

**DOCKET**  
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**From:** Eric Solorio  
**To:** Docket Optical System  
**Date:** 3/16/2010 12:15 PM  
**Subject:** Fwd: Beacon Solar Project - California City Recycled Water Option Response  
**Attachments:** Weaver Reply 15 Feb 2010.doc

Hard copy to follow

>>> "Michael Bevins" <[pwdir@ccis.com](mailto:pwdir@ccis.com)> 2/19/2010 2:04 PM >>>  
Casey:

We have tried to answer your questions as fully and accurately as possible.

We met with the California Regional Water Quality Board - Lahontan Region on February 10th to make sure that we understood all of their requirements for the expansion of our Waste Water Treatment Plant (WWTP) to accommodate the increased volumes proposed by the Beacon Project and the changes in effluent use. They will be sending a document to you under separate cover outlining our needed changes and explaining in greater detail our commitment to them under the 1989 MOU.

As a part of our expected needed support documentation, we will be asking our Council at its March 2, 2010 to authorize the expense of \$35,000 for the development of a Fremont Basin Salt / Nutrient Management Plan. We will be inviting Beacon Solar, Kern County, Mojave Public Utilities District and the Cantil Water group to participate with us as stakeholders without cost. Stetson Engineering will be creating the study, as they did our ground water study in 2009.

Additionally, we will be launching the WWTP Upgrade Feasibility Study. The document is in draft form right now and is expected to be approved at the Council meeting of March 2, 2010 for advertisement the week of March 8, 2010.

These two critical studies should be able to add a great deal of understanding to our Beacon Proposal. However, their results will not be available until the first of May and we realize that you would like as much information as is possible as soon as possible. Therefore we are submitting the attached information. Copies of the described documentation will be mailed to you under separate cover today.

If you have any further questions, please feel free to contact me either by e-mail or by phone at (760) 596-2861.



An issue has been raised regarding the California City recycled waste water option proposed by Beacon Solar Electric Project. We are hoping your department can assist us in our expedited determination of the potential impacts to the ground water basin from diverting potential groundwater recharge, in the form of sewage from on site septic systems, to the Beacon facility.

In order to adequately analyze potential impacts from the proposed California City recycled wastewater supply option, we ask the following Questions:

1. Is the 2009 Stetson report the most recent and most thorough groundwater evaluation for California City?

The 2009 Stetson Report is the most recent evaluation of the Fremont Valley Ground Water Basin conducted by the City of California City. A copy will be mailed.

2. Does California City have a groundwater management plan? If so, can you provide a copy?

There is no Integrated Regional Water Management Plan for the Fremont Valley Ground Water Basin. However, California City does have an Urban Water Management Plan last updated in 2000 will be mailed. The 2010 update is in draft form will be mailed.

3. Regarding the building moratorium you discussed in the workshop, is that a self directed program?

Limitations placed on the City of California City by the California Regional Water Control Board - Lahontan Region by Memorandum of Understanding dated 1989 and modified 2 June 2008 are not self directed.

Below is a listing of only the four highest saturated tracts as of **January, 2008**

**CITY OF CALIFORNIA CITY - SOUTH COMMUNITY**  
**TRACT/ZONE CALCULATIONS BASED ON TWO DWELLING UNITS PER ACRE**  
**SEWER DENSITY PER TRACT AS OF: 1/10/08**

TRACT/ ZONE	LOTS PER TRACT/ ZONE	ACREAGE	# OF D.U. ALLOWED	PERMITS ISSUED	APT PERMITS	TOTAL # OF LOTS	# OF UNDEVELOPED LOTS	% TO SEPTIC CAP	% AT BUILDOUT	PARTIAL SEWER
SEPTIC	797	253	506	426		797	371	84.19%	158%	
2067	849	269	538	446	10	849	393	82.90%	158%	•
2068	497	160	320	238		497	259	74.38%	155%	
2116	362	113	226	167		362	195	73.89%	160%	

You can see from the above table that 25% of the lots in those subdivisions, which have been sold out for decades will not be able to be build on, due to the MOU. Other subdivisions range up to 50% unbuildable. Copy of 1989 MOU and 2008 amendment will be mailed.

