Seepage and Conveyance Technical Feedback Group
Thursday, March 2, 2017, 10:00 a.m. – 12:00 p.m.
San Luis Canal Company
11704 Henry Miller Avenue, Dos Palos, CA 93620
Meeting Summary

Attendees

Tom Berliner (phone)	Duane Morris
Joe Brummer	CNS
Michael Day	Provost & Pritchard Consulting Group
Elizabeth Ewens (phone)	Ellison, Schneider & Harris L.L.P.
Ben Fenters	Provost & Pritchard Consulting Group
Katrina Harrison	U.S. Bureau of Reclamation
Mica Heilmann	Land IQ
Brian Heywood	CDM Smith
Reggie Hill	Lower San Joaquin Levee District
Randy Houk	Columbia Canal Company
Tom Johnson (phone)	Restoration Administrator
Bob Kelley	Stevinson Water District
Stephen Lee	U.S. Bureau of Reclamation
Bill Luce	Bill Luce Consulting
Palmer McCoy	Henry Miller Reclamation District
George Park	Lone Tree Mutual Water Company
Patti Ransdell	Circlepoint
Rosalie Schubert	U.S. Bureau of Reclamation
Regina Story	U.S. Bureau of Reclamation
Emily Thomas	U.S. Bureau of Reclamation
Stephanie Tolbert	Circlepoint
Liz Vazquez	U.S. Bureau of Reclamation
Chris White	Central California Irrigation District
Sarah Woolf	Water Wise

This document is a summary of the discussion and questions that were raised during the Seepage and Conveyance Technical Feedback Group (SCTFG) meeting held on March 2, 2017. This document does not provide all the information that was presented during the meeting. Refer to the presentation materials posted on the San Joaquin River Restoration Program (SJRRP) website (http://www.restoresjr.net/get-involved/technical-feedback-meetings/seepage-and-conveyance/) for additional information, including a copy of the presentation.

Introductions, Meeting Objectives, and Agenda

Patti Ransdell, facilitator, opened the SCTFG meeting with introductions and reviewed the agenda. The purpose of the meeting was to discuss incorporation of input received at the January 23, 2017 SCTFG meeting into the Seepage Management Plan (SMP).

Restoration Program Update

Emily Thomas, U.S. Bureau of Reclamation (Reclamation), provided flow schedule updates. Water Year (WY) 2017 is forecast to be a Wet year. Flood releases from Millerton Lake began January 4, 2017. Flood flows may extend into June 2017, and Restoration Flows will not be released until flood flow releases stop.

Emily discussed an update to the SMP to address the transition from flood flows to Restoration Flows. A new section, J.3, was added to the SMP to discuss this issue.

January SCTFG Meeting and Comments Recap

Katrina Harrison, Reclamation, provided an overview of how public input on proposed groundwater seepage threshold changes was addressed by Reclamation.

An attendee asked if Reclamation incorporated all of the comments received from third parties into the meeting presentation and if any of the comments were incorporated to the SMP. Yes, Reclamation reviewed and addressed all comments received, including some revisions to the SMP.

Katrina provided an overview of the comment letters received regarding the draft Environmental Assessment (EA) for SJRRP Seepage Management Actions and the feedback received at the January 23, 2017 SCTFG meeting.

There was a comment stating there was concern about the approach to the historical groundwater method based on the proposed 2011-2016 period, which is a shorter record of no flows in the river than prior to the SJRRP.

A commenter suggested that Reclamation should be on site to monitor the impacts of flood flows; this information would provide data for when Restoration Flows reach 4,500 cfs. This is a perfect time to monitor what happens with that much water in the river. Katrina stated that they are measuring all of the monitoring wells except those currently inaccessible due to surface ponding. The commenter asked if Reclamation has contacted Central California Irrigation District (CCID) for detailed and current well information and also stated growers two miles from the river are having salts pushed up by the flood flows.

Additional comments were made about the need for Reclamation seepage projects to be implemented in Reach 3. When Restoration Flows of 1,300 cfs start, seepage impacts will occur. Katrina explained Reclamation recognizes the need to begin projects in Reach 3. Restoration Flows would be limited in Reach 3 based on the San Luis Canal Company deliveries, and would not be released if they cause seepage impacts. Restoration Flows will also be reduced if thresholds are exceeded or impacts are

observed. DWR has calculated the channel capacity in Reach 2B as 1,120 cfs. Reclamation will not release more than 1,120 cfs of Restoration Flows through Reach 2B unless the channel capacity of Reach 2B is adjusted.

