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Description:	N/A
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Docketed Date:	9/8/2014

RESPONSE TO DATA REQUESTS 1, 2 AND 3
PETITION FOR POST CERTIFICATION AMENDMENT TO ADDRESS WATER TRUCK COMPLAINTS
ORANGE GROVE ENERGY, L.P.
DOCKET NO. 08-AFC-4C

The following pages respond to Data Requests 1, 2 and 3 received from CEC staff via email on August 13, 2014. For convenience, the Background and Data Request are repeated in their entirety before each response. Data Requests 1, 2 and 3 are each related to Soil and Water.

BACKGROUND

Orange Grove Energy L.P. (the Project Owner) filed a petition to change the primary source of the water supplying the Orange Grove Power Plant (OGPP). The power plant is currently permitted to use fresh water and recycled water that is purchased under contract from Fallbrook Public Utilities District (FPUD) and trucked to the site. No other water source is currently permitted for industrial use. (There is no piped water supply to the site, and the plant utilizes bottled water for drinking and hand washing.) The Project Owner has filed a Petition for Post Certification Amendment to Address Water Truck Complaints (Petition) for the construction of a water supply pipeline from an existing nearby groundwater well to the OGPP site. The well is owned by San Diego Gas & Electric Company (SDG&E) and is identified as SDG&E Well No. 2. Staff understands groundwater in the Pala Basin of the San Luis Rey River may be subject to water rights permitting because it was found by the California State Water Resources Control Board (SWRCB Decision No. 1645, October 17, 2002) to be a subterranean stream flowing through known and defined channels. It is not clear to staff that the project owner has the right to use groundwater in this basin via SDG&E Well No. 2.

DATA REQUEST

1. Appendix E of the Petition is a copy of the existing easement granted to SDG&E to "exclusively pump, export, take, use and remove the water from the existing well". Please provide a copy of a water rights permit, contract, or other similar documentation showing that SDG&E can sell or transfer the water and/or the water rights, how much water SDG&E can pump, and OGPP is legally entitled to use of this water source.

Response to Data Request 1: CEC Staff has correctly identified the key document regarding water rights from the San Luis Rey River in the Pala Basin as California State Water Resources Control Board Decision 1645 dated October 17, 2002 ("Decision 1645"). According to Decision 1645, the Pala Basin extends from the Agua Tibia Narrows to Monserate Narrows, with an upstream boundary defined as the confluence of Frey Creek and the San Luis Rey River. (See Decision 1645 at 23 and 25; see also Figure 1 from Decision 1645.) Figure 1 to Decision 1645 depicts the area of the Orange Grove Project site and the SDG&E Well as within the Pala Basin.

Decision 1645 also found groundwater in the Pala Basin to be a subterranean stream. (At 24.) Decision 1645 based this determination upon a finding that the San Luis Rey River contains a subterranean stream flowing through known and defined channels. (At 26.) Decision 1645 further found the basement complex forms the bed and banks of a subterranean stream channel. (At 24.) All water above the basement complex is considered part of the stream. The SDG&E land parcel containing the Orange Grove Power Plant site overlies the subterranean stream. As such the Orange Grove Power Plant site has a riparian water right to water within the San Luis Rey River.

The riparian doctrine confers upon the owner of land contiguous to a watercourse the right to the reasonable and beneficial use of water on his land. (*People v. Shirokow* [1980] 26 Cal.3d 301 at 307.) A riparian right is an incident of the ownership of land that abuts a watercourse. (*Hill v. Newman* [1855] 5 Calif. 445, 446.) A riparian right is, therefore, part and parcel of the riparian land.

The rules that apply to surface streams also apply to subsurface streams. (*Hanson v. McCue* [1871] 42 Cal. 303, 308 ["*Hanson*"] ["Underground currents of water, flowing in defined channels, are known to exist in considerable volume, particularly in limestone regions; and where their existence is shown, there is no doubt, either upon reason or authority, that the rules of law which govern the use of similar streams flowing upon the surface of the earth, are applicable to them."].) This includes the rules applicable to riparian rights. (See generally *City of Los Angeles v. Pomeroy* [1899] 124 Cal. 597 ["*Pomeroy*"]; see also *Carlsbad Mutual Water Co. v. San Luis Rey Development Co.* [1947] 78 Cal.App.2d 900, 911 ["With respect to subsurface flow, all riparian owners share correlatively just as in the surface flow."].) Thus, the Orange Grove site has a riparian right to water flowing in the San Luis Rey River.

