BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE ORANGE GROVE POWER PLANT PROJECT BY ORANGE GROVE ENERGY, LP	DOCKET NO. 08-AFC-4 (AFC filed 06/20/08)

ORANGE GROVE ENERGY, L.P.'S SUPPLEMENTAL TESTIMONY ON LAND USE, SOIL AND WATER, AND TRAFFIC AND TRANSPORTATION

ORANGE GROVE ENERGY'S SUPPLEMENTAL TESTIMONY OF RICHARD JONES REGARDING LAND USE

Q1 *Mr. Jones, please state your name, address, position and qualifications.*

A1 Richard Jones
Project Manager, Orange Grove Project
J-Power USA Development Co., LTD
821 Good Hope Dr.
Castle Rock, CO 80108

Formal Education:
BS in Marine Engineering from California Maritime Academy

Relevant Experience:
I have 22 years experience in the electric power generation field, including operations, maintenance, plant management, senior management, development and design.

Q2 *Please describe the purpose of your testimony.*

A2 The purpose of my testimony is to respond to the Committee's questions from its February 25, 2009 Notice of Supplemental Evidentiary Hearing regarding the leasing and tolling arrangements for the Orange Grove Energy Project (the "Project"), site access rights via Pala Del Norte Road and the Subdivision Map Act.

Q3 *Will the project site be available to Orange Grove Energy via a tolling agreement, lease agreement, or both?*

A3 Orange Grove Energy, L.P. ("Orange Grove") will enter into a lease for the Project site and a tolling agreement for the sale of the energy and capacity from the Project.

Q4 *With regard to the Committee's questions regarding Pala Del Norte Road, who owns this road?*

A4 As discussed in Orange Grove's Response to Comments by DFI Funding, Inc. (filed January 29, 2009), Pala Del Norte Road is a private road providing access to land owned by several different owners. The portion of Pala Del Norte Road that will be used for access to the project site lies exclusively on land owned by SDG&E and this portion of the road is owned by San Diego Gas and Electric Company (SDG&E). (*See* Orange Grove's Response to Comments by DFI Funding, Inc. at 28; *see also* Exhibit 1 at Figure 1.1-3.)

Q5 *Does Orange Grove Energy have permission to access Pala Del Norte Road?*

A5 Yes. As part of its lease agreement with SDG&E, Orange Grove will hold a license to use the access roads located on adjacent property owned by SDG&E, including Pala Del Norte Road.

Q6 Did Orange Grove request conformation from San Diego County that the lease between SDG&E and Orange Grove is exempt from the requirement to file a parcel map under the Subdivision Map Act?

A6 Yes.

Q7 Is Attachment A to this testimony, a letter from Brian Baca, San Diego County Department of Planning and Land Use, to Stephen Thome, Orange Grove Energy, L.P., dated January 7, 2009, a true and correct copy of San Diego County's response to Orange Grove's request?

A7 Yes.

Q8 Does Attachment A provide an opinion on the application of the parcel map requirement of the Subdivision Map Act?

A8 Yes it does. The letter states Orange Grove's leasing of the project site from SDG&E is exempt from the requirements of the Subdivision Map Act under California Government Code Section 66428(a)(2) and does not need to file a parcel map.

Q9 Mr. Jones, where your testimony includes facts, are those facts true and correct to the best of your knowledge?

A9 Yes.

Q10 Mr. Jones, where your testimony includes opinions, are those opinions based upon your best professional judgment?

A10 Yes.

Richard Michael (Mike) Jones

Dated: 03-09-2009

Executed At: Castle Rock, CO

ATTACHMENT A

LETTER FROM BRIAN BACA, SAN DIEGO COUNTY DEPARTMENT OF PLANNING AND LAND USE, TO STEPHEN THOME, ORANGE GROVE ENERGY, L.P., DATED JANUARY 7, 2009

ERIC GIBSON
DIRECTOR

County of San Diego

DEPARTMENT OF PLANNING AND LAND USE

5201 RUFFIN ROAD, SUITE B, SAN DIEGO, CALIFORNIA 92123-1666
INFORMATION (858) 694-2960
TOLL FREE (800) 411-0017
www.sdcounty.ca.gov/dplu

January 7, 2009

Stephen Thome
Orange Grove Energy, L.P.
Suite 1030
1900 E. Golf Road
Schaumburg, IL 60010

Dear Mr. Thome;

This letter is provided at the request of Orange Grove Energy, L.P., who we understand is undertaking a project located near the intersection of Pala Del Norte Road and Highway 76 in the Pala-Pauma Community Plan area of the unincorporated area of San Diego County (APN 110-072-26). It is hereby confirmed that the 25-year lease of an 8.5-acre portion of land owned by San Diego Gas and Electric Company (SDG&E) to the applicant is exempt from the requirements of the Subdivision Map Act.

The applicant has informed the County of San Diego that SDG&E will lease the site to Orange Grove for a power generation facility, and SDG&E will continue operation of the facility after the end of the lease. As stated by the applicant, Orange Grove will separately finance this project and collaterally assign this lease to its lenders. This letter also confirms that this collateral assignment of the lease by Orange Grove to its lenders and their assignees is exempt from the Subdivision Map Act.

> California Government Code Section 66428(a)(2) provides for this exemption, as follows:
>
> *"....A parcel map shall not be required for....[l]and conveyed to or from a governmental agency, public entity, public utility, or for land conveyed to a*

subsidiary of a public utility for conveyance to that public utility for rights-of-way, unless a showing is made in individual cases, upon substantial evidence, that public policy necessitates a parcel map. For purposes of this subdivision, land conveyed to or from a governmental agency shall include a fee interests, a leasehold interest, an easement, or a license."

The County is not aware of any showing having been made in this individual case, that public policy necessitates a parcel map. Further, the applicant has informed the County that the leasing of utility property is subject to the purview of the California Public Utilities Commission and that SDG&E has already received approval for the lease of the site by the Public Utilities Commission. Accordingly, it is understood that the leasing and financing of the SDG&E land for this project is exempt from the Subdivision Map Act under Section 66428(a)(2) and does not require a parcel map.

Please let me know if you have any questions at (858) 694-3789.

Sincerely,

Brian R. Baca
Chief, Regulatory Planning
Department of Planning and Land Use

cc: Ruth Love, San Diego Gas & Electric Company, 8335 Century Park Court, CP11D, San Diego, CA 92123
Jarrett Ramaiya, Project Manager, Department of Planning and Land Use, M.S. O-650
File

ORANGE GROVE ENERGY'S SUPPLEMENTAL TESTIMONY OF JOSEPH STENGER REGARDING TRAFFIC AND TRANSPORTATION

Q1 *Mr. Stenger, please state your name, address, position and qualifications.*

A1 Joseph Stenger
Project Director
TRC Companies, Inc
2666 Rodman Dr.
Los Osos, CA 93402

Formal Education:
BS in Geology (Earth Sciences) from University of California at Santa Cruz.

Relevant Experience:
I have 23 years of experience in environmental engineering, regulatory compliance and permitting in California. I am a California-licensed Professional Geologist, a California Registered Environmental Assessor, and a Nevada Certified Environmental Manager. My 23 years as an environmental professional includes extensive experience in environmental and regulatory compliance auditing, environmental risk assessment, waste management, hazardous materials, permitting, and remediation for a wide variety of infrastructure and industrial projects, including more than 10 years of experience with power plants and related infrastructure.

Q2 *Please describe the purpose of your testimony.*

A2 The purpose of my testimony is to respond to the Committee's questions regarding traffic and transportation. In its Notice of Supplemental Evidentiary Hearing, the Committee specifically requested the parties to address the duration of pipeline construction, the hours of construction, where or when the flagmen will be needed and the basis for the conclusion that the pipeline construction will have no significant impact on traffic flow.

Q3 *What is the expected duration of the natural gas pipeline construction?*

A3 The natural gas pipeline in its entirety is expected to be constructed over a period of approximately three months. (Exhibit 1 at p. 2-36.) The construction of an approximately 2,000 foot long portion of pipeline that will be located longitudinally within the State Route 76 (SR-76) right-of-way (ROW) and the tap to the existing gas pipeline are the only portions of pipeline construction work expected to require any lane closure or other material disruption in traffic flow. Construction of the approximately 2,000 feet of pipeline in the SR-76 ROW is expected to require approximately 28 workdays with traffic control. The tap to the existing gas pipeline is expected to require approximately 4 workdays with traffic control. Therefore, the duration of traffic controls is estimated at approximately 32 workdays total.

Construction of the two pipeline crossings of SR-76 will not require lane closure or other material disruption in traffic flow, except for the north side of the west crossing which is the eastern terminus of the 2,000 foot longitudinal pipeline segment described above. Both crossings are going to be installed with either directional drilling or jack and bore techniques. Either technique will not require modifications to the road surface or traffic flow during construction and installation of these pipeline crossing locations, other than traffic control for the north side of the west crossing at the terminus of the 2,000 foot longitudinal pipeline segment.

A preliminary schedule for the portions of the pipeline construction work within the SR-76 ROW is attached. The preliminary schedule reflects expected conditions. This schedule could be extended if Caltrans issues restrictions in conjunction with the Encroachment Permit that limit work hours to less than a normal workday.