The commenter also asked who will be in charge when Katrina leaves the SJRRP. Katrina explained she accepted a new job at Reclamation's Bay-Delta office. She will continue to work with the SJRRP part-time for several months. Regina Story, Reclamation, will be taking over seepage-related projects and be the new point of contact going forward. Katrina stated that she will continue to be involved, especially in closing out three on-going seepage easements in Reach 4A.

An attendee asked about the time frame for an EA for physical seepage projects and if that document would be an addition to the Draft EA for SJRRP Seepage Management Actions. With regard to the Draft EA, Katrina stated the Finding of No Significant Impact (FONSI) will be released within the next few weeks. An EA for physical seepage projects cannot be completed until after the details of a proposed seepage project are defined. When a project is defined, an EA will be drafted for that project. The process of drafting and releasing an EA can take between one and six months, followed by a public comment period. This entire EA process can take roughly two years. Liz Vazquez, Reclamation, stated the process can be done in discreet chunks with groups of physical seepage projects rather than separate processes for each seepage project.

There was a comment that there is a property in Reach 3 where a seepage project was identified four years ago, yet no seepage project has been implemented. Katrina stated that property has very sandy soils which makes moving forward highly challenging. Preliminary designs on this property showed that a physical seepage project may be quite large and expensive, given the sandy conditions. Katrina stated that she would make a call to the landowner. The SJRRP has been actively working on other seepage projects, completing three realty actions (two easements, one fee-title acquisition) in 2015 and 2016 and is currently working on three additional seepage easements in Reach 4A.

Action Item: Katrina to call the landowner in Reach 3 regarding the seepage project process for his property.

A commenter stated that landowners in Reach 3 do not see any seepage mitigation taking place. The commenter stated that it appears the SJRRP is only moving forward if they can buy easements and flood the land. Katrina noted that with the two seepage easements Reclamation has purchased, the landowners have immediately installed interceptor lines and continued to farm on their land. When a seepage easement is purchased by Reclamation, the owner is compensated for seepage impacts and can choose to continue to farm if they so desire. The commenter stated there are other projects ready to go, but that have not been funded yet, including three with CCID. Reclamation does not have a physical project currently designed and ready to start construction. Katrina agreed that Reclamation does have a cooperative agreement with CCID to construct projects when they are designed and ready for construction. That contract does not include specific projects. The commenter suggested the purchase and flooding of land takes minimal effort and the SJRRP needs to move the process further along. Katrina agreed that easements have potentially been an easier and faster process. The easement process also allows landowners to maintain ownership of their land.

Katrina continued to discuss the comments received on the SMP. She requested that seepage concerns be reported to Reclamation so that the SJRRP could install additional monitoring wells, where necessary.

There was a question asking if a landowner with a seepage easement is required to install an interceptor line on their own. No, a landowner does not have to install an interceptor line. However, if the landowner chooses to install an interceptor line, the line must be far enough from the river to not induce additional seepage from the river.

An attendee asked if Reclamation has purchased any seepage easements adjacent to properties with interceptor lines. No, there haven't been any such easements that Reclamation has paid for. If a landowner next to a seepage easement (that has not installed an interceptor line) desires to continue to farm and protect themselves with an interceptor line, Reclamation would design a leg of the interceptor line parallel to the property boundary to prevent higher groundwater levels from the easement property from affecting the next landowner. This situation has not arisen, as all landowners with seepage easements so far have elected to protect their property with interceptor lines. There was a question about how soon Reclamation would install an interceptor line to protect a neighbor from being impacted by flooding due to seepage. Reclamation would keep flows low enough to prevent impacts to neighboring properties until those impacts have been addressed through a seepage project.

A commenter mentioned that landowners in Reach 4 are currently being affected by seepage related to flood flows. Katrina explained that the SJRRP has a responsibility to protect property from seepage due to Restoration Flows. Restoration Flows are not currently being released, only flood flows. Once Restoration Flows are released, the flows will be kept low enough to not cause seepage impacts. Liz stated Reclamation will not be using any land rights that have been purchased until it is certain the surrounding properties are secure from seepage impacts

A meeting attendee asked if all of the information being discussed and presented is included in the Draft EA for Seepage Management Actions. Katrina explained the Draft EA primarily discusses actions related to realty projects and does not include SMP threshold revisions in detail as those are in the SMP. The attendee then asked how the public will know where revisions have been made within the SMP. Katrina noted the SMP posted to the website does not include tracked changes, but agreed posting a version with the tracked changes reflecting updates is a good idea.

Action Item: Reclamation to post the revised SMP, with tracked changes, to the SJRRP website.

