project, truck trips generated by overlapping projects would be dispersed throughout the day, and construction workers for the projects would commute to and from the worksite primarily before or after peak traffic hours. The percent increase in traffic volumes caused by project-generated construction traffic on the arterials and freeways serving the

project site would not be substantial, nor would project traffic significantly disrupt daily traffic flow on these roadways. Drivers would experience intermittent delays if they were traveling behind a construction truck. With implementation of Measure 3.8-1, this impact would be reduced to a less-than-significant level. Collectively, the traffic and circulation impacts resulting from implementation of the WTTIP as a whole would be less than significant. Furthermore, project-level impacts related to pavement wear and tear would be reduced to a less-than-significant level by Measure 3.8-7 which requires repair of damaged pavement. Because all damage would be repaired, there would be no collective impact related to pavement wear and tear.

## 5.2.8 Air Quality

All potential air quality impacts associated with WTTIP facilities, as described in Chapter 3, Section 3.9, would be less than significant or could be mitigated to a less-than-significant level. Potential air quality impacts include increases in dust and equipment emissions during construction, exposure to diesel particulates, emissions from ventilation fans, operational emissions, odors, and secondary emissions from power use.

As described in Impact 3.9-1, construction emissions associated with implementation of all WTTIP projects would span 12 years (2007 to 2018), and projects with overlapping construction schedules would have the potential for combined emissions in the same air basin. Total WTTIP-related average dust emissions are estimated to be 105 and 139 pounds per day under Alternatives 1 and 2, respectively. Due to the extended schedule of the combined WTTIP projects, a comparison of estimated dust emissions of the combined projects to the Bay Area Air Quality Management District's (BAAQMD) operational significance criterion of 80 pounds per day for dust would be exceeded between 2011 and 2018 under Alternative 2, and possibly on occasion under Alternative 1 when peak earthmoving activities occur. Similarly, for construction equipment exhaust emissions, the combined WTTIP construction activities would have the potential to exceed the BAAQMD's significance criteria for carbon monoxide and nitrogen oxide between 2007 and 2018. Due to this combined or collective impact, Measures 3.9-1a, 3.9-1b, and 3.9-1c would be required to reduce impacts to a less-than-significant level.

Impact 3.9-2 describes the potential for exposure of sensitive receptors to short-term increases in diesel particulates along truck haul routes during project construction. This impact was determined to be less than significant at all WTTIP project sites under Alternative 1; even with overlapping construction schedules and overlapping haul routes for multiple WTTIP projects, the potential impact would still be less than significant. For Alternative 2, there is some potential for daily combined truck trip volumes to exceed threshold levels between 2015 and 2018. When determining haul routes for each WTTIP project, EBMUD will consider all other scheduled WTTIP projects in the area that would use this route and will coordinate project schedules to ensure that the combined daily truck volume does not exceed 600 trips per day. Therefore, this cumulative impact is not considered significant and no mitigation is necessary.

Impact 3.9-3 relates to potential air pollutant emissions from ventilation fans and pertains only to tunneling. This site-specific impact could be mitigated to a less-than-significant level by

Measure 3.9-3, and there would be no collective impact, since proposed tunneling activities would be limited to the Orinda-Lafayette Aqueduct.

Operational air quality impacts, described in Impacts 3.9-4, 3.9-5, and 3.9-6, would all be less than significant with no mitigation required at any of the project sites. Therefore, the collective operational air quality impacts resulting from implementation of the WTTIP as a whole would be less than significant.

## 5.2.9 Noise and Vibration

Chapter 3, Section 3.10, identifies potential noise and vibration impacts associated with construction and operation of WTTIP project facilities. As described in Impacts 3.10-1 and 3.10-2, at most locations construction noise impacts would be mitigated to a level consistent with daytime and nighttime noise ordinance limits; in most cases, if feasible noise controls are implemented, construction noise levels at the closest sensitive receptors could be reduced to below the speech interference criterion. The exceptions would be for construction activities associated with the Orinda-Lafayette Aqueduct (under Alternative 2), Glen Pipeline, Happy Valley Pipeline, Moraga Road Pipeline, Tice Pipeline, Highland Reservoir, Moraga Reservoir, Happy Valley Pumping Plant, and Leland Pressure Zone Isolation Bypass Valves.

Implementation of noise controls (Measure 3.10-1a), time limits (Measure 3.10-1b), and use of temporary sound barriers (Measure 3.10-1e) would reduce potential construction impacts to a less-than-significant level, although mitigated construction noise could still cause occasional disturbance at the closest noise-sensitive receptors.

Construction noise impacts identified for each facility were evaluated with respect to site-specific conditions, including ambient noise levels and distance to closest receptors. Most construction noise impacts would be facility-specific. Overlapping noise impacts would be limited to impacts along haul routes where overlapping construction schedules for multiple WTTIP facilities could result in combined noise increases from increased truck traffic. As described in Section 5.2.7, Traffic and Circulation, above, there would be a collective impact associated with increased traffic along common haul routes for multiple WTTIP projects. Collective noise increases associated with simultaneous use of roads by haul trucks for more than one facility project (based on proposed construction scheduling) would include the following:

- Camino Pablo (north of Miner Road), Moraga Road (Mt. Diablo Boulevard to Rheem Boulevard), and Moraga Way (Highway 24 to Ivy Drive): Estimated haul-truck-related noise levels would be 64 to 66 dBA (Leq), which is not expected to result in noticeable noise increases on these road segments. These roads are already subject to high levels of traffic (13,766 to 26,400 vehicles per day) and associated traffic noise levels (estimated to be 61 to 65 dBA, Ldn). Therefore, truck-related noise increases would not noticeably increase ambient noise levels. In addition, these temporary noise increases would only occur during the less noise-sensitive, daytime weekday hours.
- Camino Pablo (Highway 24 to Miner Road), Mt. Diablo Boulevard (Acalanes Road to east of the Lafayette Reservoir Recreation Area), Acalanes Road (El Nido Ranch Road to Mt. Diablo Boulevard), Rheem Boulevard (Moraga Road to Chalda Way), Deer Hill Road (Highway 24 to Oak Hill Road), and Oak Hill Road (Highway 24 to Mt. Diablo Boulevard): Estimated haul-

truck-related noise levels would range between 62 and 65 dBA (Leq), which would not be expected to result in noticeable noise increases on these road segments. These road segments either are located near or traverse Highway 24 (where daytime ambient noise levels are likely to be at or above 65 dBA, Leq) or there are no noise-sensitive receptors adjacent to these road segments. Therefore, collective traffic increases on these road segments are not expected to result in significant noise impacts on sensitive receptors.

- El Nido Ranch Road (Highway 24 to Upper Happy Valley Road): Since there would be no collective traffic increases on this section of El Nido Ranch Road, no collective noise impacts are anticipated.
- Ardith Drive (Ivy Drive to Ardith Reservoir site), and Ivy Drive (Moraga Road to Ardith Drive): Estimated haul-truck-related noise levels would be 65 dBA (Leq), which could result in noticeable noise increases on these residential streets, where noise levels are expected to be 60 dBA (Ldn) or less. However, these temporary maximum noise increases would occur for a limited amount of time (three to six weeks if the excavation and backfilling phases were to overlap). Potential collective noise increases would be less during the remainder of construction. In addition, these temporary truck-related noise increases would only occur during the less noise-sensitive, daytime weekday hours, and noise levels are not expected to exceed the 70-dBA speech interference criterion at adjacent residences.

As described in Impact 3.10-3, potential vibration impacts would be mitigated to a less-than-significant level with implementation of Measure 3.10-3 requiring compliance with vibration limits. Vibration impacts for the proposed projects would be limited to the project site and immediate vicinity and there would be no potential for additive or combined effects of multiple projects. Therefore, the collective impacts of the WTTIP as a whole on vibration effects would be the same as the individual facilities' impacts presented in Chapter 3.

Similarly, operational noise associated with some projects, discussed in Impact 3.10-4, would be mitigated to a level of less than significant with construction of operational noise controls as specified in Measure 3.10-4. Because operational noise impacts for all projects would be reduced to an acceptable level and noise impacts are restricted to the project site and immediate vicinity, there would be no potential for additive or combined effects of multiple projects. Therefore, the collective impacts of the WTTIP as a whole on operational noise effects would be the same as the individual facilities' impacts presented in Chapter 3.

## 5.2.10 Hazards and Hazardous Materials

Chapter 3, Section 3.11 presents potential hazards and hazardous materials impacts associated with construction and operation of WTTIP project facilities. As described in Impacts 3.11-1 through 3.11-4, impacts associated with the potential to encounter hazardous materials or hazardous conditions during construction would be mitigated to a less-than-significant level at all sites through implementation of Measures 3.11-1, 3.11-2, and 3.12-1c, compliance with standard EBMUD procedures, and compliance with regulatory requirements. Construction and excavation activities for the proposed projects would be limited to the boundaries identified in Chapter 2, Project Description, and none of the projects would require the disposal of substantial volumes of hazardous materials. Due to the site-specific nature of these impacts and mitigation measures, there would be no potential for additive or combined effects of multiple projects, and the

collective impacts associated with the WTTIP as a whole would be the same as the project-specific impacts described in Chapter 3. Similarly, Impact 3.11-7 relates to the potential for accidental releases of chemicals stored at the WTPs, which is also a site-specific issue with no potential for additive effects; therefore, identified impacts at all WTPs would be less than significant.

Impact 3.11-5 describes the potential for an increased risk of wildland fires during construction in high fire hazard areas. Three of the WTTIP projects located in areas of wildland fire risk are in Orinda on the north side of Highway 24 (Orinda WTP, entry shaft of the Orinda-Lafayette Tunnel, and Happy Valley Pumping Plant) and share a major access route (Camino Pablo). The project analysis indicates that the potential impacts would be less than significant through compliance with the Public Resource Code provisions governing the use of construction equipment in fireprone areas; however, there could be an additive effect due to the proximity of these projects to each other and the shared use of the same access and haul roads, especially if construction overlaps during the season of highest fire danger (April 1 to December 1). The potentially compounded increase in wildland fire risk could place an additional burden on local fire service providers (Contra Costa County Fire Protection District and/or the Moraga-Orinda Fire District); furthermore, as described in Impact 3.8-5, construction activities could disrupt access to project sites, which could impede access for emergency vehicles. The extent of this impact would depend on the actual phasing of the WTTIP projects, requiring EBMUD internal coordination. However, this coordination, in combination with implementation of Measure 3.8-5 to reduce access impacts and Measure 3.12-1e to notify local fire departments, would reduce collective impacts to a less-than-significant level.

## 5.2.11 Public Services and Utilities

Chapter 3, Section 3.12 presents potential public services and utilities impacts associated with construction and operation of WTTIP project facilities. These impacts include potential disruption of existing utilities; an increase in electricity demand; an increase in demand for police and fire services; effects on landfill capacity; and failure to achieve state-mandated solid waste diversion rates.

As described in Impact 3.12-1, while construction of proposed projects could potentially damage or interfere with existing public utilities, impacts at all sites could be mitigated to a less-than-significant level with Measures 3.12-1a through 3.12-1g. Impacts to utilities would be project-specific and localized to individual sites (even if regional utilities are affected), and implementation of measures described in Chapter 3 would reduce these impacts to a less-than-significant level.

Impact 3.12-2 describes the short-term and long-term increase in electricity demand, primarily associated with the operation of WTPs and pumping plants. A preliminary study performed by the Pacific Gas and Electric Company (PG&E) in February 2006 indicates the need for additional electricity distribution facilities under both Alternative 1 and Alternative 2. With construction of these additional facilities, the impact of the WTTIP projects on the electricity demand would be less than significant.

Impact 3.12-3 describes the potential for increased demand for police and fire services during construction and operation of the WTTIP projects. With incorporation of Measures 3.12-1a through 3.12-1g, the impact is expected to be less than significant.

The most significant source of solid waste is potentially requiring offsite disposal would be excavated material, estimated at approximately 230,000 – 376,000 cubic yards for all WTTIP projects under Alternatives 1 and 2, respectively. As described under Impacts 3.12-4 and 3.12-5 and presented in Table 3.12-5, however, most of this material would be reused onsite and, together with other measures designed to encourage waste recycling and reuse, is not expected to result in a significant cumulative effect on landfill capacity in the area.

### 5.3 Potential Projects with Related or Cumulative Effects

The evaluation presented in Section 5.2 considered the collective impacts associated with construction and operation of all components of the WTTIP based on the geographic scope of the affected environmental resource and the proposed project schedule. The following cumulative analysis considers collective WTTIP impacts in combination with potential environmental effects of other projects in the WTTIP study area. “Other projects,” also referred to as “cumulative projects,” include recently completed projects, projects currently under construction, and future projects currently in development. Table 5-1 lists the projects that were considered in the evaluation of cumulative impacts and is organized by geographic location, and Figure 5-1 shows the approximate location of the cumulative projects.<sup>1</sup> Table 5-2 presents the proposed construction schedule for the WTTIP facilities; for the purpose of the cumulative analysis, construction schedules are grouped into five-year periods to determine the potential for schedule overlap with projects listed in Table 5-1.

Table 5-1 identifies the project sponsors, which include EBMUD as well as other service districts (Central Contra Costa Sanitary District, Contra Costa Transit Authority, SBC, and PG&E), local jurisdictions (Lafayette, Moraga, Orinda, Walnut Creek, Pleasant Hill, San Pablo, Richmond, Oakland, and Contra Costa County) and other agencies (California Department of Transportation, or Caltrans). These projects were identified by the planning, community development, and public works/engineering departments of those agencies as well as through information posted on their websites. The table presents the project location, description, status, and construction schedule based on information available through early 2006; it also indicates the potential for geographic overlap with any WTTIP element. Those projects with identified schedules that could overlap with construction of a nearby WTTIP facility are shown in shaded cells, although this preliminary determination could change due to the uncertainty of project schedules; in addition, the construction schedule is as yet unknown for many of the projects listed in Table 5-1.

---

<sup>1</sup> Figure 5-1 indicates the approximate location of projects, but does not indicate the size of project sites. Refer to Table 5-1 and the sources listed for more details on the size and location of projects.

