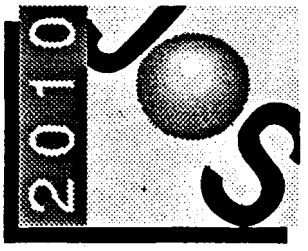
Chapter 10

Public Health



Chapter 10. Public Health

INTRODUCTION

Several public health concerns related to implementation of the 2010 Plan were identified during the scoping process. This chapter addresses those public health issues, in addition to regulatory requirements related to hazardous materials, airborne toxics, wastewater treatment, use of reclaimed water, worker safety, and emergency response.

Water quality and air quality were also identified as significant areas of concern related to public health. Surface and groundwater quality are discussed in detail in Chapter 4, "Hydrology and Water Quality". Detailed discussions of marine water quality impacts are provided in Chapter 5, "Marine Environment". Any wastewater discharge to the ocean must comply with regulations established by EPA, the SWRCB, and the RWQCB. Regulations and permit requirements related to discharges are discussed in both chapters.

The South Coast Air Basin, which includes the JOS service area, is designated a nonattainment area for federal and state ozone, PM10, CO, and NO_2 standards. The health effects associated with these criteria pollutants; public health concerns related to air quality effects of water treatment plants, including exposure to odors; and federal and state air quality standards and SCAQMD regulations are addressed in Chapter 8, "Air Quality".

SETTING

Regional Environmental Setting

Hazardous Materials

A hazardous material is defined by the Cal-EPA Department of Toxic Substances Control (DTSC) as a material that because of its quantity, concentration, or physical or chemical characteristics poses a significant present or potential hazard to human health and safety or to the environment if released (26 CCR 25501). For the purposes of this discussion, hazardous materials include raw materials and products, and hazardous wastes include wastes generated by facilities and businesses or remaining onsite as a result of past activities.

Federal Regulations. EPA is the principal agency regulating hazardous materials. Applicable federal regulations are primarily contained in Titles 29, 40, and 49 of the Code

of Federal Regulations (29, 40, and 49 CFR). The following are the key federal regulations pertaining to hazardous materials:

- The Resource Conservation and Recovery Act (RCRA) imposes regulatory obligations on hazardous waste generators, transporters, and operators of treatment, storage, and disposal facilities.

- The Comprehensive Environmental Response Compensation and Liability Act (CERCLA), also known as Superfund, established a comprehensive national program to identify active and abandoned waste disposal sites that pose a threat to human health or the environment and created a fund to pay for the cleanup of abandoned sites for which no responsible parties can be found.

- The Superfund Amendment Reauthorization Act (SARA) Title III (community right-to-know laws) is the set of statutes that grants individuals information concerning chemicals located in their communities or workplace and that provides for emergency preparedness for reaction to environmental accidents.

- The Hazardous Materials Transportation Act (HMTA) governs the transportation of hazardous materials. These regulations are promulgated by the U.S. Department of Transportation and enforced by EPA.

- Section 112(r) of the federal Clean Air Act (CAA) deals with provisions for accidental releases of hazardous substances. This section has not yet been finalized by EPA.

State Regulations. California state regulations governing hazardous materials are equally as stringent as or, in some cases, more stringent than federal regulations. The state has been granted primacy (primary responsibility for oversight) by EPA to administer and enforce hazardous waste management programs. State regulations also have detailed planning and management requirements to ensure that hazardous materials are properly handled, stored, and disposed of to reduce human health risks.

The transfer and disposal of hazardous waste is highly regulated. Hazardous waste haulers are required to comply with regulations that establish numerous standards, including criteria for handling, documenting, and labeling the shipment of hazardous waste (26 CCR 25160 et seq.). Hazardous waste treatment and disposal facilities are also highly regulated and must meet standard criteria for processing, containment, and disposal of hazardous materials (26 CCR 25220).

The following are key state laws pertaining to hazardous materials:

- the Hazardous Materials Release Response Plans and Inventory Act (Business Plan Act),

- the Hazardous Waste Control Act (HWCA), and

- the Emergency Services Act.

The Business Plan Act requires that a business using hazardous materials prepare a plan describing the facility, inventory, emergency response plans, and training programs. The Districts prepare this plan biennially and submit it to the Los Angeles County Fire Department, Hazardous Materials Division. (County Sanitation Districts of Los Angeles County 1993g).

The HWCA created the state hazardous waste management program, which is similar to the federal RCRA program but is generally more stringent. The HWCA establishes requirements for the proper management of hazardous substances and wastes regarding:

- criteria for identifying and classifying hazardous wastes;
- generation and transportation of hazardous wastes;
- design and permitting of facilities that recycle treat, store, and dispose of hazardous wastes;
- treatment standards;
- operation of facilities and staff training; and
- closure of facilities and liability requirements.