Q4 *What are the planned hours of pipeline construction?*

A4 For gas pipeline work within the SR-76 ROW, hours of construction work have not been specifically defined. It is expected that Caltrans will dictate work hour restrictions designed to minimize traffic impacts in conjunction with issuance of the encroachment permits. Exhibit 10 at p. 14 acknowledged that Caltrans may dictate work hours in the SR-76 ROW. Orange Grove Energy ("Orange Grove") will be required to comply with any work hour restrictions that may be issued by Caltrans. Orange Grove expects that, at minimum, Caltrans will not allow lane closures between 6 a.m. and 8 a.m. and between 4 p.m. and 6 p.m. Orange Grove is agreeable to committing to this limitation at this time to minimize traffic impacts.

Outside the SR-76 ROW, pipeline construction will occur during normal daytime hours, typically starting at 7 a.m. and ending between 4:30 p.m. and 5:30 p.m. (Exhibit 1 at 6.11-12.)

Q5 *Where and when will the flagmen be needed?*

A5 Draft Traffic Control Plans are attached. Three flaggers will be needed. A flagger will be provided at each end of the construction zone on SR-76 and at the Couser Canyon Road/SR-76 intersection, as shown in the attached draft traffic control plans. Flaggers will be provided whenever there is a lane closure. Lane closures will be less than 500 feet long at any given time, moving along the pipeline construction route as segments of the pipeline are completed.

Closure of a single lane is expected to be needed whenever trenching, pipeline installation, backfilling or horizontal boring is occurring within the ROW, which will constitute most of the work in the ROW. At the end of each work day, the pipeline trench will be backfilled or covered with steel plates in accordance with Caltrans requirements, prior to the lane being reopened.

The final Traffic Control Plans will be subject to approval by Caltrans in conjunction with issuance of the encroachment permit, subject to review and comment by the County of San Diego pursuant to Condition of Certification TRANS-1, and subject to approval by the Commission's Compliance Project Manager pursuant to Condition of Certification TRANS-1. Caltrans will require that the Traffic Control Plan lane closure provisions comply with Caltrans 2006 Standard Plan T13 (Encroachment Permits, Manual for Encroachment Permits on California State Highways, California Department of Transportation, Appendix H, http://www.dot.ca.gov/hq/traffops/developserv/permits/encroachment_permits_manual/index.html), which will require the three flaggers as specified above.

Q6 What is the basis for your conclusion that pipeline construction will not have a significant impact on traffic flow?

A6 With regard to traffic flow, a project may have a significant impact on the environment if the project would:

- cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ration on roads, or congestion at intersections).
- exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.
- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Result in inadequate parking capacity.
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).
  (14 C.C.R. § 15000 et seq., Appendix G.)

The traffic increases that will occur due to project construction, including workers and deliveries for construction of the gas pipeline, will be short term (Exhibit 1 at 2-36 and 6.11-15; *see also* A3 above). Furthermore, the increased vehicle counts associated with construction of the pipeline were considered in the total project traffic counts analyzed in Orange Grove's Application for Certification, the Staff Assessment, and the Presiding Members Proposed Decision (PMPD), and have been determined to be less than significant and not likely to result in a significant level of service impact. (Exhibit 1 at 6.11-11 through 6.11-14, 6.11-24, 6.11-25, 6.11-28; Exhibit 200 at 4.10-5, 4.10-6, 4.10-7; PMPD at 373.) Based on these factors, pipeline construction will not cause an increase in vehicle counts which is substantial in relation to the existing traffic load and capacity of the street system, and will not degrade the level of service below any established level of service standard.

In response to the PMPD's request for further testimony on the potential for a significant traffic flow impact from gas pipeline construction, additional analysis has been performed by Orange Grove to assess the effectiveness of the Traffic Control Plans that

will be implemented for pipeline construction in the SR-76 ROW. As stated in A5, above, draft Traffic Control Plans are attached. The proposed plans would maintain a minimum of one lane open at all times, and access to all intersections would be maintained. Lane closure will be less than 500 feet long at any given time, moving along the pipeline construction route as segments of the pipeline are completed. Orange Grove commissioned an evaluation of the proposed Traffic Management Plans to demonstrate that the pipeline construction work will not result in unacceptable impacts to traffic flow. A summary of the methodologies and results of this evaluation are attached. The results indicate that with the proposed Traffic Management Plans in place, the average vehicle delay from the proposed Traffic Management Plans is estimated to be approximately 37.9 seconds. This is the average time it will take to travel through the construction area (including average stop time at the flaggers), minus the time it would take to travel the same road segment without the construction project. No methodology currently exists to directly relate the delay at the proposed traffic controls to the level of service. However, the proposed traffic controls will operate most closely to a signalized intersection. Based on signalized intersection criteria, a delay of 37.9 seconds per vehicle equates to a LOS "D". This conforms with the San Diego Association of Governments' recommended minimum level of service for County roadways. (Exhibit 1 at 6.11-10.) Caltrans endeavors to maintain a target level of service at the transition between LOS "C" and LOS "D" on State Highway facilities, or if an existing State highway facility is operating at less than the appropriate target level of service, the existing measure of effectiveness should be maintained. Exhibit 1 at p. 6.11-13 documents the Existing (2009) LOS for the segment of SR 76 between Rice Canyon Road and Pala Del Norte Road is expected to operate at a LOS "D" in the weekday p.m. peak hour. Since the proposed traffic controls will not change the existing level of service of the roadway, this does not constitute a significant effect on the roadway.

The Traffic Management Plan will mitigate the potential short-term hazards of pipeline construction in the SR-76 ROW. The Traffic Management Plan will comply with Caltrans specifications, including Caltrans 2006 Standard Plan T13 (Encroachment Permits, Manual for Encroachment Permits on California State Highways, California Department of Transportation, Appendix H, http://www.dot.ca.gov/hq/traffops/developserv/permits/encroachment_permits_manual/index.html) and the Caltrans California Manual on Uniform Traffic Control Devices. The Traffic Management Plan will include signage and flaggers to warn drivers and to reduce speeds and to safely direct traffic through the construction area in accordance with Caltrans state-wide standardized traffic control engineering practices. Considering the proposed Traffic Management Plans, the short term construction work will not substantially increase the hazard of any design feature.

Gas pipeline construction will not affect any established parking. The staff analysis documents that land uses along the pipeline corridor are characterized by open space, a transportation corridor, agricultural properties, and habitat enhancement associated with the Gregory Canyon landfill. (Exhibit 200 at p. 4.5-5.) Exhibit 1 at Figure 2.2-4 provides an aerial photograph demonstrating that the portion of the gas pipeline that is within the SR-76 ROW is surrounded by agricultural land will little development to

generate any parking demand. Furthermore, analyses by Orange Grove, Staff and the PMPD have concluded that there is adequate parking for project construction. (Exhibit 200 at p. 4.10-5; Exhibit 1 at p. 6.11-18; PMPD at p. 367.) Therefore, pipeline construction will not result in inadequate parking capacity that could otherwise impede traffic flow.

There is no evidence that pipeline construction would conflict with any adopted policy, plan or program supporting alternative transportation. Traffic and transportation related LORS applicable to the project have been evaluated, and the Project can meet the requirements of identified LORS. (Exhibit 1 at p. 6.11-30, 6.11-31; Exhibit 200 at p.4.10-2; PMPD Appendix A.) At least one lane and access to intersections will be maintained during pipeline construction work.

Based on these considerations, impacts of gas pipeline construction on traffic flow will be less than significant.

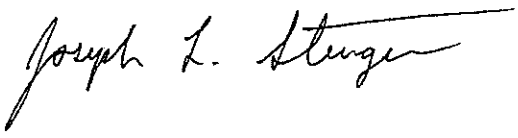
Q7 *Mr. Stenger, where your testimony includes facts, are those facts true and correct to the best of your knowledge?*

A7 Yes.

Q8 *Mr. Stenger, where your testimony include opinions, are those opinions based upon your best professional judgment?*

A8 Yes.

Joseph Stenger



Dated: _March 9, 2009_____

Executed At: _Los Osos, CA____

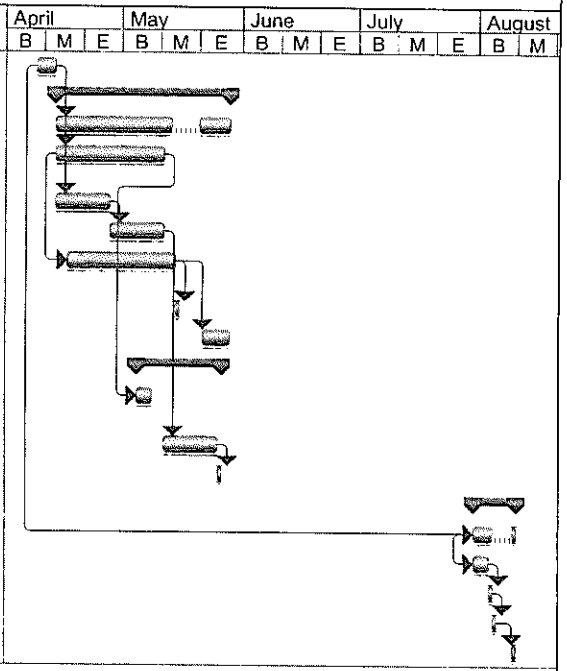
ATTACHMENT A

Orange Grove Project Preliminary Gas Pipeline Construction Schedule for SR-76 ROW

