

4.12 Utilities and Public Service Systems

This section describes the public services and utilities that could be affected by the Los Vaqueros Reservoir Expansion Project and identifies the entities that provide these services (e.g., cities, counties, special districts, water agencies, and power companies) in areas of unincorporated Contra Costa and Alameda Counties. Public and private utilities include local water delivery services, wastewater service, drainage service, electricity and gas, and solid waste disposal. Public services include fire protection, medical services, law enforcement, and schools. The impact analysis focuses on whether the project would result in disruptions in current service levels or necessitate the construction of additional public service or utility facilities.

4.12.1 Affected Environment

Regulatory Setting

As discussed in Section 4.1 – Approach to Analysis, local plans and policies, including those contained in city or county general plans and zoning ordinances, are reviewed in this document to provide background and context for the impact analysis, even though these plans and policies are not applicable to CCWD facilities and projects.

State and Local

California Integrated Waste Management Act (AB 939)

In 1989 the California legislature passed the Integrated Waste Management Act of 1989, known as AB 939. The bill mandates a reduction of waste being disposed: jurisdictions were required to meet diversion goals of 25% by 1995 and 50% by the year 2000 through source reduction and recycling programs. AB 939 also established an integrated framework for program implementation, solid waste planning, and solid waste facility and landfill compliance which requires each county to adopt development program for waste reduction. By Year 2000, the waste diversion rate in unincorporated portions of Contra Costa County was at 46 percent—below the mandated 50 percent reduction. As a consequence, Contra Costa County adopted Ordinance 2004-16, which requires owners of construction or demolition projects that are 5,000 square feet or greater in size to demonstrate that at least 50 percent of the construction and demolition debris generated on the jobsite is reused, recycled, or otherwise diverted (unless a diversion adjustment is granted). Contractors hauling waste to County transfer stations or landfills are typically required to demonstrate reuse, recycling and diversion of construction debris prior to loads being accepted at those facilities. Alameda County has a similar ordinance (Ordinance 2003-63), which applies only to projects on County-owned lands (Alameda County Waste Management Authority, 2003).

Contra Costa County General Plan

The Contra Costa County General Plan contains several goals and policies related to the management, planning, and maintenance of public services and utilities. Specifically, these policies include: assurance of meeting regulatory standards for water delivery, water storage, and emergency water supplies to residents (Policy 7-16); identification of necessary upgrades to fire facilities and

equipment in order to reduce fire risk and improve emergency response (Policy 7-65); and reduction of the amount of waste disposed of in landfills (Goal 7-AG) (Contra Costa County, 2005). The goals and policies presented in these plans are listed in Appendix E-2.

East County General Plan – A Portion of the Alameda County General Plan

The East County Area Plan (ECAP) area encompasses 418 square miles of eastern Alameda County and includes the cities of Dublin, Livermore, and Pleasanton, a portion of Hayward, as well as surrounding unincorporated areas. The ECAP includes goals and policies relevant to the management, planning and maintenance of public services and utilities. These goals and policies, listed in Appendix E-1, include: providing prompt and efficient police, fire, and emergency medical service needs to unincorporated areas (Policy 241); ensuring safe and efficient waste disposal (Waste Goal); providing an adequate, reliable and safe water supply (Water Goal); providing efficient and cost-effective sewer facilities and services (Sewer Goal); and facilitating the provision of gas and electric service and facilities (Policy 285) (East County Area Plan, 2002).

Environmental Setting

Utilities

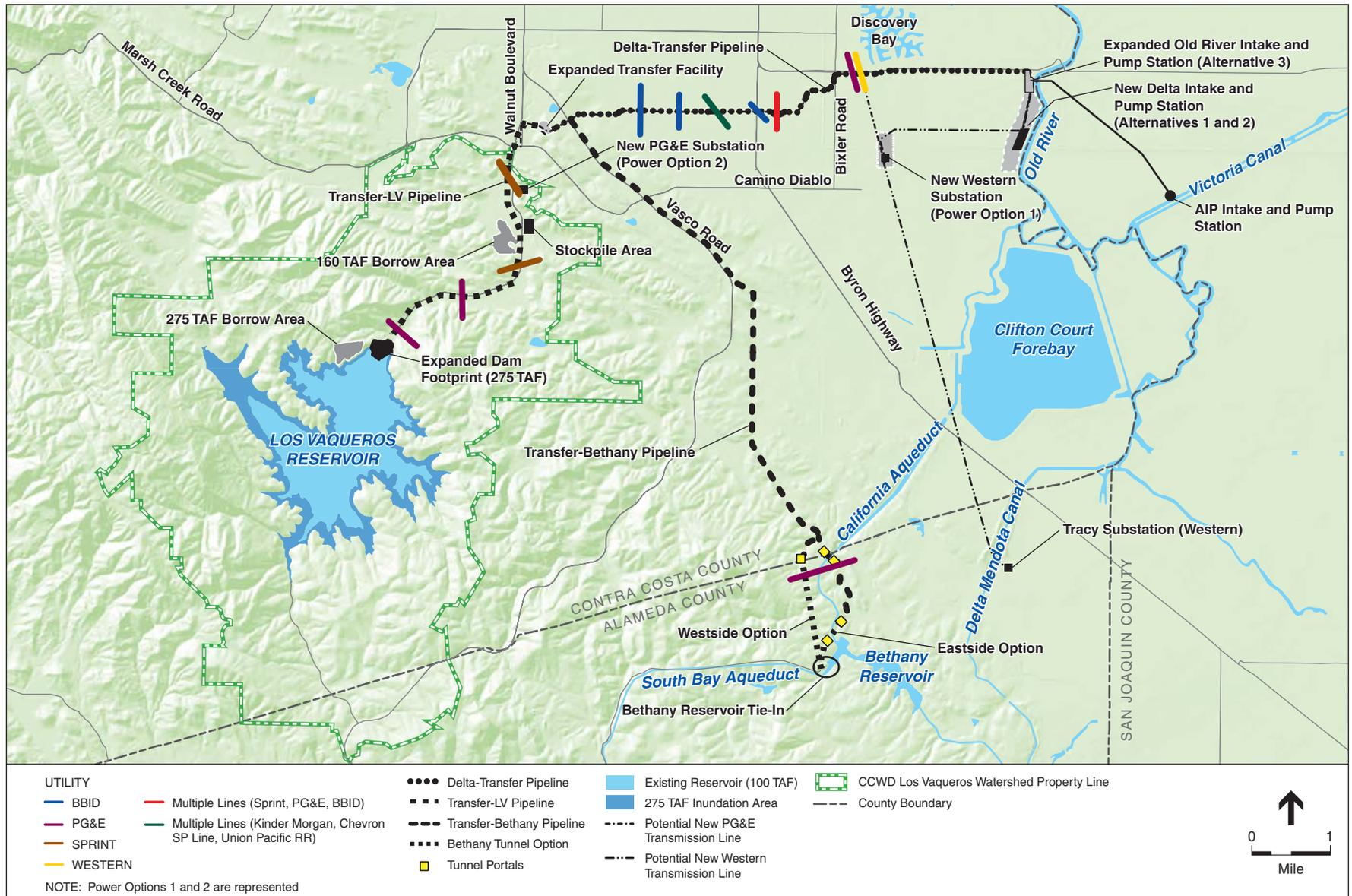
Water Service

The California Aqueduct, which is part of the State Water Project, conveys water from the Harvey O. Banks Pumping Plant to Bethany Reservoir and then south to the San Luis Reservoir and beyond.

