3.11 Hazards and Hazardous Materials

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the Project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Discussion

Setting/Affected Environment

The term “hazardous materials” includes a full spectrum of substances from pre-product materials to waste. Pre-product materials are considered to have value, and are used in, or represent the purpose of the manufacturing process. These materials (solvents, paints, acids and other

chemicals) are subject to proper transportation, storage, and use procedures. "Hazardous waste" refers to the valueless byproducts of manufacturing processes and other use of materials. Hazardous waste requires proper disposal.

The California Department of Toxic Substances Control (DTSC) identified two sites within Antioch where contamination has occurred due to the release of hazardous materials or wastes (City of Antioch, 2004). Those sites include the GBF/Pittsburg Dumps (south of the proposed Project/Action area), located at the intersection of Somersville Road and James Donlon Boulevard, and the former Hickmott Cannery site at the intersection of 6th and "A" Streets (within the proposed Project/Action area).

The RWQCB annually reports sites in the Bay Area with leaking underground storage tanks (LUST) and sites with environmental problems due to leaks and spills (City of Pittsburg, 2010). There are approximately 54 sites throughout Pittsburg included in the LUST list, which are identified as having soil and/or groundwater contamination resulting from leaks or other discharges from tanks and/or associated piping. There are also 12 Spills, Leaks, Investigations, and Clean-up (SLIC) sites within the City, which are large sites with environmental problems due to accidental releases of toxic substances such as metals, volatile organic compounds, and petroleum hydrocarbons.

An online database search was conducted in November 2012 to identify reported hazardous materials spills and releases. Environmental databases reviewed include the DTSC's EnviroStor (DTSC 2012) and the SWRCB's GeoTracker (SWRCB 2012). Properties on which historic or ongoing activities have resulted in a reported release of hazardous materials into soil and groundwater, as identified by DTSC and SWRCB, are located in and around the Near-Term Project and Buildout Project areas[13]. Listed properties do not necessarily represent a potential risk to the proposed Project/Action area; many of the identified sites have been remediated and their cases have been closed. The EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. Specifically, the database lists the following site types: Federal Superfund sites (National Priority List); State Response (including Military Facilities and State Superfund); Voluntary Cleanup; Evaluation; School Investigation; Non-operating; Post-closure; Tiered Permit; and Corrective Action[14]. Based on the EnviroStor

[13] Appendix C provides the results of the hazardous materials database search.

[14] DTSC defines terms as follows (from http://www.envirostor.dtsc.ca.gov/public/EnviroStor%20Glossary.pdf):

- State Response - Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.
- Voluntary Cleanup: Identifies sites with either confirmed or unconfirmed releases, and the project proponents have requested that DTSC oversee evaluation, investigation, and/or cleanup activities and have agreed to provide coverage for DTSC's costs.
- Evaluation: Identifies suspected, but unconfirmed, contaminated sites that need or have gone through a limited investigation and assessment process. If a site is found to have confirmed contamination, it will change from Evaluation to either a State Response or Voluntary Cleanup site type. Sites found to have no contamination at the completion of the limited investigation and/or assessment process result in a No Action Required or No Further Action determination.
- School Investigation - School: Identifies proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination.
- Non-Operating - A Treatment, Storage, Disposal or Transfer Facility (TSDTF) with no operating hazardous waste management unit(s).
- Post-closure - Monitoring, engineering controls or other requirements of a closed hazardous waste management unit or entire facility.
- Tiered-Permit – permitted sites are facilities/sites that were required to obtain a permit or have received a hazardous waste facility permit from DTSC or USEPA in accordance with section 25200 of the Health and Safety Code or the Resource Conservation and Recovery Act (RCRA).

database search, 30 cleanup sites are located in the vicinity of the proposed facilities in the cities of Pittsburg and Antioch, of which 18 are within the Near-Term Project area and 21 within the Buildout Project[15]. Of the total 30 cleanup sites (excluding the redundant sites), 4 are state response, 7 are voluntary cleanup, 8 are evaluation, 3 are school investigation, and the rest are non-operating, post closure, tiered permit or corrective action. Many of these cleanup sites do not need further action; however, there are four sites that are currently active (Contra Costa Power Plant, Delta Auto Wrecker, Burlington Northern Santa Fe Railway Company, and East Mill).

The GeoTracker database provides regulatory data regarding sites with LUSTs, fuel pipelines, and public drinking water supplies; these sites also meet the Cortese List[16] requirements. The SWRCB Geotracker identified 39 sites in the vicinity of the proposed Project/Action area, 17 are within the Near-Term Project, 26 are within the Buildout Project[17]. Of the 39 sites identified, 26 of the sites are LUST sites and 13 are other cleanup sites. Of the 17 sites within the Near-Term Project (4 of which are also within the Buildout Project area), 9 are closed, 2 are open but inactive, 3 are open with remediation, 2 are open with verification monitoring and 1 is open with site assessment. Of the 22 sites within the Buildout Project only, 11 are closed, 1 is open, 4 are open and inactive, 3 are open with remediation, and 3 are open with verification monitoring. The majority of the open sites are either within industrial areas or along major roadway corridors (*e.g.*, Railroad Avenue, Loveridge Road, Willow Pass Road, East 10th Street, A Street, West 10th Street Wilbur Avenue).

Impacts/Environmental Consequences

a, b) *Near-Term Project*

Construction of the proposed Project/Action would not result in the routine transport, use, or disposal of hazardous materials. However, the proposed Project/Action could temporarily increase the transport of materials generally regarded as hazardous that are used in construction activities. It is anticipated that limited quantities of miscellaneous hazardous substances, such as gasoline, diesel fuel, hydraulic fluids, paint, and other similar materials would be brought onto work sites, used, and stored during the construction period. The risks associated with the transport, use, and storage of these materials during construction are anticipated to be relatively small. However, there is potential for an accidental release of hazardous materials during construction, which could result in exposure of workers and the public to health hazards. In addition, construction of the proposed Project/Action could result in the exposure of construction workers and residents to potentially contaminated soils due other historic releases of hazardous materials to soil or groundwater in the area. Thus, hazardous materials-related impacts would be potentially significant, and **Mitigation Measures BIO-5** (preparation and implementation of a Risk Management Plan) and **HAZ-1** (Reduction of Excavation Impacts) would be required.

- Corrective Action: Investigation and cleanup activities at hazardous waste facilities (either Resource Conservation and Recovery Act (RCRA) or State-only) that either were eligible for a permit or received a permit, are called "corrective action." These facilities treated, stored, disposed and/or transferred hazardous waste.

[15] Due to the proximity of the proposed alignments of both the Near-Term and Buildout Projects, nine of the hazardous material sites in the vicinity of the Near-Term Project are also in the vicinity of the Buildout Project.

[16] The Cortese (Hazardous Waste and Substances Sites) List is a planning resource used by the State, local agencies and developers to comply with the CEQA requirements in providing information about the location of hazardous materials release sites. Government Code section 65962.5 requires the California Environmental Protection Agency to develop, at least annually, an updated Cortese List. DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List.

[17] Due to the proximity of the proposed alignments of both the Near-Term and Buildout Projects, four of the hazardous material sites in the vicinity of the Near-Term Project are also in the vicinity of the Buildout Project.

These mitigation measures would provide for the protection of workers and the public in the event of an accidental spill or release of hazardous materials or waste through the implementation of appropriate procedures. In addition, implementation of **Mitigation Measure AIR-1** (Dust Abatement Program) would minimize potential public health impacts associated with exposure to contaminated soil. With implementation of the above measures, potential impacts relating to the use and disposal of hazards and hazardous materials would be reduced to less than significant.

Operation of the proposed Near-Term Project would not involve the routine transportation, use, storage, and/or disposal of hazardous materials as it would consist of operation of underground recycled water pipelines and a storage tank. As such, no impacts would occur.

Buildout Project

Construction of the Buildout Project could temporarily increase the transport of materials generally regarded as hazardous that are used in construction activities as described above for the Near-Term Project. Impacts would also be similar and would require mitigation measures as identified above to reduce levels to less than significant.

As discussed in the Project Description, the Buildout Project consists of construction and operation of a third tertiary treatment train and a HPWTF. Operation of these facilities would require the routine transportation, use, storage and disposal of hazardous materials. Sodium hypochlorite, polymer (proprietary chemical, used as a flocculant) and alum (aluminum sulfate, used as a coagulant) would be necessary for the additional tertiary train at the RWF; these chemicals are already used as part of the existing treatment process. Citric acid, sodium hypochlorite, sodium hydroxide, sodium bisulfate and antiscalant (polymer, proprietary chemical) are needed for the HPWTF. If accidentally released, these chemicals could cause human health effects to plant personnel and surrounding populations, and could cause adverse environmental effects if released to the environment. Wastewater treatment facilities typically use these chemicals, selected by the industry to provide necessary water treatment and public health benefits. The primary concerns related to an accidental release of chemicals from the RWF are the spillage of liquid chemicals and the mixing of incompatible chemicals. With proper handling and storage methods and adequate design of secondary containment facilities in compliance with federal, state, and local workplace health and safety regulations and fire and building codes, potential on- or off-site consequences associated with accidental spills or releases of these chemicals are considered minimal. To ensure potential impacts would be reduced to a less than significant level, revision of the existing Hazardous Materials Business Plan (HMBP) for the RWF would be required (see **Mitigation Measure HAZ-2**). The HMBP specifies emergency response procedures to be implemented in the event of a chemical emergency, in accordance with the Hazardous Materials Incident Notification Policy (2010) of the Contra Costa County Health Services Department.

The transport of treatment chemicals to the RWF could indirectly result in an incremental increase in the potential for accidents during its handling and transportation. The Department of Transportation regulates the transport of chemicals by truck. An accident involving hazardous materials during vehicle transport could result in direct exposure of motorists and emergency responders to hazardous materials and contamination of the roadway and surrounding environment due to uncontrolled runoff. Regulations require that truck operations and chemical handling be carried out by appropriately-trained personnel. Most of the chemicals that would be used at the RWF with the proposed Project/Action are currently in used, and to date there have been no uncontrolled releases associated with transport of chemicals. Because of the stringent hazardous material packaging and transportation requirements and the low accident rate involving hazardous materials, this impact is considered less than significant.

c) *Near-Term and Buildout Projects*

Five schools (Rancho Medanos Junior High School, Parkside Elementary School, Pittsburg High School, Sutter Elementary, and Park Middle School) are located within one-quarter mile of the proposed pipeline alignment under the Near-Term Project. One school (Marina Vista Elementary School) is located within one-quarter mile of the proposed pipeline alignment under the Buildout Project. No schools are located within one-quarter mile of the storage tank site at LMEC or at the RWF. As described above under item a, b), construction activities would require the use of hazardous materials, which could result in accidental releases during their handling and storage. Although the duration and extent of construction activity would be limited, because of the proximity of some construction activities to the schools, impacts are considered potentially significant. However, with implementation of **Mitigation Measures BIO-5** and **HAZ-1**, potential impacts would be reduced to a less-than-significant level.

d) *Near-Term and Buildout Projects*

Based on a review of DTSC's Hazardous Waste and Substances Site List (2012), the proposed components would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Cortese). The closest Cortese site is located nearly 0.7 mile from the pipeline alignment leading to Rancho Medanos Junior High School. Thus, no impacts would occur.

e, f) *Near-Term and Buildout Projects*

There are no airports or private airstrips within the cities of Pittsburg and Antioch. The nearest airport is located about 10 miles west of Pittsburg in the City of Concord. As such, the proposed Project/Action would not expose people residing or working in the area to safety hazards.

g) *Near-Term and Buildout Projects*

During construction, installation of pipelines along roadways could block access to nearby roadways for emergency vehicles. As part of the Traffic Control Plan (**Mitigation Measure TRA-1** in Section 3.19, Transportation/Traffic), strategies for maintaining emergency access shall be developed. Specifically, police, fire, and other emergency service providers would be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures. Potential impacts during construction are considered to be less than significant with implementation of the Traffic Control Plan. Once construction is completed, operation of the proposed Project/Action would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. With implementation of **Mitigation Measure TRA-1**, impacts would reduce to less than significant.

h) *Near-Term and Buildout Projects*

The proposed Project/Action would not be located in an area where there is the risk of wildland fire. Therefore, there is no potential to expose people or structures to a significant risk of loss, injury or death involving wildland fires. No impacts would occur.

Mitigation Measures

Mitigation Measure HAZ-1: Phase 1 Environmental Site Assessment (Near-Term and Buildout Projects). During the design phase, DDSD or its contractor shall conduct a Phase I Environmental Site Assessment. The assessment includes a detailed search of existing environmental databases to identify sites with significant environmental concerns that are located within a 1-mile radius of the Project/Action area, followed up by review of regulatory agencies files for those sites previously identified as having significant environmental issues (*e.g.*, DTSC, RWQCB), as needed. It also includes a site visit to visually identify and document the existing conditions of the Project/Action area and identify any signs of

potential contaminations (such as surface staining or discoloration). The results of the assessment, including recommendations will be identified in the final report. Examples of recommendations include site-specific field sampling and analyses to determine the extent of contamination.

Mitigation Measure HAZ-2: Hazardous Materials Business Plan (Buildout Project Only). DDSD shall revise the existing Hazardous Materials Business Plan for the RWF to reflect changes in hazardous materials handling and storage, including containment, site layouts, and emergency response and notification procedures for a spill or release from the tanks.

Implementation of the above mitigation measure would reduce potential impacts to a less-than-significant level.

3.12 Hydrology and Water Quality

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion of siltation on- or off-site?	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐

f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation of seiche, tsunami, or mudflow?	☐	☐	☒	☐

Discussion

Setting/Affected Environment

Hydrology and Drainage

Along the northern Contra Costa County boundary, the Sacramento and San Joaquin Rivers provide a substantial portion of freshwater inflow to the San Francisco Bay through the San Joaquin-Sacramento Delta. Surface waters from the northern and eastern portion of the Contra Costa County drain into Suisun Bay and the Delta River Channels. The western part of the proposed Project/Action lies within Suisun Basin and drains to the Carquinez Strait and Suisun Bay. The eastern part of the proposed Project/Action (Antioch) lies within Central Valley RWQCB's jurisdiction (Region 5) and surface water drainage flows northward into the Sacramento-San Joaquin Delta. The western part of the proposed Project/Action is under the jurisdiction of the San Francisco Bay RWQCB (Region 2).

Water features in the vicinity of the proposed Project/Action area include San Joaquin River, Kirker Creek and other unnamed drainages in the City of Pittsburg, and East Antioch Creek, West Antioch Creek, and other unnamed channels in the City of Antioch. Lake Alhambra, located on East Antioch Creek, is a private recreation lake for the surrounding residential area.

Groundwater

The Pittsburg Plain Groundwater Basin and the Tracy sub-basin (in the Greater San Joaquin Basin), are located under the proposed Project/Action area (City of Pittsburg, 2001; San Francisco Bay RWQCB, 2011; City of Antioch, 2003b). Intense pumping for industrial uses in the 1930s through 1950s resulted in overdraft and seawater intrusion in the Pittsburg Basin (City of Pittsburg, 2001). Limited groundwater is blended with raw water from the Contra Costa Canal before treatment and distribution. No municipal water is pumped from the Tracy sub-basin (City of Antioch, 2003b).

Flooding

The coastal areas of Pittsburg and Antioch have large areas located within the 100-year floodplain (see **Figure 3-3**), which occur primarily along the San Joaquin River. 100-year floodplains are also located along and adjacent to creek channels within the proposed Project/Action area.

The City of Pittsburg is responsible for flood control within its city boundaries (City of Pittsburg, 2001). The Contra Costa County Flood Control District and Water Conservation District oversees flood collection and flood control in the City of Antioch and unincorporated areas (City of Antioch, 2003a). At the RWF, DDSD collects and treats stormwater on site at the WWTP.

Water Quality

Water quality in the Delta is affected by a multitude of factors including upstream reservoir releases, tidal changes, the discharge of agricultural diverters, and the export rates of the State Water Project and the Central Valley Project. The water quality of the Bay is driven by the tidal influx through the Golden Gate and inflowing freshwater from the Delta and watersheds of the Bay Area.

The Water Quality Control Plans (Basin Plans) for the San Francisco Bay Region and the Central Valley Region list beneficial uses for each relevant surface water body in the proposed Project/Action area. The Basin Plans identify beneficial uses for the San Joaquin Delta and Kirker Creek, as shown in **Table 3-3**. **Table 3-3** also shows the beneficial uses for the Pittsburg Plain Groundwater Basin. The San Francisco Bay and Central Valley Basin Plans establish water quality objectives (WQOs) for surface waters within their jurisdictions, and also establishes specific WQOs for selected water bodies (*e.g.*, Sacramento-San Joaquin Delta Estuary). In 2007, the USEPA approved a revised list of impaired water bodies prepared by the State of California pursuant to provisions of Section 303(d) of the Clean Water Act. The Sacramento- San Joaquin Delta is identified on the 303(d) list as being impaired by pesticides, other organics, metals/metalloids, and miscellaneous (SWRCB, 2010). Kirker Creek is identified on the 303(d) list as being impaired by pesticides, toxicity, and trash.

Recycled Water General Permits

RWQCB permitting varies by region. DDSD operates its existing recycled water facility under two different general permits because DDSD's service area straddles the border of two RWQCB regions: the San Francisco Bay and the Central Valley. Both regions handle recycled water permitting differently. The San Francisco Bay RWQCB has a region-wide recycled water general permit (General Order 96-011), under which DDSD is currently permitted for their treatment facilities and all recycled water use sites within the City of Pittsburg. The permit specifies the prohibitions, water quality requirements and limitations, and other provisions that must be met. Under this permit, DDSD has developed a system of establishing use site managers and periodically monitoring use sites to ensure compliance with General Order 96-011.

Under the direction of the Central Valley RWQCB, DDSD has pursued the Statewide General Permit for Landscape Irrigation for areas within the City of Antioch. DDSD received a conditional Notice of Applicability (NOA) from SWRCB which allows recycled water to be applied at the use sites in Antioch for two years. As part of the conditional NOA, DDSD would have to conduct a Supplemental Monitoring and Report Program.

Table 3-3: Beneficial Uses in the Proposed Project/Action Area

Beneficial Uses	Surface Waters			Ground Waters
	Sacramento - San Joaquin Delta[1]	Kirker Creek[1]	Sacramento-San Joaquin Delta (HU#44)[2]	Pittsburg Plain (Basin #2-4)[1]
Agricultural Supply (AGR)	E		E	P
Municipal and Domestic Supply (MUN)	E		E	P
Freshwater Replenishment (FRSH)				--
Groundwater Recharge (GWR)	E			
Industrial Service Supply (IND)	E		E	P
Industrial Process Supply (PROC)	E		E	P
Commercial and Sport Fishing (COMM)	E			
Shellfish Harvesting (SHELL)				
Cold Freshwater Habitat (COLD)			E	
Estuarine Habitat (EST)	E			
Marine Habitat (MAR)				
Fish Migration (MIGR)	E		E	
Preservation of Rare and Endangered Species (RARE)	E	E		
Fish Spawning (SPWN)	E		E	
Warm Freshwater Habitat (WARM)		E	E	
Wildlife Habitat (WILD)	E	E	E	
Water Contact Recreation (REC-1)	E	E	E	
Non-contact Water Recreation (REC-2)	E	E	E	
Navigation (NAV)	E		E	

Source: [1]California Regional Water Quality Control Board San Francisco Bay Region, 2011. [2]California Regional Water Quality Control Board Central Valley Region, 2011.
Notes: E: Existing beneficial use; P: Potential beneficial use

The Statewide General Permit contains four required BMPs:

- Implementation of operations and management plan that provides for detection of leaks, and correction either within 72 hours of learning of a leak, or prior to the release of 1,000 gallons.