TRC

ORANGE GROVE PROJECT
PRELIMINARY GAS PIPELINE CONSTRUCTION SCHEDULE
FOR SR-76 ROW

ID	Task Name	Duration	Start	Finish	Predecessors
1	Contractor Mobilization	3 days	Thu 4/9/09	Mon 4/13/09	
2	**Longitudinal installation - 2000 ft**	**33 days**	**Tue 4/14/09**	**Thu 5/28/09**	
3	Installation/ Maintain Traffic Control on SR-76	28 days	Tue 4/14/09	Thu 5/28/09	1
4	Installation/ Maintain Temporary Sediment Controls	20 days	Tue 4/14/09	Mon 5/11/09	1
5	Bore under drainage	10 days	Tue 4/14/09	Mon 4/27/09	1
6	Bore under SR 76	10 days	Tue 4/28/09	Mon 5/11/09	5
7	Excavation/ Installation of 10-inch gas line	20 days	Fri 4/17/09	Thu 5/14/09	4SS+3 days
8	Install Permanent Erosion Controls	1 day	Fri 5/15/09	Fri 5/15/09	7
9	AC repair/ installation	5 days	Fri 5/22/09	Thu 5/28/09	7FS+5 days
10	**SR 76 Crossing - Gregory Canyon Property**	**16 days**	**Tue 5/5/09**	**Tue 5/26/09**	
11	Installation/ Maintain Temporary Sediment Controls	4 days	Tue 5/5/09	Fri 5/8/09	4FS-5 days
12	Bore under SR-76 (at Gregory Canyon Property)	10 days	Tue 5/12/09	Mon 5/25/09	6
13	Install Permanent Erosion Controls	1 day	Tue 5/26/09	Tue 5/26/09	12
14	**SDGE Connection**	**7 days**	**Fri 7/31/09**	**Mon 8/10/09**	
15	Installation/ Maintain Traffic Control on SR-76	4 days	Fri 7/31/09	Mon 8/10/09	1SS+80 days
16	Excavate and expose pipeline	2 days	Fri 7/31/09	Mon 8/3/09	15SS
17	Install valve and connection	1 day	Tue 8/4/09	Tue 8/4/09	16
18	Backfill/Compact	1 day	Wed 8/5/09	Wed 8/5/09	17
19	AC repair/ installation	1 day	Mon 8/10/09	Mon 8/10/09	18FS+2 days



Project: Orange Grove - 10 - Inch Gas
Date: Sun 3/8/09

Task — Milestone — External Tasks
Split — Summary — External Milestone
Progress — Project Summary — Deadline

ATTACHMENT B

Vehicle Delay Calculations for the Proposed Traffic Control Plan for the Orange Grove Gas Pipeline

TPG
CONSULTING
INCORPORATED

Exceeding expectations in
Engineering, Planning & Transportation

March 9, 2009

Mr. Joe Stenger
TRC Solutions, Inc.
2666 Rodman Drive
Los Osos, CA 93402

Re: Vehicle Delay Calculations for the proposed Traffic Control Plan for the Orange Grove Gas Pipeline

Dear Mr. Stenger:

Pursuant to your request, TPG Consulting, Inc. performed an evaluation to determine the magnitude of traffic delay that should be expected due to construction of an approximately 2,000 foot long segment of gas pipeline in the right-of-way for State Route 76 (SR-76). The pipeline construction is proposed as part of the Orange Grove Project, described in the Application for Certification (AFC) dated June 2008.

Average vehicle delay from the proposed construction of the Orange Grove gas pipeline was calculated using information from the traffic control plan and typical vehicle travel assumptions. The proposed construction area is along the north side of SR-76, just east of Rice Canyon Road. The construction will occur in segments of approximately 500 feet or less. Our evaluations are based on the approximate maximum construction zone length of 500 feet and construction occuring between the hours of 8:00 AM and 4:00 PM. During this time, the westbound (north-side) lane of SR-76 will be closed and traffic will be manually controlled by construction personnel at flag stations. If Caltrans requires nighttime construction, delays would be less than described herein, provided that construction does not occur during peak traffic hours of 6:00 AM to 8:00 AM and 4:00 PM to 6:00 PM.

In order to calculate the projected delay to motorists, the following data/assumptions were used:

- Traffic counts taken along the study segment by TPG on 3/20/07 for the project traffic impact analysis presented in the AFC.
- Assumed travel speeds: 25 mph with construction, 45 mph without construction
- Assumed acceleration/deceleration rate: 10 ft/sec^2
- Assumed vehicle lengths: 25 feet for cars, 75 feet for heavy vehicles

The traffic counts taken on 3/20/07 include heavy vehicle percentages which are approximately 10% for the target roadway segment. In order to prepare the analysis, the peak hour (3:00 PM – 4:00 PM) traffic within the construction time period (8:00 AM – 4:00 PM) was used to present the worst-case delay. This peak hour represents approximately 6% of the total daily traffic on this segment of SR-76. The average daily traffic count for this segment is attached.

Visalia Office
222 N. Garden Street,
Suite 100
Visalia, CA 93291
Tel 559.739.8072
Fax 559.739.8377

San Luis Obispo Office
560 Higuera Street,
Suite E
San Luis Obispo, CA 93401
Tel 805.547.9498
Fax 805.547.9596

The projected construction delay was calculated using the difference in travel time for construction conditions and non-construction conditions through the segment affected by the construction zone. This segment starts at the braking distance for a vehicle to stop at the flag station and ends where vehicles are expected to have accelerated back to normal travel speed. Travel time for the construction scenario includes deceleration, stopped delay, travel through the construction zone at 25 mph, and acceleration to 45 mph beyond the construction zone. Each component was added together to develop the total travel time through the construction zone.

Based on the calculations shown in the attached worksheet, travel time through the construction zone is approximately 52.8 seconds per vehicle. The time to travel the same distance at normal operating speeds is 14.9 seconds. The difference between the two (2) travel times is the projected vehicle delay caused by construction. Therefore, the projected delay is 37.9 seconds per vehicle for the proposed construction. This is the average vehicle delay during the 3:00 PM to 4:00 PM peak traffic hour of the construction day. As shown in the attached worksheet, an average of 6.7 vehicles will queue at the flagger for each stop cycle. The average delay of 37.9 seconds represents the middle car of the queue. The first car in the queue will be stopped the longest and will be delayed an additional approximately 20.5 seconds (58.4 seconds total delay), and the last car in the queue will be delayed approximately 20.5 seconds less (17.4 seconds total delay).

The intersection of Rice Canyon Road at SR-76 is located on the west end of the proposed construction zone. Based on the analysis presented in the Orange Grove Project AFC (Section 6.11), this intersection is currently and projected to operate above the LOS standards for both Caltrans and San Diego County during the AM and PM peak hours (6:00 AM – 8:00 AM and 4:00 PM – 6:00 PM) analyzed in the AFC. The proposed construction traffic control will affect the operations of this intersection outside of the previously analyzed peak hours. Traffic during the proposed construction time period is lower than the analyzed peak hours for SR-76 and is projected to be much lower for Rice Canyon Road.

The operation of the proposed construction traffic control will increase platooning to SR-76 where minimal platooning currently occurs. The increase of platooning will cause an increase in gaps in major street traffic which will allow larger opportunities for access to SR-76. This may cause additional delay to Rice Canyon Road movements when platoons develop. However, the longer gaps created by the increased platooning will create more opportunities for movement at this intersection than delay. Consequently, the potential increase in platooning will not significantly affect traffic flow.

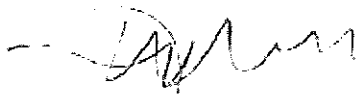
Conclusion

Based on the analysis presented above, the traffic during the peak hour of the construction time period is projected to operate at 37.9 seconds of delay per vehicle on average. No methodology currently exists to directly relate delay at the proposed traffic control to LOS. However, the proposed traffic control operates most closely to a signalized intersection. Based on signalized intersection criteria, a delay of 37.9 seconds per vehicle equates to a LOS "D". Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State Highway facilities, or if an existing State highway facility is operating at less than the appropriate target LOS, the existing measure of effectiveness (MOE) should be maintained. As shown in the Orange Grove Project AFC, the Existing (2009) LOS for the segment of SR-76 between Rice Canyon Road and Pala Del Norte Road is operating at a LOS "D" in the weekday PM peak hour.

Since the calculated LOS for the proposed traffic control will not change the existing LOS of the roadway, this does not constitute a significant effect on the roadway. In addition to maintaining the LOS, the proposed construction impacts are short-term, both in context of daily impacts and overall (long-term) impacts. The implementation of the traffic control plan is in and of itself mitigation to the potential traffic impacts brought about by the construction.

Thank you for the opportunity to provide this information. If you have any questions regarding this information, please feel free to contact me at whutcheson@tpgconsulting.net or 559/739-8072.

