CALPINE

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DOCKET
01-EP-8
DATE NOV 07 2002
RECD. NOV 07 2002

November 7, 2002

Mr. Chuck Najarian
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

SUBJECT: Amendment to Gilroy City LM6000 Phase I Project
Docket No. 01-EP-08

Dear Mr. Najarian:

Please find attached an application to amend the Gilroy City LM6000 Phase I Project. This Amendment would provide for the construction of a Zero Liquid Discharge Wastewater Treatment System to treat the process wastewater from the peaking turbines at the Gilroy Energy Center.

Please call Mary Hetherington at (530) 582-8050 if you have any questions or comments. Thank you for your time and attention to this matter.

Sincerely,

Connie Stark for

Mary Hetherington

Enclosures

AMENDMENT TO CONSTRUCT A ZERO LIQUID DISCHARGE SYSTEM AT THE GILROY ENERGY CENTER PHASE-I (01-EP-8)

November 2002

AMENDMENT TO CONSTRUCT A ZERO LIQUID DISCHARGE SYSTEM AT THE GILROY ENERGY CENTER PHASE-I (01-EP-8)

November 2002

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

ZERO LIQUID DISCHARGE AMENDMENT: CONSTRUCTION OF BRINE CONCENTRATOR AND CRYSTALLIZER SYSTEM FOR THE GILROY CITY LM6000 PHASE I PROJECT

DOCKET 01-EP-8

1.0 Introduction

1.1 Overview of Amendment

The Gilroy Energy Center, LLC hereby submits this Amendment to the Gilroy City LM6000 Phase I Project (also known as the "Gilroy Energy Center (GEC)" or "GEC Phase I," Docket 01-EP-8) for the installation of a Zero Liquid Discharge (ZLD) wastewater system (hereinafter the "ZLD Amendment" or the "Amendment"). Specifically, the ZLD Amendment calls for the construction of a brine crystallizer and filter press wastewater treatment system (WWTS), as well as associated on-site linears required to operate the ZLD and convey process wastewater from, and distillate to, the Phase I Project.

Pursuant to this Amendment, GEC, LLC will construct and operate a ZLD WWTS on a 2.046 parcel of land owned by the GEC Phase I Project. This parcel (Parcel 1 PM 6211 21-22) is located at 1400 Pacheco Pass Highway in the City of Gilroy, Santa Clara County. Figure 1.1-1 depicts the project location and Figure 1.1-2 shows the ZLD project site arrangement. Figure 1.1-3 and 1.1-4 show elevations of the facility from east-west and north-south, respectively.

This Amendment provides information and an environmental analysis related to the construction and operation of the ZLD WWTS. The information presented in this ZLD Amendment confirms that, consistent with Section 1769(a)(2), Title 20, California Code of Regulations, the ZLD Amendment (1) will not have a significant effect on the environment, (2) will not make changes that would cause the project not to comply with applicable laws, ordinances, regulations, or standards (LORS), and (3) will not result in a change or deletion of a condition of certification. The Conditions of Certification included in the Commission's Decision for the GEC Phase I project are sufficient for the proposed Amendment. This Amendment demonstrates that the modification to the GEC Phase I Project will not result in additional significant impacts to the environment and will result in environmental benefits. This Amendment also contains information to ensure that the project complies with all laws, ordinances, regulations, and standards (LORS) and will comply with the Conditions of Certification issued for the project by the California Energy Commission (CEC).

1.2 Summary of Environmental Impacts and Benefits

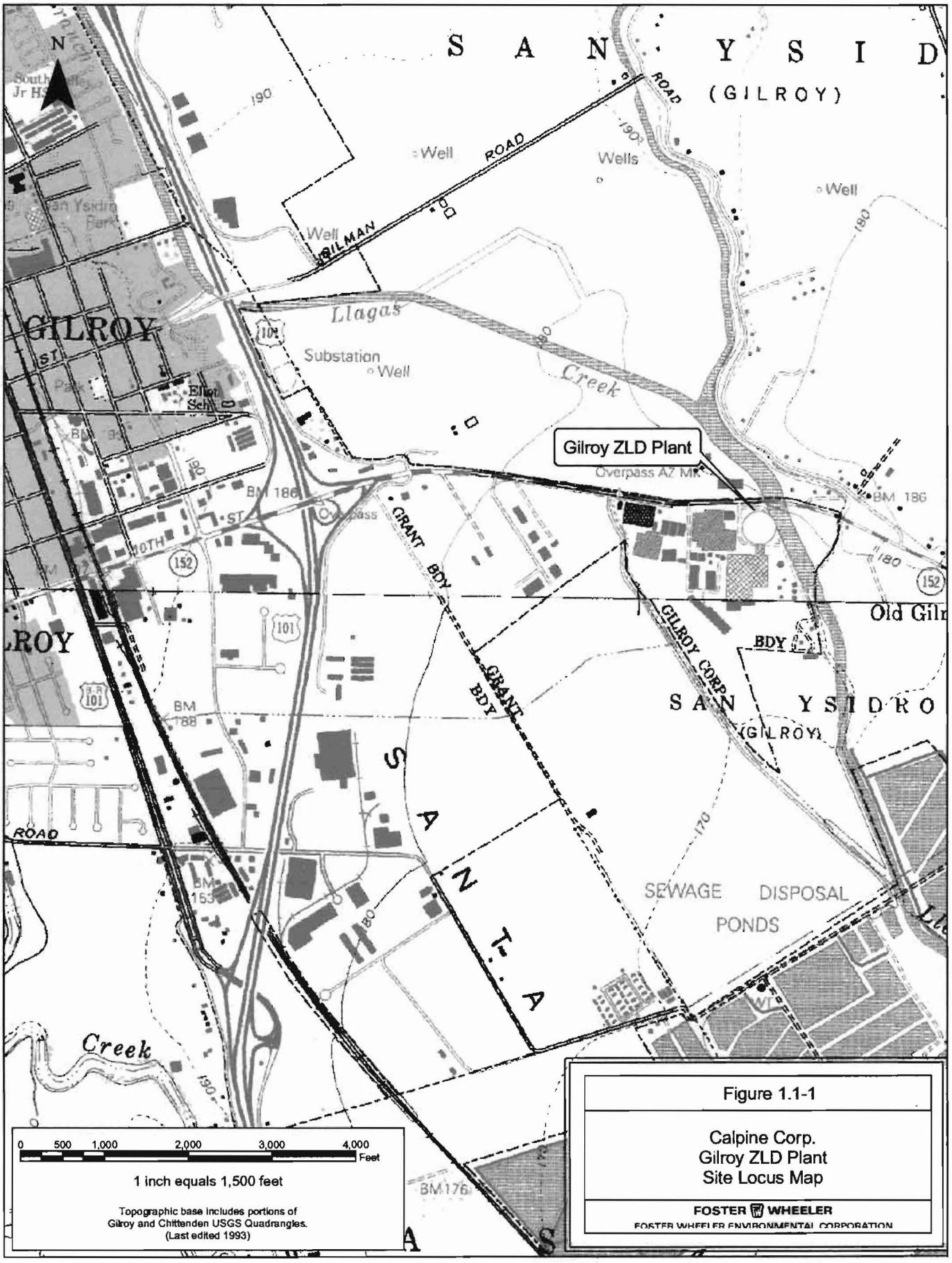
Section 1769(a)(1)(E) of the CEC Siting Regulations requires that an analysis be conducted that addresses the impacts the modification might have on the environment and proposed measures to mitigate any significant adverse impacts. In addition, Section 1769(a)(1)(F) of the Siting Regulations requires a discussion of the impacts the modification might have on the facility's ability to comply with applicable LORS.

Section 3 of this Amendment includes a discussion of the potential environmental impacts and benefits of the ZLD system, as well as a discussion of the consistency of the Amendment with LORS. It is important to note that: (1) the construction associated with this Amendment will take place on a parcel that is part of a paved parking lot that was used during construction of GEC Phase I for worker parking and equipment laydown, and (2) the project will eliminate the GEC Phase I Project's process wastewater stream entirely, thereby reducing the demand on the wastewater treatment facilities (WWTF) of the South County Regional Wastewater Authority (SCRWA). Section 3 concludes that there will be no significant environmental impacts associated with the Amendment and that the project as amended will comply with applicable LORS.

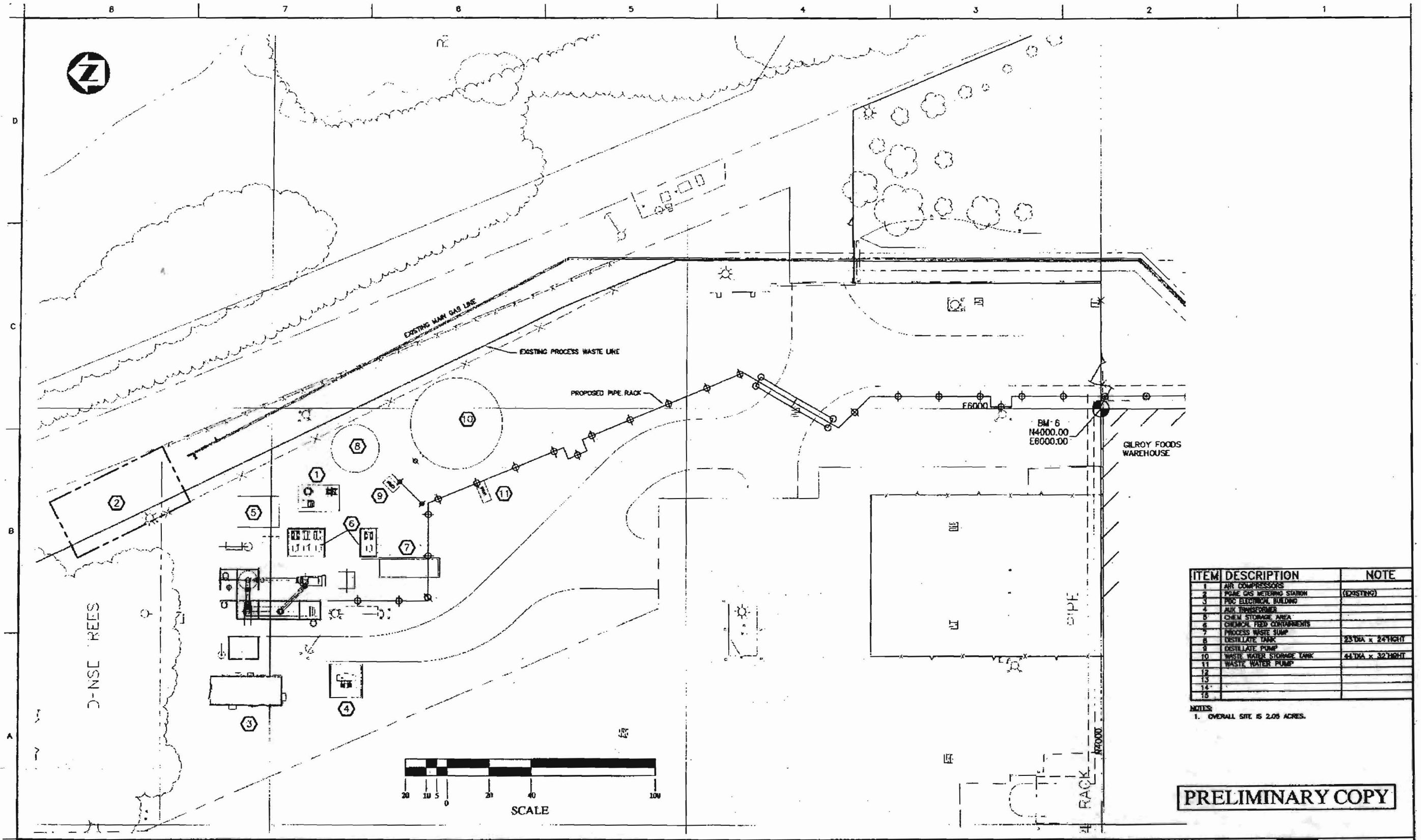
1.3 Consistency of Amendment with License

Section 1769(a)(1)(D) of the CEC Siting Regulations requires a discussion of whether the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision. If the project is no longer consistent with the license, an explanation why the modification should be permitted must be provided.

As discussed below in Sections 3 through 7, the ZLD Amendment of the GEC Phase I Project is not based on information that changes or undermines the bases for the Commission's final decision. The proposed Amendment is consistent with the CEC license.



G:\Calpine\GilroyZLD\work_dir\Figure_1-1.mxd



ITEM	DESCRIPTION	NOTE
1	AIR COMPRESSORS	
2	PG&E GAS METERING STATION	(EXISTING)
3	PDC ELECTRICAL BUILDING	
4	AUX TRANSFORMER	
5	CHEM STORAGE AREA	
6	CHEMICAL FEED CONTAINMENTS	
7	PROCESS WASTE SUMP	
8	DISTILLATE TANK	23'DIA x 24'HIGHT
9	DISTILLATE PUMP	
10	WASTE WATER STORAGE TANK	44'DIA x 32'HIGHT
11	WASTE WATER PUMP	
12		
13		
14		
15		

NOTES:
1. OVERALL SITE IS 2.05 ACRES.

PRELIMINARY COPY

DRAWING NO.	TITLE	REVISIONS REV	DATE	BY	APP'D	DESCRIPTION	REVISIONS REV	DATE	BY	APP'D	DESCRIPTION
		D	9/24/02	GRW	GRW	REVISED FOR NEW ZLD LAYOUT					
		C	11/1/02	GRW	GRW	ISSUED FOR CLIENT APPROVAL					
		B	7/31/02	GRW	GRW	REVISED PER CLIENT REVIEW					
		A	7/1/02	GRW	GRW	REVISED PER CLIENT REVIEW					
		REV	DATE	BY	APP'D	PRELIMINARY ISSUE					

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DRAWN	GRW	3/13/02
CHK'D		
APP'D		
APP'D		
APPROVED		
DATE	11-1-02	
PROJECT	80833.20	

CALPINE
GILROY ENERGY CENTER
ZLD SYSTEM

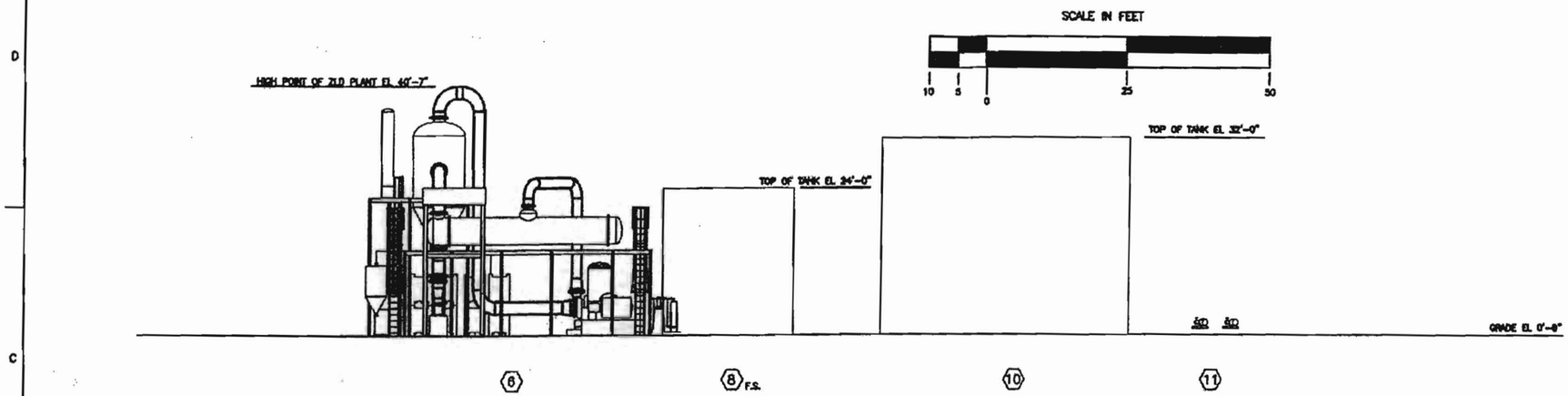
Harris Group Inc.
DENVER, COLORADO

PRELIMINARY GENERAL ARRANGEMENT
ZLD SYSTEM

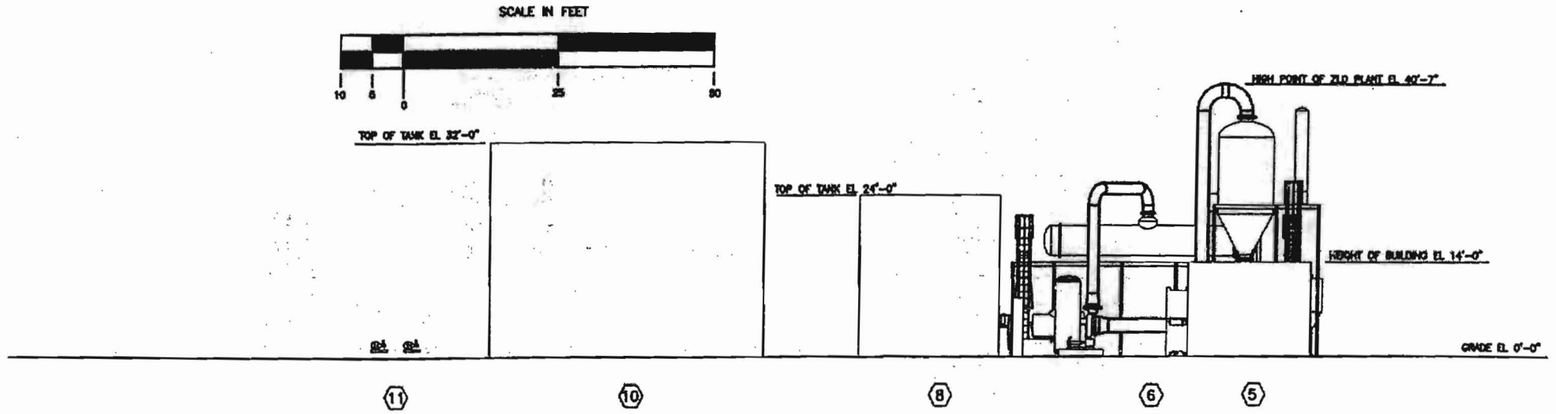
GILROY ENERGY CENTER ZLD SYSTEM
CALPINE CORPORATION

DRAWING NUMBER M630015 REV D

Figure 1.1-2



ELEVATION
LOOKING EAST



ELEVATION
LOOKING WEST

ITEM	DESCRIPTION	NOTE
1	AIR COMPRESSORS	
2		
3	FUME GAS METERING STATION	
4		
5	CHEM STORGE AREA	
6	EVAPORATOR TRAIN 300	
7	PROCESS WASTE SUMP	
8	DISTILLATE TANK	23'DIA x 24'HIGHT
9	DIST PUMPS	
10	BRINE CONCENTRATOR FEED TANKS	44'DIA x 32'HIGHT
11	WASTE WATER PUMPS	
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26		
27		

ALL HEIGHTS ARE TAKEN FROM TOP OF FOUNDATIONS @ EL 0'-0"

NOTES:
1. OVERALL SITE IS 2.05 ACRES.

PRELIMINARY COPY

DRAWING NO.	TITLE	REVISIONS					REVISIONS				
		REV	DATE	BY	APP'D	DESCRIPTION	REV	DATE	BY	APP'D	DESCRIPTION

REV	DATE	BY	APP'D	
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A	5/8/02	GRW	GRW	ISSUED FOR CLIENT APPROVAL
REV	DATE	BY	APP'D	PRELIMINARY ISSUE

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DRAWN	GRW	5/8/02
CHK'D		
APP'D		
APP'D		
APPROVED		
DATE		
PROJECT	60633.06	

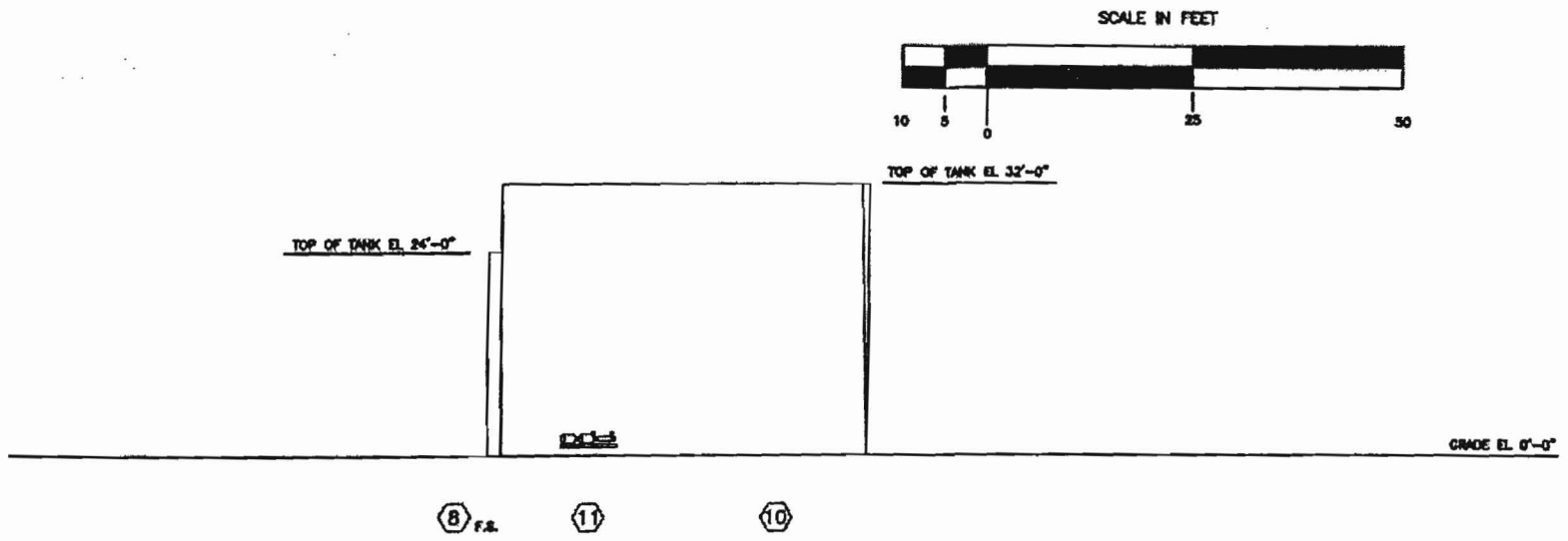
CALPINE GILROY ENERGY CENTER
Harris Group Inc. DENVER, COLORADO

PRELIMINARY GENERAL ARRANGEMENT
ZLD SYSTEM
ELEVATIONS

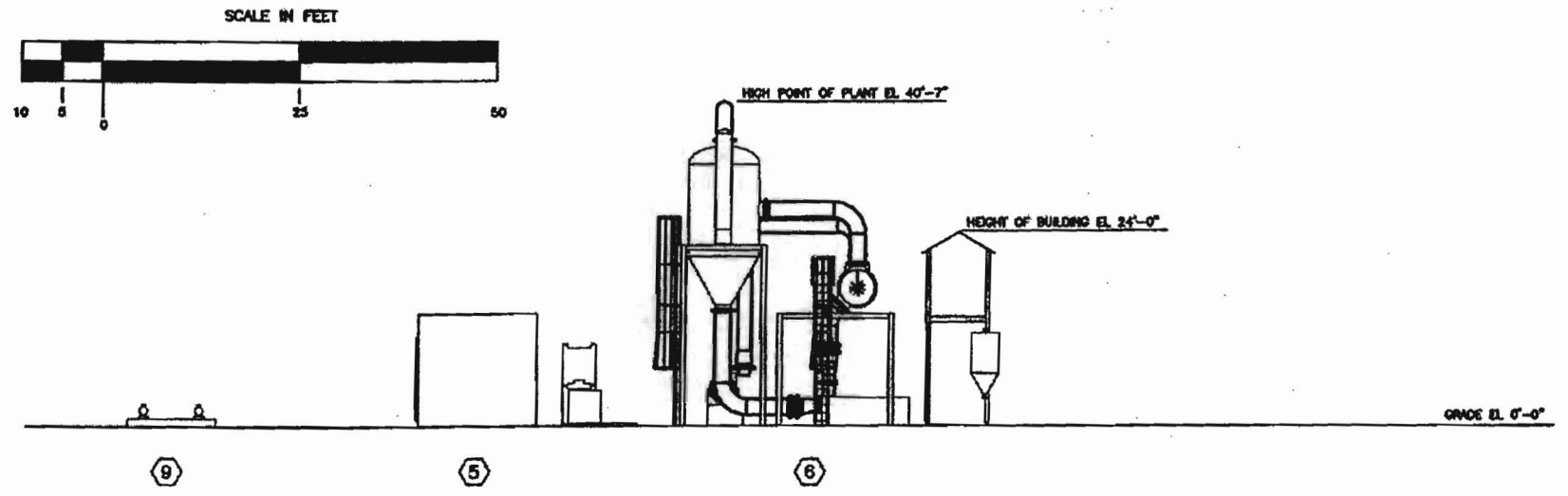
GILROY ENERGY CENTER
CALPINE CORPORATION

DRAWING NUMBER M630015A REV B

Figure 1.1-3



ELEVATION
LOOKING NORTH



ELEVATION
LOOKING SOUTH

ITEM	DESCRIPTION	NOTE
1	AIR COMPRESSORS	
2		
3	POWC CHEMICAL METERING STATION	
4		
5	CHEM STORAGE AREA	
6	EVAPORATOR SURGE TANK	
7	PROCESS WASTE SUMP	
8	DISTILLATE TANK	33'DIA x 24'HIGH
9	DIST PUMPS	
10	BRINE CONCENTRATOR FEED TANK	44'DIA x 32'HIGH
11	WASTE WATER PUMPS	
12		
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ALL HEIGHTS ARE TAKEN FROM TOP OF FOUNDATIONS @ EL 0'-0"

NOTES:
1. OVERALL SITE IS 2.05 ACRES.