- Proper design and operation of sprinkler heads.
- Refraining from application during precipitation events.
- Management of any impoundment such that no discharge occurs unless the discharge is a result of a 25-year, 24-hour storm event or greater.

The General Permit also provides a list of potential BMPs that depend on the specific project. In addition to the BMPs, the General Permit requires that the producer ensures that recycled water meets quality standards, that recycled water be applied at agronomic rates for the vegetation being irrigated, that degradation of groundwater be minimized, and that the nutritive loading to the landscape not be exceeded, when considering the nutrient loading from the recycled water and any additional fertilizers. The permit stipulates that discharge to surface waters, unless otherwise authorized by an NPDES permit, is prohibited. The General Permit also requires that recycled water by applied by trained personnel (*e.g.*, a recycled water supervisor).

Impacts/Environmental Consequences

a) *Near-Term and Buildout Projects*

Excavation, grading, and construction activities associated with Project-related construction could violate water quality standards by exposing and disturbing soils, potentially resulting in increased erosion and siltation in and downstream of the proposed Project/Action area. In addition, hazardous materials associated with construction equipment could adversely affect surface and groundwater quality if spilled or stored improperly. If precautions are not taken to contain contaminants, construction could produce contaminated stormwater runoff (nonpoint source pollution), a major contributor to the degradation of surface water quality.

Construction activities of one acre or more are subject to the permitting requirements of the NPDES General Permit for Stormwater Discharges associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2009-0009-DWQ). The project sponsor must submit a Notice of Intent to the San Francisco RWQCB and Central Valley RWQCB prior to construction. The Construction General Permit requires the preparation and implementation of a formal SWPPP which must be prepared before construction begins. The SWPPP includes specifications for BMPs implemented during Project construction to control sedimentation or pollution concentration in stormwater runoff, and defines conditions for complying with the SWRCB NPDES permit requirements. Implementation of the SWPPP starts with the commencement of construction and continues through Project completion. Upon completion of the Project, the sponsor must submit a Notice of Termination to the RWQCBs to indicate that the construction is complete. Compliance with the Construction General Permit for all activities along the new and rehabilitated pipeline alignment, new storage tank, and improvements at the RWF through development and implementation of a SWPPP (**Mitigation Measure HYD-1**) as well as implementation of **Mitigation Measures BIO-5** and **HAZ-1** would reduce potential water quality impacts to less than significant.

The proposed Project/Action proposes to expand provision of recycled water to customers for irrigation purposes. Under the Recycled Water General Permit issued by the San Francisco Bay RWQCB, DDSD has developed a system of establishing use site managers and periodically monitoring use sites to ensure compliance with the General Order 96-011.

As described above, the Statewide General Permit for Landscape Irrigation establishes terms and conditions of discharge to ensure that the discharge does not unreasonably affect present and anticipated beneficial uses of groundwater and surface water for the following reasons (SWRCB 2009).

Compliance with the above general permits would ensure the protection of surface and groundwater quality associated with use of recycled water. Compliance with WDRs set forth in these permits would ensure the reasonable protection of surface water and groundwater within the proposed Project/Action area. The proposed Project/Action would not violate water quality nor wastewater treatment requirements. Thus, impacts would be less than significant.

b) *Near-Term and Buildout Projects*

The proposed Project/Action would not require any groundwater withdrawals for water supply. However, it is recognized that limited dewatering operations may be required at certain locations during construction (*e.g.*, during grading and excavation near the San Joaquin River). These operations would be minimal and would not deplete groundwater supplies or interfere with groundwater recharge. Dewatering discharges would be released to the local sewer system to protect downstream water quality. Because these operations would be minimal, and dewatering discharges would be released to the local sewer system to protect downstream water quality, the potential groundwater impact is considered less than significant.

c, d, e) *Near-Term and Buildout Projects*

The proposed recycled water pipelines would generally be located within existing roadway ROWs. Construction of the pipelines, storage tanks, and improvements at the RWF would disturb existing developed lands or vacant lands. Due to the relatively small footprint of the proposed facilities and their locations (pipelines would be buried underground and above ground structures would be located away from water courses), the proposed facilities would not substantially alter site drainage or the course of a stream or river (Kirker Creek, San Joaquin River, or any other unnamed channels), in a manner that would result in substantial erosion or siltation on- or off-site. Construction would be conducted in compliance with the State's Construction General Permit (Order No. 2009-0009-DWQ). Preparation of the SWPPP in accordance with the Construction General Permit would require erosion-control BMPs at the Project/Action site, which would reduce potential water quality impacts to less than significant levels (see **Mitigation Measure HYD-1**).

New localized drainage facilities would be constructed at the storage tank, pump station, tertiary treatment train and the HPWTF sites. Runoff from these sites is expected to be minor and would seep into the ground if located on the site adjacent to LMEC, or would be collected and treated on site if located at the RWF (see also Section 3.20, Utilities and Service Systems). Minor alteration of existing drainage patterns at these individual sites would not increase the rate or amount of surface runoff such that on- or off-site flooding would occur, result in an exceedance of the capacity of the existing stormwater drainage systems, or create additional sources of polluted runoff. Thus, this impact is considered less than significant.

As DDSD increases the amount of recycled water distributed to its customers, its wastewater discharges to New York Slough would decrease. The reduction in discharges is so small in comparison to the total flow of New York Slough and of the Delta that the reduction does not materially impact any downstream uses. For the proposed Project/Action, the average annual reduction in discharge would be approximately 1.17 mgd, which equates to approximately 0.11 percent of the total average annual flow of New York Slough. Due to the scale of the reduction, flows in New York Slough are not expected to change substantially.

f) *Near-Term and Buildout Projects*

As described above, construction of proposed facilities is not anticipated to result in substantial erosion or siltation on or off site. Compliance with the State's Construction General Permit (Order No. 2009-0009-DWQ) would require erosion-control BMPs and therefore reduce potential construction-related water quality impacts to less-than-significant levels.

Operation of the proposed Project/Action would carry the potential for release of treated recycled water as a result of various factors related to design, construction methods and materials, age of the system, and system operation and maintenance. DDSD would ensure incidental runoff of recycled water[18] associated with the proposed Project/Action conforms to the SWRCB's memo entitled "Incidental Runoff of Recycled Water" (SWRCB 2004). This memo stipulates water quality laws should be interpreted in a manner consistent with the intent of the Legislature to promote recycled water use. Compliance with the general permits would ensure occasional runoff of recycled water does not negatively impact water quality. Should the proposed Project/Action generate substantial incidental runoff that produces a water quality concern, discharges would then be regulated under an individual NPDES permit from the San Francisco Bay RWQCB. Compliance with applicable permitting requirements would ensure the reasonable protection of past, present, and probable future beneficial uses of water and the prevention of nuisances. For this reason, long-term impacts to water quality would be less than significant.

The Buildout Project would include construction of a HPWTF, which would generate brine that would be discharged to the DDSD wastewater effluent outfall to New York Slough. Because DDSD would discharge brine in accordance with its NPDES permit requirements, impacts to water quality are anticipated to be less than significant.

g) *Near-Term and Buildout Projects*

The proposed Project/Action is an expansion of a recycled water system and would not involve construction of housing. As such, no impacts would occur related to placement of housing within a 100-year flood hazard area.

h, i) *Near-Term Project*

As shown in, portions of the proposed Project/Action (areas adjacent to the San Joaquin River and tributary creeks), are subject to flooding. Portions of the new and rehabilitated pipelines would be located within the 100-year flood zone. Because proposed pipelines would be located underground, they would not impede or redirect flows, nor expose people or structures to a significant risk of loss, injury or death involving flooding.

Portions of the proposed site adjacent to LMEC are within the 100-year flood zone (**see Figure 3-4** below). The site is currently vacant. The proposed 90-foot diameter storage tank, which is surrounded by a pad, would generate more than 6,000 square feet (or approximately 0.15 acres) of impervious surface. Due to the placement of the storage tank, flood flows would be redirected around the tank. The new impervious area would be small compared to the overall 4-acre site; the tank area would take up approximately 0.04 percent of the overall land. The majority of the flows generated from the tank site would continue to seep into the surrounding ground. Limited flows may be collected by the catch basin - a safety mechanism required of all storage tanks that is intended to capture recycled water overflows – that is then routed to the existing sewer system. Due to the small area of impervious surface created by the tank, the installation of the tank is not expected to impede or redirect flood flows in a manner that would cause flooding, or expose people or structures to a significant risk of loss, injury or death involving flooding.

[18] Incidental runoff of recycled water refers to small amounts of runoff from intended recycled water use areas, overspray from sprinklers that drifts out of the intended use areas, and overflow of ponds that contain recycled water during storms (SWRCB, 2004).

Figure 3-4: 100-year Flood Zone within the Proposed Storage Tank Site (Adjacent to LMEC)

The Contra Loma Dam and Antioch Municipal Reservoir are located in the City of Antioch, upstream of the proposed Project/Action area (see **Figure 3-3**). According to the Association of Bay Area Governments Dam Failure Inundation Hazard Map for Antioch (2005), the dam failure inundation areas for these dams would occur in Antioch, away from any proposed above-ground structures. As such, impacts associated with exposure of people or structures to a risk of loss, injury or death involving flooding would be considered less than significant.

Buildout Project

Similar to the Near-Term Project, portions of the new and rehabilitated pipelines would be located within the 100-year flood zone (see **Figure 3-3**). Because proposed pipelines would be located underground, they would not impede or redirect flows, nor expose people or structures to a significant risk of loss, injury or death involving flooding. Similarly, the above-ground structures associated with the Buildout Project would not expose people or structures to a risk of loss, injury or death involving flooding, as the RWF is not located within a 100-year flood zone or dam inundation area. Thus, impacts would be less than significant.

j) *Near-Term and Buildout Projects*

Earthquakes can cause tsunamis ("tidal waves") and seiches (oscillating waves in enclosed water bodies). Low-lying portions of the City of Antioch adjacent to the San Joaquin River could be affected by a tsunami (City of Antioch, 2003) and portions of the City of Pittsburg located adjacent to Suisun Bay are susceptible to potential tsunami or seiche inundation (Pittsburg General Plan, 2011). However, the projected wave height and tsunami run-up are expected to be small in the interior portions of the San Francisco Bay and the Delta. Thus, potential impacts are considered less than significant.

Mitigation Measures

Mitigation Measure HYD-1: Preparation and Implementation of Project SWPPP. The construction contractor for the proposed Project/Action shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) to protect water quality during construction, in accordance with Bay Area Stormwater Management Agencies Association. The SWPPP shall include a description of BMPs to be applied to minimize the discharge of pollutants from the site during construction. These construction-period BMPs shall include, but are not limited to, the following:

- Identify all storm drains and catch basins near the construction site and ensure all workers are aware of their locations to prevent pollutants from entering them;
- Protect all storm drain and catch basin inlets;
- Develop an erosion control and sediment control plan for wind and rain;
- Develop spill response and containment procedures;
- Inspect site regularly to ensure that BMPs are intact; and
- Regularly maintain all BMPs in proposed Project/Action area.

Implementation of the above mitigation measure would reduce potential impacts to a less-than-significant level.

3.13 Land Use and Planning

Would the Project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Physically divide an established community?	☐	☐	☒	☐
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable HCP or NCCP?	☐	☐	☒	☐

Discussion

Setting/Affected Environment

The proposed Project/Action is located within the cities of Pittsburg and Antioch, and in unincorporated Contra Costa County. Land uses in and around the proposed Project/Action, including nearby parks and schools, are shown in **Figure 3-5**. Existing land uses within the

Delta Diablo Sanitation District

0 0.25 0.5 1
Miles
N

Figure 3-5: Land Use

Recycled Water Customers Land Use
- Existing
- Proposed
- Buildout

Pipeline
- Existing
- Buildout
- Proposed
- Rehabilitated Pipeline

Tank
- Potential Tank Sites

- Agriculture
- Commercial
- Parks and Recreation
- Open Space
- Public/Semi-Public
- Industrial
- Residential

Other
- School
- Park

RMC Water and Environment

\\rmcla\RMCLA\Projects GIS\0013-025\MXDs\Fig 3-4 Land Use.mxd

Sources:

proposed Project/Action area include residential, commercial, public/institutional and industrial uses.

The proposed Project/Action consists of pipelines located within public and private roadways and above-ground structures within industrial areas. In some cases, the proposed pipelines would terminate at parks and schools because these would be the potential customers receiving recycled water for use in landscape irrigation. Specifically, the parks/recreation areas and schools located within the proposed Project/Action area include the following:

Parks/Recreation Areas: Marina Walk Park, Babe Ruth Fields, Prosserville Park, Antioch Little League, Antioch Fairgrounds, Memorial Field, Chichibu Park, Marina Park, Central (Addition) Park, and Antioch Dunes National Wildlife Refuge.

Schools: Pittsburg High School, Parkside Elementary School, John Sutter Elementary School, Park Middle School, Los Medanos College, and Marina Vista Elementary School.

Within the City of Pittsburg, the proposed facilities (pipelines and storage tank) would be located in and around areas designated as low density residential, park, mixed use, service commercial, business commercial, industrial, and utility/ROW (City of Pittsburg, 2011). Within the City of Antioch, proposed components (pipelines) would be located in and around areas designated as public/institutional, open space, residential, commercial, industrial, and focus area (City of Antioch, 2004).Within Contra Costa County, the proposed components (pipelines to Antioch Little League and Antioch Fairgrounds) would be located in an area designated as public/semi-public (Contra Costa County, 2004).

Plans, Policies, and Regulations

The general plans of the cities of Pittsburg[19] and Antioch, and Contra Costa County identify goals and policies to guide the use of private and public lands within their respective boundaries. These entities recognize and value the need for infrastructure and improvements to existing infrastructure to meet the needs of their residents.

The Public Facilities Element of the City of Pittsburg General Plan identifies the following goals and policies:

Water Supply and Distribution Goal 11-G-2: Continue to implement water conservation policies to ensure adequate supplies of water in the future.

Water Supply and Distribution Policy 11-P-3: Continue water district and user conservation efforts to help reduce demand in light of recent Contra Costa Water District raw water reductions.

- In an attempt to preserve Delta species and habitat, the Central Valley Project mandated reductions in the amount of raw water available to the CCWD. Current water conservation efforts in the City include:
    - …Study of expanded reclaimed water usage; and…

Water Supply Distribution Policy 11-P-6: Continue water conservation efforts from industrial facilities.

- Water conservation efforts by industrial users can significantly decrease water consumption, especially during peak demand periods. Measures relevant to industrial users include continued enforcement of the 1992 Water-Efficient Landscape Ordinance

[19] According to the Pittsburg General Plan, Pittsburg's Planning Area includes 41.1 square miles of land, within which lie both the sphere of influence (SOI) and the City corporate limits. Pittsburg's SOI extends over 18.2 square miles and includes the unincorporated community of Bay Point, northwest of the City.

and participation in a wastewater reclamation feasibility study. If proven feasible, implementation of the Landscape Ordinance in conjunction with use of reclaimed wastewater for landscape irrigation can help to reduce industrial water demand.

Water Supply Distribution Policy 11-P-8: Develop and implement a Recycled Water Ordinance, requiring the installation and use of recycled water supplies from the new Delta Diablo Sanitation District Reclamation Plant.

Wastewater and Treatment Policy 11-P-15: Work with Delta Diablo Sanitation District to promote the use of recycled water for irrigation of large planted areas, such as business/industrial campus projects, City parks, and street medians.

The Public Services and Facilities Element of the City of Antioch General Plan identify the following goals and policies:

Wastewater Management Policy e: Work with Delta Diablo Sanitation District to explore and develop uses for treated wastewater. Where reclaimed water can be economically delivered, required the installation of dual water systems permitting the use of reclaimed water supplies for irrigation purposes and industrial purposes.

Wastewater Management Policy f: Work cooperatively with affected agencies to ensure that affected capacity allocations are adjusted among the agencies served by Delta Diablo Sanitation District to optimize plant utilization, avoid unnecessary expansions, and facilitate necessary expansions.

The Public Facilities/Services Element of the Contra Costa County General Plan identifies the following goals and policies:

Water Service Goal 7-H: To encourage the conservation of water resources available to the County and to the State.

Water Service Policy 7-24: Opportunities shall be identified and developed in cooperation with water service agencies for use of non-potable water, including ground water, reclaimed water, and untreated surface water, for other than domestic use.

Water Service Policy 7-27: The reclamation of water shall be encouraged as a supplement to existing water supplies.

Sewer Service Goal 7-M: To develop wastewater reclamation as a supplement to imported surface water supplies.

Sewer Service Policy 7-35. Opportunities for using reclaimed wastewater shall be identified and developed in cooperation with sewer service and water service agencies.

Impacts/Environmental Consequences

a) *Near-Term and Buildout Projects*

The proposed pipelines would be located primarily along public and private roadways and the above-ground structures would be located within industrial areas. Implementation of the proposed Project/Action would generate temporary, intermittent construction-related impacts in the areas surrounding the proposed facilities as well as staging areas (located along the pipeline alignments or within parcels where the tanks would be located). The presence of construction-related equipment and workers would temporarily change the existing character of the vicinity to that of a construction zone but would not physically divide the existing community because local access

would be maintained for residents and businesses along the proposed alignment throughout construction of the proposed Project/Action.

After the proposed Project/Action is completed, all pipeline improvements (new and rehabilitated) would be below ground, and there would be no changes to land uses in the proposed Project/Action area; as such, they would not serve as barriers within the community and existing neighborhoods would not be divided.

The aboveground facilities would be located on a vacant lot adjacent to LMEC or within the RWF, and thus would integrate with the industrial nature of the surrounding site. Their construction would result in temporary land use disturbance similar to those identified for the proposed pipeline, and operation would result in new above-ground structures. However, given these structures' locations within existing industrial areas, they would not create barriers that would separate the nearby neighborhoods or communities. As the existing character of the affected area where construction of proposed facilities would occur would not change, potential impacts related to physically dividing an established community would be less than significant.

In addition, construction and operation of the proposed Project/Action would not permanently interfere with the pedestrian, bicycle, or vehicle circulation of the neighborhood or community, as they would either be located underground below existing roadways or within industrial areas away from pedestrian, bicycle, or vehicle circulation.

b) *Near-Term Project*

The proposed pipeline would be located underground and would not result in any significant, long-term, land use and planning impacts.

The proposed storage tank would be located within the RWF or adjacent to the LMEC site, which is zoned as IG by the City of Pittsburg (City of Pittsburg, 2010). According to Section 18.54.010 through 18.54.130 of the Zoning Code, minor and major utilities are permitted or require approval of a use permit, respectively. In addition, all projects within the industrial zones require design review and strict development regulations regarding the minimum lot size, height of structures, setbacks from the front, and lot coverage. The maximum height of structures allowable in the IG district is 50 feet. However, an increase over the maximum height allowance is allowed equal to the number of additional feet the structure is set back from each property line beyond the minimum yard requirements, up to a maximum height of 75 feet. As described in the Project Description, the proposed storage tank would be a maximum of 30 feet tall. There are two options for the proposed tank. One option is within the western portion of the RWF, surrounded by currently vacant land to the north (also part of the RWF), existing treatment facilities to the east, a parking lot to the south, and the DEC to the west. The second option is at the site adjacent to the LMEC site, which is surrounded by industrial uses to the north, south and west, and a vacant parcel to the east. Neither of the two locations is situated near residential uses. Compliance with the development regulations and other sections of the Zoning Code, and as needed, the acquisition of a use permit, would ensure that the proposed Near-Term Project would not conflict with the City's land use policies.