Sincerely,



Wally Hutcheson, TE (TR2532)
Associate Engineer

Attachment: SR-76 Traffic Count
Travel Time – Delay Calculations

Projected Traffic Control Delay Calculations for SR 76

Travel Speed	
• Construction	25 mph
• No Construction	45 mph
Average Arrival[1]	9.8 veh/min
Truck %	10 %
Car Length	25 ft
Truck Length	75 ft
Accel/Decel Rate	10 ft/s^2
Length	
• Construction Zone	500 ft
• Clear Zone (taper)	120 ft

(1) Time for first vehicle stopped to travel through construction area	
• from stop to 45mph	25.6 sec
(2) Average number of vehicles stopped by flagger for each cycle	6.7 veh
(3) Time between first and last vehicle traveling through zone	5.5 sec
(4) Total travel time for one direction	
• sum of (1) and (3)	31.1 sec
(5) Time between last vehicle in queue and flagger to reverse direction	10.0 sec
(6) Stopped time for first vehicle in opposing direction queue	
• sum of (4) and (5)	41.1 sec
(7) Average stopped time for the middle (fourth) vehicle of queue	
• average of (6))	20.5 sec
(8) Deceleration time	
• from 45 mph to stop	6.6 sec
Total Travel Time with Construction	
• sum of (1), (7), and (8)	**52.8 sec**

Total Travel Time without Construction	**14.9 sec**

Average Delay[2]	**37.9 sec**

[1] Average arrival per direction for 3-4 PM. As shown on attached traffic count

[2] Average Delay is travel time w/ construction minus w/o construction

SR 76 between Rice Canyon Road and Pala Del Norte Road

Hour	Total	4% 8% 12%	Daily %
0:00	205		1.1%
1:00	123		0.6%
2:00	125		0.7%
3:00	189		1.0%
4:00	339		1.8%
5:00	764		4.0%
6:00	1,390		7.3%
7:00	1,269		6.6%
8:00	999		5.2%
9:00	857		4.5%
10:00	804		4.2%
11:00	806		4.2%
12:00	826		4.3%
13:00	854		4.5%
14:00	898		4.7%
15:00	1,170		6.1%
16:00	1,924		10.0%
17:00	1,962		10.2%
18:00	1,099		5.7%
19:00	707		3.7%
20:00	617		3.2%
21:00	540		2.8%
22:00	395		2.1%
23:00	283		1.5%
	19,145		**100%**

ATTACHMENT C

Traffic Control Plans for the Orange Grove Gas Pipeline

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL PLANS FOR THE:
ORANGE GROVE GAS PIPELINE
SEGA PROJECT NO. 07-0098

SHEET INDEX

DRAWING	DRAWINGS TITLE	SHEET NO.
SHEET 1	TITLE SHEET	T-TITLE
SHEET 2	TRAFFIC MANAGEMENT PLAN	T-00
SHEET 3	TRAFFIC CONTROL	T-01
SHEET 4	TRAFFIC CONTROL	T-02

PROJECT TEAM:

OWNERS/PERMITTEES:

ORANGE GROVE ENERGY, L.P.
1200 EAST GOLF RD. SUITE 1030
SCHAUMBURG IL 60173
STEVE THOME
PHONE: 847-908-2800

CONTRACTOR

INDUSTRIAL CONSTRUCTION CO., INC
10060 BRECKSVILLE ROAD
BRECKSVILLE, OH 44141
PETE KERR
PHONE: 440-746-9200

ENGINEERING:

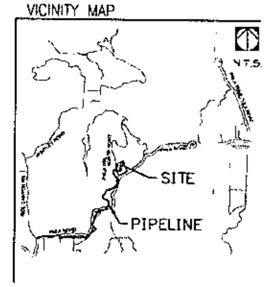
SEGA, INC.
16041 FOSTER, P.O. BOX 1000
STILWELL, KS 66085-1000
JOE BONDANK
PHONE: 913-681-2881

Caltrans

TRAFFIC CONTROL PLAN GENERAL NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR PERFORMING WORK ON A PUBLIC STREET TO INSTALL AND MAINTAIN THE TRAFFIC CONTROL DEVICES AS SHOWN HEREIN, AS WELL AS ANY SUCH ADDITIONAL TRAFFIC CONTROL DEVICES AS MAY WELL BE REQUIRED TO INSURE THE SAFE MOVEMENT OF TRAFFIC AND PEDESTRIANS THROUGH OR AROUND THE WORK AREA AND PROVIDE MAXIMUM PROTECTION AND SAFETY TO CONSTRUCTION WORKERS.
2. ALL DELINEATORS SHALL BE EQUIPPED WITH REFLECTIVE BAND AT NIGHT TIME.
3. THE CONTRACTOR SHALL NOTIFY CALTRANS AT LEAST FIVE WORKING DAYS IN ADVANCE OF IMPLEMENTING ANY CONSTRUCTION DETOUR.
4. ALL SIGNS, DELINEATORS, BARRICADES, ETC. AND THEIR INSTALLATION SHALL CONFORM TO THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS LATEST EDITION AND CALIFORNIA DEPARTMENT OF TRANSPORTATION "MANUAL OF TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE WORK ZONES" (LATEST EDITION), AND THE WORK AREA TRAFFIC CONTROL HANDBOOK (LATEST EDITION).
5. CALTRANS RESERVES THE RIGHT TO OBSERVE THESE TRAFFIC CONTROL PLANS IN USE TO MAKE ANY NECESSARY CHANGES AS FIELD CONDITIONS WARRANT. ANY CHANGES SHALL SUPERSEDE THESE PLANS. EXACT LOCATION OF ALL EQUIPMENT AND ALL TRAFFIC CONTROL DEVICES SHALL BE DETERMINED BY THE ENGINEER.
6. ALL TRAFFIC CONTROL DEVICES, STRIPES, MARKINGS, LEGENDS, AND RAISED PAVEMENT MARKERS SHALL CONFORM TO CALTRANS TRAFFIC MANUAL, MAINTENANCE MANUAL, STANDARD PLANS AND STANDARD SPECIFICATIONS (MOST RECENT EDITION).
7. ALL TRAFFIC CONTROL DEVICES SHALL BE KEPT IN THEIR PROPER POSITION AT ALL TIMES, AND SHALL BE REPAIRED, REPLACED, OR CLEANED AS NECESSARY TO PRESERVE THEIR APPEARANCE AND CONTINUITY.
8. ALL TRAFFIC LANES SHALL HAVE A MINIMUM OF 5 FEET CLEARANCE FROM OPEN EXCAVATIONS AND A MINIMUM OF 2 FEET FROM VERTICAL OBSTRUCTIONS.
9. CONTRACTOR SHALL PROVIDE FLAGGERS AS DEEMED NECESSARY BY ENGINEER.
10. CONTRACTOR SHALL NOTIFY ALL AFFECTED RESIDENTS AND BUSINESSES FIVE WORKING DAYS PRIOR TO CONSTRUCTION.
11. ALL ADVANCED WARNING SIGNS SHALL BE EQUIPPED WITH FLAGS.
12. TRAFFIC SIGNALS SHALL REMAIN IN OPERATION AT ALL TIMES. SIGNAL APPROVED BY CALTRANS.
13. PLACE ADDITIONAL "LANE CLOSED" SIGNS ON TYPE II BARRICADES AT 150 FOOT INTERVALS THROUGHOUT EXTENDED WORK AREAS IN EACH LANE THAT IS CLOSED. INSTALL "OPEN TRENCH" SIGNS WHEREVER AN OPEN EXCAVATION AREA EXISTS ADJACENT TO THE TRAVELED WAY.
14. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED FOLLOWING COMPLETION OF EACH CONSTRUCTION STAGE AND THE PERMANENT TRAFFIC CONTROL DEVICES SHALL BE RESTORED BY THE CONTRACTOR UPON COMPLETION OF PROJECT.
15. CONTRACTOR SHALL COVER ALL EXISTING SPEED LIMIT SIGNS AND REPLACE WITH A 25 MPH ROAD WORK SPEED LIMIT SIGN DURING CONSTRUCTION.
16. CONTRACTOR SHALL REPLACE/REPAIR ALL DAMAGE STRIPING WITH TEMPORARY STRIPING OR RAISED PAVEMENT MARKERS AT END OF EACH WORKING DAY.
17. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENT OF THE AMERICAN DISABILITY ACT AS RELATED TO PEDESTRIAN ACCESS AND SHALL MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES PER ADA REQUIREMENTS. SIDEWALK CLOSURE/DETOUR SHALL COMPLY WITH THE WATCH STANDARDS.
18. CONTRACTOR SHALL COVER OR REMOVE ALL CONFLICTING SIGNS.
19. CONTRACTOR SHALL POST "SYMBOL" UNEVEN LANES, "STEEL PLATES AHEAD" OR "BUMP" SIGN, FOR PAVEMENT SURFACE DISRUPTION OF 1/2 INCH OR GREATER. PAVEMENT DISRUPTIONS OF 1 INCH OR GREATER SHALL HAVE BEVELED EDGE OF FOUR (4) HORIZONTAL TO ONE (1) VERTICAL.
20. CONTRACTOR SHALL INSTALL "CAUTION STEEL PLATES AHEAD" AND/OR "ROUGH ROAD" SIGNS IN ADVANCE OF STEEL PLATE BRIDGING.

