



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



General Program Updates

- 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?





General Program Updates (cont)

- 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



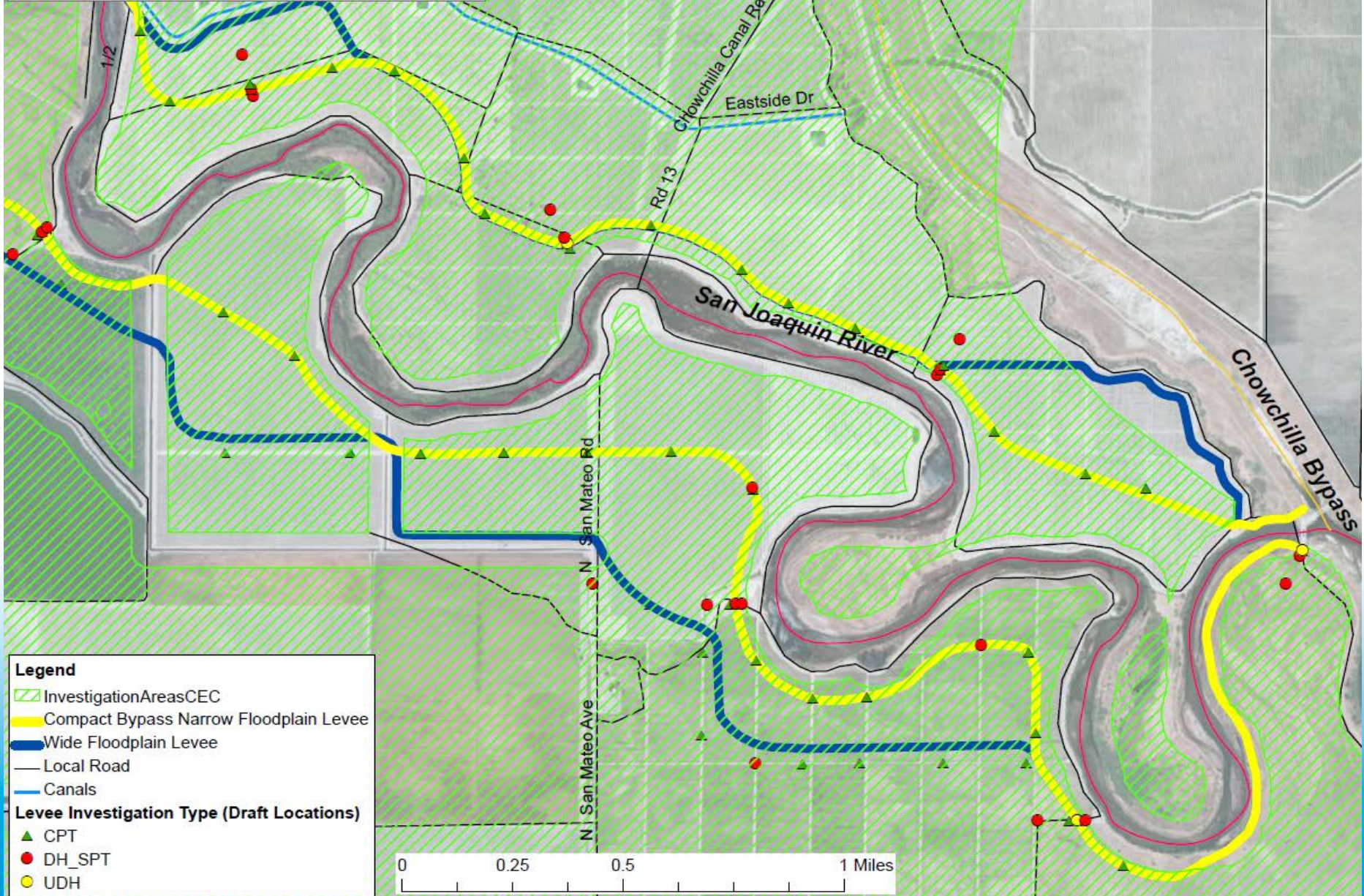
Geotechnical Update

- 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 / Undistrubed holes

Reach 2B and Mendota Pool Bypass Project
 Geotechnical Data Collection
 Investigation Locations - East
 November 25, 2013