Contra Costa Water District (CCWD) provides water service to developed areas within the project area and other portions of eastern and central Contra Costa County. CCWD supplies treated water to Clayton, Clyde, Concord, Pacheco, Port Costa, and parts of Martinez, Pleasant Hill, and Walnut Creek, and treated wholesale water service to Diablo Water District, Brentwood, and Antioch. CCWD also provides untreated water to the cities of Antioch, Pittsburg, and Martinez, Diablo Water District, Golden State Water Company, and industrial and irrigation customers.

Treated water delivery to customers within the project area is the responsibility of cities, water districts, or other public agencies, including the City of Brentwood and the Discovery Bay Community Services District. **Figure 4.12-1** schematically shows potential water pipeline and other utility crossings that could occur due to project construction throughout the project area. Rural residences located throughout the project area in southeastern Contra Costa County obtain their water from local private wells. Irrigation water in the project area is provided by Bethany-Byron Irrigation District (BBID) and the State Water Project. BBID has several canals and water delivery facilities within the area.

Potable water within the Los Vaqueros Reservoir watershed is provided by packaged membrane treatment plants located at the marina, interpretive center, and watershed offices on the north end of the watershed, and at the south-end restrooms and fish-cleaning stations.



SOURCE: USGS, 1993 (base map); and ESA, 2008

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Figure 4.12-1
Potential Utility Crossings

Non-potable water is pumped from the reservoir for irrigation of landscaped areas and, in some locations, to operate fire hydrants. There is an existing pipeline located along the alignment of the intake and outflow pipeline that is used to access reservoir water. Landscape areas located near the Marina, Watershed Office, Interpretive Center, Kellogg Picnic Area and the dam are watered by tapping into pipeline blow off release valves. On the western side of the reservoir, water is pumped out of the reservoir to holding tanks for cattle to drink and for oak trees and other mitigation plants to be individually drip irrigated. There are also some springs available for watering trees (Mueller, 2008).

Wastewater Service

Most of the project area is undeveloped and is not served by an integrated wastewater system. Wastewater conveyance and disposal in the project area is provided by the Discovery Bay Community Services District and Byron Sanitary District. The two districts provide wastewater service for areas in the eastern Contra Costa County communities of Discovery Bay and Byron, which are generally north and east of the project area. The current method of wastewater disposal in these areas is either land disposal (land application of treated wastewater onto open space or agricultural lands) or discharge into the San Joaquin–Sacramento Delta after treatment.

In more rural locations, individual septic/leach field systems provide wastewater disposal. These individual systems are privately owned and maintained and are not connected to any larger wastewater treatment facilities.

At the Los Vaqueros Reservoir day-use areas, wastewater from the public restrooms and other facilities are regularly pumped and captured in a holding tank and hauled offsite by a contractor. The contractor that provides service to the Los Vaqueros watershed hauls the wastewater for treatment to EBMUD’s wastewater treatment plant in Oakland, California (Arvizu, 2008).

Drainage / Storm Water Service

Construction and maintenance of the drainage facilities in the project area generally fall under the jurisdiction of Contra Costa County and its Flood Control and Water Conservation District. Drainage service in Alameda County is provided by Zone 7 Water Agency. As the project is almost entirely located in a rural setting, runoff throughout the project area drains primarily through natural drainage swales, ditches, and watercourses.

In Contra Costa County, the Flood Control and Water Conservation District has developed a system of flood zones (entire watersheds) and drainage basins (sub-watersheds) with adopted plans that serve both lands within cities and the unincorporated areas of the county. Some drainage areas in the County are legally “formed” with a legal boundary map, land use map, hydrology map, drainage Area plan, and a fee ordinance while others remain “unformed.” The project area includes both formed and unformed drainage areas. The Kellogg Creek watershed (Basin 109) is identified as a formed drainage area (Contra Costa County, 2003). The Brushy Creek watershed (in both Contra Costa and Alameda Counties) is identified as an unformed drainage area and includes Basins 110 and 45. In urbanized areas east of the reservoir, some of these natural watercourses have been converted to underground storm drains or earthen- and/or

concrete-lined ditches, including the lower reaches of Kellogg Creek. See Section 4.5, Local Hydrology, Drainage, and Groundwater, for further discussion of drainage in the project area.

Energy Service

Pacific Gas and Electric Company (PG&E) provides electricity and natural gas service to the project area, including the cities of Brentwood, Byron, and Discovery Bay and the unincorporated areas of Contra Costa and Alameda Counties. PG&E owns or leases 8,255 megawatts (MW) of power-generating capacity. CCWD also obtains electricity from both the Central Valley Project (CVP) and Modesto Irrigation District (MID) at some of its eastern Contra Costa County facilities, including the Old River Pump Station. Hydroelectric power from the CVP is delivered by the Western Area Power Administration (Western). The CVP system of hydroelectric facilities generates power primarily for use by Reclamation in support of pumping requirements as well as providing power to Reclamation contractors, such as CCWD, for use in delivering CVP water. The CVP generates 5.6 million MWh of electricity annually to serve the needs of about 2 million people.

Approximately 7,000 wind turbines are located in the areas south of Los Vaqueros Reservoir. The turbines in this area are operated by PowerWorks, EnXco, Altamont Power, Green Ridge Services, and Seawest Windfarms. There are approximately 320 active wind turbine sites located within the Los Vaqueros Reservoir watershed. The utility lines that connect the turbines to each other and to distribution facilities are buried under the dirt roads that provide access to the turbines. Proposed roads and recreational trails would use these same roads for access (Mueller, 2008).