A riparian right is limited to use on the parcel that is riparian. However, to exercise a riparian right, one may divert the water for use on the riparian parcel from any point along the watercourse, so long as doing so does not interfere with the rights of others (typically, any parties upstream from the parcel but downstream from the point of diversion). *Turner v. James Canal Co*. (1909) 155 Cal. 82, 92 ("Turner"); see also *Joerger v. Mt Shasta Power Corp*. (1932) 214 Cal. 630, 638 ("But since the water is used on the defendant's riparian lands, it would appear to be of no consequence to the plaintiff where the point of diversion may be so long as the water is [properly returned to the stream channel]."); *Holmes v. Nay* (1921) 186 Cal. 231, 240 (citing *Turner*). Thus, OGPP as a riparian right holder can pump water from the existing SDG&E well because OGPP is simply diverting the water from a riparian parcel other than its own along the same stream channel.

When SDG&E sold the property surrounding the well to H. G. Fenton Material Company they retained the right to use the well that had served as the water source for the Orange Grove site. (See Easement Agreement recorded document number 1998-0003909.) Specifically, SDG&D retained an "easement to exclusively pump, export, take, use and remove the water from the existing well and through the existing water pipeline currently located within a strip of land six (6) feet in width." (At 2.) In addition, SDG&E retained the right to relocate the well and appurtenances to the well. (At 2.) The easement does not limit the amount of water SDG&E can pump from the well. But, that water must be put to a beneficial use. Industrial uses of water are considered beneficial uses. And, as discussed in the application for this amendment the use of recycled water has become undesirable.

Courts have held that a lessee of a riparian parcel is entitled to reasonable use of the water to which that parcel is riparian. (*Gould v. Stafford* [1891] 91 Cal. 146, 152 ["There is no question that the (property) was riparian to the creek, and that the owner thereof, *or his lessee*, was entitled to such reasonable use of the waters of the creek to irrigate the same as was consistent with the rights of other riparian owners."] [emphasis added].) Given the rule that a lessee can

use the lessor's riparian right applies the same way to subsurface streams as it does to surface streams, this means the OGPP is entitled to reasonable use of the subterranean stream water to which the Orange Grove Project site is riparian. (See *Hanson v. McCue* [1871] 42 Cal. 303, 308 ["Underground currents of water, flowing in defined channels, are known to exist in considerable volume, particularly in limestone regions; and where their existence is shown, there is no doubt, either upon reason or authority, that the rules of law which govern the use of similar streams flowing upon the surface of the earth, are applicable to them."].)

Therefore, the Orange Grove site has a riparian right to use the water. OGPP as lessee can exercise the riparian right associated with the Orange Grove site. OGPP can exercise its riparian right from the existing SDG&E well. OGPP will put the water to a beneficial use and limit its take of water to that which can be put to a beneficial use. Finally, OGPP has attempted to use other sources of water only to find that those sources have become undesirable.

BACKGROUND

The Petition proposes to maintain existing permitted FPUD water supply as a backup source only and use water from SDG&E Well No. 2 as OGPP's primary source of water. A new pipeline would be installed made of 3- or 4-inch diameter high density polyethylene (HDPE) pipe approximately 2,750 feet long to convey water from a new pump installed in SDG&E Well No. 2 to the existing 414,000 gallon reclaim water storage tank at the OGPP. North of State Route 76 (SR-76), the pipeline would be located within the OGPP emergency access road bed and within graded areas of the OGPP facility. South of SR-76, the new pipeline would be routed to follow the existing route of an abandoned pipeline previously used when SDG&E Well No. 2 was in service for irrigating orchards. Except for the crossing of SR-76, the underground pipeline installation would consist of excavation of a trench typically less than two feet wide and less than five feet deep. To install the water pipeline under SR-76 without disruption to traffic, horizontal directional drilling or jack and bore horizontal drilling may be needed. Construction of these facilities would cause disturbances that could result in offsite impacts to soil and water resources.

DATA REQUEST

2. Installation of the water supply pipeline is considered a linear underground project and may be subject to requirements of **SOIL&WATER-2**. Please provide the total area of soil disturbance (including, but not limited to, trenching, excavation, staging areas, and stockpile locations) showing how estimates were calculated. If horizontal drilling may be needed to install the pipeline under SR-76, provide the additional areas of disturbance (staging areas, entry pit, and exit pit).

Response to Data Request 2: The table below summarizes the total area of soil disturbance and the basis of the estimate. As shown, the majority of the pipeline would be installed within a construction corridor approximately 16 feet wide. This provides adequate width for soil from trenching to be placed adjacent to the trench until backfilled. Pipe bedding material will be stockpiled on the gravel surfaced area within the OGEC property. Minor soil stockpiling from entry and exit points at HDD work (Exhibit 2-3) would occur within the disturbances for those areas.