Preliminary Draft, Subject to Revision

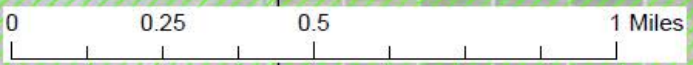


Legend

- InvestigationAreasCEC
- Compact Bypass Narrow Floodplain Levee
- Wide Floodplain Levee
- Local Road
- Canals

Levee Investigation Type (Draft Locations)

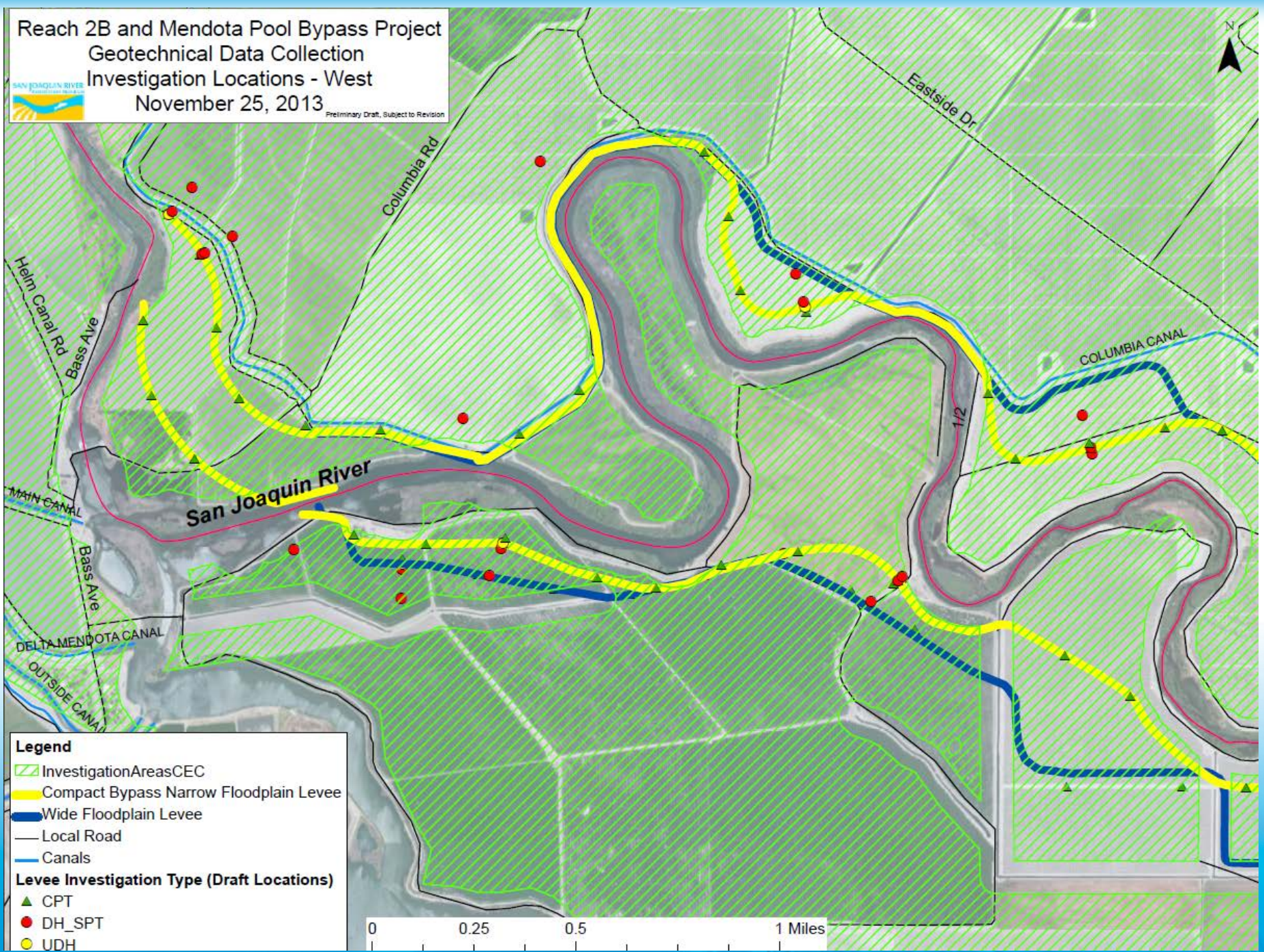
- CPT
- DH_SPT
- UDH



Reach 2B and Mendota Pool Bypass Project
 Geotechnical Data Collection
 Investigation Locations - West
 November 25, 2013



