DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT CORPS OF ENGINEERS
P.O. BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

REPLY TO
ATTENTION OF

February 18, 2010

Civil Works Branch

Mr. Paul Jenkin
c/o Surfrider Foundation
PO Box 1028
Ventura, California 93002

Dear Mr. Jenkin:

Thank you for your participation and interest in this project and concerns related to the project features and their potential impacts to the surrounding community and environment. I am responding to your comments on the Matilija Dam Ecosystem Restoration Project that were provided to me through Mr. Doug Chitwood. We have prepared a response to each of your comments listed below.

Comment 1:

Need for Levees?
Meiners Oaks Levee Design: The attached figures show the analysis results for existing 100-year flooding threat, future flooding with dam removal, and intended flood mitigation with the proposed levee. The with-project flood predictions are absolute worst case scenario: the 100-yr flood occurs immediately after dam removal. Inflow from upland tributaries was not included in these analyses. It is noted that the most recent analysis predicts a higher flood potential (both with- and without-project) than the Feasibility Study analysis. The analysis shows an incremental increase in flooding with dam removal in the worst-case scenario. What changed in the more recent models? How does this analysis compare with the existing FEMA flood map? How does the flood risk change over time following dam removal?

Response to Comment 1:

The with-project conditions for the one percent chance, or "100 year flood", represent the inundation area for channel conditions at the end of a representative 50-year simulation period. It would not be considered a "worst case" scenario, but our best estimate of the aggradation/degradation over the life of the project.

Inflow from tributaries is accounted for in the mainstem flows, but an analysis of each tributary was not performed unless it was directly impacted by the project. It should be noted that the Cozy Dell drainage passes through the Meiners Oaks community (Figure 2) and this drainage could cause substantial flooding. The 50 year flood from Cozy Dell is approximately 2,000 cubic feet per second based upon recent analyses by the Ventura County Watershed Protection District and the Bureau of Reclamation.

A flow of this magnitude could cause substantial damage to the Meiners Oaks community even if there is no flow in the Ventura River. The Matilija Dam Ecosystem Restoration Project is not providing any feature that would reduce the flood risks from flows originating in the Cozy Dell watershed.

You correctly indicated that the most current analysis of inundated area shows an increase in the 100 year floodplain relative to the Feasibility Study. The flooded area increased as the result of updated survey information and a more detailed analysis of historical channel morphology in this reach. The analysis of historical photography showed that the berm separating the Meiners Oaks community from the Ventura River may erode during extreme flood events such as the 100 year flood. In the Feasibility Study, we assumed that the berm would not erode. However, we now do not believe that this is a correct assumption based upon the analysis of historical aerial photography. Figure 2, included in this letter shows an aerial photograph of Meiners Oaks with the historic channel migration boundaries identified. In our more recent analysis, we assumed that the channel may again meander during the 100 year flood without project conditions and therefore the floodplain is larger than as illustrated in the Feasibility Study.

The natural re-supply and sediment eroded from the reservoir deposits will cause deposition in this reach after dam removal. The 100 year water surface elevations will increase up to 9 feet immediately below Robles Diversion Dam. There has been 5 to 7 feet of degradation in this area since 1970 (see Figure 1), and there was probably additional erosion in this area from the time of the construction of Robles Diversion Dam (1958) to 1970. Therefore, the riverbed in this reach will return to approximately its pre-dam elevations. We do not expect that the flood elevations will decrease to current conditions because the current condition is a degraded state caused by the trapping of sediment behind Matilija Dam. The natural resupply of sediment will return the Ventura River to pre-dam conditions, which in many reaches means an increase in flood elevations.

The Federal Emergency Management Agency (FEMA) regulatory 100 year floodplain is shown in Figure 2. The FEMA 100 year floodplain includes all of the residences behind Meiners Oaks Levee. Since there may be flood damages arising from Cozy Dell itself, the FEMA regulatory 100 year floodplain may not change based upon the construction of the Meiners Oaks Levee.

Comment 2:

Local betterment?
During the Feasibility Study, discussions indicated that Federal funding does not pay for enhancement over existing conditions (i.e. improved water quality from Robles Diversion, increased flood protection, etc.) Such costs are termed a 'local betterment' and are to be born by the local sponsor. The proposed Meiners Oaks Levee would increase flood protection to the 100 year level. Is this considered a local betterment?

