

# **Draft Environmental Assessment**

Recovery Act Funding for the Short-Term Phase I Component of the South County Recycled Water Master Plan Project





U.S. Department of the Interior Bureau of Reclamation Mid-Pacific Region Sacramento, California

# **Mission Statements**

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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# **Abbreviations and Acronyms**

AB 32	California State Assembly Bill 32
ADT	Average Daily Traffic
APE	area of potential effect
BAAQMD	Bay Area Air Quality Management District
Basin Plan	Central Coast Region Water Quality Control Plan
BMP	best management practices
CARB	California Air Resources Board
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CIP	capital improvement program
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CWA	Clean Water Act
dBA	A-weighted decibel
District	Santa Clara Valley Water District
DPM	diesel particulate matter
EA	Environmental Assessment
EDC	endocrine disrupting compound
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
G/C	green time over cycle length
GHG	greenhouse gas
НСР	Habitat Conservation Plan
	hourly equivalent sound level
	Level of Service
LUST	Leaking Underground Storage Tank
Master Plan	South County Recycled Water Master Plan Project
MCI	maximum contaminant level
NAHC	State of California Native American Heritage Commission
NCCP	Natural Communities Conservation Plan
NDMA	<i>N</i> -Nitrosodimethylamine
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO	nitrogen oxides
NPDES	National Pollutant Discharge Flimination System
NTU	Nephelometric Turbidity Unit
$\Omega_{2}$	ozone
$\mathbf{D}_{3}$	narticulate matter 2.5 microns or less in diameter
1 1/12.5	particulate matter 2.3 microlis of less in diameter

$PM_{10}$	particulate matter10 microns or less in diameter		
PPCP	pharmaceutical and personal care product		
Reclamation	Bureau of Reclamation		
Recovery Act	American Recovery and Reinvestment Act of 2009		
ROG	reactive organic gases		
RWQCB	Regional Water Quality Control Board		
SCRWA	South County Regional Wastewater Authority		
SIP	State Implementation Plan		
SWPPP	Storm Water Pollution Prevention Plan		
SWRCB	California State Water Resources Control Board		
TAC	Toxic Air Contaminant		
TDS	total dissolved solids		
URBEMIS	urban emissions		
U.S.	United States		
US 101	U.S. Highway 101		
USACE	U.S. Army Corps of Engineers		
U.S.C.	United States Code		
USDA NRCS	U.S. Department of Agriculture, Natural Resources Conservation		
	Service		
USFWS	U.S. Fish and Wildlife Service		
USRC	Uvas streambed recharge corridor		
UST	Underground Storage Tank		
vph	vehicles per hour		

# **Chapter 1 Introduction**

The Bureau of Reclamation (Reclamation) manages numerous municipal and industrial water projects that provide irrigation, flood control, power, and recreational opportunities to the 17 western states, Indian tribes, and others to balance the competing needs for limited water resources.

Under the American Recovery and Reinvestment Act (Recovery Act) of 2009, projects providing for the reclamation and reuse of wastewater and naturally impaired ground and surface waters will receive \$134.3 million. These projects, authorized under Title XVI of Public Law 102-575, as amended, are constructed and owned by non-federal sponsors, uniting local communities with the United States (U.S.) government to provide change, growth, and a future for energy efficiency, clean water, and environmental stewardship in a broad range of areas. Reclamation will allocate funds based on the criteria set forth in the Recovery Act and will target activities that quickly infuse money into the economy.

As an eligible Title XVI project sponsor, the Santa Clara Valley Water District (District) is seeking to execute a Cooperative Agreement with Reclamation to receive Recovery Act funds for a proposed wastewater project. The project sponsor is required to enter into a Cooperative Agreement before funds can be made available. Execution of a Cooperative Agreement is authorized under the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992 (Public Law 102-575, Title XVI, Section 1612).

Recovery Act funding received from Reclamation would be used for project costs related to the Short-Term Phase I component of the South County Recycled Water Master Plan Project (Master Plan). The entire Master Plan—which includes recommended capital improvement program (CIP) projects which are not dependent upon these Cooperative Agreements—was authorized by the Consolidated Natural Resources Act of 2008. On July 1, 2009, the Department of the Interior announced that the Short-Term Phase I CIP of the Master Plan would be appropriated with Recovery Act funding. The District seeks to secure non-Recovery Act funding for the Short-Term Phase I CIP. This funding request is made under a separate Cooperative Agreement and provides the federal nexus for this Environmental Assessment (EA). Additional funding for the Short-Term Phase I CIP is being provided by the District and the City of Gilroy.

Reclamation proposes to execute a Cooperative Agreement with the District and provide Recovery Act funding for the implementation of the Short-Term Phase I CIP component of the Master Plan (Proposed Action). The Proposed Action would be consistent with Title XVI of Public Law 102-575 and the mission of Reclamation to manage, develop, and protect water and related resources in an environmentally sound manner in the interest of the American public.

This EA has been prepared to disclose and analyze the environmental consequences of the Proposed Action and the No Action alternative. The remaining components of the Master Plan

would be part of the Short-Term Phase II and Long-Term CIP projects and would be implemented beyond the next five years, pending necessary retrofits and distribution system expansion. The remaining components of the Master Plan will be evaluated through a separate process under the California Environmental Quality Act and are not under consideration in this EA. The Short-Term Phase I CIP improvements have independent utility and are not dependant on the completion of the Short-Term Phase II and Long-Term CIP projects.

# 1.1 NEPA Requirements, Lead Agency, and Federal Actions

This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) (42 U.S. Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508, and Department of the Interior's regulations for implementing NEPA (43 CFR Part 46). An EA is a concise public document that has three defined functions: 1) it briefly provides sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS); 2) it aids an agency's planning when no EIS is necessary; and 3) it facilitates preparation of an EIS when one is determined to be necessary (40 CFR 1508.9(a)). Since the EA is a concise document, it should not contain long descriptions or detailed data which the agency may have gathered. Rather, it should contain a brief discussion of the need for the proposal, alternatives to the proposal, the environmental impacts of the proposed action and alternatives, and a list of agencies and persons consulted (40 CFR 1508.9(b)). Reclamation is the lead federal agency for compliance with NEPA because it would execute a Cooperative Agreement with the District to fund construction of approximately three miles of pipeline as identified for the Short-Term Phase I CIP improvements.

### 1.2 Background

The existing South County Regional Wastewater Authority (SCRWA) Wastewater Treatment Plant is located adjacent to Llagas Creek, two miles southeast of the business district on Southside Drive in Gilroy, California. The treatment plant serves approximately 80,000 people in the cities of Gilroy and Morgan Hill, and currently has the capacity of 7.5 million gallons per day for secondary wastewater treatment and 3 million gallons per day for recycled water. The treatment plant comprises operation facilities, pipelines, pump stations, treatment ponds, percolation ponds, reclamation lagoons, silt ponds, oxidation ditches, and secondary clarifiers.

In 1977, the Gavilan Water Conservation District (which was merged with the District in 1989) and the City of Gilroy began a partnership to construct and operate a recycled water system extending from the SCRWA treatment plant southeast of Gilroy to several customers along Hecker Pass Road. The system operated sporadically for about 20 years.

In 1999, the District, SCRWA, and the cities of Gilroy and Morgan Hill entered into a partnership agreement to develop a marketable water recycling program in South County and provide for

future expansions of the treatment plant and delivery system. Under this partnership agreement, SCRWA serves as the supplier, the District is the wholesaler, and the cities of Gilroy and Morgan Hill are the retailers. Currently, the District takes delivery of the recycled water at the SCRWA treatment plant in southeast Gilroy and pumps it through a distribution system to a city park, a championship golf course in southwest Gilroy, and agricultural farmland. In 2003, Calpine constructed a 1,500-foot pipeline extension to receive recycled water for the cooling towers in their Gilroy Energy Center. In 2004, the system delivered 660 acre-feet of recycled water. In addition, the treatment plant uses approximately 1,000 acre-feet of recycled water annually for processing uses.

As part of the agreement, the District and SCRWA were to jointly develop a master plan to expand the recycled water system. The master plan report was prepared in 2004 and has evaluated more than 70 potential recycled water customers in the South County area, including commercial and industrial uses, landscape irrigation uses, and agricultural uses. The calculated annual irrigation requirement in the South County area is approximately 3.8 feet/year which is equivalent to approximately 22,000 acre-feet/year. If all quantified customers were supplied recycled water, it was estimated that peak monthly usage would exceed 9 million gallons per day, which currently exceeds the wastewater treatment plant's available influent flow and recycled water supply.

The master plan report grouped recycled water customers into different preliminary project alternatives. The groupings were developed based on customer location, information gathered in the market assessment, and in conjunction with planning level hydraulic modeling. The composition of each customer group also considered possible distribution system alignment, proximity to the existing distribution system, and other implementation factors. These groupings were used to develop peak flow demands, preliminarily route pipelines, perform a planning-level hydraulic analysis, and assess initial environmental constraints. Preliminary pipeline alignments to serve new recycled water customers were developed and modified based on coordination with District staff, staff from the cities of Morgan Hill and Gilroy, and logistical and environmental considerations. Pipeline routings were planned primarily within city roadways. Based on preliminary modeling results, expansion of the distribution pipeline network was shown to be necessary to serve additional customers, and a three-phase program consisting of Immediate-Term, Short-Term and Long-Term CIP projects was identified.

### 1.3 Contents and Organization of the Environmental Assessment

This EA is organized as follows:

Chapter 1. Introduces the Proposed Action and its background.

Chapter 2. Describes the Proposed Action and alternatives that were considered.

**Chapter 3**. Describes the affected environment and environmental consequences of implementing the Proposed Action and No Action alternatives.

**Chapter 4**. Evaluates the cumulative impacts of the Proposed Action in combination with other past, present, and reasonably foreseeable projects.

**Chapter 5**. Describes the agencies and parties that were consulted during the environmental review process, compliance with applicable regulations, and the public involvement process.

Chapter 6. Identifies references used in this document.

Chapter 7. Lists the preparers and reviewers.

Appendices. Provides supporting materials for the EA.

- *Appendix A*. South County Water Recycling Plan Biotic Study for the Phase I component of the Master Plan. H.T. Harvey and Associates, 2010.
- *Appendix B*. Environmental Database Search and Review, South County Recycled Water Master Plan, Santa Clara Valley Water District, Santa Clara County, California. Ninyo & Moore, 2005
- *Appendix C.* Final Hydrological and Water Quality Evaluation of the South County Water Recycling Master Plan, Santa Clara County, California. Balance Hydrologics, Inc., 2009.
- *Appendix D*. Noise Technical Report for the South County Recycled Water District Pipeline, City of Gilroy, California. RECON Environmental, Inc. 2005.
- *Appendix E*. Traffic Impact Analysis, Recycled Water Pipeline Construction Project, Santa Clara Valley Water District/South County Regional Wastewater Authority, T.Y. Lin, 2005.

## **Chapter 2 Project Description**

### 2.1 **Proposed Action Overview**

The Proposed Action would provide Recovery Act funding to the District for installation of new recycled water pipelines that would connect new customers to the existing recycled water plant and improve capacity to current users served by the existing pipeline. The Short-Term Phase I CIP includes approximately three miles of recycled water pipelines along existing paved and unpaved roadways.

#### 2.1.1 Purpose of and Need for the Proposed Action

Dependable water supplies in California are becoming increasingly limited. Multiple-year droughts, which are experienced periodically, further stress the water system and make balancing among these needs even more difficult. Risks and uncertainties such as possible earthquakes, more stringent water quality standards, global warming, and other factors further complicate the water resources supply. Funding the implementation of the Short-Term Phase I CIP recycled water projects would increase dependable water supplies in California, which are becoming more difficult to develop and maintain as traditional imported water sources become increasingly less reliable. With Recovery Act funding from Reclamation, the District plans to expand the use of recycled water to meet long-term water supply and wastewater needs in south Santa Clara County.

The purpose of the proposed action is reclamation and reuse of wastewater to meet the following specific needs, which are also addressed by the District's Water Conservation Policy:

- increase the reliability of long-term water supplies;
- lessen the demands on groundwater resources;
- reduce the dependency on imported water;
- maximize the use of local water supplies;
- substitute recycled water for potable water where appropriate;
- provide a continuous and dependable source of supplemental water for the area; and
- facilitate wastewater management needs in an environmentally responsible manner.

The Proposed Action would be consistent with the mission of Reclamation to manage, develop, and protect water and related resources in an environmentally sound manner in the interest of the American public. The Proposed Action's purpose is also consistent with the District Board's policy establishing a recycling water target of 5 percent of total District use in 2010 and a target of 10 percent total use in 2020.

The Proposed Action would make Recovery Act funding available to the District to increase the capacity of the Recycled Water Distribution System as identified in the Master Plan, implement the Short-Term Phase I CIP, and expand the availability of recycled water and reduce the use of potable water where recycled water does not present a health and safety risk. In addition, the District would expand recycled water use to a broader range of commercial, industrial, irrigation, and agricultural customers.

#### 2.1.2 Proposed Action Study Area Location

The study area is located in the southwestern portion of the city of Gilroy in Santa Clara County, California (Figure 2-1). The city of Gilroy is located in south Santa Clara County at the crossing of U.S. Highway 101 (US 101) and State Highway 152, 28.5 miles south-southeast of San Jose and 23 miles northeast of Salinas, California, and has a land area of 15.9 square miles. Local elevation is approximately 200 feet above mean sea level. The study area is located in the southwestern portion of the Santa Clara Valley within a broad, gently sloping valley floor, enclosed on the northeast by the Diablo Mountains of the Contra Costa Range and on the west by the Santa Cruz Mountains. The study area is located on the Gilroy and Chittenden U.S. Geological Society 7.5-minute quadrangles. The study area is located in unsectioned portions of the San Ysidro (Gilroy) and Las Animas Land Grants.

The Short-Term Phase I CIP study area is defined as the area within 25 feet on either side of the proposed recycled water pipeline alignment (Figure 2-2). This area is intended to include the recycled water pipeline alignment and the areas that may be temporarily impacted by construction and operation of the proposed pipeline.

## 2.2 Alternatives Considered

#### 2.2.1 Proposed Action

Reclamation proposes to execute a Cooperative Agreement with the District and provide Recovery Act funding for the implementation of the Short-Term Phase I CIP component of the Master Plan. The construction and implementation activities associated with the Short-Term Phase I CIP component of the Master Plan are described below.



FIGURE 2-1 Study Area Location Image Source: Courtesy of Microsoft Virtual Earth



**Transmission Mains** 



Short-term Phase I

RECON M:\jobs2\4172\common\_gis\EA\_fig2-2.mxd 02/26/10 FIGURE 2-2 Proposed Action

- 1. Recycled Water Plant to Luchessa/Monterey Road: The pipeline would extend northwesterly from the existing Plant Pump Station located along Engel Way to Southside Drive, continuing westerly along Southside Drive to Rossi Lane, continuing northwesterly along Rossi Lane to the intersection with East Luchessa Avenue, and continuing westerly along East Luchessa Avenue to where East Luchessa Avenue intersects with the existing recycled water pipeline at Monterey Road (approximately 2.09 miles).
- 2. Existing Recycled Water Pipeline to Customer (Cintas Corporation): The pipeline would extend northwesterly from the existing recycled water pipeline, along Camino Arroyo for approximately 1,400 feet to Holloway Road, continuing northeasterly along Holloway Road for approximately 1,400 feet to the customer (approximately 0.53 miles).

The alignments include approximately 2.62 miles of recycled water pipeline located along existing paved and unpaved roadways, and associated appurtenances (including control valves, blow-off assemblies, and increased capacity surge tank, and a larger flow meter). The existing surge tank and meter, located at the SCRWA facility, would be replaced with an increased capacity surge tank and meter due to anticipated increases in recycled water flow. The replacement tank and meter would be placed in the immediate vicinity of the existing equipment, within previously disturbed areas of the SCRWA facility, on a concrete pad poured on the surface with footings to attach the equipment. The pipeline components, when complete, would function independently and connect to the existing recycled water pipeline (a closed pipeline loop).

Any pipeline alignment located within private property would require temporary or permanent construction easements. These easements would be sought prior to construction.

#### 2.2.1.2 Construction Procedures

The pipeline would be constructed with one of two methods: a conventional cut and cover technique, or a sub-surface excavation (micro-tunneling or jack and bore) technique.

Traffic control plans would be developed to isolate construction or staging areas located in public rights-of-way. The construction zone would be adequately flagged and protected by traffic control measures. Two-way traffic flow would not be interrupted. The affected roadways would be repaved and restriped to meet City of Gilroy standards.

The conventional technique would be used for the majority of the pipeline installation, extending from the recycled water plant to the intersection of East Luchessa Road and Jamieson Way.

**Conventional Cut and Cover Technique** The construction process for the conventional cut and cover technique is anticipated to be as described below.

*Remove Existing Asphalt Concrete Pavement* Where the pipeline would be located within paved roadways, construction would begin with the removal of the existing pavement. The existing pavement would first be cut with concrete and/or asphalt saws to its full depth. The asphalt

concrete would then be excavated using a hydraulic excavator, loaded into dump trucks and hauled off-site for disposal.

*Excavate Trench* Once concrete is removed and on a daily basis, an approximately 100-footlong by 4-foot- to 6-foot-wide trench would be excavated to depths varying from 7 to 9 feet. The pipeline ranges in diameter from 8 to 30 inches. Open-cut excavations would be performed using a hydraulic excavator. Excavated materials would be stockpiled adjacent to the trench and protected from erosion using standard construction practices such as the use of silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other groundcover. Excavated material not needed for trench backfill would be removed and disposed of at an approved site by the construction contractor.

The trench walls would be supported with a box-shield or other appropriate methods to prevent cave-in or collapse of the trench. If groundwater is encountered at the bottom of the trench, 2-inch to 4-inch submersible pumps would be used to keep the trench dry. The pumped water would be diverted, controlled, and treated as per Storm Water Pollution Prevention Plan (SWPPP) requirements before disposal.

Heavy construction vehicles such as backhoes, loaders, trucks, tractors, and other equipment powered by internal combustion engines would be used to install pipeline. Table 2-1 indicates the types of construction equipment that would likely be used during pipeline installation.

# TABLE 2-1CONSTRUCTION EQUIPMENT

Equipment	Number	Function and Usage
Backhoe	2	One operates most of the time, particularly during trenching and pipeline installation. The other one operates as needed.
Excavator	1	Operates most of the time, particularly during trenching and pipeline installation. Also used for soil compaction when backfilling the trench.
Dump Truck	Multiple	Operates during trenching to haul excavated materials off the site.
Utility Light Truck	Multiple	Carries tools and miscellaneous items.
Jackhammer	Multiple	Used in small area (corners) soil compaction during trench backfill.
Saw Cut	1	Used at the very beginning of the construction to saw cut the pavement. One or two days of work.
Parts Delivery Truck (Flatbed)	Multiple	To deliver parts (e.g., pipelines, fittings, valves) to sites. Usually delivers to Stage Area.
Material Delivery Truck	Multiple	To deliver backfill materials, aggregate to site.
Concrete Truck	From Concrete Mix Plant	Only used occasionally for pour of small loads of concrete for fittings installation.
Asphalt Concrete Truck	Multiple	Operates at the end of construction to restore street pavements.
Asphalt Concrete Paving Machine	1	Restore street pavements at the end of construction.
Small Portable Pump	1 or 2	To fill the pipeline with water for hydrostatic test.

*Placement of Pipe* Large diameter pipe would be pre-positioned along the alignment during construction to avoid multiple handlings; smaller diameter pipe would be temporarily stored at a suitable construction yard for delivery to the alignment as required. Transmission pipeline installation would occur at a rate of approximately 100 feet per day. Distribution lines would be installed in less time than transmission lines. An approximately 20-foot-long pipe barrel segment would be lowered into the trench using a hydraulic excavator. The pipe barrel would be aligned and joined to the previous pipe barrel already installed in the trench. Valves, fittings and other elements of the pipeline would also be installed.

*Backfill trench* Once the pipe has been installed in the trench, the dewatering pumps and shoring would be removed. The trench would be backfilled with compacted aggregate base rock, gravel, select fill, or native soils. The backfill material would be compacted with a compactor mounted on a hydraulic excavator.

*Restore Asphalt Pavement* Where the pipeline is located within roadways, a new asphalt pavement section would be constructed on the top of the trench. The asphalt would be brought to the site in dump trucks, spread with a skip loader, and compacted with a smooth drum roller to form a dense layer. Once the asphalt pavement has been restored, debris resulting from the operation would be swept and/or vacuumed. This sequence would be repeated until all the pipeline segments have been installed. The construction duration is estimated to be about eight to nine months.

**Sub-surface Excavation Technique** The sub-surface excavation technique would be limited to the approximately 1,600 feet extending from the intersection of East Luchessa and Jamison Way to the intersection of East Luchessa and Monterey Road (Figure 2-3). Open trenching is not feasible along this section of roadway given the crossing of major transportation corridors, including US 101, Monterey Road, and an active railroad track.

Micro-tunneling and jack and bore are both tunneling methods, but they differ in the following ways:

- Size of staging area: The space required on the surface for micro-tunneling is generally larger than that required for jack and bore. With micro-tunneling, a machine called a mole is used to advance the pipe, and this requires a large receiving pit at the end of the dig area. For jack and bore, the pipe is advanced using an auger from one end only.
- Use of casing: With the micro-tunneling method, the pipe is installed directly without casing; with the jack and bore method, a casing is installed first, then the pipe is installed inside the casing.
- Length of tunneling: Depending on the geotechnical characteristics of the soil, microtunneling is used up to 2,000 feet. Jack and bore is used for shorter reaches, typically less than 150 feet.



NOTES:

. PROPOSED JACKING PIT (JACKING PIT SIZE IS 40'x14') AND EQUIPMENTS LAYOUT AREA. (APPROXIMATE LENGTH 100' TO 120' MEASURING FROM EXISTING END POINT OF N/W ROADWAY RETURN OF LUCHESSA AVE & JAMIESON WAY. THE WIDTH OF CONSTRUCTION LIMIT IS 40' MEASURING FROM NORTH SIDE OF R/W LINE, i.e. 30' FROM EXISTING F/C.

2. ON LUCHESSA AVE, OUT OF 66' WIDE F/C TO F/C PAVEMENT, 30' WIDE PAVEMENT AREA WILL BE LOCATED WITHIN CONSTRUCTION LIMIT. TRAFFIC CONTROL REQUIRED.

3. ON LUCHESSA AVE, 36' WIDE OF PAVEMENT AREA WILL REMAIN FOR TWO WAY TRAFFIC (EAST BOUNDED AND WEST BOUNDED AT ALL TIME.

4. TOTAL LENGTH OF MICROTUNNELING APPROXIMATE 1600'.

5. PROPOSED RECEIVING PIT SIZE 13'x10'. LOCATION SHALL BE CLEAR OFF MONTEREY ROAD TRAVEL WAY. IT IS APPROXIMATE 30' NORTH OF EXISTING END POINT OF S/E ROADWAY RETURN OF MONTEREY ROAD & LUCHESSA

Not To Scale

**FIGURE 2-3 Microtunneling Pipeline** 



• Duration of construction: The mobilization and demobilization of equipment for microtunneling would require up to 35 working days, and the active construction period would be up to 20 days. For jack and bore, the mobilization and demobilization of equipment would require approximately seven working days, and the active construction period would be up to three days.

The construction process for the sub-surface excavation technique is anticipated to be as described below. Most of the surface work would be conducted adjacent to the road, near the intersection of East Luchessa and Jamison Way. An open pit would also be required along the western boundary of Monterey Road. The jacking pit and equipment lay out area would be up to 150 feet in length (Figure 2-4).

The sequence of work for the jack and bore method would be as described below.

*Excavation of Jack and Bore Pits* A jacking or receiving pit and a boring pit would be excavated using conventional hydraulic excavators. The depth of the pits would be 20 feet. The pits would be about 14 feet by 40 feet in plan-view. Conventional hydraulic excavators would most likely be used to excavate the pits. The pit walls would be shored using conventional sheet piles. Should groundwater be encountered in the pits, the pits would be kept dry using two- to four-inch submersible pumps.