Preliminary Draft, Subject to Revision



- Legend**
- Investigation Areas CEC
 - Compact Bypass Narrow Floodplain Levee
 - Wide Floodplain Levee
 - Local Road
 - Canals
- Levee Investigation Type (Draft Locations)**
- CPT
 - DH_SPT
 - UDH

0 0.25 0.5 1 Miles



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





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



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

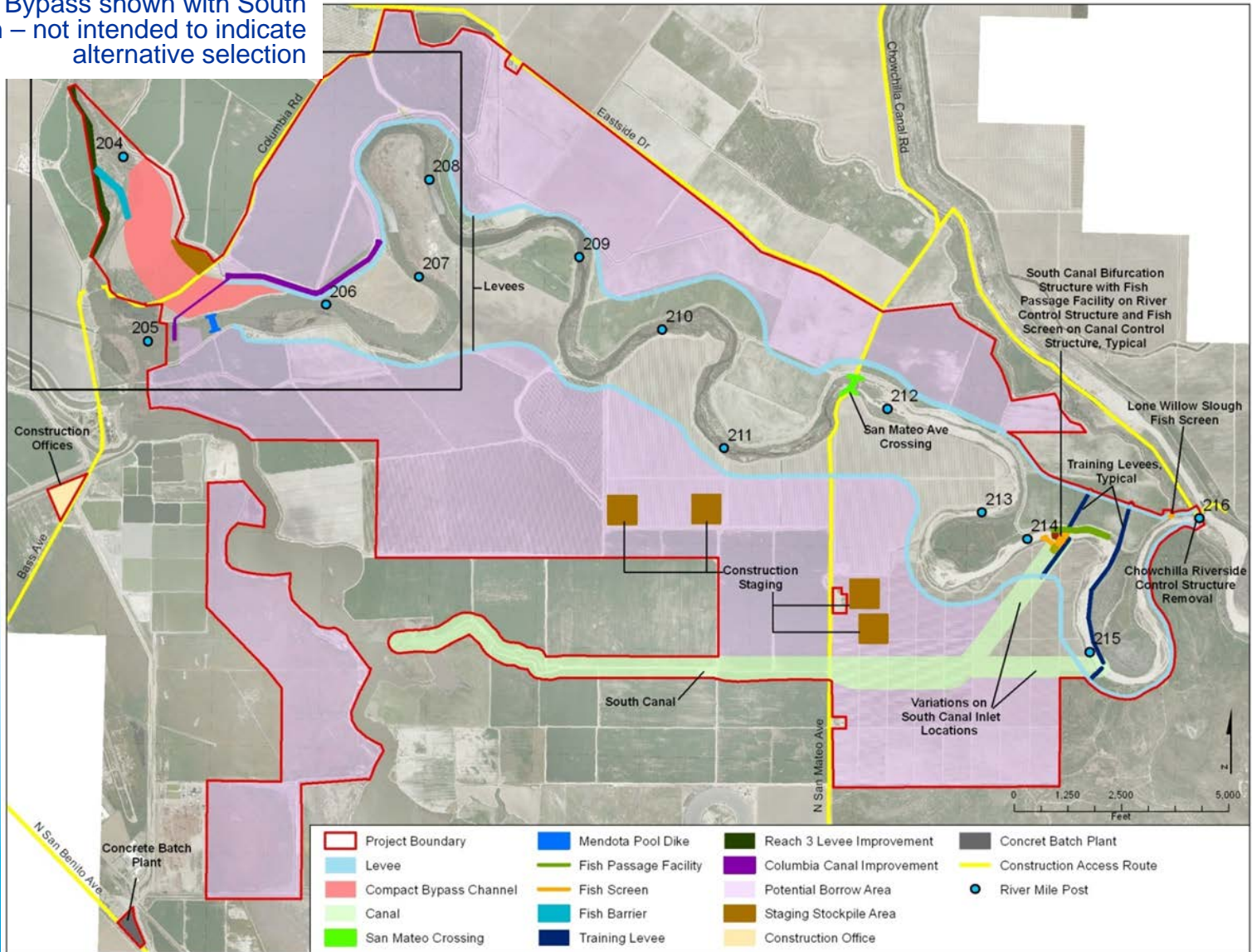
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 - Screened to prevent fish intake
 - City of Mendota wells
 - No change to Operations
 - Screened to prevent fish intake
 - Columbia Canal intake
 - Relocated intake in Mendota Pool, downstream of new Mendota Pool Control Structure
 - Inverted siphon/pipeline 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

