Seepage and Conveyance Technical Feedback Group

November 10, 2011
11704 Henry Miller Avenue
Dos Palos, CA

Preliminary draft – subject to change
Agenda

- Introductions and Technical Feedback Group (TFG) Purpose
- Action Item Review and Update
- Interim Flows Update
- Plan Formulation
- Design Data Collection
- Design
- Information & Data Exchange
- Next Steps and Follow-through
Review and Context

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

• Reclamation and its partner agencies retain decision authority for Program implementation
Discussion Topics

<table>
<thead>
<tr>
<th>September</th>
<th>November</th>
<th>December</th>
<th>January</th>
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<tbody>
<tr>
<td>Design Data</td>
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<td>Groundwater</td>
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<td>Farming Operations</td>
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<td>SF 424</td>
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Milestones for Handbook Preparation

Feb

2/18
Draft SMP

Mar

3/11

3/25
2011 SMP

Apr

3/18
Projects Purpose

4/14

29

Site Evaluation

July

23

7/6
Parcel Groupings

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Milestones for Handbook Preparation

August
- 8/12 Parcel Group Comments
- 8/24 Site Evaluation
- 8/24 Parcel Group Comments

September
- Design & EC
- Plan Formulation & Design Data Collection
- 11/8 Design & Environmental Compliance
- 12/5 Construction
- 12/14 Construction

November
- 11/8 Design & Environmental Compliance
- 12/5 Construction
- 12/14 Construction

December
- 12/5 Construction
- 1/5 Financial Assistance

January
- 1/5 Financial Assistance
- 2/2

Preliminary draft – subject to change
Review and Update

ACTION ITEMS
## Action Items

<table>
<thead>
<tr>
<th>Action Items</th>
<th>ID’ed</th>
<th>Due</th>
<th>Assigned to:</th>
<th>Status</th>
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<tbody>
<tr>
<td>1. Brainstorm on seepage project scenarios at future meeting</td>
<td>8/4/11</td>
<td>9/6/11</td>
<td>Team</td>
<td>Complete</td>
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<tr>
<td>2. Coordination with NULE- report on opportunities for cross evaluation work and exchange information on drilling permit</td>
<td>8/4/11</td>
<td>9/6/11</td>
<td>Scott Rice, DWR</td>
<td>?</td>
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</table>
Elements of the Seepage Project Handbook

• Introduction
• Site Evaluation
• Environmental Compliance
• Design ← Today
• Plan Formulation
• Design Data Collection
• Construction
• Financial Assistance
Interim Flows Update

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DESIGN PROCESS

Katrina Harrison
Design Process

• Purpose of Design Section of the Seepage Project Handbook
  – Common understanding of Reclamation design process
  – Process provides accountability during design
  – Defines design team and individual roles in the final design process
  – Provides guidelines for final design and specifications
Final Design Process

• PREWORK – Request work and establish funding source
• SCHED – Scheduling, staffing, define design data requirements
• CONCEPT – Conceptual design (30%)
• DESIGN – Final Design (60%)
• DRAFT SPEC – Preparation of draft specifications (90%)

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Final Design Process

- REVIEW – Specifications review
- FINAL SPEC – Final specifications and design
- BOOKPRE – Prepare bid solicitation
- BID – Bids solicited, amendments issued, etc.
- AWARD – Contract Awarded
- CONSTR – Construction
Design Process Details

• Identify design team
  – Reclamation
  – End User
  – Establish End User level of involvement

• Develop scope of design
  – Functional requirements
  – Operational requirements
Design Process Details

Design - CONCEPT Stage (30%)

- Field exploration
- Materials testing
- Hydraulic studies
- Cost estimate and schedule
- TM’s
- Value engineering
Design Process Details

Design - DESIGN Stage (60%)

• Selected conceptual design is refined
• Design data collection, testing and analysis should be completed
• Cost estimate and schedule updated
• Permit requirements are initiated
• Preliminary drawings completed
Design Process Details

Design - DRAFT SPEC Stage (90%)