Utility Infrastructure

Major utility infrastructure within the Los Vaqueros Reservoir watershed includes three buried natural gas pipelines; an overhead PG&E electricity transmission line; two buried PG&E gas lines; and a buried fiber-optic communications line operated by Sprint. To the northeast of the Los Vaqueros Reservoir watershed lie several irrigation lines owned by BBID, two buried petroleum pipelines owned and operated by Chevron/Unocal and Kinder Morgan, a few Sprint fiber-optic cable lines, a PG&E natural gas line, and an overhead electricity line operated by Western.

East of the Los Vaqueros Reservoir watershed lie two underground PG&E gas lines and four existing PG&E transmission lines in the project vicinity. Near the CCWD Transfer Facility is a 230 kV line operated by PG&E, which serves that facility. The line to the east between Vasco Road and Old River contains a transmission corridor with two 500 kV circuits owned and operated by PG&E and a double circuit 230 kV line owned by Western. Western is currently operating this 230 kV line at 69 kV from its Tracy Substation near the Banks Pumping Plant, and serving several loads including CCWD's existing Old River Intake and Pump Station. At present, power for the Old River Intake and Pump Station is supplied by Western and power for the Transfer Facility is supplied by PG&E through their Brentwood Substation. The project includes construction of additional energy infrastructure facilities, as described in Section 3.5.5 Power Supply Infrastructure.

Solid Waste Disposal

Two permitted, large-volume transfer/processing facilities are active in Contra Costa County. The types of materials accepted at these facilities include construction and demolition materials, green materials, agricultural waste, industrial waste, mixed municipal waste, and sludge or biosolids. Non-recyclable industrial waste generated by the project would be transported to Keller Canyon Landfill, located west of the project area on Highway 4. Keller Canyon Landfill serves the eastern and central portions of Contra Costa County and is a Class II facility with a projected life span of 40 years (Contra Costa County, 2005).

Materials recovery facility/transfer stations are used to meet the waste diversion goals mandated by AB 939. These facilities, separately or in combination, provide comprehensive materials recovery operations and efficient waste transfer operations. The station serving the eastern portions of Contra Costa County is the Contra Costa Transfer and Recovery Station (Contra Costa County, 2005).

The 2,170-acre Altamont Sanitary Landfill and the 644-acre Vasco Road Landfill, located in northeastern Alameda County, handle most of the solid waste generated in Alameda County (DWR, 2004).

The Contra Costa County Community Development Department and the Alameda County Waste Management Authority both provide an internet database that includes a list of private organizations that accept building construction or demolition materials such as bricks, concrete, wood and dirt for recycling. There are 19 organizations in the region that accept these construction materials for a fee.

Public Services

Fire Protection/Emergency Medical Services

The East Contra Costa Fire Protection District (ECCFPD) provides fire protection services to much of the project area. The Alameda County Fire Department provides fire protection in the unincorporated eastern portions of the county. Both fire departments maintain mutual-aid agreements with the East Bay Regional Park District, California Department of Forestry, and private industrial companies located within their respective jurisdictions. Both agencies are required to maintain comprehensive and efficient fire and emergency medical response services. As part of this requirement, these agencies must generally demonstrate a five-minute response time for 90 percent of all emergency calls and maintain a fire station within 1.5 miles of all residential and nonresidential developments. Stations within the immediate project area include the following:

- Station No. 57, 3024 First Street, Byron, CA 94514
- Station No. 58, 1535 Discovery Bay Boulevard, Discovery Bay, CA 94514
- Station No. 59, 1801 Bixler Road, Discovery Bay, CA 94514

The ECCFPD operates eight fire stations and contracts an additional one. The engine companies consist of three person crews including one certified Emergency Medical Technician Level 1 (Henderson, 2008). There is also a volunteer San Ramon Valley Fire Protection District Station (Station 40 - Morgan Territory) located along Morgan Territory Road. The Morgan Territory Regional Preserve adjoins CCWD watershed lands boundary to the northwest.

Law Enforcement

The Contra Costa County Sheriff's Department provides law enforcement services to the unincorporated areas of Contra Costa County. The station with responsibility for the project area is the East Contra Costa County's Oakley Delta Station. Likewise, for portions of the project that cross into Alameda County, the Alameda County Sheriff's Department provides law enforcement services. The nearest sheriff's station in Alameda County to the project area is in the San Leandro Eden Township Substation.

Although they do not serve as sworn law enforcement officers, CCWD employees routinely tour District facilities while conducting their regular duties. There is also a Marina Manager residing near the existing marina, to provide a 24-hour presence at that facility.

Schools and Recreation

No school facilities are located within 0.5 miles of any project facilities or construction sites, and therefore are not discussed further. Park and recreation facilities are discussed in Section 4.15, Recreation.

4.12.2 Environmental Consequences

Methodology

Analysis of the potential for construction activities to disrupt utilities was prepared through review of planning documents and websites, and by telephone communications with representatives of area agencies in order to identify and describe existing utilities (water, wastewater, drainage, energy, solid waste disposal) and public service (fire protection/ emergency medical services and law enforcement) facilities and systems. The identified facilities and services were then compared with proposed construction activities to assess the potential for service disruptions. Analysis of the project's potential to increase solid waste generation and meet state targets related to solid waste was conducted by identifying the excess materials that would be generated by the project, estimating the quantity of such materials that would be re-used, recycled or otherwise diverted from landfills, and assessing the potential for the project to exceed state targets for construction debris.

Significance Criteria

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. These thresholds also encompass the factors taken into account under NEPA to determine the significance of an action

in terms of its context and the intensity of its effects. An alternative was determined to result in a significant impact to utilities and public service systems if it would do any of the following:

- Disrupt utility or public services (e.g., interfere with emergency services or evacuation plans) such that a public health hazard could be created or an extended service disruption could result;
- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services: fire protection, police protection, schools, or other public facilities;
- Require or result in the construction of expanded or new water or wastewater treatment facilities or stormwater drainage facilities, the construction of which could cause significant environmental effects; (part of the project description; addressed throughout EIS/EIR)
- Have insufficient water supplies available to serve the project from existing entitlements and resources, thereby necessitating new or expanded entitlements;
- Generate waste materials that would exceed the permitted capacity of local landfills, or not comply with state regulations related to solid waste;
- Require the construction of additional energy infrastructure facilities that would have significant environmental effects. (part of the project description; addressed throughout EIS/EIR)

The proposed reservoir expansion and other project components involve construction of expanded and new water facilities and infrastructure, as described in Section 3.4 Action Alternatives. Because water-related facilities form the major components of the project, each technical section and related impact discussion evaluates potential impacts associated with expansion of the reservoir, new pipelines and facility locations. Potential project impacts related to water supplies are addressed in Section 4.2, Delta Hydrology and Water Quality. Project impacts associated with drainage facilities are addressed in Section 4.5, Local Hydrology, Drainage, and Groundwater. For these reasons, no further discussion about the need for additional water treatment facilities or infrastructure, or their associated impacts, are included in this section.