4. Are there city ordinances in place for protection of groundwater resources?

Building and zoning laws require approved water supply for the issuance of permits. CCMC Title 6, Chapter 4 regulates private water systems, including private wells. Section 6-4.103 states the basic rule: a private well is not permitted if the city can serve the property and water can only be used on land overlying the well, i.e. water cannot be appropriated. The only significant use of water on overlying land is irrigation. The city has adopted landscape irrigation measures and will adopt more stringent measures as needed.

Consumption is therefore regulated because water must be used on overlying land and irrigation is limited.

State laws, administered by the Regional Board, preempt most local laws on water quality. The city has enacted water quality laws to fill gaps in state and federal regulation.

**5. Are there impacts to City groundwater supplies due to septic tanks?**

Currently, no tract in the city has a septic density that would necessitate implementation of a Cease and Desist Order (CDO) by Lahontan. Even so, we have ranges of nitrate contamination getting close to the MCL of 10 mg/l. The growth of nitrates in our well system is not a simple arithmetic function of new construction. Other water movement in the area seems to also have an impact on the increasing nitrate levels. The exact interactions of septic recharge and groundwater has been almost pointless to explore after the 1989 Lahontan MOU virtually forces us to abandon conventional SWIS.

**6. If so, by what constituents?**

Nitrate

**7. and at what concentration?**

	<u>Range</u>
<b>2009</b>	1.7 - 3.2
<b>2008</b>	1.6 - 7.24
<b>2007</b>	1.6 - 7.24
<b>2006</b>	1.7 - 7.8
<b>2005</b>	1.7 - 3.7
<b>2004</b>	1.7 - 3.7
<b>2003</b>	1.6 - 7.24
<b>2002</b>	
<b>2001</b>	2.3 - 7.9
<b>2000</b>	2.0 - 7.0
<b>1999</b>	1.9 - 7.2
<b>1998</b>	1.6 - 6.7
<b>1997</b>	1.3 - 4.9
<b>1996</b>	1.8 - 4.0
<b>1995</b>	
<b>1994</b>	1.3 - 3.5
<b>1993</b>	
<b>1992</b>	1.4 - 4.0

**8. Which wells (locations) are affected?**

Our highest Nitrate well(#3)was taken off line in 2009 due to suction problems. Our well location map will be mailed by separate cover. You can see on the map that our wells are situated to minimize their contact with SWIS percolation.

**9. Has an analysis been conducted by the City that compares the benefits of protecting the aquifer's water quality by reducing septic system discharges against reduction in groundwater levels caused by capture and consumption of the septic system effluent?**

Currently, the City's groundwater retrieval system draws water from six points within the area known as "First Community" from a depth of approximately 400'. The ground water at that depth in those zones comes from south and west of the city. The subsurface water filtration system water quality problems would present themselves north of the "First Community"

10a. What is the annual volume of groundwater obtained by California City from wells in the California City Sub-basin? See Table below

10b. What is the annual volume of water obtained by California City from water sources other than groundwater from the California City sub-basin?

Calendar	AF Pump	AF Purchase AVEK	MPUD	AF Total
2003	2,940	464	77	3,481
2004	3,528	795	58	4,381
2005	3,417	637	70	4,124
2006	3,352	1,052	101	4,505
2007	3,082	1,459	100	4,641
2008	3,420	769	73	4,262
2009	3,373	636	54	4,063

11. What is your estimated annual volume of recharge to the underlying aquifer resulting from leaching of septic systems within California City?

Three ground water studies have been done in the area: 1. Thomas M. Stetson's "Review of Water Supply and Water Quality, California City Area, Kern County, California, February, 1971"; 2. Saint-Amand Scientific Services "Ground-Water Resources of California City", November, 1991; and 3. Stetson Engineers Inc. "Evaluation of Groundwater Resources in California City, April, 2009.

Of the three, Saint-Amand (1991) is the only ground water study to even mention recharge from septic systems. "Water from septic systems, surface flow into, and rain falling on the area is all evaporated." Pg 6

Obviously, with increasing nitrates in the aquifer, ground water recharge from SWIS is happening. We however have not been given a solid number to report. Hopefully, this number will be generated as part of the Salt/Nutrient Management Plan.