**TABLE 5-1  
OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
<b>LAFAYETTE</b>						
Overlapping Haul Routes with Lafayette WTP, Orinda-Lafayette Aqueduct, Highland Reservoir and Pipeline, Moraga Road Pipeline						
A-1	EBMUD	Folsom South Canal Connection Projects	Install stop logs and isolation valve at Lafayette WTP.	All	Approved / construction date uncertain	EBMUD, 2005g
A-2	Contra Costa Transportation Authority	Lafayette Carpool Lots	Construct a carpool lot on Mt. Diablo Boulevard at Risa Road.	All	Approved / 2007	Contra Costa Transportation Authority, 2006b; Contra Costa Transportation Authority, 2006a
South Projects with Overlapping Haul Routes with Fay Hill Reservoir Replacement, Fay Hill Pumping Plant and Pipeline, Glen Pipeline Improvements, Moraga Road Pipeline, Moraga Reservoir, Sunnyside Pumping Plant, St. Mary's Road/Rohrer Drive Pipeline						
B-1	EBMUD	Brook Street Pipeline	Replace 2,700 feet of 6- and 8-inch transmission pipeline with 16-inch pipeline. Located on Brook Street from Mountain View Drive to Moraga Road.	Moraga Road Pipeline, Glen Pipeline Improvements	Planned / Apr. 2012 through Jan. 2013	EBMUD, 2005c
B-2	EBMUD	Sunset Reservoir Rehabilitation	Rehabilitate 0.07-million-gallon tank located east of Lafayette Reservoir.	Moraga Road Pipeline	Planned / Apr. 2010 through Sept. 2010	EBMUD, 2005b
B-3	EBMUD	Folsom South Canal Connection Projects	Install a new pump control panel, dechlorination improvements, and electrical improvements at the Moraga Pumping Plant.	Moraga Road Pipeline, Glen Pipeline Improvements	Approved / construction date uncertain	EBMUD, 2005g
B-4	City of Lafayette	Veteran's Memorial Building	10,500-square-foot community facility located at 3491 Mt. Diablo Boulevard.	Moraga Road Pipeline, Glen Pipeline Improvements	Construction completed 2005	City of Lafayette, 2005
B-5	City of Lafayette	Soldier Field Subdivision	87.9-acre subdivision for eight residential lots and approximately 60 acres of open space at the boundary between Lafayette and Walnut Creek.	St. Mary's Road/Rohrer Drive Pipeline	Proposed	City of Lafayette, 2005
B-6	City of Lafayette	Lafayette Library and Learning Center	30,321-square-foot library and 33,019-square-foot garage at Mt. Diablo Boulevard and First Street.	Glen Pipeline Improvements	Approved / 2006	City of Lafayette, 2005
B-7	City of Lafayette	Lafayette Mercantile	22,000-square-foot retail and 33,000-square-foot office building at Mt. Diablo Boulevard at Dewing Avenue.	Glen Pipeline Improvements	Approved / 2005–2006	City of Lafayette, 2005
B-8	City of Lafayette	Town Center Phase III	75-unit apartment building at Mt. Diablo Boulevard at Dewing Avenue.	Glen Pipeline Improvements	Planned (in approval process) / 2006	City of Lafayette, 2005

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP Project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates preliminary determination of potential for overlap with WTTIP construction schedule for nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
B-9	PG&E	Rule 20 Electric Undergrounding Program	Undergrounding of utilities along 1,000 feet of Lafayette Circle.	Glen Pipeline Improvements	Approved / 2008	Pflaum, 2006
B-10	Contra Costa Transportation Authority	Moraga Road Corridor Improvements – Phases I and II	Eliminated a signal and crosswalks at the intersection of Brook Street and Moraga Road (involved closure of Brook Street). Installed traffic signal at intersection of Moraga Road and Moraga Boulevard.	Glen Pipeline Improvements	Completed in 2005	Contra Costa Transportation Authority, 2006b; Contra Costa Transportation Authority, 2006a
B-11	Contra Costa Transportation Authority	Moraga Road Corridor Improvements – Phases III and IV	Acquire right-of-way and realign Brook Street with School Street. Construct a pedestrian walkway along Moraga Road from Old Jones Hill Road to Hillsdale.	Glen Pipeline Improvements	Completed in 2005	Contra Costa Transportation Authority, 2006b; Contra Costa Transportation Authority, 2006a
B-12	Contra Costa Transportation Authority / City of Lafayette	Moraga Road Structural & Safety Improvements	Structural and safety improvements on Moraga Road between St. Mary's Road and Moraga city limit. Improvements include access improvements at intersections, shoulder work, potential slope stabilization, pavement rehabilitation, removal of safety hazards, and related improvements. Improvements from the Lafayette/Moraga town limit to Rim Rock Road are completed.	Moraga Road Pipeline	Completed in 2005	Contra Costa Transportation Authority, 2006b; Contra Costa Transportation Authority, 2006a; City of Lafayette, 2006; Coe, 2006
B-13	City of Lafayette	Lafayette Valley Estates Storm Drain Improvement Project	Repair and replacement of approximately 1,600 feet of broken concrete ditches and 600 feet of corroded metal pipes of the original storm drain system at several locations within the subdivision as the first phase to upgrading and renewing the area drainage system.	St. Mary's Road/Rohrer Drive Pipeline	Approved / 2006	City of Lafayette, 2006; Coe, 2006
B-14	City of Lafayette	St. Mary's Road Storm Drain Improvements	Construct 1,000 feet of underground storm drainage pipe to replace existing open ditch where standing water occurs between Huertas Road and Hope Lane.	St. Mary's Road/Rohrer Drive Pipeline	Approved / 2006	City of Lafayette, 2006; Coe, 2006
B-15	Contra Costa Transportation Authority	Mt. Diablo Boulevard Corridor Improvements	Added a third east-bound lane to Mt. Diablo Boulevard between Oak Hill Road and Moraga Road. At the intersection with Moraga Road, a third south-bound lane was added. Other improvements were made to Plaza Way and Golden Gate Way. The project included some landscape work that mitigated the loss of landscaped medians and park area. Plaza park was rebuilt using local funds.	Glen Pipeline Improvements	Construction completed in 2001	Contra Costa Transportation Authority, 2006b; Contra Costa Transportation Authority, 2006a
B-16	EBMUD	Folsom South Canal Connection Projects	Install isolation butterfly valve on the branch line from Lafayette Aqueduct No. 1 to Moraga Pumping Plant.	Moraga Road Pipeline	Approved / 2006	EBMUD, 2005g

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates a preliminary determination of potential overlap with the construction schedule for the nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
B-17	EBMUD	Happy Valley Road Pipeline	Replace 3,150 feet of pipeline on Dolores Street, under Highway 24, and on Happy Valley Road.	Glen Pipeline Improvements	Planned / completion expected by April 2007	Kirkpatrick, 2006
North Projects with Overlapping Haul Routes with Fay Hill Reservoir Replacement, Fay Hill Pumping Plant and Pipeline, Glen Pipeline Improvements, Moraga Road Pipeline, Moraga Reservoir, Sunnyside Pumping Plant, St. Mary's Road/Rohrer Drive Pipeline						
C-1	EBMUD	Valory Reservoir Replacement	Replace 0.27-million-gallon reservoir with a 0.5-million-gallon reservoir off of Panorama Drive	Glen Pipeline Improvements	In construction / completion expected by Jun. 2006	EBMUD, 2005e
C-2	Caltrans	Deer Hill Road/Oak Road Interchange	Improve interchange and signals at westbound off-ramp at Highway 24 Deer Hill Road/Oak Road interchange.	Glen Pipeline Improvements	Status being determined	Caltrans, 2006
C-3	City of Lafayette	Happy Valley Road Storm Drain Improvements	Replace 100 feet of roadside ditch on Happy Valley Road, just east of Crestmont Drive, with an underground pipe.	Glen Pipeline Improvements	Approved / 2006	City of Lafayette, 2006; Coe, 2006
Overlapping Haul Routes with Tice Pumping Plant and Leland Reservoir Replacement						
D-1	EBMUD	Old Tunnel Road Pipeline	Replace 1,300 feet of 8-inch transmission pipeline with a 12-inch pipeline. Located on Old Tunnel Road from Buchanan Drive to Linda Vista Lane.	Leland Reservoir Replacement	Planned / Apr. 2013 through Jan. 2014	EBMUD, 2005c
D-2	Central Contra Costa Sanitary District	Trunk Sewer Project – Lower Pleasant Hill Road Trunk	Replace approximately 3,300 feet of trunk sewer with a 21-inch line in Pleasant Hill Road, south of Highway 24.	Leland Reservoir Replacement	Approved / 2012	Central Contra Costa Sanitary District, 2005
D-3	City of Lafayette	Hidden Oaks	21-lot single-family residential subdivision near Kinney Drive.	Leland Reservoir Replacement	Approved / under construction	City of Lafayette, 2002
D-4	Caltrans / City of Lafayette	Pleasant Hill Road Bike/Pedestrian Path Improvements	Construct multipurpose pathways, tree-lined strips, bike lanes, and narrow travel lanes in Pleasant Hill Road between Mt. Diablo Boulevard and Condit Lane.	Leland Reservoir Replacement	Under construction / completion expected by 2006	Caltrans, 2006; Contra Costa Transportation Authority, 2006a; City of Lafayette, 2006
Other Overlaps						
E-1	EBMUD	Diablo Vista Reservoir Replacement	Drain and decommission 2.9-million-gallon reservoir and replace with a new 0.62-million-gallon reservoir at the existing reservoir site at a higher overflow elevation.	Walnut Creek WTP	Planned / Feb. 2010 through Jul. 2011	EBMUD, 2005c

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP Project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates preliminary determination of potential for overlap with WTTIP construction schedule for nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
	City of Lafayette	2006 Pavement Management Program	Rehabilitation and maintenance of 25 streets citywide, including Happy Valley Road, Mt. Diablo Boulevard, and St. Mary's Road (not shown on figure).	Various locations	Approved for 2006	City of Lafayette, 2006
	Central Contra Costa Sanitary District	Collection System Renovation Program	Replace or renovate small-diameter sewers in Lafayette at various locations (allowance for future projects – not shown on figure).	Various locations	Planned / no certain dates	Central Contra Costa Sanitary District, 2005
<b>MORAGA</b>						
Overlapping Haul Routes with Fay Hill Reservoir Replacement, Fay Hill Pumping Plant and Pipeline, Glen Pipeline Improvements, Moraga Road Pipeline, Moraga Reservoir, Sunnyside Pumping Plant, St. Mary's Road/Rohrer Drive Pipeline						
F-1	EBMUD	Decommission Jonas Hill Reservoir	Decommission existing reservoir.	Moraga Road Pipeline	Completed in 2005	EBMUD, 2005b
F-2	Central Contra Costa Sanitary District	Concrete Corrosion Control Work on St. Mary's Road	Install 2,850 feet of cured-in-place pipe inside existing 33-inch sewer along easement paralleling St. Mary's Road beginning at Bollinger Canyon Road and extending southeast along Lafayette Moraga Trail (all internal work, no trench excavation); parallels one segment of the St. Mary's Road/Rohrer Drive Pipeline.	St. Mary's Road/Rohrer Drive Pipeline	Approved / 2006	Central Contra Costa Sanitary District, 2005
F-3	Central Contra Costa Sanitary District	Moraga Way Pumping Station Force Main	Evaluation and rehabilitation of existing force main paralleling St. Mary's Road near St. Mary's College and Bollinger Canyon Road. May overlap with one segment of the St. Mary's Road/Rohrer Drive Pipeline.	St. Mary's Road/Rohrer Drive Pipeline	Approved / 2014	Central Contra Costa Sanitary District, 2005
F-4	Town of Moraga	Rancho Laguna Housing Development	43-single-family housing development on 180 acres of existing open space. Currently in approval process.	Moraga Road Pipeline, Fay Hill Reservoir Replacement, Fay Hill Pumping Plant and Pipeline	Planned / construction date uncertain	Town of Moraga, 2005
F-5	Town of Moraga	Palos Colorados Housing Development	120-lot single-family housing development and 18-hole golf course on existing open space. Currently in approval process.	Moraga Road Pipeline	Planned / construction date uncertain	Town of Moraga, 2005
F-6	Contra Costa County Building Department	Relay Module APN 255-015-13	Relay module for commercial electrical at southwest corner of Moraga Road and Rheem Boulevard at or very near the same site as the Fay Hill Pumping Plant.	Fay Hill Pumping Plant and Pipeline, Moraga Road Pipeline, Fay Hill Reservoir Replacement	Approved / construction date uncertain	Gomez, 2005

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates a preliminary determination of potential overlap with the construction schedule for the nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
F-7	Contra Costa County Building Department	Metro PCS APN 255-015-14	Metro PCS cell site on Rheem Boulevard just west of Moraga Road; on other side of Center Street from the Fay Hill Pumping Plant. Currently in for plan check.	Fay Hill Pumping Plant and Pipeline, Moraga Road Pipeline, Fay Hill Reservoir Replacement	Approved / construction date uncertain	Gomez, 2005
F-8	EBMUD	Rheem Pumping Plant Upgrade	Upgrade Rheem Pumping Plant from 1.6 million gallons per day (mgd) to 3.2 mgd.	Fay Hill Pumping Plant and Pipeline, Moraga Road Pipeline, Fay Hill Reservoir Replacement	Approved / Dec. 2006 through Nov. 2007	EBMUD, 2005a
F-9	EBMUD	Lamorinda Recycled Water Project	As part of its water recycling program, EBMUD may implement a recycled water project in the Lamorinda area. This potential project could serve the proposed Palos Colorados development in Moraga (project F-5, above). Facilities would consist of a satellite recycled water treatment plant located next to the development to produce approximately 200,000 gallons per day of recycled water for irrigation of the golf course proposed as part of the development. The source of wastewater for the project would be an existing sewer located along Moraga Road, which would overlap with a part of the Moraga Road Pipeline. Construction of the recycled water project is dependent upon approval of the Palos Colorados development.	Moraga Road Pipeline	Proposed / timing dependent on approval of Palos Colorados project	Hu, 2006
F-10	Town of Moraga	New Office Building	Construction of a new office building and site improvements at 533 Moraga Road.	Fay Hill Pumping Plant and Pipeline, Moraga Road Pipeline, Fay Hill Reservoir Replacement	Approved / construction date uncertain	Town of Moraga, 2005
F-11	Town of Moraga	Hetfield Conceptual Development Plan	Subdivision of 58.2 acres on Hetfield Place into six lots.	St. Mary's Road/Rohrer Drive Pipeline	Application under consideration by the design review board / construction date uncertain	Dennsler, 2006
F-12	Town of Moraga	Los Encinos Housing Development	Single-family housing development.	St. Mary's Road/ Rohrer Drive Pipeline	April 2006	Dennsler, 2005
F-13	Town of Moraga	Bollinger Canyon General Plan Amendment and Rezoning Study	Single-family housing development.	St. Mary's Road/ Rohrer Drive Pipeline	Application submitted but project on hold because of additional studies required	Town of Moraga, 2005