Worker Safety

Worker safety laws protect public health in the workplace. These laws are administered and enforced by the California Occupational Safety and Health Administration (Cal-OSHA). The laws apply to normal operational activities and include all provisions for standard injury and illness prevention, construction requirements, and requirements for the handling of chemicals and prevention of infection and disease. Worker safety programs directly benefit public health by reducing the number of accidents and injuries that occur. Hazardous material laws also protect worker and public safety by requiring specific training, handling, transportation, and storage procedures for hazardous materials.

Emergency Response

Public health is protected by the numerous federal, state, and local agencies that provide emergency response services. Under the California Emergency Services Act, the state developed an emergency response plan to coordinate emergency services provided by all governmental agencies. The plan is administered by the California Office of Emergency Services (OES). OES coordinates the responses of other agencies, including EPA, the California Highway Patrol, regional water quality control boards, air quality management districts, and county disaster response offices. Local emergency response teams including the fire, police, and sheriff's departments provide most services to protect public health.

Wastewater Treatment and Reuse

Reuse of reclaimed wastewater has the potential to affect public health. Recharging of groundwater supplies with reclaimed wastewater has been a public health concern because groundwater is consumed by humans. Health issues associated with groundwater replenishment include the acute and chronic effects of trace metals, minerals, pathogens, and organic compounds, which, if present in reclaimed water, may ultimately become part of a potable water supply. If these constituents are present in quantities greater than those permitted, the reclaimed water is not reused. A health effects study completed by the Districts in 1984 determined that reclaimed water produced at the inland WRPs was essentially virus free and had no measurable effect on the area's groundwater.

Wastewater treatment in California is governed by the federal CWA and several state regulations. Reuse of treated effluent is regulated under 22 CCR 3, which is described in Chapter 3, "Hydrology and Water Quality". Strict adherence to regulations prevents the spread of pathogens through wastewater reuse. When the regulations are complied with, treated wastewater can be used for groundwater recharge, industrial process water, irrigation (for landscaping, golf courses, public parks, and agriculture), river water supplementation, wetlands enhancement, and wildlife habitat.

Districts Facilities

Hazardous Materials

Present Use. The use of hazardous materials is required for wastewater treatment at the JWPCP and the WRPs and for biosolids processing at the JWPCP. Table 10-1 lists hazardous substances used and stored in reportable quantities at each of the plants. The two most hazardous substances used at the plants are chlorine, which is used for disinfecting effluent, and sulfur dioxide, which is used for removing residual chlorine following disinfection of effluent. Chlorine and sulfur dioxide are classified by the federal government as "acutely hazardous".

The chemicals listed in Table 10-1 are stored and used in processing areas at the JWPCP and the WRPs in conformance with latest design standards and state regulations. The Districts meet all local, state, and federal requirements for use of hazardous materials. As required by law, the Districts file three documents with Los Angeles County:

- Hazardous Materials Business Plan (biennially),
- Hazardous Materials Inventory (annually), and
- Acutely Hazardous Materials Registration (annually).

Table 10-1. Stored Hazardous Materials Used at JOS Wastewater Treatment Plants

Hazardous Material	Location of Use			
	JWPCP	Los Coyotes WRP	San Jose Creek WRP	Whittier Narrows WRP
Chlorine[a]	X	X	X	X
Sulfur dioxide[a]		X	X	X
Sulfuric acid (97%)[a]	X		X	
Gasoline	X		X	
Diesel fuel	X	X	X	
Aluminum sulfate	X	X	X	X
Foam Blast 443C	X		X	X
Anionic polymer	X	X	X	
Lube oil	X	X	X	X
Ethanolamine		X	X	
Ferric chloride	X	X	X	
Ferrous chloride	X	X	X	
Waste oil (also clean)	X	X	X	X
Calcium hypochlorite			X	X
Acetylene	X	X	X	
Oxygen	X	X	X	
Sodium bisulfite			X	
Sodium hydroxide	X		X	
Argon	X	X		
Paints and solvents	X	X		
Carbon dioxide	X	X		
Liquefied petroleum gas	X			X
Sodium hypochlorite	X			
Hydrochloric acid	X		X	
Digester gas	X			
Kerosene	X			
Trichlorethane	X			
Defoamant		X	X	X
Methane (compressed)	X			
Hydrogen (compressed)	X			
Air (compressed)	X			
Nitrogen (compressed)	X			
Ammonia[a, b]	X			
Hexane/ethyl ether mixture	X			
Freon TF	X			
Nitrous oxide (compressed)	X			
Aluminum sulfate		X	X	X
Methanol			X	
Nitric acid			X	
Methylene chloride			X	
Acetone			X	
Chloroform			X	
Acetonitrite			X	
Hexane			X	
Lime	X			
Cationic polymer	X			

[a] Considered acutely hazardous.
[b] Planned for future use (late 1995).

