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

APPLICATION FOR CERTIFICATION FOR THE BEACON SOLAR ENERGY PROJECT	DOCKET NO. 08-AFC-2

RESPONSE TO REROUTED WASH INFORMATION REQUEST FROM WORKSHOP

From: Guigliano, Jennifer
Sent: Thursday, July 16, 2009 5:36 PM
To: ssanders55@comcast.net; Eric Solorio
Cc: 'Kenneth Stein'; Scott Busa; Russell, Meg; 'Jennifer Field'; Kimberly McCormick; 'Luckhardt, Jane'; Sophie Rowlands; Head, Sara
Subject: Beacon Solar Rerouted Wash Information

Attachments: RESPONSE-Rerouted Wash Information_071509.pdf

Hi Susan and Eric,

Attached is a memo in response to requests for additional information on the rerouted wash that were received.

Please let us know if you have any questions.

Thanks
Jenn

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Memorandum

Date:	July 15, 2009
To:	Susan Sanders, California Energy Commission
From:	Jennifer Guigliano, AECOM
Subject:	Rerouted Wash Information Request

Distribution:	Eric Solorio, CEC Scott Busa, Beacon Solar Kenneth Stein, Beacon Solar Meg Russell, Beacon Solar Sara Head, AECOM Mike Flack, AECOM Kim McCormick, Beacon Solar Counsel Jane Luckhardt, Beacon Solar Counsel

Below is a summary of information on the rerouted wash intended to address your questions from the workshop held on July 1, 2009 and in an email to Kenny Stein dated July 9, 2009 regarding the Kramer Junction drainage photos. The questions and the requested information are summarized below.

> July 9, 2009 Email: "Do you have any information about the design of this Kramer Junction channel, and the magnitude of flows (large and small storm events) that it conveys? Ideally I would like to see documentation of how a channel similar to the one proposed at Beacon would look five or ten years post-construction. While I know that is not possible, if this drainage has some similar characteristics it will provide useful information."

July 1, 2009 Workshop: Request to provide additional description of soil cement as it relates to barriers to wildlife movement, specifically the desert tortoise.

The Kramer Junction drainage was designed to convey flows and was not designed as a restoration site. Yet, as you can see in the photos, it has naturally developed microtopography with low flow channels and vegetation recruitment. The vegetation in the wash consists of at least four species of shrubs, so it is relatively diverse. The low flow channels are developing in a manner that is similar to what occurs in natural washes as a result of small and averages storm events. This is all occurring despite the fact that it was designed as a storm drainage and not designed as a restoration site nor was there any restoration enhancement activity to facilitate development of more natural features, functions, or values. According to the Kramer Junction site manager, vegetation began to establish within five years after construction of the drainage was completed. The photo above was taken in 2007 about 19 years after the drainage was completed. So, you can see that, even without specific restoration activities, the storm drainage naturally developed properties consistent with a native wash, a process that is ongoing. We do not have the design details for flood flow conveyances; however, on average, the Kramer Junction drainage is approximately 1 mile long and 200 feet wide from top of slope to top of slope, with side slopes between 2:1 and 3:1 that are approximately 30 feet in length. So, while it is smaller than the proposed Beacon channel, and with shorter slopes, the floor of the Kramer Junction drainage is similar to Beacon's. Thus, we would expect at least the amount of natural recovery seen at Kramer Junction.

The rerouted wash at the Beacon site will be designed with its primary purpose to convey storm flows up to the 100-year storm event. As proposed in our Beacon Solar Energy Project Mitigation Plan for Impacts to Jurisdictional Waters of the State of California Kern County, California (EDAW, August 15, 2008) (Mitigation Plan), the base of the rerouted wash (currently proposed at 250 plus feet wide with design modifications) will be used to replace the existing functions and values of the existing wash by facilitating the development of low-flow channels, microtopography, and vegetative cover in a manner that ensures the restoration effort meets or exceeds the established success criteria proposed for the rerouted wash and replaces the biological and hydrological functions and values that currently exist in Pine Tree Creek wash. The rerouted wash will be seeded with native vegetation and additional abiotic features (rocks, wood, etc.) may be added as described in the Mitigation Plan to facilitate movement of the water and development of microtopography. According to Dr. Alice Karl, these abiotic features would also add cover for any wildlife that may use the rerouted wash, particularly before vegetation becomes established, thereby adding additional design features to minimize any potential for wildlife impact. Again, as we have stated previously to CEC staff, we feel that the biological functions and values of the existing wash are very low and highly compromised (PSA Comments, May 1, 2009; Workshop on July 1, 2009). The wash has very low and patchy vegetation cover with long, barren stretches between vegetation patches, the vegetation cover is essentially monotypic, the wash discharges at the downgradient end to highly disturbed lands invaded by a dense stand of Russian thistle, the broad barren areas adjacent to the wash are largely inhospitable to wildlife, the wash does not provide connectivity due to all of these factors, de, and there is no documented use by the desert tortoise or other special status listed species. That a few species of birds, lizards, and small mammals occupy the wash is expected. These are common species for the area and would rapidly colonize most areas with microtopography and vegetation, even where the vegetation is sparse and the diversity low. The presence of these few species does not signify that a wash has high quality functions and values.

The proposed design of the rerouted wash is an effort to balance the primary hydrologic/hydraulic goal of conveying waters, with the secondary goal of creating restored habitat equivalent to the existing wash within the base of the channel. This effort requires the use of soil cement on the outer side slopes to stabilize the soil during high flow events and mitigate potential downstream impacts. The soil cement is created by using onsite materials (soil) and mixing it with cement to create a hardened surface that still retains similar aesthetics to the native earth at the site. The soil cement mixture is applied in layers to achieve the necessary depth to protect the structural integrity of the slopes. For this project, the side slopes are keyed in below the base of the channel (toe of slope) to protect the channel from potential erosion and undercutting that could occur from lateral migration. The soil cement will look much like compacted native soil material and have similar surface textural

characteristics. It is not a smooth concrete surface as some may perceive. It can also be modified to have extra texture on the surface. Over time, rilling will occur on soil cement from surface flows, adding additional texture; however, the depth of the mixture will allow the structure to retain its integrity.

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PROOF OF SERVICE
(Revised 4/28/09)

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Declaration of Service

I, Shawn Prentiss, declare that on July 20, 2009, I served and filed copies of the following:

1. Responses to Select Cure Comments at CEC's Request
2. Responses to Air Quality Questions from Workshop
3. Response to Request Regarding BSEP Subsurface Investigations
4. Response to Request for Predictive Sensitivity Groundwater Analysis
5. Response to Rerouted Wash Information Request from Workshop.

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/beacon. 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.

For Filing with the Energy Commission

__X__ sending an original paper copy mailed, to the address below;

OR

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

California Energy Commission
Attn: Docket No. 08-AFC-2
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.

/s/
Shawn Prentiss