*Installation of Jack and Bore Machine* After the jack and bore pits are completed, the bottom of the bore pit would be prepared by installing rails, and the jack and bore machine on the rails.

*Installation of Casing* A 48-inch diameter steel casing would be jacked and bored across the spur line in about 20-foot-long segments. The segments would be welded together while they are being installed. Lubricant in the form of bentonite may be used to facilitate the process.

*Installation of Carrier Pipe* Once the steel casing is installed, a 30-inch diameter pipe would be carried through the casing. The annular space between the pipe and steel casing would be filled with cement grout.

#### 2.2.2 Protective Measures for Sensitive Resources

This section describes the features of the Proposed Action that have been incorporated into the design, construction, and operation approaches to minimize impacts to air quality, biological resources (state-listed species – burrowing owl [*Athene cunicularia*] and American badger [*Taxidea taxus*]), soil resources, hydrology, surface water hydrology and drainage, ground water quality, noise, and transportation.

#### 2.2.2.1 Air Quality Protective Measures

Implementation of the following protective measures (in addition to a construction dust control plan) would reduce impacts to a less than significant level.



FIGURE 2-4 Typical Site Linear Layout for Microtunneling Equipment

#### **Implement Tailpipe Emission Reduction Plan for Project Construction**

All construction contractors shall be required to prepare and implement a tailpipe emissions reduction plan to minimize air quality impacts related to construction activities during site preparation, grading, and construction. The emission reduction plan shall include at least the following measures and may include other measures identified as appropriate.

- Maintain construction equipment in good condition.
- Minimize truck idling near residences and school facilities.
- Set up stationary equipment as far as possible from residences and school facilities.

The District will be responsible for proper and effective implementation of the plan, including the following specific duties.

- Conducting periodic inspections to confirm all specified Best Management Practices (BMP) are being implemented.
- Taking corrective action to resolve issues revealed by either routine inspections or incoming complaints.

**Provide Advance Notification of Construction Schedule and Complaint Coordinator to Residents** The District shall provide advance written notification of proposed construction activities to all residences within 500 feet of the construction site. Notification shall include a brief overview of the District's proposed action and its purpose, as well as the proposed construction activities and schedule. It shall also include the name and contact information of the District's project manager or another District representative or designee who will act as the air quality control coordinator responsible for resolving any air quality concerns.

**Designate Air Quality Control Coordinator and Provide Resolution for Resident Concerns** The District shall designate a representative to act as air quality control coordinator, responsible for resolving air quality concerns. This may be the same person acting as noise disturbance coordinator. The air quality control coordinator name and contact information shall be included in the preconstruction notices sent to area residents. The air quality control coordinator shall be available during regular business hours to monitor and respond to concerns. In the event an air quality complaint is received, the air quality control coordinator shall be responsible for determining the cause of the complaint and ensuring that all reasonable measures are implemented to correct the problem.

**Provide Housecleaning Vouchers upon Request** The District shall notify residents of upcoming activity before construction begins. If a resident complains about construction dust emissions, the District shall conduct an inspection of the subject's dwelling. If the inspection confirms the dust is predominantly from the District's construction project, the District shall issue a voucher for housecleaning services for surface cleaning, sweeping, and vacuuming.

#### 2.2.2.2 Biological Resources - Burrowing Owl Protective Measures

Measures outlined below would be implemented to reduce impacts to burrowing owls resulting from the Proposed Action to less than significant levels. In addition, any burrowing owl habitat disturbed during construction would be restored following pipeline installation.

**Burrowing Owl Pre-construction Surveys** Pre-construction surveys for burrowing owls shall be completed no more than 15 days prior to the start of construction. Survey methodology shall be in accordance with California Department of Fish and Game (CDFG) guidelines and the California Burrowing Owl Consortium (1993) protocol. A qualified biologist shall conduct an initial survey of any areas where construction activities (including excavation, grading, staging, or access) would occur, as well as all areas within 250 feet of these construction areas, to determine the locations of burrows providing potential owl roost/nest sites and to look for owls and evidence of their presence (e.g., feathers, pellets, or whitewash at burrows). Because ground squirrel burrows are known to be present in at least some portions of the study area, site visits shall be conducted on three additional days in the early morning or late evening to look for owls in areas where the initial survey detected potential roost/nest sites. If no burrowing owls are located during these surveys, no additional action will be warranted. However, if burrowing owls are located on or immediately adjacent to (i.e., within 250 feet of) the study area, the following protective measures shall be implemented.

If the pre-construction surveys described above detect Burrowing Ow Buffer Zones burrowing owls using burrows within 250 feet of any areas where construction activities (including excavation, grading, staging, or access) would occur, buffer zones shall be implemented in accordance with CDFG and California Burrowing Owl Consortium (1993) guidelines for as long as the burrows are occupied. If burrowing owls are present during the non-breeding season (generally 1 September–31 January), a 160-foot buffer zone shall be maintained around the occupied burrow(s), within which no new activity shall be permissible, if practicable. However, if this buffer distance cannot be maintained, then during the nonbreeding season it shall be permissible to perform construction activities in closer proximity to occupied burrows as long as there would be no threat of injury of individual owls and no potential for occupied burrows to be destroyed by the construction activities. If such potential for direct impacts to individual owls or occupied burrows exists, then owls shall be relocated (during the non-breeding season only) as described below. During the breeding season (generally 1 February-31 August), a 250-foot buffer shall be maintained between construction activities and occupied burrows, within which no new activity shall be permissible. Owls present on site after 1 February shall be assumed to be nesting on or adjacent to the site unless evidence indicates otherwise. This protected area shall remain in effect until 31 August, or at the CDFG's discretion and based upon monitoring evidence, until the young owls are foraging independently or until the nest has been abandoned for reasons unrelated to construction activities.

- *Burrowing Owl Construction Monitoring and Worker Education* If burrowing owls are detected within 250 feet of construction areas during the pre-construction survey, a qualified biologist shall provide training to construction personnel regarding avoidance procedures, buffer zones, and protocols to be followed in the event that a burrowing owl flies into the active construction zones. This training shall be incorporated into a worker education program.
- Burrowing Owl Relocation If occupied burrows cannot be avoided, eviction of owls shall occur outside the breeding season. Owls shall be evicted by a qualified biologist using one-way doors. No burrowing owls shall be evicted from burrows during the nesting season (generally 1 February-31 August) unless evidence indicates that nesting is not actively occurring (e.g., because the owls have not yet begun nesting early in the season, or because young have already fledged late in the season). Eviction methodology shall follow CDFG and California Burrowing Owl Consortium (1993) guidelines.
- Construction of Artificial Burrows for Impacts to Occupied Burrowing Owl Burrows If destruction of occupied (breeding or non-breeding season) burrows, or any burrows that were found to be occupied during pre-construction surveys, is unavoidable, artificial burrows shall be created on-site following the restoration of the site to preconstruction conditions to provide suitable owl burrows while ground squirrels are recolonizing the construction site. At least three artificial burrow complexes (each complex providing two burrows) shall be constructed in suitable habitat as close as is feasible to the location of the original owl burrow. These burrow complexes shall be maintained, and vegetation around these burrows shall be controlled via hand-mowing, for a period of at least three years to maintain suitable conditions for owls.

#### 2.2.2.3 Biological Resources – American Badger Protective Measures

Protective Measures outlined below would be implemented to reduce impacts to American badgers resulting from the Proposed Action to less than significant levels. In addition, any badger habitat disturbed during construction would be restored following pipeline installation.

American Badger Pre-construction Surveys A qualified mammalogist shall conduct a preconstruction survey for badger dens no more than 15 days prior to the start of construction. This survey shall include any given area currently occupied by grassland or ruderal vegetation where construction activities (including excavation, grading, staging, or access) would occur, as well as all areas within 300 feet of these construction areas. If no badger dens are located during these surveys, no additional action shall be warranted. However, if occupied badger dens are located on or immediately adjacent to (i.e., within 300 feet of) any areas where construction activities would occur, the following protective measures shall be implemented.

• American Badger Buffer Zones If an occupied badger den is located on or immediately adjacent to (i.e., within 300 feet of) any areas where construction activities would occur, a buffer, within which no new activity shall be permissible, shall be maintained between the

den and construction activities during the pupping season (i.e., 15 February through 1 July, or as otherwise determined through surveys and monitoring of the den). The size of the buffer shall be determined by a qualified mammalogist in consultation with the CDFG.

• *American Badger Relocation* After the pupping season, if a den is located within any areas where construction activities would occur, the badgers shall be evicted by excavation of the den using hand tools, in consultation with the CDFG and under the supervision of a qualified mammalogist. After the badgers have been evicted, the den shall be refilled to prevent reoccupation.

#### 2.2.2.4 Soil Resources Protective Measures

The Proposed Action would incorporate appropriate provisions of a Permit for Discharges of Storm Water Associated with Construction Activity administered by the State Water Resources Control Board, including the preparation of a SWPPP. Compliance with this permit would reduce impacts to a level of less than significant, as it would require the use of BMP such as:

- Prohibit clearing and grading activities until a firm construction schedule is known.
- Stabilize all construction site soils with erosion control measures such as silt fences, matting.
- Control dust during construction by frequent watering.
- Compact disturbed areas as soon as possible.

#### 2.2.2.5 Hydrology Protective Measures

A SWPPP outlining appropriate construction practices would be prepared in accordance with Regional Water Quality Control Board (RWQCB) requirements. The SWPPP is site-specific and is a required component of the National Pollutant Discharge Elimination System (NPDES) general permit. Work shall not commence without an approved SWPPP. The SWPPP outlines revegetation techniques, erosion control measures, spill prevention practices, and emergency spill cleanup procedures. It also identifies the required cleanup and emergency response materials to have on site. The SWPPP also contains a summary of BMP to be implemented during the post-construction period. In general, because the SWPPP details the BMP to be applied to control erosion and sedimentation and maintain water quality, impacts to water quality or drainage patterns from runoff during short-term construction would be less than significant.

The following protective measures are required to reduce impacts from construction resulting from the Proposed Action to below a level of significance.

To reduce long-term effects to surface-water drainage to a level less than significant, engineering requirements for pipeline installation shall include standard design specifications.

Disturbance of existing drainage swales, ditches or creek channels shall be avoided during design and installation of the pipeline. This may be accomplished through the:

- Use of jack and bore technology
- Installation of the pipelines at an appropriate depth (generally at least 3 feet) below existing grade)
- Replacement of soil with the appropriate compacted fill, and the grading restored to preconstruction conditions

If disturbance cannot be avoided, the following measures shall be implemented:

- When possible, previously or currently disturbed areas or areas directly beneath the road/bike lane/curb shall be selected rather than agricultural or wildlife- habitat areas.
- At locations where the pipeline must pass beneath a channel or swale, the pipeline shall be buried to the depth specified by the construction-project civil engineer, and in all cases at least 3 feet beneath the lowest point in the channel or swale cross section in a trench that minimizes the amount of channel disturbance;
- Following installation, all areas of affect, including the channel, should be restored to its original condition, with appropriate revegetation and erosion protection measures emplaced.

#### 2.2.2.6 Surface Water Hydrology and Drainage Protective Measures

The following protective measures are required to reduce impacts to surface water hydrology and drainage to below a level of significance.

To protect surface waters, the existing wastewater monitoring program shall be expanded to include the application sites, the recycled water treatment system, and several receiving waters downgradient of irrigation sites. Monitoring procedures shall include:

- Monthly sampling of both the tertiary effluent and the selected surface water locations for key constituents, including total dissolved solids (TDS), nitrate, ammonia, sodium (salinity or specific conductance), chloride, boron, sulfate, pH
- Monthly sampling of both the tertiary effluent and the selected surface water locations for Central Coast Region Water Quality Control Plan (Basin Plan) pollutants, priority toxic pollutants, dioxins, regulated radionuclides, organic and inorganic chemicals could also be included at a lower frequency
- Annual testing for general mineral and irrigation suitability parameters

#### 2.2.2.7 Groundwater Quality Protective Measures

The following protective measures are required to reduce impacts to groundwater quality to below a level of significance.

1. To protect groundwater and surface water quality, the District shall implement an annual monitoring program for constituents of concern, as identified by the appropriate regulatory agencies, to ensure that there is no degradation of existing ground or surface water due to the expansion and application of recycled water.

As a result of this monitoring program, the District shall demonstrate that the use of tertiary treated recycled water does not negatively impact the beneficial uses of groundwater. If necessary to maintain existing water quality, additional protective measures shall be implemented to protect groundwater resources as deemed necessary based on collected data. These may include, but are not limited to:

- Proposing to SCRWA and facilitating implementation of additional treatment at the recycled water plant to reduce the concentration of the constituents of concern
- Coordinating with retailers (i.e., City of Gilroy) to modify irrigation practices such as reducing the spatial extent or the water volume applied
- Blending with another source of water that has lower concentration of the constituents of concern
- Discontinuing the use of recycled water

The protective measures listed above are general in nature and shall be used in combination with the monitoring program as the basis for an adaptive management approach to the program. The identified issues, response strategies, and actions taken to address identified impacts shall be detailed in an annual monitoring program report prepared by the District.

- 2. Analysis has shown that the concentration of TDS in the recycled water to be used for irrigation that may enter the unconfined aquifer is significantly less than Basin Plan objectives, less than existing TDS concentrations in the unconfined aquifer, and only 4 percent higher than the existing recharge water concentration. The following protective measures are examples of actions that may be employed to further reduce potential impacts:
  - Coordinating with retailers to implement irrigation guidelines and trainings to encourage BMP to reduce the potential for overwatering, surface runoff, and watering at inappropriate times of day. Avoidance of overwatering is particularly important because it will help prevent leaching of the salts into the aquifer.
  - Coordinating with retailers to implement or expand existing measures to reduce TDS levels in wastewater. A significant amount of sodium and possibly potassium ions enter

the wastewater stream due to water softeners used by water customers, which generally substitute sodium for calcium and magnesium.

- Providing public education to reduce the use of water softeners that rely on sodium and to promote alternative means of water softening
- Monitoring of TDS levels shall be included in the previously referenced monitoring program
- 3. The recycled water irrigation practices set forth in RWQCB Order 98-052 and described previously herein for surface and groundwater quality protection shall be implemented to mitigate concerns related to pharmaceutical and personal care products (PPCPs) and endocrine-disrupting compounds (EDCs). These measures require that direct runoff be avoided by using an appropriate irrigation rate and avoiding overspray or watering under saturated conditions. Ponding and evaporation of recycled water shall be minimized as well to minimize buildup of PPCPs, EDCs, and other pollutants at the ground surface.

If PPCPs and EDCs are identified in levels triggering mitigation, an appropriate process shall be identified and implemented to remove or reduce concentrations to acceptable levels. Selection of the removal process shall take into consideration the potential formation of undesirable byproducts, such as hazardous byproducts resulting from the oxidation of wastewater using chlorine and ozone. Use of ultraviolet lights for the oxidation process may be more effective in removing PPCPs and EDCs without resulting in disinfection byproducts.

The District shall conduct an annual review of regulatory status of PPCPs and EDCs to verify which compounds are likely to be made subject to regulation and to ensure compliance. In determining what constituents to monitor in the future, constituents on the most current Environmental Protection Agency (EPA) Contaminant Candidate List shall be considered based on presence in recycled water, fate and transport, and known or potential impacts to beneficial uses or public health.

4. Prior to commencement of service, the District shall develop and implement a monitoring program to verify that application of treated recycled water meets all federal and state standards and protects groundwater quality. Monitoring of *N*-Nitrosodimethylamine (NDMA) levels shall be included in the previously referenced annual monitoring program. If NDMA is identified in levels triggering mitigation, an appropriate process shall be identified and implemented to remove or reduce concentrations to acceptable levels. Treatment methods may include filtration, biological treatment, and/or reverse osmosis. In the event that monitoring indicates deterioration in groundwater quality or soils such that applicable standards are not achieved, recycled water application shall be halted until such time that additional biological or mechanical controls/treatment are in place and can be shown to meet established standards.

#### 2.2.2.8 Noise and Lighting Protective Measures

Adherence to City of Gilroy ordinances regulating hours of construction would minimize the potential for sleep disturbance and annoyance to residents and businesses in the vicinity of the study area. Heavy construction and equipment use would be limited to a maximum of 70 A-weighted decibels (dBA; measured at the residential property line), as restricted in the City of Gilroy's Noise Ordinance for fixed source mechanical equipment operating in industrial and commercial zones.. The following measures would be implemented:

- a. Unless otherwise provided for in a validly issued permit or approval, construction activities that are expected to result in greater noise, such as the moving and installation of equipment, shall be limited to the hours of 7:00 A.M. TO 7:00 P.M. Monday through Friday, and 9:00 A.M. to 7:00 P.M. on Saturday. Construction activities shall not occur on Sundays or City holidays, which include: New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas. Such activities are defined as including, but not limited to, excavation, grading, paving, demolitions, construction, alteration or repair of any site, street or highway, delivery or removal of construction material to a site, or movement of construction materials on a site. These activities do not include the jack and bore or microtunneling activities that may be limited to a maximum of 70 dBA when measured at the residential property line.
- b. In the event the chief building official or his or her designee determines that the public health and safety will not be impaired by the construction activities between the hours of 7:00 P.M. and 7:00 A.M., and that loss or inconvenience would not result to any party in interest, the chief building official may grant permission for such work to be done between the hours of 7:00 P.M. and 7:00 A.M. upon an application being made at the time the permit for the work is issued or during the progress of the work.
- c. For night work, the contractor shall minimize the effects of light and glare on residents of the neighborhood. External lighting shall be shielded and directed downward or toward the interior of the work site.

The following standard District BMP shall be incorporated into their work plan:

- Noise Pollution: Noise produced by construction activities will not exceed the applicable local noise ordinance standards.
- Residential Noise Management: The District will implement practices that minimize disturbances to residential neighborhoods surrounding work sites.
- In general, work will be conducted during normal working hours. Extending weekday hours and working weekends may be necessary to complete some projects.
- Internal combustion engines will be equipped with adequate mufflers.

- Excessive idling of vehicles will be prohibited.
- All construction equipment will be equipped with manufacture's standard noise control devices.
- The arrival and departure of trucks hauling material will be limited to the hours of construction.
- The use of jake brakes is prohibited in residential areas.

#### 2.2.2.9 Transportation Protective Measures

**Luchessa Avenue east of Monterey Road** Protective measures outlined below would reduce impacts to a less than significant level.

- Develop a traffic control plan to address potential impacts and submit for review by the City of Gilroy as part of the District's application for an encroachment permit for work involving the public right-of-way.
- One travel lane in each direction must be open to traffic during construction. One lane of traffic in each direction can be maintained by temporarily removing the existing parking on one or, if necessary, both sides of the street in the work zone, depending on the pipeline alignment location and the width of the construction zone. If the pipeline is constructed in the pavement close to the curb and the width of the work zone can be restricted to less than 20 feet, it would be possible to maintain one lane in each direction with parking permitted on the opposing side.
- Provide advanced notice of parking removal in the area to avoid confusion.

**Luchessa Avenue/Monterey Road Intersection** Protective measures outlined below would reduce impacts to less than significant levels:

- The District shall work with the City of Gilroy to determine if, at the east leg of the Luchessa Avenue/Monterey Road intersection, it would be possible to provide three travel lanes (westbound through/right + westbound left-turn + eastbound through) by removing existing parking on both sides of the street during the installation of the proposed recycled water pipeline. Providing three lanes of travel at the east leg of the intersection would help maintain the westbound left-turn lane.
- The District shall work with the City of Gilroy to determine if the green-light time for Luchessa Avenue may be increased to give a green time over cycle length (G/C) ratio of at least 0.40 during construction of the intersection area to avoid a decrease in level of service (LOS), such as a LOS F condition (Forced Flow/Excessive Delays). A G/C ratio of 0.40 would increase the capacity of the temporary lane closure to 480 vehicles per hour (vph) per

lane, exceeding the demand volume of 464 vph. This would result in an LOS  $E^1$  for Luchessa Avenue during pipeline construction through the intersection when only one lane in each direction can be provided. In general, the timing should be adjusted to favor traffic movements impacted by the pipeline construction.

• At any given time during construction of the proposed pipeline within the Luchessa Avenue/Monterey Road intersection when the traffic signal is turned off by the City, the traffic would be controlled by flagmen. Once the pipeline is constructed through the intersection, detector loops shall be replaced along with any other equipment that would be disturbed before restoring the pavement and re-striping.

**Bike and Pedestrian Facilities** Pedestrian facilities including sidewalks and crosswalks would be maintained at all times during construction. If sidewalks are closed or temporarily relocated, as a protective measure, advanced warning and signage shall be provided where sidewalks or crosswalks need to be temporarily relocated.

**Driveways** There are numerous driveways on Luchessa Avenue east of Monterey Road. Some parcels in this area have multiple driveways. To reduce potential impacts to driveways to a less than significant level, access to driveways would be maintained during construction activities as a protective measure.

**Minor Street Control** As a protective measure and to reduce potential impacts to minor streets to a less than significant level, pipeline construction would be under flag control when it crosses a minor street.

#### 2.2.2.10 Climate Change Protective Measures

Neither current nor draft Bay Area Air Quality Management District (BAAQMD) guidelines specify a quantitative threshold for construction greenhouse gas (GHG) emissions. Basic modeling of anticipated amounts of GHGs emitted from the Short-Term Phase I CIP during construction would be very small. Implementation of the proposed air quality protective measures and application of existing regulations would further reduce GHG emissions. Potential impacts would be reduced to less than significant levels using the current and draft BAAQMD guidelines. Potential impacts would be further reduced by implementing the following protective measures, as feasible and where applicable, in construction-contract specifications:

• Require contractors to maintain tire inflation to the manufacturer's inflation specifications.

**<sup>1</sup>** LOS E - Represents traffic characterized by slow movement and frequent (although momentary) stoppages. This type of congestion is considered severe, but is not uncommon at peak traffic hours, with frequent stopping, long-standing queues, and blocked intersections.

- Require contractors to shut down equipment when not in use for extended periods of time, and minimize idling time (i.e., 15-minute maximum).
- Require contractors to implement a construction worker education program

#### 2.2.3 No Action Alternative

NEPA requires environmental documents to analyze a No Action Alternative along with any proposed alternatives. The No Action Alternative examines the reasonably foreseeable future conditions in the event that the Proposed Action is not implemented or constructed. The No Action Alternative allows decision makers to compare the impacts of implementing the Proposed Action with the impacts of not implementing the Proposed Action. In this case, no Cooperative Agreement would be executed and no Recovery Act funding would be allocated for the Short-Term Phase I CIP project. As a result, the District would not implement expansion of the recycled water program. Existing recycled water pipelines would continue to be used, and expansions would not occur.

# **Chapter 3 Environmental Analysis**

Chapter 3 describes the affected environment and environmental consequences of the Proposed Action and No Action Alternative. Impacts are addressed at a level of detail that is commensurate with the magnitude of the potential impact. The following sections describe the resources that are analyzed in detail because there is a potential for impacts to occur, as well as those that are not analyzed in detail because no impacts would occur.

## 3.1 Resource Analysis

#### 3.1.1 Resources Analyzed in Detail

The resource areas listed below have the potential to be affected by providing Recovery Act funding for the implementation of the Short-Term Phase I CIP component of the Master Plan (Proposed Action) and are discussed in Sections 3.2 through 3.14.

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Indian Trust Assets
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation
- Climate Change

#### 3.1.2 Resources Not Analyzed in Detail

Based on review of the Proposed Action and the affected environment, the following environmental resources were found to not be affected by the Proposed Action and are not analyzed in detail in this EA.