These three reports apply to all facilities. The most recent filing with the Los Angeles County Fire Department was in December 1993 (County Sanitation Districts of Los Angeles County 1993g).

Hazardous wastes, such as those generated by the Districts, if shipped on public roads must be in accordance with the federal Hazardous Materials Transportation Act. The main access roads to the JWPCP and the WRPs are public roads that convey regular traffic, as well as traffic shipping hazardous materials and wastes.

DDT Contamination at the Joint Water Pollution Control Plant. DDT was used extensively between 1942 and 1972 for pest control and in many public health disease control programs worldwide. There is no documentation of toxicity from the accumulation of DDT in humans; however, toxic effects on birds and fish led to a ban on DDT use in 1972. (Casarett and Doulls 1980.)

One of the world's largest manufacturers of DDT was connected to the Districts' sewer system until 1971 (County Sanitation Districts of Los Angeles County 1993g). Manufacturing wastes containing DDT were discharged into the sewer system and accumulated in areas of the JWPCP associated with processing sewage solids or were discharged into the Pacific Ocean off Whites Point. The DDT, which is known to bioaccumulate, accumulated in sediments and biota off the Palos Verdes Peninsula (see Chapter 5, "Marine Environment"). The DDT that was not discharged was deposited along with the biosolids in the former sludge lagoons used for biosolids processing. These former sludge lagoons, some of which were located in the proposed secondary treatment expansion area at the JWPCP site, were paved with asphalt between 1980 and 1983 (Figure 10-1).

The Districts currently are conducting a site assessment at the JWPCP to characterize the extent and nature of the subsurface contamination and recommend remediation measures, consistent with regulatory requirements, for any adverse chemical and physical subsurface conditions existing at the JWPCP. The Districts will use appropriate technical methods, quality assurance/quality control procedures, health and safety measures, and detailed documentation in the implementation of the site investigation and remediation. (County Sanitation Districts of Los Angeles County 1994a.)

The actual amount of soil at the JWPCP that is contaminated is presently unknown. However, based on previous subsurface investigation at the JWPCP, the Districts believe that approximately 5% of excavation spoils will contain hazardous levels of DDT and 2% of excavation spoils will contain hazardous levels of metals or other nonvolatile hazardous waste. Volatile organic compounds (VOCs) may also be encountered because of disposal and decay of organic matter and from screen wastes in former rag pit areas. Temporary onsite storage techniques used during remediation may include stockpiles, durable bags, barrels, or roll-off bins. Excavation spoils stored onsite will be inspected periodically during the storage period to ensure that they are contained and protected from infiltration, erosion, migration, and off-gassing of VOCs, and that all labeling remains legible and intact with the spoils. (County Sanitation Districts of Los Angeles County 1994a.)

Studies on Health Effects of Reclaimed Water Use

In 1984, the Districts completed a Health Effects Study to determine whether long-term health implications were associated with indirect potable reuse. The study was funded by numerous agencies and districts, including EPA, California Department of Water Resources (DWR), SWRCB, MWD, Orange County Sanitation Districts, and the Districts. (County Sanitation Districts of Los Angeles County 1984.)

The study found that use of reclaimed water for groundwater recharge did not demonstrate any measurable adverse impacts on the area's groundwater or the health of the population ingesting this water. The study also showed that groundwater and reclaimed water complied with all federally prescribed drinking water regulations for inorganic and organic chemicals, and that the reclaimed water was essentially virus free. (County Sanitation Districts of Los Angeles County 1984.)

A follow-up study is now being conducted by the Rand Corporation on behalf of the Water Replenishment District of Southern California. This new study, expected to be completed in 1995, will examine the health effects of ingesting groundwater that has been recharged with reclaimed wastewater.

Joint Water Pollution Control Plant. Treated wastewater from the JWPCP is only reused onsite because it is high in mineral content and, under state standards, is suitable only for limited uses, such as plant washwater and chemical feedwater.

Los Coyotes Water Reclamation Plant. A small portion of the reclaimed water from the Los Coyotes WRP (approximately 10%) is reused. The water that is reused is predominantly used for landscape irrigation. The reclaimed water that is not reused is discharged to the San Gabriel River.

San Jose Creek and Whittier Narrows Water Reclamation Plants. A significant amount of reclaimed water from the San Jose Creek (67%) and Whittier Narrows (99%) WRPs is reused. Reclaimed water from the two plants is conveyed to the San Gabriel River and Rio Hondo Spreading Grounds for groundwater recharge and is later pumped from the ground for potable water. Other public uses of the reclaimed water are golf course irrigation and commercial nursery use. The remainder of the reclaimed water is discharged to the lined San Gabriel River, in which it flows to the ocean. More specific details on groundwater recharge are provided in Chapter 3, "Hydrology and Water Quality".