The project also includes construction of additional energy infrastructure facilities, as described in Section 3.5.5 Power Supply Infrastructure. Because power supply is a component of the project, each technical section and related impact discussion evaluates Power Options 1 and 2 for impacts associated with new transmission lines and substation locations. For this reason, no further discussion about the need for additional energy infrastructure facilities and associated impacts is included in this section.

Impact Summary

Table 4.12-1 provides a summary of the impact analysis for issues related to utilities and public service systems based on actions outlined in Chapter 3.

**TABLE 4.12-1
SUMMARY OF IMPACTS – UTILITIES AND PUBLIC SERVICE SYSTEMS**

Impact	Project Alternatives			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
4.12.1: Construction or operation of project alternatives could temporarily disrupt utilities and public service systems such that a public health hazard could be created or an extended service disruption could result.	LSM	LSM	LSM	LSM
4.12.2: Project alternatives would not require or result in construction of new or expanded utility infrastructure or public service facilities that would result in substantial adverse physical impacts.	LS	LS	LS	LS
4.12.3: Construction of the project alternatives could increase solid waste generation such that the capacity of local landfills would be exceeded or the project would not comply with state regulations related to solid waste.	LSM	LSM	LSM	LSM
4.12.4: Construction of the project alternatives could make a cumulatively considerable contribution to cumulative effects on public services and utilities, or local landfill capacity.	LSM	LSM	LSM	LSM

NOTE:
 SU = Significant and Unavoidable
 LSM = Less-than-Significant Impact with Mitigation
 LS = Less-than-Significant Impact
 NI = No Impact

Impact Analysis

No Project/No Action Alternative

Under the No Project/No Action Alternative, no new project facilities would be constructed and no existing facilities would be altered, expanded, or demolished. Implementation of this alternative would neither temporarily nor permanently affect the utilities and public services evaluated in this section.

Impacts 4.12.1: Construction or operation of the project alternatives could temporarily disrupt utilities and public service systems such that a public health hazard could be created or an extended service disruption could result. (Less than Significant with Mitigation)

Overview – All Alternatives

Construction of project facilities has the potential to cause short-term disruptions in utility and public services during the approximately 3-year project construction period. For utilities, construction activities have the potential to directly interrupt water, wastewater, and drainage, electrical or gas lines during installation of new pipelines, auguring for power poles or similar activities. This could include planned shut off of electrical service in a limited area and for a limited duration while crossing existing utilities lines; alternatively, disruption of utilities could

be an unintentional result of encountering unsurveyed drainage or other utility lines during pipeline trenching. Indirect effects, such as availability of potable water and wastewater services in the watershed while the reservoir area is under construction, are also addressed in this section. Extended disruption of electricity, gas or other utilities could result in public health hazards, such as loss of power during an extended heat wave.

As for public services, major construction projects such as the Los Vaqueros Reservoir expansion could result in short-term, localized access issues such as blocked driveway at residences needing fire protection, emergency medical or law enforcement services. There is also the potential to increase emergency response times for fire, emergency medical and law enforcement equipment and personnel due to increased traffic for construction material deliveries and construction workers. Section 4.9, Transportation and Circulation, addresses the potential of the proposed project to temporarily affect emergency response times and access during construction. Section 4.13 analyses impacts on emergency response/evacuation plans and wildland fire risk.

Water Supply Disruption. Under Alternatives 1, 2 and 3, the reservoir would be drained to allow for the dam modification construction, would remain empty for the three-year project construction period and would take an additional year to fill (see Section 3.5.2 Draining the Reservoir for Construction) The time needed to refill the reservoir depends on hydrologic conditions and Delta water quality during the refilling. During this period, CCWD would be able to meet its water quality goals in all but short portions of the driest years through use of the AIP facility on Victoria Canal and the intertie with EBMUD's Mokelumne Aqueduct. Under current reservoir operations, most blending for water quality is done in the fall when the quality at the Old River Intake declines. However, water quality is higher at the AIP during fall allowing water quality goals to be met with direct deliveries in most years. Additionally, under CCWD's agreement with EBMUD, 3,200 acre-feet per year of CCWD's CVP water can be diverted through the Freeport Regional Water Project facilities in the northern Delta where water quality is significantly better than at the Old River Intake. CCWD would coordinate with EBMUD to take this water when it would provide the most water quality benefit to CCWD customers. The intertie with EBMUD could also provide water in an emergency.

To further minimize the potential for water supply disruption during project construction, CCWD would provide for supplemental water supply by constructing and making operational the new Delta Intake and Pump Station (Alternatives 1 and 2) or upgrades to the Old River Intake and Pump Station (Alternative 3) early in the construction period. This additional water diversion capacity would be available in the event of an emergency or extended drought.

Under Alternative 4, a limited dam raise necessary to expand the reservoir to 160 TAF could be achieved by constructing on the downstream slope of the existing dam only, allowing the reservoir to remain in operation through the majority of construction. A drawdown of up to 60 TAF would occur during a 2-year rather than a 4-year construction period.

Also, as indicated above, CCWD would make arrangements with the East Bay Municipal Utility District (EBMUD) to secure an additional temporary supplemental supply of water during the construction period and make use of the existing CCWD-EBMUD intertie to make emergency

water deliveries into the CCWD system if needed. The intertie connects EBMUD's Mokelumne Aqueduct with CCWD's Contra Costa Canal. Like other inter-agency interties, the EBMUD-CCWD intertie was built to provide flexibility and reliability for Bay Area water users. With these provisions, water supply services would not be disrupted during the temporary project construction and reservoir re-filling period.

Alternative 1

Los Vaqueros Reservoir Expansion and Recreation Facilities

Utilities. Expansion of the Los Vaqueros Reservoir would not be expected to disrupt utilities because there are relatively few utility lines in place, and because the reservoir area would be closed to visitors during construction. During construction, potable water systems (packaged membrane treatment plants, described under Water Services) that supply water within the Los Vaqueros watershed would be dismantled in preparation for relocation to new sites. Drinking water would be delivered to the site for CCWD staff and construction workers using bottled water or other temporary systems. Non-potable water for landscape irrigation, care of oak trees and other plants and livestock ponds would be obtained by tapping water stored in pipelines on the east side of the reservoir, and through use of tanker trucks for water delivery. Existing wastewater systems would also be closed during construction, and vaults removed from areas to be inundated. Temporary portable systems (port-o-potties) would be used during construction. In summary, only temporary utility systems would be operated during construction, including construction of replacement and new recreation facilities, and there would be no customers to be disrupted within the reservoir area.