PRELIMINARY COPY

DRAWING NO.	TITLE	REVISIONS					REVISIONS				
		REV	DATE	BY	APP'D	DESCRIPTION	REV	DATE	BY	APP'D	DESCRIPTION

REV	DATE	BY	APP'D	
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A	5/16/02	CRW	CRW	ISSUED FOR CLIENT APPROVAL
REV	DATE	BY	APP'D	PRELIMINARY ISSUE

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DRAWN	CRW	5/16/02
CHK'D		
APP'D		
APP'D		
APPROVED		
DATE		
PROJECT	60633.05	

CALPINE GILROY ENERGY CENTER
Harris Group Inc. DENVER, COLORADO

PRELIMINARY GENERAL ARRANGEMENT
ZLD SYSTEM
ELEVATIONS

GILROY ENERGY CENTER
CALPINE CORPORATION

DRAWING NUMBER M630015B REV B

Figure 1.1-4

2.0 Description of Project Amendment

Consistent with CEC Siting Regulations Section 1769(a)(1)(A) and 1769(a)(1)(B), this section includes a complete description of the project modification and the necessity for the Amendment.

2.1 General Description of ZLD

As licensed, the GEC Phase I Project can obtain its raw water from either the existing on-site well or from reclaimed water from SCRWA and discharge its process wastewater and sanitary waste to the City of Gilroy sewer that connects to the nearby SCRWA WWTF. Process wastewater from the GEC Phase I Project consists of evaporator cooling tower blow down and reverse osmosis (R/O) reject. The proposed ZLD process will redirect the peaker discharge from SCRWA to a 320,000-gallon storage tank. From the storage tank, the wastewater will be evaporated. The distillate from the evaporation process will be compressed into a solid "cake" and disposed of at an approved Recycling and Disposal Facility.

2.2 Process Description of Brine Crystallizer and Filter Press

The proposed ZLD WWTS consists of two primary components: a brine crystallizer and a filter press. Process wastewater from the Gilroy Phase I Project will be pumped, via an underground pipeline, to an above-ground storage tank sized to hold approximately 320,000 gallons and located adjacent to the ZLD treatment system. Process wastewater from the storage tank will be directed to a small mixing tank integral to the single Brine Crystallizer (BC).

2.2.1 Brine Crystallizer

One 100-percent capacity brine crystallizer will be used to concentrate the process waste. Distillate from the brine crystallizer will be sent to the distillate storage tank sized to hold approximately 60,000 gallons. The distillate from the tank will be pumped back to GEC Phase I for reuse. The crystallizer blowdown consists of a slurry containing precipitated solids and concentrated brine.

The crystallizer utilizes a degassifier to remove carbon dioxide. Incoming alkalinity must first be converted from the bicarbonate to the CO_2 form through the addition of sulfuric acid. Sulfuric acid will be fed into a small mixing tank integral to the brine crystallizer. Acid consumption depends on system throughput. Assuming that GEC operates for 2000 hours per year under peak conditions and 1900 hours per year under average conditions, acid consumption will average approximately 33 pounds per day. Acid will be stored onsite in a 400 gallon storage tank.

The decarbonated stream passes into the crystallizer where forced vapor recompression provides the thermal energy required to facilitate evaporation. As evaporation progresses, magnesium precipitates with hydroxide to form magnesium hydroxide. This precipitation lowers the pH of the recirculating brine. For this reason, a small amount of caustic (approximately 180 pounds per day on average assuming the operating conditions described above) is added to maintain recirculating brine pH at levels that do not cause corrosion of the wetted process parts. Caustic will be stored onsite in a 550 gallon storage tank.

An anti-foam detection system is included. If required, very small amounts of anti-foam may be fed through a supplied feed system.

2.2.2 Filter Press

The crystallizer blowdown will be sent to the filter press. The filter press will remove most of the water remaining in the blowdown and direct the recovered water back to the crystallizer for reprocessing. The remaining cake (approximately 85% solids by weight) will be sent to the Kirby Canyon Recycling and Disposal Facility for disposal.

2.3 Necessity of Proposed Change

Section 1769(a)(1)(C) of the CEC Siting Regulations requires a discussion of the necessity for the proposed changes and whether the changes are based on information that was known by GEC during the certification proceeding.

SCRWA issued Property Improvement Agreement No. 2001-36 (PIA) on November 15, 2001, approximately 6 months after the CEC issued the license to the GEC Phase I Project. In this agreement, SCRWA "grant(ed) and allocate(d) to GEC the right to discharge effluent wastewater from the Plant ...for a period of exactly two (2) years following the date of such payment." A copy of this section of the PIA was provided to the CEC CPM to meet Condition of Certification SOIL & WATER-5. The GEC Phase I Project needs to have the ZLD WWTS in operation in November of 2003.

3.0 Environmental Analysis of the Proposed Change

Consistent with the requirements of the CEC Siting Regulations Section 1769 (a)(1)(E), this section addresses the impacts the modification may have on the environment and proposed measures to mitigate any significant adverse impacts.

The Amendment will result in no significant environmental effects and will provide environmental benefits as discussed in the environmental resource sections below. The construction and operation of the ZLD WWTS will not significantly change the bases for the CEC's approval of the GEC Phase I Project.

There are three fundamental issues relevant to the consideration of the potential for environmental impacts associated with this Amendment. First, the contemplated construction will take place on a parcel that is part of an existing paved parking area purchased from Gilroy Foods that was used for worker parking and equipment laydown during GEC Phase I construction. Accordingly, the area affected by this Amendment is already highly disturbed. Second, the impacts of the proposed Amendment are largely insignificant, consisting of only temporary impacts associated with construction of ZLD system. Third, the operation of the ZLD system will provide environmental benefits by reclaiming its own wastewater, thereby reducing the demand on the SCRWA WWTF and reducing plant water consumption. It is important to note that the Amendment involves no significant changes to the GEC Phase I Project site. Accordingly, given the nature of the impacts, there will be no significant unmitigated impacts associated with the ZLD Amendment.

3.1 Air Quality

The ZLD WWTS will not result in any significant increase in emissions from the GEC Phase I Project as permitted. The Amendment will meet all applicable air quality requirements and it will not undermine the bases of the CEC's approval of the GEC Phase I Project.

Because the ZLD WWTS will have negligible emissions, the project, as amended, will not alter the assumption or conclusions made in the Commission Decision. As such, the proposed Amendment will not affect the GEC Phase I Project's ability to comply with all applicable LORS.

3.2 Biological Resources

Construction of the ZLD WWTS will not significantly affect Biological Resources and will not undermine the bases for the CEC's approval of the GEC Phase I Project. The ZLD WWTS is located on a parcel that is part of a paved area used for construction worker parking and equipment laydown for the construction of the GEC Phase I Project. In addition to agency consultations and records searches, Foster Wheeler Environmental conducted general biological surveys for vegetation, wetland, and wildlife resources for the GEC Phase I Project on March 15 and April 24, 2001. The surveys, consultations, and records searches included the site of the GEC Phase I generating units and associated facilities, including the site of the ZLD. In addition, a Biological Resources Monitor was on the GEC Phase I site every day of construction between May 2001 and July 2002, and had frequent opportunities to observe the ZLD site and

surrounding area. No indicators of the presence of species of special concern or their habitats were observed on or adjacent to the ZLD site.

Informal consultation with the U.S. Fish & Wildlife Service (USFWS) and the California Department of Fish & Game (CDFG) was conducted between March 2001 and October 2001. Special status species potentially occurring within the impact area of the ZLD include least bell's vireo, California red-legged frog, and western pond turtle, associated with the riparian zone of Llagas Creek.

Surveys for least Bell's vireo were conducted in Llagas Creek at the power plant area on May 16, June 12-14, and June 16-19, 2001 by biologists John Konecny (TE837708-2), Chris Tenney, Robin Church (TE812206), Cornelius Bouscaren (TE778100-2), and Pete Bloom (TE787376-7). Surveys were conducted according to a method based on USFWS Protocol for Least Bell's Vireo Surveys (USFWS 2001d). The method consisted of a qualified biologist conducting visual surveys within all suitable habitats in the project area, according to the guidelines provided in the protocol with an interval of three (3) days between surveys instead of 10 days. Additionally, qualified biologists with Section 10 (a)(1)(A) recovery permits could survey using vocalization tapes and could survey for 8 consecutive days (pers. comm., Cecilia Brown, USFWS).

Surveys for California red-legged frog in the power plant area were conducted on May 15, 18-20, and 30, 2001 by FWENC biologists Eric Htain, Dennis Strong, Brent Matsuda, and Keith Wright. Surveys were conducted according to the Guidance on Site Assessment and Field Surveys for California red-legged frog (USFWS, 1997).

The existing paved area has no vegetative cover and provides no or minimal habitat. Riparian habitat exists approximately 750 feet to the east of the ZLD plant. No special-status species were observed at the site of the ZLD. No least Bell's vireos or red-legged frogs were observed in the habitat at Llagas Creek during any of the focused surveys. Two adult western pond turtles were observed basking and swimming in Llagas Creek approximately 1000 ft. south of the power plant site during the protocol surveys.

Direct impacts to least bell's vireo or California red-legged frogs due to direct mortality, habitat degradation or destruction from construction, nest abandonment, and/or abandonment of habitat due to prolonged noise and vibration disturbance is not expected, as these species were not encountered in the impact zone of the ZLD. To mitigate potential impacts to western pond turtle, exclusion fencing will be placed 50 feet from the edge of riparian stream banks with suitable habitat. No construction activities or vehicular and pedestrian traffic will be allowed within this exclusionary zone.

The ZLD will affect no waterways or water bodies and will have no significant impact to water resources. No stream permits or authorizations are required for the ZLD WWTS. The ZLD system will be constructed using Best Management Practices (BMP) to minimize possible soil erosion and sedimentation and ensure consistency with LORS. Thus, construction and operation of the ZLD WWTS as part of this Amendment would not significantly alter the conclusion made in the Commission Decision for the Phase I Project and will not impact the GEC Phase I Project's ability to comply with LORS.

References

Brown, Cecilia. 2001. Biologist. U.S. Fish and Wildlife Service. Sacramento, CA.

U.S. Fish and Wildlife Service (USFWS). 1997. Guidance on Site Assessment and Field Surveys for California Red-legged Frog. Ventura, CA.

USFWS 2001. Least Bell's Vireo Survey Guidelines. Carlsbad, CA.

3.3 Cultural Resources

Construction of the ZLD WWTS will not significantly affect Cultural Resources and will not undermine the bases for the CEC's approval of the GEC Phase I Project. The ZLD WWTS is located on a parcel that is part of a paved area that was used for worker parking and equipment laydown for the construction of the GEC Phase I Project. In addition to conducting agency and Native American consultations and records searches for GEC Phase I, Foster Wheeler Environmental conducted pedestrian surveys for cultural resources on March 21 2001, and on May 5, 2001 for a proposed GEC Phase II Project which has since been withdrawn. The consultations, records searches, and surveys included the site of the proposed generating units and associated facilities, including the site of the currently proposed ZLD. In addition, one or more Cultural Resources Monitors were on the GEC Phase I site every day of construction between June 10, 2001 and July 12, 2002, and had frequent opportunities to observe the ZLD site and surrounding area. No indicators of the presence of Cultural Resources were observed on or adjacent to the ZLD site.

The proposed ZLD Amendment will not cause any significant environmental impacts, nor result in impacts that differ significantly from the impacts analyzed in the Phase I GEC Commission Decision. Potential impact of the modification on the facility's ability to comply with LORS is limited to construction issues. The LORS relevant to encountering archaeological or Native American Resources, (including CEQA guidelines, California Health & Safety Code Section 7050.5 and California Public Resources Code Section 5097.98) will be satisfied through the following proposed construction mitigation.

3.3.1 Mitigation Measures

Preconstruction Assessment and Construction Training—The Project Archaeologist and Archaeological Monitor will visit the project area before construction begins to become familiar with the site conditions. As construction begins, the Project Archaeologist will conduct a worker education session for construction supervisory personnel to explain the importance of and legal basis for the protection of significant archaeological resources. This worker education session can take place at the same time as the paleontological training session since both disciplines will involve the monitoring of excavation activities. Information about archaeological resources may be combined with information about cultural resources in the training brochure that will be distributed to construction supervisory personnel.

Construction Monitoring—The Archaeological Monitor will be present at the construction site 100 percent of the time when mechanical excavation is taking place. The monitor's role will be to watch for buried archaeological deposits during excavation. If the Archaeological Monitor

identifies archaeological resources during construction, he or she will immediately notify the Project Archaeologist and Site Superintendent, who will halt construction in the immediate vicinity of the find, as necessary. The Site Superintendent and Archaeological Monitor will use flagging tape, rope, or some other means as necessary to delineate the area of the find within which construction will halt. This area should include the excavation trench from which the archaeological finds came as well as any piles of dirt or rock spoil from that area. Construction should not take place within the delineated find area until the Project Archaeologist, in consultation with the CEC staff, can inspect and evaluate the find.

If human remains are encountered during construction, project officials are required by law (California Health and Safety Code 7050.5) to contact the County Coroner. If the Coroner determines that the find is Native American, the Coroner is required to contact the NAHC. The NAHC is required (Public Resources Code 5097.98) to determine the Most Likely Descendant, notify that person, and request that they inspect the burial and make recommendations for treatment or disposal.

Site Recording and Evaluation—The Project Archaeologist and Archaeological Monitor will follow accepted professional standards in recording any find and should submit the standard Department of Parks and Recreation historic site form (Form DPR 523) and locational information to the Northwest Information Center of the California Historic Resources Information System at Sonoma State University, Rohnert Park. If the Project Archaeologist determines that the find is not significant, construction will proceed. If the Project Archaeologist determines that further information is needed to determine whether the find is significant, the CEC and State Historic Preservation Officer (SHPO) will be notified, and the consultant will prepare a plan and a timetable for evaluating the find, in consultation with the CEC and SHPO.

Mitigation Planning—If the Project Archaeologist and the consulting parties (the CEC and SHPO) determine that the find is significant, they should prepare and carry out a mitigation plan in accordance with state and federal guidelines. This plan should emphasize the avoidance, if possible, of significant archaeological resources. If avoidance is not possible, the recovery of a sample of the deposit from which the archaeologist can define scientific data to address archaeological research questions should be considered an effective mitigation measure for damage to or destruction of the deposit.

The mitigation program, if necessary, should be carried out as soon as possible to avoid construction delays. Construction should resume at the site as soon as the field data collection phase of any data recovery efforts is completed. The Project Archaeologist will verify the completion of field data collection by letter to GEC and the CEC-PM so that GEC and the CEC-PM can authorize for construction to resume.

Curation—The Project Archaeologist will arrange for the curation of archaeological materials collected during the monitoring and mitigation program at a qualified curation facility; that is, a recognized, non-profit archaeological repository with a permanent Curator. The archaeologist shall submit field notes, stratigraphic drawings, and other materials developed as part of the archaeological excavation program to the curation facility along with the archaeological collection.

Report of Findings—If buried archaeological deposits are found during construction, the archaeologist will prepare a report summarizing the monitoring and archaeological investigatory program implemented to evaluate the find or to recover data from an archaeological site as a mitigation measure. This report should describe the site soils and stratigraphy and describe and analyze artifacts and other materials recovered and explain the site's significance. This report should be submitted to the curation facility with the collection.

Project Archaeologist/Archaeological Monitor Qualifications—The Project Archaeologist should meet the minimum qualifications for Principal Investigator on federal projects under the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*. The Archaeological Monitor should hold a Bachelor of Arts degree in anthropology with an emphasis in archaeology and have at least one year of experience conducting archaeological field projects, or have five years of experience conducting archaeological field projects. The Archaeological Monitor is qualified to detect archaeological deposits in the field. The Project Archaeologist is qualified, in addition to site detection, to evaluate the significance of the deposits, consult with regulatory agencies, and plan site evaluation and mitigation activities.

3.3.2 Mitigation Effectiveness

Applying these mitigation measures would avoid or minimize any potential project impacts to archaeological resources to a level less than significant. Though it is possible that the project would encounter significant archaeological deposits, the monitor would be present to detect, evaluate, and recover them in accordance with all applicable LORS. Thus, construction and operation of the ZLD WWTS as part of this Amendment would not significantly alter the conclusion made in the Commission Decision for the Phase I Project and will not impact the GEC Phase I Project's ability to comply with LORS.

3.4 Land Use

Construction of the ZLD WWTS will not significantly affect Land Use, and will not undermine the bases for the CEC's approval of the GEC Phase I Project. The area affected by this Amendment is already in industrial use and is highly disturbed. The parcel is part of a paved parking area that was used for worker parking and equipment laydown during GEC Phase I construction.

The ZLD Project site is located in the City of Gilroy in Santa Clara County. The Project is bounded by Highway 152 to the north, a gravel access road and Llagas Creek to the east, Calpine Gilroy Co-Gen and GEC Phase I to the south and the Gilroy Foods Warehouse/Distribution Center and parking to the west. Adjacent land use is dominated by industrial development associated with Gilroy Foods and the existing Calpine Gilroy Co-Gen and GEC Phase I facilities. The remaining land use adjacent to the site consists of open space and agricultural use bordering Llagas Creek. The closest residence/residential area is situated approximately 500 feet north of the site, across Highway 152.

The City's General Plan designates land use for the ZLD WWTS site as M2-General Industrial, and the site is zoned General Industrial. The ZLD will be constructed to ensure conformance to all applicable zoning requirements, specifically Section 23.30 Industrial Site and Building Requirements. Lot coverage will be approximately 40%, which is within the City's 60% building coverage (maximum). To be conservative, GEC has included equipment areas and

paved areas as well as main and accessory buildings in this area calculation. Front and side yards will conform to the M2 District minimum setback of 15 feet and the top elevation of the ZLD's tallest structure, at slightly over 40 feet, is within the City zoning height limit of 75 feet. No additional off-street parking will be required since facility operation is staffed with existing employees. Fencing will be consistent with that in place for GEC Phase I as will signing and landscaping. Since fencing, signage and landscaping currently exist for the GEC Phase I, and driveway access is shared, it is anticipated that additional fencing, signage and landscaping for the ZLD facility will be minimal to ensure safety and proper vehicular access. The City of Gilroy will review such design drawings prior to construction in order to ensure compliance with all applicable LORS. The ZLD facility will comply with the City of Gilroy Performance Standards (Section 41 of Zoning Code) by amending the current Hazardous Materials Storage Permit from the City prior to installing and filling the ZLD day tanks. The Hazardous Materials Business Plan (HMBP) previously prepared for the facility will also be amended and both the amended permit and HMBP must be reviewed and approved by the City for compliance with the City's Uniform Fire Code.

Thus, construction and operation of the ZLD WWTS as part of this Amendment would not significantly alter the conclusion made in the Commission Decision for the Phase I Project and will not impact the GEC Phase I Project's ability to comply with LORS.

3.5 Noise

Construction of the ZLD WWTS will not significantly affect noise, and will not undermine the bases for the CEC's approval of the GEC Phase I Project.

3.5.1 Affected Environment

The surrounding land uses include industrial land to the west (Gilroy Foods) and south (Gilroy Co-Gen and Phase I GEC), agricultural land with a few residences to the north, and open and agricultural land to the east and southeast. Highway 152 (Pacheco Pass Highway) passes east-west immediately north of the site. The nearest residences are on the north side of this very busy highway. The Calpine Gilroy Co-Gen plant is south of the highway and adjacent to the east side of the Gilroy Foods warehouse. The now completed GEC Phase I facility is located immediately south of the Co-Gen plant, whereas the proposed ZLD WWTS will be located on the north side of the Co-Gen plant.

The primary source of noise in the area is traffic on Highway 152. A high percentage of the traffic is heavy trucks crossing between Interstate 5 to the east and U.S. 101 to the west. The Gilroy Foods plant and the existing Calpine Gilroy Co-Gen plant are secondary noise sources.

As reported in the GEC Phase I AFC, in accordance with the CEC's power plant certification regulations, GEC conducted noise measurements at noise-sensitive locations where there is a potential for an increase of 5 dBA or more over existing background noise levels during construction or operation of GEC Phase I. An ambient noise survey was conducted in the area during the period of March 23 - 24, 2001, to document existing levels of noise. Two monitoring locations, representative of the nearest noise-sensitive receptors, were selected around the site for continuous monitoring over a 25-hour period, as required by CEC regulations. Both of the

locations were residential in nature. A brief description of each monitoring location and the types of sounds heard during the survey are presented below.