Worker Safety

The Districts comply with all Cal-OSHA requirements for worker safety. Furthermore, the Districts have an active worker safety training program for the safe use of hazardous materials and effective response to emergencies. All field personnel are instructed by their supervisors and safety specialists on safety hazards throughout the plants and procedures for

safely handling hazardous materials in their work areas. The training includes information on:

- how to respond appropriately to hazards;
- how to use equipment, including protective, control, and decontamination equipment; and
- how to stop leaks and shut down equipment.

Table 10-2 lists the training requirements for various Districts personnel. The response categories are defined by the Hazardous Waste Operations and Emergency Response regulations (8 CCR 5192).

Table 10-2. Hazardous Materials Training Requirements by Position

Training Response Category	Position
First Responder Awareness Level	All field employees
Hazardous Materials Technician	Chlorine station operators Chlorine station mechanics Chlorine station mechanic foreman
On-Scene Incident Commander	Operations Superintendent Assistant Operations Superintendent Supervising Treatment Plant Operators Solids Processing and Secondary Treatment Maintenance Supervisors Chlorine Station Operations Engineer Maintenance Superintendent Assistant Plant Manager Plant Manager

Storage vessels, piping, and delivery systems that contain hazardous materials are clearly labeled and made of compatible materials, and emergency eyewash/shower stations are located near all hazardous materials storage areas. Liquid storage tanks are located in secondary containment barriers in case of spills. No major leaks have occurred at the JWPCP or the WRPs (County Sanitation Districts of Los Angeles County 1993g).

Emergency Response

Districts personnel serve as the first and most important level of trained professionals to respond to emergency situations, as shown above in Table 10-2. Personnel observing a release or threatened release of hazardous materials report to a continuously staffed alarm center. The treatment plant operator in charge of the area where there is a release of a hazardous material decides which immediate response steps are to be taken. All operators are trained in how to respond to hazards in their areas, what equipment to use, and how to stop leaks and shut down equipment. The treatment plant operator then informs the supervising treatment plant operator, who decides which additional steps to take, including whether to obtain emergency assistance.

Other emergency assistance can be obtained from agencies such as the state OES, local fire and police departments, and CHEMTRAC, a federal hazardous materials response agency. If necessary, OES will coordinate the responses of other agencies. The local police and fire departments may provide assistance with community evacuations, fire protection, and hazardous materials cleanup. The Districts are legally obligated to call the local fire department hazardous materials division and the OES if outside assistance is needed.

Biosolids Disposal

By use of anaerobic digestion, the biosolids produced at the JWPCP achieve the second highest level of pathogen reduction according to EPA requirements for fecal coliform geometric mean density standards. The regulated metals concentrations in JWPCP dewatered cake consistently meet the EPA limits for unrestricted use, with the occasional exception of selenium. These biosolids can be used in all land-based reuse and disposal alternatives. Compost produced from the biosolids meet EPA's "exceptional quality" designation, indicating that the compost can be distributed without restriction.

IMPACTS AND MITIGATION MEASURES OF THE 2010 PLAN ALTERNATIVES

Methodology and Assumptions for Impact Analysis

The public health impact analysis is based on a site visit, a review of existing available documents, interviews with Districts staff and health professionals, and responses to the Notice of Preparation.

The analysis is based on the following assumptions:

- The Districts will continue to obtain required permits and follow required safety procedures.
- Compliance with regulations discussed in the "Setting" section will protect public health.

Criteria for Determining Significance

The level of significance of an environmental impact was determined based on criteria from Appendix G of the State CEQA Guidelines and on professional practice. The project could result in a significant impact if it would:

- cause a potential health hazard or involve a substantial increase in the use, production, or disposal of hazardous materials in the project area;
- substantially increase workers' or the public's actual or potential exposure to hazardous materials, wastes, or pathogens;
- interfere with emergency response plans or evacuation plans in the project area; or
- result in procedures or policies that are insufficient to limit the release of hazardous materials.

Comparison of Alternatives

As shown in Table 10-3 at the end of this chapter, the impacts associated with Alternative 2, 3, and 4 are similar to those associated with Alternative 1, with some variation. This variation in impacts is described below for each alternative.

Alternative 1: Upgrade JWPCP/Expand Los Coyotes WRP/San Jose Creek WRP

Construction Impacts

Impact: Minimal Risk of Exposure to Contaminated Soil during Construction at the JWPCP. During construction of new facilities at the JWPCP, workers or the public could be

exposed to contaminated soils buried in the former sludge lagoons. The actual amount of soil at the JWPCP that is contaminated is unknown. However, the Districts believe that approximately 5% of excavation spoils will contain hazardous levels of DDT and 2% of excavation spoils will contain hazardous metals or other nonvolatile hazardous waste. VOCs may also be encountered because of disposal of and decay of organic matter and from screen wastes in former rag pit areas. Temporary onsite storage techniques used during remediation may include stockpiles, durable bags, barrels, or roll-off bins. Excavation spoils stored onsite will be inspected periodically during the storage period to ensure that they are contained and protected from infiltration, erosion, migration, and off-gassing of VOCs and that all labeling remains legible and intact with the spoils. (County Sanitation Districts of Los Angeles County 1994a.) Workers involved in cleanup could be exposed during the removal of hazardous pesticides, and the public could be exposed from the temporary generation and disposal of the waste.

