Seepage & Conveyance
Technical Feedback Group

December 17, 2010
Los Banos, CA
Agenda

• Introductions & Purpose
• Technical Feedback Group
• Seepage Management Plan
• ITRC Report
• Seepage Monitoring
• Information and Data Exchange
• Next Steps and Follow-through
Ali Forsythe

PURPOSE & GOALS
Purpose & Goals

• Restoration and Water Management Goals

• Convey Restoration Flows
  – Use Interim Flows to identify where problems exist
  – Reduce or avoid material adverse seepage impacts
Charles Gardiner

TECHNICAL FEEDBACK GROUP
Technical Feedback Group

- Issues and Input from Interviews
- Technical Feedback Group Charter
  - Purpose
  - Objectives
  - Topics
  - Process & Decision-making
  - Completion
Areas of Agreement

• New Forum is Needed
  – Improve communication and understanding

• Initial and Primary Focus is Seepage Issues
  – Data and information exchange between landowners and agencies
  – Monitoring plan
  – Seepage impact thresholds
  – Avoiding impacts
Areas of Agreement

• Participation Should be Broad and Inclusive
  – Include agencies, water district managers, landowners, RMC, and Settling Parties

• Discussions Should be Focused and Forward Moving
  – The group should be a manageable number and have clear outcomes, actions items, and follow-through
Challenges

• Anticipation of Issues & Impacts
• Complexity & Inter-relationship of Topics
• Managing Level of Detail & Timeframe
• Decision-making & Responsiveness
Project Charter

- Establishes the basic agreements for working together
  - Purpose
  - Objectives
  - Topics
  - Process & Decision-making
  - Completion
Project Purpose

- Provide a constructive forum
  - To improve the information exchange, knowledge, and understanding
  - Among agencies, water districts, landowners, and Settling Parties
  - Regarding Interim and Restoration flows, conveyance, and seepage issues
Objectives

• Develop an improved Seepage Monitoring & Management Plan before implementing spring Interim Flows (March 2011)

• Identify and evaluate actions to avoid seepage impacts

• Clarify future claims process
Core Topics

• Data & Information Consolidation
• Monitoring Plan
• Impact Thresholds
• Impact Avoidance Actions
• Process for Potential Future Claims
Related Topics

• Temporary Access & Acquisition
• Claims for Impacts Last Year
• Draft Program EIS/EIR
• Reach 4B Flow & Routing Issues
• Flood Management & Levee Improvements
• Funding
Process & Decision-making

- 3 to 5 meetings through February
  - Focused on SMMP
- Additional topics and meetings identified and considered as we proceed
- Reclamation and its partner agencies retain decision authority for Program implementation
SEEPAGE MONITORING & MANAGEMENT PLAN

Dave Mooney
Seepage Monitoring and Management Plan

• Purpose: describe the approach to conveying flows while reducing or avoiding adverse seepage impacts

• Uses for the SMMP include:
  – Disclosure of approaches
  – Guidance for actions
  – Forum for input

• The Technical Feedback Group provides a way to solicit input.
Elements of the SMMP

• Seepage Impacts
• Locations of Known Risks
• Operations Conceptual Model
• Monitoring Program
• Thresholds and Triggers
• Site Visit and Response
• Site Evaluation and Projects
Seepage Impacts

• Root-zone Salinity
• Waterlogging of Crops
• Levee Instability
Location of Known Risks

• Landowner Identified Parcels
• RMC Identified Parcels
• Historical Groundwater Levels
  – CCID, MPG and DWR Database
• Central Valley Hydrologic Model
• Interim Flows Monitoring
Operations Concepts

Rating Curve

Stage = Flow

Channel

Well

Monitoring Threshold
Monitoring Program

- Groundwater Elevation
- River Stage
- Soil Salinity
- Hydraulic Conductivity
- Water Quality
- Soil Texture
- Infrastructure
Thresholds and Triggers

- **Threshold**: the measurable value where impacts become a concern
  - River Stage
  - Groundwater Elevation
  - Others?

- **Trigger**: the initiation of a response
  - Measurements exceed a threshold
  - Hotline Call
Site Visits and Response

• A trigger results in a hotline form that may involve a site-visit.

• Responses include:
  – Updating Thresholds
  – Diverting Flows
  – Reducing Releases
Site Evaluation and Projects

• Site Evaluation: Evaluation of various factors that may influence seepage concerns at a location

• Projects include:
  – Tile Drains
  – Slurry Walls
  – Drainage Interceptor Ditches
  – Operation of wells
  – Easements
  – Compensation
Landowner Tools

• Immediate Concern
  – Seepage Hotline
    • Potential site visit and reduction of flows

• Longer Term Concern
  – Potential Project and Technical Feedback Group
    • Identify, coordinate, and implement projects to avoid impacts

• Process for Financial Compensation
  – File Administrative Claim for impacts resulting from Interim Flows
Updated Plan

• Prediction of Risks
• Conceptual Models for Operations
• Additional Monitoring
• Updated Thresholds
• Landowner Process
Threshold

Root Zone

Ground Surface Buffer

Irrigation Buffer

Capillary Rise

Groundwater Table

Note: Not to scale
Dave Mooney & Charles Gardiner

MEETING TOPICS & MILESTONES
Requirements

- Condition 7 of WY 2011 Interim Flows
  State Board Order
    - Monitoring
      • January 10, 2011 – Proposed monitoring wells
    - Thresholds
      • January 10, 2011 – Draft Thresholds
      • Public Comment
      • March 1, 2011 – Response to comments
Discussion Topics

Dec
- Groundwater
- Surface Water
- Soil Conditions
- Access
- Implementation

Jan
- Risk Areas
- Crop Types
- Farming Practices
- Soil Conditions
- Thresholds

Feb
- Thresholds
- Operations
- Predictive Evaluation
- Triggers
- Site Visits
- Evaluation & Response

Mar
- SMMP
- Monitoring
- Thresholds
- Operations
- Coordination

Projects
Milestones

Dec
- 12/17 Well Atlas
- 1/10 Wells & Background Data

Jan
- 1/3 Draft Thresholds
- 1/10 Stakeholder Comments
- 1/31 Operations Forms

Feb
- 1/31 Operations Forms
- 2/18 Draft SMMP
- 3/1 Draft SMMP

Mar
- 3/1 Final SMMP
- 3/4 Stakeholder Comments
- 3/1 Responses
Dave Mooney

SEEPAGE MONITORING
Monitoring Types

- Groundwater Elevation
- River Stage
- Flow
- Soil Salinity
- Hydraulic Conductivity
- Water Quality
- Soil Texture
- Infrastructure
- Crops
San Mateo Cross Section

Elevation (feet)

Distance from SJR (feet)

Info & Data Exchange

• What are the key areas to exchange data and information?
  – Risk Areas
  – Surface Water Monitoring
  – Groundwater Monitoring
  – Soil Conditions
  – Crop Types
  – Other
Next Steps

• Action Items

• Next Meeting

• Meeting Review
• Technical Feedback Group
  – Dave Mooney, (916) 978-5458,
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• Seepage Concerns
  – Seepage Hotline: (916) 978-4398
  – Email: interimflows@restoresjr.net
OTHER QUESTIONS & DISCUSSION