- **Location 1** — North of the site at the nearest residence (1535 Cedar Lane). The microphone was attached to a post about 20 feet west of the house and about 75 feet north of Highway 152. Sources of noise included traffic on Highway 152 and the Calpine Gilroy Co-Gen plant and Gilroy Foods industrial noise when traffic was not present. This receptor is 520 feet northeast of the ZLD WWTS site.
- **Location 2** — North-northwest of the site in front of a farm residence on Holsclaw Road (6860 Holsclaw Road). The microphone was attached to a sign post between the road and Llagas Creek in front of the house. Sources of noise included traffic on Highway 152, intermittent traffic on Holsclaw Road, and the industrial noise sources. This receptor is 1250 feet north of the ZLD WWTS site.

3.5.2 Noise Survey Results

The noise monitoring locations are shown on Figure 3.5-1. The measured Ldn level at the nearest residence (Location 1) adjacent to Highway 152 was 66.9 dBA prior to construction of the GEC Phase I project. This residence is subject to the County's agricultural land use category, which is identified as "cautionary" at Ldn levels above 65 dBA and "satisfactory" at Ldn levels below 65 dBA. At Location 2 on the much less traveled Holsclaw Road, the Ldn level was lower at 60.9 dBA. This level is within "satisfactory" under the applicable County agricultural standard. The primary source of noise at both locations is traffic on Highway 152. Late-night average background or L90 noise levels were 53.6 dBA and 47.9 dBA for Locations 1 and 2, respectively. These background levels at night are maintained by a combination of traffic noise and noise from the existing Calpine Gilroy Co-Gen plant.

The most important time period to consider is late at night during normal sleep hours when ambient noise levels are low because human activity is at a minimum and traffic levels have generally diminished. The existing noise environment is relatively high close to Highway 152 due to traffic. This level decreases rapidly with distance. Noise from the existing Calpine Gilroy Co-Gen plant is generally not evident during the day and is only obvious at night during short intervals when there is no traffic on Highway 152.

3.5.3 Environmental Impacts

Noise will be produced at the site during construction and during operation of the ZLD WWTS. Potential noise impacts and compliance with standards were assessed by determining expected noise levels from these activities that would result at residential receptors around the site. These levels then were compared with applicable criteria to determine the potential for significant noise impacts.

3.5.4 Construction Impacts and Mitigation

Noise will be produced during the construction period at varying levels depending upon the construction phase. Construction of industrial facilities can generally be divided into five phases, which utilize different types of construction equipment and produce different amounts of noise. The phases are: 1) excavation; 2) concrete pouring; 3) steel erection; 4) mechanical; and 5) cleanup.

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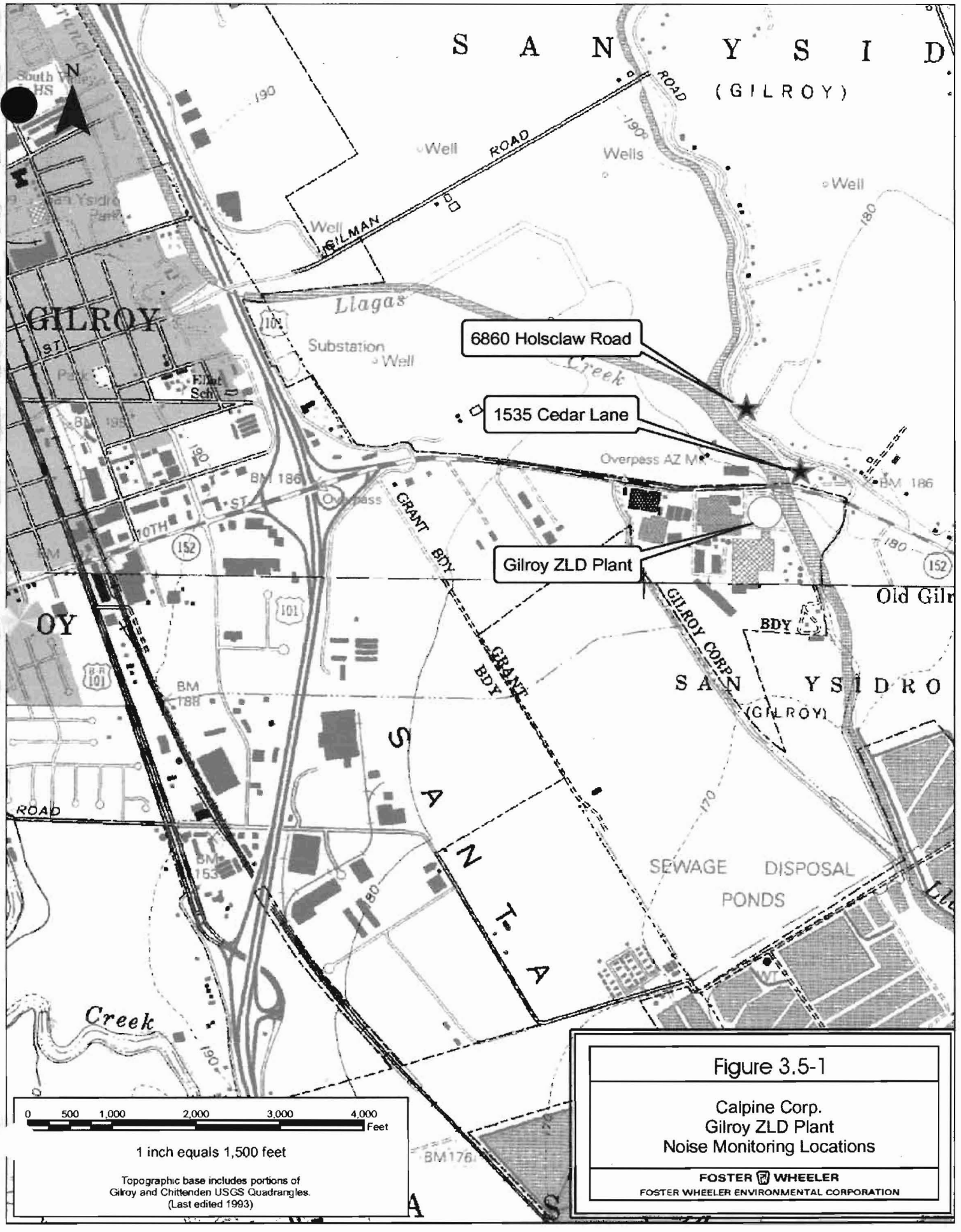

Figure 3.5-1

Calpine Corp.
Gilroy ZLD Plant
Noise Monitoring Locations

FOSTER WHEELER
FOSTER WHEELER ENVIRONMENTAL CORPORATION

Both the Environmental Protection Agency Office of Noise Abatement and Control and the Empire State Electric Energy Research Company have extensively studied noise from individual pieces of construction equipment as well as from construction sites of power plants and other types of facilities (EPA, 1971 and Barnes et al., 1976). Since specific information on types, quantities and operating schedules of construction equipment is not available for the Project at this point in the Project development, information from these documents for similar sized industrial projects will be used. The noisiest equipment types generally operating at a site during each phase of construction are presented in Table 3.5-1. The composite average or equivalent site noise level, representing noise from all equipment, is also presented in the table for each phase. The highest level of any individual piece of equipment is 98 dBA for a rock drill. However, the use of rock drills will not be necessary at the ZLD WWTS site. Heavy trucks operating at maximum engine speed are the second loudest equipment items at 91 dBA.

Table 3.5-1. Construction Equipment and Composite Site Noise Levels

Construction Phase	Loudest Construction Equipment	Equipment Noise Level at 50 feet (dBA)	Composite Site Noise Level at 50 feet (dBA)
Site Clearing and Excavation	Dump Truck Backhoe	91 85	89
Concrete Pouring	Truck Concrete Mixer	91 85	78
Steel Erection	Derrick Crane Jack Hammer	88 88	87
Mechanical	Derrick Crane Pneumatic Tools	88 86	87
Clean-Up	Rock Drill Truck	98 91	89

Source: USEPA 1971, Barnes, et al., 1976.

Average or equivalent construction noise levels projected to the nearest residences are presented in Table 3.5-2.

Table 3.5-2. Average Construction Noise Levels at Receptor Locations

Construction Phase	Direction and Distance from Acoustic Center	
	Receptor 1 1535 Cedar Lane	Receptor 2 6860 Holsclaw Road
	520 ft.	1,250 ft.
Excavation	69	61
Concrete Pouring	58	50
Steel Erection	67	59
Mechanical	67	59
Clean-up	69	61

These results are conservative since the only attenuating mechanism considered was divergence of the sound waves over distances traveled. These levels are similar to existing daytime noise levels in the area and should not create a noise impact during the day. However, they are higher than the existing nighttime L90 levels. These levels, up to 69 dBA, could create a noise impact at night. However, special measures will be taken to reduce these nighttime levels such that a significant noise impact will not be created. These will include restricting noisy construction activities during nighttime hours. Any noise impacts will be temporary because of the overall short duration of construction activities.

3.5.5 Operational Impacts and Mitigation

The ZLD WWTS has been designed such that noise produced by the ZLD in combination with noise produced, by GEC Phase I, will produce less than a 5 dBA increase in the average nighttime L90 levels at the nearest residences. These residences are located just outside the Gilroy city limits in Santa Clara County. The county defines Ldn levels of 65 dBA or less as acceptable for agricultural land uses. Because of the industrial nature of the area and the high level of traffic noise on Highway 152, noise levels from the Project that fall within the 65 dBA range should not create a significant noise impact. A Ldn level of 65 dBA is equivalent to a continuous 24-hour level of 58.6 dBA. Furthermore, the existing Ldn level at the nearest residence is 66.9 dBA.

For GEC Phase I, the CEC established a maximum allowable level of 57 dBA at any residence at night due to noise from the project. The compliance noise test conducted for GEC Phase I in May 2002, indicated that the actual level produced is below 50 dBA and well within the 57 dBA requirement. It is assumed that if the total of the actual noise level for Phase I, plus the predicted level for the ZLD WWTS does not exceed 57 dBA, then no significant noise impact will result. Thus, noise from operation of the proposed ZLD facility will not materially change the noise impact analysis performed for GEC Phase I.

The primary noise control feature planned for the ZLD WWTS is an acoustical enclosure for the 900 horsepower centrifugal compressor used in the process. The specified sound level outside this enclosure is 85 dBA at 3 feet. Several small pumps used in the process will be powered by 3 to 7 horsepower electric motors. These small pumps will not produce significant noise. The total sound power level of the ZLD facility used in this analysis is, thus, based on the specified 85 dBA level at 3 feet from the acoustical enclosure for the large compressor.

Expected noise levels at the two residential locations used in the GEC Phase I AFC were determined by simply subtracting appropriate attenuation factors specific to the two distances from the sound power level. The natural attenuating mechanisms employed in this simple modeling exercise included divergence of the sound waves, atmospheric absorption, and excess anomalous attenuation. The two noise-sensitive receptor locations used in the GEC Phase I assessment are at distances of 520 feet and 1250 feet from the ZLD WWTS facility.

The predicted levels of 51.1 dBA and 40.0 dBA at Locations 1 and 2, respectively for the ZLD WWTS plant are below the existing average nighttime L90 levels. The existing L90 levels, at Locations 1 and 2 as measured in May 2002, are 53.6 dBA and 47.9 dBA, respectively. Thus, the expected levels post-ZLD construction are 55.5 dBA at Location 1 and 48.6 dBA at Location 2, representing increases of 1.9 dBA and 0.7 dBA, respectively. These predicted levels

represent the combination of noise produced by both the ZLD facility and the existing industrial facilities, including GEC Phase I, at the nearest residences. Since these levels are below the 57 dBA level specified by the CEC for GEC Phase I at any residence, there will be no significant impact at any residence.

One source of noise not included in this numerical analysis of plant equipment is a roll-off dumpster truck that will be required once every few weeks. The solids removed from the waste water will be collected in a dumpster that will be picked up and delivered to a landfill on an infrequent basis. This activity will only be performed during the day and the noise will be similar in level to that of other heavy trucks using Pacheco Pass Highway. Thus, this will not create a significant noise impact.

No noise impacts are expected to result at any noise-sensitive receptor around the ZLD WWTS because of the noise control features designed into it. The highest level predicted at any residence is 51.1 dBA at the nearest residence 520 feet northwest of the ZLD WWTS on the other side of Highway 152. Levels will be even lower at more distant receptors. Thus, no significant impact on noise resources is anticipated as a result of the construction and operation of the ZLD WWTS and "no objectionable public nuisance shall be created," in accordance with the City of Gilroy Zoning Code. To ensure compliance with LORS a complaint resolution procedure will provide an efficient and effective means of receiving and resolving any noise complaints. An outline sample form for the procedure is provided in Figure 3.5-2. This procedure was used during the Phase I construction and is current policy for Phase I operations. To date, no noise complaints have been received.

Thus, construction and operation of the ZLD WWTS would not significantly alter the conclusion made in the Commission Decision for the Phase I Project and will not impact the GEC Phase I Project's ability to comply with LORS.

3.6 Public Health

The construction and operation of the ZLD WWTS will not result in any significant airborne toxic emissions that might pose a threat to public health, nor will it undermine the bases of the CEC's approval of the GEC Phase I Project. Therefore, no health risk modeling and no human health risk assessment were performed.

Since the ZLD WWTS will have negligible emissions of airborne toxins, the project, as amended, will not alter the assumptions or conclusions made in the Commission Decision for public health. As such, the proposed Amendment will not affect the GEC Phase I Project's ability to comply with all applicable LORS.

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FIGURE 3.5-2 NOISE COMPLAINT RESOLUTION FORM

NOISE COMPLAINT RESOLUTION FORM
CALPINE GILROY PEAKER PROJECT
GILROY, CALIFORNIA

Complainant's name and address:

Date complaint received:

Time complaint received:

Nature of noise complaint:

Definition of problem after investigation by plant personnel:

Initial noise levels at 3 feet: _____ dBA

Initial noise levels at the complainant's property: _____ dBA

Final noise levels at 3 feet: _____ dBA

Final noise levels at the complainant's property: _____ dBA

Description of corrective measures taken:

Approximate installed cost of corrective measures:

Date installation completed:

Date first letter sent to complainant: (copy attached)

Date final letter sent to complainant: (copy attached)

This information is certified to be correct:

lant Manager's Signature

(Attach additional pages and supporting documentation, as required.)

3.7 Worker Health and Safety

The ZLD WWTS will be constructed and operated to provide for worker health and safety appropriate with the hazards associated with the Project. The project will not undermine the bases of the CEC's approval of the GEC Phase I Project.

Table 3.7-1 provides a general hazard analysis that identifies the anticipated hazards to be encountered during construction. This table also lists health and safety program components that will be implemented to control each hazard. The Project's Health and Safety Officer can expand this hazard analysis to greater detail and implement appropriate hazard controls as each task is scheduled to be performed.

Table 3.7-1. Construction Hazard Analysis

Activity	Hazard[1]	Control[1]
Heavy equipment use	Employee injury and property damage from collisions between people and equipment	Heavy Equipment Safety Program
Working at elevated locations	Falls from same level and elevated areas	100% Fall Protection Program Scaffolding Safety Program
Use of cranes or derricks	Property damage from falling loads Employee injuries from falling loads Injuries and property damage from contact with crane or derrick	Obtain crane permits as required per Cal-OSHA Hoisting and Rigging Safety Program
Working with flammable and combustible liquids	Fire	Flammable and Combustible Liquid Storage and Handling Program Fire Prevention Program Fire Protection Program
Working with hazardous materials and hazardous waste	Employee injury due to ingestion, inhalation, dermal contact	HAZWOPER training, portable self contained shower and eyewash systems
Hot work (including cutting and welding)	Employee injury and property damage from fire Exposure to fumes during cutting and welding Ocular exposure to ultraviolet and infrared radiation during cutting and welding	Hot Work Permit Program Respiratory Protection Program Industrial Hygiene Monitoring Program Personal Protective Equipment (PPE) Program
Troubleshooting and maintenance of plant systems and general operation activities	Employee injury and property damage from contact with hazardous energy sources (electrical, thermal, mechanical, etc.)	Hazardous Energy Control (Lockout/Tagout) Program
Working on electrical equipment and systems	Employee contact with live electricity	Electrical Safety Program PPE Program Hazardous Energy Control (Lockout/Tagout) Program
Confined space entry	Employee injury from physical and chemical hazards	Permit Required Confined Space Entry Program
General operational activities	Employee injuries from hand and portable power tools	Hand and Portable Power Tool Safety Program PPE Program

Activity	Hazard[1]	Control[1]
General operational activities	Employee overexposure to occupational noise	Hearing Conservation Program PPE Program
General operational activities	Employee injury and property damage from unsafe driving	Safe Driving Program
General operational activities	Employee overexposure to hazardous gases, vapors, dusts, and fumes	Hazardous Substances Program Respiratory Protection Program PPE Program Industrial Hygiene Exposure Monitoring
Operation, testing, troubleshooting, maintenance, and repair of high pressure air systems	Employee injury and property damage due to failure of pressurized system components or unexpected release of pressure	Installation of proper relief valving and institution of a relief valve maintenance and testing program Proof testing of pressure system components Hazardous Energy Control (Lockout/Tagout) Program Line Breaking Safety Program

[1]/ The hazard and hazard controls provided are generic to operational activities. As the design and construction of the facility proceeds and routine operations are initiated, these analyses will be updated to reflect current conditions and knowledge.

HAZWOPER = Hazardous Waste Operation Emergency Response

Table 3.7-2 provides a hazard analysis that identifies the anticipated hazards and hazard controls for the operation of the Project during normal operations after construction. Although the types of hazards identified in this table are similar to those identified for construction (Table 3.7-1); workers may encounter these same hazards under different situations during operation than during construction. There is considerable duplication between the tables for this reason. A major component of a safety program for normal operations is the development of standard operating procedures that incorporate the elements of the hazard analysis to assure that workers implement the safety measures.

Table 3.7-2. Plant Operations Hazard Analysis

Activity	Hazard[1]	Control[1]
Heavy equipment use	Employee injury and property damage from collisions between people and equipment	Heavy Equipment Safety Program
Working at elevated locations	Falls from same level and elevated areas	100% Fall Protection Program Scaffolding Safety Program
Use of cranes or derricks	Property damage from falling loads Employee injuries from falling loads Injuries and property damage from contact with crane or derrick	Use of crane permits as required per Cal-OSHA Hoisting and Rigging Safety Program
Working with flammable and combustible liquids	Fire	Flammable and Combustible Liquid Storage and Handling Program Fire Prevention Program Fire Protection Program

Activity	Hazard[1]	Control[1]
Working with hazardous materials and hazardous waste	Employee injury due to ingestion, inhalation, dermal contact	HAZWOPER training, portable self contained shower and eyewash systems
Hot work (including cutting and welding)	Employee injury and property damage from fire Exposure to fumes during cutting and welding Ocular exposure to ultraviolet and infrared radiation during cutting and welding	Hot Work Permit Program Respiratory Protection Program Industrial Hygiene Monitoring Program PPE Program
Troubleshooting and maintenance of plant systems and general operation activities	Employee injury and property damage from contact with hazardous energy sources (electrical, thermal, mechanical, etc.)	Hazardous Energy Control (Lockout/Tagout) Program
Working on electrical equipment and systems	Employee contact with live electricity	Electrical Safety Program PPE Program Hazardous Energy Control (Lockout/Tagout) Program
Confined space entry	Employee injury from physical and chemical hazards	Permit Required Confined Space Entry Program
General operational activities	Employee injuries from hand and portable power tools	Hand and Portable Power Tool Safety Program PPE Program
General operational activities	Employee overexposure to occupational noise	Hearing Conservation Program PPE Program
General operational activities	Employee injury from improper lifting and carrying of materials and equipment	Provision of adequate material handling equipment
General operational activities	Employee injury and property damage from unsafe driving	Safe Driving Program
General operational activities	Employee overexposure to hazardous gases, vapors, dusts, and fumes	Hazardous Substances Program Respiratory Protection Program PPE Program Industrial Hygiene Exposure Monitoring
Operation, testing, troubleshooting, maintenance, and repair of high pressure air systems	Employee injury and property damage due to failure of pressurized system components or unexpected release of pressure	Installation of proper relief valving and institution of a relief valve maintenance and testing program Proof testing of pressure system components Hazardous Energy Control (Lockout/Tagout) Program Line Breaking Safety Program

[1]/ The hazard and hazard controls provided are generic to operational activities. As the design and construction of the facility proceeds and routine operations are initiated, these analyses will be updated to reflect current conditions and knowledge.

HAZWOPER = Hazardous Waste Operation Emergency Response

3.7.1 Health and Safety Programs

During construction and operation of the Project, GEC will implement a number of programs designed specifically to mitigate hazards and, in accordance with applicable regulations, to protect the safety and health of the workers. The following sections outline the content of these programs.

Construction Health and Safety Program

The essential health and safety programs for project construction include:

- Injury and Illness Prevention Plan
- Fire Protection and Prevention Plan
- Personal Protective Equipment (PPE) Program
- Construction Written Safety Program

The following are brief outlines of these programs.

Injury and Illness Prevention Plan

This plan implements the requirements of the Cal-OSHA program, as specified in Title 8 California Code of Regulations (CCR) Section 1509, for construction and includes:

- Responsibility and authority for implementing the plan
- Safety and Health Policy
- Work rules and safe work practices
- Systems for ensuring that employees comply with safe work practices
- Employee communications protocols
- Identification and evaluation of workplace hazards
- Methods and/or procedures for correcting unsafe or unhealthy conditions, work practices, and work procedures in a timely manner based on the severity of the hazards
- Specific safety procedures (e.g., fall protection, lockout/tagout, respiratory protection)
- Training and instruction

Fire Protection and Prevention Plan

This plan implements the requirements of the Cal-OSHA occupational health and safety program, as specified in Title 8 CCR Section 1920, and includes:

- General requirements
- Housekeeping requirements
- Employee alarm/communication system
- Portable fire extinguisher placement and operation
- Fire control methods and techniques
- Hot work (welding, torches, cutting) safety procedures
- Flammable and combustible liquid storage methods

- Flammable and combustible liquid use procedures
- Techniques for dispensing and disposing of liquids
- Methods for servicing and refueling vehicles
- Fire prevention training programs and requirements

Project staff will pay special attention to operations involving open flames, such as welding, and the use of flammable liquids and gases. Project personnel will maintain a fire watch during hazardous or hot work operations, using the appropriate class of extinguishers or other equipment. Site personnel will not be expected to fight fires past the incipient stage.

The on-site construction fire suppression system will consist of hand held fire extinguishers in conformance with Cal-OSHA and the National Fire Protection Association (NFPA). The contractor's safety representative will conduct periodic fire prevention inspections. The safety representative will inspect fire extinguishers monthly and replace them immediately if defective or in need of recharge. All fire fighting equipment will be located to allow for unobstructed access to the equipment and will be conspicuously marked. Flammable materials will be stored in designated and approved storage areas and storage containers with adequate fire prevention systems will be available in these areas.

The Gilroy Fire Department will provide off-site fire suppression support. The closest fire station to the Project is Gilroy Fire Station, approximately 1.5 miles away, located at Chestnut Street near the intersection of First Street. The Gilroy Fire Department would be able to respond quickly to any emergencies at the Project from this location. The contractor's safety representative will contact the Gilroy Fire Department prior to construction to brief the department on planned construction activities and to review cooperatively the Project work plans.