Worker exposure will be minimized in accordance with state health, safety, and hazardous materials laws, including RCRA, SARA, and HWCA. These laws require the use of protective gear, specialized trucks, and standby response equipment for cleanup of hazardous materials sites. The sites would have to be cleaned up and approved by Cal-EPA and the County Health Department before construction could occur.

Public exposure will be minimized because the hazardous waste will be transported offsite in accordance with the Hazardous Materials Transportation Act and because the hazardous waste will be disposed of at a landfill designed to accommodate and contain hazardous materials. Although there would be a short-term increase in disposal of hazardous materials, this impact is considered less than significant because the Districts would be required to remove the hazardous materials in accordance with approved regulations.

Mitigation. No mitigation is required.

Impact: Minimal Risk of Exposure to Hazardous Materials during Construction at the Los Coyotes or San Jose Creek WRP. No public health risks are anticipated during construction at the Los Coyotes WRP or San Jose Creek WRP because Districts personnel will follow standard regulations for handling and storage of hazardous materials, construction activities will adhere to Cal-OSHA requirements for worker safety, and wastewater treatment will continue during building expansion (e.g., effluent quality will not be degraded). In addition, an NPDES permit and an SWPPP (stormwater pollution prevention plan, which is described in Chapter 3, "Hydrology and Water Quality") will require preparation of a hazardous materials safety plan to further protect workers and the environment. This impact is considered less than significant.

Mitigation. No mitigation is required.

Impacts of Treatment Plant Operations

Impact: Minimal Potential for Accidental Release of Acutely Hazardous Material at the JWPCP. Several chemicals classified as acutely hazardous materials are currently used at the JWPCP for treatment of wastewater and biosolids (Table 10-1). However, the Districts take several steps to limit the accidental release of hazardous materials. At the JWPCP, all personnel are instructed on hazardous material safety hazards and procedures for safely handling hazardous materials in their particular area. This includes instruction on personal protective equipment to be worn, appropriate decontamination procedures for particular hazardous substances, proper operation and use of fire extinguishers, respirator and self-contained breathing apparatus training for selected personnel, and emergency response plans. Districts personnel are trained in categories defined by the Hazardous Waste Operations and Emergency Response regulations (8 CCR 5192).

Storage vessels that contain hazardous materials are clearly labeled and made of compatible materials, as are associated piping and delivery systems. Liquid storage tanks are located in secondary containment barriers. Emergency eyewash/shower stations are located near all hazardous material storage areas.

Personnel observing a release or threatened release of hazardous materials report to a continuously staffed alarm center. The treatment plant operator in charge of an area in which a release of a hazardous material occurs decides which immediate response steps are taken. All operators are trained in how to respond to hazards in their areas, which equipment to use, and how to stop leaks and shut down equipment. The treatment plant operator then informs the supervising treatment plant operator of the situation and the supervising operator decides which additional steps to take, including whether to notify the fire and police departments (by calling 911) and CHEMTRAC for emergency assistance. The police and fire departments assess the need for and execute any necessary community evacuations or shelter needs.

State law (AB 3777) requires that a risk management prevention plan (RMPP) be prepared and implemented for new or modified facilities before commencing new acutely hazardous materials (AHM) handling. RMPPs have several requirements, including a schedule for testing and maintaining equipment used to handle AHM and detection, monitoring, and automatic control systems to minimize AHM accident risks. RMPPs must be based on an assessment of processes, operations, and procedures of business and must consider:

- an assessment of AHM accident risks, including operator error, equipment failure, and external events;
- off-site consequence analysis for most likely hazards using worst-case air dispersion assumptions; and
- proximity to sensitive receptors (e.g., schools, general acute care hospitals, long-term health care facilities, residential areas, and child day care facilities).