Energy. Six natural gas lines, including one near the base of the dam, traverse the existing reservoir; however, these facilities are no longer operational and are partially submerged due to construction of existing reservoir facilities. An existing PG&E electrical transmission line traverses the eastern shoreline, but would not be affected by the increased water level of the reservoir, the new dam impoundment, or the relocated recreation facilities. Therefore, these lines would not be affected by the proposed expansion.

Two active wind turbine sites located at the southeastern shore of the Los Vaqueros Reservoir would be inundated under Alternative 1. CCWD would work with the owners of the wind-generation facilities to relocate the generation capacity within the existing wind generation easement area or to compensate the owner as required under existing operating agreements.

Public Services. During the initial year for draw down, the 3-year construction period, and another year for refilling the reservoir, the watershed would be closed to visitors; only limited numbers of CCWD staff and construction workers would be allowed on CCWD property. Some CCWD staff would continue to manage watershed lands outside of construction areas; however the area gates would be locked to prevent visitors. Until construction of replacement and new recreational facilities is completed, including a new marina complex, access to watershed recreation areas would remain closed to the public. As such, there would be less need than usual for fire, emergency medical and law enforcement services and provision of public safety services

would not be disrupted. More information about maintaining emergency access during construction is provided in Section 4.9, Transportation and Circulation. More information about reducing the risk of wildfires is provided in Section 4.13 Hazardous Materials/Public Health.

New Delta Intake Facility

Utilities. No existing utilities are expected to be disrupted by construction activities associated with the new Delta Intake and Pump Station because there are no water, wastewater, drainage or energy pipelines located within the construction zone of the proposed facility. There is a 69 kV transmission line that serves the Old River Intake and Pump Station, passes through the siting zone, and that will be upgraded to serve the proposed Intake as a component of the proposed project. As such, the design, construction and coordination of these new overhead lines will be implemented in a manner to avoid power disruptions to the Old River Facility.

Public Services. As for public service issues, construction of a new intake facility would occur in an agricultural area of the county with few residents or services to be disrupted. During and after construction, the site will be fenced and gated, and access limited to CCWD staff and construction workers. No disruption of utilities or public services would result from construction of the new Delta Intake Facility.

Conveyance Facilities

Utilities. Construction of the Delta-Transfer Pipeline, expanded Transfer Facility, Transfer-LV Pipeline and Transfer-Bethany Pipeline could result in disruptions to the underground and/or overhead utilities that are shown on Figure 4.12-1. There is also the possibility during construction of disrupting un-surveyed utilities.

As shown in Figure 4.12-1, the Delta-Transfer Pipeline would cross as many as six BBID irrigation lines; two petroleum pipelines (Chevron and Kinder Morgan); a Sprint fiber-optic cable line; a Western transmission overhead line; and two PG&E 500 kV overhead transmission lines. The Delta-Transfer pipeline would also cross the Union Pacific Railroad tracks. As described in Section 3.5.2, Pipeline Construction, the bore-and-jack method would be used to pass under the railroad crossing.

The Transfer-LV Pipeline alignment would cross two PG&E natural gas pipelines and two Sprint fiber-optic cables.

The Transfer-Bethany pipeline alignment would cross one Western electric transmission line and two 36-inch PG&E natural gas lines. There are no known utility lines located in the area planned for the Westside Option pipeline tunnel. The pipeline's Eastside Option would tunnel under the California Aqueduct.

Public Services. As for public service issues, construction of a new intake facility would occur in an agricultural area of the county with few residents or services to be disrupted. More information about emergency medical services, including discussion of access during construction, is addressed in Section 4.9, Transportation and Circulation.

Power Supply

Utilities. Under both Power Options 1 and 2, addition of new transmission lines on existing, replacement, or new power poles would occur in existing utility easements. As such, auguring for power poles and other construction activities has some potential to disrupt existing utilities, which are the same utilities as in Delta-Transfer and Transfer-LV Pipelines. There is also a slight potential to impact existing or abandoned septic systems; however, this is not likely due to the relatively few houses along the power supply alignment. As for disruptions of utilities during construction of either a Western Substation under Power Option 1 or a PG&E substation under Power Option 2, this is not likely because there are no known underground utilities in potential substation siting zones.

Public Services. Construction of new power supply facilities would occur in rural areas of the Contra Costa County with relatively few residents or services to be disrupted. Furthermore, construction of new electrical lines involves placing power poles and stretching lines in a manner that would not limit access to nearby properties. Both of the two substation siting zones are in areas with limited access and limited services to be interrupted.

Summary

In summary, there is a relatively low potential for any one project component to disrupt existing utility lines or public services; however, when considered in the context of multiple project components under concurrent construction for an approximately 3-year period, the potential for disruption is increased considerably. There is also the possibility during construction of disrupting un-surveyed utilities. For this reason, Under Alternative 1 there is the potential for short-term disruption of utilities and public services; related impacts would be significant.

Alternative 2

Under Alternative 2, impacts from disruption of utilities and public services would be the same as those for Alternative 1 since the facilities to be constructed would be the same. Under Alternative 2, impacts related to short term disruption of utility or public services would be significant.

Alternative 3

Alternative 3 would exclude construction of a new Delta Intake or a Transfer-Bethany pipeline, and facility expansion at the Old River Intake would occur within its existing site, so there would be less potential for disruption of utilities and public services when compared with Alternative 1. However, there would be some potential for short-term disruption of utilities and public services resulting in a significant impact under Alternative 3.

Alternative 4

Under Alternative 4, impacts from disruption of utilities and public services would be substantially less than that generated by construction of Alternative 1 because Alternative 4 would not include facilities outside CCWD watershed property lines. Figure 4.12-1 shows the BBID, PG&E, Sprint, Western and other utility crossings that would be avoided.. Alternative 4 would include a dam raise for a 160 TAF reservoir expansion that would be smaller and involve less construction

activity than the dam raise required under Alternative 1 for the 275 TAF Reservoir, thereby avoiding inundation of 2 wind turbines. Further, there would be no potential for blocked driveways and other interferences with emergency personnel during construction. However, there would be some potential for short-term disruption of utilities and public services and an increased potential for wildfires resulting in a potentially significant impact under Alternative 4.

Mitigation Measures

Implementation of mitigation Transportation and Circulation Measure 4.9.2: This mitigation involves requirements to reduce the potential for impeding emergency access.