Personal Protective Equipment Program

This Project's program to provide PPE to construction workers implements the requirements of Cal-OSHA Title 8 CCR Sections 1514–1522 and 3401–3411 and includes:

- Head protection equipment (hard hats, etc.)
- Eye and face protection equipment (such as safety glasses)
- Body protection equipment
- Ear plugs
- Hand protection equipment (gloves)
- Foot protection equipment (steel-toed boots)
- Sanitation equipment (hand washing, etc.)
- Safety harnesses and lifelines
- Electric shock protection equipment
- Medical services and first aid equipment (portable self contained showers and eyewashes)
- Respiratory protection equipment (respirators, supplied air equipment)

Construction Written Safety Program

GEC will require the construction contractor to utilize and implement a written safety program. The contractor's employees as well as Calpine employees will follow the contractor's safety plan. During the construction kick-off meeting, training will be provided to all Calpine personnel that will be involved with the project construction activities. Documentation of the training will be maintained in Calpine's files. The construction contractor's written safety program shall include, but is not limited to the procedures identified below. These procedures shall be available to all workers and regulatory agencies during the life of the Project.
Organization, Communication, and Record-Keeping Procedures:

- Employer and employee rights and responsibilities under the health and safety programs
- Hazard communication program including hazardous waste control, hazardous material handling, and California Proposition 65
- Record-keeping procedures
- Injury and accident reporting and recording procedures
- "Toolbox/tailgate" safety meetings
- Supervisor safety and health orientations
- Communications and information programs
- First aid and medical services
- Smoking policy

Work Safety and Emergency Response Programs and Procedures:

- Confined space entry and rescue procedures
- . Electrical equipment safety procedures
- Lockout/tagout procedures
- Hearing conservation and noise control programs
- Bloodborne pathogens program
- Emergency action plan, including evacuation procedure
- Fire prevention and protection plan
- Medical record access procedures
- Housekeeping, material handling, and storage procedures
- Welding and cutting procedures
- Crane and hoist procedures
- Project safe work procedures and standard operating procedures
- Security programs
- Excavation and trenching program
- Fall protection
- Inspections
- Sign, tags, and barricades

Equipment and Equipment Use:

- Personal protective equipment
- Respiratory protection program including fit-testing procedures
- Work clothing
- Ventilation requirements
- Ergonomic precautions
- Compressed gas and air handling procedures

Operation Health and Safety Program

After construction, the Gilroy Energy Center Operational Health and Safety Program will be utilized for the ZLD System. Significant modifications to the Gilroy Energy Center Operational Health and Safety Program are not expected, as the tasks and associated hazards, as well as the hazardous materials associated with the ZLD System operation are currently present at the facility. Key health and safety programs for project operation are as follows and outlined below:

- Injury and Illness Prevention Program
- Fire Protection and Prevention Plan
- PPE Program
- Emergency Action Plan

Injury and Illness Prevention Program

The Injury and Illness Prevention Plan implements the requirements of the Cal-OSHA program, as specified in Title 8 CCR Section 3203 for project operations, and includes:

- Responsibility and authority for implementing the plan
- Safety and Health Policy
- Work rules and safe work practices
- Systems for ensuring that employees comply with safe work practices
- Employee communication procedures
- Identification and evaluation of workplace hazards
- Methods and/or procedures for correcting unsafe or unhealthy conditions, work practices, and work procedures based on the severity of the hazards
- Specific safety procedures (e.g., fall protection, lockout/tagout, respiratory protection)
- Training and instruction plans

Fire Protection and Prevention Plan

The Fire Protection and Prevention Plan implements the requirements of the Cal-OSHA program, as specified in Title 8 CCR Section 3221, and includes:

- General requirements
- Housekeeping requirements
- Employee alarm/communication system

- Portable fire extinguisher placement and operation
- Fire control methods and techniques
- Hot work (welding, torches, cutting) safety procedures
- Flammable and combustible liquid storage methods
- Flammable and combustible liquid use procedures
- Techniques for dispensing and disposing of liquids
- Methods for servicing and refueling vehicles
- Fire prevention training programs and requirements

The on-site fire suppression system for project operation will consist of portable fire fighting equipment such as hand held fire extinguishers in conformance with Cal-OSHA and the NFPA. The contractor's safety representative will conduct periodic fire prevention inspections. The safety representative will inspect fire extinguishers monthly and replace them immediately if defective or in need of recharge. All fire fighting equipment will be located strategically to allow for unobstructed access to the equipment and will be conspicuously marked. Flammable materials will be stored in designated and approved storage areas and storage containers with adequate fire prevention systems will be available in these areas.

The Gilroy Fire Department will provide off-site fire suppression support. The closest fire station to the Project is the Gilroy Fire Station, approximately 1.5 miles away, located at 7070 Chestnut Street near the intersection of First Street. The Gilroy Fire Department would be able to respond quickly to any emergencies at the Project from this location. The contractor's safety representative will contact the Gilroy Fire Department prior to construction to brief the department on planned construction activities and to review cooperatively the Project work plans.

Personal Protective Equipment Program

This Project's program to provide PPE to construction workers implements the requirements of Cal-OSHA Title 8 CCR Sections 3401–3411 and includes:

- Head protection equipment (hard hats, etc.)
- Eye and face protection equipment (such as safety glasses)
- Body protection equipment
- Ear plugs
- Hand protection equipment (gloves)
- Foot protection equipment (steel-toed boots)
- Sanitation equipment (hand washing, etc.)
- Safety harnesses and lifelines
- Electric shock protection equipment
- Medical services and first aid equipment (portable self contained showers and eyewashes)
- Respiratory protection equipment (respirators, supplied air equipment)

Emergency Action Plan

The Emergency Action Plan implements the requirements of Cal-OSHA Title 8 CCR Section 3220 and includes:

Organization of Emergency Response:

- Incident reaction responsibilities
- Incident Command System
- Position description assignments
- Response and notification plan (points of contact)
- Supervisor/Emergency Coordinator role
- Health and Safety Manager role

Communications:

- Documentation and record-keeping procedures
- Public relations (news media, etc.) procedures
- Emergency notification list
- Emergency telephone number list
- Emergency equipment locations (i.e., portable self contained showers and eyewashes)
- Plant plans and diagrams
- Accident reporting and investigation procedures
- Hazard communication procedures
- Spill containment and reporting procedures
- Releases into the environment and reporting

Hazard Characteristics:

- Hazardous waste or chemical spill
- Fire
- Earthquake
- Bomb threat
- Pressure vessel release

Emergency Response Procedures:

- Response procedures
- Site security measures
- Evacuation routes, assembly areas, and procedures
- Emergency plant shutdown procedures
- Fire response procedures
- Emergency medical treatment and first aid
- Reference procedures
- Decontamination procedures

- Evacuation plan
- Systems and shutdown procedures
- Lockout/tagout procedures
- Accidents involving serious injury and/or death

Standards and Requirements:

- Respiratory protection requirements
- PPE requirements
- Sanitation requirements
- Inspection requirements

3.7.2 Safety Training Programs

For both construction and operation, GEC will implement comprehensive training programs to ensure compliance with all applicable LORS and to ensure that employees recognize and understand how to protect themselves from hazards. Table 3.7-3 provides an overview of training programs that will be provided to personnel.

Table 3.7-3. Construction and Operation Training Program

Training Course	Target Employees
Injury and Illness Prevention Plan	All
Emergency Action Plan	All
PPE Program	All
Heavy Equipment Safety Program	Employees working on, near, or with heavy equipment
Forklift Operator Training	Employees working on, near, or with forklifts
Trenching and Excavation Safety Program Use of Excavation Permits per Cal-OSHA	Employees involved with the conduct of trenching or excavation
100% Fall Protection Program	Employees required to use fall protection
Scaffolding Safety Program	Employees required to erect or use scaffolding
Hoisting and Rigging Safety Program	Employees responsible for the oversight or conduct of hoisting and rigging
Crane Safety Program	Employees supervising or performing crane operations
Flammable and Combustible Liquid Storage and Handling	Employees responsible for the handling and storage of flammable or combustible liquids or gasses
Hot Work Permits	Employees performing hot work
Hazardous Energy Control (Lockout/Tagout)	Employees performing lockout/tagout
Electrical Safety	Employees required to work on electrical systems and equipment
Permit Required Confined Space Entry	Employees required to supervise or perform confined space entry
Hand and Portable Power Tool Safety	All
Hearing Conservation	All

Training Course	Target Employees
Safe Driving Program	Employees supervising or driving motor vehicles
Hazardous Substances Program (Hazard Communication)	All
Pressure Safety	Employees supervising or working on pressurized systems or equipment
Line Breaking Safety	Employees performing general maintenance or working on pressurized systems or equipment
Relief Valve Maintenance and Testing	Employees performing maintenance or testing of relief valves
Respiratory Protection Program	All employees required to wear respiratory protection
Fire Prevention Program	All
Fire Protection Program	All
HAZWOPER/First Responder	Employees working around hazardous materials or waste

Construction and operation of the ZLD WWTS, in accordance with the Amendments to the GEC Phase I Project and the proposed prevention and mitigation measures, will ensure worker health and safety during construction and operation. The proposed Amendment will therefore not alter the conclusions made in the Commission Decision and will not impact the GEC Phase I Project's ability to comply with applicable LORS.

3.8 Socioeconomics

The construction and operation of the ZLD WWTS will not have any significant adverse impacts on the local or regional socioeconomic environment, including population, housing, employment, education (schools), public services, utilities, and fiscal resources. Any impacts will be minor and temporary in nature and will not permanently affect socioeconomic resources.

The City of Gilroy is located in south Santa Clara County, approximately 20 miles south of San Jose and about 5 miles north of the Santa Clara/San Benito county line. Incorporated cities in Santa Clara County, ranked in order of 2002 population data include San Jose (918,000), Sunnyvale (132,800), Santa Clara (104,300), Mountain View (71,600), Milpitas (63,800), and Palo Alto (60,500) (California Department of Finance, 2002a). Thirteen of the county's 15 cities (including those listed above) and approximately 90 percent of the county's population are located in the north part of the county. The south portion of the county remains primarily rural, with the exception of Gilroy, Morgan Hill, and the small unincorporated community of San Martin. The area surrounding Gilroy is primarily rural. Incorporated cities in the general vicinity of Gilroy include Morgan Hill (Santa Clara County), Watsonville (Santa Cruz County), San Juan Bautista (San Benito County), and Hollister (San Benito County).

Population in the City of Gilroy increased by 40 percent from 1990 to 2002, compared with increases of 15 percent and 18 percent for Santa Clara County and California, respectively. Continued population growth is expected over the next decade, with respective increases of 33 percent, 20 percent, and 18 percent projected for the City of Gilroy, Santa Clara County and

California. The City of Gilroy had a population of 43,950 in 2002. Santa Clara County had a 2002 population of 1,719,600.

The City of Gilroy had an estimated 12,857 housing units in January 2002, with a vacancy rate of just 2.33 percent. Santa Clara County had an estimated 590,025 housing units in January 2002 with a vacancy rate of 2.28 percent. These vacancy rates were lower than the regional (Bay Area) average of 3.23 percent. Monterey, San Benito, and Santa Cruz counties had housing vacancy rates in January 2002 of 7.95 percent, 3.71 percent, and 7.77 percent, respectively.

The economy of the City of Gilroy is based on agricultural products and processing. A number of food processing centers are located in Gilroy, and government also employs many local residents. The Gilroy Economic Development Corporation reports that Gilroy Foods, Inc. and A&D Christopher Ranch are presently the largest private sector employers in the city. The City of Gilroy notes on its website that there has been an interest in Gilroy as a site for expansion of Silicon Valley and about 1,000 acres in the city remain available for industrial growth. The average annual unemployment rate in 2001 in Santa Clara County was 4.5 percent compared to the state average of 5.3 percent. The unemployment rate in the City of Gilroy (7.4 percent) was higher than the county and state averages.

The ZLD Project will create a short-term demand for various construction trade and operations workers. Because of the variable nature and duration of construction-related projects, construction workers often commute considerable distances to reach potential job locations. Workers frequently move from one project site to another and, therefore, permanent relocation for any given project is usually not a practical option. Some workers may, however, temporarily relocate on a workweek basis. Since the region's construction labor force is large, it is expected that the majority of the construction workers will commute daily for one hour or less each way to the job site.

Since it is expected that the majority of the construction workforce will commute to the site, it is not expected that additional services will affect population, housing, employment, education (schools), public services, utilities, and fiscal resources.

The ZLD Project labor supply could be drawn from a radius of approximately 50 miles from the Project site, assuming that the one-way commuting time of workers residing within this distance would be approximately 1 hour. Counties located within 50 miles of the Project site include Santa Clara, Alameda, San Mateo, Santa Cruz, Monterey, San Benito, Fresno, and Stanislaus. These counties collectively can provide a large pool of construction- and operation-related occupations.

Construction will take place over an approximately 6-8 month period. The anticipated schedule is March through October 2003. Primary trades in demand will include boilermakers, carpenters, electricians, ironworkers, laborers, millwrights, operators, pipe fitters, and others. The Project will provide short-term job opportunities for up to 10 construction workers on average. Construction personnel requirements would peak at up to 20 workers. The average construction workforce of 10 workers represents a negligible portion of the construction labor pool. The ZLD Project will have no significant effect on employment or the economy. It will not create excessive demand on construction trades and will help maintain the region's low unemployment

rate. These employees would be drawn from the local and regional labor force. Some employees could relocate to be closer to the site. The small numbers involved in these possible relocations are not likely to affect significantly the local or regional population, employment, housing, education, public services, utilities, or fiscal resources of the City of Gilroy and the region.

The total construction cost of the proposed ZLD facility is estimated to be between $3 and $3.5 million, with approximately $1 million of this total paid out as wages and salaries, including benefits (estimated using $50/hr). A portion of the wages and salaries paid to construction workers will be spent locally generating expenditures in local industries and additional income in the local economy. This is known as the multiplier effect. Wages and salaries paid to construction workers would generate an estimated $2.41 million in total income (Direct, Indirect, and Induced) in the local and regional economy (based on an income multiplier of 2.41 [Santa Clara County IMPLAN J-O Model, 1998]).

Local products subject to County taxes will be purchased during the construction and operation of the ZLD WWTF. During project construction and operation (annually) an estimated $0.250 million and $0.19 million of products and services will be purchased from local suppliers, respectively. The current sales and use tax rate in the City of Gilroy and Santa Clara County is 8.25 percent (California State Board of Equalization, 2002). Local expenditures of $0.269 million, would, therefore, generate total tax revenues between $0.024 million the first year and $0.002 million annually.

Property tax revenue, which reflects the value of the completed facility, will not be realized by local governments until after completion of construction. In addition, school impact fees, which are $0.33 per square foot for commercial/industrial facilities in the GUSD, will be generated by the Project.

The proposed facility will not create any full-time equivalent (FTE) operating positions. The site will be staffed from the existing personnel at the Gilroy Energy Center. The work will be managed through overtime and efficiency gains at the Energy Center. The workload is expected to be approximately 1/2 FTE. The annual operating cost of the proposed facility is estimated to be between $119,000 and $192,000, with approximately $48,000 of this total paid out as wages and salaries, including benefits (estimated using $48/hr). A portion of the wages and salaries paid to operations workers will be spent locally generating expenditures in local industries and additional income in the local economy. Wages and salaries paid to FTE operations workers could generate an estimated $115,680 (Direct, Indirect, and Induced) in total income in the local and regional economy (based on an income multiplier of 2.41 [Santa Clara County IMPLAN J-O Model, 1998]).

The Project will enhance fiscal resources through payment of property taxes, which are levied and collected annually by Santa Clara County. The minimum base tax rate on properties in Santa Clara County is 1.0 percent but other taxes may also be levied. A typical property tax rate in Santa Clara County is $1.0989 per $100 of full cash value. This includes a base rate of 1 percent of value ($1), county bonds ($0.0332), school bonds ($0.0542), and water bonds ($0.0115). A simple assessment using an estimated project value of $3.0 to $3.5 million suggests that total annual property tax payments could range from $32,967 to $38,462.

Construction and operation of the ZLD WWTS, in accordance with the Amendments to the GEC Phase I Project, will eliminate the Phase I Project's wastewater stream, thereby reducing the demand on the wastewater treatment facilities of the South County Regional Wastewater Authority (SCRWA). The associated wastewater treatment revenue of approximately $88,450 per year to the SCRWA will be eliminated following the construction and operation of the ZLD system. This Amendment therefore will not result in significant impacts to the fiscal resources of SCRWA.

The construction and operation of the ZLD, in accordance with the Amendments to the GEC Phase I project, will not have significant adverse impact on the local or regional socioeconomic environment. Further, because the ZLD Amendment will not result in any significant unmitigated impacts, there will be no disproportionately high and adverse impacts on any minority or low-income populations. The addition of the ZLD wastewater system would not significantly alter the conclusion made in the Commission Decision for the Phase I GEC Project and will not impact the GEC Phase I Project's ability to comply with LORS.

References

California Department of Finance, 2002. Internet site:
http://www.dof.ca.gov/HTML/DEMOGRAP/E-1text.htm

California Employment Development Department, 2002.

Internet site:http://www.calmis.ca.gov/htmlfile/subject/lftable.htm

California Board of Equalization, 2002. Internet site: http://www.boe.ca.gov/sutax/pam71.htm

California Department of Finance, 2002. Internet site:
http://www.dof.ca.gov/HTML/DEMOGRAP/E-5text2.htm

Santa Clara County IMPLAN I-O Model, 1998

3.9 Agriculture and Soils

Construction of the ZLD WWTS will not significantly affect Soil Resources or Agriculture differently than what was described in GEC, LLC's Application for Certification (AFC) for GEC Phase I, and will not undermine the bases for the CEC's approval of the GEC Phase I Project.

The ZLD WWTS will be located on an approximately 2 acre parcel that is located in an industrial setting, and is part of a paved area that was used for worker parking and equipment lay down for the construction of GEC Phase I. Any effects of the ZLD Amendment to soil resources will be insignificant, limited in scope, and temporary. The Storm Water Pollution Prevention Plan (SWPPP) for GEC Phase I will be revised to minimize soil erosion and control run-off from construction and operation. The SWPPP will use Best Management Practices (BMP) to minimize any adverse effects.

Soil types and their distribution were identified through review of the Soil Survey of Eastern Santa Clara Area (Lindsey, 1974) provided by the U.S. Soil Conservation Service (now called the Natural Resources Conservation Service [NRCS]). The soils associated with the ZLD WWTS site and near-by areas are listed in Table 3.9-1.

Table 3.9-1. Soil Types On and Near ZLD WWTS Site

Soil types
• Type Ca—Campbell silty clay loam
• Type Ce—Campbell silty clay, muck substrate

The ZLD WWTS site is situated on or near two soil types: Campbell silty clay loam (Ca), and Campbell silty clay, muck substratum (Ce). These types of soils are primarily used for irrigated row crops, sugar beets, prunes, walnuts, apricots, and pears. Since the surfaces of these soils are nearly level, they have erosion hazards of none to slight (Lindsey 1974), and the potential for erosion is very small. The erosion factors for these soils also indicate low to moderate susceptibilities of erosion and high tolerances of soil loss without compromising either crop production or environmental quality.

Agricultural land use in the vicinity of the ZLD WWTS site consists primarily of irrigated row crops including onions, garlic, and lettuce. The California Department of Conservation has categorized agricultural land in the vicinity of the proposed site as Prime Farmland; however these lands will not be taken out of agricultural production as a result of the construction and operation of the ZLD WWTS.

Construction of the Project site will require minimal grading and earthwork. All earth moving will be following a site-grading plan and will incorporate the BMPs contained in the site SWPPP. Graded areas will be smooth, compact, free from irregular surface changes, and sloped to drain towards the natural drainage system. Any cut and fill slopes for permanent embankments will be designed to withstand horizontal ground accelerations for Seismic Zone 4. Any areas to be backfilled (if needed) will be prepared by removing unsuitable material and rocks. The bottom of an excavation will be examined for loose or soft areas. Such areas will be excavated fully and backfilled with compacted fill. Backfilling will be done in layers of uniform, specified thickness. Structural fill supporting foundations, roads, etc. will be compacted in accordance with ASTM standards. Final grading will include aggregate surfacing to control erosion except for paved roadways or landscaped areas.

The facility will comply with LORS through incorporation of BMPs and through proper grading/drainage/erosion control. Submittal of a grading/drainage/erosion control design approval application is anticipated at least 30 days prior to construction. Thus, construction and operation of the ZLD WWTS as part of this Amendment would not significantly alter the conclusion made in the Commission Decision for the Phase I Project and will not impact the GEC Phase I Project's ability to comply with LORS.

References

Lindsey, W.C. 1974. *Soil Survey of Eastern Santa Clara Area, California.* United States Department of Agriculture, Soil Conservation Service, California.

3.10 Traffic and Transportation

Construction of the ZLD WWTS will not significantly affect Traffic and Transportation differently than what was described in GEC, LLC's Application for Certification (AFC) for GEC Phase I, and will not undermine the bases for the CEC's approval of the GEC Phase I Project.

The ZLD WWTS has the potential to impact traffic through a temporary increase in construction traffic and a slight increase in trucking to haul solid waste (brine cake) from the site and water treatment chemicals to the site. The construction workforce on average consists of up to 10 construction workers with a construction peak of 20. Adequate area for construction laydown and temporary construction parking exists between the Gilroy Co-Gen and the GEC parcels. The principal roadway that the Project has the potential to affect is Highway 152. The only other roadways that will be affected by the Project are U.S. 101, and Interstate 5, as well as the access road to the Project site which is not a public roadway and which will provide temporary construction access as well as permanent operation access. Highway 152 serves as an east-west connector between Interstate 5 and U.S. 101. U.S. 101 is classified as a freeway by the Gilroy Draft General Plan, and the Santa Clara Valley Transportation Authority classifies Highway 152 as a Rural Highway. In addition to roadway transportation, there is the Southern Pacific Rail line, which runs through Gilroy. The nearest airport is located in San Martin, and there is an international airport in San Jose.

The ZLD WWTS site arrangement will require no new internal roads, circulation paths or parking. The site will be accessed during construction and operation from existing access ways off Highway 152. Truck deliveries into and out of the site will be limited as much as practical to daylight hours. There will be adequate internal circulation and parking.

The City of Gilroy General Plan, Transportation Element does not specifically detail size and weight/load limits for any roadways in the city. However, since the primary transportation effects associated with the site would be construction related, information was obtained from the City of Gilroy regarding weight limits on road structures within the Project route. Neither U.S. 101, nor Highway 152 had specific weight restrictions for the proposed route. Applicable state regulations found in the California Vehicle Code will be followed.

Increases in traffic during construction will include deliveries of equipment and construction materials by truck. Construction deliveries are estimated at 1 truck per day. GEC will coordinate traffic to/from the site to minimize construction traffic problems on Routes 101 and 152 associated with the ZLD facility, as it did for GEC Phase I.

During operation of the ZLD WWTS, about 20 dumpsters per year of the brine cake by-product will be hauled away for landfill disposal. Additionally, one truck per week will visit the site to deliver water treatment chemicals. This amount of traffic will not affect traffic or transportation near the site.

Construction and operation of the ZLD WWTS, in accordance with the GEC Phase I Project, and in compliance with the California Vehicle Code and construction mitigation measures identified in the Phase I GEC, will ensure no significant impact to traffic and transportation. The proposed Amendment will therefore not alter the conclusions made in the Commission Decision and will not impact the GEC Phase I Project's ability to comply with applicable LORS.

