

## *18.0 Public Services And Utilities*

### *18.1 Introduction*

This chapter presents a description of the affected environment, including information about the provision of public services and utilities in the project. This is followed by an evaluation of the potential environmental effects of the proposed project, and mitigation measures necessary to alleviate or reduce significant adverse impacts identified for ISDP to a less-than-significant level. Finally, the chapter considers the effects of the alternatives upon public services and utilities in a comparative form with the proposed project.

### *18.2 Environmental Setting/Affected Environment*

#### *18.2.1 Introduction*

The south Delta encompasses segments of three counties: Alameda, Contra Costa, and San Joaquin. Several incorporated cities and developed communities are located in the region, including Brentwood, Byron, Discovery Bay, Oakley, Ripon, Stockton and Tracy. However, irrigated agriculture is the predominant land use, encompassing approximately 80 percent of the south Delta (DWR 1986; 1993d). All three counties have experienced extensive conversion of agricultural lands to urban uses, with commensurate population growth in the last decade; therefore, all utility and sewer systems have been expanded to accommodate this growth. Significant local development now in the planning stage, such as the Mountain House new community, Gold Rush City and Mossdale Village in San Joaquin County, and Cowell Ranch, East County Airport and expansion of Discovery Bay in Contra Costa County, would create additional service demands in the region.

The following paragraphs describe each component of the project area utility/service system network, with specific attention given, as applicable, to conditions at the six proposed project sites: Clifton Court Forebay northern intake; dredging of Old River; Old River fish control structure; and the three flow control structures at Middle River, Grant Line Canal, and Old River.

#### *18.2.2 Power/Natural Gas*

Electric power and natural gas networks in the project area include of Pacific Gas and Electric (PG&E) and Western Area Power Administration (WAPA) high-voltage transmission lines and associated substations; distribution lines to local customers; and gas pipelines and fields. Several sets of high voltage lines traverse the area and are typically sited within 100- to 120-foot right-of-way corridors. Transmission lines in the south Delta range from 60- to 500-kV lines, while 230-kV lines predominate. Two sets of high-voltage transmission lines cross West Canal, passing roughly east-west immediately south of the existing Clifton Court Forebay intake, and run northeast-southwest south of the forebay. West of the forebay, three sets of transmission lines traverse Byron Tract in a northwest-southeast direction, and a single set of lines crosses northeast-southwest from the north bank of Grant Line Canal over Grant Line and Fabian and

Bell canals near the southeast corner of Clifton Court Forebay. The nearby Tracy Substation accommodates three 230-kV transmission lines that traverse the area.

Several Chevron, Standard Oil, and Unocal pipelines pass through the area southwest of Clifton Court Forebay. These include natural gas, oil, and product pipelines ranging from six to 20 inches in diameter. The majority of these pipelines run northwest-southeast near the Byron Highway. Natural gas pipelines also traverse the eastern part of the project area. Two major trunk lines cross San Joaquin County and are bisected by branch delivery lines. However, natural gas distribution is not accessible to individual users throughout the project area. Consequently, many residential and agricultural customers use propane tanks. Several gas fields exist in the Lathrop-Stockton area, including the Roberts Island, Union Island, Lathrop and Stockton fields. Pipes conveying this gas range from four to 12 inches in diameter. PG&E buys and distributes the end product gas after private companies have accomplished odorizing and dehydration.

### *18.2.3 Water Supply And Distribution*

A wide range of systems, serving statewide, regional, and individual needs, comprise the project area water supply and distribution network. These range from the large-scale elements of the SWP and CVP down to the pumps and wells serving individual agricultural and residential uses.

Important facilities serving other areas of the state include the California Aqueduct, Clifton Court Forebay, Delta-Mendota Canal, and the Harvey O. Banks and Tracy pumping plants. Water is exported from the south Delta area to southern California via the California Aqueduct and the Delta-Mendota Canal (DWR 1993h; San Joaquin County 1992c). The Banks Pumping Plant is a key component of the State Water Project. The plant diverts water through Clifton Court Forebay to contracting agencies in the San Francisco Bay area, San Joaquin Valley and southern California via the California and South Bay Aqueducts. These facilities are managed by the Delta Field Division of the State Water Project which is housed adjacent to the Banks Pumping Plant.