VICINITY MAP



REV.	DATE	DESCRIPTION	DWN	CHK
0	11-12-08	ISSUED FOR CALTRANS ENCROACHMENT PERMIT	BCG	MJB

CALTRANS ENCROACHMENT PERMIT NO. ______
APPROVED BY ______ DATE ______

Sealed Original Signature in Blue Ink
THOMAS F. HEAUSLER
C040381
Exp. 3-31-09
CIVIL
STATE OF CALIFORNIA

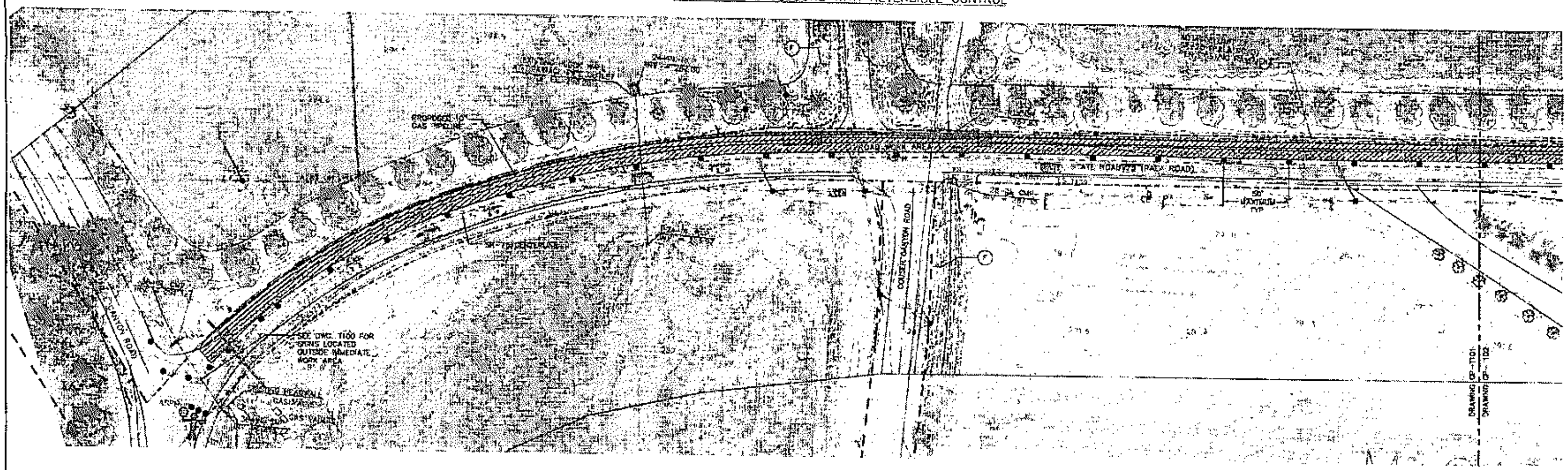
Sega ®
Engineers – Architects – Technicians
Design – Construction – Field Service
16041 Foster
P.O. Box 1000
Stilwell, Kansas 66085-1000

ORANGE GROVE ENERGY L.P.
Schaumburg, IL

ORANGE GROVE GAS PIPELINE
TITLE SHEET

DESIGN BY: J. LANGEL	CHECKED BY: T. HEAUSLER
DRAWN BY: T. OSTERTAG	DATE: 6-27-08
CLIENT I.D. ICC00101	SEGA PROJECT NO. 07-201
CADD FILE NAME: 07201-T-TITLE.cwg	
DRAWING NO. T-TITLE	REV. 0

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL



(H) TRAFFIC CONTROL

SCALE IN FEET (0, 40, 80)

TABLE 1

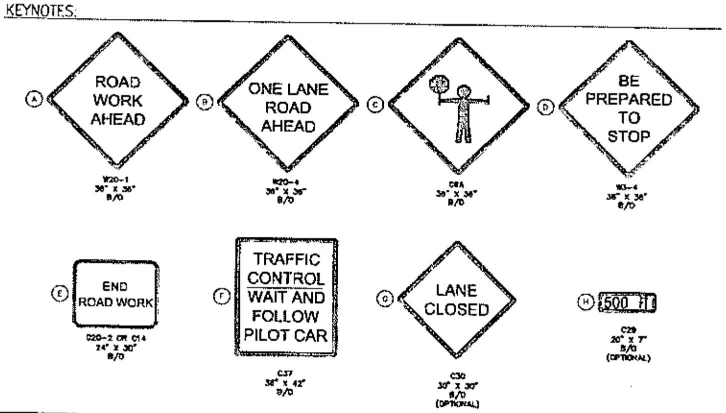
APPROACH SPEED	MINIMUM D	DOWNGRADE MINIMUM D *		
		-3%	-6%	-9%
MPH	FT	FT	FT	FT
25 AND BELOW	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	448	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785

* USE ON SUSTAINED DOWNGRADE STEEPER THAN -3 PERCENT AND LONGER THAN 1 MILE

TRAFFIC CONTROL LEGEND:

- TRAFFIC CONE
- PROPOSED WORK ZONE
- TEMPORARY TRAFFIC CONTROL SIGN
- CENTER LINE
- FLAGGER
- DIRECTION OF TRAVEL
- PORTABLE FLASHING BEACON
- EXISTING SIGNS

KEYNOTES:



TRAFFIC NOTES:

1. WHERE APPROACH SPEEDS ARE LOW, ADVANCE WARNING SIGNS MAY BE PLACED AT 300' SPACING, AND CLOSER IN URBAN AREAS.
2. EACH ADVANCE WARNING SIGN IN EACH DIRECTION OF TRAVEL SHALL BE EQUIPPED WITH AT LEAST TWO FLAGS FOR DAYTIME CLOSURE. EACH FLAG SHALL BE AT LEAST 16" X 16" IN SIZE AND SHALL BE ORANGE OR FLUORESCENT RED-ORANGE IN COLOR. FLASHING BEACONS SHALL BE PLACED AT THE LOCATIONS INDICATE FOR LANE CLOSURE DURING HOURS OF DARKNESS.
3. A C14 (CA) "END ROAD WORK" SIGN, AS APPROPRIATE SHALL BE PLACED AT THE END OF THE LANE CONTROL UNLESS THE END OF WORK AREA IS OBVIOUS, OR ENDS WITHIN A LARGER PROJECT'S LIMITS.
4. IF THE W20-1 SIGN WOULD FOLLOW WITHIN 2000' OF A STATIONARY W20-1 C11 (CA) "ROAD WORK NEXT 0.5 MILES", USE A W20-4 SIGN FOR THE FIRST ADVANCE WARNING SIGN.
5. ALL CONES USED FOR LANE CLOSURES DURING THE HOURS OF DARKNESS SHALL BE FITTED WITH RETROREFLECTIVE BONDS (OR SLEEVES) AS SPECIFIED IN THE SPECIFICATIONS.
6. PORTABLE DELINEATORS, PLACED AT ONE-HALF THE SPACING INDICATED FOR TRAFFIC CONES, MAY BE USED INSTEAD OF CONES FOR DAYTIME CLOSURES ONLY.
7. ADDITIONAL ADVANCE FLAGGERS MAY BE REQUIRED. FLAGGER SHOULD STAND IN A CONSPICUOUS PLACE, BE VISIBLE TO APPROACHING TRAFFIC AS WELL AS APPROACHING VEHICLES AFTER THE FIRST VEHICLE HAS STOPPED. DURING THE HOURS OF DARKNESS, THE FLAGGING-STATION AND FLAGGER SHALL BE ILLUMINATED AND CLEARLY VISIBLE TO APPROACHING TRAFFIC. THE ILLUMINATION FOOTPRINT OF THE LIGHTING ON THE GROUND SHALL BE AT LEAST 20' IN DIAMETER. PLACE A MINIMUM OF FOUR CONES AT 50' INTERVALS IN ADVANCE OF FLAGGER STATION AS SHOWN.
8. PLACE C30 (CA) "LANE CLOSED" SIGN AT 500' TO 1000' INTERVALS THROUGHOUT EXTENDED WORK AREAS. THEY ARE OPTIONAL IF THE WORK AREA IS VISIBLE FROM THE FLAGGER STATION.
9. WHEN A PILOT CAR IS USED, PLACE A C37 (CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" SIGN AT ALL INTERSECTIONS WITHIN TRAFFIC CONTROL AREA. SIGNS SHALL BE CLEAN AND VISIBLE AT ALL TIMES.
10. AN OPTIONAL C29 (CA) SIGN MAY BE PLACED BELOW THE C9A (CA) SIGN.
11. TRAFFIC CONES OR BARRICADES MAY BE PLACED ON THE OPTIONAL TAPER AS SHOWN, BARRICADES SHALL BE TYPE I, II, OR III.
12. LONGITUDINAL BUFFER ZONE 250' MINIMUM.
13. TEMPORARY SIGNS ARE TO BE POSTED EVERY 300' FROM THE END OF THE WORK ZONE IN EVERY DIRECTION OF APPROACHABLE TRAFFIC. PLACE W3-4 FOR THE FIRST ADVANCE WARNING SIGN, A MINIMUM OF 300' FROM THE END OF THE WORK ZONE. PLACE THE C9A SIGN BACK 600' BACK FROM THE FLAGGER. PLACE THE W20-4 AND W20-1 TEMPORARY WORK SIGNS 900' AND 1,200' BACK FROM THE END OF WORK ZONE CONSECUTIVELY. SEE DRAWING T100 - TRAFFIC MANAGEMENT PLAN.
14. TRAFFIC CONES PLACED AT A MAXIMUM OF 50' INTERVALS.