- *Minerals*. Existing developed lands and those designated and planned for future development are not included on California Division of Mines and Geology maps for mineral resource extraction. The majority of Gilroy and the surrounding area are unclassified or information is inadequate for classification. Future construction resulting from the Proposed Action would be located in existing road easements or areas already developed or planned for development and thus implementation would not result in the loss of availability of a known regional or locally important mineral resource.
- **Paleontology**. The initial study checklist prepared for the 2004 South County Recycled Water Master Plan determined that the Short-Term Phase I CIP would have no impact on paleontological resources. The project or alternatives would be constructed primarily in existing disturbed road easements or utility sites. For these reasons, paleontology was not considered to be an issue that warranted further analysis.
- **Population and Housing**. Implementation of the Proposed Action would not result in expansion of the existing wastewater treatment capacity. The Short-Term Phase I CIP would improve the existing recycled water transmission networks to reduce their use of potable water for irrigation purposes. The District plans and executes CIP projects to meet current and future water demands. Its activities can be viewed as accommodating existing and projected future water supply demands rather than providing excess capacity for unplanned growth. As this project does not involve increased housing, population and housing did not warrant further analysis. The Proposed Action would have no effect on population and housing.
- **Public Services.** The District is responsible for the supply and delivery of the water, including recycled water and is, therefore, providing an essential public service. Implementation of the Proposed Action would result in a beneficial impact. Short-Term Phase I CIP construction requires a water system infrastructure consisting of pipelines and associated facilities such as water storage reservoirs. Implementation of the Proposed Action would reduce the demand and use of potable water for irrigation. As the Short-Term Phase I CIP would not result in any negative impact to public services.
- *Recreation*. Implementation of the Proposed Action would not result in impacts to parks or other recreational facilities within Gilroy. The study area consists primarily of agricultural and industrial use; no recreational facilities or parks are located in the vicinity. Pipeline placement for the Short-Term Phase I CIP would occur within existing road rights-of-way; the majority of the roadways do not have bike lanes. A small section of the Luchessa Avenue

bike lane would be re-routed for a short time. Overall, the Proposed Action would have a negligible, short-term impact on recreation.

- *Socioeconomics*. The study area is located within a rural agricultural and industrial use area on the southeast side of Gilroy. There is a small residential area along Southside Drive. The Proposed Action would not result in an increase or decrease of jobs, would not affect population size, and would not result in an increased need for social services. Construction related to the proposed Short-Term Phase I CIP would occur over a short period of time and would have minimal impact on socioeconomic conditions within Gilroy. The Proposed Action would have negligible impacts on socioeconomics.
- *Environmental Justice*. For federal actions, Executive Order 12898, also known as the federal environmental justice policy, requires federal agencies to address to the greatest extent practicable and permitted by law the disproportionately high adverse human health and environmental effects of their programs, policies, and activities on minority and low income populations in the United States. The study area is not located within an area of high minority or low income populations. The Proposed Action would not result in disproportionately high adverse human health and environmental effects on minority or low income populations.

### 3.2 Aesthetics

#### 3.2.1 Affected Environment

The overall character of the study area is established by the developed community of Gilroy and nearby areas, and is influenced by the surrounding large scale agricultural lands and agricultural processing plants, mixed residential uses, mixed institutional and recreational uses, and commercial/light industrial areas all located within the Santa Clara Valley. The valley is surrounded by mountain ranges (Diablo and Santa Cruz Mountains), with the southwestern portion of Gilroy east of the Santa Cruz mountain foothills. Surrounding community uses along the proposed recycled water pipeline consist of commercial development and large-scale agricultural operations along the eastern portion of the alignment, near the SCRWA wastewater treatment plant (see Figure 2-2).

#### 3.2.2 Regulatory Setting

The principal land use and planning document for the study area is the Gilroy General Plan 2002-2020 (City of Gilroy 2002). Based on the Gilroy General Plan, the Short-Term Phase I CIP component is located within Public/Quasi-Public Facility and General Industrial land use categories. The Community Design and Development section of the Gilroy General Plan also contains policies to preserve the aesthetic qualities of the area.
# 3.2.3 Environmental Consequences

### 3.2.3.1 No Action Alternative

Under the No Action Alternative, no impacts to communities/neighborhoods, including aesthetics and visual resources, would occur as funding would not be provided for the Short-Term Phase I CIP. Temporary impacts to areas adjacent to the pipeline alignment would not occur. No direct or indirect impacts to aesthetic or visual resource areas would occur as a result of the No Action Alternative.

### 3.2.3.2 Proposed Action

Short-term disturbance of ground cover, grading, excavation, material stockpiles, and the operation of construction equipment are common features of construction sites. While implementation of the Proposed Action could result in temporary disturbance along the pipeline route during construction, the majority of the alignment would not be prominently visible from residences, roads, or other public viewsheds. Installation of pipelines would occur primarily in existing and planned roadways. Furthermore, impacts would be reduced or eliminated upon the completion of construction. Pipelines installed below grade in roadways would have no visual effect when completed.

# 3.3 Agricultural Resources

# 3.3.1 Affected Environment

The community character of Gilroy is generally represented by cultivated agricultural lands, agricultural processing plants, mixed residential uses, mixed institutional and recreational uses, and commercial/light industrial areas. Surrounding community uses along the proposed recycled water pipeline consist of commercial development and large-scale agricultural operations.

Gilroy's population increased by 79 percent between 1980 and 2000, exceeding the 32 percent growth rate of Santa Clara County as a whole. Changes in this area are predominantly conversions from irrigated farmland and grazing land to urban and low-density residential. The single most important factor in the loss of agricultural lands has been rapid urbanization. The California Department of Conservation has found that conversion of cropland to urban uses adversely affects the efficiency of remaining farming operations. Agricultural production decreases as a result of increased air pollution. Crop diseases increase as a result of inadequate care of off-farm ornamental plants and restrictions on pesticide use and burning. Agricultural costs increase because of rising land costs, competition for limited water resources, rising water costs, theft and vandalism of farm equipment, crop pilferage, road congestion, and farm trespass.

### 3.3.1.1 Prime Farmland and Farmland of Statewide Importance

Prime Farmland, as defined by the U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS), is land that has the best combination of physical and chemical characteristics for crop production. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed. Farmland of Statewide Importance is land other than Prime Farmland which has a good combination of physical and chemical characteristics for crop production. While portions of the study area contain Prime Farmland or Farmland of Statewide Importance soils (USDA NRCS 1995), soils in study area overall have been subjected to urban development for many years, and therefore have undergone considerable soil disturbance. The predevelopment conditions that the NRCS originally mapped as Prime Farmland no longer exist under development conditions.

# 3.3.2 Regulatory Setting

The Farmland Protection Policy Act (7 U.S.C. 4201) is the federal statute that provides the basis for the policy of avoiding impacts on agricultural resources from federal programs. The act does not prohibit federal agencies from undertaking actions that convert farmland to nonagricultural use, but only requires that they:

identify and take into account the adverse effects of federal programs on the preservation of farmland; consider alternative actions, as appropriate, that could lessen such adverse effects; and assure that such federal programs, to the extent practicable, are compatible with state (and local) programs and policies to protect farmland. (7 U.S.C. 4202[b])

# 3.3.3 Environmental Consequences

### 3.3.3.1 No Action Alternative

Under the No Action Alternative, the funding would not be provided for the Short-Term Phase I CIP and there would be no potential for impacts to agricultural resources. No direct or indirect impacts to agricultural resources would occur as a result of the No Action Alternative.

### 3.3.3.2 Proposed Action

Under the Proposed Action, construction and installation of the recycled water pipelines would occur primarily within existing road rights-of-way and easements. The recycled water pipelines would serve new customers, including an industrial customer, Cintas Corporation. This customer would be serviced via a connection to the existing main recycled water pipeline.

The industrial customer is located close to the existing main recycled water transmission pipeline. The proposed connection would connect this facility into the existing recycled water pipeline with minimal disturbance to agriculture resources. The proposed connection would be placed entirely within the road right-of-way and would not significantly impact agricultural resources.

The Proposed Action would not result in the irreversible conversion of farmland to nonagricultural uses and would be compatible with state, local, and private programs and policies to protect farmland. The Proposed Action would result in less than significant effects on agricultural land use.

# 3.4 Air Quality

This section analyzes the Proposed Action's potential impacts on air quality, including criteria pollutants, toxic air contaminants, and greenhouse gas (GHG) emissions during project construction and maintenance.

The first section discusses air quality regulations/standards and presents existing air quality conditions in the study area. The background information is intended to identify baseline conditions, which establishes the context for evaluation of impacts.

# 3.4.1 Climate and Weather

Although the primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted from those sources, meteorological conditions and topography are also important factors. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, interact with the physical features of the landscape to determine the movement and dispersal of air pollutants.

The study area is located in southern Santa Clara Valley, which is bounded by San Francisco Bay to the north and by mountains (Diablo Range and Santa Cruz mountains) to the east, south, and west. The climate of the San Francisco Bay region is classified as Mediterranean, with little or no precipitation during the summer months and moderate precipitation during the winter months. At the northern end of the valley, mean maximum temperatures are in the low 80s during the summer and the high 50s during the winter; mean minimum temperatures range from the high 50s in the summer to the low 40s in the winter.

Winds in the valley are greatly influenced by the terrain, resulting in a prevailing flow that roughly parallels the valley's northwest-southeast axis. Average wind speeds are greatest in the spring and summer and weakest in the fall and winter. Overall, strong winds are rare and are associated mostly with winter storms.

Air pollution potential in the Santa Clara Valley is high. High summer temperatures, stable air, and mountains surrounding the valley combine to promote ozone  $(O_3)$  formation. In addition to the many local sources of pollution,  $O_3$  precursors from San Francisco, San Mateo, and Alameda counties are carried by prevailing winds to the Santa Clara Valley.

The Santa Clara Valley has a high concentration of industry at its northern end, in the Silicon Valley. Some of these industries are sources of air toxics as well as criteria pollutants. In addition, Santa Clara Valley's large population and many work-site destinations generate the highest mobile source emissions of any sub-region in the Bay Area (Bay Area Air Quality Management District 1999).

### 3.4.2 Regulatory Setting

#### 3.4.2.1 Clean Air Act

The Clean Air Act of 1970, as amended, establishes the framework for modern air pollution control. This act directs the EPA to establish ambient air standards for six pollutants:  $O_3$ , carbon monoxide (CO), lead, nitrogen dioxide, inhalable particulate matter<sup>1</sup> (PM<sub>10</sub> and PM<sub>2.5</sub>), and sulfur dioxide. The standards are divided into primary and secondary standards; the former are set to protect human health within an adequate margin of safety, and the latter to protect environmental assets, such as plant and animal life.

The Clean Air Act requires that all federally funded projects come from a plan or program that conforms to the appropriate State Implementation Plan (SIP). The purpose of the General Conformity Rule is to ensure that federal actions conform to applicable SIPs so that they do not interfere with strategies employed to attain the national ambient air quality standards. The rule applies to federal actions in areas designated as nonattainment areas for any of the six criteria pollutants and in some areas designated as maintenance areas.

The Proposed Action would include federal funding and is subject to the General Conformity Rule. The study area is classified federally as a marginal nonattainment area for the 8-hour  $O_3$  standard<sup>2</sup>, an unclassified/attainment area for the  $PM_{10}$  standard, and a moderate maintenance area for CO. Consequently, a worst-case scenario analysis is undertaken to identify whether the Proposed Action's total emissions of  $O_3$  and CO are below the *de minimis* levels, and are regionally insignificant (total emissions are less than 10 percent of the area's total emissions inventory for that pollutant).

#### 3.4.2.2 California Clean Air Act

Air quality in California is also governed by more stringent regulations under the California Clean Air Act, which is administered by the California Air Resources Board (CARB) at the state

<sup>&</sup>lt;sup>1</sup>  $PM_{10}$  and  $PM_{2.5}$  are particulates of 10 microns or less in diameter and 2.5 microns or less in diameter, respectively.

<sup>&</sup>lt;sup>2</sup> After June 15, 2005, federal conformity for  $O_3$  is based on the 8-hour standard rather than the 1-hour standard.

level and by the Air Quality Management Districts at the regional and local levels; the Bay Area Air Quality Management District (BAAQMD) has jurisdiction over the study area.

Achieving the standards is accomplished through district-level air quality management plans that will be incorporated into the SIP. In California, the EPA has delegated authority to prepare SIPs to the CARB, which has delegated that authority to individual air districts.

### 3.4.2.3 Ambient Air Quality Standards

**Federal and State Standards** Federal and state regulations establish emission standards for six criteria pollutants as described above in Section 3.4.2.1. Note that for some pollutants, separate standards have been set for different measurement periods.

**Regional Air Quality Guidelines** Within the San Francisco Bay Air Basin, which includes Santa Clara County, the BAAQMD is responsible for ensuring that state and federal ambient air quality standards are not violated. BAAQMD develops and enforces air quality regulations for non-vehicular sources, issues permits, participates in air quality planning, and operates a regional air quality monitoring network.

Attainment Status EPA has designated Santa Clara County as a nonattainment area for the 8-hour ozone standard. For the CO standard, the EPA has classified the county as an attainment area. For the  $PM_{10}$  and  $PM_{2.5}$  standards, the EPA has designated the county as an unclassified/attainment area.

CARB has classified Santa Clara County as a nonattainment area for the 1-hour ozone standard. For the CO standard, the CARB has classified the county as an attainment area. For the  $PM_{10}$  and  $PM_{2.5}$  standards, the CARB has classified the county as a nonattainment area.

**Sensitive Receptors in the Study Area** The BAAQMD generally defines a sensitive receptor as a facility or land use that houses or attracts members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. No sensitive receptors are located in the vicinity of the study area.

# 3.4.3 Environmental Consequences

# 3.4.3.1 Criteria

The federal Clean Air Act requires the U.S. Environmental Protection Agency to set outdoor air quality standards for the nation. It also permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards. California has also set standards for some pollutants that are not addressed by federal standards. California Environmental Quality Act (CEQA) air quality criteria were used to

analyze impacts for this EA because the District would need to comply with these more stringent standards.

Criteria used for determining the significance of air quality impacts under CEQA are based on the State CEQA Guidelines and professional standards and practices. Impacts were considered significant if the Proposed Action would:

- Conflict with or obstruct implementation of the applicable air quality management plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable National Ambient Air Quality Standard (NAAQS) or California Ambient Air Quality Standard (CAAQS), including releasing emissions that exceed quantitative thresholds for ozone precursors;
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people;
- Generation of pollutant emissions in excess of federal *de minimus* threshold levels:

# 3.4.3.2 Methodology for Impact Analysis

Under CEQA, the Proposed Action is subject to the BAAQMD air quality regulation process and standards. Construction of the Short-Term Phase I CIP component would result in temporary emissions of fugitive dust related to transportation and equipment exhaust. Fugitive dust emissions are the dominant air pollutants generated from excavation and earth moving activities. Analysis assumed that the Short-Term Phase I CIP would incorporate dust control measures consistent with BAAQMD guidance.

Once construction is complete, the operation and maintenance of the Short-Term Phase I CIP component would require intermittent use of smaller equipment for short durations of time. As air pollutant emissions from long-term maintenance activities are expected to be very low, the impact analysis focused on pollutant emissions generated during construction of the Short-Term Phase I CIP component.

# 3.4.3.3 No Action Alternative

Under the No Action Alternative, no impacts to air quality would occur as the pipelines would not be constructed. Temporary impacts to areas adjacent to the pipeline alignments would not occur. No direct or indirect impacts to air quality would occur as a result of the No Action Alternative. There would be no change in air quality beyond current conditions.

### 3.4.3.4 Proposed Action

The Proposed Action would result in potential air quality impacts with regard to construction (pipeline installation) and operations (increased generation and pumping of recycled water). The Short-Term Phase I CIP component alignment is provided in Figure 2-2. The proposed action connects the existing recycled water plant to the existing recycled water pipeline, and connects the existing pipeline to a major customer, as described in Chapter 2.

**Conflict with or Obstruct Implementation of the Applicable Air Quality Plan** A proposed action is considered inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates included in the applicable air quality plan which, in turn, would generate emissions not accounted for in the applicable air quality plan emissions budget. The Short-Term Phase I CIP component was designed to serve existing businesses. It would not induce population or employment growth that has not been anticipated in the air district's plan. Therefore, under the Proposed Action, there would be no impact related to conflict with or obstruction of air quality plans, and no mitigation would be required for construction or operations activities.

**Violate Any Air Quality Standard, Contribute Substantially to an Existing or Projected Air Quality Violation** BAAQMD guidelines require implementation of control measures to reduce PM<sub>10</sub> emissions (BAAQMD 1999). Impacts and control measures for construction and operation activities are outlined below.

*Construction Impacts* Construction of the proposed Short-Term Phase I CIP would result in the temporary generation of emissions of reactive organic gases (ROGs), nitrogen oxides ( $NO_x$ ), CO,  $SO_2$ ,  $PM_{10}$ , and  $PM_{2.5}$ , producing short-term impacts on ambient air quality in the area. Emissions would originate from mobile and stationary construction equipment exhaust, employee vehicle exhaust, dust from clearing the land, exposed soil eroded by wind, and ROGs from architectural coatings and asphalt paving. Construction equipment anticipated to be present within the study area is presented in Table 3-1.

#### TABLE 3-1

# ANTICIPATED CONSTRUCTION EQUIPMENT INVENTORY, SHORT-TERM PHASE I CIP COMPONENT

#	Туре
1	Concrete Saw, Self-propelled, 20 hp (24" blade capacity, Max. 9" cut)
1	Truck, Stake Body, 3T
1	500 gal. Water Tank mounted on trailer w/ hoses ("Water Buffalo")
1	Hydraulic Excavator, CAT 330BL w/ attachments
1	Wheel Loader, CAT 936G w/ attachments
1	Wheel Loader, JD 410E w/ backhoe
1	WaterTruck, 2000 gal.
1	Utility Truck, F350
1	Pick Up, F250
1	Trench Sheild, 5' x 24' , 6" thick w/ 8" dia. X 4.5' spreader bars
1	Gravel or Rock Box, 15 cy
1	Jumping Jack, Wacker BS 700
1	Vibratory Plate, Walk behind, 18 inch wide
1	Air Compressor, 185 cfm
1	Laser Grade level
1	Dump Truck, tandem axle, 10-Wheeler, 10 cy or 16 t
1	Tractor w/ end dump trailer , 5-axle,13 cy or 20t
1	Roller, steel smooth drum, CAT CS-323
1	Asphalt Paver, small, Oper. Wt. < 19000 lbs, Blaw-Knox PF-115
1	Backhoe, JD 210 LE
1	Water Truck, 2000 gal.
1	Oil Tank, Bear Cat Oil Tank
1	Pick Up, F250

Construction-related emissions would vary depending on the level of activity, length of the construction period, specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content. The air quality impact from construction activities would be temporary and limited to the approximately eight- to nine-month duration of project construction.

Construction activities for the Proposed Action would result in short-term impacts on ambient air quality in the area. Temporary construction emissions would result directly from site clearing/preparation and site grading, and indirectly from construction equipment emissions and construction worker commute trips. Pollutant emissions would vary daily depending on the level of activity, the specific operations, and the prevailing weather. It is anticipated that earth moving/site grading activities would result in the highest daily fugitive dust generation.

Construction emissions were modeled using the default equipment horsepower and load factor information from URBEMIS 9.2.4, with an assumed construction period of eight to nine months, starting in 2010. Table 3-2 presents pollutant emissions from construction activities. All reviewed emissions are below the draft BAAQMD significance thresholds.

#### **TABLE 3-2**

Pollutants	Proposed Action Emissions	De Minimus Thresholds	10% Regional Conformity <i>De Minimus</i> Thresholds
ROG	15.6	100	13.782
NO <sub>X</sub>	46.8	100	16.353
СО	27.7	100	63.790
CO <sub>2</sub>	4.135	NA	NA
SO <sub>2</sub>	0.01		
PM <sub>10</sub> Fugitive Dust	3.1	NA	7.742
PM <sub>10</sub> Exhaust	2.9	NA	7.7
PM <sub>10</sub>	6.0	NA	7.742
PM <sub>2.5</sub> Fugitive Dust	0.66	100	2.966
PM <sub>2.5</sub> Exhaust	2.6	100	2.966
PM <sub>2.5</sub>	3.3	100	2.966

# ESTIMATED CONSTRUCTION EMISSIONS, 2010-2011 (POUNDS/DAY)

Notes: (1) Fugitive dust emissions assume incorporation of dust control BMP as required by BAAQMD (see Construction Dust Control under Best Management Practices in Project Description).

(2) De minimus thresholds are based on 10% of inventory from California Air Resources Board 2009.

 $PM_{10}$  emitted during construction activities varies greatly depending on the level of activity, the specific operations taking place, the equipment being operated, local soils, and weather conditions. There are a number of feasible control measures that can be reasonably implemented to reduce PM<sub>10</sub> emissions during construction, including implementation of District Construction Dust Control BMP, and BAAQMD-recommended exhaust emissions controls (outlined below in Air Pollutant Emissions Control Measures). According to current BAAQMD guidelines, implementation of the BMP and air pollutant emission control measures (outlined below) would reduce the air pollutant emissions from construction activities to less than significant levels (BAAQMD 1999).

Although BAAQMD does not currently include significance thresholds for GHG emissions, a summary analysis has been done to compare to the draft BAAQMD thresholds and to achieve a better understanding of the likely approximate level of construction-related emissions generated. The quantification of construction emissions was performed using the URBEMIS 2007 (Version 9.2.4) model for an industrial park land use.

Construction Air Pollutant Emissions Control Measures Fugitive dust emissions from construction activities represent a significant impact. To reduce construction dust emissions, the District routinely requires BMP that stipulate the following:

- Implement BAAQMD Basic Control Measures for construction emissions of PM<sub>10</sub> at all construction sites. Current measures stipulated by the BAAQMD CEQA Guidelines include the following (BAAQMD 1999):
  - Active areas shall be watered at least twice per day unless soils are already sufficiently moist to avoid dust. The amount of water must be controlled so that runoff from the site does not occur, yet dust control is achieved.
  - Trucks hauling soil, sand, and other loose materials shall be covered or shall maintain at least two feet of freeboard.
  - Unpaved access roads, parking areas, and staging areas at construction sites shall be paved, watered three times daily, or non-toxic soil stabilizers shall be applied to control dust generation.
  - Paved site access roads, parking areas, and staging areas shall be swept daily (with vacuum-powered street sweepers).
  - Paved public streets shall be swept (with vacuum-powered street sweepers) if visible soil material is carried onto adjacent paved surfaces. (Air Quality BMP 1)
- For sites greater than four acres in size, implement Bay Area Air Quality Management District Enhanced Dust Control Measures. Current measures stipulated by the BAAQMD CEQA Guidelines include the following (BAAQMD 1999):
  - All BAAQMD "Basic" control measures.
  - Inactive areas (previously graded areas inactive for ten days or more) shall be sprayed with soil stabilizer or seeded.
  - Exposed stockpiles (e.g., dirt, sand) shall be watered twice daily, enclosed, covered, or sprayed with soil stabilizers.
  - Traffic speeds on unpaved roads shall be limited to 15 miles per hour.
  - Sandbags or other bank protections shall be installed to prevent silt runoff to roadways.
  - Vegetation in disturbed areas shall be replanted as soon as horticulturally appropriate. For example, plant material may not be ready as soon as the job is done (e.g., willow cuttings have to be collected during winter dormancy).
- Implement appropriate BAAQMD Optional Control Measures for construction emissions of PM<sub>10</sub> at all construction sites. BAAQMD Optional Control Measures are strongly encouraged at construction sites that are large in area, located near sensitive receptors, or which for any

other reason may warrant additional emissions reductions. Current measures stipulated by the BAAQMD CEQA Guidelines include the following (BAAQMD 1999):

- Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Install wind breaks or plant trees/vegetation wind breaks at windward side(s) of construction areas.
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour.
- Limit the area subject to excavation, grading, and other construction activity at any one time.
- Additional District control measures that may be used if applicable include:
- Tailgates of trucks shall be sealed.
- Trucks shall be brushed down before leaving the site. (Air Quality BMP 3)

With implementation of these BMPs as well as the following measures, air pollutant emissions from construction activities would be considered less than significant.

*Implement Current BAAQMD Basic Construction Measures during Construction* The District shall implement all of the BAAQMD's feasible control measures to reduce exhaust emissions of PM from construction activities presented below (as feasible and where applicable).

