



Central Valley Flood Protection Plan

Levee Performance Scope Definition Work Group Summary of Meeting #1 – August 25, 2009

August 25, 2009, 9:00 am – 4:00 pm

**Location: Center for Collaborative Policy
815 S Street, Large Conference room
Sacramento, CA 95811**

MEETING ATTENDANCE:

Present:

Name	Organization	Status
Peter Buck	SAFCA	Partner
Steve Chainey	California Department of Water Resources (DWR)	Partner
Stuart Edell	Butte Co. Public Works	Partner
Les Harder	SAFCA	Partner
Gil Labrie	Brannan-Andrus LMD	Partner
Chris Neudeck	RD 17 and Twitchell Island	Partner
Mary Perlea	U.S. Army Corps of Engineers (Corps)	Partner
Jeff Twichtell	Sutter County	Partner
Bill Darcie	RD 17 and Twitchell Island	Alternate for Chris Neudeck
Dorian Fougères	Center for Collaborative Policy, CSUS (Center)	Facilitator
Gary Hester	DWR	Central Valley Flood Management Program (CVFMP) Program Manager
Mike Inamine	DWR	DWR Lead
Mary Jimenez	MWH	Technical Lead
Ken Kirby	DWR	CVFMP Program Manager
Roger Lee	DWR, Central Valley Flood Protection Office (CVFPO)	CVFPO Representative
Joe Bartlett	DWR, CVFPO	Alternate for Roger Lee
Nicole Ugarte	Center for Collaborative Policy	Facilitation Support
Josh Yang	MWH	Technical Team

Absent:

Reggie Hill	Lower San Joaquin Levee District	Partner
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WORK GROUP HOMEWORK / ACTION ITEMS:

1. After receiving a Microsoft Word version of the Program Glossary, Work Group Partners (hereafter Partners) are invited to send comments and additions to Mary Jimenez at mary.j.jimenez@us.mwhglobal.com ; Mary will then compile comments and forward them to the management team and to partners.
2. After receiving a Microsoft Word version of the outline for Deliverable 1, Partners are invited to send comments and revisions to Mary Jimenez at mary.j.jimenez@us.mwhglobal.com; Mary will then compile and incorporate comments into a revised version to be discussed at Meeting 2.
3. Work Group Staff (hereafter Staff) will work to recruit to fill membership gaps identified by the Work Group.
4. Staff will revise the Charter and send to Executive for approval. The revised Charter will be distributed at Meeting 2.
5. Staff will bring an updated study area map, map showing project and non-project levees, copies of the CVFPP 12-meeting chart, and a copy of the document database (for Deliverable 3) to the next meeting.

FUTURE MEETINGS SCHEDULE:

Staff will coordinate with all Work Group Partners to schedule all future Workgroup meetings.

Partners agreed to Sacramento as a convenient meeting location and estimated three future meetings. The Center will send out the meeting dates that work for the greatest number of Partners.

MEETING OBJECTIVES:

- Describe the CVFPP and its context within California FloodSAFE program
- Review the Work Group Charter and Deliverables
- Identify additional recruitment needs
- Review the work plan
- Schedule subsequent meetings
- Share existing materials for Deliverables 1 – 4 as foundation for subsequent work
- Begin Work on Deliverable 1
- Identify work needed to prepare for Meeting 2

SUMMARY:

****POWERPOINTS AND DOCUMENTS REFERENCED IN THE SUMMARY ARE AVAILABLE ONLINE at www.water.ca.gov/cvfm or upon request to Nicole Ugarte nugarte@ccp.csus.edu****

WELCOME AND GREETINGS

Dorian Fougères, facilitator with the Center, opened the meeting and asked everyone around the table to introduce themselves. He then reviewed the agenda, meeting goals, and meeting materials.

OPENING REMARKS

Gary Hester, CVFMP Program Manager, thanked participants for volunteering for this important work. Ken Kirby, CVFMP Program Manager, introduced also himself and explained his role as the CVFMP executive sponsor for the Work Group. Mr. Kirby also noted that a lot of work has already been done on the subject of Levee Performance, so the Work Group would not need to start from scratch.