LOCATION/ACTIVITY	DISTURBED AREA	BASIS OF AREA ESTIMATE
Trenching, pipeline installation, and backfilling on the OGEC secondary access road and onsite	20,800 sq ft	1,300 linear feet with maximum soil disturbance width of 16 feet.
Trenching, pipeline installation, and backfilling between the OGEC secondary access road and the HDD boring site.	960 sq ft	60 linear feet with maximum soil disturbance width of 16 feet. Area shown in Exhibits 2-1 and 2-2.
Boring, pipeline installation and backfilling at the HDD boring site on north side of SR-76	2,500 sq ft	50 x 50 foot square area shown in Exhibits 2-1 and 2-2.
Boring, pipeline installation and backfilling at the HDD receiving site on the south side of SR-76	2,200 sq ft	40 x 60 foot polygon area shown in Exhibits 2-1 and 2-2.
Trenching, pipeline installation, and backfilling between HDD receiving site and wellhead	14,400 sq ft	900 linear feet with maximum soil disturbance width of 16 feet. Area shown in Exhibit 2-1. Two short 4-inch diameter HDD segments will avoid surface disturbance within 20 feet of drainages.
Wellhead Work and Wellhead Staging Area	7,700 sq ft	Area shown in Exhibit 2-1.
Access	0.0	Access outside the areas identified above will utilize existing roads.
TOTAL (sq. ft)	48,560	--
TOTAL (Ac)	**1.11**	--

OGEC would apply for coverage under the State General Permit for storm water discharges from construction sites because it is expected that the maximum construction disturbance could marginally exceed one acre. The maximum construction disturbance allows for equipment and work related to horizontal drilling.

Should it not be possible to utilize the existing water line at the SR-76 crossing as a sleeve, horizontal directional drilling will be used to install the water line beneath SR-76. The horizontal directional drill will be placed at grade on the north side of SR-76. The horizontal directional drill would be used to install either the water line (4-inch diameter) or a 6-inch diameter pipe sleeve under SR-76 to intersect the pipe trench on the south side of SR-76. Refer to attached Exhibits 2-2 and 2-3 for additional details of horizontal directional drilling.

The horizontal directional drilling will not require the typical large entry and exit pit associated with jack and bore methods. Horizontal directional drilling is a subsurface installation technique that involves pulling the pipe into a prepared borehole. Horizontal directional drilling uses a

surface-mounted rig, first to drill a guided hole along a shallow arc bore path, then to pull a string of pipe back into the borehole. Work area disturbances for both the entry and exit points for the horizontal directional drilling are included in the table above and shown in Exhibits 2-2 and 2-3.

The waterline construction overall is a small linear construction project, only marginally reaching the one acre threshold requiring a General Permit. Construction is expected to be completed in approximately one month, and work duration in any given area will be much shorter due to its linear nature. Construction materials and equipment would be temporarily stored in existing graded areas within the OGEC fence line and adjacent to the SDG&E well. The area within the OGEC fence line is a maintained gravel surface. The area around the well is flat and is free of vegetation except for seasonal non-native grasses. If dried grasses are present at the onset of work, then the grass would be cut as needed for fire safety. No other site preparation is needed.

BACKGROUND

Water supplied by SDG&E Well No. 2 is proposed to replace fresh water and recycled water trucked from FPUD. Staff compared the water quality data of the well provided in the Petition with the water quality data of FPUD recycled and fresh water submitted in the original Application for Certification for OGPP. The total dissolved solids (TDS) value of the well water (900 mg/L) is higher than the TDS values for the recycled water (770 mg/L) and the fresh water (438 mg/L) from FPUD. Although TDS is not generally considered a primary pollutant, it is commonly seen as an aggregate indicator of the presence of a broad array of chemical constituents, such as calcium, chloride, sulfate, and nitrates. The higher TDS of the proposed water supply suggests there may be a change or increase in the brine wastewater discharge from OGPP's existing reverse osmosis (RO) water treatment system. An increase in the volume of wastewater or a change in wastewater composition could impact the frequency or method of proper discharge offsite.

DATA REQUEST

3. The OGPP's 2013 Annual Compliance Report shows that the total amount of wastewater hauled offsite that year was 8917 gallons. Please explain how the proposed new water supply would change the volume or composition of wastewater hauled offsite, as well as potential impacts and proposed methods of mitigation.