- Use grid power instead of diesel generators at all construction sites where it is feasible to connect to grid power.
- In contract specifications, include requirements of 13 CCR 2480 and 2485, which limit the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) to five minutes at any location. In addition, limit the use of diesel auxiliary power systems and main engines to five minutes when within 100 feet of homes while the driver is resting.
- Minimize idling time to five minutes for all on-site heavy-duty equipment when not engaged in work activities.
- Locate staging areas and equipment maintenance activities as far from sensitive receptors as possible.
- Develop a schedule of low-emission tune-ups and perform such tune-ups on all equipment. A log of required tune-ups shall be maintained and a copy of the log submitted to the District on a monthly basis for review. In addition, all equipment shall be maintained in good working order and properly tuned in accordance with manufacturers' specifications.

*Implement Draft BAAQMD Basic Construction Measures during Construction* The District shall implement the following draft BAAQMD-recommended control measures to reduce PM and exhaust emissions from construction activities. The District shall include the following basic control measures, where applicable, in contract specifications:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the BAAQMD shall also be visible to ensure compliance with applicable regulations.

*Implement Draft BAAQMD Additional Construction Measures during Construction* The District shall implement the following draft BAAQMD-recommended control measures to reduce PM and exhaust emissions from construction activities. The District shall include the following additional control measures, where applicable, in contract specifications:

- All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 miles per hour.

- Wind breaks (e.g. fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
- Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Site accesses to a distance of 100 feet from the paved road shall be treated with a six- to 12-inch compacted layer of wood chips, mulch, or gravel.
- Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.
- The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e. owned, leased, and subcontractor vehicles) would achieve a project-wide fleet-average 20 percent NOX reduction and 45 percent PM reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as such become available.
- Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e. Regulation 8, Rule 3: Architectural Coatings).

*Implement Tailpipe Emission Reduction Plan for Project Construction* The District will require all construction contractors to prepare and implement a tailpipe emissions reduction plan to minimize air quality impacts related to construction activities during site preparation, grading, and construction. The emission reduction plan will include at least the following measures and may include other measures identified as appropriate by the District and/or contractor.

- Maintain construction equipment in good condition.
- Minimize truck idling near residences and school facilities.
- Set up stationary equipment as far as possible from residences and school facilities.

The District will be responsible for proper and effective implementation of the plan, including the following specific duties.

• Conducting periodic inspections to confirm all specified BMP are being implemented.

• Taking corrective action to resolve issues revealed by either routine inspections or incoming complaints.

*Provide Advance Notification of Construction Schedule* The District will provide advance written notification of proposed construction activities to all residences within 500 feet of the construction site. Notification will include a brief overview of the proposed project and its purpose, as well as the proposed construction activities and schedule. It will also include the name and contact information of the District's project manager or another District representative or designee who will act as the "air quality control coordinator" responsible for resolving any air quality concerns (as outlined above in *Implement Draft BAAQMD Basic Construction Measures during Construction*).

Designate Air Quality Control Coordinator and Provide Resolution for Resident Concerns The District will designate a representative to act as air quality control coordinator, responsible for resolving air quality concerns (this may be the same person acting as noise disturbance coordinator as outlined above in Implement Draft BAAQMD Basic Construction Measures during Construction). The air quality control coordinator name and contact information will be included in the preconstruction notices sent to area residents. The air quality control coordinator will be available during regular business hours to monitor and respond to concerns. In the event an air quality complaint is received, the air quality control coordinator will be responsible for determining the cause of the complaint and ensuring that all reasonable measures are implemented to correct the problem.

Provide Housecleaning Vouchers upon Request As described in Implement Draft BAAQMD Basic Construction Measures during Construction measures, the District will notify residents of upcoming activity before construction begins and will provide an air quality control contact to address complaints. If a resident complains about construction dust emissions, the District will conduct an inspection of the subject's dwelling. If the inspection confirms the dust is predominantly from the District's construction project, the District will issue a voucher for housecleaning services for surface cleaning, sweeping, and vacuuming.

*Operations Impacts* Operation of the proposed recycled water pipeline could generate area source and transportation-related emissions due to the generation of additional recycled water and pumping of the water. The quantification of operational emissions was performed using the URBEMIS model. All criteria pollutant emissions would be below the current and draft new BAAQMD significance thresholds. Therefore, operational impacts related to criteria pollutants emissions are considered less than significant, and no mitigation is required. Table 3-3 demonstrates that the project is expected to decrease operational GHG emissions from the baseline condition.

#### TABLE 3-3

Pollutants	Proposed Action Emissions (2.6 miles)	De Minimus Thresholds	
ROG	0.29	100	
NO <sub>X</sub>	0.19	100	
СО	2.04	100	
CO <sub>2</sub>	186.00	NA	
SO <sub>2</sub>	0.00		
PM <sub>10</sub> /PM <sub>2.5</sub>	0.33/0.06	NA/100	

#### ESTIMATED OPERATIONAL GHG EMISSIONS, 2010-2011 (POUNDS/DAY)

Note: Fugitive dust emissions assume incorporation of dust control BMP as required by BAAQMD.

GHG estimates for wastewater treatment and distribution and the baseline scenario are based on average emission factors and energy intensities for Santa Clara Valley Water. These values may vary slightly from year to year and are associated with some inherent uncertainty, but the project will be more energy efficient on a unit-by-unit basis than the baseline scenario even with minor variations. Consequently, the project will still result in a net GHG reduction in operational emissions.

**Net Increase of Any Criteria Pollutant for Which the Project Region Is a Nonattainment Area** Construction activities would require the use of diesel-powered equipment, which would generate diesel particulate matter (DPM). In October 2000, CARB identified DPM as a Toxic Air Contaminant (TAC) with potential human health impacts, although BAAQMD has not yet established standards for DPM emissions.

The assessment of health risks associated with exposure to diesel exhaust is typically associated with chronic exposure, in which a 70-year exposure period is often assumed. However, although cancer can result from exposure periods of less than 70 years, acute exposure periods (i.e., two to three years) to diesel exhaust are not anticipated to result in an increased health risk, as health risks associated with exposure to diesel exhaust are typically seen in exposures periods that are chronic in nature. The Proposed Action would last from eight to nine months and would require a limited number of pieces of heavy equipment (see Table 3-1); moreover, diesel equipment would be used only during parts of the overall eight to nine month construction window. Health impacts associated with pollutants emitted by diesel equipment are thus expected to be less than significant, and no additional mitigation is required.

The recycled water pumps use electricity supplied by Pacific Gas and Electric (PG&E) or CalPine, and there would be no on-site emissions associated with the use of the pumps; however, emissions related to PG&E/CalPine's electricity generation operations could increase. Energy use would be based on demand. The anticipated energy use for pumping recycled water through the new pipeline would be offset by reduced pumping of groundwater, resulting in a net reduction of energy use. Further, PG&E/CalPine operational permits account for the total amount of energy

they generate, and any applicable mitigation would already be incorporated into their operational permits. Any increased emissions associated with the operation of the pumps for the recycled water system would be minor compared to existing emissions in their respective regions; emissions associated with construction would be minimal and temporary. As such, this impact is less than significant.

The region has been designated as non-attainment status for  $PM_{10}$ . However, the control measures discussed in construction air pollutant emissions control measures would reduce  $PM_{10}$  emissions during construction, resulting in a less than significant impact, and no additional mitigation would be required.

**Expose Sensitive Receptors to Substantial Pollutant Concentrations** The construction of the Proposed Action would use diesel-powered equipment. The dominant TAC generated by diesel-powered construction equipment is DPM) which is a suspected carcinogen. DPM emissions from construction equipment tailpipes were estimated using URBEMIS 2007.

*Construction* Construction of the Short-Term Phase I CIP would involve the use of dieselpowered equipment, which could pose a diesel health risk. However, the nearest sensitive receptors are over one mile from the proposed action. Construction emissions would dissipate to levels that would not cause a substantial health risk at these distances. Therefore, this impact is considered less than significant.

*Operations* Water treatment facilities are generally not associated with air pollutant emissions or pollutants that might cause a localized nuisance from odors or fumes. Operation of the recycled water pipeline would result in additional water treatment (to remove or reduce levels of salts and other solids in water), and the aeration in a decarbonator at the end of the process would result in minor emissions of carbon dioxide. The Short-Term Phase I CIP pipeline would be an enclosed system, with no associated emissions. Operation of the proposed recycled water pipeline may result in a nominal increase in the number of employee trips per day, resulting in a minor increase in vehicle emissions. As such, operation of the Short-Term Phase I CIP component would have a minimal impact on local and regional air quality. The impact would therefore be considered less than significant.

#### Create Objectionable Odors Affecting a Substantial Number of People

*Construction* The Proposed Action could generate temporary, localized odors, similar to any other construction project. Odors might be generated by tailpipe emissions from diesel-powered equipment or during road repaving operations. The effect of such odors would be temporary and limited to the area adjacent to the construction operation. While the odor impacts could potentially be significant during construction, implementation of control measures outlined below would reduce this impact to a less than significant level.

*Implement Tailpipe Emission Reduction Plan for Project Construction* This measure is described in detail in construction air pollutant emissions control measures.

*Provide Advance Notification of Construction Schedule* This measure is described in detail in construction air pollutant emissions control measures.

Designate Air Quality Control Coordinator and Provide Resolution for Resident Concerns This measure is described in detail in construction air pollutant emissions control measures.

*Provide Housecleaning Vouchers upon Request* This measure is described in detail in construction air pollutant emissions control measures.

*Operations* As the proposed pipeline is enclosed, it is not expected to result in long-term nuisance odor problems, and no operational impact is expected to occur.

**Generation of Pollutant Emissions in Excess of Federal de minimus Threshold Levels** A summary of worst-case construction emissions associated with the Proposed Action is shown in Table 3-2 above.

*Construction* Emissions of criteria pollutants generated by construction would not exceed federal General Conformity de minimus thresholds. Consequently, construction impacts would not exceed the federal de minimus thresholds, no significant impacts to air quality would occur, and no additional measures are required.

*Operations* The Short-Term Phase I CIP would generate emissions of criteria pollutants that do not exceed federal General Conformity de minimus thresholds. Consequently, operational impacts would not exceed the federal de minimus thresholds, no less than significant impacts to air quality would occur, and no additional measures are required.

# 3.5 Biological Resources

### 3.5.1 Affected Environment

### 3.5.1.1 Vegetation and Wildlife

Vegetation and land use types within the study area are described in the biotic resources report prepared by H.T. Harvey (Appendix A), which focused on the Short-Term Phase I CIP. The biotic resources report addresses the existing biological conditions, potential impacts to biological and regulated resources, and protective measures to reduce potentially significant impacts to those resources to less than significant levels. To prepare the report, H.T. Harvey & Associates plant and wildlife ecologists reviewed background information on the known occurrences of special-status species, sensitive habitats, and other biological resources in the study area vicinity and conducted visits to the study area to assess the occurrence of these resources. Based on the analysis contained in the biotic resources report, vegetation communities in the vicinity of the study area include disturbed/developed land, non-native herbaceous habitat, and agricultural fields.

**Disturbed/Developed Areas** The majority of the study area is located within existing road right-of-ways or agricultural roadways. Disturbed or developed land within the study area includes hardscapes such as roads, rip-rap, berms, and other structures. Vegetation within disturbed and developed areas is generally barren, but does include horticultural plantings. Details of plant species found within these areas are presented in the biotic resources report (see Appendix A). No special-status plant species were observed or are expected to occur within the disturbed/developed areas.

Disturbed and developed areas can support a variety of wildlife species that have adapted to urban areas, but abundance and diversity of species is generally lower in these areas. A variety of common reptiles and urban-adapted birds were observed within these areas. No special-status wildlife species were observed within disturbed and developed portions of the study area, although some special-status species such as the loggerhead shrike (*Lanius ludovicianus*) and white-tailed kite (*Elanus leucurus*) could make limited use of these areas while foraging.

**Agricultural** Agricultural fields within the study area consist of row-crops, grain, hay and pasture, and/or disked/short-term fallowed land, depending on the year or season. Agricultural soils in most croplands are routinely disked or maintained and are typically devoid of any vegetation except for a cover crop, unless left fallow for some duration with no planted vegetation. Hay is cut, bailed, and trucked off-site, while pasture is consumed by livestock onsite. No special-status plant species were observed or are expected to occur within the agricultural lands.

Few wildlife species are expected to use the agricultural lands within the study area due to the lack of structural diversity, high pesticide loads (which reduce prey abundance), and regular disturbance for planting, harvesting, and plowing. Several common wildlife species may, however, forage or take refuge in agricultural lands. No special-status wildlife species were found to occur within agricultural portions of the study area.

The only special-status wildlife species observed within agricultural portions of the study area was burrowing owl (*Athene cunicularia*), which was observed along a channel adjacent to agricultural fields near the Camino Arroyo/Ventura Way intersection. Several other special-status birds may forage in agricultural lands in the study area.

**Non-Native Herbaceous** This community differs from that of developed areas in that it supports a much greater density of herbaceous vegetation and lacks infrastructure. Annual grasses including wild oat (*Avena fatua*) and ripgut brome (*Bromus diandrus*) generally dominate these areas, with heavy infestations of wild lettuce (*Lactuca serriola*), Italian thistle (*Carduus pycnocephalus*), yellow star thistle (*Centaurea solstitialis*), and black mustard (*Brassica nigra*) common throughout these communities within the study area. No special-status plant species

were observed or are expected to occur within these non-native herbaceous vegetation communities.

Most of the wildlife species found in non-native herbaceous ruderal vegetation communities are wide-ranging species tolerant of some site disturbance, although grassland-associated species occur in larger expanses of ruderal vegetation. In addition, species residing in adjacent communities often forage in these disturbed areas. Several species of common reptiles, mammals, and birds were observed in these vegetation communities. White-tailed kite was the only special-status wildlife species observed in the non-native herbaceous vegetation in the study area, although several other special-status birds may forage in this vegetation community as well.

### 3.5.1.2 Special-Status Species

Reconnaissance-level surveys were performed in 2005 and 2009 to assess the potential for occurrence of special-status plant and wildlife species. The California Natural Diversity Database was queried prior to surveys, and previous data gathered for the study area and vicinity were used to determine the potential for presence of special-status species. Based on this information, known occurrences, and field observations, no special-status plant species are expected to occur on the site due to the absence of habitat and/or the site's occurrence in an area outside of the known ranges of special-status plants in the region.

Several federally listed wildlife species are known to occur in the general vicinity of the study area (i.e., in the Gilroy area). These include the least Bell's vireo (*Vireo bellii pusillus*), South-Central California Coast steelhead (*Oncorhynchus mykiss*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), and San Joaquin kit fox (*Vulpes macrotis mutica*). However, none of these species occur in the study area itself, which lacks suitable habitat for these species and/or is isolated from known populations by excessive distance and barriers to dispersal.

Two wildlife species listed as threatened or endangered by the State of California, the American peregrine falcon (*Falco peregrinus anatum*) and bank swallow (*Riparia riparia*), may occasionally occur in the study area. No breeding habitat is present within the study area for these species, and these species forage in the area very infrequently and in low numbers. State fully protected species that may occur in the study area are the white-tailed kite, which could breed and forage in the study area, and golden eagle (*Aquila chrysaetos*), which may occur only as an occasional forager.

Of the California listed species of special concern known to occur in the Gilroy area, the study area lacks suitable habitat for several species that are found in surrounding foothill areas. These species are typically absent from the valley floor where the study area is located. Several others, including the northern harrier (*Circus cyaneus*), olive-sided flycatcher (*Contopus cooperi*), yellow warbler (*Dendroica petechia*), grasshopper sparrow (*Ammodramus savannarum*), Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), tricolored blackbird (*Agelaius tricolor*), pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), and American

badger (*Taxidea taxus*), are expected to occur in the study area only as occasional visitors, foragers, or dispersants. Except for the possibility that a dispersing American badger could establish a den in the study area, these species would not reside or breed in the study area due to the absence of suitable breeding habitat.

Two other California species of special concern, the burrowing owl and loggerhead shrike, may reside and breed in the study area in small numbers.

# 3.5.2 Regulatory Setting

### 3.5.2.1 U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service has jurisdiction over federally listed threatened and endangered species under the Endangered Species Act (ESA), which protects listed wildlife species from harm or take. Take can also include habitat modification or degradation that directly results in death or injury to a listed wildlife species. An activity can be defined as take even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under the ESA if they occur on federal lands or if the project requires a federal action, such as funding.

### 3.5.2.2 California Department of Fish and Game

The California Endangered Species Act (CESA; Fish and Game Code Sections 2050 to 2097) is administered by the CDFG. Section 2091 of the CESA allows take of a listed species to agencies that have consulted with CDFG if the take is incidental to carrying out an otherwise lawful project that has been approved under CEQA. Take authorizations for state-listed species would be granted by the CDFG.

### 3.5.2.3 California Natural Communities Conservation Plan Act

The NCCP Act was added to CESA in 1991 (NCCP Act, Fish and Game Code Section 2800 et seq.). This act allows for an NCCP program to provide long-term regional protection of natural vegetation and wildlife diversity while allowing compatible land uses and appropriate development and growth.

Santa Clara County is preparing a HCP/NCCP for an area of approximately 520,000 acres, including the Santa Clara/Alameda County border south to Santa Clara County's boundary with San Benito County, and from the western edge of San Jose east to the County of Santa Clara boundary (County of Santa Clara 2006). Thirty thousand to 58,000 acres have been identified as a reserve for the protection of 30 sensitive species covered by the plan. The Final HCP/NCCP is expected in 2010.

The HCP/NCCP identifies specific covered activities such as urban and rural development activities consistent with current city and county land use plans and construction of facilities for water and transportation infrastructure.

# 3.5.3 Environmental Consequences

### 3.5.3.1 No Action Alternative

Under the No Action Alternative, funding would not be provided for the Short-Term Phase I CIP and there would be no potential for impacts to biological resources. No direct or indirect impacts to biological resources would occur as a result of the No Action Alternative.

# 3.5.3.2 Proposed Action

**Vegetation and Wildlife** The Proposed Action would result in temporary impacts to a relatively small surface area of developed land, non-native herbaceous vegetation community, and agricultural land. These land cover types and associated vegetation communities are common in the Gilroy area and in Santa Clara County in general, and provide low-quality habitat for most native plants and wildlife. Although such impacts would be less than significant and thus do not require protective measures, all disturbed areas would be returned to the pre-construction grade and originally vegetated areas would be reseeded with native grass and forb species. Impacts to these vegetation communities, and the temporary loss of potential nesting, roosting, and foraging opportunities associated with these communities, would result in a very limited short-term loss of regionally abundant vegetation communities, and would not result in substantial reductions in the regional populations of any species or the regional extent of any habitat types. Therefore, impacts from the Proposed Action to these habitats would be less than significant.

Special-Status Species State listed species are discussed below.

*Non-breeding/Non-resident Special-Status Species* Some special-status species may occur on the Short-Term Phase I CIP site only as nonbreeding visitors (e.g., in winter), migrants, or transients, or may forage in this area in low numbers while breeding in adjacent areas. These species include the American peregrine falcon, golden eagle, northern harrier, yellow warbler, grasshopper sparrow, Bryant's savannah sparrow, tricolored blackbird, pallid bat, and western red bat. These species are not expected to breed on the site, or to occur there regularly (i.e., to reside on the site) or in large numbers. As a result, the Proposed Action would not result in appreciable effects on regional populations of these species that occur only as occasional visitors or foragers. Therefore, impacts of the Proposed Action to these species are considered less than significant.

*White-tailed Kite and Loggerhead Shrike* It is possible that white-tailed kites and loggerhead shrikes could nest in vegetation adjacent to the proposed Short-Term Phase I CIP alignment, most likely near the entrance to the SCRWA. The trees in which these birds might nest would not be physically disturbed by construction activities, but there is some potential that construction

activities during the nesting season could disturb birds to the point of abandonment of active nests, possibly including eggs and young. These species are fairly abundant regionally, and the study area supports an extremely small proportion of regional populations of these species. As a result, disturbance of active nests of one or two pairs of these species would be considered a less than significant impact. Nevertheless, the District would implement BMP, outlined below, which are standard for District projects, to avoid and minimize impacts to migratory birds prior to implementation of the Proposed Action. Implementing these protective measures would reduce the potential for any impacts to active nests of these and other bird species.

#### **Protective Measures**

*Migratory Bird Surveys* Migratory bird surveys will be performed prior to any project-related activity that could pose the potential to affect migratory birds. Inactive bird nests may be removed, with the exception of raptor nests. No birds, nests with eggs, or nests with hatchlings will be disturbed. (Source: District Special Provisions Guidelines Article 13.15.01)

*Migratory Bird Nesting Prevention – Vegetation Clearing* Vegetation can be cleared and maintained to prevent migratory bird nesting. All necessary vegetation clearing will be performed prior to the nesting season, if at all possible. No vegetation will be trimmed back unnecessarily, including trees and/or shrubs growing near the right of way, which overhang onto the work site. (Source: District Special Provisions Guidelines Article 13.15.01)

*Migratory Bird Nesting Exclusion Devices* Nesting exclusion devices may be installed to prevent potential establishment or occurrence of nests in areas where construction activities would occur. All nesting exclusion devices will be maintained throughout the nesting season, or until completion of work in an area makes the devices unnecessary. All exclusion devices will be removed and disposed of when work in the area is complete. (Source: District Special Provisions Guidelines Article 13.15.01)

*State Listed Species – Burrowing Owl* Burrowing owls have recently been observed by District biologists within the study area along the channel near the Camino Arroyo/Ventura Way intersection. Potential habitat for this species is present in the study area. Burrowing owls could occur in ruderal herbaceous vegetation and the margins of agricultural areas or fallow fields where ground squirrels are present. Because burrowing owls occur in the study area sporadically and in low numbers (relative to the extent of potential habitat), impacts to occupied habitat would be considerably less than impacts to ostensibly suitable habitat. Any open, undeveloped habitat such as ruderal or agricultural habitat within the Short-Term Phase I CIP alignment represents potential burrowing owl habitat.

Construction activities in occupied burrowing owl habitat could result in injury or mortality of individual owls if occupied burrows are destroyed or blocked by construction, trapping owls within. Construction-related disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings by disrupting incubation or provisioning of young, or leading to nest abandonment. Loss of burrowing owls or fertile eggs, disturbance that results in nest

abandonment, or the destruction of occupied burrowing owl burrows would result in a significant impact to this species.

*Protective Measures* Measures outlined below would be implemented to reduce impacts to burrowing owls resulting from the Proposed Action to less-than-significant levels. In addition, any burrowing owl habitat disturbed during construction would be restored following pipeline installation, so no long-term loss of burrowing owl habitat will occur as a result of the Proposed Action.

- **Burrowing Owl Pre-construction Surveys**. Pre-construction surveys for burrowing owls shall be completed in potential habitat no more than 15 days prior to the start of construction. Survey methodology shall be in accordance with CDFG guidelines and the California Burrowing Owl Consortium (1993) protocol. A qualified biologist shall conduct an initial survey of any areas where construction activities, (including excavation, grading, staging, or access) would occur, as well as all areas within 250 feet of these construction areas, to determine the locations of burrows providing potential owl roost/nest sites and to look for owls and evidence of their presence (e.g., feathers, pellets, or whitewash at burrows). Because burrows are known to be present in at least some portions of the study area, site visits shall be conducted on three additional days in the early morning or late evening to look for owls are located during these surveys, no additional action will be warranted. However, if burrowing owls are located on or immediately adjacent to (i.e., within 250 feet of) the study area, the following protective measures shall be implemented:
  - Burrowing Owl Buffer Zones. If the pre-construction surveys described above detect burrowing owls using burrows within 250 feet of any areas where construction activities (including excavation, grading, staging, or access) would occur, buffer zones shall be implemented in accordance with CDFG and California Burrowing Owl Consortium (1993) guidelines for as long as the burrows are occupied. If burrowing owls are present during the non-breeding season (generally 1 September-31 January), a 160-foot buffer zone shall be maintained around the occupied burrow(s), within which no new activity shall be permissible, if practicable. However, if this buffer distance cannot be maintained, then during the non-breeding season it shall be permissible to perform construction activities in closer proximity to occupied burrows as long as there would be no threat of injury of individual owls and no potential for occupied burrows to be destroyed by the construction activities. If such potential for direct impacts to individual owls or occupied burrows exists, then owls shall be relocated (during the non-breeding season only) as described below. During the breeding season (generally 1 February-31 August), a 250foot buffer shall be maintained between construction activities and occupied burrows, within which no new activity shall be permissible. Owls present on site after 1 February shall be assumed to be nesting on or adjacent to the site unless evidence indicates otherwise. This protected area shall remain in effect until 31 August, or at the CDFG's discretion and based upon monitoring evidence, until the young owls are foraging

independently or until the nest has been abandoned for reasons unrelated to construction activities.