OVERVIEW: FloodSAFE AND THE CVFPP

Mr. Kirby provided a PowerPoint presentation/overview of the FloodSAFE program, the CVFPP, and the context in which the Work Group will be working. Mr. Kirby emphasized the role of the Work Group at this stage of the CVFPP is to identify factors in Levee Performance that the Plan should address. This is why the group is called the Levee Performance Scope Definition Work Group. There will be future work groups to determine recommended actions. Mr. Kirby also noted that the map in the presentation has been updated, and at the next meeting the updated map will be included in the meeting materials.

CHARTER REVIEW Q&A

Mike Inamine, DWR Lead, walked participants through the Work Group Charter, drawing emphasis to the Work Group Focus and Charge & Deliverables. He noted the limited scope of work for the Group, which focuses largely on modifying and updating existing draft lists, and then prioritizing the factors on the lists. Mr. Inamine also reminded the Work Group that the three other concurrent Scope Definition Work Groups (Environmental Stewardship, Climate Change, and Operations and Maintenance), would cover some of the same topics. The challenge will be to recognize the overlapping nature of these topics while comprehensively addressing Levee Performance Factors. Mr. Kirby reiterated that the study area map within the Charter will be updated to reflect the revised regional boundaries for the CVFPP. He also reported if there are any changes requested for the Charter, these will be considered by the management team. With regard to the CVFPP, Mr. Kirby noted that the Department Director will have final approval.

Discussion:

- A participant inquired where the draft deliverables can be found. The draft deliverables are listed in the meeting materials.
- A participant asked if the Work Group would also be considering federally covered basins. It was explained that the Work Group would be examining factors in terms of systems. Any related or pertinent systems connected to the performance of levees will be considered. Mr.

Inamine added that the 700 miles of project levees in the Delta are included as a special case, to leverage the work that has already been done.

- A participant asked if dams and reservoirs will be included, either in the study or this Work Group. It was noted that reservoirs will be included in the plan, but will not be specifically addressed in this group.
- A participant asked for clarification regarding what future work currently being planned will be included in the CVFPP. Mr. Kirby explained that anything that is expected to complete by 2015 will be addressed.
- A participant asked about the meeting schedule and frequency. The Work Group expects to meet three to five times, and to complete the deliverables by mid-October.
- Under Roles and Responsibilities, a participant requested clarification between Work Group Members and Sub-Committee Members. It was noted these would likely be the same people, but regardless, this Work Group will probably not have Sub-Committee members due to its limited scope.

GLOSSARY

Roger Lee, DWR CVFPO Representative, reviewed the Glossary with meeting participants. He indicated the Glossary is a living document, and is used by all Work Groups. Its purpose is to serve as an educational tool for all partners, and to ensure terms used are uniform across disciplines and across Work Groups. All comments on the existing text and suggestions for additional terms are to be sent to Mary Jimenez, Technical Lead for MWH, at mary.jimenez@us.mwhglobal.com.

Discussion:

- A participant requested that the term *Stakeholder* be clarified. Other participants also suggested *Partner*, *General Public*, and *Beneficiary*.
- A participant requested the inclusion of a 100-year and 200-year flood event, as well as a distinction between floodway and floodplain. He further noted that there that the Glossary seemed brief. Mr. Fougères reminded the group that the document is still in progress, that these suggestions are what DWR was hoping for, and to send their changes to Ms. Jimenez.
- A participant communicated that FEMA and DWR use different definitions for floodplain, and inquired which definition was going to be used. Mr. Kirby responded the definition listed in the Glossary will be used by all groups, based on the definition provided in relevant legislation.
- A participant asked about the genesis of the document. Mr. Kirby explained that the origin of the document is based primarily on existing legislation, and that it is meant to be a broadly accessible, rather than highly technical, document.
- A participant also suggested that documents be sent to the Work Group, and modifications can be tracked through the Track Changes function on Microsoft Word, or via a spreadsheet with room for comments. Participants agreed to send text changes to Ms. Jimenez for the Glossary, and future document modifications for the deliverables will be added by Track Changes.

CONTACT LIST/MEMBERSHIP REVIEW

Mr. Inamine informed the participants of the process for selecting members. The Internal Team had concentrated on keeping the Work Group small to remain effective, and then to get representatives from Urban and Non Urban areas, Upper/Lower Sacramento, Upper/Lower San Joaquin, the Delta,

environmental perspectives, and the Corps. There were approximately ten other people who had been invited, but conflicts prevented their participation. Mr. Inamine then asked the Work Group for suggestions if there are gaps in the representation. A few specific suggestions were made.