3.11 Visual Resources

Visual resources are the natural and cultural features of the landscape that can be seen and contribute to the public's appreciative enjoyment of the environment. Visual resource or aesthetic impacts are generally defined in terms of a project's physical characteristics and potential visibility and the extent to which the Project's presence will change the perceived visual character and quality of the environment in which it will be located.

Following the California Energy Commission (CEC) guidelines for preparing visual impact assessments for project amendments, this section documents the visual conditions that now exist in the Project area, and evaluates the implications that the proposed Project change will have for the public's experience of the Project area's aesthetic qualities.

3.11.1 Affected Environment

The existing Gilroy Phase I Project is located on a site that is a part of the industrial complex created by Gilroy Foods and GEC south of Highway 152 and on the eastern edge of the City of Gilroy. The Project's existing LM 6000 generating units are sited on approximately 7.5 acres east of the Gilroy Foods warehouse and south of the Gilroy Co-Gen plant. The proposed ZLD unit would be sited on an approximately 2.0 acre paved parking lot located north of the Gilroy Co-Gen plant and south of Highway 152. This area is entirely flat, and mostly paved, with a vegetative screen along the highway; the site does not contain any elements that would be considered to be a scenic resource.

The Project is located on flat lands that lie in the middle of valley that is approximately five to six miles wide, and is defined on both the east and west by ridges that rise to 1,000 feet or more in height. Although the Gilroy Foods food processing facility and the existing Phase I Project lie within the boundaries of the City of Gilroy, they are separated from the rest of the community by about half a mile that lie between it and U.S. 101 to the west. The Gilroy Foods facility is a large complex with an industrial character. It contains a number of large, boxy, generally horizontal structures used for food processing, storage and shipping. Many of the buildings have rooftop vents. Large pipes carrying steam from the adjacent Gilroy Co-Gen plant are highly visible on the exterior walls of some of the structures. The Gilroy Co-Gen plant, which is located immediately to the east of the Gilroy Foods warehouse has several large tanks, a HRSG unit, and a cooling tower. The Phase I Project has three LM 6000 units and three 85-foot high flue stacks. The Phase I Project and its existing plant elements are generally screened in views from the surrounding area, but the tops of the stacks are visible in some views. Although there are a few areas containing tree clusters in front of the Gilroy Foods complex, for the most part, the facility is surrounded by paved areas used for trucking activities and employee parking. In views from the rural residential areas to the northeast of the Gilroy Foods facility, the vegetation along Llagas Creek screens much of the food processing plant, the Gilroy Co-Gen plant, and the Phase I Project; to a large degree, the vegetation visually integrates these facilities into the overall landscape pattern.

Because the dimensions of the proposed ZLD facility are relatively small (the tallest element will not be much more than 40 feet tall), and because it will be screened on the west, south, and southeast by the existing industrial and energy complex, the viewshed of the ZLD facility will be limited. Views of the facility will be primarily restricted to a short segment of the corridor along

Pacheco Pass Road to the east of the site. In this corridor, there are scattered clusters of rural residences. The homes closest to the project site lie along Cedar Lane, a small remnant of an earlier alignment of Pacheco Pass Road that has become a private way along which three rural residences are sited. Cedar Lane is located immediately to the north of the road's current alignment in the area to the northeast of the Project site. The three homes along Cedar Lane lie approximately 500 feet from the site on which the ZLD facility will be located. From these homes, views toward the ZLD site are substantially screened by existing vegetation along Llagas Creek. From the homes located further to the east along Pacheco Pass Road, the proposed site is less visible because of the increased distance, the screening provided by riparian vegetation along the creek, and the dense trees along the Pacheco Pass Road in the area east of the intersection with Holsclaw Road.

No portions of the area in the immediate project site vicinity have received formal recognition as areas of scenic beauty whose aesthetic qualities require special protections. Highway 152/Pacheco Pass Road and the other roads in the Project vicinity do not now have State or County Scenic Route designations. Even though the Gilroy General Plan calls for supporting the designation of Pacheco Pass Road (State Route 152) as an official State Scenic Highway, this segment of highway has not yet received designation as an official state scenic route.

Based on consideration of the degree of visibility of the Project site from the surrounding area and the location of potentially sensitive viewers, a single Key Observation Point (KOP) was selected to serve as the basis for analysis of the potential visual effects of the proposed ZLD facility.

This Key Observation Point selected for analysis of the ZLD's visual effects will be referred to as **Key Observation Point 1.** It is located on Cedar Lane, at the base of the driveway into the lane from Pacheco Pass Road (Figure 3.11-1). This point is the residential viewpoint that is closest to the Project site and from which the Project would be most visible. This viewpoint also provides a good sense of the view of the Project site that can be seen by travelers along Pacheco Pass Road/State Route 152, representing one of the closest and most potentially visible views of the Project site from the highway corridor.

The existing view from KOP 1 is represented by Figure 3.11-2; this photo is centered on the portion of the view in which the ZLD would be located. The landscape seen in this view can be classified as being a landscape of moderately low to moderate scenic value, i.e., a landscape of below average to average scenic value. The presence of the prominently visible roadway in the immediate foreground and the partial visibility of the industrial facilities in the middle ground detract to some degree from the visual quality of the view. On the other hand, the definition of space and the pattern of forms, textures, and colors provided by the trees in the far foreground add a measure of visual unity and interest.

Views from the homes and front yards toward the ZLD site are screened to a large degree by front yard landscaping, the large deciduous trees and young redwood trees that grow in a portion of the strip between Cedar Lane and Pacheco Pass Road, and the vegetation along the Santa Clara Valley Water District drainage channel. Views toward the ZLD site are also seen by westbound travelers on Pacheco Pass Road/Highway 152. In this area, Highway 152 has a two-direction Average Annual Daily Traffic count of over 24,000 vehicles per day.

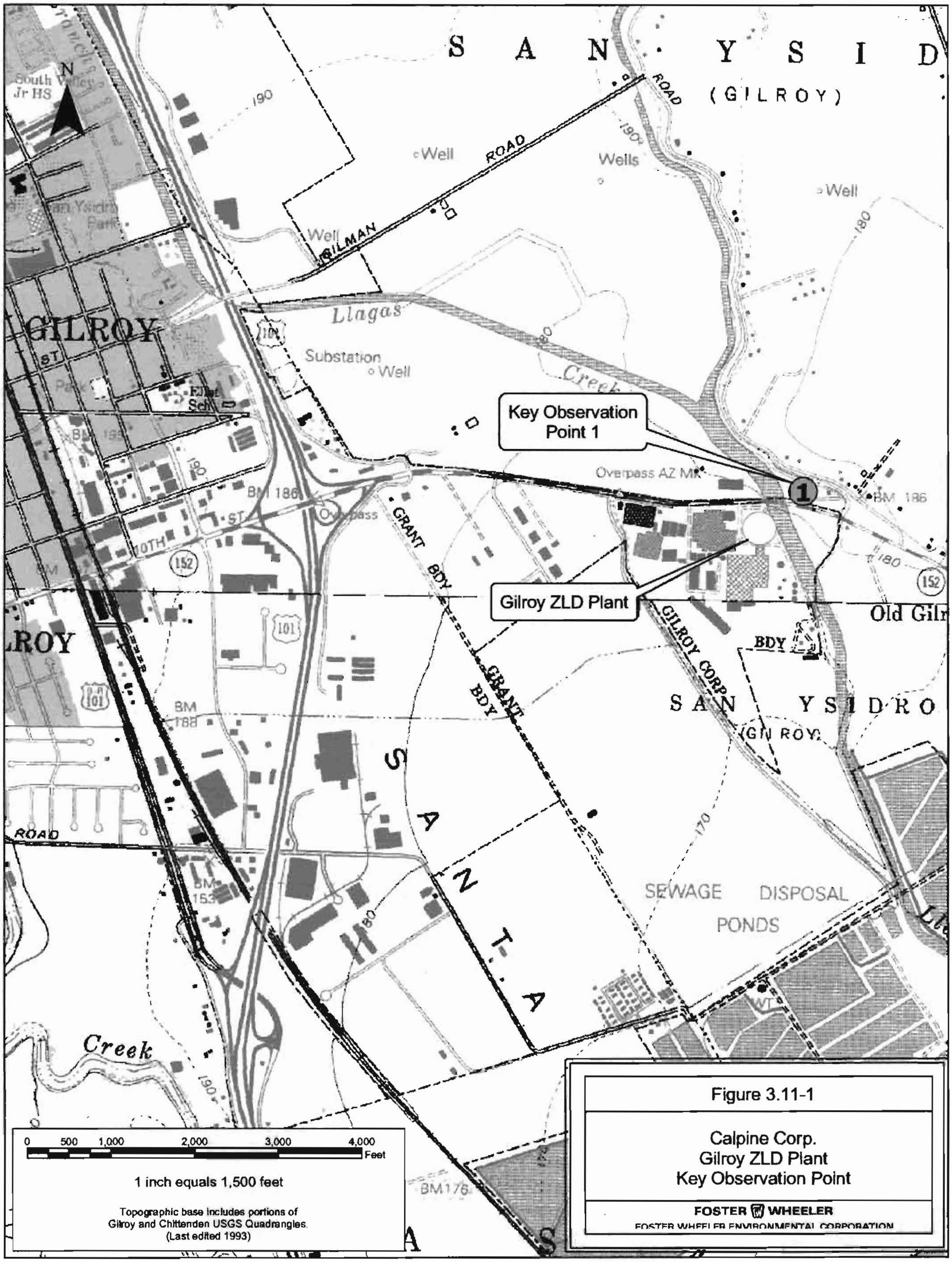

Figure 3.11-1

Calpine Corp.
Gilroy ZLD Plant
Key Observation Point

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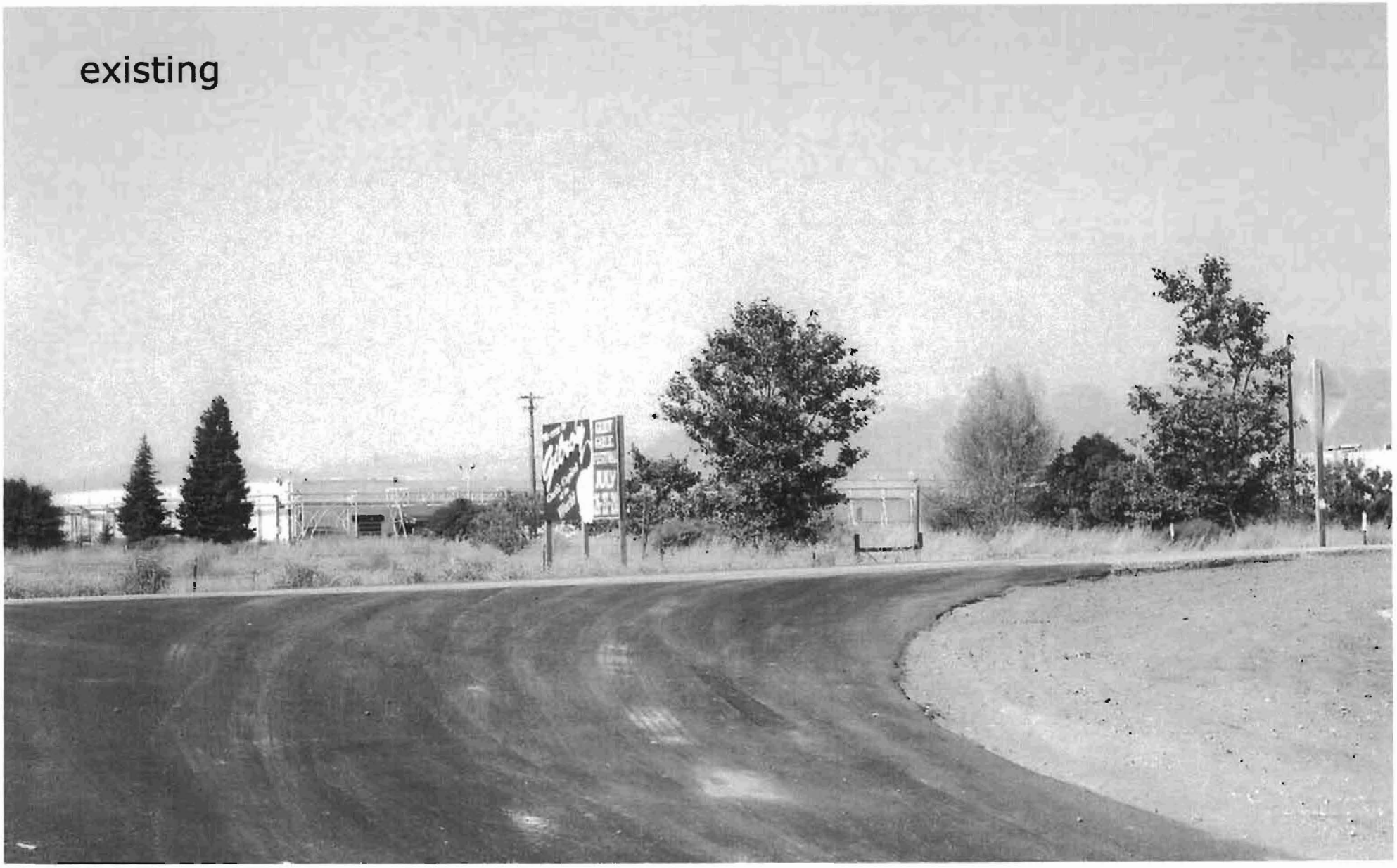

Figure 3.11-2

3.11.2 Environmental Consequences

The ZLD facility being proposed for installation at the Project is described in more detail in Section 1.0, Introduction, and Section 2.0, Description of Project Amendment. Figure 1.1-2 is a plan that indicates the layout of the Project features on the site. Figures 1.1-3 and 1.1-4 provide elevations of the various components of the facility. As the plan and elevations indicate, the facility will include a tank that is 32 feet high, an equipment building that is 25 feet high, and an evaporator tower that is approximately 40 feet high. The exteriors of all of the components of the ZLD facility will be treated with a neutral gray-taupe finish that has been selected to optimize for visual integration with the equipment in the adjacent Gilroy Co-Gen plant, the Phase I facility, as well as the surrounding vegetation and sky backdrop. The proposed facility will require nighttime lighting for operational safety and security. To reduce any off-site impacts of this requirement, lighting at the facility will be restricted to areas required for safety and security. In addition, lights will be directed on-site so that significant light or glare will not be created.

Figure 3.11-3 is the simulated view of the ZLD facility as it will appear from KOP 1. As this simulation indicates, in this view, only the water tank and a small portion of the equipment building will be readily visible. The evaporator tower will be nearly completely screened by one of the trees in the area along the creek. Because of the low visibility of the proposed ZLD facility and its consistency with the industrial facilities located behind it, its effects on the overall character and quality of the view will be insignificant.

Because the ZLD facility's lighting system will be designed to minimize the visibility of nighttime lighting to off-site viewers, the change in existing night-time lighting conditions in views toward the site will not be substantial.

The visual impacts associated with project construction will be limited. Because of the existing vegetation that now screens views toward the site from the east and north, the area of construction activity will not be highly visible from Pacheco Pass Road and nearby residences.

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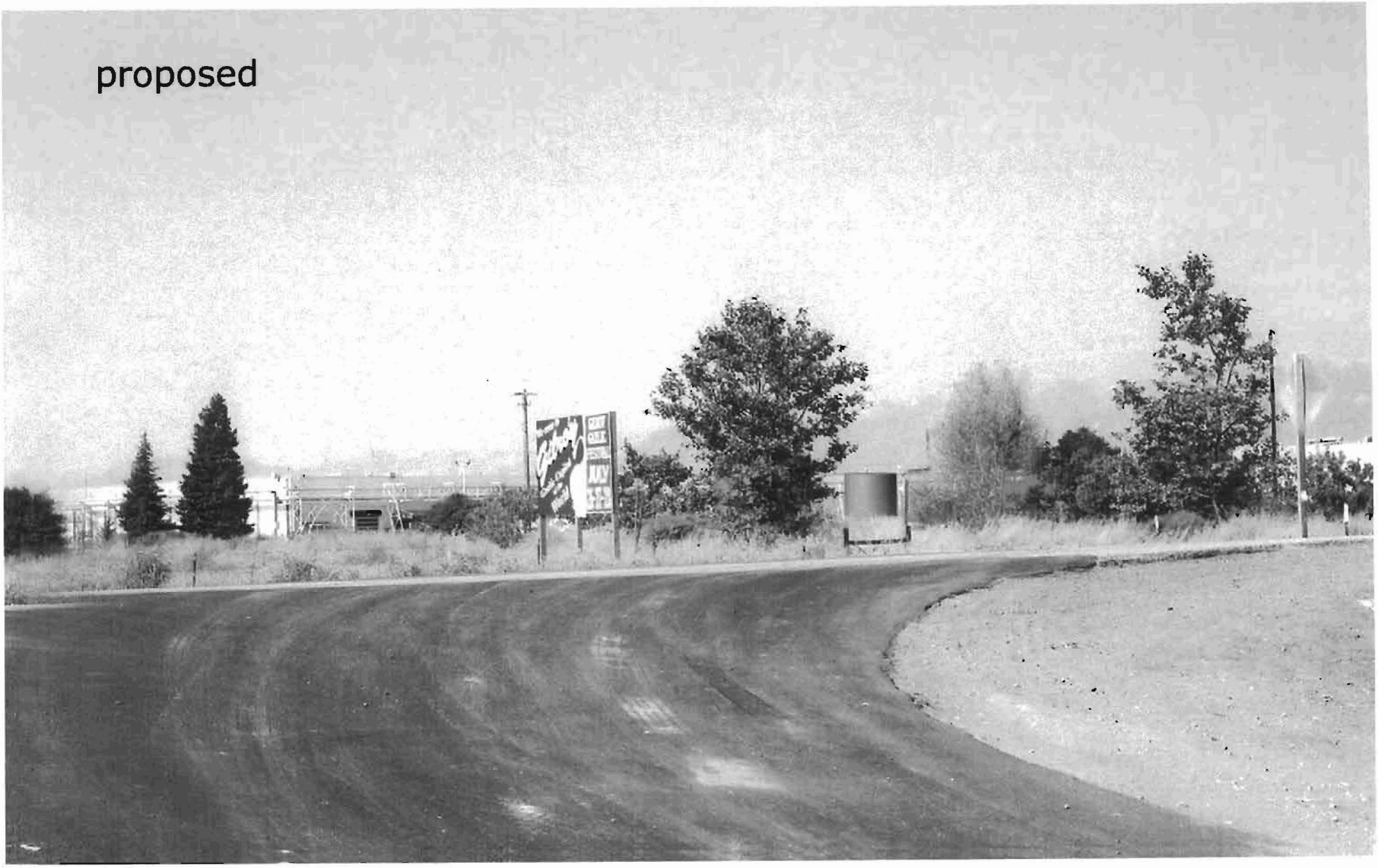

Figure 3.11-3

As identified in the analysis below, the Project will not have effects on visual resources that will be significant under CEQA. This analysis has been structured by applying the criteria set forth in Appendix G of the State CEQA Guidelines. The CEQA Guidelines define a "significant effect" on the environment to mean a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project, including objects of historic or aesthetic significance (14 CCR, § 15382). The four questions related to aesthetics that are posed for lead agencies and the answers to them for the ZLD Amendment are:

1. *Would the Project have a substantial adverse effect on a scenic vista?*

   In the Project viewshed, there are no developed or officially designated roadside scenic roadway corridors or vista areas. Although the County Trails plan designated the corridor along Llagas Creek for eventual development of a trail, this trail is not now a part of the existing environment, and no specific activities are underway at present to bring it into existence in the reasonably foreseeable future. Similarly, although the Gilroy General Plan advocates adding the Pacheco Pass Highway to the State Scenic Highway system, this road segment has not yet achieved formal scenic highway status. In any event, although the proposed ZLD facility will be visible in some views from the highway and proposed trail corridor, the visual effects will not be substantial and will be further reduced by the proposed color treatment and the existing vegetative screening.

2. *Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

   This question does not apply to the proposed ZLD facility because its site does not fall within the boundaries of a state scenic highway.

3. *Would the Project substantially degrade the existing visual character or quality of the site and its surroundings?*

   As indicated in the analysis of the ZLD facility's impacts on the views from KOP 1, construction of this facility will have relatively little effect on existing views toward the site and thus will not "substantially degrade" existing view character or quality.

4. *Would the Project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

   Because the ZLD facility's light fixtures will be restricted to areas required for safety, security, and operations; lighting will be directed onsite; lighting will be shielded from public view; and non-glare fixtures and use of switches, sensors, and timers to minimize the time that lights not needed for safety and security are on will be specified, the offsite visibility of project lighting will be minimal. In addition, offsite visibility of lighting will be further reduced by the substantial tree groupings located between the ZLD site and the areas from which the Project is seen from Pacheco Pass Road and the closest nearby residential areas. As a consequence, the impacts of the Project's visual effects related to lighting will be less than significant.

The ZLD will have limited visibility in the surrounding area, and will have relatively little effect on the visual quality and character of its setting. Because it will be a relatively minor feature in the overall landscape setting, it will not substantially contribute to the creation of a significant cumulative impact, either in combination with the existing features of the setting or with the

visual changes that might be associated with other projects that could potentially be developed in nearby areas of the Highway 152 corridor in the future.

3.11.3 Mitigation

Because the addition of the ZLD facility to the Project will not create any significant impacts on visual resources, no visual resource mitigation measures are required.

Thus, construction and operation of the ZLD facility as part of this Amendment would not significantly alter the conclusion made in the Commission Decision for the Phase I Project and will not impact the GEC Phase I Project's ability to comply with LORS.

3.12 Hazardous Materials Handling

Construction of the ZLD WWTS will not significantly change the handling of hazardous materials for the GEC Phase I Project from what is described in the GEC Phase I AFC, and will not undermine the bases for the CEC's approval of the GEC Phase I Project.

3.12.1 Affected Environment

Regional land use surrounding the ZLD WWTS site is primarily industrial and agricultural to the south and is bordered by the Santa Clara Valley Water District (SCVWD) right-of-way (ROW) on the east, beyond which is open and agricultural lands abutting Llagas Creek. The closest residential development in the area is located approximately 500 feet north of the site across Highway 152. Land use is primarily industrial and agricultural. There are few sensitive receptors (such as schools, daycare facilities, convalescent centers, or hospitals), within a one-mile radius of the site. The nearest sensitive receptor is a private school located approximately 0.8 miles east of the site. The closest hospital is Saint Louise Regional Hospital (formerly the Columbia South Valley Hospital) located at 9400 North Name Uno, approximately 2.9 miles northeast of the site.

Acutely hazardous materials as defined under California's La Follette Bill (California Health and Safety Code 25531 et seq.) will not be used during construction at the site. Therefore, no discussion of acutely hazardous materials storage or handling is included for the Project site during construction.

3.12.2 Type and Volume of Hazardous Materials On-Site

Hazardous materials used during construction will include gasoline, diesel fuel, motor oil, hydraulic fluid, certain solvents, cleaners, sealants, welding flux, various lubricants, paint and paint thinner. No acutely hazardous materials will be used or stored on-site during construction. There is only minimal potential for environmental impacts from hazardous material incidents during construction. Small volumes of hazardous materials will be temporarily stored on-site inside fuel and lubrication service trucks. Paints and solvents will be stored in flammable materials cabinets.