Response to Data Request 3: Staff correctly notes that 8,917 gallons of water was hauled offsite from the OGEC in 2013. 5,967 gallons of this water was from the plant oily water drain tanks. These tanks capture plant wash down water and drain down from areas with oil filled equipment. The remaining 2,950 gallons of waste water generated in 2013 was water used to pressure-clean algae from the RO tank. Neither of these wastewater streams would be materially affected by the proposed use of well water. The change in water source is not expected to have any material impact on the quantity or regulatory status of OGEC wastewater. The TDS of the water is similar to the existing source and trailer mounted demineralization units would continue to be used for water treatment.

G:\Orange_Grove-125158\Orange Grove2014\MXD\MaxSoilDisturbance2014.mxd

Proposed Water Pipeline (Trench Installation)

Proposed Water Pipeline (HDD Installation)

Limits of Soil Disturbance for Construction

1 inch = 80 feet

0 100 200 300 Feet

Date: 9/5/2014

N

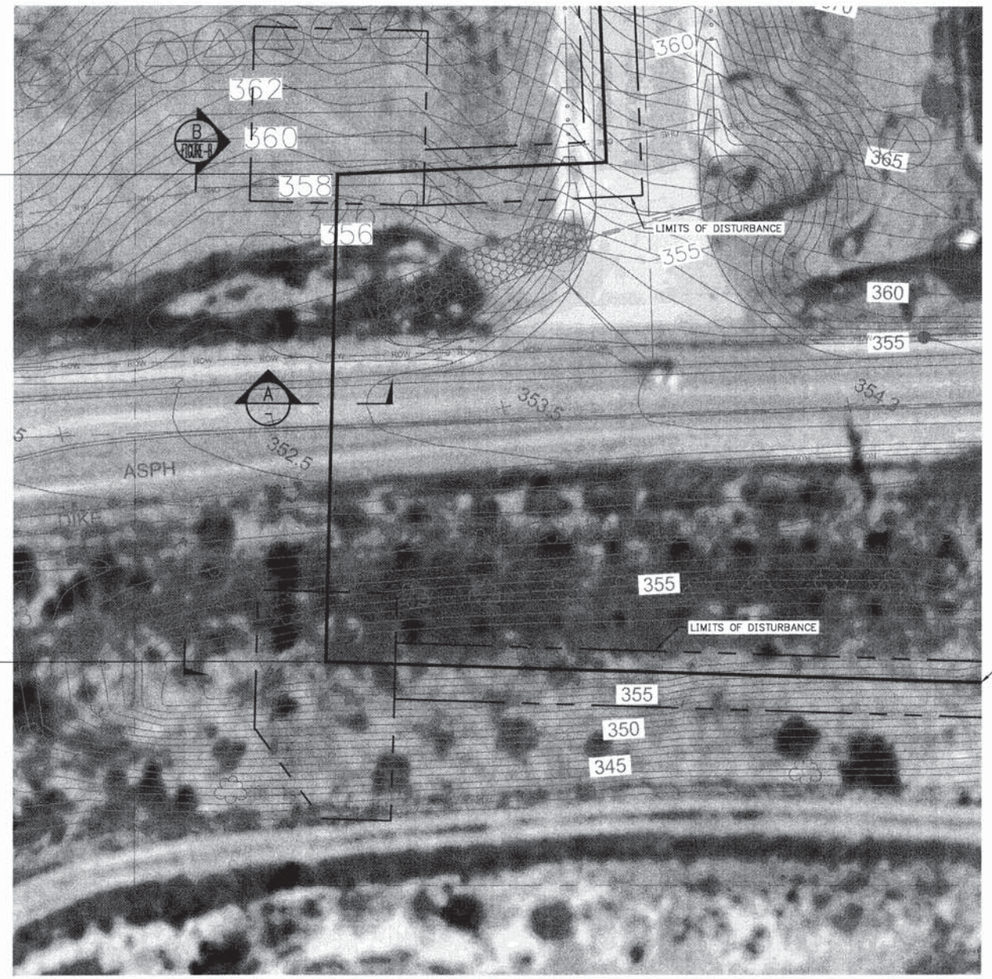
Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and

Orange Grove Project

Maximum Soil Disturbance Limits for Construction

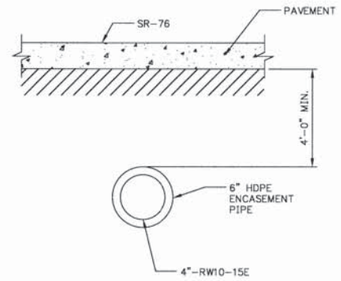
Exhibit 2-1

TRC



UNDERGROUND PLAN
PLAN NORTH IS 29°55'46" CCW OF TRUE NORTH

20 0 20 40
SCALE IN FEET



A SECTION
LOOKING NORTH

EXHIBIT 2-2

Sega

ENGINEERING & TECHNICAL SERVICES
16041 Foster
P.O. Box 1000
Overland Park, Kansas 66085-1000
(913) 681-2881
www.segainc.com