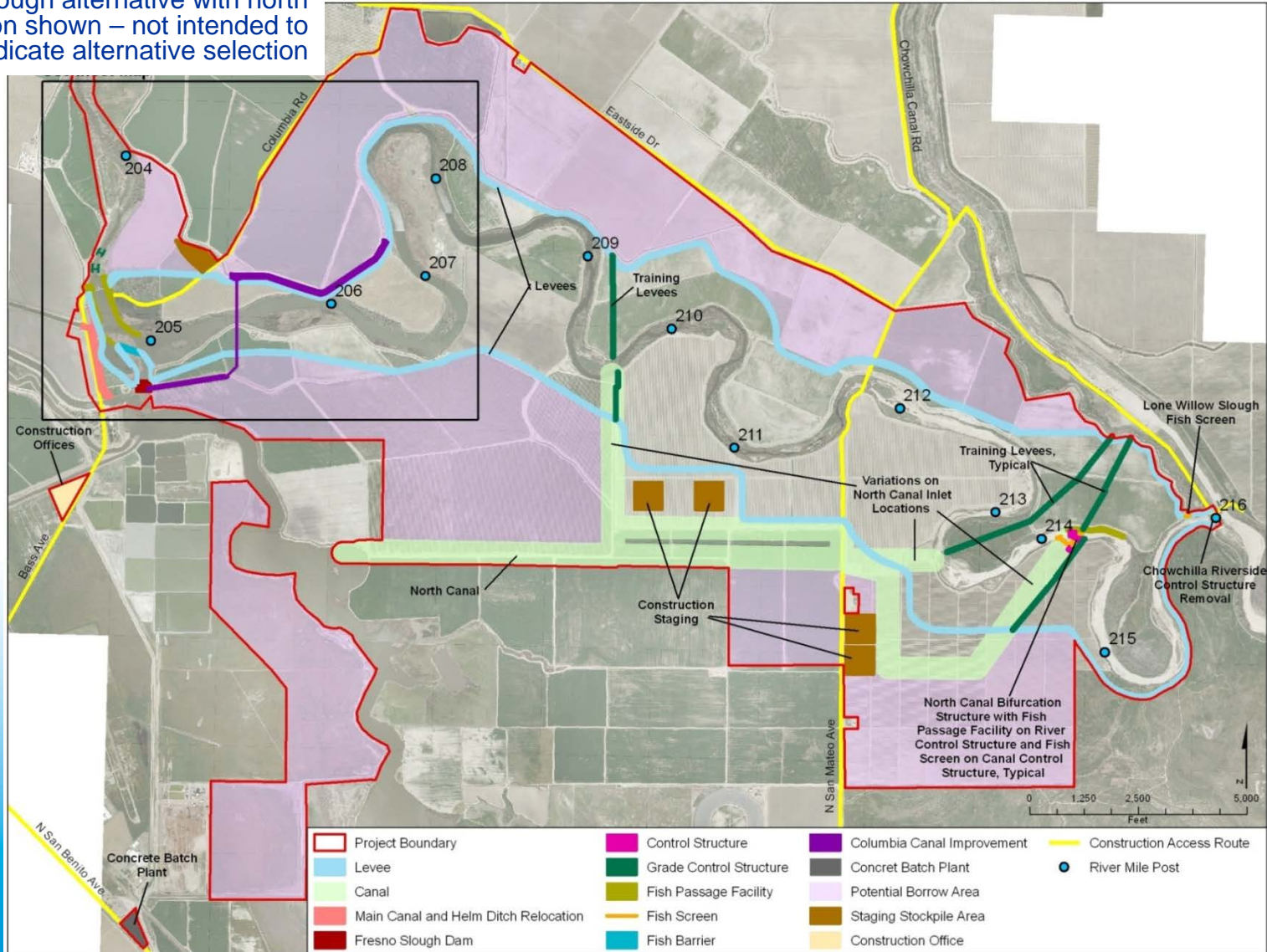
Narrow Floodplain Levee Alignment

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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