LOWER FEATHER RIVER CORRIDOR MANAGEMENT PLAN (LFRCMP)

The Lower Feather River Corridor Management Plan is being developed to establish a vision for future management, restoration, and maintenance of flood control facilities, conveyance channels, and floodplain and related habitat on the Feather River from the Sutter Bypass to the Yuba River confluence (approx. 20 mi.). The LFRCMP will implement the new collaborative approach for planning, designing and implementing projects within and adjacent to flood control features that DWR is responsible for maintaining and repairing.

DRAFT MEETING AGENDA
For Hydraulic Modeling Subcommittee

Date and Time: Monday August 16, 2010 2:30 - 4:00 pm

Location: AECOM's office at 2020 L Street, Mid-Town Sacramento 95811

Call-in Conference Numbers: 866-227-5157; Conference Code: 916-990-2569

Time	Topics	Lead
2:30 pm	Introductions and Purpose of Subcommittee	Jeff Twitchell Tony Danna
2:45 - 3:15	Inventory and review existing hydraulic models of Lower Feather River, one dimensional and two dimensional models	Jeff Twitchell, Paul Brunner
3:15 -3:30	Review extent and coverage of existing and planned models, and coverage relative to existing and planned restoration activities	Jeff Twitchell, Paul Brunner, Steve Fordice
3:30 - 3:45	Develop outline for scope of work and schedule as initial steps in developing rfp for hydraulic modeling to share with LFRCMP Work Group	Jeff Twitchell
3:45 - 3:50	Identify potential sub contractors list for AECOM to perform LFRCMP hydraulic modeling: MBK Engineers, Wood Rodgers, David Ford, CBEC, and others??	Paul Brunner Jeff Twitchell Matt Wacker
3:50 - 4:00	Identify action items and next steps	Jeff Twitchell
4:00	Adjourn	

Meeting Notes

Introductions & Purpose of Subcommittee – Jeff Twitchell

Attendance: Jeff Twitchell – LD1, Sutter Basin, and chair; Gary Hobgood - CDFG; Meegan Nagy - USACE (on phone); Paul Brunner – TRLIA; Jennifer Hobbs – USFWS; Steve Fordice – RD 784; Andrea Mauro – CVFPB; John Carlon & Helen Swagerty - River Partners (on phone); Matt Wacker - AECOM ; Earl Nelson - DWR; Ron Unger – DWR; Tony Danna – DWR.

This subcommittee was formed to discuss hydraulic modeling along the Lower Feather River corridor, to determine what information is needed for hydraulic modeling, to determine the type of hydraulic modeling needed and to determine the contractor to work with AECOM.

Jeff – Discussed the purpose of the meeting and the goal for the formation of the subcommittee
He discussed some background on the status of the past Feather River Modeling. He mentioned that Wood Rodgers was doing modeling and mapping under contract with DWR in connection with the DWR FloodSAFE Central Valley Floodplain Evaluation and Delineation (CVFED) project. Their project contract area includes the Feather River area, inclusive of the Lower Feather River. The mapping for DWR includes two-dimensional mapping of the overland basins protected by the levees but it does not include two-dimensional modeling of the Feather River corridor. The current mapping is using one-dimensional modeling and hydraulics previously developed for the Comprehensive Study and new LiDAR topography that is still under development. Wood Rodgers, through its separate efforts on behalf of LD1, has also performed two dimensional modeling for the Star Bend Setback Levee utilizing an RMA 2 model developed for major portions of the Lower Feather River in large part by MBK Engineers. The larger RMA 2 model developed by MBK Engineers has been used by TRLIA in connection with TRLIA's setback levees on the Bear and Feather Rivers, and by River Partners in connection with restoration efforts implemented at O'Conner Lakes and proposed for Abbott Lakes and Nelson Slough.

Inventory and review existing hydraulic models of Lower Feather River, one dimensional and two dimensional models

Paul – Discussed the TRLIA MBK RMA 2 model and explained that the existing model already extends along the Feather River Corridor from the Yuba River confluence south to the Sutter By-pass. This existing model is available for the group to use. The model will need to be amended to include the recent Setback Levee at Star Bend by LD-1 in Sutter County.

Group – Discussed the different types of models. Most felt the 2D model should meet all of our needs. There was some discussion on future information or data becoming available. The LiDAR (*Light Detection and Ranging is an optical remote sensing technology that measures properties of scattered light to find range and/or other information of a distant target.)* data was discussed and will becoming available in 2011 for most of the Lower Feather River. Some LiDAR data may be available within the next 3 months, but it may be of limited use to fulfill the immediate modeling needs for the LFRCMP.

Review extent and coverage of existing and planned models, and coverage relative to existing and planned restoration activities

Jeff – discussed the various known modeling, and the geographic extent of various models. Jeff also mentioned that the Central Valley Flood Protection Plan system wide modeling (CVFED) utilizing the latest hydrology and hydraulics will not be ready until after 2012. Although there will be some overlap of hydraulic mapping with the CVFED and the CVFPP efforts underway, it is evident that two-dimensional modeling proposed would not be

duplicative of any efforts currently underway by DWR . Two-dimensional modeling for the Lower Feather River would also be similar and complimentary to the two-dimensional modeling that is about to take place for the neighboring Sutter Bypass by DWR and the CVFPB.

Paul – Mentioned that the TRILA MBK modeling used the roughness N-Value to show that the 1600 ac setback was a "Riparian Jungle." This was to reflect total maximum growth in this area, while still allowing design flows below the flood stage.

Matt – MBK has the most data currently on the Lower Feather River.