A commenter asked if capillary fringe depths will be made site specific. Katrina noted that Appendix H (Section H.2.3) provides a link between soil type and capillary fringe thickness (Table H-7). Appendix H also lists the corresponding capillary fringe thickness at each monitoring well (Table H-8). Landowners can contact Reclamation to perform a site-specific field investigation to assist in establishing the capillary fringe thickness for that property.

Capillary Fringe Comments and Revisions

Regina presented revisions to the SMP based on input received concerning seepage thresholds and capillary fringe.

An attendee asked if site-specific capillary fringe field studies would be done in the spring and fall. Site conditions and accessibility will govern the best time to perform a field study.

A commenter asked if the capillary fringe thickness table in Appendix H (Table H-7) will be updated as Reclamation obtains additional detailed information from specific sites. Regina noted Table H-7 is the default and will not be updated. However, if a field study results in a change to the capillary fringe thickness for a particular property, the Appendix H tables (Tables H-8, H-10, and H-11) that list agricultural thresholds will be updated.

An attendee asked if third parties need to directly call Reclamation to request a site specific field study. Yes, Reclamation asks that landowners contact the SJRRP if interested in a potential site-specific field study.

Lateral Gradient Buffers

Regina provided an overview and explanation of lateral gradient buffers and calculations. Regina summarized the changes made to the SMP regarding lateral gradient buffers in Appendix H (Section H.1.3.3).

Historical Groundwater Threshold Method

Regina explained and presented the updates made to the historical groundwater method data following the January 23, 2017 SCTFG meeting.

There was a comment about Reclamation stating that the SJRRP is not responsible for improving groundwater conditions. The commenter suggested that Reclamation also state that the SJRRP should not deteriorate groundwater conditions either. The commenter asked whether both versions of the statement are included in the SMP or draft EA. Katrina stated that she will check to ensure they are both included.

Action Item: Katrina to check Reclamation documents for statements that the SJRRP should not be responsible for improving groundwater conditions and also not cause deterioration of groundwater conditions.

An attendee stated Reach 5 landowners have not been involved in the SMP and asked if there will be another SMP developed for the Reach 5 area. The processes described in the SMP are inclusive of all reaches, including Reach 5. The attendee also asked if Reclamation is assuming no seepage projects are necessary in Reach 5. The SJRRP's current understanding does not suggest that seepage projects will be required in Reach 5. However, the need for seepage projects in Reach 5 can be reviewed if additional/newer data (e.g., revised modeling, additional monitoring) indicate the potential seepage impacts. The attendee/landowner asked why properties in Reach 5 will not experience impacts when Restoration Flows are released at 4,500 cfs. Katrina offered to discuss the seepage and flow impacts to Reach 5 with the attendee.

Action Item: Katrina to contact the Reach 5 landowner.

A commenter asked about the shallowest groundwater level selected using the C4 threshold method and whether this calculation included the four years of drought data. Regina stated the data set used for the C4 method is from December 2011 to January 2016, a period that does not include Restoration Flows or flood flows below Reach 2B. The attendee stated that they were not aware the method was to choose the shallowest elevation as the threshold. Katrina explained that during the January 23, 2017 SCTFG meeting, Reclamation agreed to look back at the data and remove all irrigation and precipitation events to get the percentile. The attendee asked to clarify whether the percentile was used as opposed to the shallowest level. Katrina stated that the approach to remove precipitation and irrigation events from the data set was considered, however the results of this work were not conclusive. The use of a percentile was considered, but ultimately did not work, as irrigation and precipitation events are throughout the groundwater record and were not the shallowest X percent.

An attendee stated that some of the groundwater level data is not representative due to the lack of rainfall. Regina explained the period leading into 2012 was wet, and the SJRRP understands the drought period may make the C4 threshold method conservative.

There was a comment regarding the graphs on Slide 32, and whether December 2011 was too soon after the 2011 flood flows to use as part of a historical groundwater threshold method. The commenter suggested that the data shows the groundwater conditions being "average" in 2013 and worsening (i.e., deeper) in 2014 and 2015. It was suggested that setting a groundwater threshold using this method could be harmful. The year 2012 was not a drought year, so 2013 shows a more normalized groundwater level. An attendee stated that in lower reaches of the river, groundwater depths were at 4 feet before the SJRRP. This historical method is flawed because the data being used is after Restoration Flows and flood flows had been released. Katrina stated the preexisting groundwater levels may cause Reclamation to look at cases on an individual basis.