A variety of agencies administer water service in the south Delta region. In northeastern Alameda County, the Alameda County Flood Control and Water Conservation District-Zone 7 directs water resource management and watershed protection. Bethany Reservoir, located about two miles southwest of the Alameda/San Joaquin County line, serves as a major water storage site for this service provider. Special service districts and municipalities manage most of Contra Costa County's water supply; however, few of these providers serve the project area, which depends primarily on individual wells and pumps. Several public and private suppliers tap groundwater supplies for residents of the nearby Bethel Island, Knightsen, Byron and Discovery Bay areas. Southwestern San Joaquin County relies heavily on well water and exported fresh water from the Delta; the County's "Delta Planning Area" is served entirely by individual private water systems (San Joaquin County 1992c).

At the individual level, water is supplied either from wells or directly from Delta waterways. Wells have served as the primary water source in rural Contra Costa County; however, increasing concentrations of nitrates in the groundwater supply have restricted their continued or

expanded use. In addition to private wells, approximately 75 miles of channels in the south Delta provide irrigation for adjacent farmlands through diversion pumps and siphons. A tidal pump control structure exists at Tom Paine Slough. Agricultural water users in San Joaquin County include riparian rights users, agricultural users with private wells, water conservation districts, and irrigation districts (San Joaquin County 1992c).

#### *18.2.4 Stormwater Drainage*

A stormwater drainage system is typically a network of both natural and man-made elements which collect, carry and store rain or surface water from a specific site, eventually discharging the water to a natural water course or body of water. In most urbanized and some rural areas, such systems are managed by flood control districts. With the exception of the communities of Discovery Bay and Byron, the Contra Costa County portion of the project area does not fall within any flood control drainage areas. Project elements in San Joaquin County also lie within unmanaged rural areas. Impervious surfaces are essentially limited to roads, other small sections of pavement and areas covered by rural residential or agricultural structures. Consequently, most of the project area, including the proposed facility sites, is not served by highly developed stormwater drainage systems. Drainage of the south Delta's agricultural areas consists primarily of overland flow into systems of man-made ditches, natural drainage swales and watercourses, eventually emptying into the Delta waterways.

#### *18.2.5 Wastewater*

Wastewater service generally consists of the transmission of municipal and industrial wastewater to a treatment facility, treatment, and then disposal of the wastewater and residual waste solids. In the project area this need is met by a combination of sanitary sewer systems and treatment plants, and individual septic systems. Northeastern Alameda County consists of agricultural land served mainly by on-site septic systems. The Contra Costa Water District operates sanitary sewer and a 12.6 mgd treatment plant for a small part of the project area in and around Discovery Bay. Municipal sanitation districts also serve Byron, Oakley and Brentwood. In rural eastern Contra Costa County, treated wastewater effluent is used to irrigate agricultural lands or is discharged into a reclamation drain and then into Old River, by permit of the Central Valley Regional Water Quality Control Board. The use of septic tanks and leachfields is not feasible in much of rural Contra Costa County, due to shallow water tables, high nitrate concentrations in the groundwater, and soils with poor percolation (Contra Costa County 1990). However, on-site septic systems predominate in project area portions of rural San Joaquin County (San Joaquin County 1992c). The incorporated City of Tracy operates a sanitary sewer system and community treatment plant.

#### *18.2.6 Solid Waste Disposal*

Several nearby landfills accept solid waste from the south Delta. In Alameda County, the nearest landfill is the Altamont Sanitary Landfill, located approximately six miles southwest of the proposed ISDP sites; eastern Alameda County waste is disposed of there. Without expansion, the Altamont Landfill is expected to reach capacity in 1997; Altamont has applied for an expansion, which would more than quadruple the size of the landfill. The nearby Vasco Road

Landfill is not expected to reach capacity until the year 2005 or later (Alameda County 1993a). The nearest Contra Costa County landfill is the Marsh Canyon Landfill, approximately 14 miles from the proposed project facilities. The project area lies within San Joaquin County's Central County and South County Refuse Areas; wastes are disposed of at the Foothill Landfill near the Stanislaus County line. This landfill has substantial remaining capacity. The nearby Corral Hollow Landfill, located southwest of I-580 near Tracy, is at capacity and needs replacement or expansion (San Joaquin County 1992c).