• Lab testing reports completed
• TMs finalized and approved
• Specifications sent for review
• Quantities and bid schedules complete
Design Process Details

• Specification Review
• Final Specifications and Design Summary
• Decision Memorandum Completed:
  – Final design briefing, drawings made available
  – Outstanding items and responsible parties
  – Final Specifications completed and sent to contracting office
• Bid
• Award
• Construction
PLAN FORMULATION

Katrina Harrison
Plan Formulation Follow-Up

• 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

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High Priority Criteria

• Effectiveness of project in protecting lands and giving ability to increase flows to 4500 cfs
• Landowner acceptability, including upstream and downstream landowners
• Regional solutions ranked higher
• No decrease in water quality (i.e. temp, Se)
• Site Suitability (near the seepage source)
• Long-term viability & low O&M costs
• Opportunities for habitat improvements
• No barriers to fish passage (stranding)
Medium Priority Criteria

• Project ownership with landowner
• Does not increase subsidence
• Alignment with other programs (district water quality plans, regional plans)
• Creates rearing habitat for fish
• Cost
Low Priority Criteria

• Environmental compliance
• Regulatory permitting (time)
## Example Criteria Table

<table>
<thead>
<tr>
<th>Topic</th>
<th>Criteria</th>
<th>Unit</th>
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<tbody>
<tr>
<td>Ability to increase flows to 4500 cfs</td>
<td>4500 cfs WSE below ground surface</td>
<td>Y/N</td>
</tr>
<tr>
<td>Effectiveness of project in protecting lands</td>
<td>-1 point for each 0.5 groundwater level above threshold at 4500 cfs</td>
<td>feet</td>
</tr>
<tr>
<td>Landowner acceptability, including upstream and downstream landowners</td>
<td>1 point for each landowner</td>
<td>point</td>
</tr>
<tr>
<td>Regional solutions ranked higher</td>
<td>+1 for each additional seepage parcel group solved</td>
<td>point</td>
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<tr>
<td>Temperature</td>
<td>-1 point for each increase in temperature</td>
<td>degree</td>
</tr>
<tr>
<td>Water Quality (especially Selenium)</td>
<td>-1 point for each 0.5 increase in Selenium</td>
<td>ppb</td>
</tr>
</tbody>
</table>
Process Comments

• Projects sited at most constraining locations first
• This process does not preclude the ability for fish to be in the river while projects are installed
• Temporary solutions can be used until such time as funds are available for higher dollar options
Design Data Collection Request

• Can be lengthy process
• Important to define initial design data needs early in the process
• Begins before design concept phase
Data Types

• Geotechnical Investigation
• Surveying
Next Steps

• Comments on Design, Plan Formulation, Design Data Collection Seepage Project Handbook sections by 12/5

• Next Meeting –
  – Wrap up design, plan formulation and design data collection
  – Discuss construction
  – Introduce financial assistance
Construction

• Ideas or suggestions on the Construction section of the Seepage Project Handbook
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

• Design Data Collection, Plan Formulation sections of SPH posted
• Feedback from Landowners on Design Data Collection, Plan Formulation sections of SPH
  – Due December 5
• Construction section of SPH posted
  – December 14
• Next Meeting Date:
  – December 15
Milestones for Handbook Preparation

August
- 8/12 Parcel Group Comments
- Site Evaluation

September
- 8/24 Plan Formulation & Design Data Collection
- 9/8 TFG Meeting
- 9/10 Agency Deliverable
- 9/24 Stakeholder Comments

October
- 10/8 Design & Environmental Compliance

November
- 11/8 Construction

December
- 12/5 Construction
- 12/14 Financial Assistance

January
- 1/5 Financial Assistance
- 2/2

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Action Items and Review

• Update Action Items
  – Revised Actions
  – New Actions
Parking Lot Topics

• Impacts to Firebaugh
• State Lands Commission findings
• Full range of alternatives including:
  – All tile/interceptor scenario
  – All easement scenario
Contact

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

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