Specific suggestions for additions to the Work Group:

- Roger Churchwell or Ron Heinzen from SJAFCA
- Representative from West SAFCA
- Mark Connolly from San Joaquin County
- Representative from TRLIA
- Representative from Bureau of Reclamation

Mike Inamine agreed to contact Ron Heinzen and Roger Lee agreed to contact West SAFCA. A representative from TRLIA had been considered during earlier discussions, and it was agreed that region is covered by others. Mark Connolly would be contacted if a SJAFCA representative could not be added.

REVIEW OF EXISTING MATERIALS FOR DELIVERABLES 1 - 4

Mr. Inamine reviewed the work already done for the Draft Deliverables with meeting participants.

Under Deliverable 1: Key Factors, he suggested environmental factors as a possible new category.

Mr. Inamine reviewed Existing Problems (Deliverable 2), noting the large overlap between Levee Performance and other Work Groups.

For Deliverable 3: Reference Material, he explained his staff was currently refining a database of 8,000 documents for prioritization by the Work Group. Mr. Kirby emphasized the Work Group's role in paring down the large body of documents to a list of approximately 30 references that are foundational, up-to-date, and frequently used in the meeting participants' respective fields. Staff agreed to bring a copy of the document database to the next meeting.

Mr. Inamine referred to Deliverable 4: Levee Performance Activities as a first cut of both ongoing and completed activities. He further flagged that the list should capture all the work relating to Levee Performance, including on-the-ground projects.

Discussion:

- A participant suggested channel permits as a consideration for Key Factors (Deliverable 1). It was determined that it overlaps with the work of the Operations and Maintenance (O&M) Scope Definition Work Group.
- A participant noted that flood management strategies are missing from the Key Factors (Deliverable 1), and asked if flood prevention documents should be included, as it can be connected to Environmental Stewardship. Mr. Inamine recognized the interconnectedness of the groups, and affirmed that issues relating essentially to Levee Performance should be included.
- A participant requested clarification for the Work Group's task for Deliverable 3. Staff articulated that the Reference List should be manageable and concise, and provide a policy view on Levee Performance.

- Staff further clarified that the documents listed in Deliverable 3 do not have to be broadly accepted. At the same time, a sense of the level of acceptability to individuals and the representative quality of the document is useful information.
- Staff suggested modification of the Charter in order to reflect the Work Group's charge to compile a short, representative list, rather than comprehensive list. The charter will be modified and sent to Executive for approval.
- Participants gave the following suggestions for consideration on the Reference List (Deliverable 3):
 - Design memorandums as historical and foundational guides, such as the 1955 design profile for San Joaquin River and 1957 design profile for the Sacramento River.
 - Hydrologic studies, particularly to refer to what the Corps has done
 - 96/97 Congressional Approval for Vision Documents
 - O&M Manuals from the Corps
 - CA Levees Roundtable discussions on vegetation and environmental constraints
 - Publications about floodway, bank protections, fish working group, vegetation, and anticipating erosion
 - SAM model
 - San Joaquin Restoration Model
- A participant was concerned about where floodways would fit in to any of the Topic Work Groups. Mr. Kirby communicated his confidence that scoping was not necessary for floodways. The 2012 version of the plan is going to focus on generating new models, whereas this Work Group is focused on getting Levee Performance topics framed.

INITIAL WORK ON DRAFT DELIVERABLE 1

Mr. Fougères asked Partners whether the categories identified in the draft Deliverable 1 made sense to them. Partners discussed several alternate ways to structure the categories, including the purposes for which levees are designed (both historical and actually existing), and modes/mechanisms of levee failure. The former set of categories included:

- Flood Protection
- Habitat Creation and Protection
- Water Conveyance
- Land Reclamation
- Recreation
- Commerce & Navigation

The group concurred that most of the factors were interconnected. After further discussion, the group settled on organizing Deliverable 1 around modes/mechanisms of failure, with the three major sub-categories including Internal Erosion, External Erosion, and Slope Stability. The group then spent the remainder of the day discussing the key factors that should be listed under each sub-category. Many factors were drawn from the draft Deliverable 1, and many additional factors were added. The following lists reflects the group's work during the afternoon.