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP Project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates preliminary determination of potential for overlap with WTTIP construction schedule for nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
Other Overlaps						
	Central Contra Costa Sanitary District	Collection System Renovation Program	Replace or renovate small-diameter sewers in Moraga (allowance for future projects – not shown on figure).	Various locations	Planned / no certain dates	Central Contra Costa Sanitary District, 2005
ORINDA						
Overlapping Haul Routes with Orinda WTP, Orinda-Lafayette Aqueduct, Happy Valley Pumping Plant and Pipeline, and San Pablo Pipeline						
G-1	Central Contra Costa Sanitary District	Lower Orinda Pumping Station Force Main	Rehabilitation of existing force main on Camino Pablo between Miner Road and Crossroads Shopping Center.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Approved / 2012	Central Contra Costa Sanitary District, 2005
G-2	EBMUD	Orinda Reservoir	Decommission existing reservoir.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Completed in 2005	EBMUD, 2005b
G-3	EBMUD	Encinal Reservoir Replacement	Replace 0.26-million-gallon redwood reservoir with a new 0.19-million-gallon steel-bolted tank at the same site.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Planned / Jan. 2009 through Jun. 2010	EBMUD, 2005d
G-4	EBMUD	Westside Reservoir Replacement	Replace the 0.49-million-gallon Encinal Reservoir with a new 0.36-million-gallon reservoir and demolish the existing reservoir.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Completed in 2005	EBMUD, 2005d
G-5	EBMUD	Claremont Tunnel Seismic Improvements	Seismic improvements to the existing Claremont Tunnel, including construction of short bypass tunnel at west end in Berkeley and repairs to the tunnel from the Orinda WTP portal (Figure shows only Orinda WTP portion of project.)	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Under construction / completion expected by 2007	EBMUD, 2003b
G-6	EBMUD	Folsom South Canal Connection Projects	Construct spillway improvements at Orinda WTP.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Approved / 2008–2009	EBMUD, 2005g
G-7	Central Contra Costa Sanitary District	Flushkleen Force Main Renovation	Replace existing force main on Camino Pablo between Manzanita and Miner Road. Overlaps the Orinda WTP site and segments of the San Pablo Pipeline.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Approved / 2007	Central Contra Costa Sanitary District, 2005
G-8	Central Contra Costa Sanitary District	Trunk Sewer Project – Miner Road, Orinda	Replace approximately 7,200 feet of trunk sewer in Miner Road and Lombardy Lane with lines ranging in size from 15 to 27 inches. Overlaps with segments of the Happy Valley Pipeline.	Happy Valley Pumping Plant and Pipeline	Approved / 2008	Central Contra Costa Sanitary District, 2005
G-9	Central Contra Costa Sanitary District	Trunk Sewer Project – Camino Pablo, Orinda	Replace approximately 1,500 feet of trunk sewer in Camino Pablo near Miner Road with a 15-inch line.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Approved / 2008	Central Contra Costa Sanitary District, 2005

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates a preliminary determination of potential overlap with the construction schedule for the nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
G-10	City of Orinda	Orinda Grove Development	80-dwelling housing development, relocation of city-owned ballfields, and construction of new office building. Project is located on 14.1-acre site, northeast of the intersection of Camino Pablo and Altarinda Road. In approval process; construction anticipated to begin in 2006.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Planned / 2006	City of Orinda, Planning Department, 2006
G-11	Contra Costa County Building Department	APN 266-010-04	Retaining wall work on two parcels west of the Happy Valley Pumping Plant parcel on Lombardy Lane.	Happy Valley Pumping Plant and Pipeline	Approved / construction schedule uncertain	Gomez, 2005
G-12	City of Orinda	Manzanita Drive Bride	Rebuilding Manzanita Drive bridge over San Pablo Creek because of seismic safety concerns and because the bridge is flooded during some storm events. Requires right-of-way for construction of temporary bridge on EBMUD Orinda WTP property. Some overhead utilities have already been relocated to accommodate construction.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Approved / 2007	Lowry, 2006
G-13	PG&E	Rule 20 Electric Undergrounding Program	Undergrounding of utilities along 5,000 feet of Miner Road between Camino Pablo and Lombardy Lane.	Happy Valley Pumping Plant and Pipeline	Approved / 2007 or 2008	Pflaum, 2006
G-14	Contra Costa Transportation Authority	Santa Maria Intersection Improvements	Review of traffic volumes and movements along Camino Pablo, extending northerly from Highway 24 to Santa Maria intersection. Recommendations may include addition of second lane on Camino Pablo.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Tentative	Contra Costa Transportation Authority, 2006b; Contra Costa Transportation Authority, 2006a
G-15	EBMUD	Sleepy Hollow Reservoir Replacement	Replace 0.14-million-gallon temporary reservoir with a 0.4-million-gallon reservoir.	Happy Valley Pumping Plant and Pipeline	Under construction / expected to be completed by Sept. 2006	EBMUD, 2005e
<b>Overlapping Haul Routes with Ardith Reservoir and Donald Pumping Plant</b>						
H-1	EBMUD	Laguna Pumping Plant Replacement	Replace 0.2-mgd pumping plant with a 0.75-mgd pumping plant. To be located within the Montanera Development.	Ardith Reservoir and Donald Pumping Plant	Approved / Mar. 2007 through Jan. 2008	EBMUD, 2005a
H-2	EBMUD	Laguna No. 2 Reservoir	Construct new 0.27-million-gallon Laguna Reservoir adjacent to existing Laguna Reservoir.	Ardith Reservoir and Donald Pumping Plant	Approved / Mar. 2007 through Jun. 2008	EBMUD, 2005a

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP Project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates preliminary determination of potential for overlap with WTTIP construction schedule for nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
H-3	EBMUD	Cross Roads Pumping Plant Replacement	Replace 0.3-mgd pumping plant with a 0.9-mgd pumping plant at existing site and replace 400 feet of 6-inch suction pipeline in Spring Road from pumping plant to Knickerbocker Lane with 8-inch pipeline.	Ardith Reservoir and Donald Pumping Plant	Approved / May 2006 through Jun. 2007	EBMUD, 2005a
H-4	Central Contra Costa Sanitary District	Trunk Sewer Project – Moraga Way, Orinda	Replace approximately 3,400 feet of existing trunk sewer with 12- and 15-inch lines in Moraga Way in the vicinity of El Camino Moraga and Del Rey School.	Ardith Reservoir and Donald Pumping Plant	Approved / 2009	Central Contra Costa Sanitary District, 2005
H-5	Central Contra Costa Sanitary District	Hall Drive Sewer Improvements – Phase 2B Construction	Renovation/replacement of the old easement sewer that serves 18 homes. The new line will be constructed in front yards of homes and tie into the bypass sewer in Hall Drive. Trenchless technologies will be utilized to minimize disruption of the front yards.	Ardith Reservoir and Donald Pumping Plant	Approved / 2011	Central Contra Costa Sanitary District, 2005
H-6	City of Orinda	Southwood Valley Subdivision	16 lot subdivision on 43 acres in Southwood Valley (Southwood Drive and Tara Road). EIR scoping in January 2006.	Ardith Reservoir and Donald Pumping Plant	Planned / construction Date uncertain	Parkman, 2005
H-7	City of Orinda	Stein Way Subdivision	2-parcel subdivision (will probably be subdivided further) at Stein Way and Oak Road. Application is being appealed.	Ardith Reservoir and Donald Pumping Plant	Planned / construction date uncertain	Parkman, 2005
H-8	EBMUD	New Siesta Reservoir	Construct a new 0.73-million-gallon reservoir and 1,160 feet of 12-inch inlet/outlet pipeline within the Montanera Development. (Figure shows only a generalized location within the Montanera site.)	Ardith Reservoir and Donald Pumping Plant	Approved / Mar. 2007 through Jun. 2008	EBMUD, 2005a
H-9	City of Orinda	Montanera	245-unit single-family housing development in Gateway Valley (western Orinda). Approved; EIR certified; construction to begin in 2006.	Ardith Reservoir and Donald Pumping Plant	Approved / 2006	City of Orinda, Planning Department, 2006
H-10	EBMUD	Moraga Way Pipeline Replacement	Replacement of aging water pipelines on Moraga Way between Overhill Road and Camino Encinas.	Ardith Reservoir and Donald Pumping Plant	Completed in 2005	EBMUD, 2005h
H-11	City of Orinda	Asphalt Reconstruction on Moraga Way	Repave Moraga Way between Camino Encinas and Ivy Drive.	Ardith Reservoir and Donald Pumping Plant	Approved / 2007	Lowry, 2006
H-12	Contra Costa Transportation Authority	Moraga Way/Ivy Drive Roadway Improvement & Signalization Project	Modify intersection of Ivy Drive and Moraga Way to provide free right-turn lane from southbound Moraga Way to Westbound Ivy Drive. Replace existing signal and widen sidewalks to meet Americans with Disabilities Act standards.	Ardith Reservoir and Donald Pumping Plant	Completed in 2004	Contra Costa Transportation Authority, 2006b; Contra Costa Transportation Authority, 2006a

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates a preliminary determination of potential overlap with the construction schedule for the nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
H-13	Contra Costa Transportation Authority	Bryant Way/Moraga Way Improvements	Provide pedestrian and bicycle connection between St. Stephens Trail, downtown Orinda, and the Orinda BART station. Areas encompassed are Bryant Way/Davis Road from St. Stephens Trail to the BART station connection near Camino Pablo; and Moraga Way from Brookwood Road to Bryant Way.	Ardith Reservoir and Donald Pumping Plant	Completed in 2005	Contra Costa Transportation Authority, 2006b; Contra Costa Transportation Authority, 2006a
H-14	Contra Costa Transportation Authority	Moraga Way at Glorietta Boulevard and Camino Encinas	Improvements of Moraga Way at the intersections with Glorietta Boulevard and Camino Encinas.	Ardith Reservoir and Donald Pumping Plant	Completed in 2001	Contra Costa Transportation Authority, 2006b; Contra Costa Transportation Authority, 2006a
H-15	Contra Costa Transportation Authority	Moraga Way Safety Improvements	Construction of safety features on Moraga Way between Glorietta Boulevard and Ivy Drive, including separate walkways, crosswalks, roadway widening, speed bumps, and other traffic calming devices.	Ardith Reservoir and Donald Pumping Plant	Completed in 2002	Contra Costa Transportation Authority, 2006b; Contra Costa Transportation Authority, 2006a
H-16	Contra Costa Transportation Authority	Widen Eastbound Highway 24 Off-Ramp at Brookwood Road	Widen the eastbound Highway 24 off-ramp at Brookwood Road.	Ardith Reservoir and Donald Pumping Plant	Tentative	Contra Costa Transportation Authority, 2006b; Contra Costa Transportation Authority, 2006a
<b>Other Overlaps</b>						
I-1	City of Orinda	Asphalt Reconstruction on El Nido Ranch Road	Repave El Nido Ranch Road between Stephens Drive and city limit. Would not be implemented until WTTIP would be completed.	Orinda-Lafayette Aqueduct	Approved / construction schedule dependent on WTTIP	Lowry, 2006
	Central Contra Costa Sanitary District	Collection System Renovation Program	Replace or renovate small-diameter sewers in south Orinda (south of Highway 24 – many locations, not shown on figure).	Various locations	Planned / no certain dates	Central Contra Costa Sanitary District, 2005

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP Project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates preliminary determination of potential for overlap with WTTIP construction schedule for nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
<b>WALNUT CREEK</b>						
J-1	EBMUD	Walnut Creek – San Ramon Improvement Project	Treatment, transmission, and distribution system improvements to correct deficiencies and increase reliability through Walnut Creek and Alamo. Includes four main components: (1) upgrades at Walnut Creek WTP where construction is scheduled to be completed in 2006; (2) northern pipeline and tunnel, where construction began in March 2003 and is scheduled for completion in 2006 and includes a completed segment on Lacassie Avenue, which is the same location as the Leland Isolation Pipeline, and pipeline construction along South Broadway between Newell Avenue and Rudgear Road is scheduled for completion in fall 2006 and is the same location as the New Leland Reservoir and Pipeline and Valve Improvements; (3) recently completed construction of Danville Pumping Plant in Alamo just south of Rudgear Road Trailhead near the New Leland Reservoir and Pipeline and Valve Improvements; and (4) completed construction of the Iron Horse corridor pipeline in Alamo.	Walnut Creek WTP, Leland Isolation Pipeline, New Leland Reservoir and Pipeline and Valve Improvements	Approved / partly completed and partly under construction, construction began in 2003 and scheduled for completion in 2006	EBMUD, 2000; EBMUD, 2006
<b>Overlapping Haul Routes with Walnut Creek WTP</b>						
K-1	EBMUD	Folsom South Canal Connection Projects	Install isolation butterfly on the north raw water line to the Walnut Creek WTP.	Walnut Creek WTP	Approved / construction date uncertain	EBMUD, 2005g
K-2	City of Walnut Creek	Contra Costa Christian School Expansion	Remove two portable buildings, construct new two-story 22,955-square-foot gymnasium/classroom building on seven-acre site at 2721 Larkey Lane.	Walnut Creek WTP	Under Review	City of Walnut Creek, Planning Division, 2006b
K-3	City of Walnut Creek	Trailside Glen Subdivision	Subdivision on 3.77 acres with seven lots for single-family residential – each lot over 12, 000 square feet at 2637 Larkey Lane.	Walnut Creek WTP	Under Review	City of Walnut Creek, Planning Division, 2006b
<b>Overlapping Haul Routes with Leland Isolation Pipeline</b>						
L-1	Central Contra Costa Sanitary District	Trunk Sewer Project – South Broadway Walnut Creek	Replace approximately 2,000 feet of the existing trunk sewer with a 15-inch line between Newell Avenue and Mt. Diablo Boulevard.	Leland Isolation Pipeline	Approved / 2009	Central Contra Costa Sanitary District, 2005
L-2	Central Contra Costa Sanitary District	Trunk Sewer Project – Walnut Boulevard, Walnut Creek	Replace approximately 7,000 feet of the existing trunk sewer in Walnut Boulevard between Homestead Avenue and Norlyn Drive with lines ranging in size from 18 to 22 inches.	Leland Isolation Pipeline	Approved / 2015	Central Contra Costa Sanitary District, 2005