Implementation of mitigation Hazards Materials and Public Safety Measure 4.13.3: This mitigation involves required activities to reduce the potential risk of wildfires.

Measure 4.12.1a: Prior to construction of the project facilities and once pipeline alignments have been finalized, a detailed survey identifying utilities along the proposed alignments will be conducted. The survey results and the following measures will be incorporated into final design plans and specifications to avoid or minimize potential conflicts with utilities:

- a. Utility excavation and encroachment permits will be acquired from the appropriate agencies, including the Public Works Departments of Contra Costa and Alameda Counties. CCWD will incorporate permit conditions in contract specifications that are designed to ensure no disruptions in service occur during construction. Contractors will be required to comply with permit conditions contained in contract specifications.
- b. CCWD shall ensure that Underground Service Alert is notified at least 14 days prior to initiation of construction activities of the underground portions of each transmission lines and utility structures. Underground Service Alert verifies the location of all existing underground utilities and alerts the other utilities to mark their facilities in the area of anticipated construction activities.
- c. A detailed engineering and construction plan will be prepared as part of the design plans and specifications. This plan will include procedures for the excavation, support, and fill of areas around utility cables and pipes to ensure that utility cables are not damaged. All affected utility service providers will be notified of the construction plans and schedule, and arrangements will be made with these entities regarding the protection, relocation, or temporary disconnection of services.
- d. In shared utility easement areas where a project pipeline might parallel wastewater mains, the engineering and construction plans will include trench-wall support measures to guard against potential trench wall failure and the resulting loss of structural support for the wastewater main.
- e. The California Department of Health Services standards will be observed; these standards require: (1) a 10-foot horizontal separation between parallel sewer and water mains (gravity or force mains); (2) a 1-foot vertical separation between perpendicular water and sewer line crossings; and (3) encasing sewer mains in protective sleeves where a new water line crosses under or over an existing wastewater main. If the separation requirements cannot be maintained, a variance will be obtained from

the Department of Health Services through the provision of sewer encasement or other means the department deems suitable.

- f. Final construction plans and specifications will be coordinated with affected utilities including PG&E, Western, and the California Department of Health Services Sanitary Engineering Branch.
- g. Emergency response plans and protocols, as required under construction permit conditions, shall be incorporated into project construction specifications.

Measure 4.12.1b: CCWD shall phase construction to minimize the potential for water supply emergencies and complete formal arrangements with EBMUD for water supply backup prior to draining the Los Vaqueros Reservoir and initiating project construction.

Impact Significance After Mitigation: Less than significant.

Impact 4.12.2: The project alternatives would not require or result in construction of new or expanded utility infrastructure or public service facilities that would result in substantial adverse physical impacts. (Less Than Significant Impact)

Overview – All Alternatives

For a finding of adverse significance related to Impact 4.12.2 to be made, two conditions must be met simultaneously: 1) the proposed project must require or result in construction of new or expanded utility infrastructure or public service facilities; and 2) those required facilities must result in substantial adverse physical impacts. Additional infrastructure, such as a new wastewater treatment facility or fire station, would be required in the event the project would result in an adverse effect on performance objectives during construction or operations such that additional services and new facilities would be required.

As indicated in the subsection 4.12.2 Significance Criteria discussion, above, the proposed reservoir expansion and related project components involve construction of expanded and new water facilities and infrastructure. As described in Section 3.4 Action Alternatives, these water-related and power supply facilities form the major components of the project; they do not require or result in the need for additional utility infrastructure or public service facilities that are not already integral parts of the proposed project. The potential for the utility and public service components of the project to cause adverse physical impacts is addressed in each technical section, where each impact discussion evaluates potential impacts associated with expansion of the reservoir, new pipelines and other facilities.

Also, as discussed in Section 4.20 Growth Inducement, the project does not involve development of new residential, commercial or industrial land uses, therefore none of the alternatives would directly or indirectly result in the kind of population growth or non-residential development that requires additional utilities and public services. However, in order to provide a comprehensive

assessment of potential impacts in this EIS/EIR, utility and public services (with the exception of water and power) are further assessed by alternative and by service type.

Alternative 1

Wastewater

Reservoir Expansion/ Dam Modification and Recreation Facilities. At present in Los Vaqueros Reservoir day-use areas, wastewater from the public restrooms and other facilities are regularly pumped and captured in a holding tank and hauled offsite by a licensed contractor. During construction, the reservoir would be closed to recreationalists and other visitors, and area use limited to CCWD staff and construction workers. Upon re-opening of the reservoir, new recreation facilities including a new interpretive center and marina complex could result in a substantial increase in visitors. However, the Los Vaqueros Reservoir's utility and recreational components are widely dispersed throughout the watershed such that there would not be a need to construct an on-site wastewater treatment plant system. After construction, CCWD would resume the existing system of wastewater treatment via off-site hauling.

New Delta Intake and Pump Station. The proposed intake facility would not have any staff assigned to this location and there would be no wastewater facilities provided at this location.

Transfer Facility Expansion. The existing transfer facility does not have any staff assigned to it and there are no wastewater facilities provided at this location. This situation would not change after the Expanded Transfer Facility is operational.

Drainage

As the project is almost completely located in a rural setting, much of the drainage system serving the project area consists of natural drainage swales, ditches, and watercourses. None of the project facilities would be constructed in areas with a developed storm sewer system. This situation would not change with construction of the proposed project. More information about drainage facilities, including more discussion of impacts, is addressed in Section 4.5, Local Hydrology, Drainage, and Groundwater.

Fire Protection/ Emergency Medical Services.

Reservoir Expansion/ Dam Modification and Recreation Facilities. Although recreational opportunities, including a new marina complex and more boats, will be enhanced, there will not be such a substantial increase in the annual number of visitors to the reservoir that additional fire engines, ambulances or a new fire station would be needed. More information about emergency medical services, including more discussion of impacts, is addressed in Section 4.9, Transportation and Circulation.

New Delta Intake and Pump Station. Like the existing Old River Intake and Pump Station, the new intake would require minimal fire monitoring and protection. Given the size of the new intake, dedicated fire personnel would not be required to provide fire protection for the new intake. Thus, the project would not increase long-term demand for public services or utilities,

including fire and police protection, additional schools, parks, wastewater and other public facilities, that would necessitate the construction of new or altered government service facilities.

Transfer Facility Expansion. The existing transfer facility does not have any staff assigned to it and there are no fire-prone facilities provided at this location. This situation would not change after the Expanded Transfer Facility is operational.