One primary hazard associated with the JWPCP would be a release of chlorine gas. Use of chlorine at the JWPCP under the 2010 Plan, however, is expected to decrease substantially from current use, and the chlorination station unloading and handling facility is designated and operated in conformance with the latest standards of the Chlorine Institute. An RMPP for this station has been completed and all recommendations instituted, and it will be modified, if needed, to include any increases in storage areas. The chlorination station piping system contains numerous valves that allow isolation of sections of piping to minimize the release of chlorine in the event of a leak. In accordance with U.S. Department of Transportation design requirements, each railcar has excess flow check valves that internally seal the railcar in the event of a piping rupture. Respiratory equipment and Chlorine Institute C-kits are available to investigate and stop leaks associated with railcars. A caustic adsorption system is in place to depressurize an entire railcar in the event of a leak that is beyond C-kit repair. A chlorination station full containment and neutralization system has been designed and will soon be constructed. No major incidents have occurred at the JWPCP. The risk of exposure will continue to be unlikely because chlorine use is projected to decrease and new and existing equipment will continue to protect against exposure (see Table 6-2 in Chapter 6, "Energy and Chemicals").

Estimates show no substantial changes in consumption of gasoline, diesel fuel, or solvents beyond those that will be implemented in 1994. Chlorine use is expected to drop from 30 tons/day in 1994 to 17 tons/day in 2002 and thereafter. Only ammonia use is expected to increase, from 0 tons/day in 1994 to 0.4 ton/day in 2002 and 0.5 ton/day by 2010. An RMPP will be prepared to address the increase in ammonia use because ammonia is considered an AHM.

This impact is considered less than significant because the increase in use, production, and disposal of hazardous materials is not substantial and because the use of hazardous materials will be in accordance with approved hazardous materials handling, storage, and disposal regulations, including AB 3777, which requires preparation of RMPPs. These safeguards also ensure that exposure of workers to hazardous materials will not be substantially increased.

Mitigation. No mitigation is required.

Impact: Minimal Increase in Health Risk Resulting from Emissions of Toxic Air Pollutants at the JWPCP. The HRA prepared for each of the proposed facilities (Appendix C) shows that for the JWPCP, the maximum individual cancer risk for commercial locations would be 0.24 case per million, whereas residential health risk would be 0.92 case per million. Because these values are less than 1.0 case per million, as are the total chronic and acute health indexes for each toxicological end point, they are considered less than significant.

In addition, no additional industrial emission sources or planned projects are present that could contribute more emissions within 0.25 mile of the JWPCP. Therefore, no cumulative effect is associated with this impact.

Mitigation. No mitigation is required.

Impact: Potential Exposure to Hazardous Materials from Modifications to the JWPCP. Although the potential for accidental release of hazardous material at the JWPCP is minimal, the amount of hazardous material used, produced, stored, and disposed of at the JWPCP (with the exception of chlorine) is projected to increase. This impact is considered less than significant because the increase in use, production, and disposal of hazardous materials is not substantial and because the use of hazardous materials will be in accordance with approved hazardous materials handling, storage, and disposal regulations, including AB 3777, which requires preparation of RMPPs. These safeguards also ensure that exposure of workers to hazardous materials will not be substantially increased.

Mitigation. No mitigation is required.

Impact: No Increase in Exposure to Pathogens off Whites Point from Discharge of Full Secondary-Treated Effluent. JWPCP effluent disinfection is controlled as needed to meet receiving water standards for body contact and shellfish harvesting, and this practice will continue after implementation of full secondary treatment. Additionally, there is no evidence that treated effluent from the JOS is circulating back to shore, and beaches have never been closed for this reason. This impact is considered less than significant.

Mitigation. No mitigation is required.

Impact: Minimal Potential for Increased Risk of Exposure to Health Hazards from Increased Availability of Reclaimed Water at the Los Coyotes and San Jose Creek WRPs for Reuse. Under Alternative 1, a combined additional 37.5 mgd of reclaimed water would be available for reuse. Existing regulations and requirements allow for a wide variety of uses of reclaimed water; the regulations minimize the potential for public exposure to health hazards. The potential increased use of reclaimed water will not increase the risk of exposure because the Districts will continue to comply with water quality standards for adequate disinfection. See Chapter 3, "Water Quality", for a complete description of compliance with water quality standards. This impact is considered less than significant because any additional reuse of reclaimed water would not increase the public's exposure to health hazards. Existing regulations and requirements ensure that the health of the public is protected.

Mitigation. No mitigation is required.

Impact: Potential Exposure to Hazardous Materials from Expansion of the Los Coyotes and San Jose Creek WRPs. This impact is considered less than significant for reasons described above for the JWPCP.

Mitigation. No mitigation is required.

Impact: Minimal Increase in Health Risk Resulting from Emissions of Toxic Air Pollutants at the Los Coyotes and San Jose Creek WRPs. For the Los Coyotes WRP, the maximum individual cancer risk for commercial locations is 0.74 case per million and the residential health risk is 0.83 case per million. These values are associated with an expansion of 37.5 mgd at the Los Coyotes WRP, but under Alternative 1 the actual expansion would equal 12.5 mgd. Consequently, the risk at the Los Coyotes WRP associated with Alternative 1 would be lower. For the San Jose Creek WRP, the maximum incremental individual cancer risk for commercial locations is 0.52 case per million, and the residential health risk is 0.59 case per million. These values are associated with an expansion of 25 mgd at the San Jose Creek WRP. Because the risk values are less than 1.0 case per million, they are considered less than significant.