### *18.2.7 Communications*

Pacific Bell is the primary supplier of telephone service to the project area. Underground fiber trunk lines feed switching equipment and overhead lines and poles that supply individual service units. A network of alternative telephone companies, cellular communication companies and cable companies also serve the region. Provision of new service to specific sites is accomplished on a case by case basis.

## *18.3 Environmental Impacts/Consequences*

### *18.3.1 Introduction*

A review of proposed project facilities determined that construction activities would not conflict with adjacent infrastructure. Operational effects would likely be limited to the proposed facilities' potential demand for utilities or services, and possible changes in the availability of water to local users. Both CEQA and NEPA require that an EIR/EIS focus on the potential significant environmental impacts of a proposed project [CEQA Section 21002.1(e); CEQA Guidelines Section 15126(a); CEQ NEPA Regulations Section 1501.7(a)(3)]. Consequently, certain public services which would not be significantly affected by the ISDP are not evaluated further in this chapter. These services include fire protection, police protection, schools, public facilities and governmental services.

The evaluation of growth-inducing impacts elsewhere in the document (Chapters 15 and 22) determined that ISDP would not create significant population growth in the service areas. Consequently, no significant growth-related indirect impacts upon SWP service area public services or utilities were considered to be reasonably foreseeable, and the possibility was not examined further. The following discussion summarizes the criteria used to identify significant adverse impacts to project area public services and utilities, then provides an evaluation of the potential construction- and operation-related environmental consequences of ISDP.

### *18.3.2 Significance Criteria*

The criteria used to determine whether identified impacts are significant and adverse were developed through a review of the CEQA Guidelines, the CEQ NEPA Regulations, and the CWA 404(b)(1) Guidelines. Section 15064(b) of the CEQA Guidelines notes that the determination of significance requires "careful judgment ... based to the extent possible on scientific and factual data," and states that "the significance of an activity may vary with the

setting," making a rigid definition of significant effect impracticable. In addition, many of the decisions guiding the relationship between public service infrastructure and adjacent uses are based on qualitative, rather than quantitative, information. As a consequence, this EIR/EIS determines the significance of public services and utilities impacts on both qualitative and quantitative levels, as appropriate.

In accordance with CEQA and NEPA, and for the purposes of this analysis, public services and utilities impacts are considered significant if implementation of a proposed action would directly or indirectly result in a need for new systems or supplies, or substantial alterations to the following utilities: power or natural gas; communications systems; local or regional water treatment or distribution facilities; sewer or septic tanks; storm water drainage; solid waste disposal; or local or regional water supplies.

### *18.3.3 Impacts Upon Public Services And Utilities*

The following discussion addresses the potential effects of construction and operation of the proposed ISDP facilities on project area public services and utilities.

Power/Natural Gas. Operation of the proposed ISDP structures would require expansion of the existing electrical distribution system to each of the sites, and may necessitate the extension of transmission facilities to serve them. However, given the rural location and the minimal acreage requirements for new low voltage lines, effects are expected to be limited to cost-related issues. This is considered a less-than-significant adverse impact.

Water Supply and Distribution. Project implementation would not affect existing water distribution lines within the project area, as such services are not available near the proposed sites. The ISDP could affect other local water supplies, however. Modeling performed for other chapters of this document indicates that the south Delta's hydrology would be altered by the operation of the barriers and modification of the intakes and channels adjacent to Clifton Court Forebay. In particular, operation of the proposed barriers would raise minimum water levels upstream of the barriers for several miles, and marginally reduce water levels downstream of the barriers. Numerous pumping stations are situated in the reaches immediately upstream of the proposed barriers. Increased water levels in these reaches during the dry months should facilitate withdrawal of water for agricultural users, and are expected to greatly improve conditions over the present situation. The limited reductions in downstream water levels are not anticipated to substantially reduce access to Delta water, and should therefore not result in any need for new supplies. This is considered a less-than-significant adverse impact.

