San Joaquin River Restoration Program
Mendota Pool Bypass and Reach 2B Improvements Project

Landowner Workshop
December 20, 2013  9:00 am – Noon
Los Banos Community Center
Los Banos, CA
Agenda

1. Introductions
2. Agenda Overview & Meeting Purpose
3. General Program Updates
4. Reach 2B EIS/R
5. Geotechnical Updates
6. Mendota Pool Operations
7. Levee and Structure Designs Overview
8. Meeting Wrap-Up and Next Steps
Introductions
• Interim Flows  
  – Fall pulse completed  
  – Flows continue from Friant at around 350 cfs until end of February 2014

• Restoration Flows  
  – Will begin January 1, 2014  
  – Same from the river’s perspective  
  – What we can’t get down the river, becomes the Restoration Program’s and we are to bank, store or sell  
  – Flows for 2014 to be determined in late January based on runoff forecasts  
  – Possible flows past Sack Dam in spring 2014

• Fall-run Trap and Haul  
  – October 1 to December 15  
  – Over 350 adult fall-run moved from around Hills Ferry to Reach 1  
  – Ongoing monitoring – where are they going? What are they doing?
• **Spring-run rule package and permitting**
  – Rule package in final review with NMFS
  – Expect final rule package before December 31, 2013
  – Need additional permits/approvals to put spring-run in the river
  – If we can get these, intend to release spring-run in spring 2014

• **Seepage projects**
  – Working with CCID to issue financial assistance agreement for construction actions
Mendota Pool Bypass and Reach 2B
EIS/R Update

• August 2014
  – Release of Public Draft EIS/R (potentially with preferred alternative)
• August – October 2014
  – Public review period and public meetings for EIS/R
• Early 2015
  – Start land acquisition process
• Late 2015
  – Final EIS/R and Record of Decision
• Early 2017
  – Start construction
Geotechnical Update

- 58 CPT Holes Completed
- 18 SPT holes and 3 Undisturbed holes completed
- All Peracchi holes done
- 3 SPT holes on South side of river to be done next drill shift
- 15 CPT and 18 drill holes cleared on North side
- CPT rig returns January 14 to do Paramount holes
- Drill crew returns January 28 to do SPT / Undisturbed holes
Reach 2B Operations

• Current conditions:
  – Major control features
    • Chowchilla Bifurcation Structure & SJ Riverside Control Structure
    • Mendota Dam
    • Mendota Pool Canal control structures:
      – Delta-Mendota Canal, Main Canal, Helm Ditch, Outside Canal, FCWD Canal
    • Fresno Slough (uncontrolled into Mendota Pool)
      – Includes inflows from the Little San Joaquin Slough, James Bypass, and King’s River
  – Other control features
    • Big & Little Bertha pumps
    • Mowry pipeline intake
    • City of Mendota wells
    • Columbia Canal intake
    • Farmer’s Water District pumps
    • Miscellaneous irrigation ditches/canals (river turnouts)
Reach 2B Operations

• Constraints:
  – Water Quality
    • Electrical Conductivity of inflows, Fresno Slough, canal intakes
    • Salinity of inflows, Fresno Slough, canal intakes
    • See Operating Criteria for specific details
  – Availability of Inflows
    • Delta-Mendota Canal (from O’Neil Forebay & San Luis Res.)
    • Mendota Pool Group wells (based on groundwater quality)
    • SJR Reach 2B flows (Friant Dam)
    • Fresno Slough/James Bypass flows
  – Delivery demands
    • Exchange Contractors:
      – Columbia Canal Company, San Luis Canal Company, Central California Irrigation District, Firebaugh Canal Water District
    • Other required deliveries (within Reach 2B):
      – City of Mendota
      – Farmer’s Water District
    • Other required deliveries (downstream of Reach 2B):
      – Arroyo Canal
      – Merced National Wildlife Refuge
Reach 2B Operations

- **Channel capacities:**
  - **Chowchilla Bypass:**
    - Original/As-Designed: 5,500 cfs (at bifurcation)
  - **Reach 2B:**
    - Original/As-Designed: 2,500 cfs
    - Current: 1,300 cfs
  - **Fresno Slough:**
    - Original/As-Designed: 4,750 cfs
    - U/S to Tranquility/James WD: 250 cfs
  - **Delta-Mendota Canal:**
    - Original/As-Designed: 3,211 cfs
  - **Main Canal:**
    - Original/As-Designed: 1,000 cfs
  - **Columbia Canal Diversion:**
    - Original/As-Designed: 200 cfs
  - **Outside Canal:**
    - Original/As-Designed: 300 cfs
Reach 2B Operations

- Channel capacities (cont’d):
  - Main Canal:
    - Original/As-Designed: 1,000 cfs
  - Helm Ditch:
    - Original/As-Designed: 10 cfs
  - Mowry Pump/Pipeline:
    - Original/As-Designed: 10 cfs
  - FCWD Canal Diversion:
    - Original/As-Designed: 100 cfs
Mendota Pool Operations