- *Burrowing Owl Worker Education*. If burrowing owls are detected within 250 feet of construction areas during the pre-construction survey, a qualified biologist shall be present on site during construction to ensure that the buffers are enforced in accordance with CDFG guidelines. Also, a qualified biologist shall provide training to construction personnel regarding avoidance procedures, buffer zones, and protocols to be followed in the event that a burrowing owl flies into the active construction zones. This training shall be incorporated into a worker education program.
- Burrowing Owl Relocation. If occupied burrows cannot be avoided, eviction of owls shall occur outside the breeding season. Owls shall be evicted by a qualified biologist using one-way doors. No burrowing owls shall be evicted from burrows during the nesting season (generally 1 February-31 August) unless evidence indicates that nesting is not actively occurring (e.g., because the owls have not yet begun nesting early in the season, or because young have already fledged late in the season). Eviction methodology shall follow CDFG and California Burrowing Owl Consortium (1993) guidelines.
- Construction of Artificial Burrows for Impacts to Occupied Burrowing Owl Burrows. If destruction of occupied (breeding or non-breeding season) burrows, or any burrows that were found to be occupied during pre-construction surveys, is unavoidable, artificial burrows shall be created on-site following the restoration of the site to preconstruction conditions to provide suitable owl burrows while ground squirrels are recolonizing the construction site. At least three artificial burrow complexes (each complex providing two burrows) shall be constructed in suitable habitat as close as is feasible to the location of the original owl burrow. These burrow complexes shall be maintained, and vegetation around these burrows shall be constructed via hand-mowing, for a period of at least three years to maintain suitable conditions for owls.

*State Listed Species – American Badger* Occasional individual badgers may disperse through portions of the study area, particularly in less developed areas. Badger habitat would not be permanently affected by the Proposed Action, as areas disturbed during construction would be restored following pipeline installation. These areas would continue to provide habitat of a similar type and quality to existing conditions once restored. Construction activities in occupied badger habitat could result in injury or mortality of individuals if occupied dens are destroyed or blocked by construction. In the unlikely event that badgers breed in the study area, construction-related disturbance during the breeding season could result in disturbance of adults to the point of abandonment of young. Given the relative rarity of this species in the region, this may result in a significant impact.

*Protective Measures* Measures outlined below would be implemented to reduce impacts to American badgers resulting from the Proposed Action to less-than-significant levels. In

addition, any badger habitat disturbed during construction would be restored following pipeline installation.

- American Badger Pre-construction Surveys. A qualified mammalogist shall conduct a preconstruction survey for badger dens no more than15 days prior to the start of construction. This survey shall include any given area currently occupied by grassland or ruderal vegetation where construction activities (including excavation, grading, staging, or access) would occur, as well as all areas within 300 feet of these construction areas. If no badger dens are located during these surveys, no additional action shall be warranted. If occupied badger dens are located on or immediately adjacent to (i.e., within 300 feet of) the construction areas, the following protective measures shall be implemented:
  - American Badger Buffer Zones. If an occupied badger den is located on or immediately adjacent to (i.e., within 300 feet of) the construction areas, a buffer, within which no new activity shall be permissible, shall be maintained between the den and construction activities during the pupping season (i.e., 15 February through 1 July, or as otherwise determined through surveys and monitoring of the den). The size of the buffer shall be determined by a qualified mammalogist in consultation with the CDFG.
  - *American Badger Relocation.* After the pupping season, if a den is located within the construction area, the badgers shall be evicted by excavation of the den using hand tools, in consultation with the CDFG and under the supervision of a qualified mammalogist. After the badgers have been evicted, the den shall be refilled to prevent reoccupation.

# 3.6 Cultural Resources

The following discussion of cultural resources and impacts is based on information contained in the May 2010 RECON letter report on cultural resources (which includes the September 2005 Archaeor Consultants Phase I Cultural Resources Study).

# 3.6.1 Affected Environment

# 3.6.1.1 Cultural Background

The area of potential effect (APE) for cultural resources is located in the Ohlone tribal territory of the prehistoric village of Unijaima within the area of the Mutsun Ohlone language group. The Penutian-speaking Ohlone people moved into the San Francisco Bay Area from San Joaquin-Sacramento River areas around 500 A.D. and replaced the original Hokan-speaking population.

Numerous tribes had settled the southern Santa Clara Valley for thousands of years prior to the arrival of the Spanish. The landscape of the San Francisco Bay region was comprised of tribal territories populated with about 200 to 400 individuals in eight- to 12-mile-diameter areas. These tribal territories were associations of families that worked in unison to harvest plant and animal

resources. The Mutsun language group occupied a territory that included the Pajaro River drainage.

Explorations into the southern Santa Clara Valley began in the 1770s, and the Mission Period began locally with the founding of Mission San Juan Bautista in 1797. The prehistoric village of Unijaima was part of the land granted to Don Ygnacio Ortega sometime between 1795 and 1810. Following the construction of several missions, no native population centers remained in southern Santa Clara Valley, since the natives were rapidly drawn into the missions. Within a short time, all vestiges of the prehistoric culture were destroyed by the developing agricultural and urban economy.

After the American acquisition of California and the discovery of gold, the area was flooded with immigrants. By 1869, the area had several hundred people and spurred the arrival of the Southern Pacific Railroad. The city of Gilroy was incorporated in 1870 and the area became an agricultural center.

# 3.6.2 Results of the Phase I Cultural Resources Study

### 3.6.2.1 Records and Literature Search, Field Survey and Boring Results

A record and literature search for the APE was conducted by Archaeor Consultants in August of 2005. A general archaeological survey of the proposed pipeline alignment was conducted by Archaeor in August and September of 2005. An additional record search and field survey were conducted by RECON Environmental, Inc. in February 2010. Between April 26 and April 30, 2010, a series of borings were excavated in East Luchessa Avenue between the railroad spur west of Rossi Lane and Monterey Road. These borings were screened under the supervision of Mr. Charles Bull, RPA, of RECON Environmental, Inc. to assess the potential for a buried deposit in areas where the Proposed Action would tunnel under East Luchessa in the vicinity of the railroad tracks, Highway 101 and Monterey Road (Figure 2-2). The record and literature reviews, field surveys of the APE and borings indicated that the only significant prehistoric or historic cultural resource located within the Short-Term Phase I APE was the Union Pacific Railroad track (mainline and spur). The record and literature searches also indicated that much of the study area APE has been previously studied or surveyed for the presence of cultural resources.

### 3.6.2.2 Native American Consultation

The State of California Native American Heritage Commission (NAHC) in Sacramento was contacted by Archaeor Consultants (August 2005) requesting a search of their Sacred Land files for the APE to determine if any portion was listed as sacred land. The search produced negative results and provided a list of 10 Native American individuals/organizations that may have knowledge of unreported resources or areas of concern in the APE.

Information of unreported resources or areas of concern to Native American Indians was requested of the 10 individuals and/or organizations identified by NAHC. Consultations resulted in no specific knowledge of unreported resources or areas of concern in the APE.

### 3.6.3 Regulatory Setting

The National Historic Preservation Act (NHPA) of 1966 is the primary federal legislation which outlines the federal government's responsibility to cultural resources. Section 106 of the NHPA requires federal agencies to review all actions which may affect a property listed on the National Register of Historic Places (National Register). Those resources that are listed on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the federal regulations at 36 CFR Part 800, as amended. These regulations describe the process that the federal agency (e.g., Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking would have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action that has the potential to affect historic properties, Reclamation must identify the APE, determine if historic properties are present within that APE, determine the effect that the undertaking would have on historic properties, and consult with the State Historic Preservation Officer, to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties.

# 3.6.4 Environmental Consequences

### 3.6.4.1 No Action Alternative

Under the No Action Alternative, funding would not be provided for the Short-Term Phase I CIP and there would be no potential for impacts to cultural resources. No direct or indirect impacts to cultural resources would occur as a result of the No Action Alternative. Since there would be no federal action, the No Action Alternative would not meet the definition of an undertaking as defined by Section 301(7) of the NHPA and would not be subject to Section 106 of the NHPA.

### 3.6.4.2 Proposed Action

The only cultural resource identified within the APE of the Short-Term Phase I APE was the UPRR track (mainline and spur). The Proposed Action would not cause a substantial adverse change in the significance of a cultural resource because the pipeline would be installed under the railroad track via jack-and-bore or micro-tunneling technique. No known human remains are present. Since there would be a federal action, the Proposed Action meets the definition of an undertaking

Since there would be a federal action, the Proposed Action meets the definition of an undertaking as defined by Section 301(7) of the NHPA and is subject to Section 106 of the NHPA. As part of that process, Reclamation has determined that the Proposed Action would result in no adverse effect to historic properties and is seeking concurrence from the State Historic Preservation Officer.

# 3.7 Indian Trust Assets

# 3.7.1 Affected Environment

A review of Indian Trust Assets in the Santa Clara Valley region was conducted by Reclamation. The review showed that the nearest Indian Trust Asset is located approximately 54 miles north of the study area (P. Rivera, pers. comm. 2010).

# 3.7.2 Environmental Consequences

# 3.7.2.1 No Action Alternative

Under the No Action Alternative, funding would not be provided for the Short-Term Phase I CIP and there would be no potential for impacts to Indian Trust Assets.

# 3.7.2.2 Proposed Action

No Indian Trust Assets are located within 50 miles of the Proposed Action study area. No direct or indirect impacts to an Indian Trust Asset would occur as a result of the Proposed Action.

# 3.8 Geology and Soils

The following discussion of geology and soils is based on information contained in the following documents:

- *South County Recycled Water Master Plan*, Final October 2004. Santa Clara Valley Water District/South County Regional Wastewater Authority, Master Plan Constraints Analysis.
- Final Environmental Impact Report for the Long-Term Wastewater Management Plan, Cities of Gilroy and Morgan Hill, March of 1986.

# 3.8.1 Affected Environment

### 3.8.1.1 Regional Geology

The major geologic features in the vicinity of the study area are the San Andreas Fault, located approximately seven miles to the northeast, the Sargent Fault, located three miles to the northeast, and the Calaveras Fault, located four miles to the southwest. The San Andreas and Calaveras faults are classified as active, and the Sargent fault is considered potentially active.

The San Andreas Fault consists of two moving plates that meet in western California. The entire San Andreas Fault system is more than 800 miles long and extends to depths of at least 10 miles within the earth. The Calaveras Fault branches off the San Andreas Fault, stretching approximately 82 miles from south of Hollister, northward into the Danville-Walnut Creek area. The Sargent Fault is part of the southern Santa Clara Valley thrust belt.

### 3.8.1.2 Soils

A soil survey of the eastern Santa Clara area characterizes the soils that occur within the study area (USDA NRCS 2005). The primary soil type found within the study area is Campbell silty clay loam.

# 3.8.2 Environmental Consequences

### 3.8.2.1 No Action Alternative

Under the No Action Alternative, funding would not be provided for the Short-Term Phase I CIP and there would be no potential for impacts to geology or soil resources. No direct or indirect impacts to geology or soil resources would occur as a result of the No Action Alternative.

# 3.8.2.2 Proposed Action

Construction activities related to the Proposed Action would disturb soil resources in the study area. Soil disturbance would result in the potential for wind and water erosion. Construction activities related to the Proposed Action would require the preparation of a Storm Water Pollution Prevention Plan (SWPPP). Compliance with the Permit for Discharges of Storm Water Associated with Construction Activity administered by the State Water Resources Control Board (SWRCB) would reduce impacts to a level of less than significant, as it would require the use of BMP such as:

- Prohibit clearing and grading activities until a firm construction schedule is known.
- Stabilize all construction site soils with erosion control measures such as silt fences, matting.

- Control dust during construction by frequent watering.
- Compact disturbed areas as soon as possible.

Impacts to soils would be less than significant with the BMP outlined above. No significant impacts to soil resources are anticipated as a result of the Proposed Action.

# 3.9 Hazards and Hazardous Materials

The following discussion of hazardous materials and impacts is based on information contained in the *Environmental Database Search and Review, South County Recycled Water Master Plan, Santa Clara Valley Water District, Santa Clara County, California*, written by Ninyo and Moore, September 2005 (Appendix B).

# 3.9.1 Affected Environment

### 3.9.1.1 Environmental Database Search

An environmental information database search that included federal, state, and local databases was conducted to evaluate whether sites within the study area had been identified as having experienced significant unauthorized release of hazardous substances or other potentially adverse environmental effects. Of the databases searched, 18 identified properties of potential environmental concern in the vicinity of the study area were found. The following paragraphs describe the databases that contain properties of environmental concern and include a discussion of the regulatory status of the facilities (Ninyo and Moore 2005).

**Multiple Agency—Leaking Underground Storage Tank List** The California SWRCB maintains the Leaking Underground Storage Tank (LUST) Information System, pursuant to Section 25295 of the Health and Safety Code. Also listed within this database are facilities within one-half mile of the study area that fall under the jurisdiction of the California Regional Water Quality Control Board (RWQCB) or Local Oversight Program for unauthorized releases by the Department of Environmental Health. Table 3-4 presents a summary of two LUST sites reported within one-quarter mile of the study area and two unmapped facilities listed in the database that may be in the study area vicinity.

# TABLE 3-4REPORTED LUST SITES

Address	Distance from Study Area	Direction from Study Area	Comments
Chevron #9-6293 5887 Monterey Road Gilroy, CA 95020	0.03 mile	SE	Remedial action underway: gasoline release discovered during tank closure.
Filice Property 475 Thomas Road Gilroy, CA 95020	0.17 miles	SE	Case closed; reported to be a soil only release.
Barberi Property-Uvas Creek Thomas Road Gilroy, CA 95020	Unmapped	N/A	Case closed; unauthorized release of gasoline affecting soil only reported.
Caltrans Gilroy Maintenance Station #2 Pacheco Pass Highway Unincorporated Area, CA 95020	Unmapped	N/A	Case closed; unauthorized release reportedly affected soil only.

**Multiple Agency—Underground Storage Tank and Aboveground Storage Tank Registration List** Information regarding underground and aboveground storage tanks registered with the California SWRCB is provided on the agency's Underground Storage Tank (UST) and Aboveground Storage Tank lists. Also listed are facilities within one-quarter mile of the study area that fall under the jurisdiction of the Department of Environmental Health UST program. The UST and Aboveground Storage Tank lists consist of properties that have registered tanks and are not necessarily indicative of sites where a release of hazardous substances has occurred.

Twenty-two facilities were reported to be located within a one-quarter-mile radius of the study area. One of these facilities, located at 5887 Monterey Road, is associated with an unauthorized release case, and is addressed within the LUST section above. Of the remaining 20 facilities, 8 are reported to be located greater than one-tenth of a mile (approximately 500 feet) from the study area. Based on the distances of these facilities from the study area, there is a low likelihood that these eight facilities have adversely affected the environmental integrity of the study area. Two of the remaining 12 facilities appeared to be misplotted and are actually located more than 500 feet south of the study area on Sheldon Road. The remaining 10 facilities are located within or adjacent to the study area boundaries, generally along Monterey Road, Luchessa Avenue, Thomas Road, and Southside Avenue. In addition, one unmapped property was reported to be located at 844 Luchessa Avenue, presumably at the eastern terminus of Luchessa Avenue. These UST facilities may be encountered during construction activities.

United States Environmental Protection Agency—Emergency Response Notification System The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil and hazardous substances. The database contains information from spill reports made to federal authorities, including the EPA, the United States Coast Guard, the National Response Center, and the Department of Transportation. The ERNS list contains records of reports for the period beginning October 1986.

One privately-owned property reported to be located within a one-quarter-mile radius of the study area was listed. This property is reported to be located at 5580 Monterey Road. Based on the assumed location of this property, that it is not located within or directly adjacent to the study area, and that it is not listed on databases that report unauthorized releases of hazardous materials, there is a low likelihood that the release at this property has adversely affected the environmental integrity of the study area.

United States Environmental Protection Agency, Resource Conservation and Recovery Act Generator This database identifies EPA-listed facilities that report generation of reportable quantities of hazardous waste under the Resource Conservation and Recovery Act program for the identification and tracking of hazardous waste. The list consists of properties that generate hazardous waste, and is not necessarily indicative of sites where a release of hazardous substances has occurred.

Fourteen facilities of this database were reported to be located within one-quarter mile of the study area. One of these facilities, located at 5887 Monterey Road, is reported to be associated with an unauthorized release and is discussed within the LUST section above. Eight of the facilities are reported to be located greater than one-tenth of a mile (approximately 500 feet) away from the study area. The remaining five facilities do not appear on databases listing unauthorized release with hazardous materials or wastes. Based on this information, there is a low likelihood that these 13 facilities have adversely affected the environmental integrity of the study area.

**California Integrated Waste Management Board, Solid Waste Landfill Lists** As legislated under the Solid Waste Management and Resources Recovery Act of 1972, the California Integrated Waste Management Board maintains lists of certain solid waste facilities located within the state of California (e.g., active solid waste disposal sites, inactive or closed solid waste disposal sites, and transfer facilities).

One facility was reported to be located within a one-quarter mile radius of the study area at 6455 Chestnut Street, north of the study area. According to the database report, this facility is a closed waste tire location. Based on the nature of this facility, there is a low likelihood it adversely impacted the environmental integrity of the study area.

In addition to the facility described above, two unmapped facilities were reported to be located within the vicinity of the study area. One facility, identified as the City of Gilroy Closed Landfill, is reported to be located at 1500 Southside Drive, presumably at the eastern terminus of Southside Avenue. The second facility is identified as Gilroy Garbage Disposal at the end of Southside Drive.

# 3.9.2 Environmental Consequences

### 3.9.2.1 No Action Alternative

Under the No Action Alternative, no funding would be provided for the Short-Term Phase I CIP and there would be no potential for impacts related to hazards or hazardous materials.

### 3.9.2.2 Proposed Action

According to the review of the environmental database search report, UST facilities may be encountered during construction activities related to the Short-Term Phase I CIP. However; based on the location of the sites relative to the proposed pipeline and the status of the listings, it was determined that there was a low likelihood that the environmental integrity of the study area has been adversely impacted. The UST list consists of properties that have registered tanks and are not necessarily indicative of sites where a release of hazardous substances has occurred. Proper implementation of soil and/or groundwater management plans and a worker and community health and safety plan would reduce potential impacts of the Proposed Action and related construction activities.

The Proposed Action is not anticipated to generate hazardous materials or wastes in quantities or types that could not be accommodated by the current disposal system; increase the likelihood of an uncontrolled release of hazardous materials that could contaminate soil, surface water, and groundwater; or endanger or put at risk workers, visitors, nearby residents, or the general public. No significant impacts are anticipated to occur as a result of the Proposed Action.

# 3.10 Hydrology and Water Quality

The description of hydrology focuses on the study relative to hydrological units and surface water features. Water quality measures and planning efforts focus on hydrologically defined drainage basins, including watersheds as well as specific constituents of concern for groundwater. The following discussion of hydrology and water resources is based on information contained in Appendix C, as well as the following documents:

- *South County Recycled Water Master Plan*, Final October 2004. Santa Clara Valley Water District/South County Regional Wastewater Authority, Master Plan Constraints Analysis.
- *Water Quality Control Plan for the Central Coastal Basin (Basin Plan).* Central Coast Regional Water Quality Control Board, September 1994.

# 3.10.1 Affected Environment

### 3.10.1.1 Hydrologic Conditions

The occurrence and movement of surface and groundwater in Southern Santa Clara County is dictated by regional climate, geologic, and hydrologic characteristics within the watersheds as well as groundwater pumping and the management activities of the District. The study area is located within the Uvas and Llagas watersheds (Uvas/Llagas Watershed) which cover an area of approximately 140 square miles and include the cities of San Jose, Morgan Hill, and Gilroy (District 2002).

The Santa Clara Valley is bordered by the Santa Cruz Mountains to the west, the Diablo Range to the east, and the Pajaro River to the south. The study area lies in the Llagas and Uvas Creek subwatersheds, which flow south to the Pajaro River. Virtually the entire southern Santa Clara valley floor draining to the Pajaro River is underlain by the Llagas groundwater sub-basin.

**Surface Water and Drainage** Figure 3-1 shows the existing surface water features. In addition to the Pajaro River, the Uvas-Carnadero and Llagas creeks are major surface water features near the study area. Both Uvas-Carnadero and Llagas creeks originate in the Santa Cruz Mountains and drain south into the Pajaro River.

Llagas Creek is dammed in its upper reaches within the Santa Cruz Mountains, forming Chesbro Reservoir. Normally, reservoir releases are adjusted to the percolation capacity of the lower reach.

- Local drainage systems, such as storm drains, are the responsibility of cities and counties. The conveyance capacity of channels is maintained and enhanced through implementation of the District's Stream Maintenance Program, which includes three major activities: (1) sediment removal, (2) vegetation management, and (3) bank protection. The characteristics of the drainage system in the study area are as follows:
- Drainage from Southside Drive typically runs into grass-lined ditches along the shoulder of the road and into open areas such as fields or industrial areas. Curb and gutter systems exist along parts of East Luchessa Drive. West of Monterey Street, a wide bike lane is present with a curb and sidewalk on the north side of the street and open agricultural land south of the road. The road appears to be crowned such that stormwater from the westbound lane runs to the curb, and stormwater from the eastbound land runs south across a vegetated buffer and onto the agricultural land south of the road.

**Groundwater** The Llagas groundwater sub-basin extends from the divide at Morgan Hill south to the southern county border under both urban and rural areas, including Gilroy. The southern Santa Clara Valley is filled with alluvium underlain by thick deposits of heavy clays. These clays form an aquitard or barrier between a shallow unconfined aquifer that is approximately 100 feet deep (shallow aquifer) and a deeper confined aquifer which is more than 300 feet deep (confined





Rivers/Creeks **Transmission Mains** Existing

Short-term Phase I

FIGURE 3-1 Existing Surface Water Features in the Vicinity of the Study Area

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aquifer). Beyond the extent of the valley clay layer, the river valley alluviums underlying the Uvas-Carnadero Creek and other drainages tributary to the Santa Clara Valley bottom constitute a third unconfined aquifer that is directly connected to the ground surface (unconfined aquifer). The study area is generally located in an area underlain by the unconfined aquifer (also known as the recharge zone).

The clay layers that make up the aquitard generally restrict hydrologic connectivity. North of the study area, however, evidence that alluvial channels may have cut through the clays to create local connections between the aquifer units suggests this process could have caused similar effects throughout the basin. In addition, studies of rock layers and groundwater from several well logs along the Uvas-Carnadero Creek corridor provide evidence of the hydrologic connectivity and pathways between the unconfined and confined aquifers.

In the areas overlying the Llagas sub-basin, groundwater resources supply the majority of water for consumptive purposes (with a small amount from recycled water). Groundwater levels can fluctuate due to hydrology, groundwater withdrawal or recharge, and other factors. Sources of recharge to the unconfined aquifer include rainfall, sub-surface inflow, deep percolation of streams, irrigation return flow, and sub-surface flow from water-bearing formations laterally bounding the basin. The District's managed recharge program also replenishes the Llagas sub-basin by releasing both local and imported water in streams and percolation ponds. Recharge to the confined aquifer is primarily from subsurface flow from the recharge area. The District operates off-stream percolation ponds located throughout the county.