As no water service is available at the ISDP sites, it is assumed that the proposed facilities will obtain any necessary water supplies either through the installation of on-site wells or the pumping of water from adjacent channels. Due to the extremely small scale of these uses, no adverse effects on water supplies are likely. This is considered a less-than-significant adverse impact.

Stormwater Drainage. Implementation of the ISDP would not involve substantial contributions to the amount of impervious surfaces in either the south Delta or the individual project facility

sites. Therefore, the ISDP is not expected to increase the amount of stormwater runoff into project area drainage facilities, and no new systems or substantial alterations to existing stormwater drainage systems would be necessary. Some minor changes to Victoria Island or Byron Tract drainage facilities and patterns would result from operation of the proposed settling ponds, as this element of the ISDP involves the addition of corrugated metal pipes to direct water from the ponds into existing ditches on the island. The disposal of the dredge materials on Twitchell Island levees would also require some minor drainage improvements. These adjustments are not expected to result in a need for new drainage systems or substantial alterations to the existing drainage network. This is considered a less-than-significant adverse impact.

Wastewater. The ISDP sites are located well beyond the boundaries of the nearest sanitation districts. Therefore, no public wastewater transportation or treatment is available to serve the proposed ISDP facilities. The proposed facility sites would instead be served by septic systems. Consequently, the ISDP would not contribute to wastewater flows, and would not affect either service or capacity of any nearby wastewater transportation or treatment systems. This is considered an area of no impact.

As previously noted, the area places substantial constraints on the development of septic systems. All of the facilities that might require septic systems would be within San Joaquin County, which has less restrictive siting limitations than eastern Contra Costa County. However, the construction of septic systems on the proposed facility sites could potentially pose problems associated with poor percolation, a shallow water table, and/or high nitrate concentrations. These are considered potentially significant adverse impacts.

Solid Waste Disposal. Control facilities associated with each of the proposed river barriers would require solid waste disposal service. However, the only staff at these sites would be seasonal lock and crane operators to assist boaters crossing the barriers. Consequently, the minimal amount of waste that would be generated by these few individuals is not expected to affect landfill capacity. Consequently, the disposal of solid waste associated with ISDP barrier operations is considered a less-than-significant adverse impact.

Communications. Control facilities associated with each of the proposed barriers and the intake would require telephone service. As telephone service currently exists nearby, the extension of telephone lines would not constitute a substantial alteration to the existing communications system. Furthermore, the demand for service at five sites would not be considered a need for new systems or supplies. This is considered a less-than-significant adverse impact.

## 18.4 Mitigation Measures

### 18.4.1 Wastewater

The design, siting and construction of septic systems on the proposed project sites shall be completed in accordance with all applicable regulations. Due to the area's constraints (poor percolation, shallow water table, and high nitrate concentrations), soils studies shall be performed prior to system design to determine any special requirements of each site.

Alternatively, the installation of vaulted toilets or other self-contained facilities would eliminate or reduce the potential adverse impact to a less-than-significant level.

## 18.5 Comparative Evaluation Of The Alternatives

### 18.5.1 Enlargement Of Clifton Court Forebay, Construction Of Two Intake Structures, Increased Export Capability, And Construction Of Permanent Barriers

This alternative, the original South Delta Water Management Program preferred alternative, would entail construction and operation of the barriers proposed as a part of ISDP. Accordingly, this alternative would have the same barrier-related effects upon public services and utilities as the ISDP, including the need for electrical service, well or pump water, and communications service at the barrier sites. As with the ISDP, this alternative is expected to improve water availability to south Delta agricultural users.

Power/Natural Gas. Operation of the proposed North Victoria Canal intakes would require expansion of the existing electrical delivery system to each of the sites. This may necessitate the extension of transmission facilities to the sites. However, as noted above for ISDP, the acreage requirements for new lines are minimal and effects are expected to be limited to cost-related issues. This is considered a less-than-significant adverse impact.