The proposed Project/Action would not conflict with the policies of the cities of Pittsburg and Antioch, or Contra Costa County, and would not result in substantial alterations to the built character of the proposed Project/Action area. There would not be any significant, long-term, land use and planning impacts associated with implementation of the proposed Project/Action. Due to the importance of infrastructure improvements within the cities and County, and the fact that proposed infrastructure for the proposed Project/Action would be largely constructed on street ROWs or industrial areas that allow for construction of utilities, this project would not conflict

with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.

Operation of the proposed facilities would not create any long-term land use impacts because they would either be buried underground (*i.e.*, for pipelines) or would be located in areas integrated with surrounding land uses and would not disrupt sensitive land uses.

Buildout Project

Similar to the Near-Term Project, the Buildout Project would not result in any significant, long-term, land use and planning impacts. The proposed pipelines would be buried and would not permanently change the character of the affected areas. The Buildout Project would require the construction of an additional treatment train, pump station, and a HPWTF within the RWF, on the vacant land in the northern portion of the RWF site, north of the proposed storage tank. As these facilities have not yet been designed, the details of their size and other characteristics are not yet available. Similar to the proposed storage tank described under the Near-Term Project, DDSD would be required to comply with the Pittsburg Zoning Code Sections 18.54.010 to 15.54.130. Compliance with these regulations would ensure that the proposed Buildout Project would not conflict with the City's land use policies.

c) *Near-Term and Buildout Project*

Refer to Section 3.7, Biological Resources, for a discussion of consistency with the HCP/NCCP.

Mitigation Measures

None required or recommended.

3.14 Mineral Resources

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion

Setting/Affected Environment

According to the Pittsburg General Plan (2010), coal and sand mining have historically occurred in the southern portion of its planning area, within the Black Diamond Mines; the mines were closed in the mid 1900s. There are currently no significant mineral deposits or active mining operations within the City's planning area.

According to the Antioch General Plan (2003), coal mining has historically occurred in the southwestern portion of the City; these mines were abandoned in the 1800s. In addition, the southern portion of the City of Antioch is within the outer western margin of the Brentwood oil

field. The California Department of Conservation Oil, Gas, and Geothermal Resources online database of production wells indicates that 52 wells have been operated within the Brentwood oil field. All but three of these wells have been plugged and capped.

Impacts/Environmental Consequences

a, b) *Near-Term and Buildout Projects*

Near-Term and Buildout Project components are located within roadways and other public and private areas within the cities of Pittsburg and Antioch that are considered built-up and disturbed. They are not located in areas identified as containing state, regional, or locally important mineral resources. As such, the proposed Project/Action would not result in the loss of availability of known mineral resources and no direct or indirect impacts to mineral resources would occur.

Mitigation Measures

None required or recommended.

3.15 Noise

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☒	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Setting/Affected Environment

The major noise sources within the proposed Project/Action area are transportation noises, associated with traffic along highways, rail lines, and major arterial roadways. Stationary noise sources include heavier industrial development, commercial development, and construction activities.

For construction noise, the potential for an impact is determined by the proximity of sensitive receptors[20] to construction activities, estimated noise levels associated with construction equipment, the potential for construction noise to interfere with daytime and nighttime activities, and whether construction noise at nearby receptors would exceed local noise ordinance standards. Typical construction activities (e.g. jackhammering and use of earthmoving equipment) generate maximum noise levels (without noise controls) ranging from 75 dBA[21] Lmax[22] to 90 dBA Lmax at 50 feet from the source, with slightly higher levels of about 81 to 96 dBA Lmax at 50 feet for pile-driving activities (FHWA 2013). The rate of attenuation (*i.e.*, reduction) is about 6 dBA for every doubling of distance from a point source. Similarly, vibration impacts are a function of the associated activity and equipment and the distance to the nearest receptor.

For this analysis, a peak particle velocity (PPV) descriptor is used to evaluate construction-generated vibration for building damage and human complaints. PPV is the vibratory ground motion in inches per second adjusted for distance. Specific criteria used in the analysis of groundborne vibration and noise are as follows:

- Vibratory equipment and impact pile drivers (pertains to cosmetic or structural damage of buildings): 0.2 in/sec PPV
- Activities causing annoyance (pertains to nighttime construction only): 0.012 in/sec PPV

Local Noise Standards

City of Pittsburg

The City of Pittsburg General Plan Noise Element establishes standards for land use compatibility with various noise levels. The maximum acceptable exterior noise level is 60 dBA Ldn for single-family residential uses; 65 dBA Ldn for multiple-family residential uses and hotels and motels; 70 dBA Ldn for schools, libraries, churches, hospitals, parks, playgrounds, and office buildings; and 75 dBA Ldn for other uses. These standards are based upon accepted thresholds of significance and apply to long-term operational noise from any source. The Noise Element requires that interior noise levels in noise-sensitive uses (schools, hospitals, churches, or residences) do not exceed 45 dBA Ldn.

[20] Noise-sensitive land uses and/or receptors include: residences of all types, schools, hospitals, convalescent facilities, rest homes, hotels, motels, and places of worship. Sensitive uses from a noise perspective include places where there is a reasonable expectation that individuals could be sleeping, learning, worshipping, or recuperating.
[21] The decibel scale is used to quantify sound intensity. Because sound can vary in intensity by more than 1 million times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. Because the human ear is not equally sensitive to all sound frequencies within the entire spectrum, human response is factored into sound descriptions in a process called "A-weighting," expressed as "dBA." The dBA, or A-weighted decibel, refers to a scale of noise measurement that approximates the range of sensitivity of the human ear to sounds of different frequencies. On this scale, the normal range of human hearing extends from about 0 dBA to about 140 dBA. A 10-dBA increase in the level of a continuous noise represents a perceived doubling of loudness.
[22] Lmax is the instantaneous maximum noise level measured during the measurement period of interest.

The Noise Element requires that noise on construction sites adjacent to noise-sensitive uses is limited to normal business hours between 8:00 a.m. and 5:00 p.m. but does not establish the days of the week nor sound level limits.

The City of Pittsburg noise ordinance does not establish noise level limits related to fixed noise sources or construction noise (Title 9 Public Peace, Safety and Morals, Chapter 9.44 Noise, §9.44.010). The noise ordinance prohibits the use of any pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist, or other appliance, the use of which is attended by loud or unusual noise, between the hours of 10:00 p.m. and 7:00 a.m. It also prohibits the creation of any excessive noise on any street adjacent to any school, institution of learning, church or court while the same is in use, or adjacent to any hospital, which unreasonably interferes with the workings of such institution, or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such streets indicating that the same is a school, hospital, church or court street.

City of Antioch

The City of Antioch General Plan establishes exterior noise objectives for specific land use categories. The acceptable exterior noise level is 60 dBA CNEL for single-family residential uses (within rear yards) and multiple-family residential uses (within interior open space); 65 dBA CNEL (classrooms) or 70 dBA CNEL (play and sports area); 60 dBA CNEL for hospitals and libraries; and 70 dBA CNEL for commercial and industrial areas (front setback). The General Plan also identifies policies related to temporary construction. These policies include but are not limited to the use of noise reduction features on equipment and submittal of a construction-noise mitigation plan for proposed development adjacent to occupied noise sensitive land uses.

The City of Antioch noise ordinance establishes restrictions on the operation[23] of heavy construction equipment[24] and construction activity[25] in general during the following hours (Section 5-17.04 Heavy Construction Equipment Noise and Section 5-17.04 Heavy Construction Equipment Noise):

- On weekdays prior to 7:00 a.m. and after 6:00 p.m.
- On weekdays within 300 feet of occupied dwelling space, prior to 8:00 a.m. and after 5:00 p.m.
- On weekends and holidays, prior to 9:00 a.m. and after 5:00 p.m., irrespective of the distance from the occupied dwelling.

Impacts/Environmental Consequences

a, d) *Near-Term and Buildout Projects*

Construction activities associated with the proposed Project/Action would result in temporary and intermittent noise increases at sensitive receptors near construction activities. Construction noise created by excavation and use of heavy equipment would temporarily increase noise levels in the vicinity of the proposed Project/Action. As noted above, the maximum instantaneous noise (Lmax) resulting from Project construction activities would range from 75 dBA Lmax to 96 dBA

[23] Operation as defined in the Antioch Municipal Code as the starting, warming-up, and idling of heavy construction equipment engines or motors.
[24] Heavy equipment as defined in the Antioch Municipal Code is equipment used in grading and earth moving, including diesel engine equipped machines used for that purpose, except pickup trucks of one ton or less.
[25] Construction activity as defined in the Antioch Municipal Code means the process or manner of constructing, building, refurbishing, remodeling or demolishing a structure, delivering supplies thereto and includes, but is not limited to, hammering, sawing, drilling, and other construction activities when the noise or sound therefrom can be heard beyond the perimeter of the parcel where such work is being performed.

Lmax at 50 feet from the source; the maximum instantaneous noise levels would be highest associated with piledriving activities. As described in Section 3.13, Land Use, the proposed pipeline traverses a variety of land uses, including residential, commercial, public, and industrial, as well as schools. Sensitive receptors within 50 feet of construction activities associated with the proposed Project/Action would be subjected to construction-related noise levels. Nighttime and weekend construction may be required for specific activities. Pipeline installation is anticipated to occur at a rate of approximately 100 feet a day, such that construction would not be in one location for long durations of time. Longer durations of time are needed where construction pits are located for trenchless construction activities (at crossings or pipeline rehabilitation).

Because of the range of equipment noise levels, the duration of construction at discrete locations, the possible need for nighttime construction, and the proximity of some sensitive receptors (including residents and schools), the proposed Project/Action have temporary noise impacts during construction. The proposed Project/Action would expose sensitive receptors to elevated daytime and potentially nighttime noise levels and has the potential to generate substantial temporary or periodic increase in ambient noise levels; thus noise impacts are considered potentially significant. Implementation of noise control measures and compliance with noise ordinances during construction (see **Mitigation Measure NOI-1** and **Mitigation Measure NOI-2**) would reduce noise impacts to a less-than-significant level.

b) *Near-Term and Buildout Projects*

Construction activities such as excavation, spoil transport, pile driving, and shoring of trenches would generate vibration. Buildings and Burlington Northern and Santa Fe (BNSF) railroad tracks are located adjacent to the new and rehabilitated pipelines that could be affected by construction activities. Based on anticipated equipment proposed for use and the vibration level data provided in **Table 3-4**, vibration levels generated by the majority of proposed equipment would be equal to or below the 0.2 in/sec PPV criterion applied to assess the potential for cosmetic or structural damage. Typical vibratory pile-driving vibration levels would also be below the 0.2 in/sec PPV criterion but may at times exceed the 0.2 in/sec PPV criterion when levels reach the uppermost range of measured vibration levels (0.734 in/sec PPV).

Table 3-4: Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 feet (in/sec)
Pile Driver (Vibratory)	upper range	0.734
	Typical	0.170
Clam shovel drop		0.202
Hydromill (slurry wall)	in soil	0.008
	in rock	0.017
Vibratory Roller		0.210
Hoe Ram		0.089
Large bulldozer		0.089
Caisson drilling		0.089
Loaded trucks		0.076
Jackhammer		0.035
Small bulldozer		0.003

In general, cosmetic or threshold damage to residential buildings can occur at vibrations greater than 0.5 in/sec PPV. Continuous vibration caused by vibratory pile drivers and large vibratory rollers/compactors could cause structural damage if the continuous vibration is greater than 0.2 in/sec PPV. Because groundborne vibration levels could exceed the established thresholds for short periods of time, impacts would be considered potentially significant and would require the implementation of vibration controls (**Mitigation Measure NOI-3**). Implementation of this measure would reduce impacts to less than significant.

c) *Near-Term Project*

Operation of the proposed pipelines and tank would not generate any permanent noise because they would not require pumps or other noise-generating equipment; thus, no impact would occur.

Buildout Project

The Buildout Project improvements at the RWF, including the pump station for the Recycled Water System Expansion, the HPWTF, and the emergency diesel generator would generate permanent noise. The RWF is surrounded by vacant lands and other industrial uses. The nearest residential uses are located approximately 4,000 feet to the south (in Antioch). Assuming an attenuation rate of 6 dBA per doubling of distance, operational pump noise, without noise control, would be less than the 60 dBA standard for single-family residential uses and multiple-family residential uses in Antioch. As such, no operational impacts would occur.

e, f) *Near-Term and Buildout Projects*

There are no airports or private airstrips within the cities of Pittsburg and Antioch. The nearest airport is located about 10 miles west of Pittsburg in the City of Concord. As such, the proposed Project/Action would not expose people residing or working in the proposed Project/Action area to excessive noise levels.

Mitigation Measures

Mitigation Measure NOI-1: Noise Control. The construction contractor shall use appropriate noise control measures to reduce daytime and nighttime construction noise levels to the extent feasible. Noise controls could include any of the following, as appropriate:

- Best available noise control techniques (including mufflers, intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) shall be used for all equipment and trucks to minimize construction noise impacts.

- If impact equipment (*e.g.*, jackhammers and pavement breakers) is used during Project construction, hydraulically or electric-powered equipment shall be used wherever feasible to avoid the noise associated with compressed-air exhaust from pneumatically powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed-air exhaust shall be used (a muffler can lower noise levels from the exhaust by up to about 10 dBA). External jackets on the tools themselves shall be used, where feasible, which could reduce noise by 5 dBA. Quieter procedures, such as drilling rather than impact equipment, shall be used whenever feasible.

- Pile holes shall be pre-drilled wherever feasible to reduce potential noise and vibration impacts.

- Operation of equipment requiring use of back-up beepers shall be avoided near sensitive receptors to the extent feasible during nighttime hours (6:00 PM to 7:00 AM).

- Stationary noise sources shall be located as far from sensitive receptors as feasible. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used to ensure local noise ordinance limits are met to the extent feasible. Enclosure opening or venting shall face away from sensitive receptors. If any stationary equipment (*e.g.*, ventilation fans, generators, dewatering pumps) is required, such equipment shall comply with daytime and nighttime noise limits specified in pertinent noise ordinances to the extent feasible.

- Material stockpiles as well as maintenance/equipment staging and parking areas shall be located as far as feasible from residential and school receptors.

- Proposed jack-and-bore pits shall be located as far from sensitive receptors as technically feasible.

- A designated Project liaison shall be responsible for responding to noise complaints during the construction phases. The name and phone number of the liaison shall be conspicuously posted at construction areas and on all advance notifications. This person shall take steps to resolve complaints, including periodic noise monitoring if necessary. Results of noise monitoring shall be presented at regular meetings with the construction contractor, and the liaison shall coordinate with the construction contractor to modify, to the extent feasible, any construction activities that generate excessive noise levels.

- A reporting program that documents complaints shall be required.

Mitigation Measure NOI-2: Compliance with Noise Ordinances. The bid specifications for this Project shall include the following restrictions:

- Within the City of Pittsburg, any pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist, or other appliance, the use of which is attended by loud or unusual noise cannot be used between the hours of 10:00 p.m. and 7:00 a.m. If DDSD proposes to employ nighttime construction for the Kirker Creek crossing or any other non-residential areas, work would be coordinated with the City of Pittsburg to ensure that equipment used at night is acceptable.

- Within the City of Antioch construction activities would not be allowed during the following times:

    - On weekdays prior to 7:00 a.m. and after 6:00 p.m.

    - On weekdays within 300 feet of occupied dwelling space, prior to 8:00 a.m. and after 5:00 p.m.

    - On weekends and holidays, prior to 9:00 a.m. and after 5:00 p.m., irrespective of the distance from the occupied dwelling.

Mitigation Measure NOI-3: Vibration Controls to Prevent Cosmetic or Structural Damage. The construction contractor shall ensure that surface vibration associated with construction activities would be

kept under 0.2 in/sec PPV for continuous vibration (e.g. vibratory equipment) at the closest receptors to ensure that cosmetic or structural damage does not occur.

DDSD or its construction contractor shall coordinate with BNSF to determine whether site-specific requirements associated with construction activities adjacent to the BNSF railroad tracks are necessary to ensure vibration does not cause any structural damage.

Implementation of the above mitigation measure would reduce potential impacts to a less-than-significant level.

3.16 Population and Housing

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

Setting/Affected Environment

The cities of Pittsburg and Antioch have prepared land use maps and established land use policies that define the cities' future land use pattern and maximum development intensities throughout their planning areas. In addition, these cities have established growth management policies that ensure balanced growth and adequate public services are available to accommodate the growth.

One of the City of Pittsburg growth management policies relevant to the proposed Project/Action is to "allow urban and suburban development only in areas where public facilities and infrastructure (police, fire, parks, water, sewer, storm drainage, and community facilities) are available or can be provided" (2010). The goal of the City of Antioch's Growth Management Element relevant to the proposed Project/Action is to "maintain a clear linkage between growth and development within the City and expansion of its service and infrastructure systems, including transportation systems; parks, fire, police, sanitary sewer, water, and flood control facilities; schools; and other essential municipal services, so as to ensure the continuing adequacy of these service facilities (2003)."

Impacts/Environmental Consequences

a) *Near-Term and Buildout Projects*

The proposed Project/Action consists of expanding the recycled water system to meet current demands. The Near-Term Project would be constructed to correct existing deficiencies and to optimize the existing recycled water system. It does not propose new homes or businesses. As such, it would not induce directly or indirectly any population growth in an area. Thus, no impact would occur.

Buildout Project

The Buildout Project is intended to meet long-term demands within DDSD's service area. It would not directly induce population growth in the service area by proposing new homes and businesses. It could indirectly induce growth[26] in that it would provide recycled water for non-potable and industrial uses to meet the increasing demands of the cities as they reach their planned, buildout growth. As the cities increase in population and economic output, DDSD would respond accordingly. By providing an urban service necessary for development (additional recycled water supply) the proposed Project/Action would remove an "obstacle" to planned growth; by the CEQA definition the proposed Project/Action would be growth inducing.

Growth inducement may constitute an adverse impact if the growth is inconsistent with the land use and growth management policies for the affected area. A key component of the proposed Project/Action is to provide recycled water for orderly, planned growth within DDSD's service area, in accordance with approved General Plans. The proposed facilities would be constructed in phases as the demands are identified. When additional customers are identified for advance treated water, then components of the Buildout Project would be implemented, in accordance with the anticipated demand. Thus, the proposed Project/Action would not serve unplanned growth but only those approved by the cities.

It should be noted that the cities of Pittsburg and Antioch are actively trying to stimulate economic activity and jobs in their respective jurisdictions. The Buildout Project (including the HPWTF) would help to attract new businesses to the service area, increasing jobs and improving economic conditions following the recent recession. The proposed Project/Action could indirectly aid in population growth by attracting new individuals to the area, or it could indirectly increase the number of jobs for the existing population.

Because the proposed Project/Action would be consistent with land use and growth management policies, impacts are considered less than significant.

b, c) *Near-Term and Buildout Projects*

The proposed Project/Action does not involve construction or removal of residences, commercial, or industrial facilities. The proposed Project/Action would not displace existing housing or people and would not require or induce construction of new housing. Therefore, this significance criterion is not applicable to the proposed Project/Action.

Mitigation Measures

None required or recommended.

[26] Section 15126.2(d) of the CEQA Guidelines specifies projects that "would remove obstacles to population growth" either directly or indirectly are considered growth-inducing. "It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

3.17 Public Services

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

Discussion

Setting/Affected Environment

Contra Costa Fire Protection District provides fire and emergency services to the Cities of Pittsburg and Antioch, as well as adjacent unincorporated areas (City of Pittsburg, 2010; City of Antioch, 2010). The Pittsburg Police Department and Antioch Police Department provide crime prevention and law enforcement services within the respective city boundaries. California Highway Patrol and the Contra Costa Sherriff's Department provide law enforcement services within unincorporated areas.

