Supplemental Responses to Data Request Set 1 (#1–59)

Application for Certification (07-AFC-02)

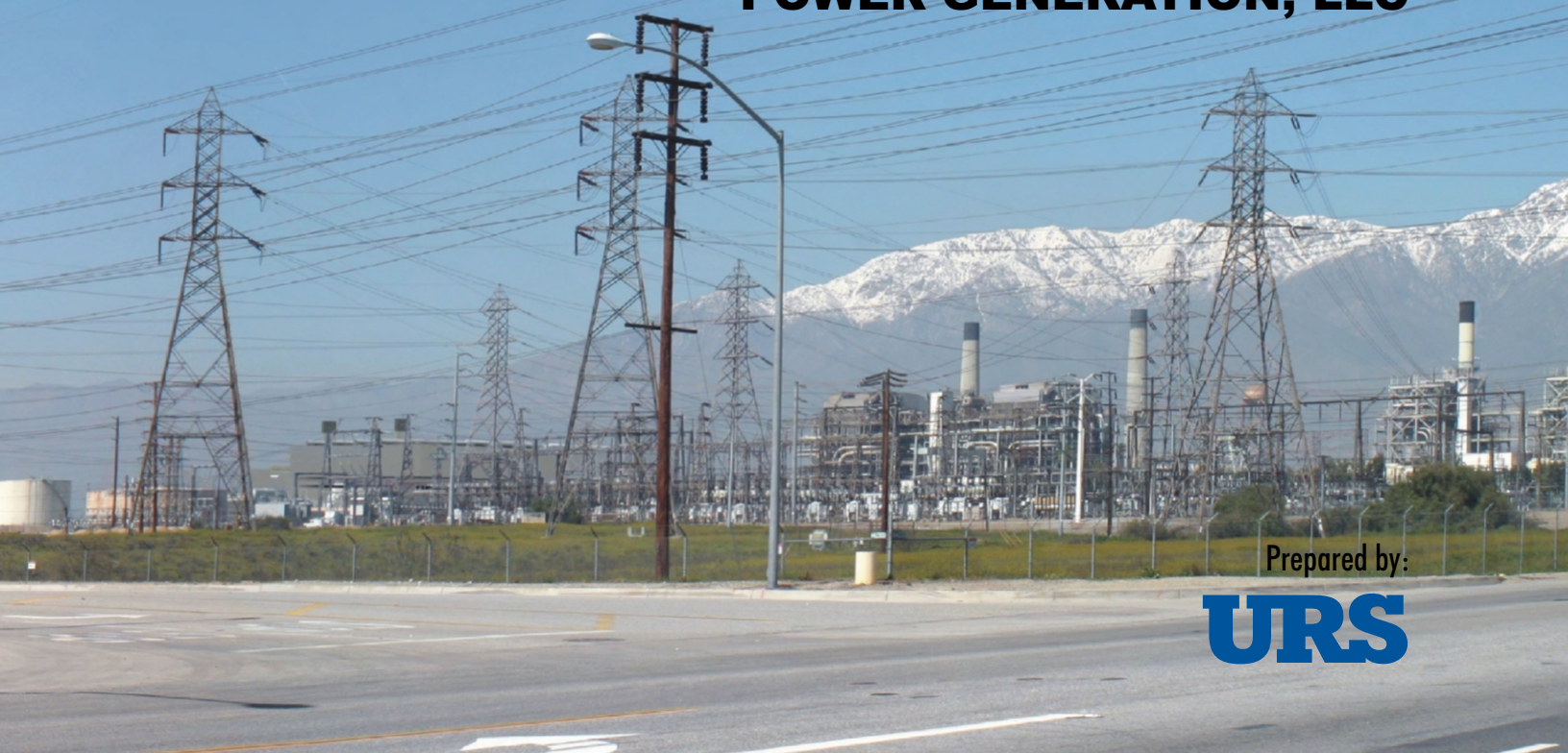
for

SAN GABRIEL GENERATING STATION
Rancho Cucamonga, California

October 2007

Prepared for:

SAN GABRIEL POWER GENERATION, LLC



Prepared by:

URS

SUPPLEMENTAL RESPONSES TO DATA REQUEST SET 1 (#1-59)
TABLE OF CONTENTS

Supplemental Responses to Data Request Set 1

Air Quality
Supplemental Responses to Data Requests 3 through 6 1
Supplemental Responses to Data Requests 7 and 8 3

Soil and Water Resources
Supplemental Response to Data Request 29..... 7
Supplemental Response to Data Request 30..... 8
Supplemental Response to Data Request 31..... 8
Supplemental Response to Data Request 32..... 10

APPENDICES*

Air Quality
Appendix A3 San Gabriel Generating Station Cumulative Analysis—New Sources within 6 Miles
Appendix A4 Stack Parameters for EGS Units 3 and 4

Soil and Water Resources
Appendix E1 Letters to USACE and CDFG dated August 15, 2007
Appendix E2 Correspondence with CDFG
Appendix E3 Correspondence with RWQCB
Appendix E4 Fire Department Design Standards

TABLES

Table 1 SO_2 Emission Rates for SGGS Sources in the Event of High Sulfur Natural Gas
Table 2 Maximum Predicted SO_2 Concentrations Due to Hypothetical High Sulfur Natural Gas Usage at SGGS
Table 3 Emission Parameters Used for Cumulative Modeling Analysis
Table 4 Emission Rates Used for Cumulative Modeling Analysis Emission Rates (g/s)
Table 5 AERMOD Results for Cumulative Modeling

FIGURES

Figure 1 Drawing DESCP-004

*Appendices A1, A2, B, C, and D were provided in Response to Data Requests Set 1, August 2007.

Technical Area: Air Quality
Author: Joe Loyer

NATURAL GAS SULFUR CONTENT

DATA REQUESTS

3. Please provide specific documentation from Southern California Gas Company that the sulfur content of supplied natural gas will not be above 0.2 gr/100scf.
4. Please provide documentation from Southern California Gas Company of the up-stream injection points for the natural gas that is proposed to be delivered to the project site.
5. Please provide the steps the applicant would take to ensure that the natural gas that has higher than 0.2 gr/100scf of sulfur will not be used at the facility.
6. Please provide the method for ensuring continuous compliance with the sulfur content limits specified for the supplied natural gas fuel.

SUPPLEMENTAL RESPONSE TO DATA REQUESTS 3 THROUGH 6

ADDITIONAL INFORMATION

Data Request 5 requested a description of the steps that would be employed by SGPG to ensure that natural gas with more than 0.2 grams per 100 standard cubic feet (gr/100scf) of sulfur would not be used at the facility. Data Request 6 requested a description of a method for ensuring continuous compliance with the sulfur content limits specified for the supplied natural gas fuel. SGPG responded to both requests. At the Data Request Workshop on September 6, 2007, the parties discussed the response.

After the discussion, SGPG agreed to provide additional responses describing why some of the data provided showed measurements of natural gas sulfur above 0.2 gr/100scf and how SoCalGas would ensure higher “slugs” of sulfur laden natural gas would not be delivered to the site. In addition, SGPG agreed to provide short-term modeling results using natural gas with up to 1 gr/scf of sulfur for comparison against the SO_2 standards. The following response addressed both issues.

Initial responses to these data requests were submitted to CEC in August 2007. At the Data Request Workshop, CEC suggested that all remaining concerns regarding air quality impacts due to possible delivery of natural gas containing higher sulfur content could be addressed by conducting additional dispersion modeling. The purpose of such modeling would be to demonstrate that compliance with the ambient air quality standards would be maintained even in the unlikely event that the sulfur content of the natural gas received at SGGS reached a level as high as 1 gr/100 scf.

Accordingly, a new dispersion modeling analysis was conducted with AERMOD to estimate the potential impacts from a higher-sulfur natural gas. The sulfur content of the natural gas was set to 1 gr/100scf and the emission rates of the turbine/HRSGs and auxiliary boiler were estimated on this basis and are presented in Table 1. The same stack parameters, meteorological input data, and receptor reported in the AFC were used for the additional modeling.

The results of the new analysis with natural gas having an assumed higher sulfur content are presented in Table 2. The maximum predicted SO_2 concentrations for all averaging times are well below the Class II PSD Significant Impact Levels (SILs), and the total concentrations, including background, are well below the NAAQS and CAAQS. Therefore, no significant impacts are expected to occur in the hypothetical event of higher-sulfur natural gas fuel deliveries to SGGS.

The air dispersion model input and output files supporting this analysis are included on a CD attached to this data response.

Table 1
SO_2 Emission Rates for SGGS Sources in the Event of High Sulfur Natural Gas
(1 gr/100scf)

Averaging Time	SO_2 Emission Rate (g/s)	
	per Turbine/HRSG	Auxiliary Boiler
Short term (1-hour, 3-hour, 24-hour averages)	0.9506	0.024
Long term (annual average)	0.6899	0.011

Table 2
Maximum Predicted SO_2 Concentrations Due to Hypothetical High Sulfur Natural Gas Usage at SGGS ($\mu g/m^3$)

Averaging Period	Maximum Predicted Concentration	PSD Class II Significance Impact Level	PSD Monitoring Significance Level	Background Concentration[1]	Total Concentration	NAAQS	CAAQS
1-hour	6.11	NA	NA	62.75	68.9	NA	655
3-hour	7.11	25	NA	41.83	48.9	1300	NA
24-hour	1.99	5	13	39.22	41.2	365	105
Annual	0.31	1	NA	10.46	10.8	80	NA

[1] Background represents the maximum values measured at the monitoring stations presented in the AFC.

CUMULATIVE ASSESSMENT

DATA REQUESTS

7. Please provide the documentation of new sources within six miles of the proposed San Gabriel Generating Station project site.
8. Please provide an estimated date of filing of the completed cumulative impact assessment.

SUPPLEMENTAL RESPONSE TO DATA REQUESTS 7 AND 8

CEC requirements specify that an analysis may be requested to determine the cumulative impacts of the proposed project with other projects within a 6-mile radius that have received construction permits but are not yet operational or that are in the permitting process. The cumulative impact analysis is intended to assess whether the combined emissions effects of these sources may cause or contribute to a violation of any ambient air quality standard.

CEC staff have specifically requested that the cumulative modeling simulations include the combined effects of emissions from the proposed SGGS combined cycle plant plus those from several other sources on or immediately adjacent to the Etiwanda Generating Station (EGS). These sources include the existing Units 3 and 4 utility boilers of the EGS, which will continue to operate when the combined cycle plant becomes operational. Both units are 320-MW utility boilers exclusively burning natural gas that have been retrofitted in recent years with SCR systems for NO_X control. In addition, CEC requested that a new General Electric LM6000 peaking unit that has been permitted but not yet installed on the property just west of the EGS be included. The results of a partial cumulative modeling that included these sources was presented in the AFC, with the understanding that a full cumulative analysis including all new sources within 6 miles from the SGGS would be conducted after all such sources had been identified and the data needed to model the additional sources had become available. This information has now been provided and the remainder of this response describes the full cumulative modeling analysis that has been subsequently performed.

Appendix A3, San Gabriel Generating Station Cumulative Sources, was received from the SCAQMD, and reviewed and seven sources at four facilities were identified as new sources that also need to be included in cumulative modeling for the SGGS project:

- Southern California Edison, Etiwanda, California
  - General Electric LM6000 peaking turbine (already included in the partial cumulative modeling)
  - Internal combustion natural gas emergency generator
- ExpressJet Airline, Ontario, California
  - Three diesel internal combustion engines used to start jet engines at Ontario Airport
- Johnson-Bateman Concrete Batch Plant, Ontario, California
  - Concrete batch plant (only PM_{10} emissions)
- Fontana Paper Mill, Fontana, California

– Baghouse (only PM_{10} emissions)

Each source in the spreadsheet was examined to determine whether it would be a new source of emissions. The sources included in the cumulative analysis are highlighted in pink in the spreadsheet and the reasons the remaining sources were not included are also listed in the spreadsheet.