Project personnel will be trained to handle these materials. The most likely incidents involving these hazardous materials would be associated with minor spills or drips. Impacts from such

incidents will be mitigated by thoroughly cleaning up spills as soon as they occur, and disposing of them properly.

Several hazardous materials will be stored at the generating site to support operation of the ZLD System. The Gilroy Energy Center facility currently uses sulfuric acid and sodium hydroxide. These two materials will be used in the ZLD System operation. Calpine employees have been provided with hazard communication training for these two hazardous materials.

The ZLD system configuration will include a 400-gallon sulfuric acid day tank and a 550-gallon sodium hydroxide day tank. The acid and caustic day tanks will be located in separate bermed areas to prevent co-mingling of their respective contents in the event of a spill or release. Each bermed tank area will be sized to contain 110% of the contents of the tank plus a 25-year, 24-hour storm event. In addition to these two hazardous materials day-tanks, a 180-gallon anti-scalant tank and a 180-gallon antifoam tank will also be used to support the ZLD System. Material Safety Data Sheets for these four materials are included in Appendix A. Materials that may be spilled or released into the containment area will be either drained to the lined process sump and pumped back to the wastewater storage tank for future treatment by the ZLD or pumped out with a vacuum for re-use. Small spills or releases may be absorbed with an appropriate material. The decision regarding the management method for spills or releases into the containment area, as well as collected precipitation, is dependent on the volume and pH of the collected material.

All four of the tanks will be located within the fully contained ZLD concrete pad. Utilization of day-tanks will preclude the need for a separate chemical storage area. Tote tanks, used to provide chemicals to the ZLD System, will be received on-site and emptied into the day tanks only when 100% of the tote's contents can be transferred to the day tank. A fork lift will be used to raise the tote above the day tank and gravity feed the chemical into the day tank. Any material spill or release outside the berm will be collected on the ZLD System's concrete pad, which drains to the lined process sump. Liquids collected in the process sump due to a spill will be tested and categorized as hazardous or non-hazardous. Hazardous materials will be collected and disposed of off-site by an approved treatment facility and non-hazardous waste will be pumped back to the wastewater storage tank for future treatment by the ZLD.

All hazardous materials will be handled and stored in accordance with applicable codes and regulations. Incompatible materials will be stored in separate storage and containment areas as described above. Areas susceptible to potential leaks and/or spills of hazardous materials will be paved and bermed.

In accordance with LORS, specifically the City of Gilroy's Hazardous Materials Storage Permit Ordinance, GEC will obtain an amendment to the current Hazardous Materials Storage Permit from the City prior to installing and filling the ZLD day tanks. The Hazardous Materials Business Plan previously prepared for the facility will also be amended. The amended permit and HMBP must also be reviewed and approved by the City for compliance with the City's Uniform Fire Code. Thus, construction and operation of the ZLD WWTS as part of this Amendment would not significantly alter the conclusion made in the Commission Decision for the Phase I Project and will not impact the GEC Phase I Project's ability to comply with LORS.

3.13 Waste Management

The ZLD System is expected to generate approximately 252 tons/year (20 dumpsters/year) of filter cake. Filter cake generation is directly dependent on the dispatch of the peaker plant. As a result, there may be times when the peaker plant is not operating, due to market conditions, routine maintenance or other circumstances. When the ZLD is not operating, no filter cake will be generated for off-site disposal.

The filter cake is expected to have a moisture content of approximately 15% and is expected to be a non-hazardous waste. That is, the filter cake is not expected to exhibit either RCRA or California Hazardous Waste characteristics. This is based on the incoming water quality data, ZLD System utilized materials, and Calpine's previous experience with management of filter cake generated by ZLD systems. Kirby Canyon Recycling & Disposal Facility (KCRDF), located in South San Jose, California, has been identified to provide off-site waste management services for the filter cake. KCRDF is a fully permitted Class III landfill with greater than 50 years of disposal capacity at current waste acceptance volumes. KCRDF is permitted to receive water treatment sludge provided the waste stream meets each of the following three conditions:

- Is a non-hazardous waste as defined by State and Federal regulation, and
- Is not a liquid (as determined using the EPA Paint filter test), and
- Contains at least 20% solids.

KCRDF, will review the profile and supporting analytical documentation generated from actual filter cake analyses for acceptance into the facility (see letter provided in Appendix B). The Project will comply with all applicable LORS for testing and disposal of filter cake.

The filter press will be located in the bermed ZLD System area with the filter cake collection dumpster located adjacent to the filter press. The filter cake collection dumpster will be covered to prevent the accumulation of precipitation. Precipitation falling in the bermed area will flow to the process sump. Filter cake spills or releases will be collected and returned to the filter cake collection dumpster. Due to the 15% moisture content of the filter cake, free liquids are not expected to be present in the waste stream.

Small quantities of maintenance materials such as empty cans, rags, and similar waste may be generated and disposed as non-hazardous solid waste in the Gilroy Energy Center's solid waste stream sent off-site for disposal at a Class III landfill.

Thus, construction and operation of the ZLD WWTS as part of this Amendment would not significantly alter the conclusion made in the Commission Decision for the Phase I Project and will not impact the GEC Phase I Project's ability to comply with LORS.

3.14 Water Resources

The ZLD will be located approximately 100 ft. west of the Llagas Creek, which serves as part of the Santa Clara Valley Water District flood control channel. The ZLD facility is not located within the 100-year or 500-year Flood Hazard Zones as determined by FEMA and is not subject to coastal or tidal flooding.

Except for the vegetation at the front of the parcel, the 2.04-acre parcel is an asphalt parking area used by Gilroy Foods and GEC. Stormwater run-off currently sheet flows into several grate inlets within the parking area; a shared 21-inch corrugated metal pipe storm drain line carries the stormwater to a single outfall in Llagas Creek. Under the proposed amendment, stormwater will now be collected into different systems.

Rainfall that occurs within the ZLD bermed concrete pad will drain to a lined concrete process sump with a pump system. This collected stormwater will be pumped to the wastewater storage tank for treatment by the ZLD system. In the case of a spill or release within the ZLD bermed pad, the collected sump water will be analyzed until the decision is made to either process the material through the ZLD facility or collect and transport it off-site for disposition as described in Section 3.1.

Rainfall that occurs outside of the ZLD bermed concrete pad will either percolate through the aggregate base rock or flow into new inlets, the last of which will have an isolation valve and inspection point. GEC stormwater from the industrial area surrounding the ZLD bermed concrete pad will be analyzed before the isolation valve is opened. Stormwater from the existing Gilroy Foods' system and the proposed industrial area surrounding the ZLD bermed concrete pad will be combined in an existing inlet and then discharged via the existing outfall.

No adverse impact to groundwater or to the existing storm drain system is anticipated since there will be an overall decrease in the amount of impervious paved area on the site.

During normal operation of the ZLD WWTS, the GEC Phase I Project's wastewater stream to the South County Regional Wastewater Authority (SCRWA) will be eliminated, which will reduce the facility's demand on SCRWA's wastewater treatment facilities. In the circumstances of equipment breakage or failure at the ZLD facility, wastewater would be temporarily discharged to the SCRWA wastewater treatment facility. Negotiations are underway with SCRWA to authorize this primary alternative. A secondary alternative for the wastewater from the GEC Phase I Project would be to direct the wastewater into the storage tank until such time as repairs are completed. The mechanical equipment to be used in the ZLD facility is standard design and quickly replaceable; repairs and/or replacements can typically be performed in a relatively short period of time.

Thus, construction and operation of the ZLD WWTS would not significantly alter the conclusion made in the Commission Decision for the Phase I Project and will not impact the GEC Phase I Project's ability to comply with LORS.

3.15 Geologic Hazards and Resources

Construction of the ZLD WWTS will not significantly affect Geological Resources, or pose or be subject to significantly different hazards than the GEC Phase I Project.

The Project area, including the ZLD and GEC Phase I, are located in the Santa Clara Valley, which lies centrally within the Coast Ranges Physiographic Province of California. The Santa Clara Valley is a structural depression bound on the east by the Calaveras Fault zone and beyond by the Diablo Mountain Range and to the west by the Coast Ranges, specifically the Santa Cruz Mountains.

The oldest known rocks to underlie the Project area, and exposed in part in the Santa Cruz Mountains and Diablo Ranges, are those of the Franciscan Assemblage, which are Jurassic to Cretaceous in age. This formation consists mainly of sandstone and shale (or mudstone), but contains lesser amounts of chert, serpentinite, and greenstone. Overlying the Franciscan Assemblage are cretaceous marine sedimentary rocks consisting of sandstone, mudstones, conglomerates and minor limestone. Tertiary strata, comprised of undifferentiated sedimentary rocks and the Montery and Temblor Formations, are similar to Cretaceous sedimentary strata, and generally consist of sandstone interbedded with mudstone. The surficial rocks in the Santa Clara Valley and on the slopes and valleys of the adjacent mountain ranges consist of Quaternary alluvial and colluvial deposits. The thickness of the alluvial deposits beneath the valley floor is approximately 225 feet (CDMG 1978)

In the vicinity of the ZLD Project, the Santa Clara Valley is filled by a range of stream sediment from Llagas Creek and Uvas Creek, which are located immediately east and approximately 2 miles west of the ZLD site, respectively. The valley sediments include a range of different stream deposits ranging from late Quaternary to Holocene age alluvial fans, stream channel deposits, levee deposits, floodplain deposits, and flood basin deposits (Helley and Nakata 1991 & Graymer 1997). The ZLD site is underlain by Holocene natural levee deposits, which are derived from Llagas Creek (Helley and Nakata, 1991). These deposits consist of loose, moderately to well-sorted sandy or clayey silt grading to sandy or silty clay. The deposits border Llagas Creek and slope away to flatter floodplains and basins.

While the project vicinity drill hole data suggest that Pleistocene age deposits (i.e., greater than 10,000 years ago) might be found somewhere much greater than 300 feet below the surface of the project site (California Department of Water Resources 1981), site-specific observations indicate that Llagas Creek is shallowly incised into the Qpaf mapping unit (alluvial fans and stream deposits [Pleistocene]) of Helley and Nakata (1991) and that the Llagas Creek channel (Qhsc), levee (Qhl), floodplain (Qhfp) and basin deposits (Qhb) onlap (or drape over) this older landform/deposit in the project vicinity. The exact age of these Holocene deposits is uncertain. The Qpaf mapping unit is the youngest Pleistocene alluvial fan mapping unit of Helley and Nakata (1991), and it forms a relatively horizontal and undissected surface in much of the southern Santa Clara Valley. Although potential project excavations will be on the order of 10 feet below the ground surface, potentially older Holocene sediment and the Pleistocene Qpaf deposit could be encountered by project excavations. The Qpaf unit has the potential to yield significant vertebrate fossils.

The Project area is located near four active fault zones: the San Andreas fault zone 8 miles to the west; the Sargent fault zone 4 miles to the southwest and south; the Calaveras fault zone passing 4 miles to the east; and the Hayward fault branching from the Calaveras fault zone about 19 miles north. A fault zone, such as the San Andreas, is a group of tectonically related fault traces (or strands) which occur in a parallel or near parallel manner. The Sargent, Calaveras, and Hayward fault zones are fracture zones that are part of the larger San Andreas Fault System.

3.15.1 Geologic Hazards

The most important geologic hazard that could affect the ZLD Project area is the risk to life and property from a large earthquake event generated by the San Andreas, Hayward, Calaveras, and

the Sargent Faults, which are capable of producing magnitude 7.9, 7.9, 6.2, and 6.8 events, respectively.

3.15.2 Mitigation

Preparation of the ground surface at the ZLD site will involve grading, leveling, and minor amounts of fill. The site is situated on levee deposits. Underlying sediments are loose, moderately to well-sorted sandy or clayey silt, grading to sandy or silty clay. These deposits are porous and permeable and provide conduits for transport of groundwater (Graymer 1997). These sediments may require some additional drainage measures; otherwise they present minimal problems for preparation of a level surface on which to construct a ZLD facility. Seismic hazards and potential adverse foundation conditions can be minimized by conformance with the recommended seismic design criteria of the UBC (1997) and CBC (1998). The facility will comply with LORS through incorporation of Seismic Design Criteria as part of Building Permit filings and through compliance with proper grading/drainage/erosion control design permit requirements. Submittals of each such design approval are anticipated at least 30 days prior to construction.

The plant structures and equipment will be designed in accordance with UBC, Seismic Zone 4 requirements. The ZLD arrangement is such that no major structures or equipment are within the Projected trace of any active faults. Thus, construction and operation of the ZLD WWTS would not significantly alter the conclusion made in the Commission Decision for the Phase I Project and will not impact the GEC Phase I Project's ability to comply with LORS.

References

California Department of Conservation, Division of Mines and Geology. 1978. Environmental Geologic Analysis of the Diablo Range Study Area II, Southern Santa Clara County, California. Open File Report 78-12.

Graymer, R.W. 1997. Geology of Southernmost Santa Clara County, California: A Digital Database. U.S. Geological Survey Open File Report 97-710.

Helley, E.J. and J.K. Nakata. 1991. Geological map of the Gilroy 7.5 minute quadrangle, California. U.S. Geological Survey Open File Report 91-278.

Uniform Building Code. 1997. Vol 2, Structural Engineering Provisions. International Conference of Building Officials, Whittier, California.

3.16 Paleontological Resources

Construction of the ZLD WWTS will not significantly affect Paleontological Resources differently than what was described in the Application for Certification (AFC) for GEC Phase I, and will not undermine the bases for the CEC's approval of the GEC Phase I Project.

The ZLD WWTS is located on a parcel that is part of a paved area that was used for worker parking and equipment laydown for the construction of the GEC Phase I Project. As part of the Phase I application, a review of the published report on the geology of the local area (Helley and

Nakata 1991) was conducted, as was an archival search at the California Museum of Paleontology. Although potential project excavations may be as deep as 15 feet below the ground surface, potentially older Holocene sediment and the Pleistocene Qpaf deposit could be encountered by project excavations. The Qpaf unit has the potential to yield significant vertebrate fossils.

3.16.1 Mitigation

Consistent with the Phase I GEC Project, the recommended mitigation to maintain compliance with LORS and to reduce or mitigate potential project-related adverse impacts to paleontological resources are described below.

- Paleontological Mitigation Plan—The paleontological resource mitigation program will include the preparation of a mitigation and monitoring plan for construction monitoring; emergency discovery procedures; sampling and data recovery, if needed; museum storage coordination for any specimen and data recovered; pre-construction coordination; and reporting.

- Paleontological Monitoring—Prior to construction, retain a qualified paleontologist to design and implement a mitigation program during project-related earth-moving activities for excavation at the site. Because the site is currently paved, the paleontologist will not need to conduct a field survey of exposures of sensitive stratigraphic units in areas that will be disturbed by earth moving. The paleontologist will monitor earth-moving construction activities where this activity will disturb previously undisturbed sediment.

Implementation of these mitigation measures will reduce the potentially significant adverse environmental impact of project earth-moving activities on paleontological resources to an insignificant level. These measures will allow for the recovery of fossil remains and associated specimen data and corresponding geologic and geographic site data that otherwise might have been destroyed by construction. Thus, construction and operation of the ZLD WWTS would not significantly alter the conclusion made in the Commission Decision for the Phase I Project and will not impact the GEC Phase I Project's ability to comply with LORS.

References

California Department of Water Resources. 1981. Evaluation of groundwater resources south San Francisco Bay. Volume IV: South Santa Clara County Area. Department of Water Resources Bulletin 118-1. 143p.

Helley, E.J. and J.K. Nakata. 1991. Geologic map of the Gilroy quadrangle, California. USGS Open-file Report 91-278. 1 map sheet with pamphlet.

3.17 Laws, Ordinances, Regulations, and Standards

The Commission Decision certifying the GEC Phase I Project concluded that the project complies with all applicable LORS. As discussed above, the project as amended will not cause any significant environmental impacts, nor result in impacts that differ significantly from the impacts as analyzed in the Commission Decision. Because the modification set forth in this request for Amendment, like the approved project, is also consistent with all applicable LORS, the Amendment will not alter the assumptions or conclusions made in the Commission Decision.

4.0 Proposed Modifications to the Conditions of Certification

Consistent with the requirements of the CEC Siting Regulations Section 1769 (a)(1)(A), this section addresses the proposed modifications to the project's Conditions of Certification. The ZLD Amendment will not require changes or additions to the Conditions of Certification for the GEC Phase I Project.

General Conditions and Technical Area Conditions incorporated into the Commission's certification of the Phase I Project dated May 21, 2001 will continue to be met. The Technical Area Conditions are contained on pages 47 – 58 of Staff's Assessment for the Phase I Project dated May 15, 2001.

5.0 Potential Effects on Public

Consistent with the requirements of the CEC Siting Regulations Section 1769 (a)(1)(G), this section addresses the proposed Amendment's effects on the public.

This Amendment will not result in any changes to the effects on the public from those described in the Gilroy City LM6000 Phase I Project application, which was submitted to the CEC on April 25, 2001 and approved by the CEC on May 21, 2001.

6.0 List of Property Owners

Consistent with the CEC Siting Regulations Section 1769(a)(1)(H), the property owners potentially affected by the proposed modification need to be identified. The property owners within 1000 feet of the proposed ZLD 2.046 acre parcel, as well as the Phase I GEC 7.5-acre parcel on which the three peaking turbines are sited, are listed in Appendix C.

7.0 Potential Effects on Property Owners

Consistent with the CEC Siting Regulations Section 1769(a)(1)(I), this section addresses potential effects of the proposed Amendment on nearby property owners, the public and parties in the application proceeding.

This Amendment will not result in any changes to the effects on nearby property owners, the public and parties in the application proceeding from those described in the Gilroy City LM6000 Phase I Project application, which was submitted to the CEC on April 25, 2001 and approved by the CEC on May 21, 2001.

Appendix A
Material Safety Data Sheets

50%NaOHMSDS

ALDRICH CHEMICAL -- SODIUM HYDROXIDE, 50% SOLUTION IN WATER, 41541-3

MATERIAL SAFETY DATA SHEET

NSN: 681000N069964

Manufacturer's CAGE: 60928

Part No. Indicator: A

Part Number/Trade Name: SODIUM HYDROXIDE, 50% SOLUTION IN WATER, 41541-3

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General Information

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Company's Name: ALDRICH CHEMICAL CO INC

Company's P. O. Box: 355

Company's City: MILWAUKEE

Company's State: WI

Company's Country: US

Company's Zip Code: 53201

Company's Emerg Ph #: 414-273-3850

Company's Info Ph #: 414-273-3850

Record No. For Safety Entry: 001

Tot Safety Entries This Stk#: 001

Status: SMJ

Date MSDS Prepared: 11OCT95

Safety Data Review Date: 15MAR96

MSDS Serial Number: BZSML

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Ingredients/Identity Information

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Proprietary: NO

Ingredient: SODIUM HYDROXIDE (CERCLA)

Ingredient Sequence Number: 01

NIOSH (RTECS) Number: WB4900000

CAS Number: 1310-73-2

OSHA PEL: 2 MG/M3

ACGIH TLV: C 2 MG/M3

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Physical/Chemical Characteristics

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Appearance And Odor: NONE SPECIFIED BY MANUFACTURER
Specific Gravity: 1.515

Fire and Explosion Hazard Data

Flash Point: NONE
Extinguishing Media: USE DRY CHEMICAL POWDER. DO NOT USE WATER.
Special Fire Fighting Proc: WEAR NIOSH/MSHA APPROVED SCBA & FULL PROTECTIVE EQUIPMENT (FP N). REACTS VIOLENTLY WITH WATER.
Unusual Fire And Expl Hazrds: EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): REACTS VIOLENTLY WITH WATER.
Materials To Avoid: ACIDS, ALUMINUM, ZINC, TIN, ORG MATLS, PHOSPHORUS,
CHLORINATED SOLV, SENSITIVE TO AIR, PROTECT FROM LIGHT. (SUP DAT)
Hazardous Decomp Products: NATURE OF DECOMPOSITION PRODUCTS NOT KNOWN.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NOT RELEVANT.

Health Hazard Data

LD50-LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: ACUTE: HARMFUL IF SWALLOWED, INHALED/
ABSORBED THRU SKIN. EXTREMELY DESTRUCTIVE TO TISS OF MUC MEMB & UPPER RESP
TRACT, EYES & SKIN. INHAL MAY BE FATAL AS RSLT OF SPASM, INFLAMM & EDEMA OF

LARYNX & BRONCHI, CHEM PNEUMIT & PULM EDEMA. SYMPS OF EXPOS MAY INCL
BURNING SENSATION, COUGHING, WHEEZING, (EFTS OF OVEREXPOSURE)
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: NOT RELEVANT.
Signs/Symptoms Of Overexp: HLTH HAZ: LARYNGITIS, SHORTNESS OF BREATH,
HDCH, NAUS & VOMIT. TO THE BEST OF MFR KNOWLEDGE, THE CHEMICAL, PHYSICAL &
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THORO INVESTIGATED.
Med Cond Aggravated By Exp: NONE SPECIFIED BY MANUFACTURER.
Emergency/First Aid Proc: EYES/SKIN: IMMED FLUSH W/COPIOUS AMOUNTS OF
WATER FOR AT LEAST 15 MIN WHILE REMOVING CONTAM CLOTHING. ASSURE ADEQUATE
FLUSHING OF EYES BY SEPARATING EYELIDS W/FINGERS. INHAL: REMOVE TO FRESH
AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESP. IF BREATHING IS DIFFICULT,
GIVE OXYGEN. INGEST: WASH OUT MOUTH W/WATER PROVIDED PERSON IS CONSCIOUS.
CALL MD. WASH CONTAM CLTHG BEFORE REUSE. DISCARD CONTAM SHOES.

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Precautions for Safe Handling and Use

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Steps If Matl Released/Spill: EVACUATE AREA. WEAR NIOSH/MSHA APPROVED
SCBA, RUBBER BOOTS AND HEAVY RUBBER GLOVES. ABSORB ON SAND OR VERMICULITE
AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL. VENTILATE AREA AND WASH SPILL
SITE AFTER MATERIAL PICKUP IS COMPLETE.
Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.
Waste Disposal Method: FOR SML QTYS: CAUTIOUSLY ADD TO LGE STIRRED EXCESS
OF WATER. ADJUST PH TO NEUT, SEPARATE ANY INSOLUBLE SOLIDS/LIQS & PACKAGE
THEM FOR HAZ WASTE DISP. FLUSH AQUEOUS SOLN DOWN DRAIN W/PLENTY OF WATER.
HYDROLYSIS & NEUTRALIZATION RXNS MAY (SUP DAT)

Precautions-Handling/Storing: DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE. CORROSIVE. TOXIC. KEEP TIGHTLY
CLOSED. STORE IN A COOL DRY PLACE.
Other Precautions: DO NOT FREEZE.