**Flood Hazard Areas** Flooding is an important consideration in Santa Clara County, and the District is responsible for flood management in the creeks and major drainage channels. Flooding of varying severity has been documented along Llagas Creek in Gilroy since the late 1800s. Flood damage became more of a concern in the early and mid-1900s as developed properties and impervious surfaces spread. Levees, channel realignments, bridge and culvert replacements, vegetative restoration, and flood channels to contain flood flows along Llagas Creek has been of varying effectiveness. In addition, the District and the U.S. Army Corps of Engineers have ongoing flood protection projects on Llagas Creek to protect homes and businesses against flooding.

As shown in Figure 3-2, existing pipelines as well as portions of the project near the rivers are within a 100-year floodplain (also known as Federal Emergency Management Agency [FEMA] Zone A). The nearest reservoirs are located approximately five to eight miles to the northwest of the study area. The study area is downstream of these reservoirs and could be subject to flooding or other effects during large storm events or uncontrolled water releases.

### 3.10.1.2 Water Quality

Water resources such as surface and groundwater are affected by natural conditions and flow patterns as well as human activity. Human activities within the watershed can cause significant
Image Source: Courtesy of Microsoft Virtual Earth



#### **Transmission Mains**

#### FEMA Flood Zone

Existing

100-year Flood Zone

500-year Flood Zone

# FIGURE 3-2

Location of FEMA Flood Zones in the Vicinity of the Study Area



RECON M:\jobs2\4172\common\_gis\EA\_fig3-2.mxd 03/03/10 adverse impacts on the quality of surface and groundwater by increasing the types and amounts of pollutants and the volume and rate of water into receiving waters.

**Surface Water** Surface waters and groundwater in the Central Coast Region are assigned beneficial uses by the RWQCB in the Basin Plan. A number of beneficial uses have been designated for surface waters in Llagas Creek and the Pajaro River. These include all types of water supply, groundwater recharge, recreation, wildlife habitat and migration, support of endangered species, and fishing.

The quality of surface water in southern Santa Clara County varies with respect to location, waterway, source, and season. Headwater streams are supplied primarily by surface runoff during the wet season. During the dry season, springs are an important water source in many locations and a significant influence to water quality. Reservoirs operated in the Llagas/Uvas Watershed capture winter runoff from local drainages and release water in the summer.

Based on the assigned beneficial uses, Section 303(d) of the Clean Water Act requires each RWQCB to identify water bodies or segments of rivers and streams that do not meet, or are not expected to meet, water quality standards or are considered impaired. The affected water body and associated pollutant is reported in the 303(d) list of impaired water bodies which is updated every two years, with the most recent list from 2008. The Pajaro River, the receiving water body for the watershed, and Llagas Creek are included on the list due to the presence of pollutants and other constituents (RWQCB 2007). The 303(d) list identifies boron and fecal coliforms as low-priority pollutants in the Pajaro River. In Llagas Creek, the 303(d) list identifies chloride, fecal coliforms, dissolved oxygen, pH, sodium, and total dissolved solids (TDS) as low-priority pollutants, and nitrate as a high-priority pollutant. Nearly half of the pollutants in the impaired water bodies have an unknown or non-point source.

Llagas Creek water quality data for some constituents show surface water concentrations exceeding water quality objectives set forth in the Basin Plan (RWQCB 1994). The limited surface water quality data available for Llagas Creek show that TDS, sodium, and chloride all exceed Basin Plan objectives, and that fecal coliform levels are relatively high. Where beneficial uses in the Pajaro River and Llagas Creek cannot be achieved due to specific impairments, total maximum daily load allocations are being developed.

# 3.10.1.3 Groundwater

The District has been monitoring the quality of groundwater since the 1940s. The current General Groundwater Quality Monitoring Program includes a network of about 60 wells, at least 16 of which are located in the Llagas sub-basin. These wells are sampled regularly for general minerals, trace metals, and physical characteristics. Although there are elevated concentrations of nitrate in some domestic wells in the Llagas sub-basin, the average concentrations of TDS, chloride, sulfate, and nitrate in Gilroy municipal well samples fall below EPA maximum contaminant levels without treatment or filtration.

Application of fertilizers and septic tank leach fields can introduce nitrate to groundwater at levels that can exceed the drinking water standard. Reducing further loading of nitrate is the primary means of protecting groundwater and has been identified as an objective of the District's Nitrate Management Program. It is unclear whether increasing trends in nitrate concentrations in the Llagas sub-basin are the result of a store of nitrate present in the shallow vadose or soil zone that is unaffected by the Nitrate Management Program.

The groundwater quality characteristics in the shallow, confined, and unconfined aquifers differ. As is typical of Central Coast valleys, the shallow aquifer beneath and to the southeast of Gilroy is vulnerable to contamination and is relatively more impaired, with higher measured levels of TDS, chloride, sulfate, boron, and sodium than the confined and unconfined aquifers. The water quality of the confined aquifer, which is used for municipal drinking water supply, is generally good. While elevated levels of nitrates and perchlorate have been detected in some domestic wells, the water quality is currently considered suitable for most of the assigned beneficial uses, including domestic wells, agriculture, industrial process, and service water supply. The unconfined zone (recharge zone) is more vulnerable to contamination and is typically of lesser quality than the confined zone due to presence of more permeable materials between the ground surface and water table.

**Pharmaceuticals and Personal Care Products** The presence of pharmaceutical and personal care products (PPCPs) in water and the environment is becoming a source of agency and public concern, and this concern can negatively affect public perception of recycled water programs. Some well-known compounds most commonly detected in streams include coprostanol (estrogen), N,N-diethyltoluamide (known as DEET), caffeine, triclosan, cholesterol, and acetaminophen. Other PPCPs commonly detected in wastewater include analgesics (salicylic acid, ibuprofen), antibiotics (amoxicillin, erythromycin), tranquillizers, estrogens, synthetic fragrances, soaps and surfactants, and insect repellents. Certain types of PPCPs can mimic the natural hormones in the endocrine systems of animals and are referred to as endocrine disrupting compounds (EDCs). Examples of EDCs include: nonylphenol, ethinylestradiol (active ingredient in oral contraceptives), and dioxins.

Concentrations of PPCPs in wastewater, surface water, and groundwater are typically very low, which limits the potential for human exposure. Some potential exposure pathways for contaminants in recycled wastewater to humans include recreational exposure through swimming, direct exposure to irrigation spray, surficial exposure through contact with grass, consumption of contaminated drinking water, and consumption of crops or animal flesh in which PPCPs have bioaccumulated. Aquatic organisms could be exposed to PPCPs through similar pathways. Research on wastewater samples collected at several wastewater treatment plants in California indicate that secondary effluent contains estrogenic hormone concentrations comparable to those that cause feminization in fish, whereas tertiary filtration removes approximately 70 percent of the hormones.

**N-nitrosodimethylamine** N-nitrosodimethylamine (NDMA) is found in most wastewater effluent at variable concentrations depending on specific treatment processes, the setting of the

wastewater treatment plant, and the relative contribution of industrial facilities. For example, composite samples of wastewater effluent collected between August 2002 and April 2004 at seven wastewater treatment plants in California had NDMA concentrations ranging from 7 to 790 parts per trillion with a median concentration of 73 parts per trillion (Balance Hydrologics, Inc. 2009). NDMA concentrations from three samples collected over a 10 month period in 2001 and 2002 at the SCRWA averaged 3.5 parts per trillion with a standard deviation of 2.3 parts per trillion. These concentrations were lower than those measured at other wastewater treatment plant s in the County which ranged from 29 to 490 parts per trillion. The low levels at SCRWA may be explained by relatively effective removal of nitrogen, which is a precursor of NDMA.

NDMA in drinking water is regulated in California by a "notification level" (previously known as Action Level) of 10 parts per trillion in drinking water. Local governments are to be contacted when concentrations are found to be above this level. Due to its carcinogenic characteristics and because NDMA is increasingly detected in drinking water, California has set a public health goal of 3 parts per trillion. The public health goal will eventually support development of a maximum contaminant level (MCL) for NDMA in drinking water (OEHHA 2006).

With respect to NDMA concerns, recycled water application for irrigation is very likely a preferable alternative to direct discharge to creeks, rivers, and bays in most cases because it provides opportunities for soil adsorption, biodegradation, assimilation, and other removal processes. The District is currently conducting a study to assess the fate and transport of NDMA and other constituents in local conditions (S. Zhu pers. comm. 2008).

# 3.10.1.4 Water Reclamation

Use of recycled water replaces water that would otherwise be pumped from wells. Total yearly irrigation for current customers (Phase 1 of the SCRWA recycled water irrigation program) is 1,722 acre-feet per year, with wells supplying approximately 1,144 acre-feet, and recycled water supplying approximately 608 acre-feet.

Tertiary-treated water used for irrigation of exposed edible food crops, parks, schools, residential areas, unrestricted access golf courses, commercial laundries, and at cooling towers or any systems that create a mist must first be disinfected. Disinfection involves the removal of living organisms in the water through methods such as ozone, chlorine, or ultraviolet light. The wastewater treatment plant uses chlorination for disinfection of tertiary water for reclamation.

The Basin Plan provides Guidelines for Interpretation of water quality for irrigation. Although disinfected tertiary treated recycled water produced at the SCRWA wastewater treatment plant currently meets all Title 22 water quality requirements (RWQCB 1998), some constituents found in recycled water may potentially have a negative impact on sensitive plants and soil, or on the water quality of receiving groundwater or surface waters. For example, elevated levels or concentration of boron gradually increases in toxicity to certain sensitive plants such as lemon and blackberry; sodium and chloride levels can stress plants, particularly woody species such as almond, apricot, citrus, and plum; and sodium levels can also impair soil permeability.

# 3.10.2 Regulatory Setting

#### 3.10.2.1 National Pollutant Discharge Elimination System

Section 402 of the Clean Water Act and Section 13370 of the California Porter Cologne Water Quality Control Act establish the NPDES permit system to regulate point and non-point source waste discharges to surface waters of the U.S. The program requires that NPDES permits prescribe conditions of discharge to protect beneficial uses of receiving water. The SWRCB administers the permit, but enforcement of permit conditions is the responsibility of RWQCB, with assistance from local, municipal, or county staff.

The NPDES program requires projects that disturb more than one acre of land to obtain coverage under the general permit governing construction activities. In these cases, project applicants are required to prepare a SWPPP and submit it for review prior to commencing construction. The SWPPP details the site-specific BMP that are required to control erosion and sedimentation and maintain water quality during the construction phase. The SWPPP also contains a summary of the structural and non-structural BMP to be implemented during the post-construction period.

Typical construction activity could affect the direction, rate, or flow of surface water drainage, erosion conditions, and water quality. Therefore, some typical erosion control measures that appear in a SWPPP include: installing silt fences or straw matting around site borders and over stormwater grates to contain sediment and silt in site runoff, grading slopes to a maximum of a 3:1 slope, covering excavated earthen materials to prevent mobilization from wind or rain, and using sediment settling tanks to clarify site runoff.

# 3.10.2.2 Central Coast Region Water Quality Control Plan

The Basin Plan forms the basis for the regulatory programs of the RWQCB. The Basin Plan covers the southern portion of Santa Clara County as far south as Santa Barbara County. The RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges can affect water quality. In addition to the numeric water quality objectives, the Basin Plan states, "All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or aquatic life." The California Toxics Rule updates the Basin Plan regarding these substances. The California Toxics Rule contained within Section 131.38 of Title 40 of the CFR establishes numeric water quality criteria for priority toxic pollutants as required by the Clean Water Act.

# 3.10.2.3 Water Reclamation Requirements

**General wastewater treatment plant requirements (RWQCB Order R3-2004-0099)** The Department of Health Services, the SWRCB, and the RWQCB all regulate recycled water use in California. General waste discharge requirements for SCRWA are described in order number R3-

2004-0099 by the RWQCB. The document contains a summary of nearly all aspects of the wastewater program in the region including treatment performance standards/criteria and the monitoring and reporting program.

The information presented in the order primarily focuses on land disposal of secondary treated wastewater and direct discharge of tertiary-treated wastewater into the Pajaro River. The order lists five prohibitions regarding the effects of wastewater discharged to designated land disposal sites on receiving waters in the Llagas groundwater sub-basin. The prohibitions specify that the discharges shall not cause:

- 1. Groundwater to contain taste- or odor-producing substances that adversely affect beneficial uses
- 2. The median concentration of coliform organisms to exceed 2.2/100 milliliters over a sevenday period
- 3. Ground-water nitrate concentrations to exceed 10 milligrams per liter (as N), or a statistically significant increase in nitrate concentrations, whichever is more stringent (the level of significance was not specified)
- 4. Radionuclide concentrations to reach levels hazardous to human, plant, animal, or aquatic life
- 5. A statistically significant increase in mineral or organic constituent concentrations

**Recycled water use and reporting requirements (RWQCB Order 98-052)** The California Code of Regulations contains the Department of Health Services recycled water regulations governing wastewater treatment processes, effluent quality, and allowable recycled water uses. Additionally, recycling of tertiary treated water for irrigation is covered in the Master Water Reclamation Requirements Order 98-052 (RWQCB 1998), which summarizes the water recycling requirements for the SCRWA and users in Santa Clara County. Order 98-052 enumerates the general findings by the RWQCB related to the SCRWA water recycling program, and lists the prohibitions and limitations associated with recycled water use. Some of the most notable requirements within the order include:

- SCRWA tertiary treated water meets the water reclamation criteria of the State Department of Health Services
- Cross-connections to potable water systems are not permitted and backflow prevention devices are required
- Warning signs shall exist (in English and Spanish) at pipeline works, reservoirs, and sites irrigated with recycled water
- Using recycled water for irrigation during periods of rainfall or when soils are saturated is prohibited

- Discharge to surface waters or overspray to areas outside the designated used area is prohibited
- Storage and application must be at least 100 feet from any domestic well
- Monthly average flows shall be a maximum of 15 mgd
- Recycled irrigation water quality shall not exceed MCLs reported in order 98-052
- Daily average turbidity must be less than or equal to two Nephelometric Turbidity Units (NTUs, which is a measure of small particles contributing to turbidity within the water), turbidity shall not exceed 10 NTU at any time, and turbidity must not exceed 5 NTU for more than 5 percent of the time
- Users must have permits on site and submit on-site observation reports and data to SCRWA
- SCRWA must conduct periodic inspections and file self monitoring reports with the RWQCB

The California Water Code and the RWQCB requires SCRWA to maintain a self-monitoring and reporting program. This program is summarized in the RWQCB Master Water Reclamation Requirements Monitoring and Reporting Program 98-052. Order 98-052 establishes a monitoring program based on Title 22 requirements.

# 3.10.3 Environmental Consequences

# 3.10.3.1 No Action Alternative

Under the No Action Alternative, the funding would not be provided for the Short-term Phase 1 project and there would be no potential for impacts to hydrology and water quality.

# 3.10.3.2 Proposed Action

Under the Proposed Action, the Short-Term Phase I CIP may result in impacts to hydrology and water quality associated with the installation of new pipelines, and possibly during some long-term maintenance and repair procedures, and ongoing use of recycled water for irrigation. The grading and installation of pipelines may impact surface water drainage, erosion, and water quality. Devegetated slopes and disturbed soils would be susceptible to erosion, which may introduce sediments into storm drains and creeks. Construction access and staging areas would also disturb vegetation and soils, adding to erosion and runoff volume from the site. In addition to hydrologic concerns, the operation and staging of heavy equipment may also introduce oils, solvents, fuels, heavy metals, and detergents into surface water drainage.

A SWPPP outlining appropriate construction practices would be prepared in accordance with RWQCB requirements. The SWPPP is site-specific and is a required component of the NPDES

general permit. The SWPPP outlines revegetation techniques, erosion control measures, spill prevention practices, and emergency spill cleanup procedures. It also identifies the required cleanup and emergency response materials to have on site. If necessary, construction activities would be limited to dry months. The SWPPP also contains a summary of BMP to be implemented during the post-construction period. In general, because the SWPPP details the BMP to be applied to control erosion and sedimentation and maintain water quality, impacts to water quality or drainage patterns from runoff during short-term construction activities would be less than significant.

**Protective Measures** The following protective measures are required to reduce impacts from construction resulting from the Proposed Action to below a level of significance.

To reduce long-term effects to surface-water drainage to a level less than significant, engineering requirements for pipeline installation shall include standard design specifications.

Existing drainage swales, ditches or creek channels shall be avoided during design and installation of the pipeline. This may be accomplished through the:

- Use of jack and bore technology or by attaching pipes to existing bridges or other structures at stream crossings
- Installation of the pipelines at an appropriate depth (generally at least 3 feet) below existing grade)
- Replacement of soil with the appropriate compacted fill, and the grading restored to preconstruction conditions

If disturbance cannot be avoided, the following measures shall be implemented:

- When possible, previously or currently disturbed areas or areas directly beneath the road/bike lane/curb shall be selected rather than agricultural or wildlife- habitat areas.
- At locations where the pipeline must pass beneath a channel or swale, the pipeline shall be buried to the depth specified by the construction-project civil engineer, and in all cases at least 3 feet beneath the lowest point in the channel or swale cross section in a trench that minimizes the amount of channel disturbance;
- Following installation, all areas of affect, including the channel, should be restored to its original condition, with appropriate revegetation and erosion protection measures emplaced.

**Surface Water Hydrology and Drainage** Most of the pipeline route occurs along roads with curbs and gutters, or within or adjacent to open space. Few, if any, large stormwater ditches occur along the route. Final design and operation of the recycled water pipeline, however, could affect existing creeks, swales, and drainages from the application of recycled water.

The wastewater monitoring program in Order 98-052 requires implementation of a limited monitoring regime that is intended to protect potential receiving waters and is focused on surface waters. It includes standard observations of runoff, odors, ponding and leaks at application sites as well as sampling for water quality at the wastewater treatment plant. The sampling/observation program does not address boron, chloride, sodium, dissolved solids or salinity. Consequently, there is a potential for impacts from the application of recycled water which may contain measurable concentration values for boron, sodium, and chloride to existing groundwater which has been identified as already exhibiting groundwater salinity levels at the low end of the increasing problems range in the RWQCB irrigation water guidelines. Monitoring and sampling program to document if the application of recycled water on receiving waters downgradient of the irrigation sites would not exceed water quality thresholds or impact certain tree crops and woody ornamental species (which can be more sensitive to salinity and boron levels) would be required to demonstrate that potential impacts would be avoided or remain less than significant.

As shown on Figure 3-2, special flood hazard areas in Gilroy designated by FEMA include some of the fields south of Thomas Road, Monterey Road, and a large expanse of agricultural fields east and south of the wastewater treatment plant. The study area may fall within the FEMA flood zones along the pipeline spur off the existing pipeline to Cintas Corporation along Camino Arroyo Drive.

Underground pipelines are not anticipated to impede or re-direct flood flows. In addition, the Short-Term Phase I CIP does not include any permanent or habitable structures within the flood plain; thus impacts would be less than significant.

*Protective Measures* The following protective measures are required to reduce impacts to surface water hydrology and drainage to below a level of significance.

To protect surface waters, SCWRA shall expand the wastewater monitoring program to include Uvas Creek, application sites, the wastewater treatment plant, and several receiving waters downgradient of irrigation sites. Monitoring procedures shall include:

- Weekly or monthly sampling of both the tertiary effluent and the selected surface water locations for key constituents, including TDS, nitrate, ammonia, sodium (salinity or specific conductance), chloride, boron, sulfate, pH
- Weekly or monthly sampling of both the tertiary effluent and the selected surface water locations for Basin Plan pollutants, priority toxic pollutants, dioxins, regulated radionuclides, organic and inorganic chemicals could also be included at a lower frequency
- Annual testing for general mineral and irrigation suitability parameters

**Groundwater Hydrology** Under the Proposed Action, implementation of the Short-Term Phase I CIP would not likely significantly alter the groundwater hydrology of the basin, although a few considerations exist. The permeability and water holding properties of the pipeline alignment may

differ from the surrounding soils and could either inhibit transverse drainage across the pipeline or enhance drainage along the pipeline route. Either situation should be avoided by suitably designing excavations within native soils and providing adequate compaction. If an unforeseen concern arises about excessive subsurface drainage along the pipeline alignment, mitigation requiring installation of low-permeability baffles would be implemented periodically along the pipeline to further reduce this possibility.

The primary benefit to using recycled wastewater for irrigation and industrial purposes is that it would reduce the amount of water drawn from the aquifer for these purposes. Given equivalent landscaping and irrigation practices, the use of recycled wastewater in place of pumped groundwater is unlikely to affect groundwater recharge, as irrigation would be occurring either way. Implementation of the Proposed Action would, however, help to maintain or increase groundwater levels by reducing the volume of water withdrawn from the underlying aquifer or from municipal supply wells.

Increased groundwater levels are beneficial in that they generally represent an increase in water supply, as well as a decrease in pumping costs required to extract the water. The Proposed Action and the use of recycled wastewater for irrigation would not substantially alter surface water drainage patterns, substantially deplete groundwater supplies or adversely interfere with groundwater recharge. Impacts would be less than significant.

**Groundwater Quality** Ground-water quality characteristics in the shallow, confined, and unconfined aquifers differ. The shallow aquifer beneath and to the southeast of Gilroy is relatively more impaired, with higher measured levels of TDS, chloride, sulfate, boron, and sodium than the confined and unconfined aquifers. The water quality of the confined aquifer, which is used for municipal drinking water supply, is generally good, although elevated levels of nitrates and perchlorate have been detected in some domestic wells. The water quality is currently considered suitable for most of the assigned beneficial uses, including domestic wells, agriculture, industrial process, and service water supply. The unconfined zone, which generally recharges the confined zone, is of similar quality.

The quality of the recycled water is generally very good, but it does not meet drinking water standards set by the EPA for TDS. It does meet the objectives developed by the Department of Public Health and the RWQCB as listed in Order 98-052, which governs recycled water irrigation activities. It does not, however, meet the median groundwater objectives listed in the RWQCB Basin Plan.

Infiltrated water volumes and associated water quality values were used to estimate the total salt loadings and average water quality of the recharge water to the unconfined zone within the Proposed Action study area and conditions that predate the use of recycled water for irrigation.

Current irrigation uses account for 1,722 acre-feet per year. Wells supply approximately 1,144 acre-feet, and recycled water supplies approximately 608 acre-feet. The estimated TDS concentration in recharge prior to the use of recycled water for irrigation was 250 milligrams per

liter. The estimated TDS concentration would increase 4 percent to 260 milligrams per liter with implementation of the Proposed Action.

Well monitoring data provided by the District were reviewed. Two wells were chosen to quantify changes in salt concentration down gradient of the sites irrigating with recycled water. There was no noticeable increase in specific conductance levels detected in this well following the use of recycled water in July, 2000. Provided the recharge mechanisms for the unconfined and confined aquifers in the Llagas basin have not significantly changed, the estimated 4 percent increase in salt concentrations associated with implementation of Proposed Action is not expected to affect the unconfined aquifer. In addition to TDS, other constituents such as chloride, sulfate, calcium, magnesium, and carbonate were determined to not be affected by the application of recycled water and are considered less than significant.

*Pharmaceuticals and Personal Care Products* In 2002, the District conducted a comprehensive water quality sampling program to characterize background water quality. PPCPs were not detected in the SCRWA effluent or the Wren wells, and EDCs were generally not detected or were reported to be below the quantification limit; however, estrone was detected in one SCRWA sample at 10.8 ng/L and 17-estradiol was detected in one sample from the shallow Wren well at 0.9 ng/L (Debroux and Gittens, 2003). However, the sampling program was not designed to assess the fate and transport of PPCPs and it is not clear if the source of the 17-estradiol detected in the Wren well was SCRWA effluent applied as irrigation water at Christmas Hill Park.

While the District has conducted preliminary PPCP and EDC sampling at six groundwater stations in the vicinity of SCRWA recycled water application areas and at downgradient stations, the data have not been published by the District, nor has a full evaluation of the findings been conducted. Until the influence of recycled water use for irrigation has been determined and published, impacts are assumed to be potentially significant for the purposes of this EA.