Stack parameters for the new and proposed sources included in the cumulative analysis (except the new SGGS turbines) were obtained from the SCAQMD equipment permits or from available data on similar type equipment; this information is presented in Table 3. Stack parameters and location information for EGS Units 3 and 4 were provided by the Applicant. Details regarding the stack parameters for these sources are provided in Appendix A4.

For EGS Units 3 and 4, CEMS data for 2005 and 2006 were reviewed to determine the average hourly emission rates of NO_X and SO_X and average power output for each unit during periods when they were in operation. Maximum hourly rates for these pollutants were estimated by linearly scaling the average hourly emissions up to the full generating capacity for each unit. These maximum values were assumed in the cumulative modeling for all averaging times from 1 hour to 24 hours. Annual emissions of NO_X and SO_X used the actual average emission rates over the 2 years of CEMS data. Emission factors for other pollutants were derived from historical emissions tests on Units 3 and 4:

- CO = 92.3 lb/mmcf
- PM = 7.37 lb/mmcf

Table 3
Emission Parameters Used for Cumulative Modeling Analysis

Source	Stack Parameters				
	Stack Base Elevation (feet)	Stack Height (feet)	Stack Diameter (feet)	Exhaust Flow Rate (ACFM)	Exhaust Temperature (°F)
EGS Unit 3	1,120.8	198.93	19.2	1,081,827	248
EGS Unit 4	1,120.8	198.93	19.2	1,081,827	248
SCE Peaker Turbine	1,114.4	80	13	476,744	665
SCE IC Engine	1,114.4	14.5	0.83	4,646	843
ExpressJet Engine 1	910.0	7	0.417	1,544	660
ExpressJet Engine 2	911.0	7	0.333	1,037	660
ExpressJet Engine 3	909.0	7	0.25	511	660
Concrete Batch Plant	1,015.0	50	1	390	160
Fontana Paper Mill Baghouse	1,032.0	125	2	4,712	150

Emission rates for the new SCE LM6000 peaker turbine and emergency generator were obtained from the SCAQMD permit applications for each unit.

Emission rates for the remaining sources used in the cumulative analysis were obtained from the SCAQMD equipment permits and are presented in Table 4. Details regarding the emission rates from each new source used in the modeling analysis are provided in Appendix A3.

Emissions for each pollutant and averaging time for the proposed SGGS combined cycle units and auxiliary boiler were the same as those used in the project impact analysis. The same five-year meteorological data set and receptor grids were also used for the cumulative analysis.

Table 4
Emission Rates Used for Cumulative Modeling Analysis
Emission Rates (g/s)

Source	NO_X	SO_2	CO	SO_2	CO	SO_2	PM_{10}	NO_X	SO_2	PM_{10}
	1-hour			3-hour	8-hour	24-hour		Annual average		
EGS Unit 3	2.933	0.282	41.679	0.282	41.679	0.282	3.328	0.856	0.082	0.971
EGS Unit 4	2.933	0.282	41.679	0.282	41.679	0.282	3.328	0.856	0.082	0.971
SCE Peaker Turbine	0.529	0.032	0.769	0.032	0.769	0.015	0.26	0.112	0.006	0.11
SCE IC Engine	0.15	2.38E-04	0.191	7.94E-05	0.024	9.92E-06	1.67E-07	2.40E-04	3.81E-07	6.42E-06
Express Jet Engine 1	0.4335	0.0005	0.0475	0.0005	0.0475	0.0005	0.0064	0.4335	0.0005	0.0064
Express Jet Engine 2	0.2861	0.0004	0.0333	0.0004	0.0333	0.0004	0.0072	0.2861	0.0004	0.0072
Express Jet Engine 3	0.2149	0.0002	0.0156	0.0002	0.0156	0.0002	0.0031	0.2149	0.0002	0.0031
Concrete Batch Plant	0	0	0	0	0	0	0.044	0	0	0.044
Fontana Paper Mill Baghouse	0	0	0	0	0	0	0.126	0	0	0.126

The maximum predicted concentrations due to the emissions of the new SGGS combined cycle Units 61 and 62 and auxiliary boiler, plus the cumulative sources, are provided in Table 5. Based on the above analysis, maximum pollutant concentrations in the area of the SGGS due to the sources included in this cumulative assessment would be less than significant.

One CD containing the cumulative analysis model input and output files is being provided separately.

Table 5
AERMOD Results for Cumulative Modeling (µg/m^3)

Pollutant	Averaging Period	Maximum Predicted Impact	Background Concentration[1]	Total Concentration	NAAQS	CAAQS
NO_2	1-hour[5]	98.2	229.1	327	NA	470[4]
	Annual	3.43	67.6	71	100	100[4]
SO_2	1-hour	2.24	62.8	65	NA	655
	3-hour	2.03	41.8	44	1,300	NA
	24-hour	1.48	39.2	41	365	105
	Annual	0.09	10.5	11	80	NA
CO	1-hour[5]	1,335.1	5,830	7,165	40,000	23,000
	8-hour	268.3	51,45.0	5,413	10,000	10,000
PM_{10}	24-hour	17.43	164.0[2]	181	150	50
	Annual	0.80	63.3[2]	64	50	20
$PM_{2.5}$	24-hour[3]	14.20	104.3[2]	118	65	NA
	Annual[3]	0.80	27.4[2]	28	15	12

Notes:

1 Background represents the maximum values measured at the monitoring stations presented in the AFC.

2 PM_{10} and $PM_{2.5}$ background levels exceed ambient standards.

3 All PM_{10} emissions from the project and cumulative sources were also considered to be $PM_{.2.5}$.

4 In February 2007, the CARB approved new, more stringent CAAQS for NO_2. The new standards, which are expected to take effect fully in late 2007, are 338 µg/m^3 (1 hour) and 56 µg/m^3 (annual).

5 Peak NO_2 & CO 1-hour emissions were calculated from startup scenario: two turbines starting at 30% load.

TECHNICAL AREA: Soil and Water Resources
AUTHORS: Cheryl Closson

CONSULTATION WITH AGENCIES

DATA REQUEST

29. Please provide summaries of consultation and contact information for the agencies responsible for issuing erosion control and water quality-related permits or authorization for the bridge construction, including the California Department of Fish and Game's (CDFG) Streambed Alteration Permit, the Santa Ana Regional Water Quality Control Board's (SARWQCB) CWA Section 401 Water Quality Certification, and the United States Army Corp of Engineer's (USACE) CWA Section 404 permits. In addition, please identify any requirements of certification or authorization that may be imposed on the bridge construction activity.

ADDITIONAL INFORMATION

Data Request Number 29 sought summaries of consultation with agencies responsible for issuing erosion control and water quality-related permits. SGPG responded and was requested at the Data Request Workshop to update the information regarding consultation with CDFG and was also asked to notify Santa Ana Regional Water Quality Control Board about the Section 401 water quality certification for encroachment of the bridge and about the upcoming NPDES permit application.

SUPPLEMENTAL RESPONSE TO DATA REQUEST 29

On October 1, 2007 URS contacted Adam Fisher, RWQCB Region 8, regarding the proposed SGGS project (see Appendix E3).

WATER QUALITY PERMIT SCHEDULES

DATA REQUEST

30. As applicable, please provide an updated schedule for application and issuance of the Streambed Alteration Permit, the CWA Section 401 certification, and the CWA Section 404 permit. Please clearly identify any impediments to, or constraints on, issuance of any of the permits, and how the project will address any constraints (such as wet season construction restrictions or other requirements).

ADDITIONAL INFORMATION

Data Request Number 30 sought updated schedules for water quality related permits. SGPG responded and was asked at the Data Request Workshop to clarify whether the application to the U.S. Army Corps of Engineers for a Jurisdictional Determination for the bridge had been filed.

SUPPLEMENTAL RESPONSE TO DATA REQUEST 30

Letters were sent on August 15, 2007 to Shannon Pankratz, USACE, and to Jeff Brandt, CDFG, requesting jurisdictional determinations (see letters included in Appendix E1). To date, no written responses have been received. When we have received the determinations, we will prepare the permit applications. Estimated date to complete and submit the applications is end of October 2007.

Records of conversations with Jeff Brandt, CDFG, are included in Appendix E2.

BRIDGE CONSTRUCTION AND DESIGN

DATA REQUEST

31. Please provide the following:

    a. Please identify any other federal, state, or local LORS that may apply to construction of the proposed bridge and any special erosion or water quality-related conditions that may be required by those LORS.

ADDITIONAL INFORMATION

Data Request Number 31 sought identification of any federal, state, or local LORS that may apply to the construction of the proposed bridge and sought any bridge related erosion control best management practices that may be required. SGPG provided a response. At the Data Request Workshop Staff requested the following additional information.

- A description of the schedule for bridge construction including a description of when the bridge would be constructed during the overall construction schedule for the entire project.

- Clarification of whether the bridge had been designed to carry the projected loads (20 tons).
- Clarification of whether the bridge design would accommodate appropriate fire access.

In addition, Staff requested confirmation that the existing retention basin south of the site drains into the existing culvert on Sixth Street.

SUPPLEMENTAL RESPONSE TO DATA REQUEST 31

The bridge will take 7 months to construct. To avoid the wet season, the bridge construction will be scheduled to start in April 2009 and will be completed in October 2009.

The bridge will be designed for the largest piece of equipment that will be transported over the bridge, plus the transport system. The largest piece of equipment would be a transformer that weighs 275,000 pounds. This load exceeds the Rancho Cucamonga Fire Department's minimum load requirement of 80,000 pounds (see Appendix E4)

In addition, the proposed bridge width will be 30 feet, which is greater than the Fire Department's minimum required width of 26 feet. Since the bridge design will take into account the maximum expected loads and the Fire Department requirements, we do not anticipate that there will be any significant redesign of the conceptual design presented in the AFC that would require the addition of piers or expansion of the bridge footprint.

The existing detention/retention basin on SCE's property south of the SGGS site, belongs to SCE. Discharge from this basin goes to the existing underground 60-inch-diameter culvert under 6th Street.

DATA REQUEST

32. Please identify whether or not the project will prepare a combined Construction SWPPP, Industrial SWPPP and DESCP document, or if the plans will be prepared and maintained separately.

ADDITIONAL INFORMATION

In response to Data Request Number 32 SGPG outlined the contents of its Draft DESCP and subsequent to filing the response submitted a Draft DESCP To Staff for review. At the Data Request Workshop, Staff identified area in the DESCP that required clarification of additional information as follows:

- Staff requested that SGPG revise the DESCP to ensure that mitigation for Wind Erosion (i.e., sweeping) be included in its BMPs for the paved laydown areas within the EGS site.
- Staff questioned whether a temporary sediment trap for drainage until the permanent retention basin would be effective and asked for SGPG to consider a temporary sediment basin rather than a temporary sediment trap.

- Staff requested clarification of whether the soil cement that is identified for disposal on page 4 of the DESCP was included in the AFC waste calculations and if not, please revise the AFC waste quantities.

SUPPLEMENTAL RESPONSE TO DATA REQUEST 32

- The final DESCP will include best management practices for wind erosion, e.g., sweeping, for the paved laydown areas within the EGS site.