The City of Pittsburg Parks and Recreation Department maintains parks within its boundaries. The City of Antioch Parks Department maintains parks within its City limits.

Impacts/Environmental Consequences

a) *Near-Term and Buildout Projects*

The proposed Project/Action is intended to meet recycled water demands within DDSD's service area through buildout development by the affected jurisdictions (see Section 3.16, Population and Growth above). While the proposed Project/Action may indirectly increase population growth through the attraction of new businesses to the region, the proposed Project/Action in and of itself is not expected to result in substantial amount of new or physically altered government facilities. In addition, the operation and maintenance of the proposed Project/Action would not be labor intensive, and therefore would not substantially increase the need for new staff from any public protection services entities (*e.g.*, police and fire). As implementation of the proposed Project/Action would not change the demand for any public services, it would not require additional equipment or resources for those public service providers. As such, impacts would be less than significant and no mitigation is required.

Mitigation Measures

None required or recommended.

3.18 Recreation

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
c) Would the Project affect recreational facilities or its users by introducing safety hazard?	☐	☒	☐	☐

Discussion

Setting/Affected Environment

Figure 3-5 shows the location of existing parks and other recreational areas relative to the proposed components within the proposed Project/Action area. Below are a listing of the parks and recreational areas that are located adjacent to or near the proposed components and their amenities (City of Pittsburg, 2009; City of Antioch, NA):

Near-Term Project Area

- Marina Walk Park, owned and maintained by the City of Pittsburg, is located on West 6th and Cutter streets and consists of picnic tables, play equipment/tot lot, a half-court basketball court, and turf areas.
- Delta De Anza Regional Trail occurs generally south and parallel to Highway 4. It is a paved, multi-use hiking, bicycling and equestrian trail that bisects both the cities of Pittsburg and Antioch. The trail provides access to regional and community parks, and schools.
- Babe Ruth Fields, located off Auto Center Drive and West 10th Street in Antioch, consists of six baseball diamonds, some structures, and a parking lot.
- Prosserville Park, owned and maintained by the City of Antioch, is located off 6th and O streets and consists of a basketball court, picnic tables, barbeque pits, turf area, and youth play area.
- Antioch Little League, located in unincorporated Contra Costa County, consists of three baseline diamonds.

- Antioch Fairgrounds, located in unincorporated Contra Costa County, consists of landscaped open lawn areas, Front Park, covered open arenas, concert pavilion, and event buildings.
- Memorial Field, owned by the Antioch Unified School District, is located off D Street and consists of a baseball diamond and other turf areas.
- Chichibu Park, owned and maintained by the City of Antioch, is located off Longview Road and Acorn Drive and consists of tennis courts, picnic areas and barbeque pits, horseshoes, tot play area, youth play area, turf area, and restrooms.
- The Mokelumne trail runs along the East Bay Municipal Utility District (EBMUD) Mokelumne Aqueduct right of way in the City of Antioch.

Buildout Project Area

- Central (Addition) Park, owned and maintained by the City of Pittsburg, is located along the Pittsburg-Antioch Highway and consists of barbeque grills, picnic tables, play equipment/tot lot, baseball/softball field, a soccer field, basketball courts, horseshoes, and restrooms.
- Gaylord Sports Field, located in Antioch consists of a picnic area, lawn games area, soccer fields, and softball diamonds.
- Marina Park, located at the end of W. 4th Street in Antioch, is currently vacant.

In addition, play yards and fields located within existing schools are also located adjacent to the proposed pipeline alignments.

The Antioch Little Leagues play at various fields within the cities of Pittsburg and Antioch, including the fields across from the Fairgrounds (Antioch Little Leagues) and the Gaylord Sports Field (also known as the ASYC fields). The Little League season occurs during spring.

Impacts/Environmental Consequences

a, b) *Near-Term and Buildout Projects*

The Project/Action proposes to provide recycled water to public, commercial, and industrial customers. Although this Project may indirectly induce population growth (see Section 3.16) consistent with approved General Plans, because of the nature of this Project, it would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Thus, impacts would be less than significant. In addition, the proposed Project/Action does not propose recreational facilities and would not require the construction or expansion of any recreational facilities. As such, no impacts would occur.

c) *Near-Term Project*

Proposed pipeline alignments would occur primarily within City streets, but at some locations they would be adjacent to or terminate at parks and other recreational facilities, including school play yards and turf areas. Construction activities would not occur directly within play areas, and thus would not result in closure of any recreational facilities.

Table **3-5** shows the recreational areas that could be affected along the proposed alignments under the Near-Term Project, either directly or indirectly. With the exception of the proposed alignment to Marina Walk Park and Antioch Little Leagues, the proposed pipelines would not directly affect existing recreational facilities or users. For most locations, impacts to recreational facilities are indirect, associated

with noise and dust generated from temporary and intermittent construction activities in the vicinity of the sites.

Table 3-5: Impacts to Recreational Facilities under the Near-Term Project

Alignment No. / Name	Location	Nearest Recreational Facility and Potential Effect[1]
1 - Rancho Medanos Junior High School	Along W. Leland Road.	The track and field is located more than 100 feet north of the proposed pipeline. The proposed pipeline alignment is located near the street access to the Delta de Anza Regional Trail. The DVGC is located more than 500 feet south of the proposed pipeline alignment. Due to their distances, no effects on the track and field facility or the DVGC are expected. Due to the proximity of the Delta de Anza Regional Trail and the potential for construction activities to block access to this recreational facility or cause safety issues, impacts are considered potentially significant. To reduce potential impacts to less-than-significant**, Mitigation Measure REC-1** is required to ensure that construction would be located away from the trail access point.
2 – Parkside Elementary School	Along footpath on west side of the school.	Due to the width of the construction zone, the proposed pipeline would occur on the foot path and the western, paved portion of the school's play yard. Although construction activities would not occur within any of the marked play areas, construction activities during the school season could result in potential hazards to the children playing in the yard. For this reason, impacts are considered potentially significant. **Mitigation Measure REC-2** is required to reduce potential conflicts between children and construction work activities to a less-than-significant level.
3 – Pittsburg High School	North of the turf area.	The baseball diamond is located adjacent to the connection point. It would not be closed from construction activities and thus no direct effects on this recreational facility are anticipated. Indirect effects are expected to be less than significant due to the temporary and intermittent nature of construction activities.
4 – Marina Walk Park	Along Cutter Street, terminating at the south entrance of the park, within the paved sidewalk	The proposed alignment occurs within the southern entrance to/exit from the park. While closure of this entrance/exit is anticipated for connection of the pipeline, none of the play areas would be closed. Because there are multiple accesses to the park (official entrances from the north, northeast, and southeast and unofficial entrances from the sidewalks surrounding the entire park), this is considered a less-than-significant impact. In addition, indirect effects are expected to be less than significant due to the temporary and intermittent nature of construction activities.
9 – Babe Ruth Fields	Across W. 10th Street.	Baseball diamonds are located more than 200 feet to the north and would not require closure during construction. No direct or indirect effects on these fields are anticipated due to the distance from construction activities.
10 – Alignment to the Antioch Historical Society	Along West 4th Street	The pipeline terminates within the turf area of the Antioch Historical Society. No direct or indirect effects on the museum are anticipated as construction activities would occur outside the museum walls.

Alignment No. / Name	Location	Nearest Recreational Facility and Potential Effect[1]
11 - Antioch Little League	West of one of the baseball diamonds and between the north and central baseball diamonds	The proposed pipeline passes between two baseball diamonds and around an existing structure (snack bar) at the eastern end of the diamonds. Avoidance of the building may require encroachment upon one of the baseball diamonds, and would result in impacts to this recreational facility, if it occurs during the Little League baseball / softball season (spring). Thus, impacts would be considered significant. **Mitigation Measure REC-3** would reduce potential impacts to less than significant by requiring DDSD to schedule construction activities at this location outside game days.
12 – Antioch Fairgrounds	West of the turf area of the Antioch Fairgrounds	The turf area of the Antioch Contra Costa County Fairgrounds is located east of the alignment. The Fairgrounds host a County Fair annually in the spring season. As the alignment would be located entirely within the roadway, no direct effects to Fair activities or events are anticipated. Indirect effects are expected to be less than significant due to the temporary and intermittent nature of construction activities.
13 – Prosserville Park	Along O Street and terminate at western end of the Park	Pipeline installation and connection would occur along the western edge of the park area, where the turf is located. As connection would not affect access into the park and there is other turf area that would remain open for recreational purposes, this is expected to be a less-than-significant impact.
15 – Memorial Park	Along Elizabeth Lane, and cut across the parking area to the turf area.	Pipeline installation and connection would occur along the parking area and southern edge of the park, where the turf is located. As connection would not affect access into the park and there is other turf area that would remain open for recreational purposes, this is expected to be a less-than-significant impact.

Note: The alignment numbers correspond to those identified in Table 2-3 in Chapter 2, Project Description.

[1] Indirect impacts are those that would not result in direct closure of the facility in any manner and would ensure that the facility would remain open. However, due to the proximity of the construction zone to the recreational facility, impacts such as increased noise and dust would occur. Direct impacts are those that would cause some form of closure to the facility.

Operation of the proposed pipelines would not affect recreational facilities as the pipelines would be located entirely underground.

Construction and operation of the above-ground facilities at the RWF or the industrial area adjacent to LMEC would not result in any impacts on existing recreational facilities because none are located near the RWF or LMEC.

Buildout Project

Several parks and schools with play areas are located along the proposed pipeline alignments under the Buildout Project, including Central (Addition) Park, Marina Vista Elementary School, Marina Park, and Gaylord Sports Fields. Installation and/or rehabilitation of proposed pipelines under the Buildout Project could result in direct or indirect impacts to recreational facilities and uses, depending on the precise locations of the construction zones (pipeline trenches and pits for rehabilitation of the existing pipeline). These impacts could include blocking access to the recreational facility or closure of specific recreational amenities. Implementation of **Mitigation Measure REC-4** would ensure that recreation-related impacts would be less than significant.

Construction and operation of the above-ground facilities at the RWF would not result in any impacts on existing recreational facilities.

Mitigation Measures

Mitigation Measure REC-1: Impacts on Delta de Anza Regional Trail (Near-Term Project Only). DDSD or its contractors shall ensure that construction of the proposed pipeline alignment to Rancho Medanos Junior High School would not block access to the Delta de Anza Regional Trail. In addition, DDSD or its contractors shall post signage along the trail informing the public of anticipated construction activities and schedule.

Mitigation Measure REC-2: Effects on Parkside Elementary School (Near-Term Project Only). DDSD shall coordinate with school officials to identify the appropriate timing of construction within school property. Construction shall occur either on weekends or during the summer, when school is not in session.

Mitigation Measure REC-3: Effects on the Baseball Diamonds at Antioch Little Leagues (Near-Term Project Only). DDSD or its contractors shall coordinate with the Antioch Little Leagues to ensure that construction of the alignment to the Antioch Little Leagues (between the two baseball diamonds) occurs outside of the Little League game days or season.

Mitigation Measure REC-4: Effects on Recreation from Buildout Project (Buildout Project Only). DDSD or its contractors shall ensure that the proposed pipeline alignments and pits for rehabilitation of the existing pipeline are situated in a manner that minimizes blockages/disruptions to existing recreational facilities, and will ensure that all recreational facilities are open to the public.

Implementation of the above mitigation measure would reduce potential impacts to a less-than-significant level.

3.19 Transportation/Traffic

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Conflict with and applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transit?	☐	☐	☒	☐
b) Conflict with applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Result in inadequate parking capacity?	☐	☐	☒	☐
g) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

Discussion

Setting/Affected Environment

Highway 4 (California Delta Highway), which runs east to west, bisects the cities of Pittsburg and Antioch and provides the primary regional access to the proposed Project/Action area from surrounding highways and areas. Highway 160, which diverges north from Highway 4 and crosses the San Joaquin River via the Antioch Bridge, also provides regional access to the proposed Project/Action area. The majority of the proposed pipeline alignments occur north of Highway 4, along arterials[27] (*e.g.*, Pittsburg-Antioch Highway, Loveridge Road, Willow Pass Road, Harbor Street, West 4th Street) and local streets[28].

The proposed Project/Action area is served by public transportation. Regional service is provided by Tri-Delta Transit. Several bus lines run along proposed pipeline alignments. Within the City of Pittsburg (where the proposed Buildout Project pipeline alignments are located), Route 388 and 392 traverse Loveridge Road north to Pittsburg-Antioch Highway, then along the highway to Columbia Street, left on 12th Street (Tri-Delta Transit, 2012). At the intersection of 12th Street and Harbor Street, the routes diverge. Bus route 392 continues north on Harbor Street and left on 10th street. Within the City of Antioch, route 388 traverses Auto Center Drive north of 10th Street, along one of the proposed Near-Term pipeline alignments. Routes 380 and 392 traverse Lone Tree Way, adjacent to one of the proposed Near-Term Project pipeline alignments. In addition, Route 387 traverses 2nd Street, where the proposed Buildout Project rehabilitated pipeline alignment is located.

According to the City of Pittsburg General Plan (2011), Pittsburg experiences substantial through traffic on local arterials and collectors. As specified in the City of Antioch General Plan (2004), traffic conditions on Antioch roadways are generally acceptable, with congestion developing at intersections of major arterials and at freeway interchanges during peak hours.

[27] Arterial roadways primarily serve through traffic. They are generally multi-lane facilities with signalized traffic control at major intersections. They carry a mix of local and regional traffic, providing circulation between neighborhoods, activity centers, and highways and other regional routes.
[28] Local streets provide access to individual sites. They rarely have more than two travel lanes, and speed limits are generally kept low (25 mph).

BNSF and Union Pacific (UP) have railroad tracks running through the cities of Pittsburg and Antioch. Portions of the proposed rehabilitated pipeline under the Buildout Project run parallel to the railroad tracks in the City of Antioch. The BNSF tracks run along the southern bank of the San Joaquin River and the UP tracks are adjacent to Highway 4. Amtrak offers passenger rail service on the BNSF; the station is at the foot of I Street, in the vicinity of the proposed alignment.

Two regional trails occur in the vicinity of the proposed Project/Action area, including the Delta de Anza Regional Trail and the Mokelumne Trail. The Delta de Anza Regional Trail is located adjacent to the proposed Near-Term Project pipeline alignment to Rancho Medanos Junior High School. The Mokelumne Trail is located in the vicinity of the proposed Near-Term Project pipeline alignment to Sutter Elementary School. Both trails are considered Class I trails (bike paths that exclude motor vehicle access) (City of Pittsburg, 2011; City of Antioch, 2004). West Leland Road, where the proposed Near-Term pipeline alignment to Rancho Medanos Junior High School is located, is considered a Class III facility that is planned to be a Class II[29] facility according to the City of Pittsburg General Plan (2011). Within the City of Pittsburg, a number of the proposed Buildout Project pipeline alignments are designated bicycle facilities. Specifically, Willow Pass Road and Loveridge Road[30] are considered Class III and Class II facilities, respectively. Harbor Road is an existing Class III facility that is planned to be converted into a Class II facility. The Pittsburg-Antioch Highway is proposed to be a Class III facility. Within the City of Antioch, Wilbur Avenue is considered a Class III facility.

Impacts/Environmental Consequences

a, b) *Near-Term and Buildout Projects*

Construction period impacts would be associated with traffic generated by workers and haul trucks, and with lane reductions caused by construction activity in road ROWs.

Construction traffic could result in short-term increases in traffic volumes, which could lead to a reduction of roadway capacities in the immediate vicinity of the proposed Project/Action area and along haul routes. The slower movements and larger turning radii of construction-related trucks compared to passenger vehicles could also temporarily and intermittently reduce roadway capacities and increase roadway congestion and delays. In addition, lane closures associated with pipeline construction would occur along streets and intersections during construction activities. Lane reductions could further reduce the roadway capacities, especially during peak hours. For most pipeline segments, construction would be installed using the open-trench method, and thus only a small segment would be closed at one time during construction activities (construction of any one segment would proceed at a rate of 100 feet per day). For the rehabilitated pipeline alignment, lane closures may last longer at any one location (*e.g.*, at the pits).

Anticipated construction-related vehicle trips include construction workers traveling to and from the proposed Project/Action work area, spoil-hauling trucks, and other trucks associated with equipment and material deliveries. Assuming 3 crews of 15 people would be working on any given day, the total number of worker trips would be approximately 45 round trips per day. It is likely that the three construction crews would be working in different locations, such that the traffic generated by construction workers would be spread out within the two cities. As described in the Project Description, approximately 20 round trips (40 one-way trips) would be generated per day for the Near-Term Project associated with hauling of material off-site for disposal and delivery of equipment/material. These trips would likely be scattered due to the different construction locations. Any construction-related traffic occurring between 7:00 AM and 9:00 AM

[29] Class II facilities are designated bike lanes that provide space in the road for bicycle travel. Class III facilities are bicycle routes that provide signage to alert bicyclists and motorists that a bicycle route exists.
[30] A portion of the proposed rehabilitated pipeline under the Near-Term Project is located along Loveridge Road.

or between 4:00 PM and 6:00 PM would coincide with peak hour traffic and could temporarily impede traffic and transit flow. Travel during these time frames would primarily consist of workers traveling to and from the proposed Project/Action site, because delivery trucks would likely occur throughout the day.

Given the short-term nature of construction and because impacts would move as work progresses (rather than one area being shut down for an extensive period), construction-related traffic impacts are not expected to be substantial. However, to ensure appropriate traffic controls are implemented and impacts are less than significant, preparation and implementation of a Traffic Control Plan would be necessary. The Traffic Control Plan would require DDSD and its construction contractor to address and mitigate impacts associated with the closure of traffic lanes, parking lanes, or other public ROWs. Implementation of **Mitigation Measure TRA-1** would ensure construction-related traffic impacts are reduced to a less-than-significant level.