SPECIAL TRAFFIC REQUIREMENTS

1. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CALIFORNIA MUTCD, MOST RECENT EDITION WITH REVISIONS) DURING CONSTRUCTION.
2. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING AND MAINTAINING PAVEMENT MARKINGS WHICH INCLUDE CENTERLINE, BARRIER LINES, LANE LINES AND RAISED PAVEMENT MARKINGS.
3. THIS TRAFFIC CONTROL PLAN REPRESENTS THE MINIMUM REQUIRED BY TRAFFIC CONDITIONS IN THE FIELD. CONTRACTOR TO MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES.
4. CONTRACTOR SHALL COVER OPEN PAVEMENT EXCAVATIONS WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS, AND OPEN LANES FOR NORMAL TRAFFIC FLOW.
5. LANE CLOSURE TIME(S) SHALL BE SPECIFIED ON THE LANE CLOSURE PERMIT.
6. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, THEY SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT AN ALTERNATE SET OF PLANS* TO PLAN REVIEW SECTION FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION. *THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SEALED BY A LICENSED ENGINEER IN A STATE OF CALIFORNIA. PLANS WILL BECOME A PART OF THE CONTRACT DRAWINGS.
7. APPROVED COPIES OF TRAFFIC CONTROL PLANS AND LANE CLOSURE PERMITS SHALL BE AVAILABLE FOR INSPECTION AT JOB SITE AT ALL TIMES. CONTRACTOR MUST SECURE "LANE CLOSURE PERMITS" FROM CALTRAN'S TRAFFIC MANAGEMENT AND MAINTENANCE BRANCH BEFORE CLOSING A LANE/SIDEWALK. THE REQUEST MUST BE MADE AT LEAST THREE BUSINESS DAYS PRIOR TO THE DATE FOR WHICH THE CLOSURE IS SOUGHT. NOTE THAT WORKING HOURS MAY BE RESTRICTED OR THE REQUEST MAY BE DENIED.
8. LANE SHALL BE KEPT CLOSED DURING PAVEMENT SURFACE RESTORATION AND OPENED ONLY AFTER PAVEMENT IS RESTORED COMPLETELY.
9. CONSTRUCTION/ WORK ZONES LENGTHS WILL VARY (APPROX. 500'), ADJUST SIGNS ACCORDINGLY. TOTAL WORK ZONE IS SHOWN FOR CLARIFICATION.

REV	DATE	DESCRIPTION	DRN	CHK
0	11-12-08	ISSUED FOR CALTRANS ENCROACHMENT PERMIT	BOS	MJB

CALTRANS ENCROACHMENT PERMIT NO. ______
APPROVED BY ______ DATE ______

Sealed Only When Signed In Blue Ink

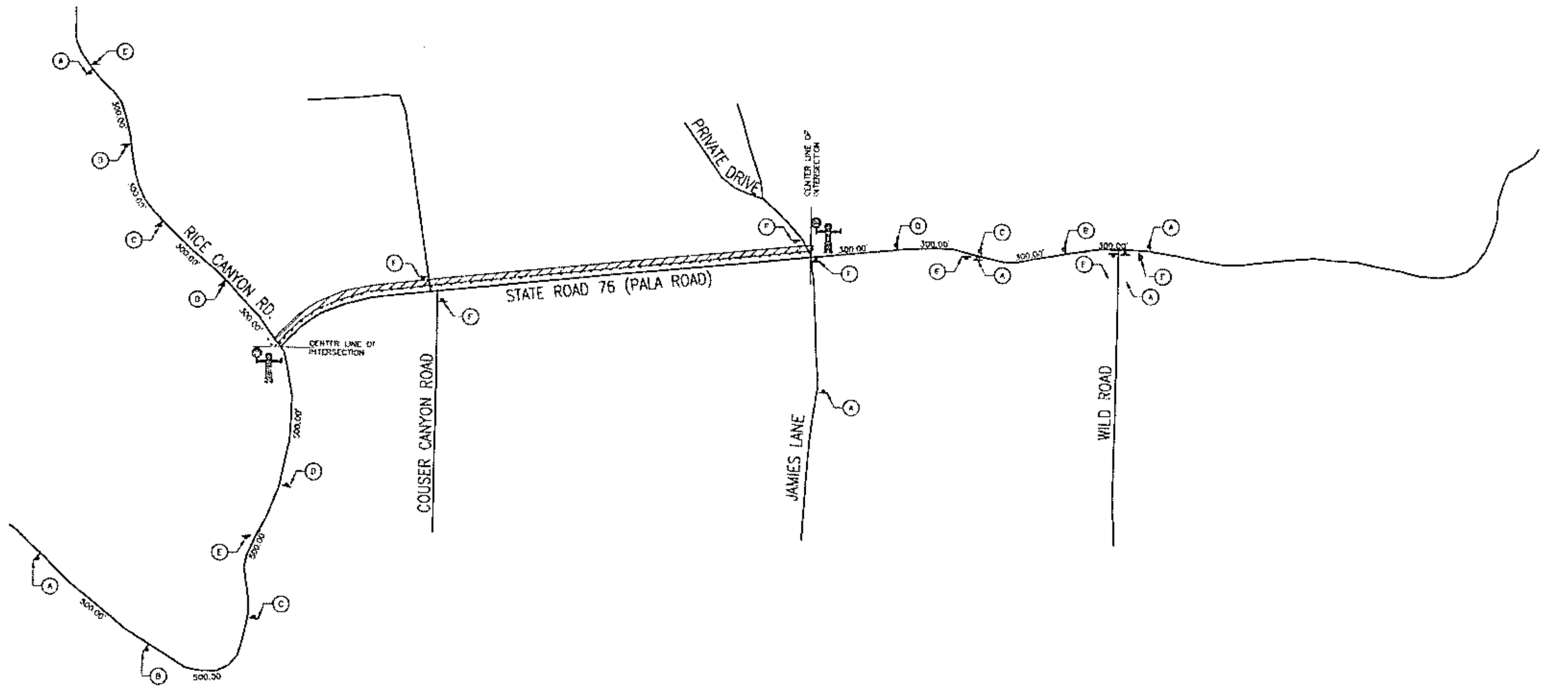
Sega ®
Engineers – Architects – Technicians
Design – Construction – Field Service
16041 Foster
P.O. Box 1000
Stilwell, Kansas 66085-1000

ORANGE GROVE ENERGY L.P.
Schaumburg, IL

ORANGE GROVE GAS PIPELINE
TRAFFIC CONTROL

DESIGN BY	CHECKED BY
J. LANGEL	T. HEAUSLER
DRAWN BY	DATE
T. OSTERTAG	6-20-08
CLIENT I.D.	SEGA PROJECT NO.
ICC00101	07-201
CADD FILE NAME 07201-GP-T101.dwg	
DRAWING NO. GP-T101	REV. 0

REV	DATE	DESCRIPTION	DWN	CHK
0	11-12-08	ISSUED FOR CALTRANS ENCROACHMENT PERMIT	BCG	MJR



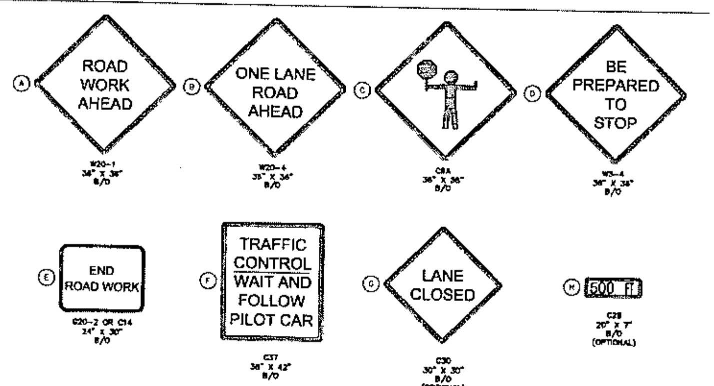
TRAFFIC MANAGEMENT PLAN

PLAN NORTH IS 29°55'44" CCW OF TRUE NORTH

200 0 200 400

SCALE IN FEET

KEYNOTES:



TRAFFIC CONTROL LEGEND:

- TRAFFIC CONE
- PROPOSED WORK ZONE
- TEMPORARY TRAFFIC CONTROL SIGN
- CENTER LINE
- FLAGGER
- DIRECTION OF TRAVEL
- PORTABLE FLASHING BEACON
- EXISTING SIGNS

NOTES:

1. ALL TRAFFIC CONTROL SIGNS, CONES, BARRICADES, ETC. SHALL BE PER CALTRANS AND THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
2. SIGN MOUNTING SHALL BE PER FIGURE 6F-2 METHODS OF MOUNTING SIGNS OTHER THAN POSTS, CALIFORNIA MUTCD.
3. TRAFFIC CONTROL WILL BE PER SECTION AND FIGURE 6H-11, LANE CLOSURE ON TWO-LANE ROAD WITH LOW TRAFFIC VOLUMES OR PER CALTRANS STANDARD PLAN T13.
4. TRAFFIC CONTROL CONE TAPER LENGTH SHALL BE EQUAL TO 1/3 L SEE TABLE 1.
5. THE CALTRANS RIGHT-OF-WAY FOR STATE ROAD 76 IS APPROXIMATELY 20 FEET FROM ROAD CENTER LINE