Response to Comment 2:

We have had recent discussions related to this very question; whether the US Army Corps of Engineers is responsible for returning the Meiners Oaks area to the pre-project level of protection or to the 100 year level of flood risk reduction from Ventura River. We have not received a final decision on this question to date. Our concern is whether or not the Federal Government would allow the Corps to build a flood risk reduction structures that would leave people in the Ventura River 100 year floodplain. However, post-Hurricane Katrina, the U.S. Army Corps of Engineers' Los Angeles District has taken the position that we will not build such structures. This question will continue to be addressed and a decision finalized prior to the levees placement. At this time, we are not considering the difference in heights to be a local betterment. This is an accounting question and does not affect the need for the levee. The levees are necessary prior to the removal of the Matilija Dam.

Comment 3:

Ecosystem Implications?
Levees constrict floodplains, focus peak flows, and disrupt riparian processes. Perhaps the largest impact is the ongoing disruption from 'Operations and Maintenance' (O&M). O&M impacts include clearing of riparian plants, ongoing grading adjacent to/within the active channel, access roads, fencing, chemical application (herbicide and rodenticide), etc. (see also Mat Coalition WPD Routine Maint EIR 1-15-08). These effects are especially evident at the Live Oak levee site, where riparian vegetation has been eliminated from the floodplain. This levee also affects the Santa Ana Bridge and bluff erosion. Similar effects could be expected with the construction of the Meiners Oaks Levee.

Did the HEP ecosystem valuation take into account the loss of floodplain and impacts to riparian habitat from levees?

Response to Comment 3:

The Habitat Evaluation Procedure (HEP) did not account for project impacts to riparian habitat. The HEP calculated project ecosystem values pre- and post-project based on steelhead trout (*Oncorhynchus mykiss*), giant reed (*Arundo donax*), and sediment transport to achieve the annual average habitat units required for the U.S. Army Corps of Engineers process. The National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) documents prepared for this project evaluated impacts caused by project footprints to existing habitat.

Comment 4:

Growth Inducement?
Current regulation restricts the level of development within the floodplain. When a levee is built, the floodplain is re-drawn, relaxing restrictions. This will lead to increased urbanization in Meiners Oaks. How does growth inducement impact the restoration objectives of the project?

Response to Comment 4:

Growth inducing effects are evaluated on page 11-1 of the Environmental Impact Statement/Environmental Impact Report (EIS/EIR). The evaluation/discussion addresses the ways that the project could cause growth inducing effects. The EIS/EIR states that "While the proposed project could help facilitate growth in the area by reducing a potential development constraint (flood hazard), the resultant growth would be consistent with the land use policies of the applicable general plans for this area." It goes on to state that "While the project would not directly induce growth, the removal of Matilija Dam and restoration of the Ventura River ecosystem would indirectly accommodate future development of recreational resources."

Also, as discussed in the response to Comment 1 above, the project would not reduce the flood risks associated with the Cozy Dell watershed, or directly result in a change in the FEMA floodplain mapping.

Comment 5:

Alternative floodplain management?
Costs have been estimated for levee construction only, with local government responsible for Operations and Maintenance. What is the long-term O&M cost associated with a new levee? Considering the long-term impacts of a new levee, the Meiners Oaks proposal needs careful cost/benefit and alternatives consideration. Such alternatives may include:

- *Enhance the existing vegetated berm in lieu of the proposed levee. What is the long-term cost savings from a maintenance-free structure?*
- *Are there opportunities for enhancement of existing flood insurance program?*
- *Are there opportunities for easements?*

The Live Oak Levee constricts the floodplain in a critical area and is in poor repair. Plans call for complete reconstruction with a larger levee system, which may present an opportunity to enhance the ecosystem objectives of the project. For instance:

- *Are there set-back alternatives that may increase the floodplain area upstream of the bridge in order to attenuate peak flows?*
- *Can flowage easements be purchased like the Camino Cielo neighborhood?*

Response to Comment 5:

For clarification, the work planned for the existing Live Oak Levee is not a "complete reconstruction." However, there are modifications to the slope protection along the entire levee and limited areas where the levee will be raised. We do not intend to modify the basic existing structure more than necessary to provide protection from the expected flood induced damages.