Jeff – Mentioned that MBK does not have the latest as-built topography and n-value data for the Star Bend Setback levee area, and that they also need to include and update the current model with as-built data and n-values of the TRLIA setback levees on the Feather and Bear River. The current model geographically covers the entire Lower Feather River Corridor between the Yuba River and the confluence of the Sutter Bypass (except for the LD1 Star Bend Site), inclusive of the lower area of the Bear River west and downstream of the Western Pacific Interceptor (WPIC). The latest two-dimensional RMA 2 model developed by MBK is quite comprehensive and should not take much effort or expense to update in connection with providing a baseline condition model. CH_2MHill is under contract or is about to be under contract to perform the RMA 2 modeling for the Sutter Basin. There is no two-dimensional base model for the Sutter Bypass in existence, and thus it is anticipated that accurate two-dimensional modeling will be more expensive for the Sutter Bypass in comparison to the Lower Feather River. The modeling in the Sutter Bypass is expected to cost as much as $200,000.

Develop outline for scope of work and schedule as initial steps in developing rfp for hydraulic modeling to share with LFRCMP Work Group

Group – Discussion on future opportunities for information. The vegetation data needed is mostly available from previous studies for our purposes. Data along the edges may be lacking. The use of a 2 D model will allow us to anticipate future potential events and the impact of those events. Velocity of flow cannot be shown in all of the studies (particularly for the lower 2-, 5- and 10-year flows) and will not be available for all data. It appears that professional judgment will be needed to do predictive modeling. The Group felt that a worst case scenario might be the best predictive modeling to have done.

John – Felt that the O'Conner Lakes modeling using N-values worked out very well as the following high-water event conditions of January 2006 showed very good corollary results with the model predictions.

Group – Discussion followed that an ordinary high water mark (OHWM) flow would be a good predictor of the "normal" flood concerns and provide limits of maintenance areas. Although the model can develop the extent of inundation for various flow intervals, it is suspected that the model is calibrated only to the high water event that occurred in 1997, resembling a 1-in-100-year event.

John – Further discussion on the quality of the interpretation of the data and how the data was presentation could weigh heavily on what the data meant. More discussion occurred on having consensus data analysis on the results.

Group – Discussion on cost noted that a $100,000 to $150,000 cost for the Sutter Bypass modeling was much higher than the figure we were looking at in the Feather CMP.

Paul – Mentioned that with the work MBK had already done with the grid pattern that should significantly reduce the cost. He also mentioned that the data is not proprietary so other companies should be able to use the DWR or the TRLIA data.

Earl – Told the group that DWR should be able to find the needed funds especially with the prior work done in the area to reduce costs. The Feather CMP is a priority maintenance project and should get the support from other projects, such as CVFPP with Stacy Cepelo sitting on the CMP Work Group. The set-up cost is the early high cost and then once paid for becomes public information.

Paul – Mentioned the need to look at the modeling when completed and then determine where our priority areas are for future management. He mentioned "a coloring" process to determine the mitigation areas, the area's most subject to floods, and really determining the "Future Vision" of the Lower Feather River Corridor. Based on this information developing a present situation, a desired situation, and several alternatives would be easy.

Identify potential sub contractors list for AECOM to perform LFRCMP hydraulic modeling: MBK Engineers, Wood Rodgers, David Ford, CBEC, and others?

Group – consensus of the group was that MBK was the sub contractor most likely suited to perform the hydraulic modeling since MBK had already done significant work along the Feather River and were the ones that developed RMA 2 model for the Lower Feather River.

Matt – Mentioned that the names listed above are available as subcontractors and would not require any other process like asking for bids.

Earl – Discussed that Phase 2 would be the modeling phase of the CMP development. We are now preparing to develop the scope of work and determine the budget need for the next phase.

Gary – Pointed out that the Task Order needs to include the scope of work that will address the number of scenarios analyzed and the how the work will prepared.

John – He felt that is was important to include the velocity information in the scope of work to help with the analysis process. He also discussed the potential for a new thematic terrain component. Also he wanted to know if we should include the LIDAR data request.

Jeff – Pointed out that the Star Bend and any other area that is added needs to be updated with as-built information including topography and n-values.

John – Asked if LIDAR was that important to wait for because the ground situation can change so quickly with one event. The Group pointed out that the LIDAR was 2008 data past the last big event. The need to address the right flood plain event span and the time of year of the event makes a big difference in the impact. The 2 year level of frequency of inundation was discussed. The CSU Chico folks are working on a new riparian plain map including the CMP. It is a joint operation with DFG and Joint Ventures.

Meegan – Mentioned that there is a 1957 baseline design that must be met for the USACE needs on current situation. Current situation should graph the corridor and have the width of the flood impact stage. The question asked was should this be a 5-, 10-, or 20-year flood event map?

(No final decision reached)

Identify action items and next steps

Jeff – Offered to develop outline of scope of work for the applicable model updates and amendments that would make the model all-inclusive of the areas of most interest to all the stakeholders. The model would include updates for all of the three setback areas and attempt to include areas downstream of Nelson Slough. A wish list of all the areas and projects requiring modeling would also be developed to analyze project-specific impacts and opportunities as well as evaluating cumulative impacts and benefits for the entire LFR corridor. For comparative purposes Jeff will also attempt to secure a copy of the scope of work and cost estimate for the Sutter Bypass two-dimensional modeling

Matt and John – Offered to secure vegetation inventory data that may have been or is being collected in the LFR corridor to assist with baseline data to further define existing n values.

Adjournment

The meeting adjourned shortly after 4:15 pm