

CALIFORNIA ENERGY COMMISSION
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**Energy Facilities Siting and
 Environmental Protection
 Division**

FILE: 09-AFC-08

PROJECT TITLE: Genesis Solar Energy Project

<input checked="" type="checkbox"/> Telephone		<input type="checkbox"/> Meeting Location:	
NAME:	Mike Daly, PE Genesis Water Analyst Senior Project Manager, PSOMAS	DATE: 1-06-10	TIME: 12:45 p.m.
			DOCKET
WITH:	Bob Anders, Worley Parsons Engineering	09-AFC-8	
SUBJECT:	Genesis Surface Drainage Data Requests	DATE 01/06/10	
		RECD. 01/12/10	

The conversation was held at approximately 12:45 pm to 1:25 pm PST, on January 6, 2010. Bob Anders called Mike Daly after receiving an e-mail from Mike requesting a discussion prior to the 1:30 pm Data Response call with the CEC.

The call was held to discuss the level of detail provided by the topographic information used in the FLO 2D analysis. Mike Daly was interested in knowing what level of detail is provided by the topographic information, and is this level of detail adequate to support valuable output from FLO 2D. For the lidar data (2' contour lines generated), Mike asked if Bob or Dipti Sheth knew the spacing of data points collected during the lidar survey. Neither Bob nor Dipti had that information available at the time of the call.

Dipti explained the use of the USGS topo 10 meter quad information. The USGS topo data was used to determine the pre-existing flows that were entering the north end of the site.

Dipti further explained that the output from FLO 2D appeared to match field observations made by Miles Kenney (more concentrated flows near the center and east of the site). However, neither the USGS nor the lidar data appear to pick up the micro channels, the highly braided depressions, or hollows. It was discussed that individual runs of FLO 2D would be used to predict the outflow from each of the channels, and that the lidar data would be used as the basis of topo. However, due to the gradual slope of the site, and the minor nature of the on-site drainage courses, (it was discussed that) the lidar does not appear to pick up subtle elevation changes associated with the channels that appear from aerial photography.

Mike Daly expressed concern that the lidar data may not be adequate, and that even more high resolution topographic data may not be adequate to develop valuable output to FLO 2D. Mike explained that he was not familiar with the site (he has not visited the site), but discussed that FLO 2D may not be appropriate for certain sites, and that perhaps this site falls in that category.

It was discussed that the "outlet" locations at the south end of the site could be located to coincide with any existing apparent drainage courses. This could be done based on aerial photos, and could actually be field located during detailed design based on detailed site surveys and field conditions.

The need to document existing and proposed floodplain conditions at the project site continues to be an issue of major concern for CEC staff assessing the drainage, geomorphologic, and biologic elements of the proposed project. I continue to coordinate with Worley Parsons on this matter as documented in the Record of Conversation (ROC) below provided by Bob Anders of Worley Parsons. I believe the ROC provided by Mr. Anders accurately reflects our conversation and most of the major topics discussed with the need for one point of clarification. I have indeed visited the site, but only observed peripheral areas to the project and did not get to see the area at or near the southern project boundary. However, from what I did observe, the drainages in the area are very poorly defined and it would appear problematic to pick up these drainages with Lidar data that has even relatively tight grid spacing. A summary of key outstanding issues related to the project FLO-2D modeling is provided as follows:

- A conversation with Mr. Anders subsequent to the meeting on January 6, 2010 indicated that the spacing for the onsite Lidar data is a 4.5 foot grid. I believe this spacing is not adequate to accurately map the existing drainages in the absence of break lines to define the location and alignment of surface features. These break lines would be provided in the generation of traditional aerial topography. The Lidar data may still provide better results than the 10 meter grid USGS data for defining conditions along the southern project boundary. Additional conversations regarding if additional pre-development conditions modeling using the onsite Lidar data are justified should occur



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early the week of January 11, 2010. The final decision should include input from parties with extensive knowledge of field conditions.

- Regardless of whether or not a meaningful existing conditions FLO-2D model can be created with the available elevation data, a post-development FLO-2D model and associated hydraulic calculations must be provided. This analysis must clearly demonstrate how flow will be dispersed along the southern project boundary to ensure a reasonable approximation of existing flow patterns. This model must include the locations, sizes, and hydraulic characteristics of the various pipes and weirs which will be used to disperse flow back to the natural floodplain.
- As discussed during the January 6, 2010 phone conversation with Worley Parsons, the post-conditions FLO-2D modeling must include more frequent flow events (such as the 2-, 10- and 25-year storms), as well as the 100-year event to ensure that the proposed dispersion system performs adequately across the spectrum of design flows.
- As discussed during the January 6, 2010 phone conversation with Worley Parsons, once the delineation of State Waters has been accepted it could be an appropriate check to ensure that at a minimum those delineated washes will receive adequate flow during post-construction conditions. The delineation should be provided as a graphical background to the post-development FLO-2D model results as well as the high resolution aerial photograph.

cc: Paul Marshall, CEC Siting Division Caryn Holmes and Robin Mayer, Staff Counsel Eileen Allen, Office Manager	Prepared by: Mike Monasmith
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