The levees are an important aspect of the overall project agreed to by the Matilija Coalition and other stakeholders during the Feasibility Study and are included in the authorized project. During the design phase we can refine the authorized project features.

Based on past practices for similar projects, the Ventura County Watershed Protection District (VCWPD) estimates the annual cost for routine maintenance of the Meiners Oaks Levee to be

about $15,000. Since the Live Oak Levee is an existing VCWPD facility, no new maintenance costs are anticipated for this facility.

Your assumption that a vegetated berm would provide the same flood risk reduction benefit as a designed levee is not our view and is not consistent with our guidance. Further, while it is acknowledged that proper vegetation can function to lower the rate of erosion during lower flow events, it is not broadly accepted among those agencies actually responsible for public safety that vegetation will function effectively during high flows. The U.S. Army Corps of Engineers' policy and criteria do not permit vegetation to be the means to prevent erosion of this flood control feature. Finally, the assumption that a vegetated berm is maintenance free is incorrect. Watering, replanting following storms, and other maintenance activities would entail higher maintenance costs than those associated with the proposed levees.

Flow easements are possible in the Camino Cielo neighborhood only where there are non habitable structures. Residential structures that will be in the floodplain must be purchased in fee.

I hope that each of your comments are adequately addressed. Should you have further questions, please do not hesitate to contact me at (213) 452-3971 or Mr. Darrell Buxton, Project Manager, or Mr. Doug Chitwood, Project Engineer. Mr. Buxton and Mr. Chitwood can be reached at (213) 452-4007 and (213) 452-3587 respectively.

Sincerely,

Kenneth R. Moore

for: Brian M. Moore
Deputy District Engineer
for Project Management

Enclosure

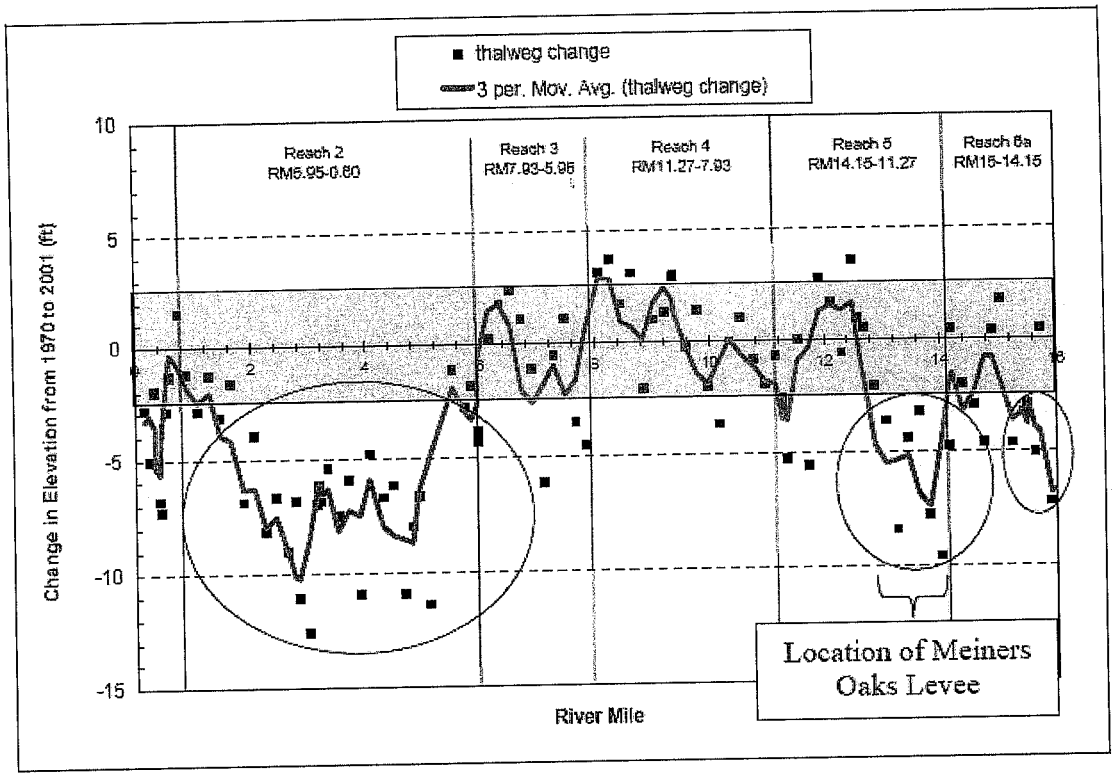

Figure 1. Comparison of change in thalweg elevation between 2001 and 1970. Negative changes indicate areas of degradation in the channel bed. Positive changes indicate areas that have aggraded. Areas within 2.5 feet of change are considered to be within the error range of the 1970 data.