1. INTERNAL EROSION
 - a. Under Seepage
 - i. Foundation
 1. Historical Channel Fill And Mining Deposits
 2. Past Levee Breaches

- 3. Previous Repairs
 - 4. Pre-Existing Geomorphology
 - ii. Geometry
 - iii. Bank Erosion
 - iv. Encroachments
 - 1. Swimming Pools
 - 2. Ditches
 - v. Vegetation*
 - 1. Treefall
 - 2. Root Penetration/Piping
 - vi. Land Use Practices
 - 1. Excavations Outside Of Levee Footprint
 - 2. Agriculture
 - 3. Burrowing Rodent Habitat
 - 4. Visual & Physical Obstructions For Inspection And Flood Fighting
 - vii. Foundation Penetrations
 - 1. Pipes
 - 2. Utilities
 - 3. Foundations
 - 4. Power Poles
 - viii. Rodents
 - ix. Hydraulic Head: Peak And Duration
 - 1. Climate Change
 - 2. Reservoir Operations
 - 3. Flood Relief Structures
 - 4. Upstream/Downstream Levee Failures
 - 5. Different Levels Of Protection
 - 6. Maintaining Channel Capacities
 - x. Flood Fighting
 - xi. Structures Outside The Levees
 - xii. Manmade Activities
 - 1. Hydraulic Fracturing
 - 2. Vibrations
 - 3. Excavations
 - 4. Dredging
 - xiii. Unremediated Past Seepage Distress
- b. Through Seepage
 - i. Levee Materials
 - ii. Levee Erosion
 - iii. Land Use Practices
 - 1. Visual And Physical Obstructions For Inspection And Flood Fighting
 - 2. Burrowing Rodent Habitat
 - iv. Geometry
 - v. Encroachments
 - 1. Gardens
 - 2. Irrigations
 - 3. Posts
 - 4. Fences

- 5. Gates
 - 6. Residential Structures
 - 7. Retaining Walls & Pump Stations
 - vi. Vegetation Roots*
 - vii. Levee Penetrations
 - 1. Pipes
 - viii. Closure Structure
 - 1. Railroad/Highway Crossing
 - ix. Burrowing Rodents
 - x. Hydraulic Head
 - 1. Reservoir Operations
 - 2. (Refer To Previous List)
 - xi. Flood Fighting
 - xii. Manmade Activities
 - 1. Hydraulic Fracturing
 - 2. Vibrations
 - 3. Levee Excavations
 - xiii. Unremediated Past Seepage Distress
 - c. Earthquake
 - i. Liquefaction
 - ii. Cracking
 - iii. Differential Movement
 - iv. Differential Settlement
 - d. Non-Earthquake Differential Settlement
 - i. Soft Soil Foundation
 - ii. Subsidence
 - iii. Construction
2. EXTERNAL EROSION
- a. Overtopping
 - i. Geometry
 - ii. Materials & Levee Cover
 - b. Wave Wash
 - i. Geometry
 - ii. Levee Characteristics & Cover
 - c. Fluvial/Bank Erosion
 - i. Geomorphology
 - d. Rain
 - e. Vegetation
 - i. Erosion
 - 1. Reduce Scour Velocity
 - 2. Wave Attenuation
 - 3. Soil Reinforcement
 - 4. Treefall
 - 5. Local Hydraulic Scour
 - 6. Channel Meandering
3. SLOPE STABILITY (EARTHQUAKES, RAPID DRAWDOWN, SEEPAGE)

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- a. All Factors For Under Seepage
- b. All Factors For Through Seepage
- c. All Factors For External Erosion
- d. Addition To Manmade Activities
 - i. Roads/Highways

Note:

- *Where topics are repeated they are meant to include all the factors listed in the first explanation. In some cases additional factors were added to subsequent explanations.*
- ** The asterisk indicates that there was disagreement among the Partners on its effect, and that more discussion would be needed to determine how vegetation related to the other factors.*

NEXT STEPS

Nicole Ugarte, facilitation support for the Center, collected Partners' schedules to determine the most convenient meeting times. Staff will get news to partners about final meeting dates by close of business at the end of the week (Friday, August 28).

At the next meeting, the Work Group will review the revised draft Deliverable 1, and begin work on the remaining three deliverables.