- The permanent runoff detention basin is scheduled to be constructed in the first 4 months of the project. Until the basin construction is complete, the 24-acre area that will drain into the basin will be separated into three parts using existing dikes, silt fences, and straw bales. The purpose of dividing the construction site into three sections is to mitigate the potential for sediment in runoff during an unusually large rainfall event. The three sections are: (1) the 12-acre plant area north of laydown area #2, which includes 1 acre of railroad track north of the plant area; (2) the 7-acre laydown area #2; and (3) the 5-acre plant area just north and east of the laydown area #2 (see attached Drawing DESCP-004).

  The 7-acre laydown area was an oil tank farm. The tank farm is owned by the IEUA, who intends to eventually change it from an oil tank farm to a water tank farm. The tank farm is encircled by an existing earthern dike, so no runoff can exit the area. Since it will be turned into a water tank farm, it does not need dikes. The full southern dike and parts of the eastern and western dike will not be removed from that area until the permanent detention basin construction is complete. Thus no runoff can exit the laydown area while the temporary basin is in use.

  A silt fence will be constructed and a ditch with a 4-foot-wide bottom with straw bales on 100-foot centers will be constructed where the northern dike of the tank farm currently exists. The ditch will tie into the ditch along the eastern side of the property that drains into the sediment basin. A pile of straw bales will be provided near the access point of the 12-acre area. The straw bales will be used to close off the area if runoff is high. A pile of straw bales will also be stored near the southeastern corner of the temporary sediment basin to closeoff that area in case of high runoff. See Drawing DESCP-004 for details.

  The 2-year, 24-hour runoff from the plant area was calculated using data from NOAA Atlas 14. The ditches with straw bales will drain into the sediment basin, which will have 3H:1V side slopes and be 6 feet deep, with one foot of freeboard. The top elevation will be approximately 1,112.5 feet and the bottom elevation 1106.5 feet. The sediment basin will have a perforated stand pipe and a 12-inch-diameter outlet pipe. The basin, plus the east west drainage ditch, will have the capacity to store a volume greater than the 2-year, 24-hour runoff for the 17 acres.

  After the permanent detention basin has been constructed, the two temporary ditch systems will be tied to the basin, and the east-west ditch (i.e., former location of the north tank dike) will be removed. Also, the silt fence and ditch

along the southern border of the property will be completed, and the temporary sediment basin will then be filled in.

The geotextile silt fence will be maintained in accordance with the requirements specified in SE-1, Silt Fence, contained in the California Storm Water BMP Handbook for Construction (CASQA, 2004). Specifically:

– Inspect the silt fence prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and as two-week intervals during the non-rainy season.

– Repair undercut silt fences.

– Repair or replace split, torn, slumping, or weathered fabric.

– Silt fences that are damaged and become unsuitable for the intended purpose will be removed from the site, disposed of, and replaced with new silt fence barriers.

– Sediment that accumulates in the silt fence will be periodically removed to maintain the fences' effectiveness.

– Holes, depressions, or other ground disturbance caused by the removal of the silt fences shall be backfilled and repaired.

The sediment basin and the straw bales will be examined after every rainfall to make sure that they are not damaged and that an excessive amount of silt has not accumulated. If excessive amounts of silt accumulate, they will be removed to maintain the effectiveness of these Best Management Practices (BPMs).

The effectiveness of the geotextile silt fence to remove total suspended solids (TSS) is estimated to be approximately 80 to 85 percent (EPA, 2002) (assume 80 percent). The effectiveness of the sediment basin to remove TSS is estimated to be approximately 68 ± 10 percent. (assume 58 percent) The effectiveness of check dams such as the dams that will be created using straw bales is estimated to be about 40 to 60 percent.

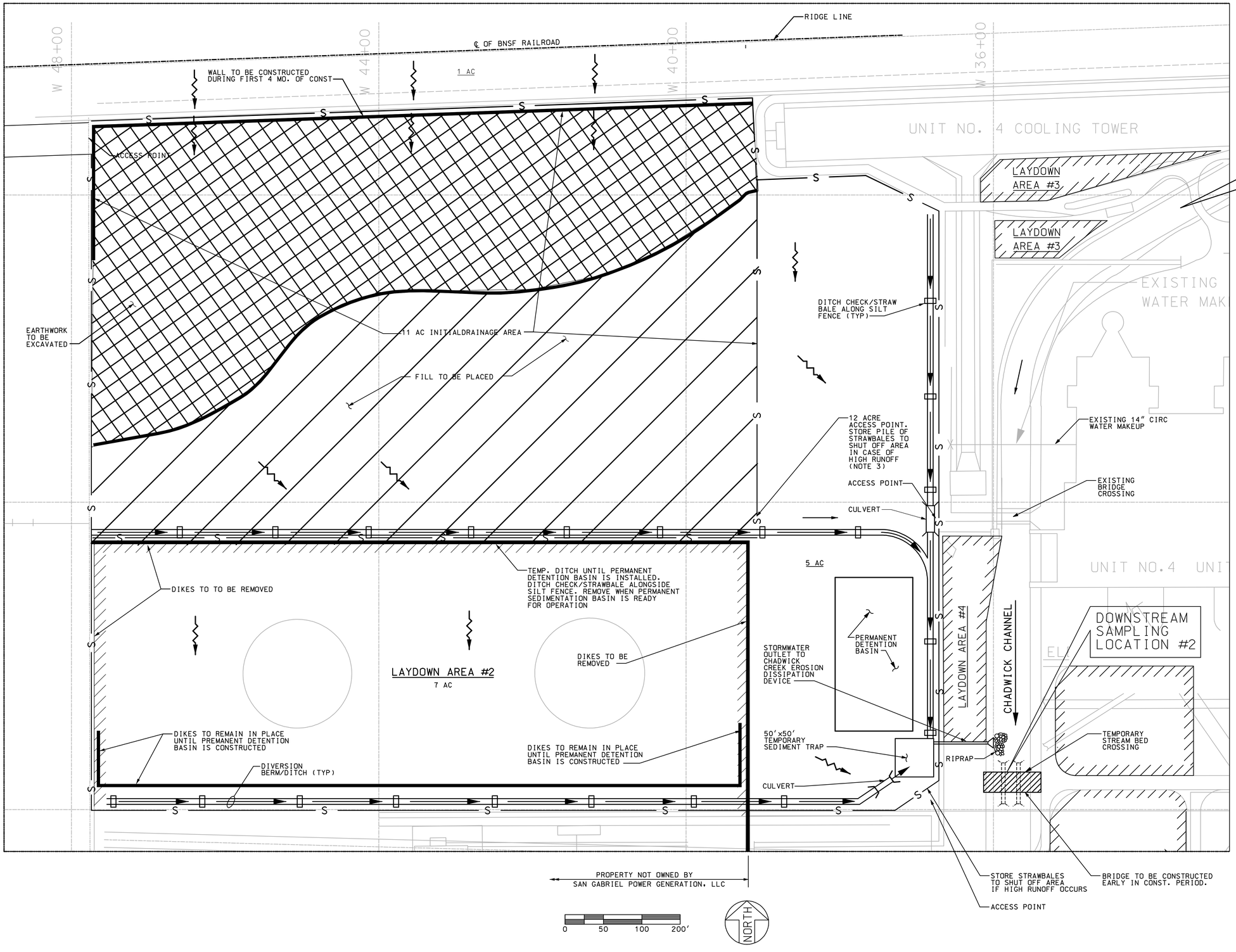
We believe these measures in combination will effectively remove approximately 75 to 90 percent of sediment that may be suspended in the stormwater during the design rain event. This estimate is based on our experience with similar systems and the efficiencies published for various measures (CASQA, 2004; EPA, 2002). Utilization of these BMPs will ensure that the potential for downstream impacts from sediment during a major rain event that may occur during the time the permanent basin is being constructed (4 months) will be minimized and therefore less than significant.

- The estimated quantity of gunnite (or soil cement) from the berm was included in the estimated quantities of material to be removed from the site.

References

CASQA (California Stormwater Quality Association), 2004. California Stormwater BMP Handbook for Construction, September.

EPA (U.S. Environmental Protection Agency), 2002. Considerations in the Design of Treatment Best Management Practices (BMPs) to Improve Water Quality, EPA/600/R-03/103, September.



LEGEND

- SHEET FLOW
- RIDGE LINE
- DIVERSION DITCH
- SILT FENCE
- DITCH FLOW
- STRAWBALE

NOTES:

1. THE INITIAL DRAINAGE AREA IS 16 ACRES IN SIZE. THE AREA WILL NOT BE ENLARGED UNTIL THE PERMANENT DETENTION BASIN IS CONSTRUCTED.

   INITIAL WORK WHILE THE PERMANENT DETENTION BASIN IS UNDER CONSTRUCTION IS TO CONSTRUCT THE WALL AND SPRED THE CUT OUT OVER THE AREA TO BE FILLED, AND START FOUNDATION WORK.

2. ENTIRE DRAINAGE AREA IS 24 ACRE IN SIZE.

3. THE 12 ACRE AREA WILL BE SHUT OFF IF A HIGH RUNOFF OCCURS. THE 5 ACRE AREA WILL ALSO BE SHUT OFF. THEY WILL NOT BE OPENED UNTIL THE RUNOFF SUBSIDES.

4. ONLY LAYDOWN AREA #1 AND CONSTRUCTION PARKING SHOWN ON DRAWING DESCP-007, AND LAYDOWN AREA #2 HAVE GRADING AND DRAINAGE. LAYDOWN AREAS #3 THROUGH #10 WILL BE USED AS IS.

DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE

DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE
0	08-16-2007	ALS	RON COOK		CLIENT REVIEW
1	10-09-2007	WHF	RON COOK		CLIENT REVIEW

SCALE: 1"=50'

PROJECT NUMBER: 11962-003

SITE RUNOFF PATTERNS

DURING CONSTRUCTION
COMBINED CYCLE PLANT
SAN GABRIEL GENERATING STATION
SAN GABRIEL POWER GENERATION, LLC
RANCH CUCAMONGA, CALIFORNIA

Sargent & Lundy LLC

DRAWING NO. DESCP-004 REV. 1

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APPENDICES
TABLE OF CONTENTS

Air Quality

Appendix A3 List of Sources Provided by SCAQMD

Appendix A4 Stack Parameters for EGS Units 3 and 4

Soil and Water Resources

Appendix E1 Letters to USACE and CDFG dated August 15, 2007

Appendix E2 Correspondence with CDFG

Appendix E3 Correspondence with RWQCB

Appendix E4 Fire Department Design Standards

Appendix A
Air Quality

Appendix A3	List of Sources Provided by SCAQMD
Appendix A4	Stack Parameters for EGS Units 3 and 4

Appendix A3
List of Sources Provided by SCAQMD

APPENDIX A3
SAN GABRIEL GENERATING STATION—CUMULATIVE ANALYSIS NEW SOURCES WITHIN 6 MILES

ExpressJet from SCAQMD permit engineer Ray Ronquillo application #s 466813, 466815, 466817

				Emission Factors - g/hp/hr			Emissions (g/s) (All Averaging Times)			
Name	**Description**			**NO_x**	**CO**	**PM_{10}**	**NO_x**	**CO**	**PM_{10}**	**SO_2**
XJET1	ExpressJet engine 1	255 hp	Deutz	6.12	0.67	0.09	0.4335	0.04746	0.006375	0.0005
XJET2	ExpressJet engine 2	200 hp	Cummins	5.15	0.6	0.13	0.28611	0.03333	0.0072222	0.0004
XJET3	ExpressJet engine 3	125 hp	Cummins	6.19	0.45	0.09	0.21493	0.01563	0.003125	0.0002

stack parameters from CARB
Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines

Assumed 15 ppm sulfur content in the diesel
For diesel 137,000Btu/gal and 7.05 lb/gal
1 hp = 2546 Btu/hr

Name	Description	Diameter, ft	Height, ft	Temp, deg	Flow,	Velocity,	height	temp (K)	velocity	diameter
XJET1	engine 1 - 300 hp	0.417	7	660	1543.6	188.37	2.134	622.0	57.416	0.127
XJET2	engine 2 - 200 hp	0.333	7	660	1036.8	198.01	2.134	622.0	60.355	0.102
XJET3	engine 3 - 100 hp	0.25	7	660	511.2	173.57	2.134	622.0	52.904	0.076

SCE Peaker from SCAQMD permit engineer Chris Perri application #s 461460, 461461

Name	Description	Diameter, ft	Height, ft	Temp, deg	Flow,	Velocity,	height	temp (K)	velocity	diameter
PEAKER	SCE Turbine	13	80	665	476744	59.86	24.384	624.8	18.246	3.962
SCE_ENG	SCE Engine	0.83	14.5	843	4646	143.11	4.420	723.7	43.621	0.253

	Emission rates (g/s)										
	Pollutant	**NO_2**	**NO_2**	**CO**	**CO**	**SO_2**	**SO_2**	**SO_2**	**SO_2**	**PM_{10}**	**PM_{10}**
Name	**Averaging**	**1-hour**	**Annual**	**1-hour**	**8-hour**	**1-hour**	**3-hour**	**24-hour**	**Annual**	**24-hour**	**Annual**
PEAKER	SCE Turbine	0.529	0.112	0.769	0.769	0.032	0.032	0.015	6.00E-03	0.26	0.11
SCE_ENG	SCE Engine	0.15	2.40E-04	0.191	0.024	2.38E-04	7.94E-05	9.92E-06	3.81E-07	1.67E-07	6.42E-06

Johnson-Bateman Concrete Batch Plant from SCAQMD permit engineer Derek Hollingshead application # 465649

Name	Description	Diameter, ft	Height, ft	Temp, deg	Flow,	Velocity,	height	temp (K)	velocity	diameter
JB_BATCH	Concrete Batch Plant	1	50	160	390	8.28	15.240	344.3	2.523	0.305
		assumed	assumed							

PM_{10} emission rates	lb/hr	lb/day	g/s
	0.35	8	0.0441

Fontana Paper Mill from SCAQMD permit engineer Tracy Win application # 450893

Name	Description	Diameter, ft	Height, ft	Temp, deg	Flow,	Velocity,	height	temp (K)	velocity	diameter
FPAPER1	baghouse	2	125	150	4712	25.00	38.100	338.7	7.619	0.610
		assumed	assumed	assumed	assumed					

PM_{10} emission rate from baghouse	lb/hr	g/s
less than 1 lb/hr	1	0.126

Appendix A4
Stack parameters for EGS Units 3 and 4

APPENDIX A4
STACK PARAMETERS FOR EGS UNITS 3 AND 4

Fac ID	SIC Cd	Name	Address	City	Zip	Appl Nbr	App	Appl Status Desc	AV3	AV30	AV	AV	BCAT	BCAT Desc	Inspector/Engineer	Inspector Phone	Inclu	Reason eliminated from Cumulative Modeling Analysis
115315	4911	RELIANT ENERGY ETIWANDA, INC.	8996 ETIWANDA AVE	ETIWANDA	91739	431108	25	PERMIT TO CONSTRUCT GRANTED	0	0	1	0			CHRIS G PERRI	(909) 396-2696		administrative change, no > in emissions
115315	4911	RELIANT ENERGY ETIWANDA, INC.	8996 ETIWANDA AVE	ETIWANDA	91739	431124	25	PERMIT TO CONSTRUCT GRANTED	0	0	1	0			CHRIS G PERRI	(909) 396-2696		administrative change, no > in emissions
149620	4911	SOUTHERN CALIFORNIA EDISON	9000 ETIWANDA AVE	ETIWANDA	91739	461460	25	PERMIT TO CONSTRUCT GRANTED	21	71	21	3	13008	TURBINE ENGINE (<=50 MW) NAT GAS ONLY	CHRIS G PERRI	(909) 396-2696	x	included in cumulative modeling
149620	4911	SOUTHERN CALIFORNIA EDISON	9000 ETIWANDA AVE	ETIWANDA	91739	461461	25	PERMIT TO CONSTRUCT GRANTED	0	0	0	0	43002	I C E (>500 HP) EM ELEC GEN-NAT GAS	CHRIS G PERRI	(909) 396-2696	x	included in cumulative modeling
149620	4911	SOUTHERN CALIFORNIA EDISON	9000 ETIWANDA AVE	ETIWANDA	91739	461462	25	PERMIT TO CONSTRUCT GRANTED	0	0	0	0			CHRIS G PERRI	(909) 396-2696		no source listed in this permit number
149620	4911	SOUTHERN CALIFORNIA EDISON	9000 ETIWANDA AVE	ETIWANDA	91739	461463	25	PERMIT TO CONSTRUCT GRANTED	0	0	0	0	210900	STORAGE TANK AMMONIA	CHRIS G PERRI	(909) 396-2696		NH3 storage tank
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	460273	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	460274	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			EMMANUEL V QUIZON	(909) 396-2523		application canceled
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466528	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466529	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466530	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466532	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466533	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466534	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466536	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466537	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466538	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466557	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466558	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466560	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466561	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466562	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466564	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466565	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
118749	3499	MAG INSTRUMENT, INC	2001 S HELLMAN AVE	ONTARIO	91761	466569	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	331	LASER ENGRAVING, RUBBER AND PLASTIC	EMMANUEL V QUIZON	(909) 396-2523		engraving < 0.1 lb PM emissions, 5.5 mi. away
129661	4953	NM MILLIKEN GENCO, LLC	2050 S MILLIKEN AVE	ONTARIO	91761	425891	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	56737	I C E (>500 HP) LANDFILL GAS	TED KOWALCZYK	(909) 396-2592		SOx emissions increase by 0.1 lb/hr, 4.1 mi. away
129661	4953	NM MILLIKEN GENCO, LLC	2050 S MILLIKEN AVE	ONTARIO	91761	425892	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	56737	I C E (>500 HP) LANDFILL GAS	TED KOWALCZYK	(909) 396-2592		SOx emissions increase by 0.1 lb/hr, 4.1 mi. away
135909		KELLOGG SUPPLY INC	8605 SCHAEFER AVE	ONTARIO	91761	466808	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	804540	NATURAL FERTILIZER PACKAGING/PROCESSIN	SCOTT LIN	(909) 396-3901		outside 6 miles
135909		KELLOGG SUPPLY INC	8605 SCHAEFER AVE	ONTARIO	91761	466809	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	804540	NATURAL FERTILIZER PACKAGING/PROCESSIN	SCOTT LIN	(909) 396-3901		outside 6 miles
135909		KELLOGG SUPPLY INC	8605 SCHAEFER AVE	ONTARIO	91761	466810	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	804540	NATURAL FERTILIZER PACKAGING/PROCESSIN	SCOTT LIN	(909) 396-3901		outside 6 miles
135909		KELLOGG SUPPLY INC	8605 SCHAEFER AVE	ONTARIO	91761	466811	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	804540	NATURAL FERTILIZER PACKAGING/PROCESSIN	SCOTT LIN	(909) 396-3901		outside 6 miles
151161		HOFER RANCH/ HILLWOOD	1460 HOFER RANCH RD	ONTARIO	91761	466133	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	44901	I C E (50-500 HP) EM FIRE FGHT-DIESEL	HAMILTON A STODDAF	(909) 396-2482		outside 6 miles
151378		EXPRESSJET AIRLINES	2900 E AIRPORT DR	ONTARIO	91761	466813	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	41901	I C E (50-500 HP) N-EM PORT N-RENT DIESE	RAY RONQUILLO	(909) 396-3049	x	included in cumulative modeling
151380		EXPRESSJET AIRLINES	2175 AVION DR	ONTARIO	91761	466815	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	41901	I C E (50-500 HP) N-EM PORT N-RENT DIESE	RAY RONQUILLO	(909) 396-3049	x	included in cumulative modeling
151380		EXPRESSJET AIRLINES	2175 AVION DR	ONTARIO	91761	466817	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	41901	I C E (50-500 HP) N-EM PORT N-RENT DIESE	RAY RONQUILLO	(909) 396-3049	x	included in cumulative modeling
151210		SOIL SAFE OF CALIFORNIA INC	2145 W 16TH ST	UPLAND	91784	466269	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	107751	AGGREGATE PRODUCTN/CRUSHING (<5000 TP	ARTURO ARREOLA	(909) 396-2534		outside 6 miles
12923	4952	RIALTO CITY	501 E SANTA ANA AVE	BLOOMINGTON	92316	465989	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	22700	SEWAGE TREATMENT (>5 MG/D) ANEROBIC	KIM LE	(909) 396-3768		administrative change, no > in emissions
800022	4226	CALNEV PIPE LINE, LLC	2051 E SLOVER AVE	BLOOMINGTON	92316	449693	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			BELINDA C WAN	(909) 396-2532		VOC storage tank