• Operational Details:
  – Control Features:
    • Partially automated control system, mostly manual
    • Minimal freeboard (<1 ft), due to subsidence
    • Small Operational Depth window (~0.5 ft)
      – Full reservoir/Pool staff gage level is at 14.5 feet
      – Deliveries become difficult to make below Staff Gage level 14.1 feet
      – Normal operations varies level between 14.2 and 14.5 feet
  – Flood conditions:
    – Flows can come from:
      » SJR Reach 2B, which are not diverted into Chowchilla (not normal process)
      » Fresno Slough and James Bypass, from the Kings River
    – Stoplogs and gates opened at Mendota Dam to pass flows into Reach 3
    – Approximately 1 foot of differential head across the Dam structure
  – Water delivery/supply:
    • Reported by San Luis & Delta-Mendota Water Authority (SLDMWA) to USBR once per day
  – Water demand requests:
    • Reported and set once per day
    • Reporting:
      – Mendota Pool diverters report directly to USBR
      – Exchange Contractors report to their water master, who reports it to USBR
      – USBR coordinates demands with supply from SLDMWA
Mendota Pool Operations

• Current conditions
  – Inflows:
    • San Joaquin River (Reach 2B)
    • Delta-Mendota Canal
    • Fresno Slough (from James Bypass)
    • Farmer’s Water pumped inflows (exchanged for DMC or CVP water)
  – Outflows:
    • Outside Canal
    • Firebaugh (FCWD) Canal
    • Main Canal
    • Helm Ditch
    • San Joaquin River (Reach 2B) via Mendota Dam
    • Columbia Canal (via lift station and intake channel)
    • Tranquility and James Water Districts (from Fresno Slough)
  – Capacity:
    • No long-term storage, used for interim storage only
    • Variable flows into/out of Mendota Pool, up to 3,200 cfs
Proposed Operations

• Project Description Alternative #3.5 (Proposed):
  – Major control features
    • Chowchilla Bifurcation Structure
      – No changes to this structure
    • South Canal Headworks
      – Includes fish screen on canal headworks
      – 2 possible locations for canal & river bifurcation
    • SJR bifurcation structure
      – Includes fish passage facility on river structure
      – 2 possible locations for canal & river bifurcation
    • Mendota Pool Dike
      – Similar to proposed levees, prevents SJR Reach 2B water from entering Mendota Pool, except that diverted into the South Canal
    • Mendota Dam
      – Stoplog boards put into the dam and left in unless required for flood Operations, when they would be removed to pass excess flows
    • Mendota Pool Canals:
      – Delta-Mendota Canal, Main Canal, Helm Ditch, Outside Canal, Lift Canal
      – No change in Operations for these structures
      – Target water surface elevation of Mendota Pool to remain similar to current Operations
    • Fresno Slough
      – Would receive up to 2,500 cfs from South Canal, and other flows from James Bypass, Little San Joaquin Slough, and King’s River
Proposed Operations

• Project Description Alternative #3.5 (Proposed):
  – Other control features
    • Big & Little Bertha pumps
      – No change to Operations
      – Screened to prevent fish intake
    • Mowry pipeline intake
      – No change to Operations
      – Screened to prevent fish intake
    • City of Mendota wells
      – No change to Operations
      – Screened to prevent fish intake
    • Columbia Canal intake
      – Relocated intake in Mendota Pool, downstream of new Mendota Pool dike
      – Inverted siphon/pipeline under new Compact Bypass, connected to existing intake channel
Proposed Operations

• Project Description Alternative #3.6 (Proposed):
  – Major control features
    • Chowchilla Bifurcation Structure
      – No changes to this structure?
    • SJ Riverside Control Structure
      – Add a fish passage facility to this structure
      – Modify the Operations to pass fish through the gates during low flows
    • Compact Bypass Control Structure
      – Headworks structure to pass up to 4,500 cfs into Compact Bypass
      – Includes fish passage facility
    • Mendota Pool Control Structure
      – Gated control structure to pass up to 2,500 cfs into Mendota Pool
      – Includes fish screen to prevent fish from entering Mendota Pool
    • Mendota Dam
      – Stoplog boards put into the dam and left in unless required for flood Operations, when they would be removed to pass excess flows
    • Mendota Pool Canals:
      – Delta-Mendota Canal, Main Canal, Helm Ditch, Outside Canal, Lift Canal
      – No change in Operations for these structures
    • Fresno Slough
      – Would receive up to 2,500 cfs from Mendota Pool Control Structure, and other flows from James Bypass, Little San Joaquin Slough, and King’s River
Proposed Operations

- **Project Description Alternative #3.6 (Proposed):**
  - Other control features
    - **Big & Little Bertha pumps**
      - No change to Operations
      - Screened to prevent fish intake
    - **Mowry pipeline intake**
      - No change to Operations
      - Screened to prevent fish intake
    - **City of Mendota wells**
      - No change to Operations
      - Screened to prevent fish intake
    - **Columbia Canal intake**
      - Relocated intake in Mendota Pool, downstream of new Mendota Pool Control Structure
      - Inverted siphon/pipeline under new Compact Bypass, connected to existing intake channel
Levee & Structures Design

• Levee alignments will be designed to U.S. Army Corps of Engineers criteria

• Two different levee alignments
Narrow Floodplain Levee Alignment

Compact Bypass shown with South Canal option – not intended to indicate alternative selection
Wide Floodplain Levee Alignment

Fresno Slough alternative with north canal option shown – not intended to indicate alternative selection.
Questions and Follow-Up

Questions?

Review Assignments & Action Items
Thank You

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