The Fairgrounds host a County Fair annually in the spring season. Traffic in and around the fairgrounds may be higher during that time. While construction of the two proposed Near-Term alignments (Alignments 11 - Antioch Little League and 12 – Antioch Fairgrounds) would be short-term and is not expected to result in significant traffic flow-related impacts, it is recommended that DDSD consider construction of these two segments when the Fair is not occurring (see **Recommended Measure TRA-4**)

As described in the Project Description, long-term maintenance of proposed facilities would consist of existing DDSD staff making inspections approximately four times a year. Thus, upon completion of construction activities, traffic operations would generally revert to the baseline (existing) conditions. As such, impacts would be considered less than significant.

c) *Near-Term and Buildout Projects*

The proposed Project/Action would not affect air traffic patterns; therefore, this criterion is not applicable to the proposed Project/Action.

d) *Near-Term and Buildout Projects*

During construction, the proposed Project/Action would temporarily change the configuration of intersections and roadways within the proposed Project/Action area. Specifically, lane closures would be required where pipelines would be installed on streets ROWs. Construction equipment and material would be staged temporarily either within the construction zone on roads, vacant parcels near the construction area, at the site adjacent to LMEC or at the RWF. Construction along any one segment of roadways would occur at a rate of approximately 100 feet per day, thereby limiting lane closures to the affected segment. Because lane closures could increase conflicts between vehicles, bicyclists, and pedestrians, potential impacts are considered significant and would require mitigation. With the implementation of the Traffic Control Plan (**Mitigation Measure TRA-1**), such hazards caused by the changed configurations would be reduced to a less-than-significant level. Upon completion of construction activities, all intersections and roadways would be restored to pre-construction conditions and no impact associated with increased hazards would occur.

e) *Near-Term and Buildout Projects*

As described in the Project Description, the construction period would span approximately 3.5 and 18 months for the Near-Term and Buildout Projects, respectively. Construction activities would generally take place Monday through Friday from 7:00 a.m. to 7:00 p.m. or in accordance with noise ordinances. Evening and weekend work might be necessary at intersections for certain pipeline connections. Pipeline installation on any one segment using the open-trench method would proceed at a rate of 100 feet per day, so construction activities would be in front of any one

location (*e.g.*, residences, businesses, school) for a short duration of time. Pipeline installation using trenchless techniques and pipeline rehabilitation would require pits that may be at one location for longer durations. Some of the proposed pipelines under the Near-Term Project terminate at schools (*e.g.*, at Rancho Medanos Junior High School and Sutter Elementary School[31]), which could affect emergency access to some of these public facilities, particularly during the morning drop off hours (when school starts) and in the afternoon pick up hours (when school ends for the day). Access for emergency vehicles would be maintained for residents, businesses, and schools at all times in accordance with the Traffic Control Plan. Therefore, this temporary, significant impact is considered less than significant with implementation of the Traffic Control Plan (**Mitigation Measure TRA-1**). Implementation of the Traffic Control Plan would include notification of all emergency service providers prior to lane closure and traffic redirection, including length of anticipated closure, to further reduce any less-than-significant effects. In addition, this measure would require coordination with facility owners or administrators of sensitive land uses in regards to timing, location, and duration of construction activities. Upon completion of construction activities, all intersections and roadways would be restored to pre-construction conditions and no impact to emergency access would occur.

f) *Near-Term and Buildout Projects*

The proposed Project/Action would temporarily generate new parking demand during construction. Parking for workers and construction equipment would be accommodated at staging areas (*e.g.*, vacant areas or at the RWF) or on nearby city streets, but is not anticipated to displace substantial numbers of existing parking spaces. However, existing on-street parking would be displaced where parking/road lane and intersection closures would occur. In addition, some of the proposed pipelines would be located within, adjacent to, or across parking areas under the Near-Term Project, as described below:

- **Alignment 5 - United Spiral Pipeline:** the proposed pipeline would cut across the parking area for USP. Parking spaces are not marked in this area. The industrial area has sufficient room for parking, and could accommodate any displaced parking. Thus, impacts would be less than significant.
- **Alignment 2 - Parkside Elementary:** there are approximately 28 parking spaces along the foot path where an approximate 400-foot segment of the pipeline alignment would be located. Pipeline installation would encroach upon the parking area thus displacing the parking spaces. Although on-street parking is available, the loss of 28 parking spaces when school is in session would be considered a significant impact. Construction during weekends and/or when school is not in session would be required. Thus, implementation of **Mitigation Measure TRA-2** would reduce the significant impact to a less-than-significant level.
- **Alignment 11 - Antioch Little League:** the proposed pipeline alignment would cross an unpaved parking area from the baseball diamonds to the unnamed street adjacent to the Fairgrounds. The portion of the pipeline across the parking area is approximately 100 feet. The parking area is large and has sufficient room for parking, and could accommodate any displaced parking. Thus, impacts would be less than significant.

[31] The proposed pipelines terminate at four schools: Rancho Medanos Junior High School, Parkside Elementary School, Pittsburg High School and Sutter Elementary School. The proposed pipeline to Rancho Medanos Junior High School occurs on West Leland Road, across from one of the entrances to the school. The proposed pipeline to Parkside Elementary School occurs along the unpaved footpath west of the school, adjacent to the parking lot and away from the main entrance to the school. The proposed pipeline to Pittsburg High School occurs on School Street, away from the main entrance to the school or the entrance to the parking area. The proposed pipeline to Sutter Elementary School occurs along the school parking lot entrance road.

- **Alignment 15 - Memorial Park:** The proposed pipeline would traverse Elizabeth Lane. There are approximately 29 spaces on the east side of Memorial Park, north of the existing parking lot. Construction of the pipeline would likely displace these parking spaces. However, because there are other available spaces in the parking lot and along the eastern edge of the park south of the parking lot, and due to the limited duration of construction, displacement of 29 spaces is not considered a significant impact.

The proposed Project/Action would not produce parking demand during operation, and thus no impact would occur.

g) *Near-Term Project*

The proposed Project/Action consists of infrastructure that would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, nor decrease the performance or safety of such facilities. Construction would temporarily impact alternative modes of travel. Specifically, construction would affect buses accessing bus stops along the proposed construction corridors and require the temporary relocation of bus stops. Several bus lines operate in the vicinity of the proposed Project/Action area, as described in the Setting/Affected Environment above. Because transit service would continue to be provided, the impact resulting from the temporary relocation of bus routes and bus stops is considered less than significant. Implementation of the Traffic Control Plan (**Mitigation Measure TRA-1**), which would include coordination with Tri-Delta Transit regarding the relocation of bus stops and detour of bus routes, would reduce potential impacts on buses to a less-than-significant level.

Construction activities could also disrupt bicycle and pedestrian travel during lane and intersection closures. The reduced width of roadways and increased potential for conflicts with construction-related equipment and activities could affect alternative modes of travel, including along Class I, II and III bicycle facilities. All sidewalks would remain open although some crosswalks may be closed due to lane/intersection closures. As described in Item f) above, the proposed pipeline alignment to Parkside Elementary School would occur within the footpath adjacent to the school; during construction activities, this footpath would be entirely closed. Although impacts on alternative modes of travel would be temporary, disruption to these facilities would be considered potentially significant. Implementation of a Traffic Control Plan (**Mitigation Measure TRA-1**), which would include provision of detours for closed facilities, would ensure that potentially significant impacts would be reduced to less than significant.

Construction of the proposed pipeline alignment to Rancho Medanos Junior High School would occur adjacent to the Delta de Anza Regional Trail, a Class I facility. As described in Section 3.14, Recreation, construction activities could block access to the trail. As such, impacts are considered potentially significant and **Mitigation Measure REC-1** would be required. Implementation of this mitigation measure would ensure that impacts associated with bicyclist and pedestrian circulation to the Delta de Anza Regional Trail would be less than significant.

Buildout Project

Similar to the Near-Term Project, construction would temporarily impact alternative modes of travel, including bus lines, and bicycle and pedestrian routes. Thus, impacts would be potentially significant and would require **Mitigation Measure TRA-1** to reduce effects to less than significant.

Rehabilitation of portions of the existing pipeline would occur along the BNSF railroad tracks. As construction pits would be required for rehabilitation of the pipeline, depending on their locations, construction activities could affect train travel, including Amtrak service. To reduce conflicts, including disruptions to train service, **Mitigation Measure TRA-3** would be required.

Implementation of this mitigation measure would ensure impacts would be reduced to a less-than-significant impact.

Mitigation Measures

Mitigation Measure TRA-1: Preparation and Implementation of a Traffic Control Plan (Near-Term and Buildout Projects). Prior to the start of construction, DDSD or its contractor shall prepare and implement a Traffic Control Plan. The traffic control plan would, at a minimum, include the following elements:

- Circulation and detour plans shall be developed to minimize impacts on local street circulation; examples include the following:
    - Lane closures on arterial roadways would avoid AM and PM peak periods. Roadside construction safety protocols shall be implemented.
    - The width of the construction work zone shall be limited to a width that at a minimum, maintains alternate one-way traffic flow past the construction zone.
    - The maximum amount of travel lane capacity would be maintained on roadways during non-construction periods.
    - Flagger-control shall be provided at construction sites to manage traffic control and flows.
- Designated and planned truck routes shall be identified. Haul routes that minimize truck traffic on local roadways and residential streets would be used to the extent possible. Truck trips would be scheduled during hours of the day other than the peak morning and evening commute periods to the extent feasible.
- All equipment and materials shall be stored in designated contractor staging areas to minimize obstruction of traffic and related safety hazards.
- All parking and loading for construction vehicles shall occur within the designated areas. Construction vehicle movement while entering and exiting the proposed alignment's staging areas shall be controlled and monitored.
- Written notification of the timing, location, and duration of construction activities, and the location of lane closures or detours (if any) shall be provided to all emergency service providers (fire, police, and ambulance) prior to road closure. Emergency service vehicles will be given priority for access.
- Construction shall be coordinated with facility owners or administrators of sensitive land uses such as schools. Facility owners or operators shall be notified in advance of the timing, location, and duration of construction activities and the location of detours and lane closures.
- The roadway ROW shall be kept clear of debris outside of the work zone, and the ROW would be completely cleaned of debris between lane closures on project roadways.

- Tri-Delta Transit shall be consulted to determine potential temporary rerouting for bus lines in the proposed Project/Action area related to traffic and parking lane closures. Bus stops in the area that could be affected by construction activity could be relocated and temporary bus stops installed based on Tri-Delta Transit approval.

- Temporary steel-plate trenches shall be provided to maintain reasonable traffic, bicycle, and pedestrian access to homes, businesses, and streets. When required by the applicable encroachment permit, DDSD or its contractor shall maintain existing lane configuration during non-working hours by covering the trench or pits with steel plates or by the use of temporary backfill. Access for emergency vehicles shall be maintained at all times.

Mitigation Measure TRA-2: Construction at Parkside Elementary School (Near-Term Project only). DDSD shall coordinate with the Parkside Elementary School officials regarding the timing of construction at the school, to address the potential loss of 28 parking spaces during construction. Construction could occur either on weekends or during the summer, when school is not in session.

Mitigation Measure TRA-3: Conflicts with Railroad (Buildout Project only). DDSD or its contractors shall coordinate with BNSF to determine the minimum buffers required for location of the construction pits associated with the rehabilitation of the existing pipeline. DDSD or its contractors shall ensure that all pits meet the minimum setback to ensure that conflicts with the railroad tracks do not occur.

Recommended Measure TRA-4: Construction of the Proposed Pipeline Alignments near the Antioch Fairgrounds (Near-Term Project only). DDSD shall consider constructing the two alignments (to the Antioch Little Leagues and the Fairground) when the Fair is not being held.

Implementation of the above mitigation measure would reduce potential impacts to a less-than-significant level.

3.20 Utilities and Service Systems

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐

d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

Setting/Affected Environment

Pittsburg obtains raw water from the CCWD, through the Central Valley Project (CVP) (City of Pittsburg, 2010). The City of Antioch diverts water purchased from CCWD from the San Joaquin River; it operates its own water treatment, storage, and distribution system (City of Antioch, 2004).

The cities of Pittsburg and Antioch maintain their own sewage collection system (City of Pittsburg, 2010; City of Antioch 2004). DDSD owns and operates the collection system in Bay Point. DDSD provides sewer treatment service to both cities as well as to Bay Point.

Solid waste pickup and disposal for Pittsburg and a small portion of Bay Point is provided by Pittsburg Disposal Services (City of Pittsburg, 2010). Pleasant Hill Bayshore Disposal currently provides solid waste collection, disposal, recycling, and yard waste services to the City of Antioch through a franchise agreement (City of Antioch, 2004). Solid waste is taken to the Contra Costa Transfer and Recovery Station and thereafter to the Keller Canyon Landfill. This landfill is located southeast of the City of Pittsburg limits and serves the eastern and central portions of the County (City of Pittsburg, 2010). The landfill has a projected lifespan of 40-years. Of the 244 acres permitted for disposal, 40 acres are currently in use.

Impacts/Environmental Consequences

a) *Near-Term and Buildout Projects*

Please refer to Section 3.12, Hydrology and Water Quality for a discussion of this item. This impact would be less than significant.

b) *Near-Term and Buildout Projects*

The proposed Project/Action would not require or result in the construction of new or expanded water or wastewater treatment facilities, or expansion of existing facilities (beyond those evaluated in this joint environmental document). The proposed Project/Action is a standalone recycled water system expansion project. There would be no impact and no mitigation is required.

c) *Near-Term and Buildout Projects*

DDSD would implement requirements set forth within the Construction General Permit (refer to Section 3.12, Hydrology and Water Quality) to reduce stormwater runoff during construction. With implementation of the Construction General Permit, construction of the proposed Project/Action is not anticipated to generate surface runoff in quantities that would require construction of new off-site storm drains or expansion of existing off-site storm drains.

The majority of the proposed Project/Action area (*i.e.*, pipeline alignments) consists of either paved or unpaved ground surfaces that would be restored to pre-construction conditions after construction is complete. In these areas, no new on or off-site storm drains or expansion of existing on- or off-site storm drains would be required.

Above-ground structures would be constructed on ground surfaces that are currently unpaved. New impermeable surfaces would result from construction of the proposed storage tank, pump station, and the HPWTF. New impermeable surfaces would result in additional runoff that previously would have seeped into the ground. Construction of the above ground facilities would not require construction of any on- or off-site stormwater facilities. The majority of the stormwater runoff at the site adjacent to the LMEC would continue to seep into the ground, although a limited amount might be captured in the proposed catch basin that would be connected to the local sewer system. All stormwater runoff at the RWF would be collected and treated at the plant. Thus, new or expansion of existing off-site storm drains would not be required. As such, implementation of the proposed Project/Action would not result in the need for additional off-site stormwater drainage facilities or expansion of existing facilities that would cause significant environmental effects. This impact is considered less than significant and no mitigation is required.

d) *Near-Term and Buildout Projects*

The proposed Project/Action is a recycled water system expansion project. No potable water supplies would be delivered to customers as part of this Project. The provision of recycled water would offset existing potable water usage. As such, the proposed Project/Action would not require new or expanded entitlements. No impact would occur.

e) *Near-Term and Buildout Projects*

The Project/Action proposes to provide recycled water to the customers identified in **Table 2-1** of the Project Description. The City would have sufficient capacity to serve the proposed Project/Action's projected demand in addition to its existing commitments. Thus, no impacts would occur.

f) *Near-Term and Buildout Projects*

Construction and implementation of the proposed Project/Action is not anticipated to generate a significant amount of solid waste. To the extent possible, excavated soil would be reused on site. The construction contractor(s) would be required to dispose of excavated soil and solid waste generated during project-related construction in accordance with local solid waste disposal requirements. Waste material would likely be hauled to the Keller Canyon Landfill, as it serves the proposed Project/Action area. Given the anticipated lifespan of the landfill (through 2040), this landfill is expected to have sufficient permitted capacity to accommodate the proposed Project/Action's solid waste disposal needs. Once constructed, operation and maintenance activities, including at the HPWTF, would generate minimal solid waste. For the reasons described above, implementation of the proposed Project/Action would not exceed permitted capacity at the local landfill. The impact would be less than significant and no mitigation is required.

g) *Near-Term and Buildout Projects*

Solid waste generation would be limited to construction-related activities, and would not affect available solid waste disposal capacity in the region. Minimal long-term solid waste generation would be associated with the proposed Project/Action. The proposed Project/Action would comply with all federal, state, and local statues and regulations related to solid waste.

Mitigation Measures

None required or recommended.

3.21 Environmental Justice

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Cause impacts to minority or low-income populations that are disproportionately high and adverse, either directly, indirectly, or cumulatively?	☐	☐	☒	☐

Setting/Affected Environment

USEPA defines environmental justice as: "The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people, including racial, ethnic, or economic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies."

Economic Development

The median incomes for Pittsburg and Antioch residents, after adjusting for inflation, have remained steady since 1990. Both cities' estimated median household incomes, 57,965 and 66,479, respectively, are lower than that of the county (79,135) based on the 2007-2011 U.S. Census data. The number of people working in Pittsburg and Antioch has increased by 9 percent and 7 percent, respectively from 2000 to 2010.

Unemployment Rates

According to 2010 U.S. Census data, the unemployment rate in both cities increased since 2008 due to the economic downturn. The City of Pittsburg's unemployment rate was 16.7 percent while the unemployment rate for Antioch was at 12 percent. The unemployment rates for both cities follow similar trends for the county and the nation, but are consistently higher.

Minority and Low Income (Disadvantaged) Communities

According to CEQA and USEPA guidelines, a minority population is present in the proposed Project/Action area if the minority population of the affected area exceeds 50 percent, or if the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. Under the same guidelines, a low-income population exists if the Project area is composed of 50 percent or more people living below the poverty threshold, as defined by the U.S. Census Bureau,

or if the percentage of people living below the poverty threshold in the proposed Project/Action area is substantially greater than the poverty percentage of the general population or other appropriate unit of geographic analysis.

A review of demographics based on the 2010 Census indicates the Project area crosses through several areas identified as minority and low income communities (U.S. Census 2010). The lists below identify specific census tracts within the Project area containing greater than 50 percent minority populations and low-income communities. **Figure 3-6** and **Figure 3-7** show the same information for 2000, as the U.S. Census does not have mapped information from 2012[32].

Minority Community Census Tracts

- Near-Term Project – 3110, 3100, 3120, 3050
- Buildout Project – 3090, 3100, 3110, 3120

Low Income Community Census Tracts

- Near-Term Project – 3110 ,3050, 3071.01, 3071.02
- Buildout Project – 3100, 3120, 3050

Impacts/Environmental Consequences

To determine if a Project could disproportionately affect a high-minority or low-income population, it must also be determined how the Project would affect other segments of the population. For example, if there are more high-income populations affected by a project than low-income populations, then the potential for disproportionate impacts to the low-income population, and thus the potential for environmental justice impacts, is low. If the proportion of low-income and high-minority populations impacted by a project is greater than either the middle or high-income populations or the middle- or low-minority populations, then there is more potential for an environmental justice impact.

a) *Near-Term and Buildout Projects*

Implementation of the Near-Term Project would involve construction and operation of a recycled water system that occur within communities near the two Calpine power plants: DEC and LMEC. As shown in **Figure 3-6** and **Figure 3-7**, the proposed facilities are located within or adjacent to census tracts that contain greater than 50 percent minority populations and/or low income populations. Although the proposed Project/Action passes through areas with a relatively large population of minorities and low-income communities, the proposed Project/Action is not expected to disproportionately affect these populations. The placement of the proposed pipelines are strategic, intentionally located to provide recycled water to existing landscape irrigation customers, including schools and parks, and in the future, potential industrial customers within existing industrial areas. Thus, although the construction of pipelines has the potential for short-term effects, the provision of recycled water to schools and parks in the Project area would have the long-term benefit of providing a reliable water supply to maintain turf and landscaping in the Project area.

Although construction would generate impacts (*e.g.*, dust, traffic, and noise), such activities would be intermittent and temporary, and would cease upon completion of work activities. Where potential impacts could occur, mitigation measures have been identified to reduce such effects to less than significant. In addition, construction-related effects would be similar regardless of their locations within or outside census tracts that contain minority/low-income communities.

[32] A review of 2010 Census data tables indicates minority population data and low-income population data for the Study Area is relatively unchanged between 2000 and 2010.