The proposed Clifton Court Forebay enlargement could interfere with existing electrical lines in several locations, requiring the relocation of those transmission facilities. This action would constitute a substantial alteration to the power lines. Conflicts would likely arise with the high-voltage lines located south and west of the present forebay configuration, and smaller lines located along the edge of the current Highway 4 alignment. This is considered a significant adverse impact.

Stormwater Drainage. Neither expansion of Clifton Court Forebay nor construction of additional intakes at North Victoria Canal would contribute substantially to the amount of impervious surfaces in the south Delta or at the facility sites. This is considered a less-than-significant adverse impact.

Communications. Control facilities associated with the proposed North Victoria Canal intakes would require telephone service. As telephone service currently exists nearby, the extension of telephone lines would not constitute a substantial alteration to the existing communications system. Furthermore, the requirement of service at two sites would not be considered a need for new systems or supplies. This is considered a less-than-significant adverse impact.

- *Mitigation*

Power/Natural Gas. Where construction of any facilities interferes with existing high-voltage transmission lines, PG&E generally requires development to provide for the relocation cost of those transmission lines. DWR and PG&E shall agree upon and carry out appropriate measures

to ensure continued functioning of and maintenance access to any transmission lines that would be directly affected by project facility construction or expansion of Clifton Court Forebay. Such measures could include reimbursement for transmission line relocation costs, modified design/location of project facilities, or the provision of access easements to affected transmission lines, as appropriate.

### *18.5.2 Reduction Of CVP/SWP Exports And Management Or Reduction Of Demand For SWP Water*

This alternative would incorporate reductions in the amount of water exported to SWP water users, along with implementation of measures in the service areas to either better manage the available water or to reduce the demand for water. The project facilities proposed for ISDP would not be constructed or operated. Implementation of this alternative would not result in any negative effects upon south Delta public services or utilities. Water levels are expected to rise throughout the project area, but less than they would under ISDP.

### *18.5.3 Modification Of CVP/SWP Exports, Consolidation Of Agricultural Diversions, Extension Of Existing Agricultural Diversions, And Increased Pumping At Banks Pumping Plant To 10,300 cfs*

Impacts associated with the components of this alternative that are the same as ISDP have been discussed above. The other components are discussed below.

Power/Natural Gas. Modifications to SWP/CVP pumping would have minor impacts on the timing and use of electric power. Both of these systems have access to adequate energy supplies to accommodate these changes, thus this is a less-than-significant adverse impact.

The new consolidated pumps, reservoirs and pipeline system would require electric service for pumping and distribution operations. This would require new electric distribution line hookups and could possibly require some extensions of existing 60 kV transmission lines. However, as discussed in the proposed project, these additions would be a less-than-significant adverse impact.

Stormwater Drainage. The proposed consolidated diversions, pipelines and reservoirs would not contribute substantially to the amount of impervious surfaces in the south Delta or at the facility sites. Consequently, no negative effects on stormwater drainage systems are anticipated. During periods of high precipitation, excess rainwater gathering in the reservoirs could be pumped into the fields and water in the settling ponds would be pumped into the channels if necessary. This is considered a less-than-significant adverse impact.

#### *18.5.4 ISDP Project With An Additional Clifton Court Forebay Intake At Italian Slough*

This alternative would provide all of the proposed components of the ISDP project, plus a new intake at Italian Slough. Accordingly, this alternative would incorporate two proposed intakes, one at Italian Slough and one at the northeastern corner of Clifton Court Forebay. Implementation of this alternative would result in all of the effects associated with the ISDP, including possible intrusion upon existing electrical transmission lines at Grant Line Canal and constraints on septic system placement. The improved project area water supply associated with ISDP barrier operation would also occur with this alternative. Following paragraphs discuss impacts associated with the proposed Italian Slough intake.

Power/Natural Gas. Due to its distance from existing facilities, the Italian Slough intake is not expected to affect power or natural gas systems or facilities. Operation of the intake structure would require the extension of electrical service to the site; however, as with the ISDP facilities, effects would be limited to cost-related issues. This is considered a less-than-significant impact.