800022	4226	CALNEV PIPE LINE, LLC	2051 E SLOVER AVE	BLOOMINGTON	92316	461445	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	248906	STORAGE TANK FX RF W/INT FLT GASOLINE	BELINDA C WAN	(909) 396-2532		VOC storage tank
800022	4226	CALNEV PIPE LINE, LLC	2051 E SLOVER AVE	BLOOMINGTON	92316	461446	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	248906	STORAGE TANK FX RF W/INT FLT GASOLINE	BELINDA C WAN	(909) 396-2532		VOC storage tank
800022	4226	CALNEV PIPE LINE, LLC	2051 E SLOVER AVE	BLOOMINGTON	92316	461447	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			BELINDA C WAN	(909) 396-2532		VOC storage tank
151155		HEADWATERS RESOURCES INC	9600 KAISER WAY	FONTANA	92335	466140	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	112920	STORAGE SILO FLY ASH	RAJENDRA SINGH	(909) 396-3099		outside 6 miles
151155		HEADWATERS RESOURCES INC	9600 KAISER WAY	FONTANA	92335	466141	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	112920	STORAGE SILO FLY ASH	RAJENDRA SINGH	(909) 396-3099		outside 6 miles
151155		HEADWATERS RESOURCES INC	9600 KAISER WAY	FONTANA	92335	466143	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	101920	STORAGE SILO CEMENT	RAJENDRA SINGH	(909) 396-3099		outside 6 miles
151155		HEADWATERS RESOURCES INC	9600 KAISER WAY	FONTANA	92335	466144	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			RAJENDRA SINGH	(909) 396-3099		outside 6 miles
151155		HEADWATERS RESOURCES INC	9600 KAISER WAY	FONTANA	92335	466145	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			RAJENDRA SINGH	(909) 396-3099		outside 6 miles
151155		HEADWATERS RESOURCES INC	9600 KAISER WAY	FONTANA	92335	466147	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			RAJENDRA SINGH	(909) 396-3099		outside 6 miles
151151		ALWAYS COOKIN BARBEQUE, HAR	3740 SIERRA AVE	FONTANA	92336	466094	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	20500	CHARBROILER - LPG	WINNIE Y CHO	(909) 396-2547		outside 6 miles
103586	7699	PRAXAIR SERVICES, INC.	VARIOUS LOCATIONS IN S	FONTANA	92337	428001	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	19903	HEATER/FURNACE (5-20 MMBTU/HR) DIESEL	RAY RONQUILLO	(909) 396-3049		portable source, <200 hrs/yr operation
139005	2813	BLUE RHINO OF LOS ANGELES	1750 AGUA MANSA RD	RUBIDOUX	92509	466934	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	197	FURNACE BURN-OFF PAINT	RAVI BHATIA	(909) 396-2571		outside 6 miles
143249	7216	MAGIC TOUCH CLEANERS, YOUNG	9723 BASELINE RD	RANCHO CUCAMONGA	91730-1	465958	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	603	DRY CLEANING,DRY-TO-DRY NV,W/ SIC,PERC	MARIA VIBAL	(909) 396-2422		dry cleaners VOC source
151684	9999	AGAINST THE GRAIN WOODWORKS	9395 FERON BLVD STE K	RANCHO CUCAMONGA	91730-4	468020	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			ASHA RAWAL	(909) 396-2506		PM emissions <1 tpy from control device, 4 mi. away
35274	3559	GOODYEAR RUBBER CO OF SO CA	8833 INDUSTRIAL LN	RANCHO CUCAMONGA	91730-4	464829	25	PERMIT TO CONSTRUCT GRANTED	2	1	0	0	263	OVEN, POWDER COATING]	ERWIN DELACRUZ	(909) 396-2528		max emissions <0.4 tpy, <0.1 lb/hr, 3.8 mi. away
138005	5093	PACIFIC COAST RECYCLING, LLC	8822 ETIWANDA AVE	RANCHO CUCAMONGA	91739-9	454138	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	298	AUTO BODY SHREDDING	HIRAM T FONG	(909) 396-2718		application canceled
151200		RUSKIN COMPANY	3847 WABASH DR	MIRA LOMA	91752-1	466231	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	294	PLASMA ARC CUTTING	SCOTT LIN	(909) 396-3901		PM emissions <1 tpy from control device, 5.4 mi.
151480	7216	SKY COUNTRY CLEANERS	11034 LIMONITE AVE	MIRA LOMA	91752-2	467109	215	APPLICATION ON HOLD	0	0	0	0	601	DRY CLEANING, DRY-TO-DRY NON-VENT, PER(	LISA KREBS	(909) 396-2384		dry cleaners VOC source
78376	2899	THMX HOLDINGS, LLCTHERMAL D	4850 E AIRPORT DR	ONTARIO	91761-1	460839	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			STEPHEN JIANG	(909) 396-2000		change of conditions to permit sources
78376	2899	THMX HOLDINGS, LLCTHERMAL D	4850 E AIRPORT DR	ONTARIO	91761-1	460840	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			STEPHEN JIANG	(909) 396-2000		removing VOC permit limitation only
78376	2899	THMX HOLDINGS, LLCTHERMAL D	4850 E AIRPORT DR	ONTARIO	91761-1	460841	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	265	OVEN, DRYING	STEPHEN JIANG	(909) 396-2000		change of conditions to permit sources
78376	2899	THMX HOLDINGS, LLCTHERMAL D	4850 E AIRPORT DR	ONTARIO	91761-1	460842	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	265	OVEN, DRYING	STEPHEN JIANG	(909) 396-2000		removing VOC permit limitation only
51003	4911	SO CAL EDISON CO	13568 MILLIKEN	ONTARIO	91761-2	462001	25	PERMIT TO CONSTRUCT GRANTED	0	0	0	0	210900	STORAGE TANK AMMONIA	CHRIS G PERRI	(909) 396-2696		outside 6 miles
51003	4911	SO CAL EDISON CO	13568 MILLIKEN	ONTARIO	91761-2	462003	25	PERMIT TO CONSTRUCT GRANTED	10	13	8	1	13008	TURBINE ENGINE (<=50 MW) NAT GAS ONLY	CHRIS G PERRI	(909) 396-2696		outside 6 miles
51003	4911	SO CAL EDISON CO	13568 MILLIKEN	ONTARIO	91761-2	462004	25	PERMIT TO CONSTRUCT GRANTED	0	0	0	0	43002	I C E (>500 HP) EM ELEC GEN-NAT GAS	CHRIS G PERRI	(909) 396-2696		outside 6 miles
51003	4911	SO CAL EDISON CO	13568 MILLIKEN	ONTARIO	91761-2	462005	25	PERMIT TO CONSTRUCT GRANTED	0	0	0	0			CHRIS G PERRI	(909) 396-2696		outside 6 miles
145354		LEGEND DAIRY FARMS	11111 E EDISON AVE	ONTARIO	91761-2	465409	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	21007	AgOps LACAF Dairy	JACKSON J YOONG	(909) 396-3125		outside 6 miles
149457		FRESH START BAKERIES	1220 S BAKER ST	ONTARIO	91761-7	460942	25	PERMIT TO CONSTRUCT GRANTED	6	6	1	0	255	OVEN BAKERY	TRACY NGUYEN	(909) 396-2427		application canceled
149457		FRESH START BAKERIES	1220 S BAKER ST	ONTARIO	91761-7	460943	25	PERMIT TO CONSTRUCT GRANTED	6	6	1	0	255	OVEN BAKERY	TRACY NGUYEN	(909) 396-2427		application canceled
149457		FRESH START BAKERIES	1220 S BAKER ST	ONTARIO	91761-7	460945	25	PERMIT TO CONSTRUCT GRANTED	1	2	1	0			TRACY NGUYEN	(909) 396-2427		VOC source
149457		FRESH START BAKERIES	1220 S BAKER ST	ONTARIO	91761-7	460946	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	255	OVEN BAKERY	TRACY NGUYEN	(909) 396-2427		VOC source
17762	1623	JOHNSON-BATEMAN CO	5125 ONTARIO MILLS PKY	ONTARIO	91764-5	465649	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	292	CONCRETE BATCH EQUIPMENT	DEREK K HOLLINSHEA	(909) 396-2275	x	included in cumulative modeling
120704	3471	DYNAMIC PLATING	952 W 9TH ST	UPLAND	91786-4	463968	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	285	TANK CHROME PLATING HEXAVALENT	EMMANUEL V QUIZON	(909) 396-2523		VOC source
14437	8062	SAN ANTONIO COMMUNITY HOSPI	999 SAN BERNARDINO RD	UPLAND	91786-4	464718	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	40002	I C E (>500 HP) N-EM STAT NAT GAS ONLY	VICKY LEE	(909) 396-2284		outside 6 miles
14437	8062	SAN ANTONIO COMMUNITY HOSPI	999 SAN BERNARDINO RD	UPLAND	91786-4	464719	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	40002	I C E (>500 HP) N-EM STAT NAT GAS ONLY	VICKY LEE	(909) 396-2284		outside 6 miles
800129	4226	SFPP, L.P.	2359 RIVERSIDE AVE	BLOOMINGTON	92316-2	447007	215	APPLICATION ON HOLD	0	0	0	0	300106	BULK LOAD TERM REC PIPELINE PET MID DIST	AL KING	(909) 396-2637		application on hold
800129	4226	SFPP, L.P.	2359 RIVERSIDE AVE	BLOOMINGTON	92316-2	454673	25	PERMIT TO CONSTRUCT GRANTED	0	0	0	0	248904	STORAGE TANK W/ EXT FLOAT ROOF GASOLIN	AL KING	(909) 396-2637		VOC storage tank
800129	4226	SFPP, L.P.	2359 RIVERSIDE AVE	BLOOMINGTON	92316-2	454676	25	PERMIT TO CONSTRUCT GRANTED	0	0	0	0	248904	STORAGE TANK W/ EXT FLOAT ROOF GASOLIN	AL KING	(909) 396-2637		VOC storage tank
800129	4226	SFPP, L.P.	2359 RIVERSIDE AVE	BLOOMINGTON	92316-2	464471	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	300900	STORAGE TANK PETROLEUM MIDDLE DISTILLA	AL KING	(909) 396-2637		VOC storage tank

