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Staff Report

SS Item # 2

To: Lemoore City Council
From: Lauren Apone, Administrative Analyst 
Date: March 29, 2013
Subject: Chevron Energy Solutions Proposal - Solar Photovoltaic for Water and Sewer Utilities

Discussion:

At the March 19, 2013 Council meeting, Chevron Energy Solutions (Chevron) presented solar options for 13 different sites within the City. The staff report and analysis can be found at http://www.lemoore.com/agendas/2013/mar19/data/3_19_13_ss_item_2.pdf

Chevron has responded to Council's and staff's comments as well as received more up-to-date usage data from PG&E on March 22, 2013 and has prepared a revised proposal with the following changes:

Well 6 – Based on the most recent 12 months of utility data, the annual consumption in kWh and dollars have reduced somewhat necessitating a reduction in the system size from 288 kW to 270 kW.

Well 7 – Based on the latest utility data, the annual consumption at this well has reduced and the system size needed to be reduced. In addition, it came to staff's attention that there may be a need for a road to go through the solar site with potential future development. Taking the requirement of the road and the future fire station into consideration, the system size was reduced from 230 kW to 194 kW.

Well 10 – The annual consumption increased slightly at this site. The size of the solar parking shade structure remains unchanged. Chevron increased the size of the ground mounted system from 238 kW to 252 kW.

CMC – Unchanged.

Well 11 – The annual consumption at this well increased drastically - almost a 150% increase. After conferring with staff, Chevron determined that the latest 12 months of utility data more accurately reflects how the well will be used in the future, so the system size was increased from 115 kW to 259 kW. Note that this larger array no longer allows for a soccer field on that site.

Well 12 – The annual consumption and dollars spent came down substantially. After speaking with staff about how this well will be used in the future, Chevron reduced the solar system at this site from 403 kW to 346 kW.

Well 13 – Being a new well, Chevron only had 4 months of utility data for this site when they started the study. Now that they have 12 months of real data available, the system size needs to be reduced slightly from 266 kW to 216 kW.

WWTP – Unchanged.

Police Department – The inverter that was installed for the solar system at this site in 2009 has unused capacity of nearly 12 kW. At staff’s request, Chevron is proposing an 11 kW system to be mounted on the south-facing roof at this location.

North Well Field – Based on input from Council and staff, Chevron analyzed again the installation of a solar array at the North Well Field to avoid electricity use at the 40 G Street facility and other sites within the City. They are now proposing a 792 kW ground mounted tracking solar system at this site, which will be connected to the Well 4 meter, but will use PG&E’s Renewable Energy Self-Generation Bill Credit Transfer (RES-BCT) schedule to avoid electricity use at up to 50 locations within the City.

40 G Street - The solar options on this site have been eliminated due to the construction of solar at the North Well Field that will offset this meter. The price for the 40 G Street electrical upgrade is included in this proposal.

Please see the table below for new and original solar system size:

No.	Site/Well	Location	Original kW	New kW
1	6	North Well Site	288.0	270.0
2	7	North of WHC	230.4	194.4
3	10	Well #10 Groundmount	237.6	252.0
4		CMC Parking Arrays	269.4	269.4
5	CMC	Well #10 to CMC Meter	86.4	86.4
6	11	Lemoore Ave & Glendale	115.2	259.2
7	12	Adjacent to VW Yard	403.2	345.6
8	13	East of WHC	266.4	216.0
9	Main	Tracker System*	72.0	-
10		Water Tank Thin Film	44.0	-
11	WWTP	Meter 1 (Building)	162.0	162.0
12		Well No. 9	72.0	72.0
13		Meter 2 (East Pond adjacent)	180.0	180.0
14	PD	Police Department	-	10.8
15	4	North Well Field	-	792.0
		Total	2,426.6	3,109.8

As you can see, several significant changes have been proposed. Staff has not had adequate time to analyze these new options. If Council is interested in pursuing the new proposal, staff will work closely with Chevron and PG&E in the next few weeks in order to make recommendations to Council in time for the proposed public hearing on April 16, 2013.

Chevron will present their revised proposal during the Study Session. The project will again be split into two items because Mayor Pro Tem Lois Wynne owns property within 500 feet of one of the proposed solar sites. Item A will include all other sites and Item B will include only the conflict site, Well 12. Mayor Pro Tem Wynne will have to abstain from participating in the discussion of Item B. The attachments are separated as such:

- Attachment 1: Cash Flow Analysis – Item A
- Attachment 2: Site by Site Analysis – Item A
- Attachment 3: PowerPoint Presentation – Item A
- Attachment 4: Cash Flow Analysis – Item B
- Attachment 5: Site by Site Analysis – Item B
- Attachment 6: PowerPoint Presentation – Item B
- Attachment 7: Cash Flow Analysis – Entire Project (for discussion under Item B)
- Attachment 8: Site by Site Analysis – Entire Project (for discussion under Item B)

Budget Impact:

The price tag on the entire solar project is now \$13,155,000, including a large array at the North Well Field to offset other meters in the City. \$11,170,000 will be paid out of the Water Fund, \$360,500 out of the General Fund, and \$1,624,500 out of the Sewer Fund. The savings over 30 years are expected to be \$43.4 million going to the above funds.

Recommendation:

For discussion only.