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Control Measures

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Respiratory Protection: WEAR APPROPRIATE NIOSH/MSHA APPROVED RESPIRATOR.
Ventilation: USE ONLY IN A CHEMICAL FUME HOOD.
Protective Gloves: CHEMICAL-RESISTANT GLOVES.
Eye Protection: ANSI APPRVD CHEM WORKERS GOGGS (FP N).
Other Protective Equipment: PROTECTIVE CLOTHING. EMERGENCY EYEWASH &
DELUGE SHOWER MEETING ANSI DESIGN CRITERIA (FP N).
Work Hygienic Practices: WASH THOROUGHLY AFTER HANDLING.
Suppl. Safety & Health Data: MATLS TO AVOID: REACTS VIOLENTLY W/WATER.
ABSORBS CO*2 FROM AIR. WASTE DISP METH: GENERATE HEAT & FUMES WHICH CAN BE
CONTROLLED BY RATE OF ADDITION. OBSERVE ALL FED, STATE & LOC ENVIRON REGS.

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Transportation Data

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Disposal Data

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Label Data

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Label Required: YES
Technical Review Date: 15MAR96
Label Date: 15MAR96

50%NaOHMSDS

Label Status: G
Common Name: SODIUM HYDROXIDE, 50% SOLUTION IN WATER, 41541-3
Chronic Hazard: NO
Signal Word: DANGER!
Acute Health Hazard-Moderate: X
Contact Hazard-Severe: X
Fire Hazard-None: X
Reactivity Hazard-Slight: X
Special Hazard Precautions: REACTS VIOLENTLY WITH WATER. ACUTE: HARMFUL IF
SWALLOWED, INHALED OR ABSORBED THROUGH THE SKIN. EXTREMELY DESTRUCTIVE TO
TISSUE OF MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES AND SKIN.
INHALATION MAY BE FATAL AS A RESULT OF SPASM, INFLAMMATION AND EDEMA OF THE
LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA. SYMPTOMS OF
EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS,
SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING. CHRONIC: NONE SPECIFIED
BY MANUFACTURER.
Protect Eye: Y
Protect Skin: Y
Protect Respiratory: Y
Label Name: ALDRICH CHEMICAL CO INC
Label P.O. Box: 355
Label City: MILWAUKEE
Label State: WI
Label Zip Code: 53201
Label Country: US
Label Emergency Number: 414-273-3850

93%SulfuricMSDS

ASHLAND CHEMICAL IC & S DIV -- SULFURIC ACID 93% - SULFURIC ACID, TECHNICAL
MATERIAL SAFETY DATA SHEET
NSN: 6810003687991
Manufacturer's CAGE: 5A188
Part No. Indicator: A
Part Number/Trade Name: SULFURIC ACID 93%

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General Information

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Item Name: SULFURIC ACID, TECHNICAL
Company's Name: ASHLAND CHEMICAL CO IC AND S DIV
Company's Street: 5200 BLAZER PKY
Company's City: DUBLIN
Company's State: OH
Company's Country: US
Company's Zip Code: 43017
Company's Emerg Ph #: 614-889-3844
Company's Info Ph #: 614-889-3844
Record No. For Safety Entry: 002
Tot Safety Entries This Stk#: 003
Status: SE
Date MSDS Prepared: 05JAN95
Safety Data Review Date: 10OCT96
Supply Item Manager: CX
MSDS Preparer's Name: UNKNOWN
MSDS Serial Number: CBRZC
Specification Number: 0-S-809
Spec Type, Grade, Class: TYPE I CLASS 2
Hazard Characteristic Code: C1
Unit Of Issue: DR
Unit Of Issue Container Qty: 15 GALLONS
Type Of Container: 6HA1 DRUM
Net Unit Weight: 229.6 LBS

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Ingredients/Identity Information

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Proprietary: NO
Ingredient: SULFURIC ACID (SARA 302/313) (CERCLA)
Ingredient Sequence Number: 01
Percent: 93
NIOSH (RTECS) Number: WS5600000
CAS Number: 7664-93-9
OSHA PEL: 1 MG/M3
ACGIH TLV: 1 MG/M3/3 STEL; 9596
Other Recommended Limit: NONE RECOMMENDED

Proprietary: NO

Ingredient: WATER
Ingredient Sequence Number: 02
Percent: 4.8-9
NIOSH (RTECS) Number: ZC0110000
CAS Number: 7732-18-5
OSHA PEL: NOT ESTABLISHED
ACGIH TLV: NOT ESTABLISHED
Other Recommended Limit: NONE RECOMMENDED
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Physical/Chemical Characteristics

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Appearance And Odor: CLEAR & SYRUPY LIQUID.
Boiling Point: 212F,100C
Melting Point: UNKNOWN
Vapor Pressure (MM Hg/70 F): 17.5
Vapor Density (Air=1): UNKNOWN
Specific Gravity: 1.837
Decomposition Temperature: UNKNOWN
Evaporation Rate And Ref: <1 (ETHYL ETHER=1)
Solubility In Water: COMPLETE
Percent Volatiles By Volume: 5-10
Viscosity: UNKNOWN
Corrosion Rate (IPY): UNKNOWN

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93%SulfuricMSDS

Fire and Explosion Hazard Data

Flash Point: NOT APPLICABLE
Extinguishing Media: DRY CHEMICAL.
Special Fire Fighting Proc: WEAR SELF-CONTAINED BREATHING APPARATUS AND
FULL FIRE FIGHTER'S PROTECTIVE GEAR/CHEMICAL PROTECTIVE GEAR. USE WATER TO
COOL FIRE EXPOSED CONTAINERS.
Unusual Fire And Expl Hazrds: NEVER USE WELDING OR CUTTING TORCH ON OR
NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN RESIDUE) CAN IGNITE EXPLOSIVELY.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): NONE SPECIFIED BY MANUFACTURER.
Materials To Avoid: STRONG ALKALIS, METALS (RELEASES FLAMMABLE/EXPLOSIVE
HYDROGEN GAS).
Hazardous Decomp Products: ACID VAPORS.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): PRODUCT WILL NOT UNDERGO HAZARDOUS POLYMERIZATION.

Health Hazard Data

LD50-LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: NO
Health Haz Acute And Chronic: INHALATION OF VAPOR/MIST MAY CAUSE SEVERE
IRRITATION & BURNS TO NOSE,THROAT & RESPIRATORY TRACT.INGESTION MAY BE

FATAL OR HARMFUL;CAUSES SEVERE STOMACH & INTESTINAL IRRITATION.EXPOSURE MAY
CAUSE IRREVERSIBLE DAMAGE TO SKIN & EYES.PROLONGED EXPOSURE TO STRONG-
INORGANIC MISTS OF SULFURIC ACID MAY CAUSE CANCER.
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: YES
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: IARC LISTS STRONG-INORGANIC-ACXID MISTS
CONTAINING SULFURIC ACID AS A SUSPECTED (2A) CARCINOGEN.
Signs/Symptoms Of Overexp: INHALED-SEVERE IRRITATION & BURNS TO NOSE,
THROAT,RESPIRATORY TRACT.EYES-
STINGING,TEARING,REDNESS,SWELLING,CORNEAL
DAMAGE,BLINDNESS.SKIN-REDNESS,SWELLING,BURNS,SEVERE SKIN DAMAGE.INGESTED-
NAUSEA,VOMITING,DIARRHEA,ABDOMINAL PAIN,VOMITING OF BLOOD,BURNS/TISSUE
DESTRUCTION IN MOUTH/THROAT/DIGESTIVE TRACT,LOW BLOOD PRESSURE
Med Cond Aggravated By Exp: NONE SPECIFIED BY MANUFACTURER.
Emergency/First Aid Proc: EYES-IMMEDIATELY FLUSH WITH WATER FOR 15
MINUTES, HOLD LIDS APART. SEEK MEDICAL ATTN. SKIN-REMOVE CONTAMINATED
CLOTHES. FLUSH WITH LOTS OF WATER. SEEK MEDICAL ATTN. INHALED-REMOVE TO
FRESH AIR. ADMINISTER OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. SEEK
MEDICAL ATTN. INGESTED-DO NOT INDUCE VOMITING! SEEK IMMEDIATE MEDICAL ATTN.
IF CONSCIOUS, RINSE MOUTH & GIVE WATER OR MILK TO DRINK.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: COVER WITH SODIUM BICARBONATE OR SODA ASH/
FLAKED LIME MIXTURE (50-50). MIX AND ADD WATER IF NEEDED. SCOOP UP SLURRY

AND WASH SITE WITH SODA ASH SOLUTION. PROPER MIXING PROCEDURES ARE
ESSENTIAL. ONLY TRAINED PERSONNEL SHOULD PERFORM THIS TASK.
Neutralizing Agent: SODIUM BICARBONATE OR SODA ASH/FLAKED LIME MIXTURE.
Waste Disposal Method: DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND
FEDERAL ENVIRONMENTAL REGULATIONS.
Precautions-Handling/Storing: STORE IN A COOL, DRY PLACE AWAY FROM
INCOMPATIBLE MATERIALS.
Other Precautions: CONTAINERS OF THIS PRODUCT MAY BE HAZARDOUS WHEN
EMPTIED. SINCE EMPTYS MAY CONTAIN RESIDUE, ALL HAZARD PRECAUTIONS MUST BE
OBSERVED. ADDITION OF WATER RELEASES HEAT WHICH CAN CAUSE VIOLENT BOILING &
SPUTTERING. ADD SLOWLY & IN SMALL AMOUNTS

Control Measures

Respiratory Protection: IF ENGINEERING CONTROLS FAIL OR NON-ROUTINE USE OR
AN EMERGENCY OCCURS; WEAR AN MSHA/NIOSH APPROVED RESPIRATOR WITH ACID MIST
CARTRIDGE OR AN AIR-SUPPLIED RESPIRATOR OR SCBA, AS REQUIRED. USE IAW 29
CFR 1910.134.
Ventilation: USE ADEQUATE MECHANICAL VENTILATION OR LOCAL EXHAUST TO
MAINTAIN EXPOSURE BELOW TLV(S).
Protective Gloves: NEOPRENE, PVC.
Eye Protection: SAFETY GLASSES/CHEMICAL SPLASH GOGGLES.
Other Protective Equipment: NONE SPECIFIED BY MANUFACTURER. DLA-HMIS: EYE
WASH STATION & SAFETY SHOWER AVAILABLE.
Work Hygienic Practices: WASH HANDS AFTER HANDLING AND BEFORE EATING,
DRINKING, OR SMOKING. LAUNDER CONTAMINATED CLOTHES BEFORE REUSE.

Suppl. Safety & Health Data: MSDS PRESENTED BY CAGE 5A188 FOR CONTRACT
NUMBER SP0450-96-ML905.

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Transportation Data

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Trans Data Review Date: 96284
DOT PSN Code: NUC
DOT Proper Shipping Name: SULFURIC ACID
DOT Class: 8
DOT ID Number: UN1830
DOT Pack Group: II
DOT Label: CORROSIVE
IMO PSN Code: OFJ
IMO Proper Shipping Name: SULPHURIC ACID
IMO Regulations Page Number: 8230
IMO UN Number: 1830
IMO UN Class: 8
IMO Subsidiary Risk Label: -
IATA PSN Code: XIX
IATA UN ID Number: 1830
IATA Proper Shipping Name: SULPHURIC ACID
IATA UN Class: 8
IATA Label: CORROSIVE
AFI PSN Code: XIX
AFI Prop. Shipping Name: SULPHURIC ACID
AFI Class: 8
AFI ID Number: UN1830
AFI Pack Group: II
AFI Special Prov: A3,A7,N34
AFI Basic Pac Ref: A12.3
Additional Trans Data: PER SAMMS CTDF: CONTAINER SHALL CONFORM TO A UN
CERTIFIED 6HA1 COMPOSITE PACKAGE. PLASTIC RECEPTICLE WITH OUTER SHELL STEEL
DRUM. MARK IAW ALL UN REQUIREMENTS. DRUM CERTIFICATION SHALL BE EMBOSSED.

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93%SulfuricMSDS

Disposal Data

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Label Data

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Label Required: YES
Technical Review Date: 10OCT96
Label Status: F
Common Name: SULFURIC ACID 93%
Signal Word: DANGER!
Acute Health Hazard-Moderate: X
Contact Hazard-Severe: X
Fire Hazard-None: X
Reactivity Hazard-Slight: X
Special Hazard Precautions: CORROSIVE!INHALATION OF VAPOR/MIST MAY CAUSE
SEVERE IRRITATION/BURNS TO NOSE/THROAT/RESPIRATORY TRACT.INGESTION MAY BE
FATAL/HARMFUL;CAUSES SEVERE STOMACH IRRITATION.MAY CAUSE DAMAGE TO SKIN &
EYES.PROLONGED EXPOSURE MISTS OF SULFURIC ACID MAY CAUSE CANCER.TARGET
ORGANS:SKIN,EYES,LUNGS.1ST AID:EYES-FLUSH WITH WATER FOR 15 MINUTES,HOLD
LIDS APART.SEEK MEDICAL ATTN.SKIN-REMOVE CONTAMINATED CLOTHES.FLUSH WITH
LOTS OF WATER.SEEK MEDICAL ATTN.INHALED-REMOVE TO FRESH AIR.GIVE OXYGEN OR
ARTIFICIAL RESPIRATION AS NEEDED.SEEK MEDICAL ATTN.INGESTED-DO NOT INDUCE
VOMITING!SEEK IMMEDIATE MEDICAL ATTN.IF CONSCIOUS,RINSE MOUTH & GIVE WATER
OR MILK TO DRINK
Protect Eye: Y
Protect Skin: Y
Protect Respiratory: Y
Label Name: ASHLAND CHEMICAL CO IC AND S DIV
Label Street: 5200 BLAZER PKY
Label City: DUBLIN

93%SulfuricMSDS

Label State: OH
Label Zip Code: 43017
Label Country: US
Label Emergency Number: 614-889-3844
Year Procured: 1996

NALCO

MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 71D5 PLUS ANTIFOAM

Emergency Telephone Number
Medical (800) 462-5378 (24 hours) (800) I-M-ALERT

SECTION 01 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: NALCO 71D5 PLUS ANTIFOAM
DESCRIPTION: A blend of polyglycol, polyglycol ester, and fatty acid

NFPA 704M/HMIS RATING 1/2 HEALTH 2/2 FLAMMABILITY 0/0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 02 COMPOSITION AND INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 15 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX.%
n-Decanol	112-30-1	1-5
n-Octanol	111-87-5	5-10
Paraffin wax	8002-74-2	0-1
Hydrotreated light distillate	64742-47-8	10-20
Straight run middle distillate	64741-44-2	40-70

SECTION 03 HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:
WARNING! Causes irritation to skin and eyes. Combustible. Prolonged inhalation of vapor may be harmful. Do not get in eyes, on skin or on clothing. Wear goggles and face shield when handling. Avoid prolonged or repeated breathing of vapor. Use with adequate ventilation. Do not take internally. Keep away from heat and open flame. Keep container closed when not in use.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

EYE CONTACT: Can cause moderate irritation.
SKIN CONTACT: Can cause moderate irritation.
INGESTION: Can cause central nervous system depression, nausea, dizziness, vomiting or unconsciousness depending on the length of exposure and on the first aid action given.

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SYMPTOMS OF EXPOSURE:
ACUTE: Inhalation of high concentrations of product can cause nausea, dizziness, vomiting, stupor or unconsciousness.

CHRONIC: Prolonged skin contact with product can cause dry skin and defatting resulting in irritation and dermatitis.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

SECTION 04 FIRST AID INFORMATION

EYES:	Immediately flush with water for at least 15 minutes while holding eyelids open. Call a physician at once.
SKIN:	Immediately flush with water for at least 15 minutes. For a large splash, flood body under a shower. Call a physician at once.
INGESTION:	Do not induce vomiting. Give water. Call a physician.
INHALATION:	Remove to fresh air. Treat symptoms. Call a physician.

NOTE TO PHYSICIAN: Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

SECTION 05 FIRE FIGHTING MEASURES

FLASH POINT: 197 Degrees F (PMCC) ASTM D-93

EXTINGUISHING MEDIA: Based on the NFPA guide, use dry chemical, foam, carbon dioxide or other extinguishing agent suitable for Class B fires. Use water to cool containers exposed to fire. For large fires, use water spray or fog, thoroughly drenching the burning material.

UNUSUAL FIRE AND EXPLOSION HAZARD: None known

SECTION 06 ACCIDENTAL RELEASE MEASURES

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (800) I-M-ALERT or (800) 462-5378.

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SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 15.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 15.

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 8 .

SECTION 07 HANDLING AND STORAGE

Storage : Keep container closed when not in use.

SECTION 08 EXPOSURE CONTROLS AND PERSONAL PROTECTION

RESPIRATORY PROTECTION: Respiratory protection is not normally needed since the volatility and toxicity are low. If significant mists are generated, use either a chemical cartridge respirator with a dust/mist prefilter or supplied air.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Use impermeable gloves and chemical splash goggles when attaching feeding equipment, doing maintenance or handling product. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton and butyl (compatibility studies have not been performed).

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

HUMAN EXPOSURE CHARACTERIZATION: Based on Nalco's recommended product

application and our recommended personal protective equipment, the potential human exposure is: MODERATE.

SECTION 09 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear, light yellow	FORM: Liquid	
DENSITY:	7.0 lbs/gal.	
SPECIFIC GRAVITY:	0.84 @ 77 Degrees F	ASTM D-1298
VISCOSITY:	10 cps @ 72 Degrees F	ASTM D-2983
FREEZE POINT:	Less than -50 Degrees F	ASTM D-1177
FLASH POINT:	197 Degrees F (PMCC)	ASTM D-93

NOTE: These physical properties are typical values for this product.

SECTION 10 STABLILITY AND REACTIVITY

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO2 may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 11 TOXICOLOGICAL INFORMATION

TOXICITY STUDIES: No toxicity studies have been conducted on this product.

HUMAN HAZARD CHARACTERIZATION: Based on our hazard characterization, the potential human hazard is: MODERATE.

SECTION 12 ECOLOGICAL INFORMATION

BIOCHEMICAL OXYGEN DEMAND (5-day BOD): 382,000 ppm

CHEMICAL OXYGEN DEMAND (COD): 2,220,000 ppm

AQUATIC DATA:

Results below are based on the product.

96 hour static acute LC50 to Fathead Minnow = 440 mg/L

96 hour no observed effect concentration is 220 mg/L based on no mortality or abnormal effects.

96 hour static acute LC50 to Rainbow Trout = 310 mg/L

96 hour no observed effect concentration is Less than 78 mg/L based on no mortality or abnormal effects.

48 hour static acute EC50 to Daphnia magna = 130 mg/L

48 hour no observed effect concentration 16 mg/L is based on no mortality or abnormal effects.

If released into the environment, see CERCLA in Section 15.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION: Based on our Hazard Characterization, the potential environmental hazard is: LOW.
Based on Nalco's recommended product application and the product's characteristics, the potential environmental exposure is: HIGH.

SECTION 13 DISPOSAL CONSIDERATIONS

DISPOSAL: If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be incinerated in accordance with local, state and federal regulations.

SECTION 14 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. THIS PRODUCT IS REGULATED IN THE U.S. ONLY WHEN SHIPPED IN CONTAINERS EXCEEDING 119 GALLONS OR 882 POUNDS CAPACITY OR WHEN THE PACKAGE EXCEEDS THE REPORTABLE QUANTITY. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE:

ALL TRANSPORTATION MODES (UNLESS SPECIFIED BELOW)	:	COMBUSTIBLE LIQUID, N.O.S.
AIR TRANSPORTATION (IATA/ICAO)	:	PRODUCT IS NOT REGULATED DURING TRANSPORTATION
MARINE TRANSPORTATION (IMDG/IMO)	:	PRODUCT IS NOT REGULATED DURING TRANSPORTATION
UN/ID NO	:	NA 1993
HAZARD CLASS - PRIMARY	:	3 - COMBUSTIBLE LIQUID
PACKING GROUP	:	III
IMDG PAGE NO	:	N/A
IATA PACKING INSTRUCTION	:	CARGO: N/A
IATA CARGO AIRCRAFT LIMIT	:	NO LIMIT (MAX NET QUANTITY PER PACKAGE)
FLASH POINT	:	197 F 91.6 C
TECHNICAL NAME(S)	:	PETROLEUM HYDROCARBON
RQ LBS (PER PACKAGE)	:	NONE
RQ COMPONENT(S)	:	NONE

SECTION 15 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:
Based on our hazard evaluation, the following ingredients in this product are hazardous and the reasons are shown below.

n-Decanol - Combustible, eye irritant
n-Octanol - Combustible, eye irritant
Hydrotreated light distillate - Skin irritant, combustible
Straight run middle distillate - Skin irritant

Hydrotreated light distillate (oil mist) = TWA 5 mg/m3 ACGIH/TLV
Paraffin wax (fume) = TWA 2 mg/m3 ACGIH/TLV
Straight run middle distillates (oil mist) = TWA 5 mg/m3 ACGIH/TLV

Hydrotreated light distillate (oil mist) = TWA 5 mg/m3
STEL 10 mg/m3 OSHA/PEL

Straight run middle distillate (oil mist) = TWA 5 mg/m3
STEL 10 mg/m3 OSHA/PEL

CERCLA/SUPERFUND, 40 CFR 117, 302:
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986
(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):
This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

XX Immediate (acute) health hazard
-- Delayed (chronic) health hazard
XX Fire hazard
-- Sudden release of pressure hazard
-- Reactive hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):
This product does not contain ingredients on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):
The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
Consult Section 13 for RCRA classification.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15/ formerly Sec. 307, 40 CFR 116/formerly Sec. 311:
None of the ingredients are specifically listed.

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CLEAN AIR ACT, Sec. 111 (40 CFR 60), Sec. 112 (40 CFR 61, 1990 Amendments), Sec. 611 (40 CFR 82, CLASS I and II Ozone depleting substances):
This product contains the following ingredients covered by the Clean Air Act:

n-Decanol - Section 111

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:
This product does not contain any chemicals which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS:
This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:
This product does not contain ingredients listed by State Right To Know Laws.

INTERNATIONAL REGULATIONS:

All components in this product are either on the Domestic Substance list, have been notified under Section 26 of CEPA, or are exempt.

This is a WHMIS controlled product under The House of Commons of Canada Bill C-70 (Class D2B and Class B3). The product contains the following substance(s), from the Ingredient Disclosure List or has been evaluated based on its toxicological properties, to contain the following hazardous ingredient(s):

Chemical Name	CAS #	% Concentration Range
n-Decanol	112-30-1	1-5
n-Octanol	111-87-5	5-10
Paraffin wax	8002-74-2	0-1
Hydrotreated light distillate	64742-47-8	10-20
Straight run middle distillate	64741-44-2	40-70

SECTION 16 OTHER INFORMATION

Nalco internal number F102280

SECTION 17 RISK CHARACTERIZATION

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Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: MODERATE.

* The environmental risk is: LOW.

Any use inconsistent with Nalco's recommendations may affect our risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 18 REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (CD-ROM version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (CD-ROM version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department

of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, Ohio (CD-ROM version), Micromedex, Inc., Englewood, CO.

Shepard's Catalog of Teratogenic Agents (CD-ROM version), Micromedex, Inc., Englewood, CO.

Suspect Chemicals Sourcebook (a guide to industrial chemicals covered under major regulatory and advisory programs), Roytech Publications (a Division of Ariel Corporation), Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, Washington (CD-ROM version), Micromedex, Inc., Englewood, CO.