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates a preliminary determination of potential overlap with the construction schedule for the nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
L-3	Central Contra Costa Sanitary District	Walnut Creek Civic Center Main Improvements	Replace several deteriorated sewer lines along and adjacent to Civic Drive in downtown Walnut Creek.	Leland Isolation Pipeline	Tentative – dependent on Walnut Creek Plan	Central Contra Costa Sanitary District, 2005
L-4	Central Contra Costa Sanitary District	Locust Street Improvements	Replace several deteriorated sewers along and crossing Locust Street in downtown Walnut Creek, with one end overlapping with the Leland Isolation Pipeline.	Leland Isolation Pipeline	Tentative – dependent on Walnut Creek Plan	Central Contra Costa Sanitary District, 2005
L-5	Central Contra Costa Sanitary District	Mt. Diablo Boulevard Main Improvements	Replace several deteriorated sewers along and adjacent to Mt. Diablo Boulevard in downtown Walnut Creek.	Leland Isolation Pipeline	Tentative – dependent on Walnut Creek Plan	Central Contra Costa Sanitary District, 2005
L-6	Central Contra Costa Sanitary District	North Main Street Trunk Improvements	Replace several deteriorated sewers along North Main Street in downtown Walnut Creek between Civic Drive and Mt. Diablo Boulevard.	Leland Isolation Pipeline	Tentative – dependent on Walnut Creek Plan	Central Contra Costa Sanitary District, 2005
L-7	City of Walnut Creek	The Mercer	2.95-acre mixed-use residential and retail project, including 181 residential condominiums, 21,000 square feet of retail space, and two levels of parking. Located at 1655 North California Boulevard, between Trinity Avenue and Cole Avenue. Construction estimated from August 2005 to April 2007 (20 months).	Leland Isolation Pipeline	Approved / 2005–2007	City of Walnut Creek, Planning Division, 2006a
L-8	City of Walnut Creek	North Creek Church Expansion	Phased expansion including 69,885 square feet of a two-story sanctuary and 22,785 square feet of a gym/multipurpose room on 7.1 acres at 2303 Ygnacio Valley Road.	Leland Isolation Pipeline	Approved	City of Walnut Creek, Planning Division, 2006b
L-9	City of Walnut Creek	Walnut Creek Ford Remodel	29,000-square-foot facility at 1800 North Main Street and 5,370-square-foot facility across the street on Carlbak, with street frontage improvements along Carlbak and North Broadway. Very close to some sections of the Leland Isolation Pipeline.	Leland Isolation Pipeline	Approved	City of Walnut Creek, Planning Division, 2006a
L-10	City of Walnut Creek	Talbot's Apparel	20,000-square-foot retail facility at 1201 South Main Street at Olympic Boulevard.	Leland Isolation Pipeline	Completed fall 2004	City of Walnut Creek, Planning Division, 2006a
L-11	City of Walnut Creek	Montecito Apartments	120-unit apartment building at 1315 Alma Avenue.	Leland Isolation Pipeline	Completed in 2004	City of Walnut Creek, Planning Division, 2006a
L-12	City of Walnut Creek	Bonanza Street Apartments	24-unit residential project at 1852 Bonanza Street.	Leland Isolation Pipeline	Approved / under construction	City of Walnut Creek, Planning Division, 2006a

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP Project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates preliminary determination of potential for overlap with WTTIP construction schedule for nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
L-13	City of Walnut Creek	SBC Switching Building	30,000-square-foot office building at 1755 Locust Street, under construction or near completion. Very close to some sections of the Leland Isolation Pipeline.	Leland Isolation Pipeline	Approved / under construction	City of Walnut Creek, Planning Division, 2006a
L-14	City of Walnut Creek	Ygnacio Valley Road Condominiums	Five-story residential, mixed-use development with 83 condominium units and five livework units at 547 and 565 Ygnacio Valley Road.	Leland Isolation Pipeline	Approved	City of Walnut Creek, Planning Division, 2006a
L-15	City of Walnut Creek	John Muir Medical Center Master Plan Amendment	Construction of numerous improvements and demolition of some structures on 30.66-acre site at 1601 Ygnacio Valley Road.	Leland Isolation Pipeline	Under Review	City of Walnut Creek, Planning Division, 2006b
L-16	City of Walnut Creek	Citrus Walk	Construction of 47 homes on 3.81 acres at 3063 Citrus Circle.	Leland Isolation Pipeline	Under construction	City of Walnut Creek, Planning Division, 2006b
L-17	City of Walnut Creek	Kinross Terrace	12-lot residential subdivision on 3.58 acres of existing common-area open space at the end of Kinross Drive.	Leland Isolation Pipeline	Under construction	City of Walnut Creek, Planning Division, 2006b
L-18	City of Walnut Creek	Bancroft Garden	Four-phased development on 3.5 acres to include office/library, multi-use building, gift shop, plant display, sales area, garden maintenance building, and overflow parking at 1500 Bancroft Road.	Leland Isolation Pipeline	Under construction	City of Walnut Creek, Planning Division, 2006b
L-19	City of Walnut Creek	St. John Vianney Church Expansion	13,106 square feet of additions to a church at 1650 Ygnacio Valley Road.	Leland Isolation Pipeline	Under construction	City of Walnut Creek, Planning Division, 2006b
L-20	City of Walnut Creek	Springfield Montessori Educational Center	Construction of 11,500-square-foot child daycare facility at 2780 Mitchell Drive.	Leland Isolation Pipeline	Under construction	City of Walnut Creek, Planning Division, 2006b
L-21	City of Walnut Creek	Casa Montego II	Construction of 33 multifamily units on 3.65 acres at 1485 Montego.	Leland Isolation Pipeline	Under construction	City of Walnut Creek, Planning Division, 2006b
L-22	City of Walnut Creek	Stoneridge Condo Conversion	340 units converted from apartments to condominiums on 17.25 acres at 1400 Marchbanks Drive.	Leland Isolation Pipeline	Approved	City of Walnut Creek, Planning Division, 2006b
L-23	City of Walnut Creek	Walnut Creek BART Transit Village	Construction of 574 residential units, 30,000 square feet of commercial space, and parking for 1,500 vehicles on 16.2 acres located at 200 Ygnacio Valley Road.	Leland Isolation Pipeline	Approved	City of Walnut Creek, Planning Division, 2006b

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates a preliminary determination of potential overlap with the construction schedule for the nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
L-24	City of Walnut Creek	Ygnacio Valley Road Planned Development	Construction of 109-unit, five-story condominium development with three work/live lofts on 1.01 acres at 547/565 Ygnacio Valley Road.	Leland Isolation Pipeline	Under review	City of Walnut Creek, Planning Division, 2006b
L-25	City of Walnut Creek	Berean Christian High School Field Restoration	Football field renovation, parking lot extension, and other site improvements on seven acres at El Divisadero Avenue.	Leland Isolation Pipeline	Under review	City of Walnut Creek, Planning Division, 2006b
Overlapping Haul Routes with Leland Bypass Valve and New Leland Reservoir and Pipeline						
M-1	Central Contra Costa Sanitary District	South Main Sewer Sliplining	Slipline or rehabilitate approximately 800 feet of existing 36-inch corrugated-metal pipe in South Main Street just south of I-680 between the South Main off-ramp and Rudgear Road.	New Leland Pressure Zone Reservoir and Pipeline and Valve Improvements	Approved / 2008	Central Contra Costa Sanitary District, 2005
M-2	EBMUD	Rezone Hill Mutual Pressure Zone	Construct Hill Mutual Pipeline Intertie consisting of 1,600 feet of 12-inch steel pipeline extending from the end of Grey Eagle Drive to the southern end of Castle Crest Road, connecting Ridgewood and Holly Pressure Zones. Install individual pressure regulators on 55 homes in the Hill Mutual Pressure Zone. Demolish 0.003-million-gallon Hill Mutual Pressure Tank and 0.4-mgd Hill Mutual Pumping Plant. Demolish 0.12-million-gallon Crest Reservoir and 0.1-mgd Crest pumping plant.	New Leland Pressure Zone Reservoir and Pipeline and Valve Improvements	Planned / Jan. 2016 through Dec. 2016	EBMUD, 2003a
M-3	Central Contra Costa Sanitary District	Trunk Sewer Project – Rudgear Road Sewer Improvements	Replace approximately 13,000 feet of the existing trunk sewer line in Rudgear Road, Sylvan Road, and Palmer Road with lines ranging in size from 8 to 24 inches.	New Leland Pressure Zone Reservoir and Pipeline and Valve Improvements	Approved / 2009	Central Contra Costa Sanitary District, 2005
M-4	Central Contra Costa Sanitary District	Trunk Sewer Project – Lancaster Road	Replace approximately 5,100 feet of the existing trunk sewer in Lancaster Road and Meadow Road with 15- and 18-inch lines.	New Leland Pressure Zone Reservoir and Pipeline and Valve Improvements	Approved / 2010	Central Contra Costa Sanitary District, 2005
M-7	City of Walnut Creek	4 Seasons Condo Conversion	Conversion of 176 apartment units into condominiums on 2.72 acres at 1385 Creekside Drive.	Leland Isolation Pipeline	Under review	City of Walnut Creek, Planning Division, 2006b

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP Project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates preliminary determination of potential for overlap with WTTIP construction schedule for nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
<b>Overlapping Haul Routes with Tice Pumping Plant and Pipeline</b>						
M-5	City of Walnut Creek	Contra Costa Jewish Community Center	Construction of 138 condominium units and reconstruction and enlargement of existing community center up to a total of 68,587 square feet on 8.26 acres at 2071 Tice Valley Boulevard.	Tice Pumping Plant and Pipeline	Under review	City of Walnut Creek, Planning Division, 2006b
M-6	City of Walnut Creek	Rossmoor Detention Basin	Expansion of Tice Creek detention basin at the entrance to Rossmoor.	Tice Pumping Plant and Pipeline	Constructed	City of Walnut Creek, 2006c
<b>Other Overlaps</b>						
N-1	EBMUD	Folsom South Canal Connection Projects	Install new pump control panel and surge pressure control measures at Walnut Creek Pumping Plant		Approved / construction date uncertain	EBMUD, 2005g
	Central Contra Costa Sanitary District	Collection System Renovation Program	Replace or renovate small-diameter sewers in Walnut Creek (allowance for future projects – not shown on figure).	Various Locations	Planned / no certain dates	Central Contra Costa Sanitary District, 2005
	Central Contra Costa Sanitary District	Orinda Crossroads Pumping Station Force Main	Evaluation and rehabilitation of existing force mains in various parts downtown Walnut Creek towards Lafayette (location not shown on map).	Various locations	Approved / 2013	Central Contra Costa Sanitary District, 2005
<b>UNINCORPORATED CONTRA COSTA COUNTY (INCLUDING EL SOBRANTE)</b>						
<b>Overlapping Haul Routes with Orinda WTP, Orinda-Lafayette Aqueduct, Happy Valley Pumping Plant and Pipeline, and San Pablo Pipeline</b>						
O-1	EBMUD	San Pablo Dam Seismic Upgrade Project	Upgrade of San Pablo Dam to meet seismic safety requirements.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Planned / Mar. 2008 through Mar. 2010	EBMUD, 2005f
O-2	EBMUD	Water Education Center	Construct a new water education center and offices for conservation division staff (23 employees) at the upper parking lot of the San Pablo Recreation Area.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Planned / 2009	Harris, 2006
O-3	EBMUD	San Pablo Recreation Center Tank Replacement Project	Replacement of 100,000-gallon redwood water tank in the northwest corner of the main recreation area parking lot with a steel tank of the same size to provide fire flows for the Water Education Center.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Planned / 2009	Hanoian, 2006a
O-4	EBMUD	Remodel San Pablo Recreation Area Visitor's Center	Small interior remodel of existing recreation area visitor's center for better customer service for food and retail.	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Planned / 2009	Hanoian, 2006b

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates a preliminary determination of potential overlap with the construction schedule for the nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
O-5	SBC	Utility Undergrounding Project	Underground cable on the east side of San Pablo Road from 800 feet south of entrance to recreation area to approximately 3,200 feet north of entrance (near dam).	Orinda WTP, Orinda-Lafayette Aqueduct, San Pablo Pipeline	Constructed in 2005	Colosito, 2006
O-7	Contra Costa County Department of Public Works	San Pablo Dam Road Type III Slurry Seal	Apply type 3 slurry seal surface treatment to San Pablo Dam Road between Wildcat Canyon Road and San Pablo Reservoir spillway.	Sobrante WTP	Approved / 2007–2008	Contra Costa County, Department of Public Works, 2005
O-8	EBMUD	San Pablo Dam Drain Valve Replacement	Repair or replace 60-inch butterfly emergency drain valve	Orinda WTP, Orinda-Lafayette Aqueduct	Planned / 2007	EBMUD
<b>Overlapping Haul Routes with Sobrante WTP</b>						
P-1	Contra Costa County Department of Public Works	Castro Ranch Road Widening	Widen Castro Ranch Road between San Pablo Dam Road and Olinda Road.	Sobrante WTP	Planned	Contra Costa County, Department of Public Works, 2005
P-2	Contra Costa County Department of Public Works	El Portal Drive Widening	Widen El Portal Drive from Richmond city limits to San Pablo Dam Road.	Sobrante WTP	Planned	Contra Costa County, Department of Public Works, 2005
P-3	Contra Costa County Department of Public Works	Olinda Road Pedestrian Facilities	Provide walking facility for students and other pedestrians from Valley View Road to Olinda Elementary School on Olinda Road.	Sobrante WTP	Approved	Contra Costa County, Department of Public Works, 2005
P-4	Contra Costa County Department of Public Works	El Sobrante Area Micro Surface	Refurbish existing roadway on Appian Way between San Pablo Dam Road and Pinole city limit; Sobrante Avenue between Appian Way and Valley View Road; and Valley View Road between Appian Way and Richmond city limit.	Sobrante WTP	Planned / 2008–2009	Contra Costa County, Department of Public Works, 2005
P-5	Contra Costa County Department of Public Works	San Pablo Dam Road Pedestrian Improvements	Install curb and sidewalk and widen the road in the areas where the frontage improvements have not been installed between Tri Lane and Appian Way.	Sobrante WTP	Approved	Contra Costa County, Department of Public Works, 2005
P-6	Contra Costa County Department of Public Works	San Pablo Dam Road Surface Treatment	Apply surface treatment to San Pablo Dam Road between El Portal Drive and Appian Way.	Sobrante WTP	Planned / 2005–2006	Contra Costa County, Department of Public Works, 2005