Application of recycled water application for irrigation provides opportunities for soil adsorption, biodegradation, assimilation and other removal processes for constituents that may be present in the water. NDMA is soluble in water with a low affinity for particles and therefore can readily transport to groundwater and other downstream receiving waters at wastewater discharge facilities. Studies show that NDMA can be removed by ultraviolet direct photolysis (both natural sunlight and artificially generated), particularly in low pH environments. Additional studies suggest that, under appropriate conditions, natural attenuation may be feasible. Because the District is currently conducting a study to assess the fate and transport of NDMA and other constituents in local conditions and the results have not been determined, impacts to water quality could potentially result, combined with the relatively low public health goal threshold (three parts per trillion) and the fact that NDMA is a carcinogenic compound; impacts are considered potentially significant. Monitoring is therefore proposed to verify levels are below established threshold limits set by the state.

*Protective Measures* The following protective measures are required to reduce impacts to groundwater quality to below a level of significance.

1. To protect groundwater and surface water quality, the District shall develop and implement an annual monitoring program for constituents of concern, as identified by the appropriate regulatory agencies, to ensure that there is no degradation of existing ground or surface water due to the expansion and application of recycled water.

As a result of this monitoring program, the District shall demonstrate that the use of tertiary treated recycled water does not negatively impact the beneficial uses of groundwater. If necessary to maintain existing water quality, additional protective measures shall be implemented to protect groundwater resources as deemed necessary based on collected data. These may include, but are not limited to:

- Proposing and facilitating SCRWA implementation of additional treatment at SCRWA to reduce the concentration of the constituents of concern
- Coordinating with retailers (i.e., City of Gilroy) to modify irrigation practices such as reducing the spatial extent or the water volume applied
- Blending with another source of water that has lower concentration of the constituents of concern
- Discontinuing the use of recycled water

The protective measures listed above are general in nature and shall be used in combination with the monitoring program as the basis for an adaptive management approach to the program. In the event that monitoring indicates deterioration in groundwater quality, or soils, such that applicable standards are not achieved, recycled water application shall be halted until such time that additional biological or mechanical controls/treatment are in place and can be shown to meet established standards. The identified issues, response strategies, and actions taken to address identified impacts shall be detailed in an annual monitoring program report prepared by the District.

- 2. The analysis has shown that the concentration of TDS in the recycled water to be used for irrigation over the unconfined aquifer is significantly less than Basin Plan objectives, less than existing TDS concentrations in the unconfined aquifer, and only 4 percent higher than the existing recharge water concentration. The following protective measures are examples of actions that may be employed to further reduce potential impacts:
  - Coordinating with retailers to implement irrigation guidelines and trainings to encourage BMP to reduce the potential for overwatering, surface runoff, and watering at inappropriate times of day. Avoidance of overwatering is particularly important because it will help prevent leaching of the salts into the aquifer.
  - Coordinating with retailers to implement or expand existing measures to reduce TDS levels in wastewater. A significant amount of sodium and possibly potassium ions enter

the wastewater stream due to water softeners used by water customers, which generally substitute sodium for calcium and magnesium.

- Providing public education to reduce the use of water softeners that rely on sodium and to promote alternative means of water softening
- Monitoring of TDS levels shall be included in the previously referenced monitoring program
- 3. The recycled water irrigation practices set forth in RWQCB Order 98-052 and described previously herein for surface and groundwater quality protection shall be implemented to mitigate concerns related to PPCPs and EDCs. These measures require that direct runoff be avoided by using an appropriate irrigation rate and avoiding overspray or watering under saturated conditions. Ponding and evaporation of recycled water shall be minimized as well to minimize buildup of PPCPs, EDCs, and other pollutants at the ground surface. In addition to these practices, buffers shall be provided around seasonal wetlands and freshwater marshes, particularly if endangered or sensitive species are present.

If PPCPs and EDCs are identified in levels triggering mitigation, an appropriate process shall be identified and implemented to remove or reduce concentrations to acceptable levels. Selection of the removal process shall take into consideration the potential formation of undesirable byproducts, such as hazardous byproducts resulting from the oxidation of wastewater using chlorine and ozone. Use of ultraviolet lights for the oxidation process may be more effective in removing PPCPs and EDCs without resulting in disinfection byproducts.

The District shall conduct an annual review of regulatory status of PPCPs and EDCs to verify which compounds are likely to be made subject to regulation and to ensure compliance. In determining what constituents to monitor in the future, constituents on the most current EPA Contaminant Candidate List shall be considered based on presence in recycled water, fate and transport, and known or potential impacts to beneficial uses or public health.

4. Prior to commencement of service, the District shall develop and implement a monitoring program to verify that application of treated recycled water meets all federal and state standards and protects groundwater quality. Monitoring of NDMA levels shall be included in the previously referenced annual monitoring program. If NDMA is identified in levels triggering mitigation, an appropriate process shall be identified and implemented to remove or reduce concentrations to acceptable levels. Treatment methods may include filtration, biological treatment, and/or reverse osmosis. In the event that monitoring indicates deterioration in groundwater quality or soils such that applicable standards are not achieved, recycled water application shall be halted until such time that additional biological or mechanical controls/treatment are in place and can be shown to meet established standards.

# 3.11 Noise and Light

The discussion of noise below is based on information contained in Appendix D.

# 3.11.1 Affected Environment

# 3.11.1.1 Applicable Standards

The generation of noise from construction activities is regulated by local jurisdictions. The City of Gilroy noise and lighting ordinances would regulate construction activities related to the Proposed Action. These ordinances establish acceptable noise levels and lighting impacts, and place restrictions (such as the allowable time for construction) on noise-generating activities. The City of Gilroy does not specify numeric thresholds pertaining to construction noise; however, the hours of construction are limited.

# 3.11.1.2 Existing Noise Conditions

The A-weighting of decibels (dBA) reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in mid-range frequencies. The unit dBA is an adjusted description of noise levels as measured on the decibel scale, which indicates the amplitude of sound.

Although the dBA noise level may adequately indicate the level of environmental noise at any instant, community noise levels continuously vary. Most environmental noise includes a conglomeration of noise from distant sources, which creates a relatively steady background noise in which no particular source is identifiable. To describe the time-varying character of environmental noise, the hourly equivalent sound level ( $L_{eq}$ ) is commonly used.

The study area is exposed to a wide range of ambient noise sources. Noise sources consist primarily of agriculture and industry activities, including the wastewater treatment plant. To determine the existing noise levels, noise measurements were taken in the study area in November 2005. Noise measurements were taken between 11:22 A.M. and 5:10 P.M. near homes and businesses within the study area in the city of Gilroy to characterize the existing daytime noise levels. A summary of the noise measurement locations and average  $L_{eq}$  are found in Table 3-5.

# TABLE 3-5 NOISE MEASUREMENT LOCATIONS AND AVERAGE $L_{\rm EQ}$ WITHIN THE STUDY AREA

Measurement Number	Noise Measurement Location	Average L <sub>eq</sub>
1	Luchessa Avenue, near commercial and industrial areas.	68.9
2	Adjacent to Thomas Road, near residential area.	68.5
7	Adjacent to basketball courts at Ascencion Solorsano Middle School on Grenache Road.	59.1
8	Adjacent to Southside Drive near residential area, near the wastewater treatment plant.	55.7

# 3.11.2 Environmental Consequences

#### 3.11.2.1 No Action Alternative

Under the No Action Alternative, the funding would not be provided for the Short-Term Phase I CIP and there would be no potential for noise related impacts.

# 3.11.2.2 Proposed Action

The Proposed Action would facilitate installation of transmission and distribution pipelines in local roads and rights-of-way. Potential noise impacts would occur during construction activities. Noise associated excavation, pipeline placement, and surface preparation would result in short-term transient impacts. A variety of noise-generating equipment would be used during the installation of the proposed pipeline. Equipment would include:

- Dump trucks
- Backhoes
- Jackhammers
- Concrete mixers
- Compressors/generators
- Jack and bore drilling
- Pavers

The EPA has estimated the excavation phase of public works projects, such as pipeline construction, produces a  $L_{eq}$  of up to 89 dBA at 50 feet from the center of excavation activity. According to the EPA, other phases of work, such as laying pipe and finishing, produce equal or

lower noise levels (70 to 89 dBA) at 50 feet. These noise levels diminish with distance, and are about 51 to 69 dBA at 500 feet.

The Short-Term Phase I CIP is located primarily in an industrial and agricultural area. Noise sensitive receptors such as schools and residences are not located in the vicinity of the study area, and as such would not be exposed to elevated noise levels during construction of the pipeline.

A small portion of the pipeline near East Luchessa and Monterey Road would require the use of sub-surface excavation (jack and bore tunneling). For the tunneling process, most of the surface work would be conducted adjacent to the road, near the intersection of East Luchessa and Jamison Way (within an industrial area) (Figure 3-3, Pit #1). An open pit would also be required along the western boundary of Monterey Road (Figure 3-3, Pit #2). The jacking pit and equipment layout area would be up to 150 feet in length, with the majority of noise-related activity occurring at Pit #1 within the industrial area. To the extent feasible, if 24 hour boring is required, work near Pit #2 near a residential area would occur during daylight hours.

City of Gilroy ordinances do not specify noise level thresholds for construction, but if these noise levels were to occur during night-time hours, an adverse impact could result.

Construction of the Short-Term Phase I CIP would result in the use of night lighting within some portions of the study area. The impacts of the use of lighting would likely be minimal given the location, duration, and proposed protective measures outlined below.

**Protective Measures** Adherence to City of Gilroy ordinances regulating hours of construction would minimize the potential for sleep disturbance and annoyance to residents and businesses in the vicinity of the study area. Heavy construction and equipment use would be limited to designated a maximum of 70 dBA (measured at the residential property line), as so restricted in the City of Gilroy's Noise Ordinance for fixed source mechanical equipment operating in industrial and commercial zones. The following measures would be implemented:

a. Unless otherwise provided for in a validly issued permit or approval, construction activities that are expected to result in greater noise, such as the moving and installation of equipment, shall be limited to the hours of 7:00 A.M. TO 7:00 P.M. Monday through Friday, and 9:00 A.M. to 7:00 P.M. on Saturday. Construction activities shall not occur on Sundays or City holidays, which include: New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas. Such activities are defined as including, but not limited to, excavation, grading, paving, demolitions, construction, alteration or repair of any site, street, or highway, delivery or removal of construction material to a site, or movement of construction materials on a site. These activities do not include the jack and bore or microtunneling activities that may be limited to a maximum of 70 dBA when measured at the residential property line.





Jack and Bore Pits

Railroad Tracks

Pit Number 2

RECON M:\JOBS2\4172\common\_gis\EA\_fig3-3.mxd 05/07/10

FIGURE 3-3 Jack and Bore Pit Locations

Feet

0

300

- b. In the event the chief building official or his or her designee determines that the public health and safety will not be impaired by the construction activities between the hours of 7:00 P.M. and 7:00 A.M., and that loss or inconvenience would not result to any party in interest, the chief building official may grant permission for such work to be done between the hours of 7:00 P.M. and 7:00 A.M. upon an application being made at the time the permit for the work is issued or during the progress of the work.
- c. For night work, the contractor shall minimize the effects of light and glare on residents of the neighborhood. External lighting shall be shielded and directed downward or toward the interior of the work site.

The following standard District BMP shall be incorporated into their work plan:

- Noise Pollution: Noise produced by construction activities will not exceed the applicable local noise ordinance standards.
- Residential Noise Management: The District will implement practices that minimize disturbances to residential neighborhoods surrounding work sites.
- In general, work will be conducted during normal working hours. Extending weekday hours and working weekends may be necessary to complete some projects.
- Internal combustion engines will be equipped with adequate mufflers.
- Excessive idling of vehicles will be prohibited.
- All construction equipment will be equipped with manufacture's standard noise control devices.
- The arrival and departure of trucks hauling material will be limited to the hours of construction.
- The use of jake brakes is prohibited in residential areas.

Compliance with the City of Gilroy noise ordinance (Section 16.38) would ensure that adverse impacts due to construction noise would be avoided. No significant impacts are anticipated to occur during construction. Operation of the pipelines would have no impact on noise levels in the study area.

# 3.12 Transportation

The following discussion of transportation is based on information contained in Appendix E.

# 3.12.1 Affected Environment

#### 3.12.1.1 Existing Roadway Network

The Short-Term Phase I CIP pipeline would start at the SCRWA wastewater treatment plant at Engle Way heading northwest to Southside Drive, continuing west along Southside Drive to Rossi Lane, continuing northwest along Rossi Lane to the intersection with East Luchessa Avenue. The pipeline would extend west from the intersection of East Luchessa Avenue and Rossi Lane to where Luchessa Avenue intersects with the existing recycled water pipeline at Monterey Road.

The segment for service to Cintas Corporation would extend northwest from the existing recycled water pipeline, along Camino Arroyo, to Holloway Road, continuing northeast along Holloway Road, to the customer's buildings.

Southside Drive is an east-west, undivided, two-lane minor arterial roadway that provides access to the SCRWA wastewater treatment plant. Traffic along this roadway is primarily related to the wastewater treatment plant and surrounding agricultural fields and industries.

Rossi Lane is a north-south, undivided, two-lane minor arterial roadway that connects to Southside Drive to the south and Luchessa Avenue to the north. Traffic along this roadway is also primarily related to the wastewater treatment plant and surrounding agricultural fields and industries.

Luchessa Avenue is an east-west, two-lane arterial that connects to Rossi Lane in the east and ends on the west at the Glen Loma Ranch property. Luchessa Avenue passes under US 101 between the Monterey Road and Tenth Street freeway interchanges. The pavement of Luchessa Avenue east of Monterey Road is 60 to 64 feet wide with parking permitted on both sides. Along Luchessa Avenue east of Monterey Road, land use is predominantly commercial and light industrial, with several business driveways and minor street crossings.

Monterey Road is a median-divided, four-lane roadway that runs parallel to and west of US 101. It is classified as an arterial roadway north of Luchessa Avenue and as an expressway south of Luchessa Avenue, up to the southern terminus of Monterey Road south of the study area, where it merges with US 101. Recycled water pipelines have been installed within Monterey Road both north and south of Luchessa Avenue.

# 3.12.1.2 Existing Traffic Volumes

The traffic analysis focused on the operation of roadway segments considered most likely to be affected during construction resulting from the Proposed Action. Seven-day, 24-hour directional traffic counts were collected from Friday, October 21 through Thursday, October 27, 2005, on the following roadway segments:

- 1. Luchessa Avenue, east of Monterey Road
- 2. Monterey Road, north of Luchessa Avenue

Based on the data collected, eastbound Luchessa Avenue showed three distinct peaks for traffic flow, around 6 A.M., 12 P.M., and 3 P.M. In the westbound direction, Luchessa Avenue did not show a noticeable peak in the A.M. period, but highlighted a 12 P.M. peak and a P.M. peak between 3 P.M. and 5 P.M. The maximum peak hour volume counted was 464 for the P.M. period westbound direction.

Monterey Road showed traffic flow in both directions to peak between 7 A.M. and 8 A.M., and again between 3 P.M. and 5 P.M., with higher volumes during the P.M. period. The maximum peak hour volume of 423 occurred in the P.M. period southbound direction.

The counts showed the following Average Daily Traffic (ADT) volumes, directional as well as the two-way total, for the two roadway segments, as shown in Table 3-6 below.

TABLE 3-6ROADWAY SEGMENT VOLUMES

Roadway Segment	Eastbound	Westbound	Northbound	Southbound	Total
Luchessa Avenue, east of Monterey Road	4,619	3,791			8,410
Monterey Road, south of Luchessa Avenue			4,063	3,779	7,842

Table 3-7 shows two-way ADT volumes at selected locations as taken from the City of Gilroy City-Wide Traffic Monitoring Program, 2005 Traffic Volume Data.

TABLE 3-7ROADWAY SEGMENT SUMMARY

Roadway Segment	Two-Way ADT Volumes	
Luchessa Avenue, west of Monterey Road	9,000	
Monterey Road, south of Luchessa Avenue	15,700	
Rossi Lane	1,600	
Southside Drive	400	

# 3.12.1.3 Existing Transit Service

**Caltrain** The Gilroy Caltrain Depot is approximately one mile north of the study area, north of Luchessa Avenue on Monterey Road. Several modes of transit provide service to this depot, and

these transit services provide linkages through Santa Clara County as well as San Mateo County and San Francisco County. There are four northbound and four southbound trains between Gilroy and San Francisco daily. The Gilroy Caltrain depot also serves as a Greyhound bus stop.

Southern Pacific/Caltrain railroad tracks pass through the city of Gilroy from southeast to northwest, crossing under US 101 south of Luchessa Avenue. The tracks parallel Monterey road through most of the city.

**Santa Clara Valley Transportation Authority** Bus Route 68 circulates through the city of Gilroy, stopping at the Caltrain station on Monterey Road. Route 68 provides 20- to 30-minute headways on weekdays, Saturdays, and Sundays. Several connecting Valley Transportation Authority routes also stop at the Caltrain station.

# 3.12.1.4 Bicycle and Pedestrian Facilities

Bicycle facilities are comprised of bike paths (Class I), lanes (Class II), and routes (Class III). Bike paths are a completely separate right-of-way designed for the exclusive use of cyclists and pedestrians, with minimal motorist crossings. Bike lanes are striped on a regular roadway, and are designated for the exclusive or semi-exclusive use of bicycles. Bike lanes allow one-way bike travel. Bike routes provide shared use of the roadway designated by signs or permanent markings and are shared with pedestrians or motorists. In the vicinity of the study area, there are Class II bike facilities along Monterey Road, and portions of Thomas Road and Luchessa Avenue.

Sidewalk facilities are not common in the vicinity of the study area. Luchessa Avenue has sidewalks along both sides between Greenfield Drive and Thomas Road, and along its northern frontage east of Princevalle Street.

# 3.12.2 Environmental Consequences

# 3.12.2.1 No Action Alternative

Under the No Action Alternative, funding for the Short-Term Phase I CIP would not be provided and there would be no potential for impacts to transportation.

# 3.12.2.2 Proposed Action

The Proposed Action would facilitate installation of transmission and distribution pipelines in local roads and rights-of-way. Potential impacts could occur during construction, which would involve cut and cover trenching in some travel lanes along the pipeline alignment.

A Traffic Impact Analysis was performed based on seven-day 24-hour counts and traffic volume data obtained from the City of Gilroy (T.Y. Lin 2005). Lane capacity rates for typical

construction operations from Caltrans District 4 Lane Closure Calculations for three roadway segments were used in the analysis.

Due to construction related road and lane closures, the Proposed Action would impact the level of service at some arterial roadways in the study area. Implementation of protective measures outlined for each roadway section (below) would reduce these impacts to a less than significant level.

**Southside Drive/Rossi Lane** The Short-Term Phase I CIP pipeline construction would initiate at the SCRWA wastewater treatment plant, extend along Engle Way to Southside Drive, follow Southside Drive to Rossi Lane, and then turn west along Luchessa Avenue. Construction activities would have no significant impact on Engle Way, Southside Drive (ADT = 400), or Rossi Lane (ADT = 1,600) due to the low traffic volumes on these two roadways.

**Luchessa Avenue east of Monterey Road** Luchessa Avenue from Rossi Lane to Monterey Road has an ADT of 8,410. The peak hourly traffic volume on Luchessa Avenue is 450 vehicles per hour (vph) in the eastbound lanes and 464 vph in the westbound lanes. The traffic volumes on Luchessa Avenue would be under capacity in both directions during construction of the recycled water pipeline. During construction, traffic volumes are anticipated to increase on Luchessa Avenue, and the potential for construction related traffic impacts would rise.

*Protective Measures* Protective measures outlined below would reduce impacts to less than significant levels:

- Develop a Traffic control plan to address potential impacts and submit for review by the City of Gilroy as part of the District's application for an encroachment permit for work involving the public right-of-way.
  - One travel lane in each direction must be open to traffic during construction. One lane of traffic in each direction can be maintained by temporarily removing the existing parking on one or, if necessary, both sides of the street in the work zone, depending on the pipeline alignment location and the width of the construction zone. If the pipeline is constructed in the pavement close to the curb and the width of the work zone can be restricted to less than 20 feet, it would be possible to maintain one lane in each direction with parking permitted on the opposing side.
  - Provide advanced notice of parking removal in the area to avoid confusion.

**Luchessa Avenue/Monterey Road Intersection** Based on the traffic analysis, 432 vehicles per hour (vph) per lane was calculated to assess the impact of a temporary lane closure on Luchessa Avenue. The capacity of 432 vph per lane is less than the peak demand volume of 450 vph in the

eastbound direction and 464 vph in the westbound direction of Luchessa Avenue, resulting in a Volume to Capacity ratio greater than 1.0 and a failing Level of Service (LOS  $F^3$ ).

*Protective Measures* Protective measures outlined below would reduce impacts to less than significant levels.

- The District shall work with the City of Gilroy to determine if, at the east leg of the Luchessa Avenue/Monterey Road intersection, it would be possible to provide three travel lanes (westbound through/right + westbound left-turn + eastbound through) by removing existing parking on both sides of the street during the installation of the proposed recycled water pipeline. Providing three lanes of travel at the east leg of the intersection would help maintain the westbound left-turn lane.
- The District shall work with the City of Gilroy to determine if the green-light time for Luchessa Avenue may be increased to give a G/C ratio of at least 0.40 during construction of the intersection area to avoid a decrease in LOS, such as a LOS F condition (Forced Flow/Excessive Delays). A G/C ratio of 0.40 would increase the capacity of the temporary lane closure to 480 vph per lane, exceeding the demand volume of 464 vph. This would result in an LOS E<sup>4</sup> for Luchessa Avenue during pipeline construction through the intersection when only one lane in each direction can be provided. In general, the timing should be adjusted to favor traffic movements impacted by the pipeline construction.
- At any given time during construction of the pipeline within the Luchessa Avenue/Monterey Road intersection when the traffic signal is turned off by the City, the traffic would be controlled by flagmen. Once the pipeline is constructed through the intersection, detector loops shall be replaced along with any other equipment that would be disturbed before restoring the pavement and re-striping.

**Transit Service** The Proposed Action is not anticipated to impact transit services in the study area.

**Bike and Pedestrian Facilities** During construction of the proposed pipeline, there would be temporary closure of bike lanes on Luchessa Avenue. Bicycles would need to use the traffic lanes in construction areas. Bike lanes would return to normal use after pipeline installation is complete. Due to the short term nature of construction activities, no significant impacts to bike lanes are likely to occur due to the Proposed Action.

<sup>&</sup>lt;sup>3</sup> LOS F - Describes unsatisfactory stop-and-go traffic characterized by "traffic jams" and stoppages of long duration. Vehicles at signalized intersections usually have to wait through one or more signal changes, and "upstream" intersections may be blocked by the long queues.

<sup>&</sup>lt;sup>4</sup> LOS E - Represents traffic characterized by slow movement and frequent (although momentary) stoppages. This type of congestion is considered severe, but is not uncommon at peak traffic hours, with frequent stopping, long-standing queues, and blocked intersections.

Pedestrian facilities, including sidewalks and crosswalks, would be maintained at all times during construction. If sidewalks are closed or temporarily relocated, advanced warning and signage shall be provided where sidewalks or crosswalks need to be temporarily relocated as a protective measure.

**Driveways** There are numerous driveways on Luchessa Avenue east of Monterey Road. Some parcels in this area have multiple driveways. To reduce potential impacts to driveways to a less than significant level, access to driveways would be maintained during construction activities as a protective measure.

**Minor Street Control** Several minor streets may be impacted during construction activities of the recycled water pipeline. As a protective measure and to reduce potential impacts to minor streets to a less than significant level, pipeline construction would be under flag control when it crosses a minor street.

The work zone would block not more than one-half of a minor street at any time to allow for turning traffic. Traffic into and out of minor streets would be under one-way control if needed.

# 3.13 Climate Change

# 3.13.1 Affected Environment

Climate change refers to long-term fluctuations in temperature, precipitation, wind, and other elements of Earth's climate system. Natural processes such as solar-irradiance variations, variations in Earth's orbital parameters, and volcanic activity can produce variations in climate. The climate system can also be influenced by changes in the concentration of various gases in the atmosphere, which affect Earth's absorption of radiation. California law defines these GHGs to include the following: carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (Health and Safety Code, Section 38505(g)). The most common GHG that results from human activity is CO<sub>2</sub>, followed by methane, and nitrous oxide (OPR 2008).