Sega Inc. - California State Certificate of Authority # C1651842

PROJECT LOCATION:
PALA, SAN DIEGO CO., CALIFORNIA

REV.	DATE	DESCRIPTION	DWN.	CHK
1	9-5-14	RE-ISSUED FOR PERMITTING	JPS	JGB
0	9-3-14	ISSUED FOR PERMITTING	JPS	JGB

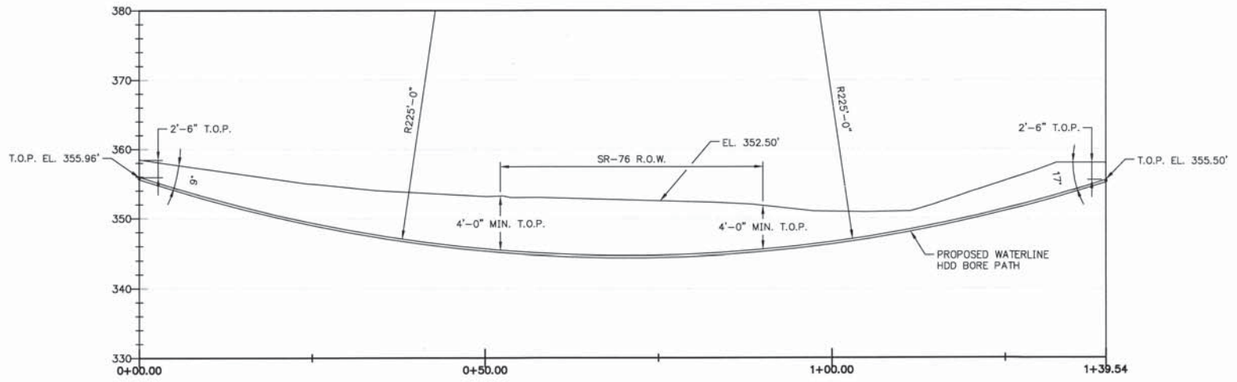
REGISTERED PROFESSIONAL ENGINEER
SHANE M. TAYLOR
NO. M34023
EXP. 3-31-14
MECHANICAL
STATE OF CALIFORNIA
9-5-14

ORANGE GROVE ENERGY L.P.
Schaumburg, IL

ORANGE GROVE POWER PLANT
WATER WELL ADDITION
SR-76 HDD MAXIMUM DISTURBANCE LIMITS

DESIGN BY: J. BADER	CHECKED BY: S. TAYLOR
DRAWN BY: J. SEE	DATE: 9-2-14
CLIENT I.D.: ORA00101	SEGA PROJECT NO.: 14-015
CADD FILE NAME: FIGURE-A	
DRAWING NO.: FIGURE-A	REV.: 1

W:\o\ora001\ora001.01\14015\dwgs\ce\14015-FIGURE A.dwg Sep 05, 2014-1:14:55 pm Jonathan See



B SECTION
FIGURE-A 10 0 10 20
SCALE IN FEET

EXHIBIT 2-3

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P.O. Box 1000
Overland Park, Kansas 66085-1000
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Sega Inc. - California State Certificate of Authority # C1651842

PROJECT LOCATION:
PALA, SAN DIEGO CO., CALIFORNIA

REV.	DATE	DESCRIPTION	DWN	CHK
0	9-3-14	ISSUED FOR PERMITTING	JPS	JGB

REGISTERED PROFESSIONAL ENGINEER
SHANE M. TAYLOR
NO. M34023
EXP. 3-31-16
MECHANICAL
STATE OF CALIFORNIA
9-3-14

ORANGE GROVE ENERGY L.P.
Schaumburg, IL

ORANGE GROVE POWER PLANT
WATER WELL ADDITION
SR-76 HDD MAXIMUM DISTURBANCE LIMITS

DESIGN BY:	CHECKED BY:
J. BADER	S. TAYLOR
DRAWN BY:	DATE:
J. SEE	9-2-14
CLIENT I.D.	SEGA PROJECT NO.
ORA00101	14-015

CADD FILE NAME: FIGURE-B

DRAWING NO.	REV.
FIGURE-B	0

W:\o\ora001\ora001.01\14015\dwgs\ce\14015-FIGURE B.dwg Sep 03, 2014-1:25:29 pm Jonathan See