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP Project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates preliminary determination of potential for overlap with WTTIP construction schedule for nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
P-7	City of Richmond	Knobcone	Subdivision of one lot into five lots at 5801 Knobcone Court.	Sobrante WTP	EIR in preparation / construction schedule unknown	City of Richmond, 2006; Boyce, 2006
P-8	Contra Costa County Department of Public Works	San Pablo Dam Road Micro Surfacing	Apply micro surface to San Pablo Dam Road between El Portal Drive and the Richmond city limit at Tri Lane.	Sobrante WTP	Approved / 2007	Pullman, 2006
P-9	Contra Costa County Department of Public Works	San Pablo Dam Road Type II Micro Surface	Apply Type II micro surface treatment to San Pablo Dam Road between Appian Way and the Richmond city limit.	Sobrante WTP	Planned / 2005–2006	Contra Costa County, Department of Public Works, 2005
P-10	Contra Costa County Department of Public Works	San Pablo Dam Road Middle Turn Lane	Add a middle turn lane to San Pablo Dam Road between Appian Way and Castro Ranch Road.	Sobrante WTP	Planned	Contra Costa County, Department of Public Works, 2005
P-11	Contra Costa County Department of Public Works	San Pablo Dam Road Improvements	Construct San Pablo Dam Road improvements and widening from Appian Way to the Richmond city limit.	Sobrante WTP	Planned	Contra Costa County, Department of Public Works, 2005
P-12	Contra Costa County Department of Public Works	Amend Road Overlay	Pavement overlay on Amend Road.	Sobrante WTP	Completed / 2003	Finch, 2006
P-13	City of San Pablo	San Pablo Dam Road East Utility Undergrounding	Undergrounding of utilities, construction of sidewalk, curb, and gutter, repair of failing pavement sections, edge grinding, and overlay of existing pavement at the eastern end of San Pablo Dam Road within the city limits of San Pablo.	Sobrante WTP	Completed in 2005	City of San Pablo, 2006
P-14	City of San Pablo	San Pablo Dam Road Pedestrian, Amador Street to Morrow Drive	Install a pedestrian path where there are currently no pedestrian facilities on San Pablo Dam Road.	Sobrante WTP	Planned / 2006	City of San Pablo, 2006
P-15	City of San Pablo	I-80/San Pablo Dam Road Interchange Reconstruction	Reconstruction of freeway interchange to improve traffic flow and better accommodate pedestrians and bicyclists.	Sobrante WTP	Planned / 2009	City of San Pablo, 2006
P-16	City of San Pablo	San Pablo Dam Road Storm Drain Repair	In-place repair of a 24-inch-diameter storm drain line between Morrow Drive and El Portal Drive that carries stormwater runoff from San Pablo Dam Road to San Pablo Creek.	Sobrante WTP	Completed in 2005	City of San Pablo, 2006

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates a preliminary determination of potential overlap with the construction schedule for the nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

<b>No.<sup>a</sup></b>	<b>Planning Jurisdiction</b>	<b>Project Name</b>	<b>Project Description</b>	<b>Closest WTTIP Project Element<sup>b</sup></b>	<b>Project Status / Construction Schedule</b>	<b>Source</b>
P-17	City of San Pablo	San Pablo Dam Road Subdrain Manhole Relocation	Construction of new intercept wells to tie into an existing subdrain system and convey subsurface drainage to the storm drain system between Morrow Drive and El Portal Drive. Needed to maintain proper drainage of a former landslide repair.	Sobrante WTP	Completed in 2005	City of San Pablo, 2006
P-18	City of Richmond	Forest Green Estates	120 single-family residential units at the end of Wesley Road near Clark Road and San Pablo Dam Road.	Sobrante WTP	EIR expected in Feb. 2003 / construction schedule unknown	City of Richmond, 2006; Light, 2006
P-19	City of Richmond	The Oaks	Possible 54 single-family homes at 1201 Castro Ranch Road.	Sobrante WTP	Approved, but tentative	City of Richmond, 2006; Light, 2006
P-20	City of Richmond	Canyon Oaks II	36 single-family homes north of Castro Ranch Road intersection with San Pablo Dam Road.	Sobrante WTP	EIR in preparation / construction schedule unknown	City of Richmond, 2006; Light, 2006
P-21	West Contra Costa Unified School District	De Anza High School	Phased demolition of existing campus on Valley View and building of a new facility. Proposed access route Appian Way to Valley View.	Sobrante WTP	Approved / 2006–2009	Blackwell, 2006
<b>Overlapping Haul Routes With Tice Pumping Plant and Pipeline</b>						
Q-1	Contra Costa County Building Department	APN 189-011-033	Grading for new residence; retaining wall on Tice Valley Boulevard just south of Olympic Boulevard.	Tice Pumping Plant	Approved	Gomez, 2005
Q-2	Contra Costa County Department of Public Works	Olympic Avenue Overlay	200 feet of pavement overlay on Olympic Avenue, west of Tice Valley Boulevard.	Tice Pumping Plant and Pipeline	Completed / 2001	Finch, 2006
Q-3	Contra Costa County Department of Public Works	Saranap Area Micro Surface	Apply micro surface treatment to Olympic Boulevard between the Lafayette city limit and Tice Valley Boulevard and to Tice Valley Boulevard between 1620 Tice Valley Boulevard and the Walnut Creek city limit.	Tice Pumping Plant and Pipeline	Approved / 2008–2009	Contra Costa County, Department of Public Works, 2005

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP Project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates preliminary determination of potential for overlap with WTTIP construction schedule for nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
<b>Overlapping Haul Routes with Withers Pumping Plant</b>						
R-1	Caltrans/Contra Costa County Department of Public Works	Reliez Valley Road Pedestrian Path	Construct pedestrian path along Reliez Valley Road from Grayson Road to the end of the existing sidewalk, one-half mile to the south.	Withers Pumping Plant	Approved / 2006–2007	Caltrans, 2006; Contra Costa County, Department of Public Works, 2005
R-2	Contra Costa County Department of Public Works	Reliez Valley Road Overlay	Pavement sealant projects on Reliez Valley Road between Alhambra Road and the Lafayette city limit.	Withers Pumping Plant	Completed / 2001–2005	Finch, 2006
R-3	Contra Costa County Department of Public Works	Reliez Valley Road Overlay	Apply micro surface treatment to Reliez Valley Road between 2319 Reliez Valley Road and Withers Avenue.	Withers Pumping Plant	Approved / 2007–2008	Contra Costa County, Department of Public Works, 2005
R-4	City of Pleasant Hill	Best Western Hotel	Construction of three-story hotel at 1432 Contra Costa Boulevard.	Withers Pumping Plant	Constructed	City of Pleasant Hill, 2006
R-5	Central Contra Costa Sanitary District	Contra Costa Boulevard Slipling Project	Slipling a 33-inch pipe into the existing sewer main underneath Contra Costa Boulevard from Gregory Lane to Chilpancingo Parkway.	Withers Pumping Plant	Constructed	Central Contra Costa Sanitary District, 2005
R-6	Contra Costa Water District	Patterson Boulevard Water Pipeline	Reconstruct the Patterson Boulevard main water pipeline between Boyd Road and Oak Park Boulevard.	Withers Pumping Plant	Constructed in 2005	City of Pleasant Hill, 2006
R-7	Contra Costa Sanitary District	Pleasant Hill Road Corridor	Replace 2,800 feet of existing trunk sewer with an 18-inch line on Pleasant Hill Road between Mercury Way and near Virginia Hills Drive.	Withers Pumping Plant	Planned / 2012	Central Contra Costa Sanitary District, 2005
R-8	Contra Costa Sanitary District	Pleasant Hill Grayson Creek	Construct approximately 5,600 feet of 18- and 24-inch trunk sewer from intersection of Pleasant Hill Road and Mercury Way to the Pleasant Hill relief interceptor in Tayolor Boulevard.	Withers Pumping Plant	Constructed in 2001	Central Contra Costa Sanitary District, 2005
<b>Other Overlaps</b>						
	Central Contra Costa Sanitary District	Collection System Renovation Program	Replace or renovate small-diameter sewers in unincorporated Contra Costa County (allowance for future projects – not shown on a figure).	Various Locations	Tentative	Central Contra Costa Sanitary District, 2005
	City of Pleasant Hill	2005 Citywide Pavement Rehabilitation Project	Reconstruction of various streets, including Patterson Boulevard.	Various locations		City of Pleasant Hill, 2006

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates a preliminary determination of potential overlap with the construction schedule for the nearest WTTIP facility.

**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
<b>OAKLAND</b>						
S-1	PG&E	Rule 20 Electric Undergrounding Program	Undergrounding of utilities on MacArthur Boulevard between Alvingroom Court and 98th Avenue.	Upper San Leandro WTP	Ongoing, expected to be complete by Dec. 2006	PG&E, 2006; Chen, 2006
S-2	PG&E	Rule 20 Electric Undergrounding Program	Undergrounding of utilities on MacArthur Boulevard between Alvingroom Court and 73rd Avenue.	Upper San Leandro WTP	Dec. 2006 to Mar. 2007	PG&E, 2006; Chen, 2006
S-3	City of Oakland	Sewer Rehabilitation Project	Sewer rehabilitation projects west of MacArthur Boulevard and generally north of 73rd Avenue.	Upper San Leandro WTP	2011	Amirzehni, 2006
S-4	City of Oakland	Sewer Rehabilitation Project	Sewer rehabilitation projects south of S-3 and generally north of El Monte.	Upper San Leandro WTP	Ongoing	Amirzehni, 2006
S-5	City of Oakland	Sewer Rehabilitation Project	Sewer rehabilitation projects south of S-4.	Upper San Leandro WTP	2012	Amirzehni, 2006
<b>MAJOR HIGHWAY PROJECTS</b>						
CT-1	Caltrans	Caldecott Tunnels to El Curtola Overcrossing Rehabilitation	Rehabilitate Highway 24 between Caldecott Tunnels and El Curtola overcrossing.	To be determined	Status being determined	Caltrans, 2006
CT-2	Caltrans	Orinda and Lafayette Restore Planting and Irrigation	Restore planting and irrigation on Highway 24 from 0.6 miles west of Camino Pablo to the Lafayette city line.	To be determined	Status being determined	Caltrans, 2006
CT-3	Caltrans	Acalanes Road to El Curtola Boulevard Rehab	Rehabilitate Highway 24 between Acalanes Road and El Curtola overcrossing.	To be determined	Status being determined	Caltrans, 2006
CT-4	Caltrans	Replace Lighting	Replace lighting on Highway 24 between Acalanes Road and El Curtola Boulevard.	To be determined	Status being determined	Caltrans, 2006
CT-5	Caltrans	I-680 Alameda County Line to Rudgear Road – Rehabilitate Roadway	Rehabilitate I-680 between Alameda County line and Rudgear Road.	To be determined	Status being determined	Caltrans, 2006
CT-6	Caltrans	I-680 Alameda County Line to Rudgear Road – Rehabilitate Roadway	Rehabilitate I-680 between Alameda County line and Rudgear Road.	To be determined	Status being determined	Caltrans, 2006
CT-7	Caltrans	Newell/Ygnacio/El Curtola Replacement Planting	Conduct replacement planting on I-680 and Highway 24 from Newell Avenue to Ygnacio Valley Road and El Curtola.	To be determined	Status being determined	Caltrans, 2006
CT-8	Caltrans	I-680 HOV Lane, Marina Vista to North Main	Widen I-680 between North Main Street and Marina Vista Boulevard for high-occupancy vehicle lanes.	To be determined	Status being determined	Caltrans, 2006

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP Project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates preliminary determination of potential for overlap with WTTIP construction schedule for nearest WTTIP facility.

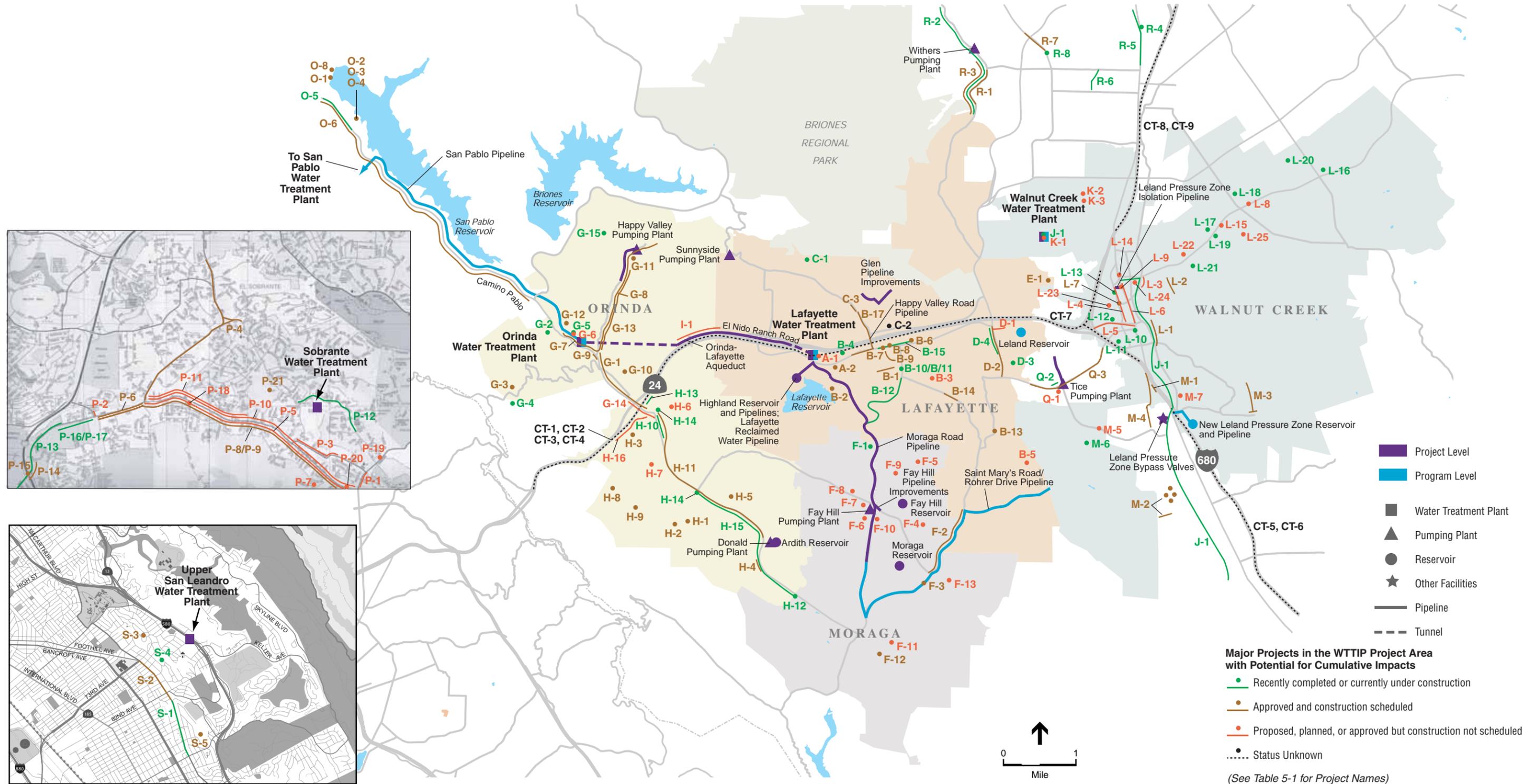
**TABLE 5-1 (continued)**  
**OTHER PROJECTS IN THE WTTIP AREA WITH POTENTIAL FOR CUMULATIVE IMPACTS**

No. <sup>a</sup>	Planning Jurisdiction	Project Name	Project Description	Closest WTTIP Project Element <sup>b</sup>	Project Status / Construction Schedule	Source
CT-9	Caltrans	Parkside Drive/Contra Costa Boulevard Replacement Planting	Replacement planting on I-680 between Parkside Drive and Contra Costa Boulevard.	To be determined	Status being determined	Caltrans, 2006
CT-10	Contra Costa Transit Authority	Caldecott Tunnel Improvement Project	Construct a fourth bore between Contra Costa and Alameda Counties.	To be determined	Preparation of environmental documents is underway	Contra Costa Transportation Authority, 2006b
<b>SYSTEMWIDE</b>						
	Freeport Regional Water Authority (Sacramento County Water Agency and EBMUD)	Freeport	The Freeport Regional Water Project (FRWP) is a cooperative effort of the Sacramento County Water Agency (SCWA) and EBMUD to provide surface water from the Sacramento River just below its confluence with the American River to customers in Sacramento County and the East Bay. The project will divert water from the Sacramento River at the Freeport Bend, upstream of the town of Freeport, and convey it through new, large pipelines to SCWA and EBMUD facilities. SCWA will treat and distribute water throughout the year to its service area in central Sacramento County. EBMUD will rely on the FRWP for a supplemental water supply during dry years only, estimated to be three out of every 10 years. The project does not include construction of any major facilities in the WTTIP study area, but the addition of this water supply to the EBMUD system may affect existing water treatment and transmission operations.	To be determined	Approved / construction 2006–2009	Freeport Regional Water Authority, 2006

<sup>a</sup> See Figure 5.1 for approximate location of projects.