Delta Diablo Sanitation District

Marina Walk Park
Los Medanos Energy Center
United Spiral Pipe
Parkside Elementary
Pittsburg HS
Kirker Creek Crossing (See Figure 2-7)
Waste Recycle Center & Transfer Station (WRC&TS)
Proposed Storage Tank Location (See Figure 2-4)
Existing RWF
Existing WWTF
Delta Energy Center
DOW Wetlands
Rancho Medanos Junior High
Antioch Historical Society
Prosserville Park
Antioch Little League
Babe Ruth Fields
Contra Costa County
Antioch Fairgrounds
Caltrans at Hwy 4
Memorial Park
Sutter Elementary
Delta View Golf Course
Contra Loma Reservoir
Antioch Municipal Reservoir

Browns Island
New York Slough
Winter Island
Pittsburg
Antioch

0 0.25 0.5 1
Miles
N

Figure 3-6: Environmental Justice Sensitive Areas (Near-Term Project)

- Disadvantage Communities (DACs)
- Minority Communities

Recycled Water Customers
- Existing
- Proposed

Pipeline
- Existing
- Proposed
- Rehabilitated (2 Parallel Lines)

Tank
- Potential Tank Sites

Note: Based on 2010 Census Data. DAC defined as a block group with a median household income (MHI) of less than $48,706 (80% of the Statewide MHI)

RMC Water and Environment

\\rmcla\RMC\LA\Projects GIS\0013-025\MXDs\Fig 3-6 Env Justice Near Term.mxd

Sources:2010 US Census Data, Bay Area Census.ca.gov

Delta Diablo Sanitation District

0 0.25 0.5 1
Miles
N

Genon - Willow Pass Generating Station
Los Medanos Energy Center
United Spiral Pipe
K2 Pure Solutions
Browns Island
Winter Island
New York Slough
Existing RWF
Point Demand Loveridge Corridor
Pittsburg
Delta Energy Center
Existing WWTF
Product Water Line
Pittsburg
Delta View Golf Course
Praxair
Point Demand - Los Medanos College & Other Customers
Point Demand - East of A St
PG&E Gateway Generation Station
Genon - Marsh Landing Generating Station
Contra Costa County
Oakley
Antioch
Antioch Municipal Reservoir
Contra Loma Reservoir
Lone Tree Golf Course

Figure 3-7: Environmental Sensitive Areas (Buildout Projects)

- Disadvantage Communities (DACs)
- Minority Communities

Recycled Water Customers

- Existing
- Buildout

Pipeline

- Existing
- Buildout
- Rehabilitated (2 Parallel Lines)

RMC Water and Environment

Note: Based on 2010 Census Data. DAC defined as a block group with a median household income (MHI) of less than $48,706 (80% of the Statewide MHI)

\\rmcla\RMCLA\Projects GIS\0013-025\MXDs\Fig 3-7 Env Justice - Build Out.mxd

Sources:2010 US Census Data, Bay Area Census.ca.gov

With respect to operation, proposed pipelines would not generate any significant long-term impacts (*e.g.*, dust, traffic, noise, or aesthetic impacts) because they would be buried underground. The incremental long-term impact on adjacent land uses would be the low-level risk of an accidental pipe breakage with minor flooding and traffic disruption and routine maintenance activities. The proposed above-ground structures would be situated in industrial areas away from residential uses and would not generate any significant land use impacts.

Based on the reasons described above, there is no reason to expect that minority or low-income populations would be affected disproportionately by construction and operation of the proposed Project/Action. Thus, impacts are considered less than significant.

3.22 Indian Trust Assets

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the Project:				
a) Have a potential to affect Indian Trust Assets?	☐	☐	☐	☒

Setting/Affected Environment

Indian trust assets (ITAs) are legal interests in assets that are held in trust by the U.S. Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, EO, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of federally recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" are defined as a property interest for which there is a legal remedy, such as compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something. Indian trust assets cannot be sold, leased or otherwise alienated without United States' approval. Trust assets may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, Indian trust assets may be located off trust land.

Reclamation shares Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain Indian Trust assets reserved by or granted to Indian tribes, or Indian individuals by treaty, statute, or Executive Order.

Impacts/Environmental Consequences

The proposed action does not have a potential to affect Indian Trust Assets. The nearest ITA is Lytton Rancheria located approximately 23 miles west/southwest of the proposed Project/Action area (Rivera, 2012).

3.23 Mandatory Findings of Significance

	Potentially Significant Impact	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or				

animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the Project have impacts that are individually limited, but cumulative considerable? ("Cumulative considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion

Impacts/Environmental Consequences

a) *Near-Term and Buildout Projects*

The proposed Project/Action area is located within a developed urban area, covered primarily by existing roads, sidewalks, and surrounded by residential/commercial/industrial uses. Some biological resources are located in the vicinity of the proposed Project/Action area. During construction activities and operation, with the implementation of the mitigation measures identified in this document, the proposed Project/Action would not have the potential to adversely affect the environmental resources in the vicinity of the proposed Project/Action. Thus, the proposed Project/Action would not degrade the quality of the environment, or affect any habitat, wildlife population or plant communities. Project implementation would increase water recycling, which would reduce dependence on Delta supplies as well as reduce wastewater discharges into the Delta. In addition, Project implementation would not eliminate important examples of major periods of California's history or prehistory. No impacts are expected, and no mitigation is required.

Near-Term Project

The CEQA Guidelines define cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or increase in environmental impacts. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the proposed Project/Action when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (Guidelines, Section 15355(a)(b)).

A number of projects are currently under environmental review in the cities of Pittsburg and Antioch. While many of these cumulative projects are in the same region as the proposed Project/Action, most are outside the Project/Action vicinity. Major cumulative projects within 0.5 miles of the proposed Project/Action include the following:

- WesPac Pittsburg Energy Infrastructure Project: WesPac Energy–Pittsburg LLC proposes to modernize and reactivate an existing oil storage and transfer facility located at the

Genon Delta, LLC, Pittsburg Generating Station located at 696 West 10th Street, in Pittsburg. The western section of the proposed Buildout Project pipeline would be located within the WestPac Project area, adjacent to the proposed terminal and tanks. As specified in the EIR (published in June 2012) for the WestPac Project, the construction is scheduled to begin in January 2013 to meet an in-service date of March 2014.

- City of Pittsburg Black Diamond Redevelopment Project: This project is a downtown revitalization Project. It consists of a mixed-use development of residential and retail uses, located between Black Diamond Street and Railroad Avenue, and Fifth Street and Eighth Street.

Cumulative projects would result in a variety of construction-related impacts, including increase in dust, noise, traffic, potential for erosion and hazardous material contamination, and degradation of nearby waterways. The geographical context of these environmental resource issues is localized, but would expand to the region if appropriate mitigation measures are not implemented to contain site-specific impacts (*e.g.*, localized erosion could cause downstream water quality degradation). It is possible that cumulative projects, without mitigation measures, would result in significant, cumulative impacts to the environment. However, the proposed Project/Action would require mitigation measures that would reduce impacts to less than significant. The implementation of mitigation measures identified throughout this report would ensure that the Project/Action's contribution to cumulative impacts would not be cumulatively considerable. The proposed Project/Action's contribution to construction-related cumulative impacts would be further reduced by the short-term duration of the proposed construction activities. Thus, implementation of the proposed Project/Action in combination with other past, current or reasonably foreseeable projects within the proposed Project/Action vicinity is not expected to result in cumulatively considerable impacts. None of the environmental impacts identified in this joint document are substantial, and the proposed Project/Action would not cause any incremental impacts to become substantial. Therefore, the proposed Project/Action would not contribute to cumulatively considerable impacts.

Operation of the proposed Project/Action would not result in any long-term land use effects, and as such it would not contribute to any cumulative impacts that are common for development projects. As such, no cumulative impacts would occur.

a) *Near-Term and Buildout Projects*

Construction activities associated with the proposed Project/Action have the potential to result in impacts on air quality, hazards and hazardous materials, hydrology and water quality, noise, recreation, and transportation/traffic that could affect human beings. However, with implementation of mitigation measures prescribed above in the individual resource areas, all potentially significant project-related impacts would be less than significant.

This page intentionally left blank

Chapter 4 Consultation and Coordination

4.1 Summary of Public Involvement

This document is a joint CEQA Initial Study/Mitigated Negative Declaration (IS/MND) and NEPA Environmental Assessment (EA). DDSD will conduct public outreach during the environmental review process, as required by CEQA. Notices of Intent to Adopt a Mitigated Negative Declaration (MND) will be published, and a public meeting will be held by the DDSD Board of directors to consider adoption of the IS/MND. The combined Initial Study/Environmental Assessment (IS/EA) will be posted on Reclamation's website and will be available for review for 30 days.

4.2 IS/EA Document Distribution

The CEQA public review period will start with publication of this document and will end after 30 days. The NEPA public review period is expected to coincide with the CEQA public review period. DDSD will publish notices and will submit the IS/MND to the State Clearinghouse.

4.3 Final MND/NOD

DDSD will consider adoption of the MND at a regular meeting of the Board of Directors. Meetings occur monthly, on the second Wednesday of the month. The date for consideration of adoption of the IS/MND has not yet been determined.

4.4 Public Meetings

As noted above, DDSD will consider adoption of the IS/MND at a regular Board meeting. The public will have the opportunity to provide comments at that meeting.

4.5 Compliance with Federal Statutes and Regulations

This section descries the status of compliance with relevant federal laws, executive orders, and policies, and the consultation that has occurred to date or will occur in the near future. Most of these regulations involve ongoing compliance, which would occur in coordination with preparation of the IS/EA.

Federal Endangered Species Act

Section 7 of the Federal Endangered Species Act (FESA) requires federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species. Under Section 7, a project that could result in incidental take of a listed threatened or endangered species must consult with the United States Fish and Wildlife Service (USFWS) to obtain a Biological Opinion (BO). If the BO finds that the project could jeopardize the existence of a listed species ("jeopardy opinion"), the agency cannot authorize the project until it is modified to obtain a "nonjeopardy" opinion.

As described in Section 3.7, Biological Resources, a BA was prepared for the Near-Term Project (ICFI 2013a). The BA determined that while there are a number of sensitive species in the general vicinity, only three federally-listed species have the potential to occur in the proposed Project/Action area and could be affected by the proposed Project/Action. Conservation measures identified in the BA have been included as mitigation measures in this joint document to reduce potentially significant impacts on the three species to less than significant levels. On March 28, 2013, Reclamation sent the BA to USFWS requesting concurrence that the project may affect, but is not likely to adversely affect, the California tiger salamander, the California red-legged frog, and the giant garter snake. On May 16, 2013, USFWS concurred with Reclamation's determination.

Federal Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and Executive Order 13168

The Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act prohibit the take of migratory birds (or any part, nest, or eggs of any such bird) and the take and commerce of eagles. Executive Order (EO) 13168 requires that any project with federal involvement address impacts of federal actions of migratory birds. No impacts migratory birds and other protected birds and their nests are anticipated by this Project, as no trees would be removed (see Section 3.7, Biological Resources). As such, the lead agency would be in compliance with this Act.

National Historic Preservation Act

The purpose of this act is to protect, preserve, rehabilitate, or restore significant historical, archeological, and cultural resources. Section 106 requires Federal agencies to take into account effects on historic properties. Once an undertaking has been established, the Section 106 review involves a step-by-step procedure described in detail in the implementing regulations (36 CFR Part 800). As described in Section 3.8, Cultural Resources, a cultural resource inventory of the proposed Project/Action area was conducted (ICFI 2013b). This inventory does not include elements that provide a full Section 106 evaluation. The full Section 106 compliance is anticipated during the design phase. Once complete, the cultural resources report will be submitted to Reclamation for initiation of the consultation process with SHPO. Completion of the cultural resources report and concurrence by SHPO would ensure compliance with the NHPA.

Executive Order 11988 – Floodplain Management and Executive Order 11990 – Protection of Wetlands

EO 11988 requires federal agencies to recognize the values of floodplains and to consider the public benefits from restoring and preserving floodplains. Under EO 11990, federal agencies must avoid affecting wetlands unless it is determines that no practicable alternative is available. Section 3.12, Hydrology and Water Quality, discusses proposed facilities relative to the 100-year flood zones. Portions of the proposed facilities would be located in 100-year flood plains; however, their placement would occur within existing developed areas and would not exacerbate flooding or create additional risks to the environment or the public. Section 3.7, Biological Resources, describes impacts on wetlands. As discussed, no work would occur within creek or canal channels; thus, there would be no loss of riparian habitat or waters of the U.S. from proposed activities. As such, the lead agency would be in compliance with these EOs.

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) requires a federal agency to consider the effects of its actions and programs on the nation's farmlands. The FPPA is intended to minimize the impact of federal programs with respect to the conversion of farmland to nonagricultural uses. It assures that, to the extent possible, federal programs are administered to be compatible with state, local, and private programs and policies to protect farmland. The proposed Project/Action would be located entirely within urban areas and would not occur within any designated important farmlands. As such, the lead agency would be in compliance with this Act.

Executive Order on Trails for America in the 21st Century

The EO on Trails for America requires federal agencies to protect, connect, promote, and assist trails of all types throughout the United States. The Delta de Anza Regional Trail is located adjacent to one of the Near-Term Project components. With implementation of the mitigation measure identified in this document, no adverse effects on the trail would occur.

Clean Air Act

U.S. Congress adopted general conformity requirements as part of the Clean Air Act (CAA) Amendments in 1990 and the USEPA implemented those requirements in 1993 (Sec. 176 of the CAA (42 U.S.C. § 7506) and 40 CFR Part 93, Subpart B). General conformity requires that all federal actions "conform" with the SIP as approved or promulgated by USEPA. The purpose of the general conformity program is to ensure that actions taken by the federal government do not undermine state or local efforts to achieve and maintain the national ambient air quality standards. Before a federal action is taken, it must be evaluated for conformity with the SIP. All "reasonably foreseeable" emissions predicted to result from the action are taken into consideration. These include direct and indirect emissions, and must be identified as to location and quantity. If it is found that the action would create emissions above de minimis threshold levels specified in USEPA regulations (40 CFR § 93.153(b)), or if the activity is considered "regionally significant" because its emissions exceed 10 percent of an area's total emissions, the action cannot proceed unless mitigation measures are specified that would bring the proposed Project/Action into conformance.

As described in Section 3.6, Air Quality, the proposed Project/Action's potential emissions are below minimum thresholds and are well below 10 percent of the area's inventory specified for each criteria pollutant designated non-attainment or maintenance for the Bay Area. As such, the lead agency is in compliance with this Act.

Executive Order 13007 - Indian Sacred Sites

Sacred sites are defined in Executive Order 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site." The proposed Project/Action would not be located on or impact any Federal lands and therefore would not affect any Indian sacred sites.

This page intentionally left blank

Chapter 5 Report Preparation

5.1 Report Authors

This report was prepared by DDSD, USBR, and RMC Water and Environment (RMC). Staff from these agencies and companies that were involved include:

DDSD
- Dean Eckerson
- Thanh Vo

USBR
- Doug Kleinsmith
- David White
- William Soule

RMC Water and Environment
- Suet Chau
- Robin Cort
- Matt Hoeft
- Eric Wang
- Miluska Propersi
- Christy Kennedy

5.2 References Cited

Association of Bay Area Governments. 2005. Dam Failure Inundation Hazard Map for Antioch. [Available at: http://www.abag.ca.gov/cgi-bin/pickdamx.pl]

ABAG, 2003. Association of Bay Area Governments. Earthquake Shaking Potential Map. Accessed on January 28, 2013. [Available at: http://gis.abag.ca.gov/website/ShakingPotential/index.html]

ABAG, USGS 2006. Association of Bay Area Governments. Earthquake Liquefaction Susceptibility Map (summarized from source: USGS Open-file Reports 00-444 and 2006-1037). Accessed on January 28, 2013. [Available at: http://quake.abag.ca.gov/liquefaction/]

ABAG, USGS 1997. Association of Bay Area Governments. Summary Distribution of Slides and Earth Flows in the San Francisco Bay Region (summarized from source: USGS Open-file Reports 97-745C). Accessed on January 28, 2013. [Available at: http://gis.abag.ca.gov/website/LandslideDistribution/index.html, and http://pubs.usgs.gov/of/1997/of97-745/sfbr-sef-dbdesc.pdf]

Bay Area Air Quality Management District (BAAQMD). 1999. BAAQMD CEQA Guidelines. [Available at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Plans/CEQA%20Guide/ceqa_guide.ashx]

BAAQMD. 2006. Bay Area 2005 Ozone Strategy. January 4. [Available at: http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Bay-Area-Ozone-Strategy/2005-Bay-Area-Ozone-Strategy.aspx]

BAAQMD. 2008. Source Inventory of Bay Area Greenhouse Gases. December. [Available at: http://www.mtc.ca.gov/planning/climate/Bay_Area_Greenhouse_Gas_Emissions_12-08.pdf]

BAAQMD. 2009. BAAQMD CEQA Guidelines, Proposed Thresholds of Significance. December 7. [Available at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/Proposed%20Thresholds%20of%20Significance%20Dec%207%2009.ashx]

Bay Area Air Quality Management District. 2010. Bay Area 2010 Clean Air Plan. [Available at: http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Clean-Air-Plans.aspx]

BAAQMD. 2012. CEQA Air Quality Guidelines. [Available at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en]

California Air Resources Board (CARB). 2007. Urban Emissions 2007 model, Version 9.2.4.

CARB. 2008. Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act – Preliminary Staff Proposal, October 24, 2008.

California Department of Water Resources. 2003. Bulletin 118.

California Energy Commission. 2005. California's Water - Energy Relationship - Final Staff Report, Figure 2-4: State Water Project Pumping Energy, November 2005.

California Geological Survey (CGS). 2012. California Geological Survey, October 26, 2012. Seismic Hazard Zonation Program, Seismic Hazards Zone Map for liquefaction and landslide hazard. Accessed on January 29, 2013. [Available at: http://gis.abag.ca.gov/website/LiquefactionCGS/index.html]

CGS, 2010. California Geological Survey, December 2010. Alquist-Priolo Earthquake Fault Zone Maps. Accessed January 28, 2013. [Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm]

City of Antioch. 2004. City of Antioch General Plan – Proposed General Plan Land Use. March 4. [Available at: http://www.ci.antioch.ca.us/citygov/commdev/planningdivision/docs/Antioch_Adopted_General_Plan.pdf]

City of Antioch. 2003. Draft General Plan Update – Environmental Impact Report. July. [Available at: http://www.ci.antioch.ca.us/CityGov/CommDev/PlanningDivision/docs/Draft-General-Plan-EIR.pdf]

City of Antioch. 2003. City of Antioch General Plan – Environmental Hazards. November 24.

City of Antioch. NA. Parks Directory - Public Works Department. [Available at: http://www.ci.antioch.ca.us/citygov/publicworks/parks/]

City of Antioch. 2012. Interactive Map. Accessed in 2012. [Available at: http://www.antiochprospector.com/ed.asp?cmd=identify&maxx=6176487.04879506&minx=6171424.54879506&miny=2194088.15364082&maxy=2197288.15364082&vis=aer1,par4,parks1,water1,zoning1,&nvis=buildfoot1,businesscenters1,colleges,facilities1,fire1,generalplan1,golf1,hospitals1,melloroos1,rail1,redevelopment1,school1,shopping1,subdivisions1,hike1,zipcode1,&p=3&t=1&x1=6173955.79879506&y1=2195688.15364082&label=073230043&city=&zipcode=&thetype=&minsize=0&maxsize=999999999999999&units=&selid=&report=&distance=&s=1270&sic=&parcel=073230043&address=&forsale=no&forlease=no&k=0&dtype=&citywide=&x2=&y2=&busadd=&state=identify&X=6174618.29879506&Y=2195627.27559204]

City of Antioch. 2011. Municipal Climate Action Plan (MCAP). [Available at: http://www.antiochclimateaction.org/Antioch%20MCAP-FINAL%20DRAFT.pdf]

City of Pittsburg. 2012. Climate Change Action Plan. June 2008. Available: [Available at: http://www.city.pittsburgh.pa.us/district8/assets/08_pgh_climate_action_plan.pdf]

City of Pittsburg. 2005. Greenhouse Gas Inventory. [Available at: http://www.ci.pittsburg.ca.us/index.aspx?page=436]

City of Pittsburg. 2011. City of Pittsburg General Plan – General Plan Diagram. December. [Available at: http://www.ci.pittsburg.ca.us/Modules/ShowDocument.aspx?documentid=4675]

City of Pittsburg. 2010. Zoning Map. June. [Available at: http://www.ci.pittsburg.ca.us/Modules/ShowDocument.aspx?documentid=3732]

City of Pittsburg. 2012. Pittsburg Municipal Code - Title 18. Zoning, October 15.