TABLE 1

SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
35 MPH	$L = \frac{15(35)^2}{60} = 307'$

NOTES:
L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED LIMIT IN MILES PER HOUR (MPH)

CALTRANS ENCROACHMENT PERMIT NO. ____
APPROVED BY: ____ DATE: ____

Sealed Only When Signed In Blue Ink

Sega ®

Engineers – Architects – Technicians
Design – Construction – Field Service

16041 Foster
P.O. Box 1000
Stilwell, Kansas 66085-1000

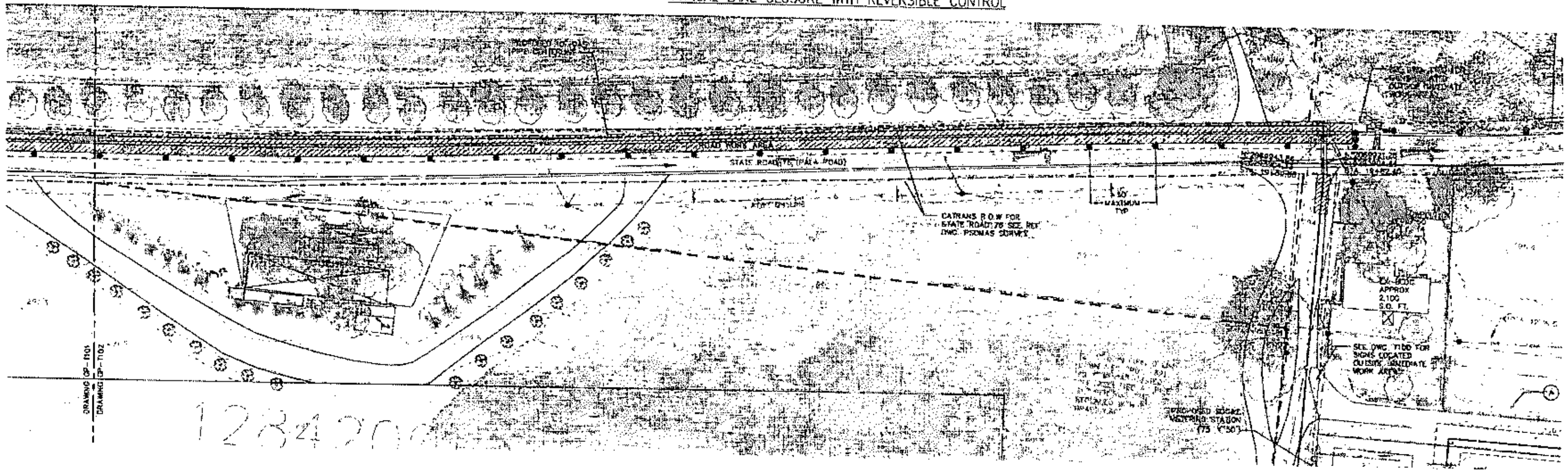
ORANGE GROVE ENERGY L.P.
Schaumburg, IL

ORANGE GROVE GAS PIPELINE

TRAFFIC MANAGEMENT PLAN

DESIGN BY: J. LANGEL	CHECKED BY: T. HEAUSLER
DRAWN BY: R. DAVILA	DATE: 6-20-08
CLIENT I.D. ECC00101	SEGA PROJECT NO. 07-201
CADD FILE NAME: 07201-GP-T100.dwg	
DRAWING NO. GP-T100	REV. 0

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL



TRAFFIC CONTROL

SCALE IN FEET (40 0 40 80)

TABLE 1

APPROACH SPEED	MINIMUM D	DOWNGRADE MINIMUM D *		
		-3%	-6%	-9%
MPH	FT	FT	FT	FT
25 AND BELOW	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785

* USE ON SUSTAINED DOWNGRADE STEEPER THAN -3 PERCENT AND LONGER THAN 1 MILE

TRAFFIC CONTROL LEGEND:

- ● TRAFFIC CONE
- PROPOSED WORK ZONE
- TEMPORARY TRAFFIC CONTROL SIGN
- CENTER LINE
- FLAGGER
- DIRECTION OF TRAVEL
- PORTABLE FLASHING BEACON
- EXISTING SIGNS

KEYNOTES:

(A) ROAD WORK AHEAD — W20-1, 36" X 36", B/O

(B) ONE LANE ROAD AHEAD — W20-4, 36" X 36", B/O

(C) [flagger symbol] — C9A, 36" X 36", B/O

(D) BE PREPARED TO STOP — W3-4, 36" X 36", B/O

(E) END ROAD WORK — G20-2 OR C14, 24" X 30", B/O

(F) TRAFFIC CONTROL WAIT AND FOLLOW PILOT CAR — C37, 36" X 42", B/O

(G) LANE CLOSED — C30, 30" X 30", B/O (OPTIONAL)

(H) 500 FT — C29, 20" X 7", B/O (OPTIONAL)

TRAFFIC NOTES:

1. WHERE APPROACH SPEEDS ARE LOW, ADVANCE WARNING SIGNS MAY BE PLACED AT 300' SPACING AND CLOSER IN URBAN AREAS.
2. EACH ADVANCE WARNING SIGN IN EACH DIRECTION OF TRAVEL SHALL BE EQUIPPED WITH AT LEAST TWO FLAGS FOR DAYTIME CLOSURE. EACH FLAG SHALL BE AT LEAST 16" X 16" IN SIZE AND SHALL BE ORANGE OR FLUORESCENT RED-ORANGE IN COLOR. FLASHING BEACONS SHALL BE PLACED AT THE LOCATIONS INDICATE FOR LANE CLOSURE DURING HOURS OF DARKNESS.
3. A C14 (CA) "END ROAD WORK" SIGN, AS APPROPRIATE SHALL BE PLACED AT THE END OF THE LANE CONTROL UNLESS THE END OF WORK AREA IS OBVIOUS, OR ENDS WITHIN A LARGER PROJECTS LIMITS.
4. IF THE W20-1 SIGN WOULD FOLLOW WITHIN 2000' OF A STATIONARY W10-1 C11 (CA) "ROAD WORK NEXT 0.5 MILES", USE A W20-4 SIGN FOR THE FIRST ADVANCE WARNING SIGN.
5. ALL CONES USED FOR LANE CLOSURES DURING THE HOURS OF DARKNESS SHALL BE FITTED WITH RETROREFLECTIVE BONDS (OR SLEEVES) AS SPECIFIED IN THE SPECIFICATIONS.
6. PORTABLE DELINEATORS, PLACED AT ONE-HALF THE SPACING INDICATED FOR TRAFFIC CONES, MAY BE USED INSTEAD OF CONES FOR DAYTIME CLOSURES ONLY.
7. ADDITIONAL ADVANCE FLAGGERS MAY BE REQUIRED. FLAGGER SHOULD STAND IN A CONSPICUOUS PLACE, BE VISIBLE TO APPROACHING TRAFFIC AS WELL AS APPROACHING VEHICLES AFTER THE FIRST VEHICLE HAS STOPPED. DURING THE HOURS OF DARKNESS, THE FLAGGING-STATION AND FLAGGER SHALL BE ILLUMINATED AND CLEARLY VISIBLE TO APPROACHING TRAFFIC. THE ILLUMINATION FOOTPRINT OF THE LIGHTING ON THE GROUND SHALL BE AT LEAST 20' IN DIAMETER. PLACE A MINIMUM OF FOUR CONES AT 50' INTERVALS IN ADVANCE OF FLAGGER STATION AS SHOWN.
8. PLACE C30 (CA) "LANE CLOSED" SIGN AT 500' TO 1000' INTERVALS THROUGHOUT EXTENDED WORK AREAS. THEY ARE OPTIONAL IF THE WORK AREA IS VISIBLE FROM THE FLAGGER STATION.
9. WHEN A PILOT CAR IS USED, PLACE A C37 (CA) "TRAFFIC CONTROL - WAIT AND FOLLOW PILOT CAR" SIGN AT ALL INTERSECTIONS WITHIN TRAFFIC CONTROL AREA. SIGNS SHALL BE CLEAN AND VISIBLE AT ALL TIMES.
10. AN OPTIONAL C29 (CA) SIGN MAY BE PLACED BELOW THE C9A (CA) SIGN.
11. TRAFFIC CONES OR BARRICADES MAY BE PLACED ON THE OPTIONAL TAPER AS SHOWN. BARRICADES SHALL BE TYPE I, II, OR III.
12. LONGITUDINAL BUFFER ZONE 250' MINIMUM.
13. TEMPORARY SIGNS ARE TO BE POSTED EVERY 300' FROM THE END OF THE WORK ZONE IN EVERY DIRECTION OF APPROACHABLE TRAFFIC. PLACE W3-4 FOR THE FIRST ADVANCE WARNING SIGN, A MINIMUM OF 300' FROM THE END OF THE WORK ZONE. PLACE THE C9A SIGN BACK 600' BACK FROM THE FLAGGER. PLACE THE W20-4 AND W20-1 TEMPORARY WORK SIGNS 900' AND 1,200' BACK FROM THE END OF WORK ZONE CONSECUTIVELY. SEE DRAWING T100 - TRAFFIC MANAGEMENT PLAN.
14. TRAFFIC CONES PLACED AT A MAXIMUM OF 30' INTERVALS.