<sup>b</sup> Closest WTTIP project element includes those WTTIP projects in reasonable proximity.

NOTE: Shaded projects indicates a preliminary determination of potential overlap with the construction schedule for the nearest WTTIP facility.



SOURCE: East Bay Municipal Utility District; ESA

EBMUD Water Treatment and Transmission Improvements Program . 204369

**Figure 5-1**  
Major Projects in the WTTIP Project Area  
with Potential for Cumulative Impacts

As shown in Table 5-1, the cumulative projects identified in the WTTIP area include utility infrastructure projects, development projects (e.g., residential, commercial, community-serving uses), and transportation infrastructure projects (e.g., roadway, bicycle, and pedestrian facilities), with construction schedules ranging from completion in 2001 to proposed construction in 2016.

Table 5-2 shows that proposed construction schedules for WTTIP projects range from 2006 to 2020. In summary, Tables 5-1 and 5-2 indicate the following:

- *Lafayette*. There are 29 identified projects that could potentially contribute to cumulative impacts in Lafayette. Eleven are City of Lafayette projects, nine are other EBMUD projects, and the remaining are projects sponsored by the Contra Costa Transportation Authority, PG&E, Caltrans, or Central Contra Costa Sanitary District. All but five of the cumulative projects would be constructed before 2011, whereas construction of most of the WTTIP projects in Lafayette would occur after 2011. The exceptions are the Lafayette Reclaimed Water Pipeline, Highland Reservoir and Pipelines, and Moraga Road Pipeline projects, which are proposed to be constructed between 2006 and 2009. The Lafayette Reclaimed Water Pipeline and Highland Reservoir and Pipelines have the potential for both geographic and temporal overlap with two cumulative projects (A-2 and B-17 in Table 5-1); the Moraga Road Pipeline has the potential for both geographic and temporal overlap with one cumulative project (B-2 in Table 5-1). For the WTTIP projects proposed for construction after 2011, the Leland Reservoir Replacement has the potential for overlap with two projects (D-1 and D-2 in Table 5-1).
- *Moraga*. There are 14 identified projects that could potentially contribute to cumulative impacts in Moraga. Six are Town of Moraga projects, three are other EBMUD projects, and the remaining are projects sponsored by the Central Contra Costa Sanitary District or the Contra Costa County Building Department. All of the WTTIP projects in Moraga would be constructed after 2011. With one exception, all cumulative projects in Moraga would either be constructed before 2011 or the construction date is uncertain. The one exception (F-3 in Table 5-1) is proposed for construction in 2014, but the closest WTTIP project would be constructed after 2016. Therefore, at this time, there is no potential for geographic or temporal overlap of WTTIP projects with other projects in Moraga, although this determination could change when construction dates for the cumulative projects are determined.
- *Orinda*. There are 40 identified projects that could potentially contribute to cumulative impacts in Orinda, including eight projects located in unincorporated Contra Costa County. Seven are City of Orinda projects, 16 are other EBMUD projects, seven are sponsored by the Central Contra Costa Sanitary District, six are Contra Costa Transportation Authority projects, and the remaining are Contra Costa County Building Department, Contra Costa Department of Public Works, PG&E, and SBC projects. All of the WTTIP projects in Orinda would be constructed after 2011. With two exceptions, all cumulative projects in Orinda would either be constructed before 2011 or the construction date is uncertain. Therefore, the potential for both geographic and temporal overlap with the cumulative projects is limited to the Orinda WTP and the Happy Valley Pumping Plant and Pipeline, which could coincide with one cumulative project (G-1 in Table 5-1), and the Ardith Reservoir and Donald Pumping Plant, which could coincide with one cumulative project (H-5 in Table 5-1).

**TABLE 5-2  
PROPOSED WTTIP PROJECT CONSTRUCTION SCHEDULES**

WTTIP Facility	Land Use Jurisdiction	Proposed Construction Schedule			Cumulative Project with Potential Overlapping Schedule <sup>a</sup>
			2006–2010	2011–2015	
Sobrante WTP	Contra Costa County	2011–2013		X	P-21
Tice Pumping Plant and Pipeline	Contra Costa County	2008–2010	X		Q-3
Withers Pumping Plant	Contra Costa County	2011–2013		X	R-7
Lafayette WTP	Lafayette	Alternative 1: 2012–2018 Alternative 2: 2015–2017		X X	X X
Lafayette WTP Reclaimed Water Pipeline	Lafayette	2007–2009	X		A-2
Glen Pipeline Improvements	Lafayette	2011–2012		X	
Glen Reservoir Decommission	Lafayette	2011–2013		X	
Highland Reservoir and Pipelines	Lafayette	2007–2009	X		A-2
<i>Leland Reservoir Replacement</i>	Lafayette	2014–2016		X	D-1, D-2
Moraga Road Pipeline	Lafayette/Moraga	2007–2009	X		B-2, B-17
Fay Hill Pumping Plant, Reservoir, and Pipeline Improvements <sup>a</sup>	Moraga	2015–2017		X	X
Moraga Reservoir	Moraga	2016–2018			X
<i>St. Mary's Road/Rohrer Drive Pipeline</i>	Moraga / Lafayette / Walnut Creek	2018–2020			X
Upper San Leandro WTP	Oakland	2011–2013		X	S-3, S-5
Orinda WTP	Orinda	Alternative 1: 2011–2013 Alternative 2: 2012–2018		X X	X
Ardith Reservoir and Donald Pumping Plant	Orinda	2013–2015		X	H-5
Happy Valley Pumping Plant and Pipeline	Orinda	2011–2013		X	G-1
<i>San Pablo Pipeline</i>	Orinda / Contra Costa County / Richmond	2016 – 2018			X
Sunnyside Pumping Plant and Pipeline	Orinda and Lafayette	2011–2013		X	

**TABLE 5-2 (continued)**  
**PROPOSED WTTIP PROJECT CONSTRUCTION SCHEDULES**

WTTIP Facility	Land Use Jurisdiction	Proposed Construction Schedule			Cumulative Project with Potential Overlapping Schedule <sup>a</sup>	
		2006–2010	2011–2015	2016–2020		
Orinda-Lafayette Aqueduct	Orinda / Lafayette	2015–2017		X	X	
Walnut Creek WTP	Walnut Creek	Alternative 1 or 2: 2007–2010	X			J-1
Leland Isolation Bypass Valve and Pipeline	Walnut Creek	2010–2011	X			J-1, L-1, L-7
Leland Pumping Plant	Walnut Creek	2009–2010	X			
<i>New Leland Pressure Zone Reservoir and Pipeline</i>	Walnut Creek	2011–2013		X		M-4

Notes: Italics indicate program-level project.

<sup>a</sup> Cumulative projects in the same vicinity as a WTTIP facility with proposed schedules within the same five-year period. See **Table 5-1** for names and descriptions.

SOURCE: EBMUD, 2006.

- *Walnut Creek.* There are 39 identified projects that could potentially contribute to cumulative impacts in Walnut Creek. Twenty-four projects are City of Walnut Creek projects, 11 are Central Contra Costa Sanitary District projects, and four are other EBMUD projects. Construction of all of the WTTIP projects in Walnut Creek is scheduled to occur between 2006 and 2015. There is the potential for overlap between the Walnut Creek WTP project with at least one cumulative project (J-1 in Table 5-1). There are 26 identified cumulative projects in the vicinity of the Leland Isolation Pipeline, although only three of them (J-1, L-1, and L-7 in Table 5-1) appear to have potentially similar construction schedules. None of the cumulative projects in the vicinity of the New Leland Reservoir and Pipeline appear to have potentially similar construction schedules.
- *Unincorporated Contra Costa County (including El Sobrante).* There are 21 identified projects that could potentially contribute to cumulative impacts in the vicinity of the Sobrante WTP, which include projects under the planning jurisdiction of Contra Costa County, the City of Richmond, the City of San Pablo, or the West Contra Costa Unified School District. However, construction of the Sobrante WTP is scheduled for after 2011, and all the identified cumulative projects are either scheduled for construction before 2010 or the construction date is uncertain. One project (P-21 in Table 5-1) is scheduled for construction from 2006 to 2009, within five years of the scheduled construction at the Sobrante WTP. There are five identified cumulative projects in the vicinity of the Tice Pumping Plant (including two projects in Walnut Creek), and one of them (Q-3 in Table 5-1) has a potentially similar construction schedule. There are eight identified cumulative projects in the vicinity of the Withers Pumping Plant, and one of them (R-7 in Table 5-1) has a potentially similar construction schedule.
- *Oakland.* There are five identified projects that could potentially contribute to cumulative impacts in the vicinity of the Upper San Leandro WTP, sponsored either by the City of Oakland or by PG&E. Two of the projects (S-3 and S-5 in Table 5-1) have a potentially similar construction schedules as the Upper San Leandro WTP.
- *Entire Region.* In addition, there are 10 major highway projects proposed for the region by Caltrans and the Contra Costa Transit Authority that could contribute to cumulative impacts of the WTTIP projects, but the status and timing of these projects are still uncertain.

The District has initiated coordination with the appropriate departments in Moraga, Orinda, Walnut Creek, Lafayette, Oakland, and Contra Costa County and with other utility districts and agencies regarding the timing of construction projects that would occur near WTTIP sites. Such coordination will help to minimize multiple disruptions to the same areas within the same timeframe. The District will also submit plans related to, and comply with the requirements of, encroachment permits, which will provide further opportunity for coordination of multiple projects.

## 5.4 Cumulative Impacts and Mitigation Measures

Potential cumulative impacts of the WTTIP are described in this section by environmental topic area, since the geographic scope of the impact can vary by topic. Each impact discussion assesses the potential for one or more of the WTTIP facilities to contribute to a significant cumulative impact when considered in combination with the effects of the projects listed in Table 5-1. The potential for a cumulative impact depends on both the geographic location as well as the project schedule. However, for future projects, construction schedules are often broadly estimated and

can be subject to change; therefore, the cumulative analysis is based on estimated construction schedules bracketed into roughly five-year periods. For impacts related to the secondary effects of growth that could be induced by the project, refer to Chapter 4, Growth-Inducement Potential and Secondary Effects of Growth.

## 5.4.1 Land Use, Planning, and Recreation

### **Impact C-1: Cumulative effects on recreational resources during construction.**

The geographic scope of this impact is the regional recreational facilities in the program area, generally located within Alameda and Contra Costa Counties.

As indicated in Table 5-1 and Figure 5-1, numerous proposed and planned projects in the WTTIP study area have the potential to cause cumulative impacts to recreational facilities, including the temporary disruption of recreational facilities as well as disruption of access to or enjoyment of recreational facilities. This impact would be more likely if construction schedules overlapped with WTTIP projects' schedules in the same vicinity as major recreational resources such as the Lafayette Reservoir Recreation Area. Cumulative impacts on recreational land uses could result in increased demand on other regional facilities, with the potential for overcrowding during peak-use periods and associated potential deterioration of recreational resources.

However, as described in Chapter 3, all WTTIP impacts to recreational resources would be mitigated to a less-than-significant level, and, as described above, the WTTIP as a whole would not result in impacts to recreational resources. Therefore, WTTIP impacts to recreational resources, as mitigated, would not contribute to cumulative impacts.

---

## 5.4.2 Visual Quality

### **Impact C-2: Cumulative effects on the existing visual character.**

The geographic scope of the cumulative impacts to visual quality is the viewsheds that could be affected by the WTTIP facilities from public roadways, trails, open space, and residential areas.

As described in Chapter 3, most proposed above-ground WTTIP sites are within generally developed urban/suburban areas, although the Highland and New Leland Pressure Zone Reservoirs and the Tice, Sunnyside, and Happy Valley Pumping Plants would involve project activities at undeveloped sites.

Only the above-ground WTTIP facilities could contribute substantially to long-term, cumulative visual impacts, as underground facilities such as the pipelines and tunnels would not be visible (although under Alternative 2 the Orinda-Lafayette Aqueduct tunnel entry shaft would remain as a low-profile concrete structure). However, the WTTIP sites with above-ground facilities are visually separated due to distance, surrounding topography, structures, landscaping, or natural

vegetation. With the exception of the Highland Reservoir site and possibly the New Leland Pressure Zone Reservoir site, implementation of Measures 3.3-1, 3.3-2a, 3.3-2b, and 3.3-2c would mitigate WTTIP visual impacts to a less-than-significant level.

The cumulative projects listed in Table 5-1 include numerous major development projects in Lafayette, Moraga, Orinda, and Walnut Creek that could substantially alter the visual character of areas within the WTTIP study area, potentially covering over 500 acres and over 2,000 dwelling units. The cumulative projects would, by and large, add to the urban/developed character of the region. When considered in combination with these projects, the WTTIP's incremental contribution to long-term visual impacts, with proposed mitigation, would not be cumulatively considerable.

---

### 5.4.3 Geology, Soils, and Seismicity

#### **Impact C-3: Cumulative geologic and seismic hazards.**

The geographic scope of potential cumulative geologic and seismic impacts encompasses the WTTIP sites and immediate vicinity.