City of Pittsburg. 2001. Pittsburg General Plan Environmental Impact Report. January. [Available at:// http://www.ci.pittsburg.ca.us/Modules/ShowDocument.aspx?documentid=4120]

City of Pittsburg. 2009. Parks at a Glance. [Available at: http://www.ci.pittsburg.ca.us/index.aspx?page=440]

City of Pittsburg. 2012. WesPac Pittsburg Energy Infrastructure Project Draft Environmental Impact Report. June. [Available at: http://www.ci.pittsburg.ca.us/index.aspx?page=700]

City of Pittsburg. 2007. Black Diamond Redevelopment Project. Draft Supplemental Environmental Impact Report Black Diamond Redevelopment Project. February. [Available at: http://www.ci.pittsburg.ca.us/Modules/ShowDocument.aspx?documentid=1370]

Contra Costa County. 2005. Contra Costa County General Plan. [Available at: http://www.co.contracosta.ca.us/depart/cd/current/advance/GeneralPlan.htm]

Contra Costa County Community Development Department. 2008. General Plan Land Use Element. March 24.

Contra Costa Health Services. 2010. Hazardous Materials Incident Notification Policy. Revised in February. [Available at: http://cchealth.org/hazmat/pdf/incident_notification_policy.pdf]

Department of Toxic Substances Control. 2012. Hazardous Waste And Substances Site List. [available at: http://www.envirostor.dtsc.ca.gov/public/search.asp?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST]

East Bay Regional Park District. 2012. Delta de Anza Regional Trail. [Available at: http://www.ebparks.org/parks/trails/delta_deanza]

East Contra Costa County Habitat Conservation Plan Association. 2006. Final East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan. October. [Available at: http://www.co.contra-costa.ca.us/depart/cd/water/HCP/archive/final-hcp-rev/pdfs/cover_vol1.pdf]

Eastern Contra Costa Transit Authority (Tri Delta Transit). Systems Map. [Available at: http://www.trideltatransit.com/local_bus.aspx]

Federal Highway Administration (FHWA) 2013, Construction Equipment Noise Levels and Ranges – Handbook – Construction Noise.

ICF International. 2012a. Biological Assessment - Recycled Water System Expansion Project. March 2013.

ICF International. 2012b. Cultural Resources Inventory Report for the Recycled Water System Expansion Project, Antioch, California. March 2013

Local Government Operations Protocol. 2008. Table G.5 - Utility specific Verified Electricity CO2 Emission Factors. Contributors included the California Climate Action Registry, California Air Resources Board, ICLEI Local Governments for Sustainability, and The Climate Registry. September 2008.

Natural Resource Conservation Service (NRCS), 2012. Natural Resource Conservation Service, Soil Survey Area: Sacramento County, California; Survey Area Data: Version 11, March 19, 2012. Accessed on January 28, 2013. [Available: http://websoilsurvey.nrcs.usda.gov]

NRCS, 2008. Natural Resource Conservation Service, Soil Survey Area: Contra Costa County, California; Survey Area Data: Version 8, July 22, 2008. Accessed on January 28, 2013. [Available: http://websoilsurvey.nrcs.usda.gov]

San Francisco Bay Regional Water Quality Control Board. 2011. San Francisco Bay Region (Region 2) Water Quality Control Plan (Basin Plan). Administrative Law as of December 31. [Available at: http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/docs/BP_all_chapters.pdf]

SCAQMD 2012. Roadway Construction Emissions Model, Version 7.1.2. [Available at: http://www.airquality.org/ceqa/index.shtml]

SFRWQCB. 2011. The Water Quality Control Plan Water Quality Control Plan Central Valley Region Fourth Edition – The Sacramento River Basin and the San Joaquin River Basin. Revised October. [Available at: http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/index.shtml]

State Water Resources Control Board (SWRCB). 2004. Incidental Runoff of Recycled Water. February 24. [Available at http://cccwonline.com/SWRCB.pdf]

SWRCB. 2009. Water Quality Order No. 2009-0006-DWQ. General Waste Discharge Requirements for Landscape Irrigation Uses of Municipal Recycled Water. [Available at: http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/docs/wqo_2009_0006_general_permit.pdf]

SWRCB. 2009. General Waste Discharge Requirements for Landscape Irrigation Uses of Municipal Recycled Water – Mitigated Negative Declaration. July 7. [Available at: http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/docs/mitigated_negative_dec.pdf]

SWRCB. 2010. California 2010 303(3) Combined List Table

USFWS. No date. Antioch Dunes National Wildlife Refuge. [Available at: http://www.fws.gov/refuges/profiles/index.cfm?id=81646]

Appendix A - Air Quality Analysis Model Results

Road Construction Emissions Model, Version 7.1.2

Emission Estimates for -> Escondido RW Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	3.2	13.9	36.1	2.6	1.6	1.0	1.6	1.4	0.2	3,006.4
Grading/Excavation	4.0	19.1	46.8	3.1	2.1	1.0	2.1	1.9	0.2	4,195.6
Drainage/Utilities/Sub-Grade	3.6	15.2	37.9	2.9	1.9	1.0	2.0	1.7	0.2	3,144.8
Paving	1.5	9.1	14.0	0.8	0.8	-	0.7	0.7	-	1,535.6
Maximum (pounds/day)	4.0	19.1	46.8	3.1	2.1	1.0	2.1	1.9	0.2	4,195.6
Total (tons/construction project)	0.1	0.6	1.5	0.1	0.1	0.0	0.1	0.1	0.0	131.5

Notes:

Project Start Year ->	2013
Project Length (months) ->	4
Total Project Area (acres) ->	5
Maximum Area Disturbed/Day (acres) ->	0
Total Soil Imported/Exported (yd^3/day)->	39

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Escondido RW Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	1.4	6.3	16.4	1.2	0.7	0.5	0.7	0.6	0.1	1,366.6
Grading/Excavation	1.8	8.7	21.3	1.4	0.9	0.5	0.9	0.9	0.1	1,907.1
Drainage/Utilities/Sub-Grade	1.6	6.9	17.2	1.3	0.9	0.5	0.9	0.8	0.1	1,429.5
Paving	0.7	4.1	6.3	0.4	0.4	-	0.3	0.3	-	698.0
Maximum (kilograms/day)	1.8	8.7	21.3	1.4	0.9	0.5	0.9	0.9	0.1	1,907.1
Total (megagrams/construction project)	0.1	0.6	1.3	0.1	0.1	0.0	0.1	0.1	0.0	119.3

Notes:

Project Start Year ->	2013
Project Length (months) ->	4
Total Project Area (hectares) ->	2
Maximum Area Disturbed/Day (hectares) ->	0
Total Soil Imported/Exported (meters^3/day)->	30

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

2/3/2013 11:21:40 PM

Urbemis 2007 Version 9.2.4

Summary Report for Annual Emissions (Tons/Year)

File Name: C:\Urbemis\DDSD Storage Tank 20121210.urb924

Project Name: DDSD RW Tank

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (tons/year unmitigated)	0.08	0.61	0.44	0.00	0.06	0.03	0.10	0.01	0.03	0.04	85.70
2013 TOTALS (tons/year mitigated)	0.08	0.55	0.44	0.00	0.06	0.02	0.09	0.01	0.02	0.04	85.70
Percent Reduction	0.00	9.77	0.00	0.00	0.00	25.03	8.49	0.00	25.06	17.32	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)							

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.00	0.00	0.02	0.00	0.00	0.00	2.48

2/3/2013 11:21:40 PM

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.00	0.00	0.02	0.00	0.00	0.00	2.48

2/3/2013 11:21:17 PM

Urbemis 2007 Version 9.2.4

Summary Report for Winter Emissions (Pounds/Day)

File Name: C:\Urbemis\DDSD Storage Tank 20121210.urb924

Project Name: DDSD RW Tank

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (lbs/day unmitigated)	2.62	21.25	12.22	0.00	5.01	1.01	6.02	1.05	0.93	1.98	2,478.24
2013 TOTALS (lbs/day mitigated)	2.62	21.25	12.22	0.00	5.01	1.01	6.02	1.05	0.93	1.98	2,478.24

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)							

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.01	0.02	0.13	0.00	0.03	0.00	12.29

2/3/2013 11:21:17 PM

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.01	0.02	0.13	0.00	0.03	0.00	12.29

Appendix B - GHG Emissions Estimate for the Buildout Project

Technical Memorandum

Subject: **Estimating GHG Emission from Construction of DDSD Buildout Project**

Prepared For: Delta Diablo Sanitation District

Prepared by: Eric Wang

Reviewed by: Suet Chau

Date: February 13, 2013

1 Background and General Assumptions

Delta Diablo Sanitation District (DDSD) is assessing the potential climate change impact from their recycled water system expansion project. Greenhouse gas (GHG) emissions from construction activities of the Near-Term Project have been quantified as part of the General Conformity Air Quality Analysis. Because of the the conceptual and speculative nature of the Buildout Project, such an analysis was not completed for the Buildout Project. This TM addresses construction GHG emissions from the Buildout Project by correlating the sizes of its components to those of the Near-Term Project. This method provides for a conservative estimate.

2 Methodology and Result

GHG Emissions from Construction of Pipeline.

Given: Near-Term Pipeline Construction GHG emission: 131.5 MT CO2e/year
Near-Term Pipeline Length: 10,510 LF of installation and rehabilitation
Unit emissions per LF: 131.5 MT CO2e/year/10,510 LF = 0.0125

Buildout Pipeline Length: 85,500 LF of installation and rehabilitation
Assuming construction emissions is proportional with pipe length
Maximum construction rate is 200 LF/day, 5 working days per week
Annual working days = 5 x 52 = 260 days
Construction period: 85,500 LF/200LF/day = 428 days > 260 days
Maximum Annual install/rehab = 260 days x 200 LF/day = 52,000 LF
Emission Estimate: 0.0125 x 52,000 LF
= **650 MT CO2e/year**

GHG Emissions from Construction of Pump Station.

Given: Near-Term Storage Tank Construction GHG emission: 85.7 MT CO2e/year
Near-Term Storage Tank disturbed acreage: 1 Acre
Buildout Pump Station disturbed acreage: 1 Acre
Assuming emission from construction is proportional to disturbed acreage
Result: Emission Estimate: **86 MT CO2e/year**

GHG Emissions from Construction of the tertiary treatment train and the HPWTF.

Given: Near-Term Storage Tank Construction GHG emission: 85.7 MT CO2e/year
Near-Term Storage Tank disturbed acreage: 1 acre
Buildout HPWTF disturbed acreage: 4 acres
Assuming emission from construction is proportional to disturbed acreage

Result: Emission Estimate: 85.7 MT CO2e/year x 4 = **343 MT CO2e/year**

Total GHG Emissions from Buildout Project Construction: 1080 MT CO2e/year

Appendix C - Hazardous Materials Database Search Results

DDSD Recycled Water Project - Geotracker Database Search Results

GEOTRACKER ID	PROJECT	SITE NAME	CLEANUP STATUS	ADDRESS	CITY	LATITUDE	LONGITUDE
T0601300155	Buildout	JOSE'S SERVICE STATION	COMPLETED - CASE CLOSED	394 10TH ST W	PITTSBURG	38.0294257	-121.8913149
T0601300320	Buildout	UNION CARBIDE CORP	COMPLETED - CASE CLOSED	2000 LOVERIDGE RD	PITTSBURG	38.014486	-121.864448
T0601300344	Buildout	US STEEL POSCO INDUSTRIES	COMPLETED - CASE CLOSED	900 LOVERIDGE RD	PITTSBURG	38.0206813	-121.8567426
T0601300425	Buildout	TRENCH PLATE 2	COMPLETED - CASE CLOSED	522 10TH ST W	PITTSBURG	38.029869	-121.89457
T0601300441	Buildout	PITTSBURG ST RDEVELOPMENT #3	COMPLETED - CASE CLOSED	1300 RAILROAD AVE	PITTSBURG	38.02296404	-121.886758
T0601300477	Buildout	CATALINE BUILT HOMES INC	COMPLETED - CASE CLOSED	1050 LOS MEDANOS ST	PITTSBURG	38.0270501	-121.8832143
T0601300530	Buildout	FAULTLESS CLEANERS	COMPLETED - CASE CLOSED	427 10TH ST E	PITTSBURG	38.027094	-121.88068
T0601300589	Buildout	BANISTER ELECTRIC	COMPLETED - CASE CLOSED	498 10TH ST	PITTSBURG	38.0294469	-121.8935439
T0601300794	Buildout	ANTIOCH PAVING COMPANY	COMPLETED - CASE CLOSED	2540 WILBUR AVE	ANTIOCH	38.0116749	-121.771962
T0601359176	Buildout	CITY OF PITTSBURG	COMPLETED - CASE CLOSED	985 RAILROAD AVE	PITTSBURG	38.028043	-121.8849151
SL20208826	Buildout	US STEEL POSCO - PITTSBURG	OPEN - INACTIVE	900 LOVERIDGE ROAD	PITTSBURG	38.01295	-121.862456
SLT2O207310	Buildout	MEXICO AUTO WRECKERS	OPEN - INACTIVE	610 10TH ST W	PITTSBURG	38.029437	-121.89353
SL0601314468	Buildout	GAYLORD CONTAINER CORPORATION-EAST MILL	OPEN - REMEDIATION	2603 WILBUR AVE	ANTIOCH	38.014833	-121.77047
T0601300541	Buildout	BELL GAS	OPEN -	998 RAILROAD	PITTSBURG	38.02823494	-121.885275

			REMEDIATION	AVE			
T0601382732	Buildout	REDDING PETROLEUM	OPEN - REMEDIATION	1001 RAILROAD AVENUE	PITTSBURG	38.027526	-121.8849338
T0601300347	Buildout	USS INDUSTRIAL PARK SITE #2	OPEN - SITE ASSESSMENT	1101 LOVERIDGE RD	PITTSBURG	38.0225	-121.8547
T0601341681	Buildout	A STREET EXTENSION	OPEN - VERIFICATION MONITORING	A STREET EXTENSION	ANTIOCH	38.015655	-121.8078304
T0601300788	Buildout-rehab pipe	PROSPECTS	COMPLETED - CASE CLOSED	820 2ND ST	ANTIOCH	38.01702695	-121.8173656
SLT5SOO33597	Buildout-rehab pipe	ANCHOR GLASS	OPEN	1400 WEST 4TH STREET	ANTIOCH	38.015531	-121.811412
SL186423613	Buildout-rehab pipe	HICKMONT CANNERY (FORMER)	OPEN - INACTIVE	999 B ST	ANTIOCH	38.015858	-121.806506
SLT2O209312	Buildout-rehab pipe	GWF POWER SYSTEMS INC	OPEN - INACTIVE	UNKNOWN 3RD ST E	PITTSBURG	38.0140182	-121.8913753
T0601300776	Buildout-rehab pipe	HICKMOTT CANNERY (FORMER)	OPEN - VERIFICATION MONITORING	5TH & B ST	ANTIOCH	38.015858	-121.806506
SL0601301206	Near-Term	1810 W. 10TH STREET	COMPLETED - CASE CLOSED	1810 W. 10TH STREET	ANTIOCH	38.013084	-121.829887
SL0601397790	Near-Term	695 EAST THIRD STREET	COMPLETED - CASE CLOSED	695 EAST THIRD STREET	PITTSBURG	38.032237	-121.874421
SL18301721	Near-Term	ACME STEEL PROPERTY	COMPLETED - CASE CLOSED	855 NORTH PARKSIDE DR	PITTSBURG	38.02502196	-121.9005203
T0601300607	Near-Term	PITTSBURG GOLF COURSE	COMPLETED - CASE CLOSED	2222 GOLF CLUB DR	PITTSBURG	38.010741	-121.911024
T0601300769	Near-Term	AL EAMES FORD	COMPLETED - CASE CLOSED	1400 10TH ST W	ANTIOCH	38.0116	-121.82395
T0601300774	Near-Term	SHELL	COMPLETED - CASE CLOSED	2838 LONE TREE WY	ANTIOCH	37.993946	-121.808214

T0601300795	Near-Term	DELTA DODGE	COMPLETED - CASE CLOSED	1725 10TH ST W	ANTIOCH	38.0111683	-121.8247697
T0601306725	Near-Term	SHELL SERVICE STATION CASE #2	COMPLETED - CASE CLOSED	2838 LONE TREE	ANTIOCH	37.99391333	-121.8081533
SLT2O208311	Near-Term	MANVILLE SALES CORP	OPEN - INACTIVE	UNKNOWN 3RD & HARBOR ST	PITTSBURG	38.0318843	-121.8770027
T0601300782	Near-Term	CHEVRON #9-4585	OPEN - REMEDIATION	2413 A ST	ANTIOCH	38.0000886	-121.8058588
T0601359797	Near-Term	OLYMPIAN TEXACO STATION	OPEN - REMEDIATION	2310 A STREET	ANTIOCH	38.00021339	-121.8061272
T0601391420	Near-Term	PETRO EXPRESS	OPEN - REMEDIATION	1800 10TH ST W	ANTIOCH	38.012637	-121.82974
SL0601387949	Near-Term	KOCH CARBON BAY AREA BULK TERMINAL	OPEN - VERIFICATION MONITORING	707 E. 3RD. ST.	PITTSBURG	38.031444	-121.8721
T0601300669	Near-Term & Buildout	GLENN MARTELL & SON	COMPLETED - CASE CLOSED	1818 LOVERIDGE RD	PITTSBURG	38.01491	-121.860445
SLT2O214316	Near-Term & Buildout	FORMER SHELL SERVICE STATION	OPEN - INACTIVE	2980 WILLOW PASS ROAD	PITTSBURG	38.01848	-121.858313
T0601300432	Near-Term & Buildout	USS INDUSTRIAL PARK	OPEN - SITE ASSESSMENT	1501 LOVERIDGE RD	PITTSBURG	38.0153	-121.8587
SLT2O210313	Near-Term & Buildout	FORMER CROWN CORK AND SEAL COMPANY, INC	OPEN - VERIFICATION MONITORING	1300 LOVERIDGE ROAD	PITTSBURG	38.01848	-121.858313

DDSD Recycled Water Project - Envirostor Database Search Results

ENVIROSTOR ID	Term	PROJECT NAME	STATUS	PROJECT TYPE	ADDRESS	CITY
CAT000624809	Near-Term and Buildout	CROWN CORK & SEAL CO INC	RCRA	Non-Operating	1300 LOVERIDGE ROAD	PITTSBURG
CAD000626572	Near-Term and Buildout	KEMWATER NORTH AMERICA	RCRA	Non-Operating	LOVERIDGE ROAD & PITTS-ANT HGY	PITTSBURG
CAD076528678	Long-Term	THE DOW CHEMICAL COMPANY	RCRA	Operating	901 LOVERIDGE RD	PITTSBURG
CAD009150194	Long-Term	USS-POSCO INDUSTRIES	RCRA, State Only	Post Closure	900 LOVERIDGE RD	PITTSBURG
80001830	Long-Term	Contra Costa Power Plant	Active	Corrective Action	3201 WILBUR AVENUE	ANTIOCH
70000118	Near-Term and Buildout	Burlington Northern Santa Fe Railway Company	Active	Voluntary Cleanup	Adjoining USS Posco Steel Facility	Pittsburg
7290042	Near-Term and Buildout	UNION CARBIDE, PITTSBURG	Certified	State Response	2000 LOVERIDGE ROAD	PITTSBURG
7260003	Long-Term	EAST MILL	Active	Voluntary Cleanup	2603 WILBUR AVENUE	ANTIOCH
80001806	Near-Term and Buildout	CROWN CORK & SEAL CO INC	Inactive - Needs Evaluation	Corrective Action	1300 LOVERIDGE ROAD	PITTSBURG
7520001	Near-Term and Buildout	ANTIOCH BUILDING MATERIALS	Inactive - Needs Evaluation	Evaluation	1375 CALIFORNIA AVENUE	PITTSBURG
7990013	Long-Term	INDUSTRIAL LOT WITH TANK	Certified	Voluntary Cleanup	WILBUR AVENUE	ANTIOCH
7260002	Long-Term	WEST MILL	Certified	Voluntary Cleanup	2301 WILBUR AVENUE	ANTIOCH
7790001	Long-Term	Gaylord Tracts	Certified / Operation & Maintenance	Voluntary Cleanup	1030 APOLLO COURT	ANTIOCH
7550006	Near-Term and Buildout	ABB DAMILER	No Further Action	Evaluation	1461 LOVERIDGE ROAD	PITTSBURG
70000149	Near-Term and Buildout	Continental Can Company-Plant 80	Refer: RWQCB	Evaluation	1300 Loveridge Road	Pittsburg