Law Enforcement

Reservoir Expansion, Dam Modification and Recreation Facilities. Although recreational opportunities, including a new marina complex and more boats, will be enhanced, there will not be such a substantial increase in the annual number of visitors to the reservoir that additional patrol vehicles or a police substation would be needed. The Los Vaqueros reservoir is available for day use only, its gates are locked each evening, and there is an on-site Marina manager that provides security (Mueller, 2008).

New Delta Intake and Pump Station. Like other District facilities, the new intake would be gated to provide site security, and it is not anticipated that dedicated security or police protection services would be required.

Transfer Facility Expansion. The existing transfer facility is gated, does not have any staff assigned to it and is not the type of facility that attracts law enforcement issues. This situation is not anticipated to change after the Expanded Transfer Facility is operational.

Power Supply Facilities. Like existing power supply substations, the new Western or PG&E substation would be gated to provide site security; it is not anticipated that dedicated security or police protection services would be required. Overhead transmission lines would not be fenced.

In summary, Alternative 1 would not require construction of new or expanded utility infrastructure or public service facilities. Therefore, there is no potential for project facilities that would result in substantial adverse physical impacts.

Alternative 2

Under Alternative 2, impacts related to utilities and public services would be the same as those for Alternative 1 since the project facilities to be constructed would be the same. Under Alternative 2, there is no potential for project facilities that would result in substantial adverse physical impacts.

Alternative 3

Like Alternative 1, Alternative 3 would not require construction of new or expanded utility infrastructure or public service facilities. Therefore, there is no potential for project facilities that would result in substantial adverse physical impacts.

Alternative 4

Like Alternative 1, Alternative 4 would not require construction of new or expanded utility infrastructure or public service facilities. Therefore, there is no potential for project facilities that would result in substantial adverse physical impacts.

Mitigation: None required.

Impact 4.12.3: Construction of the project alternatives could increase solid waste generation such that the capacity of local landfills would be exceeded or the project would not comply with state regulations related to solid waste. (Less than Significant)

Overview – All Alternatives

The Los Vaqueros Reservoir Expansion with construction of major facilities and their associated infrastructure have the potential to increase solid waste generation during the approximately 3-year project construction period. However, there would be relatively little trash hauled to landfills because there would no demolition of buildings and due to the high amount of clean excavation materials that would be re-used for backfill. There would also be re-cycling of wood, metal and other materials, diversion of tunnel spoils to designated areas or as road base, stockpiling of clean fill in a manner that will allow its subsequent re-use; and use of landfills as a final choice for solid waste disposal after other options have been exhausted. Contractors hauling waste to County transfer stations or landfills would be required to demonstrate reuse, recycling and diversion of construction debris prior to loads being accepted at those facilities.

Alternative 1

Los Vaqueros Reservoir Expansion and Dam Modification

Raising the Los Vaqueros Reservoir dam and construction of Appurtenant Facilities (i.e. – Spillway, Inlet-Outlet works and Hypolimnetic Oxygenation System) for the enlarged reservoir would generate substantial amounts of excess materials, especially during construction of the dam impoundment and also, to a lesser extent, during the relocation of existing recreational facilities. Under Alternative 1 approximately 1,000,000 cubic yards of wet alluvium and spoils (i.e., earth and rock excavated or dredged) would be excavated immediately upstream of the existing dam. No excavated materials would require off site disposal as excess earthen materials would be disposed within the reservoir inundation zone. Although not expected based on experience from construction of the original dam, any spoils or waste not suitable for the reservoir inundation zone would be hauled to a suitable location for recycling or disposal, depending on the type and volume of material to be disposed. Types of solid waste that would be removed include a minor amount of construction debris, including miscellaneous wood scraps, metals, and packaging materials for equipment would likely be hauled off-site to materials recycling facilities.

New Delta Intake Facility

Excess excavation materials from the transfer facility expansion or other construction would be used at the 20-acre new Delta Intake Facility. With its peat soils and need to expand the levee around the site, construction of the new Delta Intake Facility is unlikely to generate excess soil materials.

Conveyance Facilities

All Pipelines - Excavation and Backfill. An estimated 25 percent of the excavated soil would be hauled away from the work sites for disposal or reuse elsewhere. The remaining 75 percent would be stockpiled (sidecast) near the construction work zones for later use as backfill material. Trench dimensions of 48 feet wide by 27 feet deep (from the ranges of widths and depths presented in Chapter 3, Project Description) have been conservatively assumed for this analysis, and pipe diameters were also used to calculate the amount of hauled material, based on the volume displaced by the pipe itself. Pipe diameters are as follows:

- Delta-Transfer Pipeline (Alternatives 1 through 3) would be up to 96 inches in diameter.
- Transfer-LV Pipeline (Alternatives 1 through 3) would be up to 132 inches in diameter.
- Transfer-Bethany Pipeline (Alternatives 1 or 2) would be up to 132 inches in diameter.

Excess fill dirt not used to backfill trenches would be stored and reused as clean fill for other project components such as construction of levee improvements at the new Delta Intake Facility; due to the value of clean fill and the availability of space to store the fill until it is used, fill is unlikely to be hauled to one of 19 regional construction materials recycling facility.

Transfer Facility. Construction of the new 8 million-gallon (MG) tank during expansion of the Transfer Facility would generate approximately 270,000 cubic yards of excess fill dirt. This excess fill dirt would be stored and reused as backfill for other project components or sent to one of 19 regional construction materials recycling facilities.

Transfer-Bethany Pipeline - Excess Tunnel Material. Excavation of a tunnel under the Westside Option as part of the Transfer-Bethany Pipeline would create about 112,000 cubic yards of waste rock and tunnel spoils. The Eastside pipeline option would generate about 15,000 cubic yards of waste rock and tunnel spoils. Tunnel spoils would be hauled from the tunnel excavation for temporary onsite storage and/or subsequent final disposal. The larger waste rock would be disposed at either a 22-acre area near the terminus of Byron Hot Springs Road or along project access roads where it would be used as a roadway sub-base or surface. The Vasco Road Landfill could potentially serve as a disposal site for construction spoils near this project area, although landfill disposal is not anticipated for earthen materials.

Power Supply

Re-use of existing power poles, addition of new power poles and re-stringing of transmission lines would generate relatively small amounts of excess fill. However, during construction of a new substation, there is the potential for used power poles and other utility debris to be generated. Once

these facilities are constructed, operation of power supply facilities is anticipated to generate solid waste in quantities that are about the same as that generated under existing conditions.