APPENDIX A4
STACK PARAMETERS FOR EGS UNITS 3 AND 4

Fac ID	SIC Cd	Name	Address	City	Zip	Appl Nbr	App	Appl Status Desc	AV3	AV30	AV	AV	BCAT	BCAT Desc	Inspector/Engineer	Inspector Phone	Inclu	Reason eliminated from Cumulative Modeling Analysis
800364	5171	CONOCOPHILLIPS/COLTON TERMIN	2301 S RIVERSIDE AVE	BLOOMINGTON	92316-2	464473	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	248904	STORAGE TANK W/ EXT FLOAT ROOF GASOLIN	ARTURO ARREOLA	(909) 396-2534		VOC storage tank
14495	3341	VISTA METALS CORPORATION	13425 WHITTRAM AVE	FONTANA	92335-2	463575	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	1900	FURNACE OTHER MET OPS ALUMINUM	LINDA T BASILIO	(909) 396-3156		replace existing equipment, no > in emissions
14495	3341	VISTA METALS CORPORATION	13425 WHITTRAM AVE	FONTANA	92335-2	464744	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	1900	FURNACE OTHER MET OPS ALUMINUM	LINDA T BASILIO	(909) 396-3156		replace existing equipment, no > in emissions
14495	3341	VISTA METALS CORPORATION	13425 WHITTRAM AVE	FONTANA	92335-2	464746	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	1900	FURNACE OTHER MET OPS ALUMINUM	LINDA T BASILIO	(909) 396-3156		replace existing equipment, no > in emissions
14495	3341	VISTA METALS CORPORATION	13425 WHITTRAM AVE	FONTANA	92335-2	464748	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	1900	FURNACE OTHER MET OPS ALUMINUM	LINDA T BASILIO	(909) 396-3156		replace existing equipment, no > in emissions
46268	3312	CALIFORNIA STEEL INDUSTRIES IN	14000 SAN BERNARDINO /	FONTANA	92335-5	459829	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	282	GALVANIZING EQUIPMENT	MONICA FERNANDEZ M	(909) 396-2202		Title V minor revision
46268	3312	CALIFORNIA STEEL INDUSTRIES IN	14000 SAN BERNARDINO /	FONTANA	92335-5	459831	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	201	ROLLERCOATER	MONICA FERNANDEZ M	(909) 396-2202		replace existing equipment, large decrease in emissions
46268	3312	CALIFORNIA STEEL INDUSTRIES IN	14000 SAN BERNARDINO /	FONTANA	92335-5	459832	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	259	OVEN, CURING (RULE 1401 TOXICS)	MONICA FERNANDEZ M	(909) 396-2202		replace existing equipment, large decrease in emissions
46268	3312	CALIFORNIA STEEL INDUSTRIES IN	14000 SAN BERNARDINO /	FONTANA	92335-5	464295	25	PERMIT TO CONSTRUCT GRANTED	230	1737	12	5	282	GALVANIZING EQUIPMENT	MONICA FERNANDEZ M	(909) 396-2202		replace existing equipment, large decrease in NOx, SO2, CO emissions, b
11716	2952	FONTANA PAPER MILLS INC	13733 VALLEY BLVD	FONTANA	92335-5	431253	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	19003	HEATER/FURNACE (5-20 MMBTU/HR) NAT GAS	KENNY K MATSUDA	(909) 396-2656		administrative change
11716	2952	FONTANA PAPER MILLS INC	13733 VALLEY BLVD	FONTANA	92335-5	431255	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	43902	I C E (>500 HP) EM ELEC GEN DIESEL	KENNY K MATSUDA	(909) 396-2656		administrative change
11716	2952	FONTANA PAPER MILLS INC	13733 VALLEY BLVD	FONTANA	92335-5	444632	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	705200	SAND CONVEYING	KENNY K MATSUDA	(909) 396-2656		change of conditions to permit source,emissions decrease
11716	2952	FONTANA PAPER MILLS INC	13733 VALLEY BLVD	FONTANA	92335-5	450893	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			KENNY K MATSUDA	(909) 396-2656	x	included in cumulative modeling
150915		CITY OF FONTANA	15556 SUMMIT AVE	FONTANA	92336-4	467548	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	43901	I C E (50-500 HP) EM ELEC GEN-DIESEL	THAI TRAN	(909) 396-2562		emergency generator operates <200 hrs/yr, 5.5 mi.
119940	2952	BUILDING MATERIALS MANUFACTU	11800 INDUSTRY AVE	FONTANA	92337-6	368002	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	703920	STORAGE SILO LIME & LIMESTONE	RICHARD H HAWRYLE\	(909) 396-2657		permit issued 2000,emissions in monitored data, 3.8 mi
119940	2952	BUILDING MATERIALS MANUFACTU	11800 INDUSTRY AVE	FONTANA	92337-6	368088	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			RICHARD H HAWRYLE\	(909) 396-2657		permit issued 2000,emissions in monitored data, 3.8 mi
119940	2952	BUILDING MATERIALS MANUFACTU	11800 INDUSTRY AVE	FONTANA	92337-6	428212	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	340	ASPHALT ROOFING LINE	RICHARD H HAWRYLE\	(909) 396-2657		VOC source
151356		HOME DEPOT	16783 SANTA ANA AVE	FONTANA	92337-9	466776	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	43901	I C E (50-500 HP) EM ELEC GEN-DIESEL	HENRIQUE C NASCIME	(909) 396-2519		outside 6 miles
800182	3241	RIVERSIDE CEMENT CO (EIS USE)	1500 RUBIDOUX BLVD	RIVERSIDE	92509-1	436342	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	107125	Aggregate Bulk Unloading	RICHARD H HAWRYLE\	(909) 396-2657		outside 6 miles
800182	3241	RIVERSIDE CEMENT CO (EIS USE)	1500 RUBIDOUX BLVD	RIVERSIDE	92509-1	438408	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	40901	I C E (50-500 HP) N-EM STAT DIESEL	RICHARD H HAWRYLE\	(909) 396-2657		outside 6 miles
800182	3241	RIVERSIDE CEMENT CO (EIS USE)	1500 RUBIDOUX BLVD	RIVERSIDE	92509-1	438409	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	43901	I C E (50-500 HP) EM ELEC GEN-DIESEL	RICHARD H HAWRYLE\	(909) 396-2657		outside 6 miles
800182	3241	RIVERSIDE CEMENT CO (EIS USE)	1500 RUBIDOUX BLVD	RIVERSIDE	92509-1	451556	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	17200	KILN, COMB GAS/OIL FIRING	RICHARD H HAWRYLE\	(909) 396-2657		outside 6 miles
800182	3241	RIVERSIDE CEMENT CO (EIS USE)	1500 RUBIDOUX BLVD	RIVERSIDE	92509-1	451557	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0	17200	KILN, COMB GAS/OIL FIRING	RICHARD H HAWRYLE\	(909) 396-2657		outside 6 miles
800182	3241	RIVERSIDE CEMENT CO (EIS USE)	1500 RUBIDOUX BLVD	RIVERSIDE	92509-1	453299	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			RICHARD H HAWRYLE\	(909) 396-2657		outside 6 miles
800182	3241	RIVERSIDE CEMENT CO (EIS USE)	1500 RUBIDOUX BLVD	RIVERSIDE	92509-1	453300	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			RICHARD H HAWRYLE\	(909) 396-2657		outside 6 miles
800182	3241	RIVERSIDE CEMENT CO (EIS USE)	1500 RUBIDOUX BLVD	RIVERSIDE	92509-1	453301	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			RICHARD H HAWRYLE\	(909) 396-2657		outside 6 miles
800182	3241	RIVERSIDE CEMENT CO (EIS USE)	1500 RUBIDOUX BLVD	RIVERSIDE	92509-1	453302	20	ASSIGNED TO ENGINEER - CLASS I	0	0	0	0			RICHARD H HAWRYLE\	(909) 396-2657		outside 6 miles

Appendix E
Soil and Water Resources

Appendix E1	Letters to USACE and CDFG, August, 2007
Appendix E2	Correspondence with CDFG
Appendix E3	Correspondence with RWQCB
Appendix E4	Fire Department Design Standards

Appendix E1
Letters to USACE and CDFG, August, 2007

August 1, 2007

Department of the Army
Los Angeles District, Corps of Engineers
P.O. Box 532711
Los Angeles, CA 90053-2325

Attn: Ms. Shannon Pankratz

Re: Jurisdictional Determination of Waters of the U.S. at the San Gabriel Generating Station, Rancho Cucamonga, CA (SPL-2007-733-SLP)

Dear Ms. Pankratz,

Thank you for spending the time to talk with me yesterday afternoon regarding your letter dated June 20, 2007 and case number SPL-2007-733-SLP. As we discussed, URS Corporation is preparing the Application for Certification permit to the California Energy Commission for a new power producing unit (called San Gabriel Generating Station or SGGS) at the existing Etiwanda Generating Station in Rancho Cucamonga, California. As you have read in the Application for Certification report, two watercourses within the project area could be Jurisdictional Waters of the U.S. We are requesting a Jurisdictional Determination for the two water courses which could be impacted during the construction of the new SGGS unit.

The hydraulic nature of both watercourses is similar. Both water courses originate as sheet flow from the neighboring metal smelting operation north of SGGS. This sheet flow is collected on the smelting operations property in small drainage channels near the edges of the property (see photographs). The flows are directed toward existing metal culverts under the railroad tracks becoming surface flows through the SGGS project area. South of the SGGS project area, the surface flows enter large regional sub-terrain storm flow culverts. Chadwick Channel was reported to connect with San Sevaine Channel near the I-10 freeway. The dry wash transecting the contractor's parking area appears to exit the storm drain into Day Creek south of 6th Avenue.

Both water courses only convey water during and shortly after storm events. A cursory review of a historic photograph hanging on the wall of the Etiwanda Generating Station administrative office wall revealed both watercourses may have been portions of historic dry washes.

Chadwick Channel
The nature of the watercourses differs within the project areas. Chadwick Channel is an un-vegetated channel constructed of native soils with small crushed rock and gravel along

URS Corporation
2625 South Miller Street, Suite 104
Santa Maria, California 93455
805-349-7000

the banks as shoring (Attachment 2). Vegetation that does grow up within the channel is trimmed or removed periodically as on-going maintenance. The channel bottom is approximately 60 feet wide and approximately 6 feet deep. The native soil channel bottom is relatively flat. A small sub-channel forms within the channel bottom; the top of which delineates the Ordinary High Water Mark. Surface water flows are intermittent and usually follow a rain event. The "native habitat" of the channel is routinely disturbed by removing vegetation growing within the channel and periodic re-contouring of the channel with heavy equipment. An existing "Arizona" crossing is located south of the proposed new bridge placement, also the southern boundary of the Etiwanda Generating Station property.

The Ordinary High Water Mark was evident by weathering and wear present on existing concrete supports within the channel for existing pipe runs and vehicle bridges. This was confirmed by Mr. Paul LaCroix, the Environmental and Safety Representative for the facility. Mr. LaCroix stated that in his 25-plus years at the facility, water flows are within the sub-channel primarily with rare occurrences where the water level will fill the channel.

Contractor's Parking Area Dry Wash
The offsite contractor's parking area/construction laydown area is vacant land with off-highway vehicle (OHV) trails and patches of exotic and native vegetation (Attachment 3). The vegetation is dominated by weed species such as mustards (*Brassica nigra* and *Hirschfeldia incana*), annual grasses (*Bromus diandrus* and *B. madritensis* ssp. *rubens*) with isolated patches of native shrubs such as California buckwheat (*Eriogonum fasiculatum* var. *rubens*). A small "wash" or drainage feature crosses from the northeast to the southern portion of this area; vegetation associated with the drainage includes narrowleaf willow (*Salix exigua*). The Ordinary High Water Mark was delineated as the vertical cut banks of the feature where they were visible and not disturbed by OHV activity. Evidence of water flow is visible where not disturbed by OHVs.

Attachment 4 provides representative photographs to illustrate the characteristics of Chadwick Channel and the dry wash within the contractor's parking area. Thank you for your assistance in this jurisdictional determination. Please feel free to contact me at 805-361-1120 with any questions or if you need additional information.

Sincerely,

Wayne Vogler
Biologist

Attachment 1 – Surface Waters in Vicinity of Project Site
Attachment 2 – Chadwick Channel
Attachment 3 – Offsite Construction Laydown Area
Attachment 4 – Representative Photographs

August 15, 2007

Department of Fish and Game
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764

Attn: Mr. Jeff Brandt

Re: Jurisdictional Determination of Waters of the State at the San Gabriel Generating Station, Rancho Cucamonga, CA

Dear Mr. Brandt,

URS Corporation is preparing the Application for Certification permit to the California Energy Commission for a new power producing unit (called San Gabriel Generating Station or SGGS) at the existing Etiwanda Generating Station in Rancho Cucamonga, California. Two watercourses within the project area could be Jurisdictional Waters of the State. We are requesting a Jurisdictional Determination for the two water courses which could be impacted during the construction of the new SGGS unit.

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Santa Maria, California 93455
805-349-7000

which delineates the Ordinary High Water Mark. Surface water flows are intermittent and usually follow a rain event. The "native habitat" of the channel is routinely disturbed by removing vegetation growing within the channel and periodic re-contouring of the channel with heavy equipment. An existing "Arizona" crossing is located south of the proposed new bridge placement, also the southern boundary of the Etiwanda Generating Station property.