SPECIAL TRAFFIC REQUIREMENTS

1. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CALIFORNIA MUTCD, MOST RECENT EDITION WITH REVISIONS) DURING CONSTRUCTION.
2. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING AND MAINTAINING PAVEMENT MARKINGS WHICH INCLUDE CENTERLINE, BARRIER LINES, LANE LINES AND RAISED PAVEMENT MARKINGS.
3. THIS TRAFFIC CONTROL PLAN REPRESENTS THE MINIMUM REQUIRED BY TRAFFIC CONDITIONS IN THE FIELD. CONTRACTOR TO MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES.
4. CONTRACTOR SHALL COVER OPEN PAVEMENT EXCAVATIONS WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS, AND OPEN LANES FOR NORMAL TRAFFIC FLOW.
5. LANE CLOSURE TIME(S) SHALL BE SPECIFIED ON THE LANE CLOSURE PERMIT.
6. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, THEY SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT AN ALTERNATE SET OF PLANS* TO PLAN REVIEW SECTION FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION. *THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SEALED BY A LICENSED ENGINEER IN A STATE OF CALIFORNIA. PLANS WILL BECOME A PART OF THE CONTRACT DRAWINGS.
7. APPROVED COPIES OF TRAFFIC CONTROL PLANS AND LANE CLOSURE PERMITS SHALL BE AVAILABLE FOR INSPECTION AT JOB SITE AT ALL TIMES. CONTRACTOR MUST SECURE "LANE CLOSURE PERMITS" FROM CALTRANS TRAFFIC MANAGEMENT AND MAINTENANCE BRANCH BEFORE CLOSING A LANE/SIDEWALK. THE REQUEST MUST BE MADE AT LEAST THREE BUSINESS DAYS PRIOR TO THE DATE FOR WHICH THE CLOSURE IS SOUGHT. NOTE THAT WORKING HOURS MAY BE RESTRICTED OR THE REQUEST MAY BE DENIED.
8. LANE SHALL BE KEPT CLOSED DURING PAVEMENT SURFACE RESTORATION AND OPENED ONLY AFTER PAVEMENT IS RESTORED COMPLETELY.
9. CONSTRUCTION/WORK ZONES LENGTHS WILL VARY (APPROX. 500'). ADJUST SIGNS ACCORDINGLY. TOTAL WORK ZONE IS SHOWN FOR CLARIFICATION.

REV	DATE	DESCRIPTION	DWN	CHK
0	11-7-08	ISSUED FOR CALTRANS ENCROACHMENT PERMIT	BCG	MJB

CALTRANS ENCROACHMENT PERMIT NO. ______
APPROVED BY ______ DATE ______

Sealed Only When Signed In Blue Ink

Sega

Engineers – Architects – Technicians
Design – Construction – Field Service

16041 Foster
P.O. Box 1000
Stilwell, Kansas 66085-1000

ORANGE GROVE ENERGY L.P.
Schaumburg, IL

ORANGE GROVE GAS PIPELINE
TRAFFIC CONTROL

DESIGN BY	CHECKED BY
J. LANGEL	T. HEAUSLER
DRAWN BY	DATE
T. OSTERTAG	5-20-08
CLIENT I.D.	SEGA PROJECT NO.
1CC00101	07-201

CADD FILE NAME: 072C-GP-T102.dwg

DRAWING NO. GP-T102 — REV 0

ORANGE GROVE ENERGY'S SUPPLEMENTAL TESTIMONY OF JOSEPH STENGER REGARDING SOIL AND WATER RESOURCES

Q1 *Mr. Stenger, please state your name, address, position and qualifications.*

A1 Joseph Stenger
Project Director
TRC Companies, Inc
2666 Rodman Dr.
Los Osos, CA 93402

Formal Education:
BS in Geology (Earth Sciences) from University of California at Santa Cruz.

Relevant Experience:
I have 23 years of experience in environmental engineering, regulatory compliance and permitting in California. I am a California-licensed Professional Geologist, a California Registered Environmental Assessor, and a Nevada Certified Environmental Manager. My 23 years as an environmental professional includes extensive experience in environmental and regulatory compliance auditing, environmental risk assessment, waste management, hazardous materials, permitting, and remediation for a wide variety of infrastructure and industrial projects, including more than 10 years of experience with power plants and related infrastructure.

Q2 *Please describe the purpose of your testimony.*

A2 The purpose of my testimony is to respond to the Committee's questions regarding soil and water resources. The Committee specifically requested the parties address a discrepancy in the water usage figures between the Soil and Water Resources and Project Alternatives sections of the Staff Assessment.

Q3 *Why are the water usage figures presented in the Alternatives section of the Staff Assessment inconsistent with those in the Soil and Water Resources section of the Staff Assessment?*

A3 The 87.3 acre-feet per year ("AFY") water usage figures in the Alternatives section of the Staff Assessment are erroneous. As discussed in Orange Grove's Opening Brief at page 14 and Commission Staff's Brief In Response to DFI Funding, Inc.'s Comments at page 19, the 87.3 AFY figure from the Alternatives section should be disregarded.

Q4 *What are the correct water usage rates for the Orange Grove Project?*

A4 The correct water usage rates for the project are as follows. The expected water usage rates are 21.1 AFY for fresh water and 12.1 AFY for recycled water. The maximum design water usage rates are 62 AFY for fresh water and 38.7 AFY for recycled water.

Q5 *Where do the correct water usage rates for the Orange Grove Project appear in the record?*

A5 The correct water usage rates appear in the Soil and Water Resources section of the Staff Assessment, at page 4.9-7. These rates also appear in the Water Resources section of the Application for Certification, at section 6.5.2.2.1.

Q6 *Mr. Stenger, where your testimony includes facts, are those facts true and correct to the best of your knowledge?*

A6 Yes.

Q7 *Mr. Stenger, where your testimony include opinions, are those opinions based upon your best professional judgment?*

A7 Yes.

Joseph Stenger

Joseph L. Stenger

Dated: __March 9, 2009_____

Executed At: __Los Osos, CA_____

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION ORANGE GROVE POWER PLANT

DOCKET NO. 08-AFC-4

PROOF OF SERVICE (Revised 2/17/09)

APPLICANT	**INTERESTED AGENCIES**	**ENERGY COMMISSION**
Stephen Thome J-Power USA Development 1900 East Golf Rd., Ste. 1030 Schaumberg, IL 60173 sthome@jpowerusa.com Mike Dubois J-Power USA Development 1900 East Golf Rd., Ste. 1030 Schaumberg, IL 60173 mdubois@jpowerusa.com	California ISO e-recipient@caiso.com Steve Taylor San Diego Gas & Electric 8306 Century Park Court San Diego, CA 92123 srtaylor@semprautilities.com	James D. Boyd Vice Chairman and Presiding Member jboyd@energy.state.ca.us Arthur Rosenfeld Commissioner and Associate Member pflint@energy.state.ca.us
APPLICANT'S CONSULTANT Joe Stenger, PG, REA TRC 2666 Rodman Drive Los Osos, CA 93402 jstenger@trcsolutions.com	**INTERVENORS** Anthony J. Arand 219 Rancho Bonito Fallbrook, CA 92028 tony@envirepel.com	Kenneth Celli Hearing Officer kcelli@energy.state.ca.us Felicia Miller Project Manager fmiller@energy.state.ca.us
COUNSEL FOR APPLICANT Jane E. Luckhardt Downey Brand, LLP 621 Capitol Mall, 18th Floor Sacramento, CA 95814 jluckhardt@downeybrand.com Wayne Song Morgan, Lewis & Bockius LLP 300 S. Grand Ave., 22nd Floor Los Angeles, CA 90071 wsong@morganlewis.com	Alliance for a Cleaner Tomorrow (ACT) c/o Arthur S. Moreau Klinedinst.PC 501 West Broadway, Ste. 600 San Diego, CA 92101 amoreau@klinedinstlaw.com Archie D. McPhee 40482 Gavilan Mountain Rd. Fallbrook, CA 92028 Archied1@earthlink.net	Jared Babula Staff Counsel jbabula@energy.state.ca.us Public Adviser's Office publicadviser@energy.state.ca.us

Declaration of Service

I, Lois Navarrot, declare that on March 9, 2009, I served and filed copies of the attached **ORANGE GROVE ENERGY, L.P.'S SUPPLEMENTAL TESTIMONY ON LAND USE, SOIL AND WATER, AND TRAFFIC AND TRANSPORTATION.** The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: www.energy.ca.gov/sitingcases/orangegrovepeaker. The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service List) and to the Commission's Docket Unit, in the following manner:

(check all that apply)

For Service to All Other Parties

__x__ sent electronically to all email addresses on the Proof of Service list;

__x__ by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service List above to those addresses **NOT** marked "email preferred."

AND

For Filing with the Energy Commission

__x__ sending an original paper copy and one electronic copy, mailed and e-mailed respectively, to the address below (preferred method);

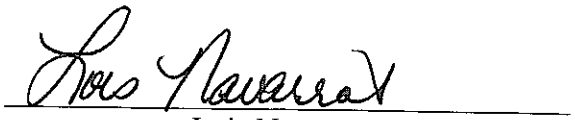
OR

_____ depositing in the mail an original and 12 paper copies as follow:

California Energy Commission
Attn: Docket No. 08-AFC-4
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.



Lois Navarrot