Recreation Facilities

Relocation and re-construction of recreational facilities would generate relatively small amounts of excess fill. However, during construction of the new Marina Complex, Interpretive Center and other recreational facilities (Fishing Piers, Picnic Areas, Restrooms and Parking), there is the potential for construction debris to be generated. If excess materials were not re-used, re-cycled or diverted from local landfills, non-reusable solid waste generated during construction would be taken to the nearest materials recovery facility/transfer station and transferred to Keller Canyon Landfill, a Class II facility with a projected lifespan of 40 years and sufficient permitted capacity to accommodate the anticipated solid waste disposal needs of the project.

Post Construction Operations

Once constructed, operation of recreation facilities at the Reservoir would continue to produce solid waste in a quantity that is approximately equivalent to that generated under existing operations; therefore, project operations would not substantially increase the amount of waste to be collected, transported, and disposed of at a regional landfill.

In summary, Alternative 1 would result in potentially significant impacts related to solid waste generation due to the scale of the project and amount of excess materials to be generated by dam modifications, pipeline and tunnel excavation and building of new utility and recreation structures.

Alternative 2

The discussion provided under Alternative 1 would apply to Alternative 2 because the facilities to be constructed under both alternatives would be the same. Under Alternative 2, solid waste generation would result in potentially significant impacts.

Alternative 3

Under Alternative 3, solid waste generation would be reduced as compared to Alternative 1 because there would be no construction of a new Delta Intake and Pump Station or Transfer-Bethany Pipeline. Without the Transfer-Bethany Pipeline construction, there would be no need for hauling and discharging tunnel spoils for either the pipeline's Westside or Eastside Options. The Old River Intake and Pump Station would be expanded, however this expansion would be limited to on-site improvements. However, there would be the potential under Alternative 3 for solid waste generation to result in potentially significant impacts due to the amount of excess materials to be generated by dam modifications, pipeline excavation and building of new utility and recreation structures.

Alternative 4

All facilities included in Alternative 4 are analyzed under Alternative 1, above. There would be no improvements constructed at the Expanded Transfer Facility or new Delta Intake and Pump

Station under this alternative resulting in less solid waste generation than what has been determined under Alternative 1. However, there would be the potential under Alternative 4 for solid waste generation to result in potentially significant impacts due to the scale of the reservoir expansion and dam modifications.

Mitigation Measures

Measure 4.12.3: CCWD will incorporate into the contract plans and specifications the requirement that the contractor implement solid waste reduction and debris recovery practices as developed by CCWD. The solid waste reduction / debris recovery specifications will include the following items.

- a. describe the planned management methods for all types of construction and demolition debris (e.g., reuse, recycling, or disposal), and indicate the types of debris expected to be generated by the project (e.g., wood, drywall, concrete, cardboard, and metal)
- b. name all service providers and/or facilities to be used for debris management (or indicate that the debris, such as dirt, will be reused onsite)
- c. demonstrate that at least 50 percent (by weight) of jobsite debris is diverted from disposal in a landfill by providing receipts and/or gate-tags from all facilities and service providers used to recycle, reuse, or dispose of jobsite debris.

Project waste generation would be avoided or minimized in a number of ways, which would be outlined in the project's solid waste reduction / debris recovery plan, and incorporated into project plans and specifications for implementation by contractors selected to complete project construction. To reduce solid waste generation, a series of practices would be developed, as follows:

Re-use of excavation backfill. Fill materials excavated during project grading and drilling would be reused as fill materials during project construction, while soils excavated during pipeline construction would be used to backfill trenches after pipeline installation.

Recycling of materials. Some construction materials, including some wood scraps, metals, and packaging materials could be recycled for later resale e.g. – wood scraps sold as landscape mulch.

Re-Use of excess fill. Clean fill could be accepted for use at other construction sites, or stored at existing sand and gravel facilities until (re)used as clean fill.

Roadway sub-base or surface material. Larger waste rock from excavation of tunnels would be placed along project access roads as a roadway sub-base or surface.

Divert waste to non-landfill locations. Additional amounts of the larger waste rock could be disposed of at a 22-acre area near the terminus of Byron Hot Springs Road.

Impact Significance after Mitigation: Less than Significant.

Impact 4.12.4: Construction of the project alternatives could make a cumulatively considerable contribution to cumulative effects on public services and utilities, or local landfill capacity. (Less than Significant with Mitigation)

Disruption of Utilities and Services

As indicated in the discussion related to Impact 4.12.1, construction of major facilities and their associated infrastructure have the potential to cause short-term disruptions in utility and public services during the approximately 3-year project construction period including limitations on reservoir use for approximately 5 years. This may be a planned shut off of electrical service in a limited area and for a limited duration while crossing existing utilities lines; alternatively, disruption of utilities could be unintentional. There is also some potential for extended disruption of electricity, gas or other utilities that could result in public health hazards, such as loss of power during an extended heat wave. If the proposed project were to be built concurrently with other area projects, there would be an increased potential for cumulative impacts. However, with implementation of Mitigation Measure 4.12-1a, impacts associated with disruption of utilities and public services are not anticipated being cumulatively considerable.

Additional Utilities and Services

As discussed under Impact 4.12.2, the project does not involve development of new residential, commercial or industrial land uses, and none of the alternatives would directly or indirectly result in the kind of population growth or non-residential development that requires additional utilities and public services. Assessment of all the proposed project facilities and alternatives indicated that the project would not require construction of new or expanded utility infrastructure or public service facilities. Furthermore, there is no potential for project facilities that would result in substantial adverse physical impacts; therefore the project would not contribute to significant cumulative impacts.

Solid Waste Generation

The Los Vaqueros Reservoir Expansion with construction of major facilities and their associated infrastructure have the potential to significantly increase solid waste generation during the approximately 3-year project construction period. State regulations related to solid waste require construction and demolition debris generated on a jobsite to be reused, recycled, or otherwise diverted. Contractors hauling waste to County transfer stations or landfills would be required to demonstrate reuse, recycling and diversion of construction debris prior to loads being accepted at those facilities. The project would incorporate activities and other requirements in order to minimize environmental impacts of solid waste generation, transport and disposal and meet requirements of AB 939. In the same way, other construction projects would be required to meet waste reduction standards, which would lower the potential for creating cumulative impacts related to solid waste. With implementation of Mitigation Measure 4.12-3, the proposed project impacts related to solid waste generation are not anticipated to be cumulatively considerable.

Mitigation Measures

Implementation of Mitigation Measures 4.12-1 and 4.12-3, including implementation of a solid waste reduction / debris recovery plan as required under AB 939, will reduce potential cumulative impacts to less-than-significant levels.

Impact Significance after Mitigation: Less than significant with mitigation.