As described in Chapter 3, some of the proposed WTTIP projects could be constructed in or create areas with unstable slopes, experience strong groundshaking in the event of an earthquake on one of the regional faults, be damaged by settlement of weak or saturated soil, or be damaged by liquefaction. The Orinda-Lafayette Aqueduct could also be subjected to squeezing ground. However, these impacts would be less than significant or mitigated to a less-than-significant level with the implementation of Measures 3.4-1, 3.4-2, 3.4-3a, 3.4-3b, 3.4-4, and 3.4-5. Since none of the projects shown in Table 5-1 are located within the area of potential impact, there would be no cumulative geologic or seismic impacts.

---

### 5.4.4 Hydrology and Water Quality

#### **Impact C-4: Cumulative increase in water quality impacts.**

The geographic scope of potential cumulative water quality impacts encompasses the multiple creeks, streams, and associated drainage areas within the WTTIP study area.

Chapter 3 presents hydrology and water quality impacts of each WTTIP facility; as described above, collective water quality impacts of the WTTIP as a whole would be less than significant with compliance with standard EBMUD procedures and regulatory requirements as well as implementation of Measures 3.5-1a, 3.5-1b, 3.5-3, and 3.5-6.

Potential water quality impacts associated with construction and operation of the cumulative projects would be similar to those described in Chapter 3 for the WTTIP, with the potential for

cumulative water quality impacts. However, as described in Chapter 3, the protection of surface waters is regulated under the federal Clean Water Act and Porter Cologne Water Quality Control Act, and all existing, planned, and proposed projects are subject to federal, state, and local regulations designed to protect water quality. These include National Pollutant Discharge Elimination System permit requirements, including developing and implementing stormwater pollution prevention plans and complying with Contra Costa Clean Water Program and Alameda Countywide Clean Water Program guidelines for stormwater control; compliance with California Department of Fish and Game and U.S. Army Corps of Engineers regulations pertaining to wetlands and streambeds; and “C.3” stormwater control requirements of the California Regional Water Quality Control Board regarding new development and redevelopment projects. Similar to the WTTIP projects, the cumulative projects listed in Table 5-1 would be expected to comply with applicable water quality regulations and incorporate project-specific mitigation measures that are similar to those described in Section 3.5, Hydrology and Water Quality, for the WTTIP projects. Because of these measures, when considered in combination with these projects, the WTTIP’s incremental contribution to water quality impacts, with proposed mitigation, would not be cumulatively considerable.

---

## 5.4.5 Biological Resources

### **Impact C-5: Cumulative loss of habitat for special-status wildlife and plants and other biological resources.**

The geographic scope of potential biological resources impacts encompasses the wildlife and plant habitats of affected species in the region, including grassland, scrubland, riparian, and woodland communities as well as aquatic habitat in the San Pablo Creek watershed and other local watersheds.

#### ***Impacts on Biological Resources during WTTIP Construction***

As discussed in Section 3.6, Biological Resources, grassland, scrubland, riparian, and woodland communities provide habitat for common and special-status plant species, and nesting and foraging habitat for a variety of common and special-status upland wildlife species. San Pablo Creek and other drainages that traverse WTTIP sites provide habitat for common and special-status aquatic species. Section 3.6 includes several mitigation measures to reduce potential construction impacts to these species (i.e., construction disturbance, erosion, noise, and human disturbance) to a less-than-significant level. In addition, future projects with potentially significant impacts to plant, wildlife, and fish species would be required to comply with federal, state, and local regulations and ordinances protecting biological resources through implementation of similar mitigation measures during construction. For those projects that have not already undergone review, CEQA analysis would be performed and potential impacts addressed. Therefore, the potential incremental construction impacts of the WTTIP projects would not contribute to a cumulatively significant impact on special-status plant, wildlife, and fish species.

### ***Impacts on Biological Resources due to Habitat Removal***

The project region has undergone significant past conversion of natural habitats to development. Construction and installation of WTTIP facilities could contribute to a cumulative loss of protected trees; streams, wetlands, and riparian habitat potentially subject to state and federal protection; and habitat for common and special-status plant and wildlife species. In addition, WTTIP facilities could contribute to cumulative habitat fragmentation, isolation, or loss of established migratory wildlife corridors. These cumulative impacts are analyzed within the geographic scope of each watershed included within the WTTIP project sites below.

Though past, present, and reasonably foreseeable projects within the geographic scope of this analysis may result in cumulatively significantly adverse impacts to protected trees, habitat for plants and wildlife, and migratory wildlife corridors, in light of the nature and extent of those impacts the incremental effects of the proposed WTTIP would not result in cumulatively considerable effects. The WTTIP would not significantly contribute to protected tree, wetland, riparian, and other habitat removal that has occurred or is proposed within the geographic context of this analysis. Though potentially a significant local impact, protected tree loss in the Lafayette Reservoir Recreation Area would not be considered cumulatively significant, as discussed above.

#### **San Pablo Creek Watershed**

The San Pablo Creek watershed includes the San Pablo Pipeline and the following WTTIP project-level sites: Orinda WTP, Sobrante WTP, Orinda-Lafayette Tunnel entry shaft, and Happy Valley Pumping Plant and Pipeline. Project-level projects would result in the removal of up to 17 protected trees. Additional loss of protected trees, wetland, and riparian habitat as well as impacts to migratory wildlife corridors could occur under the San Pablo Pipeline project. Protected tree and resident and migratory wildlife habitat losses due to the San Pablo Pipeline would not likely be a significant local impact due to the project's temporary and linear nature, implementation of revegetation measures, and location within the San Pablo Recreation Area, which includes 7,022 acres of primarily undeveloped watershed land owned by EBMUD. Cumulative projects within the San Pablo Creek watershed, in particular residential developments in Richmond (Forest Green Estates, The Oaks, Canyon Oaks II, and Knobcone), have the potential to result in the additional loss of protected trees, wetlands, and riparian habitat as well as habitat for plant and wildlife species. Depending on the projects' configurations, these cumulative projects could also affect established migratory wildlife corridors. It is likely, however, in light of existing legal requirements, that mitigation measures will be implemented for these projects to mitigate or minimize these impacts. When considered in combination with these projects, the incremental impacts associated with the WTTIP projects, as mitigated, would not represent a cumulatively considerable contribution to the potential long-term impacts to biological resources.

#### **Walnut Creek Watershed**

The Walnut Creek watershed includes the Leland Reservoir, New Leland Pressure Zone Reservoir and Pipeline, a portion of the St. Mary's Road/Rohrer Drive Pipeline and the following WTTIP project-level sites: Lafayette WTP, Walnut Creek WTP, the exit shaft site for the Orinda-Lafayette Tunnel, the entire Orinda-Lafayette Pipeline, Glen Pipeline Improvements,

Highland Reservoir and Pipelines, Lafayette Reclaimed Water Pipeline, Leland Isolation Pipeline and Bypass Valves, the northern portion of the Moraga Road Pipeline, Sunnyside Pumping Plant, Tice Pumping Plant and Pipeline, and Withers Pumping Plant.

Project-level projects would result in the removal of up to 246 protected trees. The majority of these trees (approximately 185) are within the Lafayette Reservoir Recreation Area. As discussed above, protected tree and resident and migratory wildlife habitat losses within the recreation area would not likely be a significant collective impact due to the project's temporary nature, implementation of revegetation measures, and the project's location within the 925-acre, primarily undeveloped recreation area where this loss would not be cumulatively considerable. Additional loss of protected trees, wetland, and riparian habitat as well as impacts to migratory wildlife corridors could occur under the Leland Reservoir, New Leland Pressure Zone Reservoir and Pipeline, and St. Mary's Road/Rohrer Drive Pipeline. Much of the cumulative development projects proposed within the Walnut Creek watershed are located near the Leland Isolation Pipeline in an urbanized region of Walnut Creek. Some residential developments, such as the Soldier Field Subdivision and Hidden Oaks, have the potential to result in the additional loss of protected trees, wetlands, and riparian habitat as well as habitat for plant and wildlife species. Depending on the project configurations, these cumulative projects could also affect established migratory wildlife corridors. However, when considered in combination with these projects, the incremental impacts associated with the WTTIP projects, as mitigated, would not represent a cumulatively considerable contribution to the potential long-term impacts to biological resources.

#### **Upper San Leandro/Moraga Creek Watershed**

The Upper San Leandro/Moraga Creek watershed includes a portion of the St. Mary's Road/Rohrer Drive Pipeline and the following WTTIP project-level sites: Ardith Reservoir and Donald Pumping Plant, Fay Hill Pumping Plant and Pipeline Improvements, Fay Hill Reservoir, Moraga Reservoir, and much of the Moraga Road Pipeline. Project-level projects would result in removal of up to five protected trees. Additional loss of protected trees, wetland, and riparian habitat as well as impacts to migratory wildlife corridors could occur under the St. Mary's Road/Rohrer Drive Pipeline. Cumulative projects within the Upper San Leandro/Moraga Creek watershed, in particular residential developments within Orinda (Southwood Valley Subdivision and Montanera) and within open space in Moraga (Rancho Laguna Housing Development and Palos Colorados), have the potential to result in the additional loss of protected trees, wetlands, and riparian habitat as well as habitat for plant and wildlife species. Depending on the project configurations, these projects could also affect established migratory wildlife corridors. However, when considered in combination with these projects, the incremental impacts associated with the WTTIP projects, as mitigated, would not represent a cumulatively considerable contribution to the potential long-term impacts to biological resources.

#### **Baxter/Cerrito/Richmond Drainages**

The Baxter/Cerrito/Richmond drainages include the underground portion of the San Pablo Pipeline. Impacts to protected trees and other biological resources are expected to be less than significant due to underground construction. However, other cumulative projects within these drainages could result in the loss of protected trees, wetlands, and riparian habitat, loss of habitat

for plant and wildlife species, as well as impacts to established migratory wildlife corridors. This potential loss would not represent a cumulatively considerable contribution given the need to mitigate and otherwise compensate for any significant displacement of these habitats and resources.

#### **Arroyo Viejo Creek Watershed**

The Upper San Leandro WTP project, located in the Arroyo Viejo Creek watershed, would result in the removal of up to 14 protected trees. Much of the cumulative development proposed within the Arroyo Viejo Creek watershed is located in an urbanized region of Oakland. Construction activities would likely occur primarily within paved roads and other disturbed rights-of-way. Thus, cumulative projects within this watershed are likely to have a limited effect on protected trees, wetlands, and riparian habitat, on habitat for plant and wildlife species, as well as on established migratory wildlife corridors, and impacts are not expected to be cumulatively considerable.

---

## **5.4.6 Cultural Resources**

### **Impact C-6: Cumulative increase in archaeological, paleontological, and historic resources impacts.**

The geographic scope considered for potential cumulative impacts to archaeological resources is Contra Costa and Alameda Counties.

As described above, the collective impacts of the WTTIP as a whole on cultural resources would be the same as the individual facilities' impacts presented in Chapter 3. While there is a potential to encounter previously undiscovered cultural resources, including archaeological and paleontological resources during construction of WTTIP facilities, implementation of Measures 3.7-1a, 3.7-1b, 3.7-2, and 3.7-3 would reduce impacts to a less-than-significant level. The potential to encounter cultural resources associated with the other cumulative projects listed in Table 5-1 is unknown, but does exist. Given the lack of information on the extent of potential impacts to archaeological resources associated with the cumulative projects, the WTTIP contribution to any such impacts would not be cumulatively considerable, and implementation of the specified measures would reduce those impacts to a less-than-significant level.

As described in Impact 3.7-3, the WTTIP would not have a direct impact on historic resources, and potential indirect impacts would be less than significant with mitigation. Therefore, while the cumulative projects could result in impacts to historic resources, the incremental impacts associated with the WTTIP projects would not be cumulatively considerable.

## 5.4.7 Traffic and Circulation

### **Impact C-7: Cumulative traffic and roadway disruptions.**

The geographic scope of potential cumulative traffic impacts includes access routes to area freeways, and arterial and collector roadways used for haul routes and construction equipment/vehicle access to the WTTIP sites.

As described in Chapter 3, the proposed project would result in short-term increases in vehicle trips, reduced road width, reduced access to and parking at adjacent land uses, traffic safety issues, reduced access, disruptions to transit service, and increased wear-and-tear on designated haul routes. While the project impacts would be reduced to a less-than-significant level with implementation of Measures 3.8-1 through 3.8-7, the WTTIP could contribute to cumulative traffic and circulation impacts when considered in combination with projects listed in Table 5-1.

Potential cumulative impacts could occur as a result of (1) cumulative projects that generate increased traffic at the same time on the same roads as would the WTTIP facility projects, causing increased congestion and delays, and (2) infrastructure projects in roads that would be used by WTTIP construction workers and trucks, which could affect detour routes around WTTIP work zones or could delay WTTIP-generated vehicles past the work zones of those other projects. In addition to cumulative (additive) effects on traffic flow conditions, the WTTIP and other cumulative projects would extend the period of time when there would be disruptions (albeit not all disruptions would be significant) to traffic flow on area roadways. For example, if the Orinda WTP (Alternative 2) were implemented, and construction for that project commenced as early as 2012 (and/or if the construction schedule for the EBMUD San Pablo Dam Seismic Upgrade were extended), there could be a significant cumulative effect on Camino Pablo, a major arterial, resulting from the extended duration of construction-related traffic.

Given the lack of certainty about the timing of the projects in Table 5-1, and of the WTTIP projects, it is prudent to conclude that significant cumulative traffic and circulation impacts could occur, particularly on Camino Pablo. The District will coordinate with the appropriate local government departments in Moraga, Orinda, Walnut Creek, Lafayette, Oakland, and Contra Costa County and with other utility districts and agencies regarding the timing of construction projects that would occur near WTTIP sites. Such coordination will help to minimize multiple disruptions to the same areas. The District will also submit plans related to, and comply with the requirements of, encroachment permits with local jurisdictions, which will provide further opportunity for coordination of multiple projects. Specific measures to mitigate significant impacts that could occur will be determined as part of the interagency coordination, but could include measures such as employing flagmen during key construction periods, designating alternate haul routes, and providing more outreach and community noticing. With these measures, the potential impacts would not represent a considerable contribution to this potential cumulative impact.