Stormwater Drainage. The Italian Slough intake would not contribute substantially to the amount of impervious surfaces onsite or in the south Delta overall. Consequently, no adverse effects on stormwater drainage systems are expected. This is considered a less-than-significant impact.

Communications. Control facilities associated with the proposed Italian Slough intake would require telephone service. As telephone service currently exists nearby, the extension of telephone lines would not constitute a substantial alteration to the existing communications system. Furthermore, the demand for service at one site would not be considered a need for new systems or supplies. This is considered a less-than-significant adverse impact.

- *Mitigation*

Power/Natural Gas. Where construction of any facilities interferes with existing high-voltage transmission lines, PG&E generally requires development to provide for the relocation cost of those transmission lines. DWR and PG&E shall agree upon and carry out appropriate measures to ensure continued functioning of and maintenance access to any transmission lines that would be directly affected by project facility construction. Such measures could include reimbursement for transmission line relocation costs, modified design/location of project facilities, or the provision of access easements to affected transmission lines, as appropriate.

#### *18.5.5 ISDP Without The Northern Intake, And With An Expanded Existing Intake*

This alternative would implement all of the proposed components of the ISDP project, except construction of a new intake at the northeastern corner of Clifton Court Forebay. Instead, the existing Clifton Court Forebay intake would be expanded to accommodate the additional flow. The following paragraphs discuss impacts associated with the proposed expansion of the existing Clifton Court Forebay intake.

Power/Natural Gas. Operation of the expanded intake structure would require electrical service; however, service is currently provided to the facility. This is considered a less-than-significant adverse impact.

Expansion of the existing Clifton Court Forebay intake would conflict with two existing sets of high-voltage transmission lines along the southern boundary of Clifton Court Forebay, requiring relocation of those facilities. As that action would constitute a substantial alteration to the transmission lines, this is considered a significant adverse impact.

Stormwater Drainage. The expanded Clifton Court Forebay intake would not contribute substantially to the amount of impervious surfaces onsite or in the south Delta overall. Consequently, no adverse effects on stormwater drainage systems are expected. This is considered a less-than-significant adverse impact.

Communications. Control facilities associated with the expanded intake would require telephone service; however, these facilities and their necessary services are already established and operational. Consequently, this is considered a less-than-significant adverse impact.

- *Mitigation*

Power/Natural Gas. Where construction of any facilities interferes with existing high-voltage transmission lines, PG&E generally requires development to provide for the relocation cost of those transmission lines. DWR and PG&E shall agree upon and carry out appropriate measures to ensure continued functioning of and maintenance access to any transmission lines that would be directly affected by project facility construction or expansion of the existing Clifton Court Forebay intake. Such measures could include reimbursement for transmission line relocation costs, modified design/location of project facilities, or the provision of access easements to affected transmission lines, as appropriate.

#### *18.5.6 No Action (Maintain Existing Conditions)*

This alternative would involve the maintenance of environmental conditions as they presently exist in the south Delta. The ISDP would not be approved or constructed. The potential adverse environmental effects of the ISDP project would not occur, nor would the potential water supply, water quality, and environmental benefits occur. As implementation of this alternative would maintain existing conditions in the south Delta, no construction activities are expected that might conflict with existing project area public services and utilities. Accordingly, there would be no project-related effects upon electrical transmission lines or service. The absence of barriers under this alternative would limit any beneficial effects on the area's water supply, therefore the low water levels that currently raise concerns with agricultural users would persist under this alternative.

*18.5.7 No Action (Maintain Conditions As They Would Exist In The Future)*

Implementation of this alternative would result in the maintenance of environmental conditions as they will exist in the future, without construction or operation of ISDP. Implementation of this alternative would not involve construction activities that might interfere with existing transmission lines, and no new intakes of barriers would be built that might require additional services. Accordingly, there would be no project-related effects upon public services or utilities. The condition of public services and utilities would either stay the same or change, without being influenced by the construction and operation of ISDP. Benefits to water supplies associated with barrier operation also would not occur, and low water levels are expected to continue under this alternative. Although they would increase slightly, supplies to SWP service areas would continue to be constrained.