Mitigation. No mitigation is required.

Impacts of Biosolids Disposal and Reuse

Impact: Minimal Potential for Public Exposure to Health Hazards Resulting from Biosolids Disposal and Reuse. Implementation of the 2010 Plan would increase the amount of biosolids treated by the Districts, which would increase composting, land application, and landfilling activities. The potential for public exposure to health hazards from biosolids disposal and reuse is minimal, however, because of the high quality of the biosolids. The Districts have reduced pathogens in biosolids to the level required for agricultural use according to EPA. All land-based reuse and disposal alternatives are available because vector attraction potential has been minimized and heavy metals are well below ceiling concentrations. The Districts will use only sites that are properly permitted and that have fully mitigated site-specific impacts and impacts related to biosolids reuse through the preparation of site-specific environmental documents or compliance with federal, state, and local regulations.

Mitigation. No mitigation is required.

Alternative 2: Upgrade JWPCP/Expand Los Coyotes WRP

Under Alternative 2, impacts at the JWPCP and the Los Coyotes WRP would be the same as under Alternative 1. No impacts would occur at the San Jose Creek WRP. Construction of a relief sewer line would result in an additional impact, which is described below.

Construction Impacts

Impact: Minimal Potential for Exposure to Risks Associated with Open Trenches during Construction of Sewers. Construction of the conveyance system element could expose the public to risks associated with open trenches and construction equipment. However, these risks would be minimized through standard construction practices (e.g., no more than 50 feet of trench left open overnight and only a slightly greater length exposed during the day) and Cal-OSHA requirements to post warning signs, flag, and fence off-limit areas, and maintain equipment staging areas. This impact is considered less than significant because the potential health hazards will be reduced by the implementation of standard construction practices.

Mitigation. No mitigation is required.

Impacts of Treatment Plant Operations

Impact: Minimal Increase in Health Risk Resulting from Emissions of Toxic Air Pollutants at the Los Coyotes WRP. For the Los Coyotes WRP, the maximum individual cancer risk for commercial locations is 0.74 case per million and the residential health risk is 0.83 case per million. Because the risk values are less than 1.0 case per million, as are the total chronic and acute health indexes for each toxicological end point, they are considered less than significant.

In addition, no additional industrial emission sources or planned projects are present that could contribute more emissions within 0.25 mile of the JWPCP. Therefore, no cumulative effect would be associated with this impact.

Mitigation. No mitigation is required.

Alternative 3: Upgrade JWPCP/Expand Whittier Narrows WRP

Under Alternative 3, impacts associated with the JWPCP would be the same as those associated with Alternative 1. No impact would occur at the Los Coyotes or San Jose Creek WRPs. Impacts at the Whittier Narrows WRP are described below.

Construction Impacts

Impact: Minimal Risk of Exposure to Hazardous Materials during Construction at the Whittier Narrows WRP. This impact is considered less than significant for reasons described above under Alternative 1.

Mitigation. No mitigation is required.

Impacts of Treatment Plant Operations

Impact: Minimal Potential for Increased Risk of Exposure to Health Hazards from Increased Availability of Reclaimed Water at the Whittier Narrows WRP for Reuse. Under this alternative, an additional 37.5 mgd of reclaimed water would be available for reuse at the Whittier Narrows WRP. Existing regulations and requirements allow for a wide variety of uses of reclaimed water; the regulations minimize the potential for public exposure to health hazards. Reclaimed water used for groundwater recharge must conform to drinking water standards for trace constituents. Reclaimed water has been used in this area for more than 30 years and the conclusions of the health effects study conducted by the Districts and the DOHS in 1984 indicate that there are no measurable adverse impacts on human health.

This impact is considered less than significant because the additional use of reclaimed water would not increase the public's exposure to health hazards. Existing regulations and requirements ensure that the health of the public is protected.

Mitigation. No mitigation is required.

Impact: Minimal Increase in Health Risk Resulting from Emissions of Toxic Air Pollutants at the Whittier Narrows WRP. The HRA prepared for each of the proposed facilities (Appendix C) shows that for the Whittier Narrows WRP, the maximum individual cancer risk for commercial locations would be 0.95 case per million, whereas residential health risk would be 0.29 case per million. Because these values are less than 1.0 case per million, as are the total chronic and acute health indexes for each toxicological end point, they are considered less than significant.

In addition, no additional industrial emission sources or planned projects are present that could contribute more emissions within 0.25 mile of the JWPCP. Therefore, no cumulative effect would be associated with this impact.

Mitigation. No mitigation is required.

Impact: Potential Exposure to Hazardous Materials from Expansion of the Whittier Narrows WRP. This impact is considered less than significant for reasons described above under Alternative 1 for the JWPCP.