## 5.4.8 Air Quality

### **Impact C-8: Cumulative construction emissions.**

The geographic scope for cumulative air quality impacts is the San Francisco Bay Area Air Basin. As described in Chapter 3, potential air quality impacts associated with implementation of the WTTIP include increased dust and equipment emissions during construction, exposure to diesel particulates, emissions from ventilation fans, operational emissions, odors, and secondary emissions from power use. However, all potential air quality impacts associated with WTTIP facilities would be less than significant or would be mitigated to a less-than-significant level, based on criteria developed by the BAAQMD and guidelines established in the Clean Air Plan. In addition, implementation of Measures 3.9-1a, 3.9-1b, 3.9-1c, and 3.9-3 would reduce WTTIP air quality impacts to a less-than-significant level, and therefore impacts would not be cumulatively considerable. Implementation of the proposed WTTIP improvements would generally be consistent with the Bay Area's Clean Air Plan.

Other projects listed in Table 5-1 also have the potential to result in the same types of air quality impacts as the WTTIP facilities, with the extent of impact depending on individual project characteristics. However, as with the WTTIP facilities, all planned and proposed projects in the region are subject to BAAQMD regulations and the Clean Air Plan guidelines. Therefore, assuming implementation of appropriate mitigation measures for all projects in the region, cumulative air quality impacts would be less than significant.

---

## 5.4.9 Noise and Vibration

### **Impact C-9: Cumulative construction noise impacts.**

The geographic scope of potential cumulative noise impacts encompasses the WTTIP sites and immediate vicinity (within the range of audible noise from the facilities during construction and operation) as well as along the access and haul routes to the WTTIP sites. As described in Chapter 3, noise increases associated with construction and operation of proposed WTTIP facilities would be limited to each facility's immediate vicinity. The WTTIP's site-specific noise impacts would be reduced to a less-than-significant level with implementation of Measures 3.10-1a through 3.10-1e, 3.10-2, 3.10-3a, 3.10-3b, and 3.10-4; therefore, when considered in combination with any adjacent projects shown on Table 5-1, the incremental noise impacts of the WTTIP projects, as mitigated, would not be cumulatively considerable.

Potential cumulative impacts could occur if other proposed or approved projects generate truck traffic at the same time on the same roads as the WTTIP facility projects, causing cumulative truck noise increases. For example, Camino Pablo, a major arterial, could be subject to cumulative noise increases if truck traffic associated with the Orinda WTP (Alternative 2) on

Camino Pablo were to coincide with truck traffic from the EBMUD San Pablo Dam Seismic Upgrade if trucks were to use Camino Pablo.

Given the lack of certainty about the timing of the projects in Table 5-1, and of the WTTIP projects, it is prudent to conclude that significant cumulative truck noise increases are possible on streets that could serve as common haul routes for listed projects, particularly on Camino Pablo. As stated above, the District will coordinate with the appropriate local government departments in Moraga, Orinda, Walnut Creek, Lafayette, Oakland, and Contra Costa County and with other utility districts and agencies regarding the timing of construction projects that would occur near WTTIP sites. Such coordination will help to minimize potential cumulative truck noise increases on common haul routes. The District will also submit plans related to, and comply with the requirements of, encroachment permits with local jurisdictions, which will provide further opportunity for coordination of multiple projects. Specific measures to mitigate significant impacts that could occur will be determined as part of the interagency coordination, but could include measures such as employing flagmen during key construction periods, designating alternate haul routes, and providing more outreach and community noticing.

## 5.4.10 Hazards and Hazardous Materials

### **Impact C-10: Cumulative hazardous materials impacts.**

The geographic scope of impacts associated with hazardous materials generally encompasses the WTTIP site, the construction zone, and the area within a one-quarter-mile radius. The geographic scope for wildland fire risk is the high fire hazard areas identified by the California Department of Forestry and Fire Protection.

As described in Chapter 3, the proposed WTTIP could expose workers and the public to hazardous materials that could be present in excavated soil and groundwater as well as to hazardous building materials during demolition or renovation of existing structures. However, no WTTIP projects would require the disposal of substantial volumes of hazardous materials. The potential for accidental releases of chemicals stored at the WTPs is a site-specific issue with no potential for additive effects. Due to the site-specific nature of these impacts and compliance with EBMUD contract specifications, applicable laws and regulations, and Measures 3.11-1, 3.11-2, and 3.12-1c identified in Chapter 3, there would be no potential for cumulative effects.

There would be an increased risk of wildland fires during WTTIP construction in high fire hazard areas. As discussed above under collective effects, four WTTIP sites are located in high fire risk areas (Orinda WTP, entry shaft of the Orinda-Lafayette Tunnel, Happy Valley Pumping Plant, and Sunnyside Pumping Plant). Potential impacts would be less than significant through compliance with the Public Resource Code provisions governing the use of construction equipment in fireprone areas; however, there could be a cumulative impact due to the proximity of these sites to the cumulative projects and the shared use of the same access and haul roads, especially if construction overlapped during the season of highest fire danger (April 1 to

December 1). The potentially compounded increase in wildland fire risk could place an additional burden on local fire service providers (Contra Costa County Fire Protection District and/or the Moraga-Orinda Fire District); furthermore, construction activities could disrupt access to project sites, which could impede emergency access. The extent of cumulative impacts would depend on the actual phasing of the cumulative projects, requiring interagency coordination. Based on the location and timing of the projects listed in Table 5-1, there is only one project (G-1, Lower Orinda Pumping Station force main) with the potential to contribute to cumulative wildland fire impacts in combination with proposed WTTIP construction. As stated above, the District would coordinate with the Central Contra Costa Sanitary District, as well appropriate departments of other local jurisdictions and agencies regarding the timing of construction projects that would occur near WTTIP sites. Such coordination, particularly with respect to projects located in high fire hazard areas, along with coordination with local fire service providers, would help to minimize the incremental contribution of WTTIP projects to cumulative wildland fire impacts.

---

## 5.4.11 Public Services and Utilities

### **Impact C-11: Cumulative utilities and public services impacts.**

The geographic scope of this impact is the service area of affected services and utilities, generally limited to within Contra Costa and Alameda Counties.

As described in Chapter 3, implementation of the WTTIP projects would have no long-term effects on the demand for or provision of utilities and public services, including police and fire services and solid waste disposal. Implementation of Measures 3.12-1a to 3.12-1h would reduce those impacts to a less-than-significant level. Therefore, the incremental impact associated with the WTTIP projects would not contribute to cumulative long-term impacts on utilities and public services.

Short-term and long-term increases in electricity demand would occur, primarily associated with the operation of WTPs and pumping plants. A preliminary study performed by PG&E in February 2006 indicates the need for additional electricity distribution facilities under both Alternative 1 and Alternative 2. With construction of these additional facilities, the incremental contribution of the WTTIP projects to cumulative impacts on electricity demand in Contra Costa and Alameda Counties would be less than significant.

## References – Cumulative Impacts

- Amirzehni, Gus, City of Oakland, email to Mary McDonald of Orion Environmental Associates, January 20, 2006.
- Blackwell, Michelle, EBMUD, email to Philip Kohne, Harvey Hanoian, William Kirkpatrick, and Judy Zavadil of EBMUD, April 13, 2006.
- Boyce, Tanya, City of Richmond, telephone conversation with Mary McDonald of Orion Environmental Associates, February 9, 2006.
- California Department of Transportation (Caltrans), *Caltrans District 4 Projects in Contra Costa and Alameda Counties near EBMUD's WTTIP Proposed Project*, January 26, 2006.
- Central Contra Costa Sanitary District, *2005 Capital Improvement Plan, Ten Years Ending June 30, 2015*, 2005.
- Chen, Paul, Pacific Gas and Electric, telephone conversation with Mary McDonald of Orion Environmental Associates, January 19, 2006.
- City of Lafayette, *Hidden Oaks (Tract #88438) Environmental Impact Report, Volume II*, SCH# 2001102081, June 2002.
- \_\_\_\_\_, *Soldier Field Subdivision, Draft Environmental Impact Report*, SCH#2005032054, October, 2005.
- \_\_\_\_\_, Capital Improvement Projects, available online at [http://lafayette.govoffice.com/index.asp?Type=B\\_EV&SEC={54DFDE21-C182-4530-B7CE-3C5982F0671C}](http://lafayette.govoffice.com/index.asp?Type=B_EV&SEC={54DFDE21-C182-4530-B7CE-3C5982F0671C}), February 10, 2006.
- City of Orinda, Planning Department, Major Projects, available online at <http://www.ci.orinda.ca.us/planning/projects.htm>, 2006.
- City of Pleasant Hill, City at Work, Summer 2005, available online at [http://www.ci.pleasant-hill.ca.us/PublicWorks/Public\\_Works\\_Report.pdf](http://www.ci.pleasant-hill.ca.us/PublicWorks/Public_Works_Report.pdf), 2006.
- City of Richmond, Active Project Review Information – Grouped by Neighborhood Council, available online at [http://www.ci.richmond.ca.us/~planning/applications/lists/lu\\_active\\_nc.pdf](http://www.ci.richmond.ca.us/~planning/applications/lists/lu_active_nc.pdf), February 7, 2006.
- City of San Pablo, City Services, Capital Projects, available online at <http://www.ci.san-pablo.ca.us/main/capitalprojects.htm>, February 9, 2006.
- City of Walnut Creek, Planning Division, Current Planning Projects, available online at <http://www.ci.walnut-creek.ca.us/header.asp?genericId=1&catId=4&subCatId=497>, 2006a.
- \_\_\_\_\_, *Project Pipeline List – Quarterly Report, Project Status as of December 31, 2005*, 2006b
- \_\_\_\_\_, Capital Improvement Program Project Information, Rossmoor Detention Basin, available online at <http://www.ci.walnut-creek.ca.us/header.asp?genericId=2&catId=10&subCatId=1061>, January 20, 2006c.

Coe, Tony, City of Lafayette, email to Mary McDonald of Orion Environmental Associates, February 10, 2006.

Colosito, James, SBC, telephone conversation with Mary McDonald of Orion Environmental Associates, January 27, 2006.

Contra Costa County, Department of Public Works, *Draft Contra Costa County 2005 Capital Road Improvement & Preservation Program, Fiscal Year 2005/06 to Fiscal Year 2011/12*, 2005.

Contra Costa Transportation Authority, *2005 Strategic Plan*, available online at <http://www.ccta.net/PM/SP/2005StratPlan.pdf>, May 2006a.

\_\_\_\_\_, *Project Status Report*, available online at <http://www.ccta.net/AGENDAS/APC/02/01.PDF>, January 31, 2006b.

Dennsler, Christine, Senior Planner, Town of Moraga, Planning Department, telephone conversation with Amy Sinsheimer of Environmental Science Associates, November 18, 2005.

\_\_\_\_\_, telephone conversation with Amy Sinsheimer of Environmental Science Associates, January, 18 2006.

East Bay Municipal Utility District (EBMUD), *Walnut Creek–San Ramon Valley Improvement Project Environmental Impact Report*, SCH #97032027, July 2000.

\_\_\_\_\_, *EBMUD Pressure Zone Planning Program Study for Holly, Hill Mutual, Ridgewood and Crest Pressure Zones*, Water Distribution Planning Division, April 15, 2003a.

\_\_\_\_\_, *Claremont Corridor Seismic Improvements Project Environmental Impact Report*, SCH#2003022140, October 2003b.

\_\_\_\_\_, *Pressure Zone Planning Program Study for Baseline, White Oak, Orchard, Valencia, and Laguna Pressure Zones*, Water Distribution Planning Division, April 2005a.

\_\_\_\_\_, *EBMUD Pressure Zone Planning Program Study for Bryant Pressure Zone*, Water Distribution Planning Division, June 9, 2005b.

\_\_\_\_\_, *EBMUD Pressure Zone Planning Program Study for Colorados Pressure Zone*, Water Distribution Planning Division, April 2005c.

\_\_\_\_\_, *EBMUD Pressure Zone Planning Program Study for Encinal, Westside and Dos Osos Pressure Zones*, Water Distribution Planning Division, April 2005d.

\_\_\_\_\_, *EBMUD Pressure Zone Planning Program Study for Las Aromas, Camino Sobrante, Via Farallon, Valley View and Saturn Pressure Zones*, Water Distribution Planning Division, May 2005e.

\_\_\_\_\_, *Notice of Preparation, San Pablo Dam Seismic Upgrade, Contra Costa County, Environmental Impact Report*, August 31, 2005f.

\_\_\_\_\_, *Folsom South Canal Connection Potential Projects in the WTTIP Project Area*, September 8, 2005g.

- \_\_\_\_\_, *Moraga Way Pipeline Replacement Update*, November 15, 2005h.
- \_\_\_\_\_, Walnut Creek–San Ramon Valley Improvement Project, available online at [http://www.ebmud.com/water\\_&\\_environment/water\\_supply/current\\_projects/walnut\\_creek\\_san\\_ramon\\_valley/default.htm](http://www.ebmud.com/water_&_environment/water_supply/current_projects/walnut_creek_san_ramon_valley/default.htm), 2006.
- Finch, Henry, Contra Costa County, Department of Public Works, telephone conversation with Mary McDonald of Orion Environmental Associates, February 2, 2006.
- Freeport Regional Water Authority, About the Project, available online at <http://www.freeportproject.org/about.html>, January 26, 2006.
- Gomez, Elysia, Contra Costa County, Lamorinda Building Inspection Office, fax to Amy Sinsheimer of Environmental Science Associates, December 1, 2005.
- Hanoian, Harvey, EBMUD, email to Alisa Moore of Environmental Science Associates, January 24, 2006a.
- \_\_\_\_\_, email to Alisa Moore of Environmental Science Associates, January 24, 2006b.
- Harris, Richard, EBMUD, email to Judy Zavadil of EBMUD and Jill Hamilton of Environmental Science Associates, January 20, 2006.
- Hu, Linda, EBMUD, email to Judith Zavadil of EBMUD, January 24, 2006.
- Kirkpatrick, William, EBMUD, email to Gary Oates of Environmental Science Associates, May 11, 2006.
- Light, Joe, City of Richmond, telephone conversation with Mary McDonald of Orion Environmental Associates, February 9, 2006.
- Lowry, Mark, City of Orinda, Department of Public Works, telephone conversation with Mary McDonald of Orion Environmental Associates, January 26, 2006.
- Pacific Gas and Electric Company, Street Search, available online at [http://www.pge.com/field\\_work\\_projects/street\\_construction/](http://www.pge.com/field_work_projects/street_construction/), January 18, 2006.
- Parkman, Alan, City of Orinda, Planning Department, telephone conversation with Amy Sinsheimer of Environmental Science Associates, December 6, 2005.
- Pflaum, Sterling, Pacific Gas and Electric, telephone conversation with Mary McDonald of Orion Environmental Associates, January 23, 2006.
- Pullman, John, Contra Costa County, Department of Public Works, email to Mary McDonald of Orion Environmental Associates, February 1, 2006.
- Town of Moraga, Planning Department, *Town of Moraga, Current Development Status Report, Major Residential Projects*, August, 2005.