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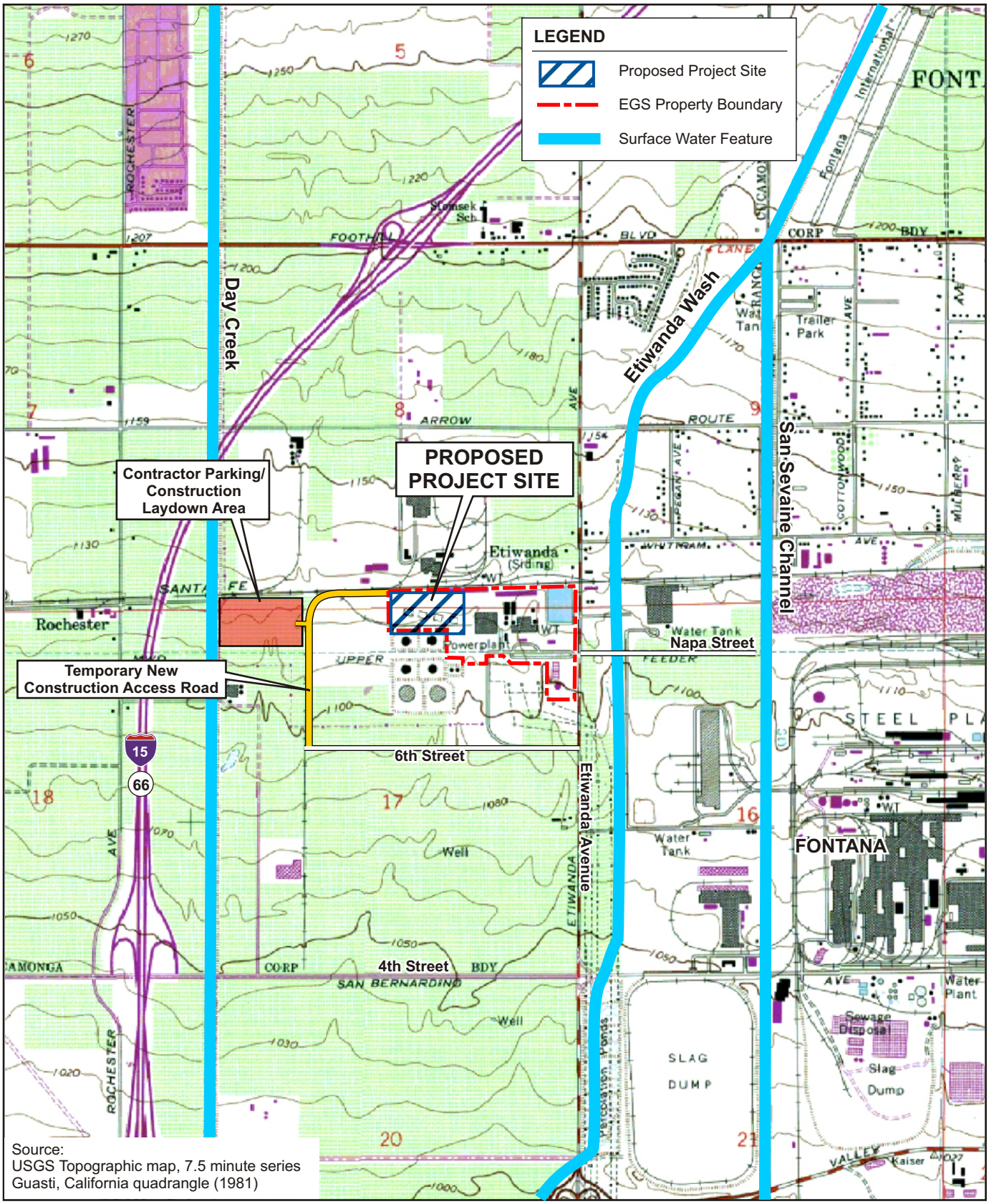
Sincerely,

Wayne Vogler
Biologist

Attachment 1 – Surface Waters in Vicinity of Project Site
Attachment 2 – Chadwick Channel
Attachment 3 – Offsite Construction Laydown Area
Attachment 4 – Representative Photographs

Both letters have the same four attachments:

Attachment 1 – Surface Waters in Vicinity of Project Site
Attachment 2 – Chadwick Channel
Attachment 3 – Offsite Construction Laydown Area
Attachment 4 – Representative Photographs



0 2000 4000

Scale in Feet
1:24,000

N

SURFACE WATER FEATURES IN VICINITY OF PROJECT SITE

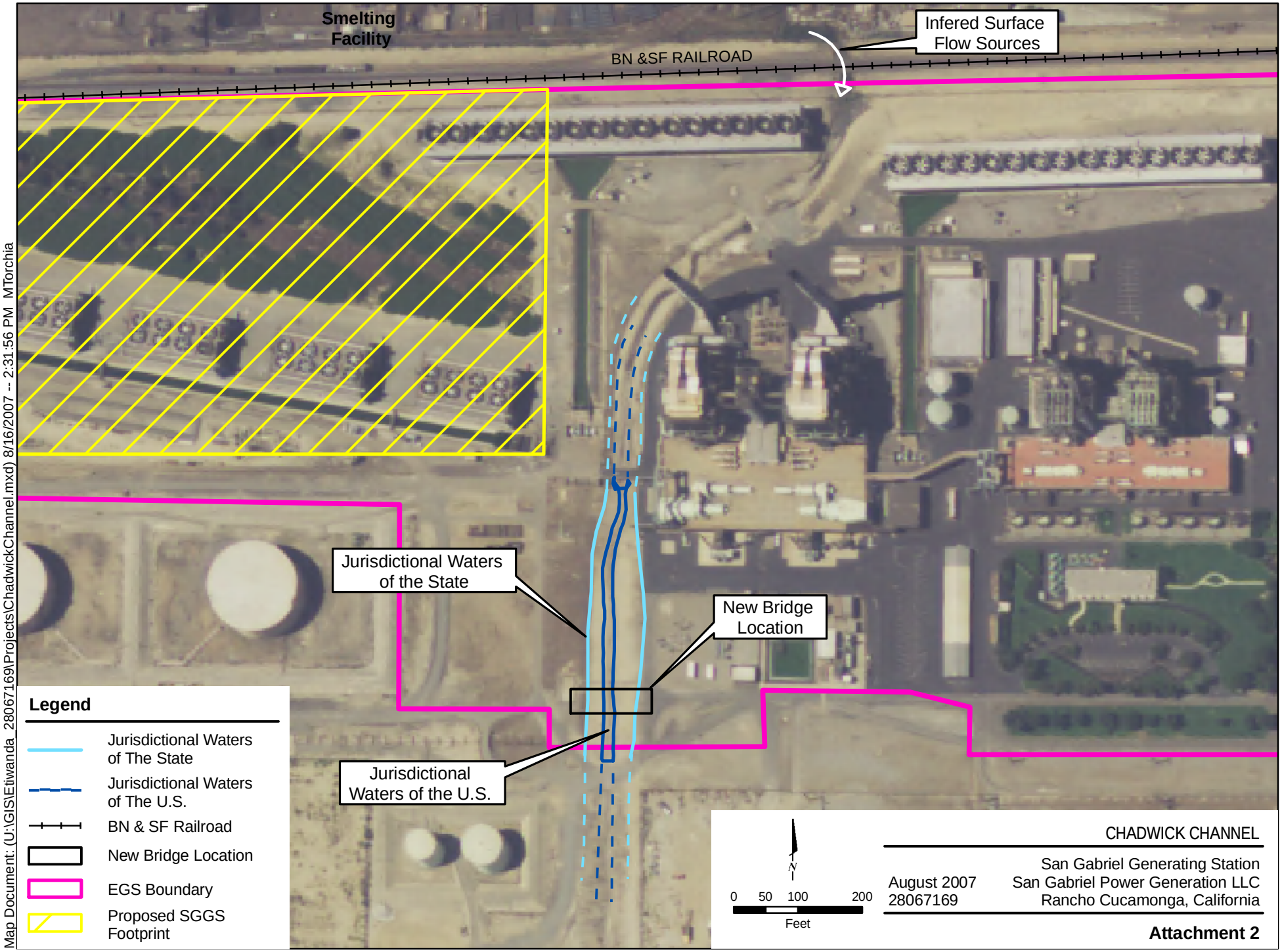
August 2007
28067169

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

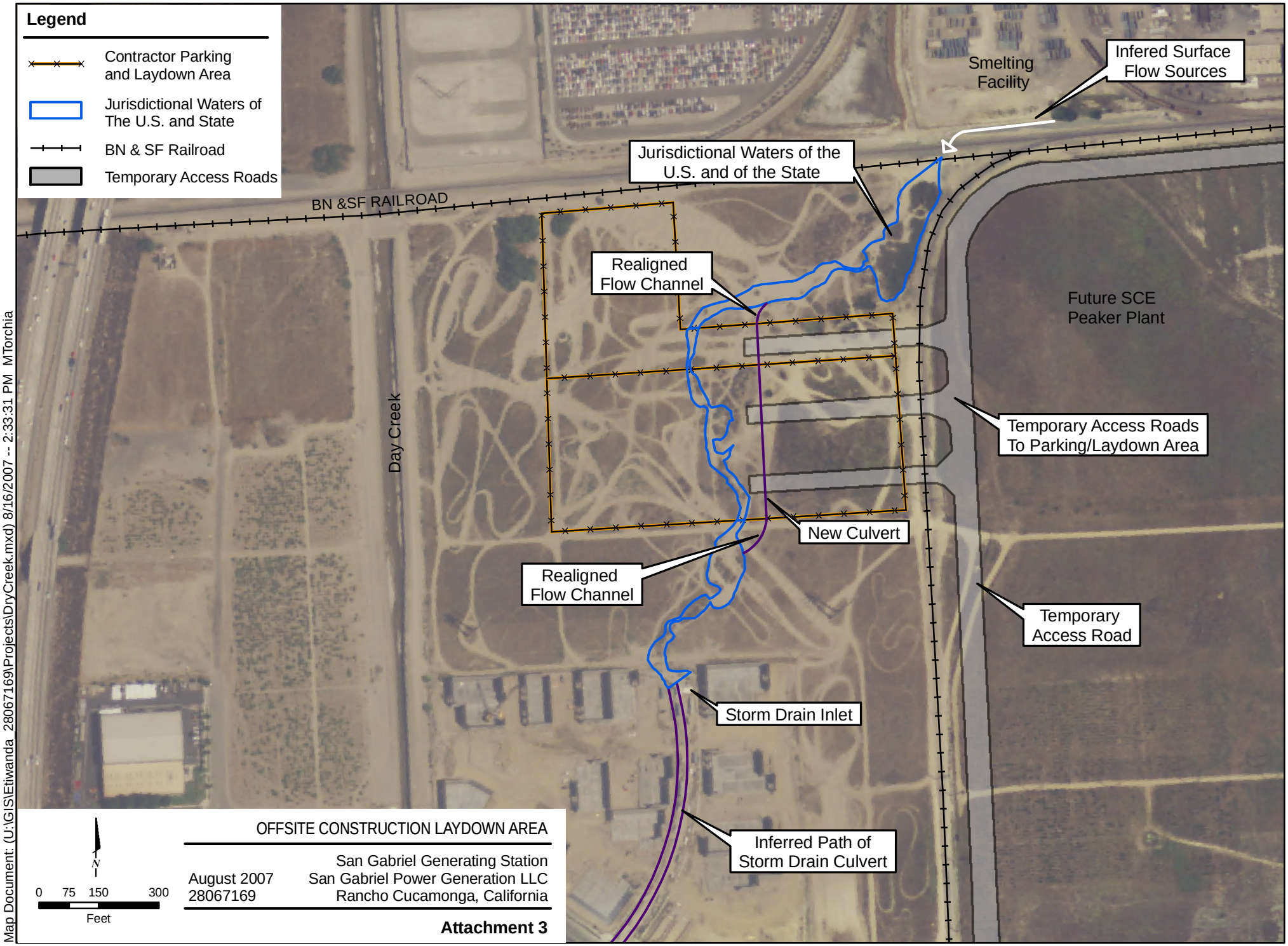
URS

ATTACHMENT 1

8/16/07 vsa ..\Reliant Etiwanda (SGGS)\Graphics\Biology Permits\Attach 1_features.cdr



Map Document: (U:\GIS\Etiwanda_28067169\Projects\ChadwickChannel.mxd) 8/16/2007 -- 2:31:56 PM MTorchia



OFFSITE CONSTRUCTION LAYDOWN AREA

August 2007
28067169

San Gabriel Generating Station
San Gabriel Power Generation LLC
Rancho Cucamonga, California

Attachment 3

Map Document: (U:\GIS\Etiwanda_28067169\Projects\DryCreek.mxd) 8/16/2007 -- 2:33:31 PM MTorchia

Chadwick Channel Entrance onto EGS Property

File name: P1000588

7/30/07

Chadwick Channel

File name: P1000582

7/30/07

Chadwick Channel Storm Drain on 6th Street

File name: P1000577

7/30/07

Source of surface water for Dry Wash

File name: P1000609

7/30/07

Dry Wash Proposed Laydown Area

File name: P1060017

7/30/07

Storm Drain Inlet at the southern boundary of the dry wash.