Mitigation. No mitigation is required.

Alternative 4: Upgrade JWPCP/Expand Los Coyotes WRP/ San Jose Creek WRP/Whittier Narrows WRP

Under Alternative 4, impacts at the JWPCP and Los Coyotes and San Jose Creek WRPs would be the same as under Alternative 1; impacts of sewers would be the same as under Alternative 2; and impacts at the Whittier Narrows WRP would be the same as under Alternative 3. Additional impacts associated with this alternative are described below.

Impact: Decrease in Health Risk Resulting from Emissions of Toxic Air Pollutants at the JWPCP. Under Alternative 4, the JWPCP primary treatment capacity would undergo a net decrease of 35 mgd as compared to Alternatives 1, 2, and 3. No HRA was conducted for this alternative because the decrease in treatment is consistent with reduced emissions and lowered risk. Alternative 4 represents a net air quality benefit with regard to health risk. This impact is considered less than significant.

Mitigation. No mitigation is required.

No-Project Alternative

No public health impacts related to changes in JOS facilities will occur under this alternative. However, public health risks could increase if JOS flows increase with no increase in treatment facility or sewer capacities.

Table 10-3. Comparison of Public Health Impacts by Alternative

Impacts and Mitigation Measures	Alternative 1			Alternative 2			Alternative 3		Alternative 4				
	JWPCP	LC	SJC	JWPCP	LC	Sewers	JWPCP	WN	JWPCP	LC	SJC	WN	Sewers
Construction Impacts													
Impact: Minimal risk of exposure to contaminated soil during construction at the JWPCP (LT)	✓			✓			✓		✓				
No mitigation is required													
Impact: Minimal risk of exposure to hazardous materials during construction at the Los Coyotes or San Jose Creek WRP (LT)		✓	✓		✓					✓	✓		
No mitigation is required													
Impact: Minimal potential for exposure to risks associated with open trenches during construction of sewers (LT)						✓							✓
No mitigation is required													
Impact: Minimal risk of exposure to hazardous materials during construction at the Whittier Narrows WRP (LT)								✓				✓	
No mitigation is required													
Impacts of Treatment Plant Operations													
Impact: Minimal potential for accidental release of acutely hazardous material at the JWPCP (LT)	✓			✓			✓		✓				
No mitigation is required													
Impact: Minimal increase in health risk resulting from emissions of toxic air pollutants at the JWPCP (LT)	✓			✓			✓						
No mitigation is required													
Impact: Decrease in health risk resulting from emissions of toxic air pollutants at the JWPCP (LT)									✓				
No mitigation is required													

LT = less than significant.

Impacts and Mitigation Measures	Alternative 1			Alternative 2			Alternative 3		Alternative 4				
	JWPCP	LC	SJC	JWPCP	LC	Sewers	JWPCP	WN	JWPCP	LC	SJC	WN	Sewers
Impact: Potential exposure to hazardous materials from modifications to the JWPCP (LT) No mitigation is required	✓			✓			✓		✓				
Impact: Potential exposure to hazardous materials from expansion of the Los Coyotes and San Jose Creek WRPs (LT) No mitigation is required		✓	✓		✓					✓	✓		
Impact: No increase in exposure to pathogens off Whites Point from discharge of full-secondary treated effluent (LT) No mitigation is required	✓			✓			✓		✓				
Impact: Minimal potential for increased risk of exposure to health hazards from increased availability of reclaimed water at the Los Coyotes and San Jose Creek WRPs for reuse (LT) No mitigation is required		✓	✓		✓					✓	✓		
Impact: Minimal increase in health risk resulting from emissions of toxic air pollutants at the Los Coyotes and San Jose Creek WRPs (LT) No mitigation is required		✓	✓		✓					✓	✓		
Impact: Minimal potential for increased risk of exposure to health hazards from increased availability of reclaimed water at the Whittier Narrows WRP for reuse (LT) No mitigation is required								✓				✓	

LT = less than significant.

Impacts and Mitigation Measures	Alternative 1			Alternative 2			Alternative 3		Alternative 4				
	JWPCP	LC	SJC	JWPCP	LC	Sewers	JWPCP	WN	JWPCP	LC	SJC	WN	Sewers
Impact: Minimal increase in health risk resulting from emissions of toxic air pollutants at the Whittier Narrows WRP (LT) No mitigation is required								✓				✓	
Impact: Potential exposure to hazardous materials from expansion of the Whittier Narrows WRP (LT) No mitigation is required								✓				✓	
Impacts of Biosolids Disposal and Reuse Impact: Minimal potential for public exposure to health hazards resulting from biosolids disposal and reuse (LT) No mitigation is required	✓			✓			✓		✓				

No significant unavoidable public health impacts would occur.

LT = less than significant.