7280165	Near-Term and Buildout	KEMWATER PITTSBURG PLANT	Refer: RWQCB	Evaluation	1401 LOVERIDGE ROAD	PITTSBURG
7750026	Near-Term	DELTA AUTO WRECKER	Active	State Response	6 INDUSTRY ROAD	PITTSBURG
7490047	Near-Term	GWF POWER SYSTEMS	Backlog	Evaluation	895 E. 3RD STREET	PITTSBURG
7390022	Near-Term	JOHNS MANVILLE	Certified / Operation & Maintenance	Voluntary Cleanup	420 EAST 3RD STREET	PITTSBURG
70000066	Long-Term	Marina School Expansion	No Further Action	School Investigation	East 8th and East 10th Streets	Pittsburg
80000959	Near-Term	ANTIOCH BOMB TARGET	Inactive - Action Required	State Response	Latitude: N 38" 01.596' Longitude: W 121' 36.727	Antioch
7750025	Near-Term	K AND S BODY SHOP	No Further Action	Evaluation	600 E. 3RD STREET	PITTSBURG
60000879	Near-Term	Pittsburg High School - Main/North Campus	No Further Action	School Investigation	250 School Street	Pittsburg
7750009	Long-Term	ANTIOCH RADIATOR EXCHANGE	Refer: Other Agency	Evaluation	908 WEST SECOND ST.	ANTIOCH
71003523	Long-Term	PG&E, Contra Costa Power Plant	Refer: Other Agency	Tiered Permit	3201 Wilbur Avenue	Antioch
71002583	Long-Term	The Dow Chemical Co.	Refer: Other Agency	Tiered Permit	Foot of Loveridge Road	Pittsburg
7650003	Near-Term	RANGE ROAD MIDDLE SCHOOL SITE	No Further Action	School Investigation	Range Road/Leland Road	Pittsburg
7070001	Near-Term	CONTRA COSTA COUNTY FAIR	Refer: Local Agency	Voluntary Cleanup	1201 WEST 10TH STREET	ANTIOCH
7290043	Near-Term	KOCH CARBON INC.	Refer: RWQCB	Evaluation	700- 707 E. 3RD STREET	PITTSBURG

Appendix D - Endangered Species Concurrence Letter

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
08ESMF00-2013-I-0392

MAY 16 2013

Memorandum

To: Anastasia T. Leigh, Regional Environmental Officer, U.S. Bureau of Reclamation, Sacramento, California

From: for Eric Tattersall, Deputy Assistant Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Informal Consultation Under Section 7(a)(2) of the Endangered Species Act for the Delta Diablo Sanitation District Recycled Water System Expansion Project, Contra Costa County, California

This memorandum is in response to the U.S. Bureau of Reclamation (Bureau) March 28, 2013, memorandum requesting consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Delta Diablo Sanitation District Recycled Water System Expansion Project, Contra Costa County (Proposed Project) in the cities of Pittsburg and Antioch, Contra Costa County, California (Reclamation reference MP-150, ENV-7.00). Your request for consultation was received in our office on April 1, 2013. At issue are the effects of the Proposed Project on the federally threatened California red-legged frog (*Rana draytonii*) (frog), California tiger salamander (*Ambystoma californiense*) (salamander), and giant garter snake (*Thamnophis gigas*) (snake). The Proposed Project is not within any designated critical habitat for the frog or the salamander, and no critical habitat has been designated for the snake. Therefore, critical habitat will be unaffected by the Federal action. This document is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

Project Background and Description

The Delta Diablo Sanitation District established a recycled water system (system) in 2001, primarily to deliver water to the Delta Energy Center and Los Medanos Energy Center power plants. Since its inception, the system has been expanded over time to provide water to 20 different use sites. Because incremental expansions have not been planned systematically, the opportunity exists to optimize the system with respect to cost, functionality, and service.

The Delta Diablo Sanitation District Recycled Water Facility (recycled water facility) and Wastewater Treatment Facility (wastewater facility) are located adjacently along the Pittsburg-Antioch Highway in the City of Pittsburg (Figure 1). After treatment at the wastewater facility, water is generally discharged into the nearby New York Slough, although a portion of the treated water is diverted to the recycled water facility, depending upon demand. At the recycled water

facility water is clarified, filtered, and disinfected before it is conveyed along the system for usage at the power plants, as well as golf courses and other irrigation needs. From the recycled water facility the system consists of about 4 miles of pipeline to the west, and another 4 miles of pipeline to the east.

The Proposed Project involves the upgrading of the recycled water system infrastructure. The upgraded system infrastructure will include the installation of new pipelines, pump stations, and a storage tank to level supply with demand. Additionally, existing pipelines will be rehabilitated. In all, 6,600 linear feet of new pipeline, a 0.9 million gallon storage tank, 15 new customer meters, and new isolation valves will be installed. Additionally, 3,090 linear feet of parallel 8-inch diameter existing pipelines will be tested and rehabilitated.

Construction and rehabilitation of the pipeline is scheduled to begin in the late winter or spring of 2015. Construction of the storage tank would be concurrent with pipeline work. Construction activities would generally occur weekdays from 7 a.m. to 7 p.m., yet night work may be necessary on some occasions. The Proposed Project will require about 3.5 months of construction.

The action area is defined in 50 CFR §402.02, as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action." For the Proposed Project, the Service considers the action area to include the footprints of the project components to be constructed, as outlined below and shown in Figure 1. For the purposes of possible noise and ground disturbance (i.e., vibrations), the action area also extends 300 feet from each project component to be constructed, including any staging.

New Pipeline Installation

Fifteen new pipeline segments will be installed, each within paved roadways or areas that have been previously disturbed. The standard work rate is about 100 feet per day, with an overall linear work zone of about 200 feet. The construction zone for each segment would be about 25 to 30 feet wide. Generally, pipeline segments will be installed by open-trench methods, with 30-foot long trenches about 6 to 8 feet deep. However, in instances where open trenches are impractical (e.g., busy intersections, railroad crossings) jack-and-bore or directional drilling will be used to install pipelines.

With the jack-and-bore method, the jacking pit is excavated about 12 to 15 feet wide, 30 to 35 feet long, and 8 to 10 feet deep. An additional pipe storage area of 2,000 square feet also is necessary. An auger is used to bore a hole that is then lined with a casing. The pipeline is fitted inside the casing. A smaller, receiving pit also is dug at the opposite end of the boring to complete the process.

With directional drilling a small diameter hole is drilled at an angle that arcs to a final bore pit 500 to 1,000 from the entry point. Progressively larger reamers are pulled through the hole, followed ultimately by the pipeline. During excavation, drilling mud is injected into the hole and collected for reuse at both ends of the hole. Excavated spoils will be used to backfill holes. The drilling equipment and materials require an area of about 2,500 square feet, while an additional 2,000 square feet is needed for removing bore materials.

After construction all areas will be resurfaced to match the surrounding material. Damage to all-road and non-paved areas will be repaired. Previously vegetated areas will be reseeded with native grasses.

Storage Tank Installation

An above-ground steel tank up to 90 feet in diameter and 30 feet high will be installed along the recycled water system. Two sites for the tank are under consideration: the first site is a vacant lot adjacent to the Los Medanos Energy Center; the second site is vacant space within the recycled water facility. The first site is about one acre (including staging) and would be purchased by the Delta Diablo Sanitation District for use (Figure 1). The second site is adjacent to an existing tank at the recycled water facility; various spots throughout the facility would be used for staging.

Construction includes the tank, new piping, connections to the existing system, a tank control valve, and a tank pad with drainage modifications. Emergency overflow would drain into the existing sanitary sewer. A radio control tower also will be necessary onsite to relay telemetry information for electrical control of tank functions. Lighting will be installed for security.

Pipeline Testing and Rehabilitation

The Proposed Project also includes the testing and rehabilitation of about 3,090 linear feet of two existing, parallel 8-inch diameter pipelines. These pipelines are currently not used and will be transferred to the Delta Diablo Sanitation District from Praxair, an industrial gases company that previously used the pipes for conveying oxygen and nitrogen. The proposed rehabilitation pipeline connection point to the existing system is along the Pittsburg-Antioch Highway, which generally runs east-west (Figure 1). A proposed pipeline crosses from that connection point below Kirker Creek and ties into the proposed rehabilitated pipelines on the north side of Kirker Creek. After running parallel to Kirker Creek and Pittsburg-Antioch Highway, the proposed rehabilitated pipelines bend northward adjacent to Loveridge Road. The pipeline rehabilitation will allow future expanded use of the recycled water system.

Rehabilitation primarily involves lining the existing uncoated steel pipe. To line the pipe, about 5 evenly-spaced pits along the pipelines will be necessary, each about 30 square feet and deep enough to fully expose the pipelines. No in-channel work will be required in Kirker Creek.

Conservation Measures

The Delta Diablo Sanitation District has proposed the following measures to avoid impacts to the frog, salamander, and snake:

- Conduct mandatory biological resources awareness training for all Proposed Project personnel and implement the following requirements:
    - Where suitable habitat is present for listed species, the Delta Diablo Sanitation District will clearly delineate the construction limits through the use of survey tape, pin flags, orange barrier fencing, or other means, and prohibit any construction-related traffic outside these boundaries.
    - Proposed Project-related activities will observe a 15-mile-per-hour speed limit on unpaved roads within the limits of construction areas.

- Proposed Project-related vehicles and construction equipment will restrict off-road travel to the designated construction areas.
- The construction contractor hired by the Delta Diablo Sanitation District will provide closed garbage containers for the disposal of all food-related trash items. All garbage will be collected daily from construction areas and placed in a closed container that will be emptied weekly at an approved offsite location. Construction personnel will not feed or otherwise attract fish or wildlife.
- No pets will be allowed in the construction areas.
- No firearms will be allowed in the construction areas.
- If vehicle or equipment maintenance is necessary, it will be performed in the designated staging areas.
- Any worker who inadvertently takes a federally listed species or finds one dead, injured, or entrapped will immediately report the incident to the construction manager. The construction manager will immediately notify the Delta Diablo Sanitation District project Manager, who will provide verbal notification to the Service within one working day of the incident. The Delta Diablo Sanitation District will follow up with written notification to the Service within 5 working days of the incident. All observations of federally listed species will be recorded on California Natural Diversity Database occurrence sheets and sent to the California Department of Fish and Wildlife.

- Except at the recycled water facility potential tank site, all pipeline work will occur during the dry season, between May 1 and October 1.
- Retain a qualified biologist to monitor construction activities at the recycled water facility potential tank work site for work during rain events that extend beyond October 1. If a salamander is found, work will immediately stop and the Service will be contacted to determine appropriate actions.
- Install sediment fencing and construction barrier fencing around aquatic habitats for federally listed species. A qualified biologist will identify the areas that will be avoided during construction and the proper fencing locations. Fencing will be maintained throughout the construction period.
- Staging areas will be located a minimum of 100 feet from all aquatic habitats.
- Prepare and implement a Construction Risk Management Plan pursuant to a National Pollutant Discharge Elimination System General Construction Permit. The plan will describe handling, transporting and storage procedures for hazardous materials, including any existing contamination encountered in spoil or groundwater, and will cover construction site housekeeping practices. The plan also will identify the parties responsible for inspections, spill response, and regulatory notifications, as applicable.
- Conduct pre-construction surveys for the frog, salamander, and snake. A qualified biologist will conduct surveys within 24 hours of ground-disturbing activities. If a listed species is found, work at the site where the individual is located will immediately stop and the Service will be contacted to determine appropriate actions.

- Provide escape ramps or cover open trenches at the end of each day to avoid entrapment of listed species. All excavated areas more than 1 foot deep will be provided with one or more escape ramps made of earth or wood materials. If escape ramps cannot be provided then holes will be covered with plywood or other hard material. If any federally listed species does become entrapped, work will stop that day and the Service will immediately be contacted to determine appropriate actions.
- All temporarily disturbed areas will be restored by reseeding with native grasses.

Concurrence Determination

The Proposed Project action area is largely developed areas within the cities of Pittsburg and Antioch. However, potential habitat for the frog, salamander, and the snake occur along waterways throughout the action area, including Kirker Creek, a tributary of the Contra Costa Canal, canals along the Antioch Little League fields and Antioch Fairgrounds, and a drainage ditch by Rancho Medanos Junior High School. Kirker Creek is channelized and bordered by roadways and other developed areas. Similarly, the other drainage canals are intermittent to perennial and flow within an urbanized setting.

California tiger salamanders require slow-moving or temporary waterways within grassland habitats for breeding. The water regime of Kirker Creek and the other canals within the action area may be suitable for salamander breeding, yet the developed nature of the surrounding habitat provides little opportunity for necessary nearby upland refugia.

California red-legged frogs can inhabit riparian areas of intermittent or ephemeral inundation. However, frogs would likely move to areas of more permanent inundation during rainy nights. It is unlikely that the urbanized setting of the Proposed Project would allow for safe frog movement between aquatic habitats.

Giant garter snakes occupy wetlands with permanent water and adequate emergent vegetation for cover during summer months. The water regime of Kirker Creek and other canals within the Proposed Project area, in conjunction with amount of emergent vegetation, is probably inadequate to support snakes during summer months. Furthermore, snakes also require upland refuge sites within 200 feet of aquatic habitat. Again, the urbanized setting of the Proposed Project is unlikely to provide adequate upland habitat alongside the small pockets of potential aquatic habitat.

The Service concurs with your determination that the proposed Delta Diablo Sanitation District Recycled Water System Expansion Project, may affect, but is not likely to adversely affect the California Tiger Salamander, California red-legged frog, and the giant garter snake. Our concurrence is based on the fact that within the Proposed Project area, wetland and riparian habitats are of marginal quality for each species. Also, the urbanized landscape setting provides poor associated upland habitat for the salamander, frog and the snake as well. Furthermore, the physical properties of Kirker creek and all canals will not be altered by the Proposed Project. However, because movements of the salamander, frog, and snake are largely unpredictable and poor aquatic habitat for each species does exist with the Proposed Project action area, the proposed conservation measures must be followed.

Unless new information reveals effects of the proposed action that may affect listed species in a manner or to an extent not considered; or the project is modified in a manner that causes an effect to the listed species that was not considered; or a new species or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Act is necessary.

If you have any questions regarding this response on the proposed Delta Diablo Sanitation District Recycled Water System Expansion Project, please contact Harry Kahler, Biologist, or Ryan Olah, Coast Bay/Forest Foothills Division Chief, at the letterhead address, telephone (916) 414-6600, or electronic mail at Harry_Kahler@fws.gov or Ryan_Olah@fws.gov.

Attachment

cc:
Doug Kleinsmith, Bureau of Reclamation, Sacramento, CA

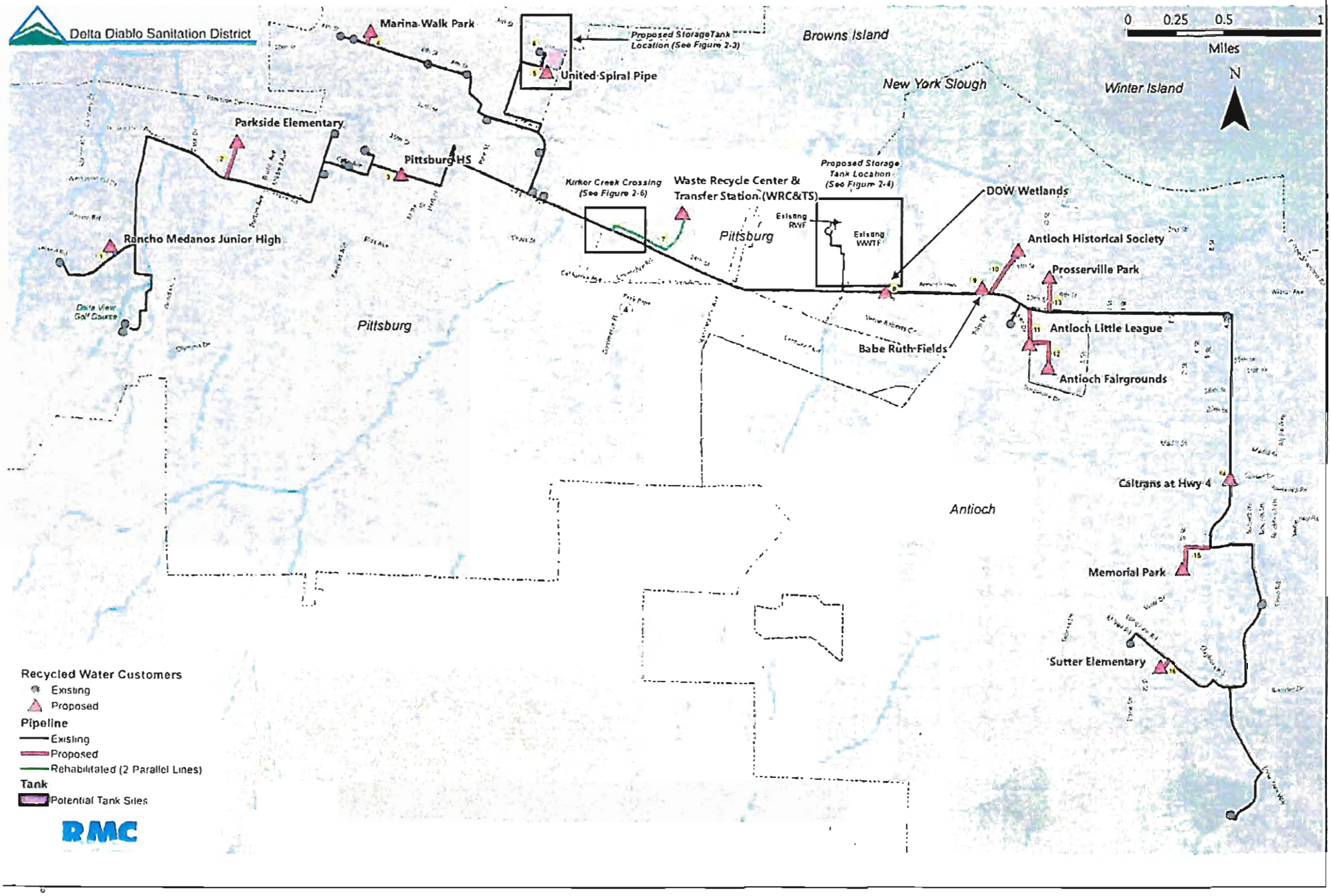

Figure 1
Components of the Proposed Action