File name: P1000083

7/30/07

Assumed Dry Wash Outlet into Day Creek

File name: P1000611

7/30/07

Appendix E2
Correspondence with CDFG

URS Corporation 2625 S Miller St, Suite 104, Santa Maria, CA 93455				COPIES TO: File:
DATE	8/16/07	TIME	2:00 pm	
TelCon by :	Alyssa Boinay	TelCon with :	Jeff Brandt	
COMPANY	CDFG Inland Empire Branch			
ADDRESS	Ontario, CA 91764	PHONE NO.	909-987-7161	
PROJ NAME	San Gabriel Generating Station	PROJ/TASK NO.	28067169.70200	

Conversation Record: Left message with question about the hydrological study required for the Notification of Streambed Alteration permit. What should be included in the hydrological study?

URS Corporation 2625 S Miller St, Suite 104, Santa Maria, CA 93455				COPIES TO: File:
DATE	8/17/07	TIME	12:00 pm	
TelCon by :	Alyssa Boinay	TelCon with :	Jeff Brandt	
COMPANY	CDFG Inland Empire Branch			
ADDRESS	Ontario, CA 91764	PHONE NO.	909-987-7161	
PROJ NAME	San Gabriel Generating Station	PROJ/TASK NO.	28067169.70200	

Conversation Record: Jeff Brandt returned my call and left a message requesting that I contact him with more specific information about the project.

URS Corporation 2625 S Miller St, Suite 104, Santa Maria, CA 93455				COPIES TO: File:
DATE	8/17/07	TIME	1:00 pm	
TelCon by :	Alyssa Boinay	TelCon with :	Jeff Brandt	
COMPANY	CDFG Inland Empire Branch			
ADDRESS	Ontario, CA 91764	PHONE NO.	909-987-7161	
PROJ NAME	San Gabriel Generating Station	PROJ/TASK NO.	28067169.70200	

Conversation Record: I returned Jeff Brandt's call and left more specific information about Chadwick Channel. I informed him that it is an ephemeral stream flowing through the EGS property, terminating in a storm drain at 6th Street.

URS Corporation 2625 S Miller St, Suite 104, Santa Maria, CA 93455				COPIES TO: File:
DATE	8/21/07	TIME	3:00 pm	
TelCon by :	Alyssa Boinay	TelCon with :	Jeff Brandt	
COMPANY	CDFG Inland Empire Branch			
ADDRESS	Ontario, CA 91764	PHONE NO.	909-987-7161	
PROJ NAME	San Gabriel Generating Station	PROJ/TASK NO.	28067169.70200	

Conversation Record: I spoke with Jeff Brandt in regards to the jurisdiction of the Chadwick Channel and dry wash area. He found the locations on Google Earth and from the maps included in our letter. Based on information from the maps and my description, he determined that both areas would most likely be considered Jurisdictional Waters of the State. He instructed URS to submit a Streambed Alteration Agreement, at which time a site visit could be scheduled to confirm his determination. He advised that both watersheds be included in one permit. He also responded to my questions regarding the content of the hydrology study requested, reporting that the study should support the engineer's design selection. The study should demonstrate that the alterations made to the existing water courses will withstand the flow potential of that water course.

Appendix E3
Correspondence with RWQCB

URS Corporation 221 Main Street, Suite 600, San Francisco, CA 94105				COPIES TO: File:
DATE	10/01/07	TIME	8:45 am	
TelCon by :	Anne Connell	TelCon with :	Adam Fisher	
COMPANY	RWQCB – Region 8			
ADDRESS	Santa Ana, CA 9	PHONE NO.	951-320-6363	
PROJ NAME	San Gabriel Generating Station	PROJ/TASK NO.	28067169.80000	

Conversation Record: Talked with Adam and gave him a heads up on the proposed SGGS power plant project in Rancho Cucamonga currently undergoing CEC review. Told him that the project construction would affect Chadwick Channel and tributary to Day Creek. Project and will need 401 certification and stormwater discharge permits (no wastewater discharges to creeks). Anticipated start of construction is September 2008.

Appendix E4
Fire Department Design Standards

"Lawhn, Robert W."
<RLawhn@reliant.com>
09/25/2007 07:13 AM

To <Anne_Connell@URSCorp.com>, <dan.j.gullaksen@sargentlundy.com>, <denise_heick@urscorp.com>, <bouvierj@sbcglobal.net>,
cc
bcc
Subject FW: Fire Access Design

History: This message has been replied to and forwarded.

Here are the bridge load design criteria from the Rancho Cucamonga Fire Marshall.

From: Ball, Robert [mailto:Robert.ball@cityofrc.us]
Sent: Monday, September 24, 2007 4:30 PM
To: Lawhn, Robert W.
Subject: Fire Access Design

Mr. Lawhn,
I have been asked to respond to your inquiry. As a general rule, fire access roads in Rancho Cucamonga are required to be 26 feet wide and support an imposed load of 80,000 pounds. I have attached our Standard 9-7 for your reference. Please let me know if you need any additional information.

Rob Ball, Fire Marshal
Rancho Cucamonga Fire District
Office: 909-477-2770 ext. 3011
Fax: 909-477-2772
Cell: 909-635-8274
robert.ball@cityofrc.us

From: Lawhn, Robert W. [mailto:RLawhn@reliant.com]
Sent: Monday, September 24, 2007 2:16 PM
To: Molina, Gina
Subject: Fire access design

Gina – As we have discussed, Reliant Energy is developing a proposed new generating plant on property on our existing Etiwanda station site in Rancho Cucamonga. The new plant would be located on the west

side of the property and any responding fire vehicles would need to cross the Chadwick Channel, over which we plan to install a new bridge. We would like to verify what bridge design load criteria the Fire Department would require for a fire response vehicle to safely cross. Thank you.

fsd9_7.pdf

Rancho Cucamonga Fire Department
Fire Safety Division Standard

Fire Department Access Roadways	
Standard # 9-7 (w/ attached drawings)	Effective: December 18, 2003
Page 1 of 3	Revised : 1/22/04

INTENT

- To establish consistent Guidelines for the location and the construction of Fire Department access roadways.
- To ensure that the Fire Department has adequate access up to and/or onto the site for the purpose of rescue, firefighting and the operation of fixed fire protection devices.

AUTHORITY

RCFPD Ordinance 39, California Fire Code, 2001 Edition, Article 9, California Vehicle Code, Sections 22500.1 and 22514.

DEFINITIONS

Fire Apparatus Roadway- An approved public or private, permanent, paved driving surface providing access for emergency vehicles within 150' of any portion of the exterior wall of the first floor of a building as measured by an approved route. See RCFD Standard # 9-6 "Permanent All Weather Fire Access Roadway."

Fire Lane- A roadway, or portion thereof, designed, constructed, maintained and approved for the purpose of meeting the fire apparatus roadway requirements.

ADOPTED STANDARD

A) Design, Construction and Maintenance of Fire Access Roadways.

1) The width shall not be less than 26 feet.
   Exception- Roadways at entry medians constructed for private commercial, industrial or residential developments shall be a minimum of 20 feet on each side. The 20' access roadway shall not be a part of a radius turn. This exception does not apply to public streets.
2) The roadway shall be paved and designed to withstand 80,000 pounds of gross vehicle weight in all weather conditions. When required by the Fire Construction Services (FCS) a stamped and signed report by a register engineer in the State of California must be submitted to FCS for review and acceptance. The report must certify the design and/or construction of the fire access roadway.
3) Roadways shall be continuously maintained and remain unobstructed during building construction and occupancy. Reference RCFPD Standard 87-2 for Fire Department access roadway construction requirements prior to

construction. Reference RCFPD Standard 87-1 for temporary access roadways.

4) Roadways where fire hydrants are installed shall be designed and constructed to accommodate the full flow of the hydrants under testing conditions without damaging the paving, the structures or the landscaping.
5) Dips, humps, traffic calming devices or other surface irregularity shall not be installed without prior consent of FCS and shall not:
    (a) Have an angle of approach steeper than 9° (20%); or
    (b) Have an angle of departure steeper than 9° (20%); or
    (c) Impede the movement of fire apparatus having a wheelbase of 350", with a minimum ground clearance of 11".
6) The maximum roadway slope shall not exceed 12%.
7) The minimum outside turning radius shall be 46'; and the maximum inside radius shall be of 20'. Exception: When an outside radius greater than 46' is provided, the inside radius may increase commensurate with the outside radius. Reference drawing 9-7-A.
8) The vertical unobstructed vertical clearance for the full width of the roadway shall be14'6". Reference drawing 9-7-B
9) Roadway dead ends in excess of 150' shall be provided with an approved means to turn around, such as a cul-de-sac bulb or a hammerhead. Reference drawing 9-7-C.
10) A second means of access must be provided when roadways in multi-family residential, commercial and industrial developments exceed 300'.
11) A second means of access shall be provided when roadways in single-family residential (SFR) developments exceed 600'.

B) **Identification of Fire Lanes.** The fire lanes must be identified by one or more of three methods specified in this standard. RCFPD/FCS may require a specific method of identification or a combination of more than one identification method depending upon the circumstances of the development.

1) Curb Painting. Reference drawing 9-7-D.

a) The curb adjoining a fire lane shall be painted red. The words "FIRE LANE-NO PARKING" shall be clearly stenciled on the top and face of the curb at intervals not exceeding 30 feet. The letters shall be white, 3 ½ " high, and ½"stroke.
b) Every section of curve more than 4 feet in width that adjoins the fire lane must be painted, all curbs exceeding 8 feet shall be stenciled.

2) **Sign Posting.** Reference drawing 9-7-E.

a) "FIRE LANE-NO PARKING" signs shall be installed for the length of the fire lane.
b) The signs shall be installed facing the direction of travel at intervals not exceeding 100'. The spacing may be reduced at the discretion of the FCS plans examiner or inspector.
c) The signs shall be installed 2' inside the curb line or edge of pavement. The signs may be required and/or desired to be installed on walls, fences, gates or other structures.

d) Where the entire roadway width is designated as a fire lane, signs shall be posted on both sides. The signs maybe staggered, facing traffic but the spacing may not exceed 100’ between any two signs on the same side of the roadway.

3) **Pavement Marking.** Reference drawing 9-7-G.

a) The pavement shall be painted with 5” red strips to designate a 26’ wide fire lane. The words “FIRE LANE” shall be stenciled at each end of the fire lane. The letters shall be white, 2’ high, and 3” stroke.

b) Where the fire lane exceeds 150’ but is less than 300’, the words “FIRE LANE” shall be stenciled at both ends of the fire lane and at least once at the midway point.

c) Where the fire lane exceeds 300’, the words “FIRE LANE” shall be stenciled at both ends of the fire lane and every 150’ or less. The stencils must be equally distributed through out the fire lane.

C) Maintenance of Fire Lanes

1) Maintaining the Fire Lane unobstructed shall be the responsibility of the owner of the building, the tenants, employees, visitors and all delivery personnel.

2) Maintenance of Fire Department Access Roadway paving, curb painting, signs, payment striping and stencils shall be the responsibility of the property owner and/or property manager.

3) All violators will be cited in accordance to the Rancho Cucamonga Municipal Code, The California Vehicle Code and RCFPD ordinance.