PREPARED BY: William S. Utley, PhD., DABT, Manager, Product Safety
DATE CHANGED: 12/17/1997 DATE PRINTED: 03/28/1999

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PermaCare International

MATERIAL SAFETY DATA SHEET

PRODUCT

PermaTreat® PC-191

EMERGENCY TELEPHONE NUMBER

(800)462-5378 (24 Hours) (800) I-M-ALERT

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **PermaTreat® PC-191**

APPLICATION : REVERSE OSMOSIS ANTISCALANT

CHEMICAL DESCRIPTION : Water, Organic compound

COMPANY IDENTIFICATION : ONDEO Nalco Company
ONDEO Nalco Center
Naperville, Illinois
60563-1198

EMERGENCY TELEPHONE NUMBER : (800)462-5378 (24 Hours) (800) I-M-ALERT

NFPA 704M/HMIS RATING
HEALTH : 0 / 1 FLAMMABILITY : 1 / 1 REACTIVITY : 0 / 0 OTHER :

0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

2. COMPOSITION/INFORMATION ON INGREDIENTS

Based on our hazard evaluation, none of the substances in this product are hazardous.

3. HAZARDS IDENTIFICATION

****EMERGENCY OVERVIEW****

CAUTION
May cause irritation with prolonged contact.
Do not get in eyes, on skin, on clothing. Do not take internally. Wear suitable protective clothing. Keep container tightly closed. Flush affected area with water.
May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :
Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :
May cause irritation with prolonged contact.

SKIN CONTACT :
May cause irritation with prolonged contact.

INGESTION :
May cause gastrointestinal irritation.

INHALATION :
May cause irritation of mucous membranes.

SYMPTOMS OF EXPOSURE :
Acute :
A review of available data does not identify any symptoms from exposure not previously mentioned.
Chronic :
A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :
A review of available data does not identify any worsening of existing conditions.

4. FIRST AID MEASURES

EYE CONTACT :
Immediately flush eye with water for at least 15 minutes while holding eyelids open. If symptoms persist, call a physician.

SKIN CONTACT :
Immediately flush with plenty of water for at least 15 minutes. If symptoms persist, call a physician.

INGESTION :
Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If symptoms develop, seek medical advice.

INHALATION :
Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN :
Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

5. FIRE FIGHTING MEASURES

FLASH POINT : None

EXTINGUISHING MEDIA :
Use extinguishing media appropriate for surrounding fire. This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable.

FIRE AND EXPLOSION HAZARD :
May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Do not touch spilled material. Ventilate spill area if possible.

METHODS FOR CLEANING UP :
SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
Do not contaminate surface water., Do not allow material to contaminate ground water system., Prevent material from entering sewers or waterways.

7. HANDLING AND STORAGE

HANDLING :
Do not take internally. Ensure all containers are labelled. Avoid eye and skin contact. Keep the containers closed when not in use. Keep away from acids and oxidizing agents.

STORAGE CONDITIONS :
Store the containers tightly closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS :
This product does not contain any substance that has an established exposure limit.

ENGINEERING MEASURES :
General ventilation is recommended. Local exhaust ventilation may be necessary when dusts or mists are generated.

RESPIRATORY PROTECTION :
If significant mists, vapors or aerosols are generated an approved respirator is recommended.

HAND PROTECTION :
Nitrile gloves, Butyl gloves, PVC gloves, Neoprene gloves

SKIN PROTECTION :
Wear standard protective clothing.

EYE PROTECTION :
Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Keep an eye wash fountain available.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is: Low

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Yellow
ODOR	Ammoniacal

SPECIFIC GRAVITY	1.36
DENSITY	11.33 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	10.5
OCTANOL/WATER COEFFICIENT	3.5

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Freezing temperatures.

MATERIALS TO AVOID :
Strong oxidizing agents Strong acids

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon, Oxides of nitrogen

11. TOXICOLOGICAL INFORMATION

The following results are for the product.

ACUTE ORAL TOXICITY :

Species	LD50	Tested Substance
Rat	> 17,800 mg/kg	Product

Rating : Non-Hazardous

ACUTE DERMAL TOXICITY :

Species	LD50	Tested Substance
Rabbit	> 15,800 mg/kg	Product

Rating : Non-Hazardous

PRIMARY SKIN IRRITATION :

Draize Score	Tested Substance
0.3 / 8.0	Product

Rating : Practically non-irritating

PRIMARY EYE IRRITATION :

Draize Score	Tested Substance
3.7 / 110.0	Product

Rating : Practically non-irritating

SENSITIZATION :
This product is not expected to be a sensitizer.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION :
Based on our hazard characterization, the potential human hazard is: Low

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Tested Substance
Rainbow Trout	96 hrs	> 959 mg/l	Product
Sheepshead Minnow	96 hrs	> 1,000 mg/l	Product
Bluegill Sunfish	96 hrs	> 300 mg/l	
Channel Catfish	96 hrs	1,212 mg/l	

Rating : Essentially non-toxic

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Tested Substance
Daphnia magna	48 hrs		863 mg/l	Product
Grass Shrimp	96 hrs	> 1,000 mg/l		Product

Rating : Essentially non-toxic

AQUATIC PLANT RESULTS :

Species	Exposure	EC50	Tested Substance
Green Algae (Selenastrum	96 hrs	20 mg/l	

capricornutum)			

Rating :

AVIAN RESULTS :

Species	Exposure	LC50	Tested Substance
Bobwhite Quail	14 Days	> 2,510 mg/kg	

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Low
Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Low

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are:

LAND TRANSPORT :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. REGULATORY INFORMATION

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, none of the substances in this product are hazardous.

CERCLA/SUPERFUND, 40 CFR 117, 302 :
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :
The chemical substances in this product are on the TSCA 8(b) Inventory (40 CFR 710).

NSF INTERNATIONAL :
This product has received NSF/International certification under ANSI/NSF Standard 60 in the reverse osmosis antiscalant category. The official name is "Miscellaneous Water Supply Products." Maximum product application dosage is : 5 mg/l. Only product manufactured at NDT plant at Chagrin Falls, OH, and whose container label bears the ANSI/NSF Mark may be used in potable water treatment applications.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR / formerly Sec. 311 :
None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 111 (40 CFR 60, Volatile Organic Compounds), Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
None of the substances are specifically listed in the regulation.

CALIFORNIA PROPOSITION 65 :
This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :
None of the substances are specifically listed in the regulation.

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
Not considered a WHMIS controlled product.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
All substances in this product are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

16. OTHER INFORMATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

* The human risk is: Low

* The environmental risk is: Low

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, Co.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO

Prepared By : Product Safety Department
Date issued : 09/13/2000
Replaces : 08/30/2000

Appendix B
Kirby Canyon Recycling & Disposal Facility
Water Treatment Sludge Acceptance Conditions

KIRBY CANYON RECYCLING & DISPOSAL FACILITY
A WASTE MANAGEMENT COMPANY

910 Coyote Creek Golf Drive
P.O. Box 1870
Morgan Hill, CA 95037
(408) 779-2206
(408) 779-5165 Fax

July 30, 2002

Mr. Dan Sampson
Water Treatment Specialist
CALPINE
4160 Dublin Blvd.
Dublin, CA 94568-3139

Subject: Water Treatment Sludge Acceptance

Dear Mr. Sampson:

The Kirby Canyon Recycling & Disposal Facility (KCRDF) is a fully permitted, Class III landfill (SWIS # 43-AN-0008) located in South San Jose, California. The facility is permitted to receive water treatment sludge provide the waste stream meets the following conditions:

- Is a non-hazardous waste as defined by State and Federal regulation, and
- Is not a liquid (EPA paint filter test), and
- Contains at least 20% solids.

Please note this letter is **not** an approval of your waste stream but merely outlines the general conditions for acceptance for water treatment sludge. Prior to acceptance of your waste stream, KCRDF requires submittal of a completed Profile Sheet and supporting analytical documentation. Once this documentation is received, KCRDF will review the material for acceptance into the facility.

KCRDF is owned and operated by Waste Management, inc. The permitted landfill disposal area is approximately 280 acres. Of this area, an approximately 60-acre footprint has been filled to date. Sanitary landfill operations began in 1986 and the site has over 50 years of life at current volumes.

If you have any further questions regarding the KCRDF or would like to schedule a tour of the facility please contact me at (408) 779-2206 ext. 14.

Sincerely,

Joe Morse
District Manager

Enclosure

G:\Sales\2002\Calpine.doc

Profile Number:_____

Expiration Date:_____

WASTE PROFILE SHEET
DISPOSAL TERMS & CONDITIONS

Service Agreement on File?
☐ Yes ☐ No

This form is to be used to comply with the requirements of governmental waste screening criteria.

Profile Addendum Attached?
☐ Yes ☐ No

A. Waste Generator Information

1. Generator/Site Name:_____ 2. SIC Code: _____
3. Site Address: _____ 4. Site City: _____
5. Site State: _____ 7. Zip Code: _____ 6. Site Country: _____
8. Generator USEPA/Federal ID#: _____ 9. Site Phone: _____
10. Customer Name: _____ 11. Customer Phone: _____
12. Customer Contact: _____ 13. Customer FAX: _____

B. Waste Stream Information

1. Waste Description, Category : _____ 2. State Waste Code: _____

_____

3. Process Generating Waste: _____

_____

4. Transporter/Transfer Station: _____ 5. Shipping Method: _____
6. Estimated Quantity (Weight & Vol.) : _____ per ☐ Job ☐ Year ☐ Other _____
7. Delivery Date(s): _____ _____
8. Personal Protective Equipment Requirements: _____
9. Is this a US Dept. of Transportation (USDOT) Hazardous Material? 10. Reportable Quantity: _____
☐ Yes ☐ No (If no, skip 10, 11 and 12)
11. Hazard Class / I.D. #: _____ 12. Shipping Name: _____

☐ Check if additional information is attached. Indicate the number of attached pages: _____

C. Generator's Certification (Please check appropriate responses, sign and date reverse side)

		Yes	No
1.	Is the waste represented by this waste profile sheet a "Hazardous Waste" as defined by USEPA, Canadian, Mexican, State, or Provincial regulation?	☐	☐
2.	Does the waste represented by this waste profile sheet contain regulated radioactive material or regulated concentrations of Polychlorinated Biphenyls (PCBs)?	☐	☐
3.	Does this waste profile sheet and all attachments contain true and accurate descriptions of the waste material?	☐	☐
4.	Has all relevant information within the possession of the Generator and Customer regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor?	☐	☐
5.	Is the analytical data attached hereto derived from testing a representative sample in accordance with 40 CFR 261.20(c) or equivalent rules?	☐	☐
6.	Will all changes that occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor?	☐	☐

D. WM Management's Decision

1. Management Method: _____
2. Designated Facility: _____ 3. Hours of acceptance: _____ ☐ N/A
4. Precautions, Special Handling Procedures, or Limitations on Approval: _____

_____

Generic Approval: ☐ Yes ☐ No Special Waste Decision: ☐ Approved ☐ Disapproved

Sales Person: _____ Date: _____ Technical Manager: _____ Date: _____

GENERATOR / CUSTOMER MUST READ AND SIGN REVERSE HEREOF INITIAL _____

TERMS AND CONDITIONS

1. **ACCEPTABLE WASTE.** Customer shall deliver and Company shall accept for disposal or other management purpose only Acceptable Waste. As used herein, "Customer" shall mean both Customer and Generator listed on the reverse hereof. Customer shall deliver the full quantity of Acceptable Waste generated and/or handled by Customer as estimated on the reverse hereof. Acceptable Waste means and includes only such waste as is described on the reverse and which is approved and permitted for management at the Designated Facility listed on the reverse, and shall not include any Nonconforming Waste. As used herein, Nonconforming Waste means waste that: (a) is not in conformance with the description and/or estimated quantity of the waste set forth on the reverse; (b) is or contains any infectious waste, or radioactive, volatile, corrosive, highly flammable, explosive, biomedical, biohazardous material or hazardous, dangerous, or toxic substances, as defined pursuant to or listed or regulated under applicable federal, state or local law, except as stated on the reverse; or (c) is prohibited from being received, managed or disposed of at the Designated Facility by federal, state or local law, regulation, rule, code, ordinance, order, permit or permit condition;

2. **REPRESENTATIONS & WARRANTIES.** Customer represents and warrants that: (a) the description of the waste set forth on the reverse hereof is true and correct in all material respects; (b) all waste delivered to the Designated Facility by Customer shall be Acceptable Waste as defined above and shall not be or contain Nonconforming Waste; (c) Customer shall, and shall cause any carrier with which it contracts to, handle and transport the waste in a safe and workmanlike manner in full compliance with all applicable federal, state and local laws, ordinances, decisions, orders, rules or regulations; and (d) Customer has advised its drivers of Company's prohibition on delivery of Nonconforming Waste, of the definitions and listing of hazardous waste and hazardous substances under applicable federal and state law and regulations and of the definition of Acceptable Waste herein. Company represents and warrants that it shall manage the Acceptable Waste in a safe and workmanlike manner in full compliance with all applicable federal, state and local laws, ordinances, decisions, orders, rules or regulations.

3. **WASTE REJECTION.** Company may inspect, analyze or test any waste delivered by Customer and/or may reject, refuse or revoke acceptance of any waste if, in the opinion of Company, the waste or tender of delivery fails to conform to or Customer fails to comply with the terms of this Agreement, including by delivery of Nonconforming Waste. Company may also reject any waste which (a) Company reasonably believes would, as a result of or upon disposal or other management, be a violation of local, state or federal law, regulation, ordinance or permits, including land use restrictions or conditions applicable to the Designated Facility; or (b) in Company's opinion would present a significant risk to human health or the environment, cause a nuisance or otherwise create or expose Company or Customer to potential liability. Company also shall have the right to refuse to accept or to reject any Acceptable Waste in the event of Customer's failure to pay fees owed by Customer hereunder. In the event Company rejects or revokes acceptance of waste hereunder, Customer shall, at its sole cost, immediately remove or arrange to have the rejected waste removed from Company's control or property. Customer shall pay and/or reimburse Company for any and all costs, damages and/or fines incurred as a result of or relating to Customer's tender or delivery of Nonconforming Waste or other failure to comply or conform to this Agreement, including costs of inspection, testing and analysis.

4. **SPECIAL HANDLING; TITLE.** If Company elects, in its sole discretion, to handle, rather than reject, Nonconforming Waste, Company shall have the right to manage such Nonconforming Waste in the manner deemed most appropriate by Company given the characteristics of the Nonconforming Waste. Company may assess and Customer shall pay additional fees associated with delivery of Nonconforming Waste, including, but not limited to, special handling or disposal charges, and costs associated with different quantities of waste, different delivery dates, modifications in operations, specialized equipment, and other operational, environmental, health, safety or regulatory requirements. Title to and ownership of Acceptable Waste shall transfer to Company upon its final acceptance of Acceptable Waste. Title to, ownership of and liability for Nonconforming Waste shall at all times remain with Customer. Revocation of acceptance by Company shall operate to re-vest all incidents of ownership in Customer.

5. **INDEMNITY.** Each party hereto (the "Indemnitor") hereby agrees to indemnify, hold harmless and defend the other party, and its owners, officers, directors, employees and agents (collectively, the "Indemnitees"), from and against any and all liabilities, penalties, fines, forfeitures, fees, demands, claims, causes of action, suits, judgments and costs and expenses incidental thereto, including attorneys' fees (collectively, "Damages"), which any or all of the Indemnitees may hereafter suffer, incur, be responsible for or pay out, including for personal injuries, property damage, or contamination of or adverse effects on the environment, to the extent caused by, or arising from or in connection with the breach of any representations or warranties of the Indemnitor set forth in this Agreement, or any negligent actions or omissions or willful misconduct of the Indemnitor, its employees, officers, owners, directors or agents, or the violation of any law, ordinance or regulation, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601 et seq., as amended. Such indemnity shall exclude Damages to the extent they arise as a result of any negligent actions or omissions or willful misconduct of the Indemnitees or their employees, officers, owners, directors or agents. The indemnification obligation hereunder shall arise only in excess of any available and collectible insurance proceeds and the Indemnitor shall be liable hereunder to pay only its share of the amount of Damages, if any, that exceeds the total amount that all insurance has paid for the Damages, plus the total of all deductible and self-insured expenses paid under all insurance policies. The obligations in this Section 5 shall survive the performance and termination of this Agreement.

6. **UNCONTROLLABLE CIRCUMSTANCES; TERMINATION.** Except for the obligation to pay fees hereunder, the performance of this Agreement may be discontinued or temporarily suspended by either party, and neither party shall be deemed to be in breach of this Agreement, in the event performance is prevented by a cause or causes beyond the reasonable control of the affected party. Such causes shall include, but not be limited to, acts of God, acts of war, riot, fire, explosion, accident, flood or sabotage, governmental laws (including nuisance), permit conditions, regulations, restrictions (including land use), condition of the waste, injunction or actions or omissions of third party transporters or other contractors, suppliers or vendors. Company may immediately terminate management services hereunder upon written notice to Customer in the event Customer breaches any term, provision or obligation under this Agreement, in which case, Customer shall be liable for and shall pay to Company all costs and losses incurred by Company as a result of or relating to any such termination.

7. **MISCELLANEOUS.** This Agreement shall be governed by the laws of the state in which the Designated Facility is located. Every provision of this Agreement shall be severable. This Agreement represents the entire understanding and Agreement between the parties relating to the management of waste, except that, if the parties, or their parent companies, are parties to a national service agreement, the terms of such national service agreement shall govern over any inconsistent terms in this Agreement. No representations, statements or Agreements, unless agreed to by the parties in writing, shall modify, change, amend or otherwise affect the obligations undertaken in this Agreement. No waiver by either party of any one or more defaults or breaches by the other in the performance of this Agreement shall operate or be construed as a waiver of any future defaults or breaches. Customer may not assign this Agreement without the prior written consent of Company. This Agreement shall be binding upon and shall inure to the benefit of the parties' successors and assigns.

THIS IS A LEGALLY BINDING CONTRACT. EACH UNDERSIGNED INDIVIDUAL ACKNOWLEDGES THAT HE/SHE HAS READ AND UNDERSTANDS THE TERMS AND CONDITIONS OF THIS AGREEMENT SET FORTH ABOVE AND ON THE REVERSE HEREOF AND THAT HE/SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF CUSTOMER/GENERATOR AND COMPANY. BY SIGNING BELOW, CUSTOMER AND GENERATOR INDICATE A FIRST HAND KNOWLEDGE OF THE WASTE'S CHARACTERISTICS AND CERTIFY THE TRUTH OF THE INFORMATION ON THE REVERSE HEREOF. AGREED TO AS OF THE DATES BELOW.

CUSTOMER:	GENERATOR:	COMPANY:
_____	_____	_____
(AUTHORIZED SIGNATURE)	(AUTHORIZED SIGNATURE)	(AUTHORIZED SIGNATURE)
_____	_____	_____
ME, TITLE)	(NAME, TITLE)	(NAME, TITLE)
DATE: _____	DATE: _____	DATE: _____

Appendix C
Property Owner List

APN	OWNER	PROPERTY ADDRESS	MAILING ADDRESS
841-17-077, 78, 79	Gilroy Energy Center Llc (Site)	1400 Pacheco Pass Hwy Gilroy, Ca 95020	1400 Pacheco Pass Hwy Gilroy, Ca 95020
841-17-55 & 56	Scott & Sharon Smith	1555 Pacheco Pass Hwy Gilroy, Ca 95020	Same
841-17-004	Rim Trust	1350 Pacheco Pass Hwy Gilroy, Ca 95020	P.O. Box 361256 Milpitas
841-17-005	Conagra Inc.	1280 Pacheco Pass Hwy Gilroy, Ca 95020	1 Conagra Drive Omaha, NE 68102
841-17-011	SCVWD	Ca 95020	Gilroy Ca, 95020
841-17-071	Conagra Inc.	Pacheco Pass Hwy Gilroy, Ca 95020	1 Conagra Drive Omaha, NE 68102
841-17-072	Conagra Inc.	Gilroy, Ca	1 Conagra Drive Omaha, NE 68102
841-17-083	SCVWD	Gilroy, Ca	5750 Almaden Expwy San Jose, Ca 95118
841-17-080	Rim Trust	Gilroy, Ca	P.O. Box 361256 Milpitas
841-17-084	Thomas J. & Eileen M. & Tom S. Obata	Ca 95020	7015 Furlong Ave. Gilroy, Ca 95020
841-17-062	JoseL. & Isabel A. Ramirez	1590 Pacheco Pass Hwy Gilroy, Ca 95020	716 Eschenburg Dr. Gilroy, Ca 95020
841-17-075	Conagra Inc.	Gilroy, Ca	1 Conagra Drive Omaha, NE 68102
841-17-059	SCVWD	Gilroy, Ca	5750 Almaden Expwy San Jose, Ca 95118
841-17-060	Conagra Inc.	Gilroy, Ca	1 Conagra Drive Omaha, NE 68102
841-17-076	Conagra Inc.	Gilroy, Ca	1 Conagra Drive Omaha, NE 68102
841-17-082	SCVWD	Gilroy, Ca	5750 Almaden Expwy San Jose, Ca 95118
841-22-017	Odell Trust	6660 Holsclaw Rd Gilroy, Ca 95020	15090 Columbet Ave. San Martin, Ca 95046
841-22-018	Susan Voss & Georgia A. Stern	6860 Holsclaw Rd. Gilroy, Ca 95020	6870 Holsclaw Rd. Gilroy, Ca 95020
841-22-088	Michael Kennedy & Sheryl Trust	6930 Holsclaw Rd. Gilroy, Ca 95020	693 Holsclaw Rd. Gilroy, Ca 95020
841-24-031	Joseph M. & Erin L. Allen	6655 Holsclaw Rd. Gilroy, Ca 95020	Same
841-24-038	Rosemary F. Maida	1600 Pacheco Pass Hwy Gilroy, Ca 95020	13010 Columbet Ave. San Martin, Ca 95046
841-24-035	Ka W. & Mu-chen Vong	1770 Pacheco Pass Hwy Gilroy, Ca 95020	13010 Columbet Ave. San Martin, Ca 95046
841-24-039	Rosemary F. Maida	1600 Pacheco Pass Hwy Gilroy, Ca 95020	13010 Columbet Ave. San Martin, Ca 95046
841-24-041	SCVWD	Gilroy, Ca	5750 Almaden Expwy San Jose, Ca 95118

APN	OWNER	PROPERTY ADDRESS	MAILING ADDRESS
841-18-009	Scott & Sharon Smith	1555 Pacheco Pass Hwy Gilroy, Ca 95020	Same
841-18-038	Robert B. & Deborah A. Beams	1545 Pacheco Pass Hwy Gilroy, Ca 95020	Same
841-18-039	Steven & Georgia Mitchell	1535 Pacheco Pass Hwy Gilroy, Ca 95020	Same
841-18-049	Dolores J. & Alfre De Francesco & Mia C. Eaton	Gilroy, Ca	P.O. Box 605 Gilroy, Ca 95021
841-18-050	Dolores J. & Alfre De Francesco & Mia C. Eaton	Gilroy, Ca	P.O. Box 605 Gilroy, Ca 95021
841-18-052	SCVWD	Gilroy, Ca	5750 Almaden Expwy San Jose, Ca 95118
841-18-042	City of Gilroy	1445 Pacheco Pass Hwy Gilroy, Ca 95020	7351 Rosanna St. Gilroy, Ca 95020