The BAAQMD has prepared a GHG emissions inventory using 2002 as the base year. The BAAQMD estimated that 85.4 million tons of  $CO_2$ -equivalent GHGs were emitted from anthropogenic sources in the Bay Area in 2002. Fossil-fuel consumption in the transportation sector (on-road motor vehicles) accounted for approximately 43 percent (BAAQMD 2006).

# 3.13.2 Regulatory Setting

There currently is no federal, state, or local regulatory guidance for determining whether a project advances or hinders GHG reduction goals, and no standards of significance for GHG impacts have been established pursuant to NEPA.

California State Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, states that global warming will "have detrimental effects on some of California's largest industries" and recognized that climate change will affect California residents as well as the agriculture, tourism, and recreation sectors. AB 32 mandates that GHGs emissions be reduced to 1990 levels by 2020. Considering that 40 percent of GHG emissions come from motor vehicles, projects that generate new vehicle trips or require notable use of high-emission vehicles (such as for construction) could conflict with AB 32 goals.

# 3.14.3 Environmental Consequences

#### 3.13.3.1 No Action Alternative

Under the No Action Alternative, no increases in GHG would occur as funding would not be provided for the Short-Term Phase I CIP. No direct or indirect impacts to climate would occur as a result of the No Action Alternative. Under the No Action Alternative, there would be no construction or operation involved. As such, there would be no contributions to climate change beyond current conditions.

# 3.13.3.2 Proposed Action

The Proposed Action would temporarily cause direct GHG emissions from the combustion of fossil fuels (i.e., diesel, gasoline) used to run construction equipment and vehicles, both onsite and offsite during pipeline placement activities. The Proposed Action would directly and indirectly cause negligible GHG emissions (as described in Section 3.4, *Air Quality*) from occasional maintenance and personal vehicle use, the periodic use of diesel-powered generators, and/or the use of electric power used to run hydraulic pumps on an intermittent basis over the lifetime of the Short-Term Phase I CIP. As described in Section 3.4 Air Quality, implementation of protective measures outlined would reduce construction related emissions to less-thansignificant levels. These protective measures would also reduce GHG emissions.

Due to the very small quantities involved and the temporary nature of the construction activities, the Proposed Action would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions, and impacts would be considered minor.

# Chapter 4 Cumulative Effects and Other Issues Required by NEPA

This section evaluates the cumulative effects of the Proposed Action, as well as the potential for the Proposed Action to induce growth, and any irreversible and irretrievable commitments of resources that would occur if the Proposed Action were implemented.

# 4.1 Cumulative Impacts

NEPA (40 CFR 1508.7 and 1508.25(a) (2)) requires the analysis of the cumulative impacts of a proposed action in combination with those of other actions. A cumulative impact is the change in the environment that results from the incremental impact of a project when added to other closely related past, present, or reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant impacts taking place over time.

The Proposed Action would occur within a small area over a short period of time (eight to nine months). The projects included in the cumulative impacts analysis and cumulative impacts by resource are presented below.

# 4.1.1 **Projects Included in the Cumulative Impacts Analysis**

The following projects were identified after consultation with relevant federal, state, and local agencies and review of other current environmental documents being prepared in the vicinity of the Proposed Action.

# 4.1.1.1 Roadway or Related Infrastructure Improvements

The types of projects that could result in related individual or cumulative impacts would be utilities' maintenance and improvement projects, roadway improvement projects, and site improvement projects at recycled water use sites within the study area.

All of the past, present, and reasonably foreseeable future projects of this nature, which are undertaken routinely by local utilities and public works departments, are too numerous to identify. Even so, the kinds of individual impacts generated by such projects that could add cumulatively to impacts generated by the Proposed Action would include, for example, shortterm construction-related traffic disruptions and construction-related air emissions.

The timing of construction activities within roadways and roadway resurfacing projects would be coordinated by planning and pavement management documents prepared by the City of Gilroy public works department. Such coordination efforts also serve to minimize multiple disruptions to the same street segments.

# 4.1.1.2 Glen Loma Ranch Development

The Glen Loma Ranch Development Specific Plan Environmental Impact Report prepared for the City of Gilroy Community Development Department (June 2005) proposes a residential and multi-use development within the City of Gilroy. The Glen Loma Ranch Specific Plan, as outlined in the Draft Environmental Impact Report, outlines a community with approximately 1,693 residential units within nineteen neighborhoods, a town center mixed use commercial area, schools, park sites, preserved open space, and bicycle and pedestrian trail systems. This proposed project includes the development of new roadways, extension of existing roadways, and utility improvements installed beneath roadways, including recycled water lines. The Glen Loma Ranch Development project has been analyzed separately, including analysis of cumulative impacts.

#### 4.1.1.3 Hecker Pass Specific Plan

The Hecker Pass Specific Plan submitted and approved by the City of Gilroy (January 2005) proposes a residential and multi-use development within the western portion of the City of Gilroy. The Hecker Pass Specific Plan outlines a community that preserves the agricultural character of the area by preserving these resources along with open space areas and the Uvas Creek Preserve. Approximately 506 residential units would be incorporated, an agri-tourist commercial area, and community facilities. This proposed project includes the development of new roadways, extension of existing roadways, and utility improvements installed beneath roadways, including recycled water lines. The Hecker Pass Specific Plan would be analyzed separately, including analysis of cumulative impacts.

# 4.1.2 Cumulative Impacts by Resource

When the impacts of the Proposed Action are considered with other past, present, and reasonably foreseeable projects in the area, these effects could have cumulative impacts on the following resources, as described below.

*Air Quality*: The Proposed Action would result in a minor temporary increase in air pollutant emissions associated with construction. Ongoing operations are anticipated to result in a reduction in emissions given that less energy is required to treat the recycled water than to pump groundwater, the alternative water source. Construction of the Short-Term Phase I CIP component along with other projects in the study area and vicinity would generate short-term emissions of criteria pollutants, including suspended and inhalable particulate matter and equipment exhaust emissions. As discussed in Section 3.4 *Air Quality*, for construction-related dust impacts, protective measures are implemented to control particulate emissions. Construction-related emissions are not expected to impede attainment or maintenance of ozone or carbon monoxide standards in the San Francisco Bay Area. The Proposed Action's potential contribution to air quality impacts would be rendered less than cumulatively significant through the implementation of protective measures outlined in Section 3.4 *Air Quality*.

**Biological Resources**: Construction of the Short-Term Phase I CIP component along with other projects occurring in the vicinity could result in injury or mortality of individual burrowing owls or disturbance during the nesting period. Construction activities could also result in disturbance of American badgers within the study area. Implementation of protective measures outlined in Section 3.5 *Biological Resources* for the burrowing owl and American badger would reduce potential impacts. The Proposed Action would not significantly contribute to cumulative impacts to biological resources in the area.

*Geology and Soils*: Construction of the Short-Term Phase I CIP component along with other projects occurring in the vicinity could result in temporary impacts to soils in the study area. Concurrent construction activities could result in increased wind and water erosion of soils. As described in Section 3.8 *Geology and Soils*, compliance with the Permit for Discharges of Storm Water Associated with Construction Activity administered by the SWRCB would reduce impacts, as it would require the use of BMP. The contribution of the Proposed Action to construction-related soil impacts would not be cumulatively significant.

*Hydrology and Water Quality*: Construction of the Short-Term Phase I CIP component along with other projects occurring in the vicinity could result in temporary impacts to surface water drainage, erosion, and water quality in the study area. Concurrent construction activities could result in increased erosion and subsequent sedimentation, which affect water quality. As described in Section 3.10 *Hydrology and Water Quality*, a SWPPP outlining appropriate construction practices would be prepared in accordance with RWQCB requirements. The SWPPP details the BMP to be applied to control erosion and sedimentation and maintain water quality. In addition, protective measures are outlined for surface water hydrology and drainage, as well as the presence of pharmaceuticals and personal care products in recycled water. Impacts to water quality or drainage patterns from runoff during short-term construction activities and the use of recycled water would be less than significant. There would be no significant contribution to cumulative impacts for hydrology and water quality.

*Noise*: Construction of the Short-Term Phase I CIP component along with other projects occurring in the vicinity could result in temporary noise impacts. Noise associated excavation, pipeline placement, and surface preparation would result in short-term transient impacts. A variety of noise-generating equipment would be used during the installation of the proposed pipeline. Compliance with the City of Gilroy noise ordinance (Section 16.38) would ensure that adverse impacts due to construction noise would be avoided. No significant impacts are anticipated to occur during construction. There would be no significant contribution to cumulative impacts for noise in the study area.

*Transportation*: Construction of the proposed Short-Term Phase I CIP component along with other projects occurring in the vicinity could result in temporary impacts to transportation within the study area. Due to construction-related road and lane closures, the Proposed Action would impact the level of service at some arterial roadways in the study area. Implementation of protective measures outlined in Section 3.12 *Transportation* for each roadway section would

reduce impacts to a less than significant level. With these measures in place, the Proposed Action would not significantly contribute to cumulative impacts on transportation.

*Climate Change*: Construction of the Short-Term Phase I CIP component along with other projects occurring in the vicinity would not result in a significant increase in GHG emissions because it represents a short-term increase in construction-related pollutant emissions. The Proposed Action would not result in a long-term increase in vehicle trips in the study area. The Proposed Action includes air quality protective measures to reduce construction-related emissions that would also minimize the generation of GHG emissions. With BMP and protective measures outlined in Section 3.4 *Air Quality*, the impacts of pollutant emissions would be less than significant, and the Proposed Action would not significantly contribute to cumulative impacts on GHG and climate change.

# 4.1.3 Growth Inducement

This section of the EA considers the ways the Proposed Action could directly or indirectly encourage economic or population growth in the region. Induced growth is any growth which exceeds planned growth and results from new development which would not have taken place in the absence of the project.

The Short-Term Phase I component of the Master Plan would not directly remove obstacles to growth, result in population increases, or encourage or facilitate other activities that could significantly affect the environment. Any new development must be consistent with existing City and County general plan policies and zoning ordinances regarding land use, open space, conservation, flood protection, and public health and safety. Land use in the project area is anticipated to remain the same; therefore, there would be no growth-inducing effects as a result of implementation of the Proposed Action.

# 4.1.4 Irreversible and Irretrievable Commitments of Resources

The purpose of this section is to identify impacts that could not be eliminated or reduced to an insignificant level by mitigation measures included as part of the Proposed Action, or by other mitigation measures that could be implemented.

No unmitigated significant unavoidable environmental effects are known to result form the Proposed Action. Use of recycled water may become more widespread in the region over time as a result of the Proposed Action. This long-term change may result in secondary benefits, such as a greater reliability of water supply, to areas from which potable water supplies are currently being drawn and to other potential users. No long-term effects on local health are expected, because of the quality of recycled water produced and other potential sources evaluated, and because the proposed water treatment and use processes have been used elsewhere in the State of California for over 30 years without adverse effects. Similarly, because any potential significant impacts to groundwater and surface water quality could be mitigated fully and because long-term cumulative

impacts to regional groundwater and surface water resources are not expected to be significant, the Proposed Action would not result in significant, irreversible changes to water quality.

Installation of recycled water pipeline would preclude some portions of the area under each roadway or in easements from being used by other utilities, if they are needed, in the future. Although the project could result in the loss of individual plants, no irreversible or irretrievable commitment of biological resources is anticipated to occur.

Nonrecoverable materials and energy would be used during construction resulting from the Proposed Action, but the amounts needed would be easily accommodated by existing supplies.

Implementation of the Proposed Action would result in short-term construction-related impacts. However, the Proposed Action would result in long-term benefits to the area by providing a reliable source of water suitable for a variety of nonpotable uses. The availability of recycled water would allow for the conservation of potable water supplies in particular, and the better management of potable and nonpotable water supplies more generally.

# **Chapter 5 Consultation and Coordination**

This section describes the agencies and parties that were consulted during the environmental review process, the Proposed Action's compliance with relevant regulations, and the public involvement process.

# 5.1 **Consultation and Coordination**

This EA was prepared in consultation with a number of entities, including USFWS, CDFG, BAAQMD, and Reclamation Districts 2025, 2027, and 2028.

# 5.2 Federal, State, and Local Requirements

# 5.2.1 Federal Requirements

# 5.2.1.1 National Environmental Policy Act of 1969

The NEPA process is intended to help public officials make decisions that are based on an understanding of environmental consequences and take actions that protect, restore, and enhance the environment. Regulations implementing NEPA are set forth by the CEQ. Reclamation has followed NEPA and the CEQ regulations in the development of this EA.

# 5.2.1.2 Fish and Wildlife Coordination Act (16 U.S.C. 651 et seq.)

The Fish and Wildlife Coordination Act requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. Reclamation has determined that the Fish and Wildlife Coordination Act is not applicable to the Short-Term Phase I CIP component.

# 5.2.1.3 Endangered Species Act (16 U.S.C. 1521 et seq.)

Section 7 of the ESA requires federal agencies to ensure that all federally associated activities within the U.S. do not jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of the critical habitat of these species. Reclamation has determined that the Short-Term Phase I CIP will have "no effect" on federally listed species in the study area; therefore, no consultation under Section 7 of the ESA is required.

# 5.2.1.4 Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.)

The Magnuson-Stevens Act requires federal agencies to consult with National Marine Fishery Service on activities that may adversely affect Essential Fish Habitat (Section 305(b) (2)). Reclamation has determined that the Short-Term Phase I CIP will have "no effect" on Essential Fish Habitat.

#### 5.2.1.5 Migratory Bird Treaty Act (16 U.S.C. 703 et seq.)

The Migratory Bird Treaty Act implements various treaties and conventions between the U.S. and Canada, Japan, Mexico, and Russia for the protection of migratory birds (a full description is included in Section 3.5.2). The Proposed Action includes environmental commitments to ensure compliance with the Migratory Bird Treaty Act.

#### 5.2.1.6 National Historic Preservation Act (16 U.S.C. 470 et seq.)

Section 106 of the NHPA (16 U.S.C. 470f) requires federal agencies to take into account the effect of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. Implementing regulations at 36 CFR Part 800 detail the process for Section 106 compliance. Reclamation will determine whether the Proposed Action would adversely affect historic properties and will consult with the State Historic Preservation Officer and seek their concurrence on its finding. At such time Reclamation receives concurrence from the State Historic Preservation Officer on its finding, it will have completed the Section 106 process. Reclamation will complete the Section 106 process as outlined in the regulations at 36 CFR Part 800 prior to implementation of the Proposed Action.

#### 5.2.1.7 Section 404 of the Clean Water Act

Section 404 of the Clean Water Act (CWA) requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) for activities that involve placement of dredged or fill material into waters of the U.S. The CWA requires the USACE, when issuing the permit, to follow the requirements of the EPA's guidelines for implementing Section 404(b) (1) of the CWA. EPA's guidelines prohibit discharges of dredged or fill material into waters of the U.S., if a practicable alternative to the proposed project exists that would have less adverse impacts on the aquatic ecosystem, so long as that alternative does not have other significant adverse environmental impacts. Reclamation has determined that the Short-Term Phase I CIP will have no impact on waters of the U.S., as none exist in the study area. A Section 404 permit is not required.

#### 5.2.1.8 Section 401 of the Clean Water Act

Pursuant to the CWA Section 401, any applicant for a federal license or permit for activities that may result in any discharge into waters of the U.S. shall provide the permitting agency (USACE) with a certification from the respective state. The Central Valley Regional Water Quality Control Board (CVRWQCB) has permitting authority for the State of California. Reclamation has determined that the Short-Term Phase I CIP will have no impact on waters of the U.S., as none exist in the study area. A Section 401 certification is not required.

#### 5.2.1.9 Section 402 of the Clean Water Act

The NPDES requires permits for pollution discharges into water bodies such that the permitted discharge does not cause a violation of federal and state water quality standards. NPDES permits define quantitative and/or qualitative pollution limitations for the permitted source, and control measures that must be implemented to achieve the pollution limitations. Pollution control measures are often referred to as BMP. An NPDES permit is required for construction activity on sites greater than 1 acre in size.

#### 5.2.1.10 Section 10 of the Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act requires authorization from the Secretary of the Army, acting through USACE, for the construction of any structure in or over any navigable water of the U.S. Structures or work outside the limits defined for navigable waters of the U.S. require Section 10 permits if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, channelization, or any other modification of a navigable water of the U.S., and applies to all structures, from the smallest floating dock to the largest commercial undertaking. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. Reclamation has determined that a Section 10 permit would not be required, as no navigable water of the U.S. exists in the study area.

#### 5.2.1.11 Executive Order 11990, Protection of Wetlands

This order directs federal agencies to avoid undertaking or assisting in new construction located in wetlands, unless no practical alternative is available. The Proposed Action would not result in impacts to jurisdictional wetlands.

# 5.2.1.12 Executive Order 11988, Floodplain Management

Executive Order 11988 requires Reclamation to regulate development in floodplains and preserve the floodplains' natural and beneficial values. The Proposed Action would avoid affecting the function of floodplains.

#### 5.2.1.13 Clean Air Act

The Proposed Action involves ground-disturbing activities that would result in fugitive dust and diesel emissions. Impacts of the Proposed Action were evaluated according to the requirements of the BAAQMD, the local air districts, and were found to comply; additionally, measures that would reduce impacts to the extent feasible.

#### 5.2.1.14 Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act is intended to preserve selected rivers or portions of rivers in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes. The Pajaro River in the vicinity of the study area is not designated as a Wild and Scenic River.

# 5.2.2 State Requirements

# 5.2.2.1 California Endangered Species Act

CESA (Fish and Game Code Sections 2050 to 2097) is administered by the CDFG. Section 2091 of the CESA allows take of a listed species to agencies that have consulted with CDFG if the take is incidental to carrying out an otherwise lawful project that has been approved under CEQA. Take authorizations for state-listed species would be granted by the CDFG.

#### 5.2.2.2 Natural Communities Conservation Plan Act

The NCCP Act was added to CESA in 1991 (NCCP Act, Fish and Game Code Section 2800 et seq.). This Act allowed for an NCCP Program to provide long-term regional protection of natural vegetation and wildlife diversity while allowing compatible land uses and appropriate development and growth. The primary purpose of the NCCP Act is to preserve species and their habitats while allowing reasonable and appropriate development to occur on affected lands. The NCCP Program focuses on preservation of an entire ecosystem versus preservation on a species-by-species basis.

#### 5.2.2.3 Other State Regulations

The following state regulations would apply to the Proposed Action:

- Porter-Cologne Water Quality Control Act, California Water Code Sections 13000 *et seq.* (water quality objectives, anti-degradation policy, waste discharge requirements, groundwater concentration limits, general soil, surface water and groundwater monitoring requirements, beneficial use of ground and surface waters for municipal or domestic water supply)
- State Water Resources Control Board Resolution No. 88-63 (Sources of Drinking Water Policy)
- California Safe Drinking Water Act (California Health and Safety Code Section 4010 et seq.) Title 22, CCR, Section 64400 et seq. which establishes requirements for public water systems, including MCLs.
- California Fish and Game Code Section 1600-1607 (streambed alteration agreement for any alteration of the bed or banks of any specified water body) and pollution regulations prohibiting water pollution with any substance or material deleterious to fish, plant or bird life.
- California Safe Drinking Water Act; Health and Safety Code, Division 5, Part 1, Chapter 7, Section 4010, et seq. regulating public water systems, drinking water quality standards and establishing MCLs.
- California RWQCB Order R3-2004-0099 regulating disposal of secondary treated wastewater and direct discharge of tertiary-treated wastewater into the Pajaro River and impacts to the Llagas ground water sub-basin.
- California RWQCB Order 98-052 which contains Department of Health Services recycled water regulations governing wastewater treatment processes, effluent quality, and allowable recycled water uses. Additionally, recycling of tertiary treated water for irrigation is covered in the Master Water Reclamation Requirements Order 98-052 (RWQCB 1998), which summarizes the water recycling requirements for the SCRWA and users in Santa Clara County (see Appendix C).

# 5.3 Public Involvement

This Draft EA and accompanying Draft FONSI is being issued for a 15-day public review period. This EA has been posted on Reclamation's Web site at: http://www.usbr.gov/mp/nepa/nepa\_projdetails.cfm?Project\_ID=5474 and the District's Web site at: http://www.valleywater.org/PublicReviewDocuments.aspx so that any members of the public can obtain a copy electronically. Any person or agency requesting a hard copy of the document will be provided a copy for their use.

# **Chapter 6 References**

- Archaeor Consultants. 2005. A Phase I Cultural Resources Study for the South County Recycled Water Master Plan Project. Archaeor Archaeological Consultants, Fremont, California. October 2005.
- Bay Area Air Quality Management District (BAAQMD). 1999. BAAQMD CEQA guidelines: assessing the air quality impacts of projects and plans. San Francisco, CA: Planning and Research Division, BAAQMD.
- California Department of Conservation. 2005. Important Farmland Categories, Farmland Mapping and Monitoring Program. Division of Land Resource Protection. Internet site URL http://www.consrv.ca.gov/DLRP/fmmp/mccu/map\_categories.htm.
- California, State of. 2009. Farmland Mapping and Monitoring Program 1984 to 2002 TIME SERIES; Gilroy, Santa Clara County.

http://redirect.conservation.ca.gov/DLRP/fmmp/time\_series\_img/gilroy.htm.

- Central Coast Regional Water Quality Control Board (RWQCB). 1994.Water Quality Control Plan for the Central Coastal Basin (Basin Plan). Central Coast Regional Water Quality Control Board, September 1994.
- \_\_\_\_\_. 1998. Master water reclamation requirements monitoring and reporting program No. 98-052 for the South County Regional Wastewater Authority.
- City of Gilroy. 2002. City of Gilroy General Plan 2002-2020. Internet site URL http://www.cityofgilroy.org/cityofgilroy/city\_hall/community\_development/planning/g eneral\_plan/default.aspx.
- \_\_\_\_\_. 2005a. City of Gilroy City-Wide Traffic Monitoring Program, 2005 Traffic Volume Data
- \_\_\_\_\_. 2005b. Glen Loma Ranch Development Specific Plan EIR prepared for the City of Gilroy Community Development Department
- \_\_\_\_\_. 2005c. Hecker Pass Specific Plan.
- County of Santa Clara. 2006. Santa Clara Valley Habitat Plan. http://scv-

habitatplan.org/www/site/alias\_default/1/home.aspx.

Department of Health and Human Services. 2007. Agency for Toxic Substance and Disease Registry. "ToxFAQs for Boron." September.

http://www.atsdr.cdc.gov/tfacts26.html#bookmark02.

- Earth Metrics, Inc. 1986. Final Environmental Impact Report for the Long-Term Wastewater Management Plan, Cities of Gilroy and Morgan Hill, Volume I, March 1986.
- Ninyo and Moore. 2005. Environmental Database Search and Review, South County Recycled Water Master Plan, Santa Clara Valley Water District, Santa Clara County, California, written by Ninyo and Moore, September 2005.
- Rivera, Patricia. 2010. Email communication, 2 February. Native American Affairs Specialist, Reclamation, Mid-Pacific Region.
- Santa Clara Valley Water District/South County Regional Wastewater Authority. 2004. South County Recycled Water Master Plan, Final October 2004. Santa Clara Valley Water
SCVWD/South County Regional Wastewater Authority, Appendix C, Master Plan Constraints Analysis.

- Santa Clara Valley Water District/South County Regional Wastewater Authority. 2004. South County Recycled Water Master Plan, Final October 2004. Santa Clara Valley Water District/South County Regional Wastewater Authority, Appendix D, Master Plan Constraints Analysis.
- University of California Sustainable Agriculture Research and Education Program. 1990. http://www.sarep.ucdavis.edu/NEWSLTR/v2n4/sa-2.htm.
- U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS). 1995. Soil Survey of Eastern Santa Clara Area, California. National Cooperative Soil Survey, Web Soil Survey 1.0. Internet site URL http://websoilsurvey.nrcs.usda.gov/app/.

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