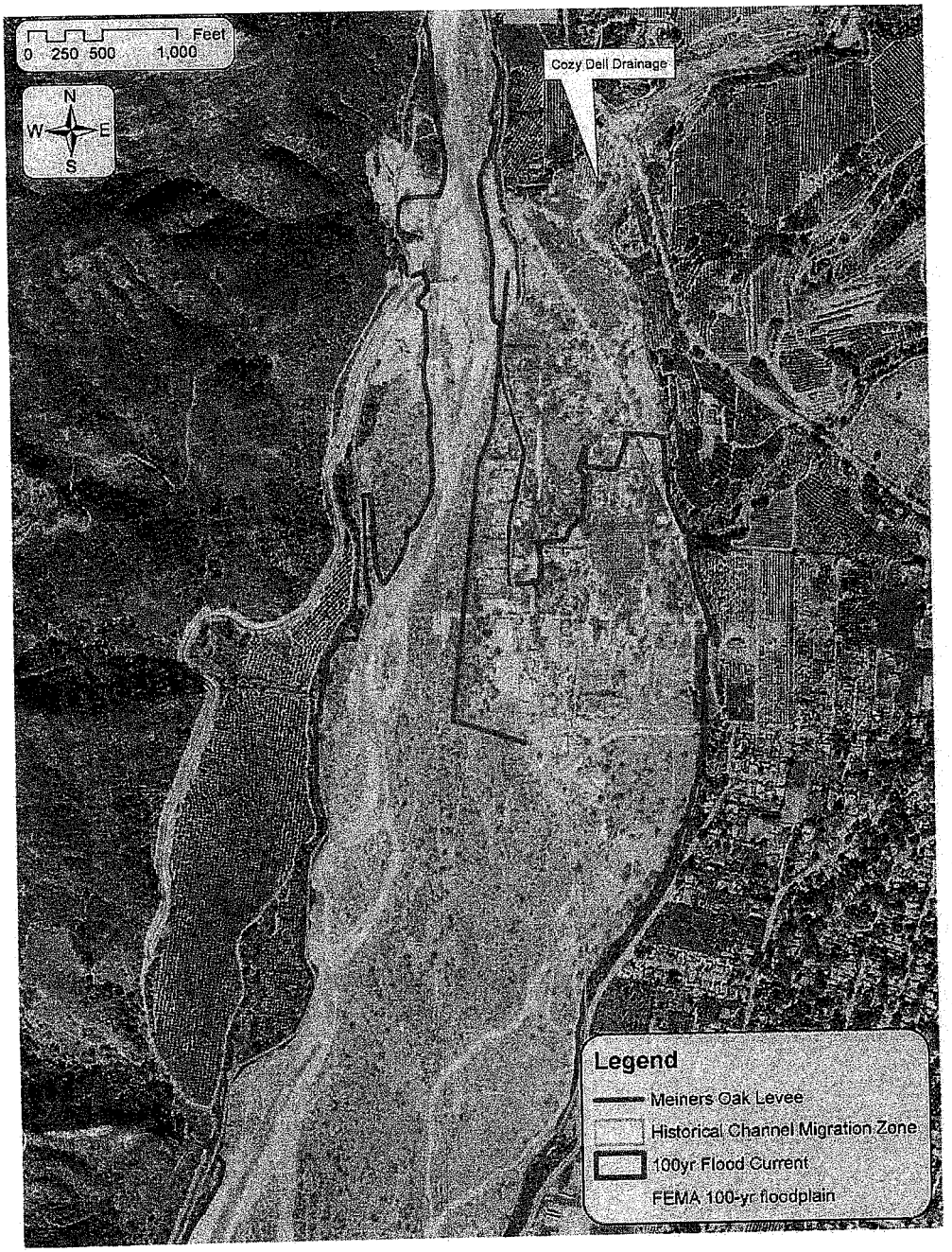

Figure 2. Map of Floodplains near Meiners Oaks levee. River flow is top to bottom.