Seepage and Conveyance Technical Feedback Group

August 4, 2011
11704 Henry Miller Avenue
Dos Palos, CA

Agenda

• Introductions and Technical Feedback Group (TFG) Purpose
• Action Item Review and Update
• Seepage Project Implementation Steps
• Book of Seepage Parcel Groups
• Site Evaluation Process
• Plan Formulation Criteria Brainstorming
• Information & Data Exchange
• Next Steps and Follow-through

Technical Feedback Group Objectives
TFG Objectives

- Convey Interim and Restoration Flows while avoiding seepage impacts
- Identify potential projects that would avoid seepage impacts
- Identify locations for projects with potential for seepage impacts
- Develop a common understanding of the process, procedures and expectations for projects

Process & Decision-making

- Monthly Meetings
  - Focused on Seepage Project Handbook and identifying projects to avoid seepage impacts
- Additional topics and meetings identified and considered as we proceed
  - Update Charter in Fall 2011
- Reclamation and its partner agencies retain decision authority for Program implementation

Discussion Topics
**Discussion Topics**

<table>
<thead>
<tr>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
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</thead>
<tbody>
<tr>
<td><strong>Design Data</strong></td>
<td><strong>Design &amp; Environmental Compliance</strong></td>
<td><strong>Construction</strong></td>
<td><strong>Financial Assistance</strong></td>
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<td>Groundwater</td>
<td>Deliberables</td>
<td>Farming</td>
<td>Landowner Agreement</td>
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<td>Soil Salinity</td>
<td>Cost Estimating</td>
<td>Operations</td>
<td>SF 424</td>
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<td>Irrigation</td>
<td>Specifications</td>
<td>Conservation</td>
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<td>Crops</td>
<td>ESA Section 106</td>
<td>Strategy</td>
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**Milestones for Handbook Preparation**

- **February**
  - 2/18 Draft SMP
  - TFG Meeting
  - Site Evaluation

- **March**
  - 3/11 Projects Intro
  - Agency Deliverable

- **April**
  - 3/18 Site Evaluation
  - Prioritization

- **July**
  - 7/6 Parcel Groupings
  - Stakeholder Comments

**Milestones for Handbook Preparation**

- **August**
  - 8/12 Parcel Group Comments
  - Site Evaluation

- **September**
  - 9/2 Plan Formulation & Site Evaluation

- **October**
  - 9/12 Plan Formulation & Design Data Collection
  - TFG Meeting

- **November**
  - 10/7 Design & Environmental Compliance
  - Agency Deliverable

- **December**
  - 11/11 Construction
  - 12/29 Financial Assistance

**Note:** Milestones include dates such as 2/18, 3/11, 3/18, etc., representing key events or deliverables in the handbook preparation process.
## Action Items

<table>
<thead>
<tr>
<th>Action Items</th>
<th>ID’d</th>
<th>Due</th>
<th>Assigned to</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>1. Restart weekly operators call to discuss transition of flows</td>
<td>7/6/11</td>
<td>7/13/11</td>
<td>Mooney</td>
<td>Completed</td>
</tr>
<tr>
<td>2. Add crop type to parcel data</td>
<td>7/6/11</td>
<td>8/4/11</td>
<td>Harrison</td>
<td>Completed</td>
</tr>
<tr>
<td>3. Can parcel groups include individual APNs?</td>
<td>7/6/11</td>
<td>8/4/11</td>
<td>Harrison</td>
<td></td>
</tr>
<tr>
<td>4. Provide RMC with list of landowner names from priority parcel groupings</td>
<td>7/6/11</td>
<td>Prior to RMC</td>
<td>Harrison</td>
<td>Complete</td>
</tr>
<tr>
<td>5. Confirm times/locations of upcoming meetings</td>
<td>7/6/11</td>
<td>7/6/11</td>
<td>All</td>
<td>Complete</td>
</tr>
<tr>
<td>6. Post deliverables from July 6 meeting on website upon approval from landowners via RMC</td>
<td>7/6/11</td>
<td>7/30/11</td>
<td>Harrison, Ransdell</td>
<td></td>
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<tr>
<td>7. Have a general conversation with Kings River area Regional Board Staff about types of info they like to see on permits</td>
<td>7/6/11</td>
<td>8/4/11</td>
<td>Sarge Green</td>
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### SEEPAGE PROJECT IMPLEMENTATION STEPS

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Iterative Approach to Increase Flows while Avoiding Impacts

1. Establish Field Threshold
2. Evaluate Projects to Avoid Impacts
3. Estimate Acceptable Flows
4. Monitor Response
5. Identify Potential Increases
6. Find Limit of Flows without Impacts
7. Estimate Friant Releases

Seepage Project Implementation

1. Seepage Projects Initiated
2. Technical Evaluation
3. Completion & Monitoring
4. Next Tier Parcel Groups

Elements of the Seepage Project Handbook

• Introduction
• Site Evaluation
• Plan Formulation → Today
• Data Collection
• Design
• Environmental Compliance
• Construction
• Financial Assistance
Identification of Constraints