An attendee asked if the C1 threshold is based on the time period shown in hydrograph (Slide 34 of presentation). The C1 method is based on the entire record of CCID data, not only the period used in the C4 method. Katrina stated the dashed brown line on Slide 34 is the historical average groundwater level as calculated using the C1 method, prior to the SJRRP. An attendee stated that means that groundwater conditions would be better (i.e., deeper groundwater level) 50% of the time. Katrina agreed, and stated that this method also assumes that groundwater levels would be worse (i.e., shallower) 50% of the time.

A commenter suggested that it is not appropriate to take the average of only a four-year period. As stated above, the C1 method uses the average of the full record, not the shorter period used for the C4 method.

There was a comment stating the C4 method has the potential to create damage and wells should be looked at on a case by case basis. Hydrographs for a few other wells were viewed and discussed by the group.

There was a question asking if the C1 method used the data from a single well for multiple wells. Katrina stated the C1 method calculated the average at each CCID well where data was available. These averages were then used to create a contoured surface that was used to estimate the C1 threshold at wells where a historical record did not exist. An attendee asked if the direction of water movement was taken into

account when developing the contour mapping. No, Reclamation did not evaluate which direction groundwater was flowing through the subsurface because it changes throughout the period of time used for the historical data set.

An attendee asked what the current threshold depth for alfalfa is. The agricultural method threshold for alfalfa includes a 6 foot root zone plus capillary fringe, as defined in Table H-7.

There was a discussion regarding whether the SJRRP should be responsible for maintaining groundwater levels at levels significantly below depths where they have been observed. Katrina suggested that landowners have routinely dealt with shallower levels during the past.

An attendee asked whether the C4 method considers the Restoration Flows in 2011 which would have caused groundwater levels to be higher. There were Restoration flows in January and February 2011, as well as after July. However, most of flows released into the San Joaquin River in 2011 were flood flows. December 2011 was used as the start of the C4 method because flood flows had a chance to drain out during the fall. A commenter stated the C1 threshold is the average of historical, long-term data points. The commenter suggested the 3-point moving average for the C4 method may incorporate the 2011 flood flows by starting in December 2011, too close to flood flows which ended in July 2011. Katrina said that Reclamation would revisit the short-term and long-term groundwater level records.

Action Item: Reclamation to compare short-term and long-term groundwater level hydrographs at CCID wells.

An attendee asked if the SJRRP had given any thought to flow frequency. Restoration Flows have frequency associated with them, and the SJRRP doesn't have enough water to make the highest flow releases every year. Agreed, the amount of Restoration Flows will vary by year type. Katrina made reference to the flow hydrographs in Appendix B of the Settlement Agreement. Because the highest Restoration Flows are not year-round, groundwater levels are not expected to rise for the entire year. The SJRRP has considered setting variable thresholds. However, this approach may result in adverse salinity impacts.

A commenter suggested it is difficult to accept the shallowest level as the threshold level.

Brian Heywood, CDM Smith, mentioned that there is not a lot of long-term historical data because the wells constructed by the SJRRP were built starting in 2009. Therefore, the long-term historical average cannot be calculated at these wells, similar to the CCID wells where the C1 method is calculated.

An attendee asked what a good data set would be because he feels that the four-year drought does not seem like an ideal time period. If this was looked at prior to Restoration Flows, would that make the data more valid? Katrina stated Reclamation must figure out what thresholds to operate to when flood flows end and Restoration Flows begin. Reclamation cannot wait to develop a long-term data record. Prior to these proposed SMP revisions, the C4 method used the deepest groundwater level from January and February 2012. The SJRRP proposed the revisions to the C4 method to update the analysis using the most recent and complete data.

An attendee asked if the SJRPP should be looking at years that had Restoration Flows rather than dry years if they are attempting to model the affects Restoration Flows will have. Yes, however, flood flows are an infrequent occurrence and threshold levels should not be determined based on flood flow levels because that would suggest surface ponding all the time. The period used for the C4 method represents conditions prior to the SJRRP, during a period with no flood flows.

Wrap Up

Katrina thanked attendees for the feedback and reminded the group to contact her, Regina, or the Seepage Hotline (916-978-4398) with further site-specific questions and requests.

Action Items

- *Katrina to call the landowner in Reach 3 regarding the seepage project process for his property.*
- *Reclamation to post the revised SMP with tracked changes to the website.*
- *Katrina to check Reclamation documents for claim statements that the Program SJRRP should not be responsible for improving groundwater conditions and also not cause deterioration of worsening groundwater conditions.*
- *Katrina to contact the Reach 5 landowner.*
- *Reclamation to compare short-term and long-term groundwater level hydrographs at CCID wells.*