- Technical Evaluation – Book of Seepage Parcel Groups from SMP
- First Tier Parcels Identified
- One of these is Parcel Group "A"
- Flows held below thresholds

Construction of a Project

- Projects Initiated – Seepage Project Handbook Process
  - Site Evaluation
  - Plan Formulation
  - Design Data & Design
  - Environmental Compliance
  - Construction
  - Financial Assistance
  - Project Landowner Agreement
- Flows held below thresholds

Adjust Flow Release Limitations

- Project Complete – Monitoring and Evaluation
  - Long-term Monitoring
  - Is the project functioning?
  - Increase flows to new flow constraint
Seepage Management and Projects

Input Needed on Parcel Groups

- Are there other boundaries we should consider?
- New ownership lines?
- Others?

- Comments due Friday, August 12
Input needed on Parcel Group Data

- Existing Data Includes:
  - Groundwater Data
  - Anecdotal Inundation Data
  - Cross-sections
  - Profiles
  - Locations

- Comments due Friday, August 12

Location Map – Parcel Group “A”

Groundwater Map – Parcel Group “A”
Seepage Project Handbook Sections

A. Introduction
B. Site Evaluation
   1. Records Review
   2. Fieldwork
   3. Analysis
   4. Reporting
      1. Initial Screening
      2. Initial Alternatives

Site Evaluation Physical Processes
Salinity Sources

- Irrigation Water
- Fertilizer
- Soil Amendments
- Natural Soil Minerals
- Shallow Groundwater Rise

Example of salt buildup (Colorado)

Groundwater Rise Sources

- Rainfall
- Irrigation
- Canal Seepage
- Flood Flow Seepage
- SJRRP Seepage

Existing Records Review

<table>
<thead>
<tr>
<th>Reclamation has:</th>
<th>Landowners may have:</th>
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<tbody>
<tr>
<td>• Precipitation Records</td>
<td>• Yield Data</td>
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<td>• Historic Aerial Photos</td>
<td>• Irrigation Records</td>
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<tr>
<td>• Soil Texture</td>
<td>• Fertilizer Applications</td>
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<td>• Soil Salinity Sampling</td>
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| Reclamation may have:                    |                         |
|  • Soil Texture                          |                         |
|  • Soil Salinity Sampling                |                         |
|  • Groundwater Monitoring                |                         |
|  • Surface Water Monitoring              |                         |
Site Evaluation Report

- Standard technical write-up of Site Evaluation
  - Methods
  - Results
  - Discussion
  - Conclusion
- Initial Screening
- Initial Alternatives
  - Those project types that pass the initial screening

Seepage Project Handbook

- Comments:
  - Any additional site evaluation techniques?
  - Does initial screening make sense?
  - Any additional reporting that would help?
- Written Comments due by August 24
Plan Formulation

- Purpose: Selection of a project from a list of initial alternatives
  - Need a defensible approach
  - Use selection criteria
  - Weight criteria according to importance
- Obtain final project type and move on to design data collection and then design

Potential Projects

- Real Estate
  - Easements
  - Acquisition
- Physical
  - Tile drains
  - Slurry walls
  - Drainage ditches
  - Shallow well pumping
  - Conveyance improvements

Brainstorm Selection Criteria

- How do you want to choose a seepage project given the information available?
  - Design/Feasibility
  - Suitability to Site Conditions
  - Landowner Acceptability
  - Cost
  - Ownership / Project Agreement
  - Environmental Compliance
  - Others?
Brainstorm Selection Criteria

Are some criteria more important than others?

How should we weight these criteria?

Brainstorm weightings:
- High
- Medium
- Low

Projects Next Steps

- Comments back on parcel groups, data
  – Due Friday, August 12
- Comments back on Site Evaluation SPH section
  – Due Wednesday, August 24
- Agency deliverable for Plan Formulation and Design Data Collection
  – September 2
Landowner Input

- Preparation for next meeting:
  - What additional data needs to be collected for design?
  - What should design considerations be?

Challenges

- Ownership
- Operations and Maintenance
- Water Discharge
- Water Rights
- Long-term Monitoring
- Cost-share
- Terms of an Agreement

NEXT STEPS AND FOLLOW-THROUGH
Next Steps

- Feedback from Landowners on Parcel Groups, considerations for parcel groups, and priority parcel groups
  - Due Friday, August 12
- Feedback on Draft Seepage Project Handbook Section
  - Due Wednesday, August 24
- Next Meeting Date:
  - Thursday, September 8

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  - Revised Actions
  - New Actions
Contact

- Technical Feedback Group – David Mooney
  - 916-978-5458
  - dmooney@usbr.gov

- Seepage Concerns – Seepage Hotline
  - 916-978-4398
  - interimflows@restoresjr.net