San Joaquin River Restoration Program

Mendota Pool Bypass and Reach 2B Improvements Project

Consensus-based Alternative Stakeholder Meeting

January 29, 2013 9:00 am

Kings River Conservation District
4886 East Jensen Avenue, Fresno, CA 93725

Agenda

1. Introductions
2. SJRRP Program Update
3. Reach 2B Project Update
4. Approach to Consensus-based Alternative
5. Reach 2B Project Alternatives
6. Future Meetings
7. Review Assignments & Follow-up

SAN JOAQUIN RIVER RESTORATION PROGRAM

Introductions

SJRRP Program Update

Settlement Goals

- Restoration Goal
  - To restore and maintain fish populations in “good condition” in the main stem of the San Joaquin River below Friant Dam to the confluence of the Merced River, including naturally reproducing and self-sustaining populations of salmon and other fish.
- Water Management Goal
  - To reduce or avoid adverse water supply impacts to all of the Friant Division long-term contractors that may result from the Interim Flows and Restoration Flows provided for in the Settlement.

SAN JOAQUIN RIVER RESTORATION PROGRAM

Restoration Goal Activities

- Increase flows from Friant Dam
- Improve channel/structures to convey flows and improve habitat
  - Reach specific projects moving forward:
    - Reach 2B – working on Draft EIS/R
    - Reach 4B – working on Alternatives Evaluation & Project Description
    - Arroyo Canal/Sack Dam - Draft EA/IS published in June 2012
- Fisheries Activities
    - NMFS public meetings 10(j) and 4(d) 29, 30 Jan and 5 Feb
    - Spring-run salmon broodstock activities underway
- Settlement requires 10 specific channel and structural improvement projects to address:
    - Channel capacity limitations
    - Fish habitat limitations
    - Fish passage and entrainment issues
- Combined into 4 major projects
    - Reach 2B, Reach 4B, Arroyo Canal and Sack Dam, Salt and Mud Slough Seasonal Barriers

SAN JOAQUIN RIVER RESTORATION PROGRAM

Reach 2B Project Update

Reach 2B Project Update

Today's Objectives :

- Establish an understanding of decisions to make concerning the Alternatives
  - How to bypass Pool
  - How (and where) to increase capacity and provide habitat
  - How to make deliveries to the Pool
- Kick off the consensus building process

Reach 2B Project Update

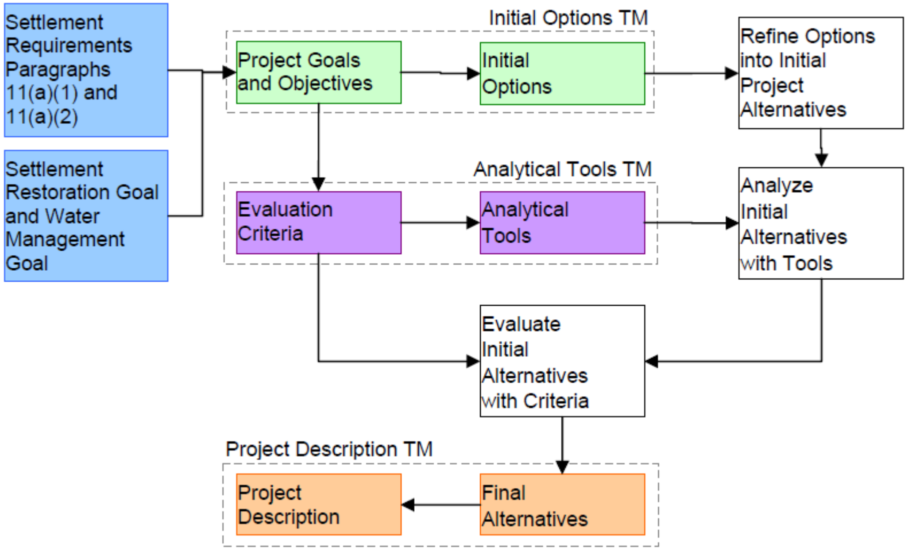
Decisions needed for ROD:

1. Based on Project Objectives
2. Bypass Pool
    a) New Channel (Compact Bypass Channel)
    b) New Dam (Fresno Slough Dam)
3. Increase Capacity/Provide Habitat
    a) Wide Setback Levees
    b) Narrow Setback Levees
    c) Specific parcel acquisition to construct levees
4. Make Deliveries to Pool
    a) Bifurcation Structure
    b) Short Canal
    c) North/South Canal

Reach 2B Project Update

Recent & Ongoing Work

- Alternatives Evaluation completed & Project Description Technical Memo published October 2012



- Impacts assessment for EIS/R on-going

- Public Draft EIS/R anticipated late 2013/early 2014

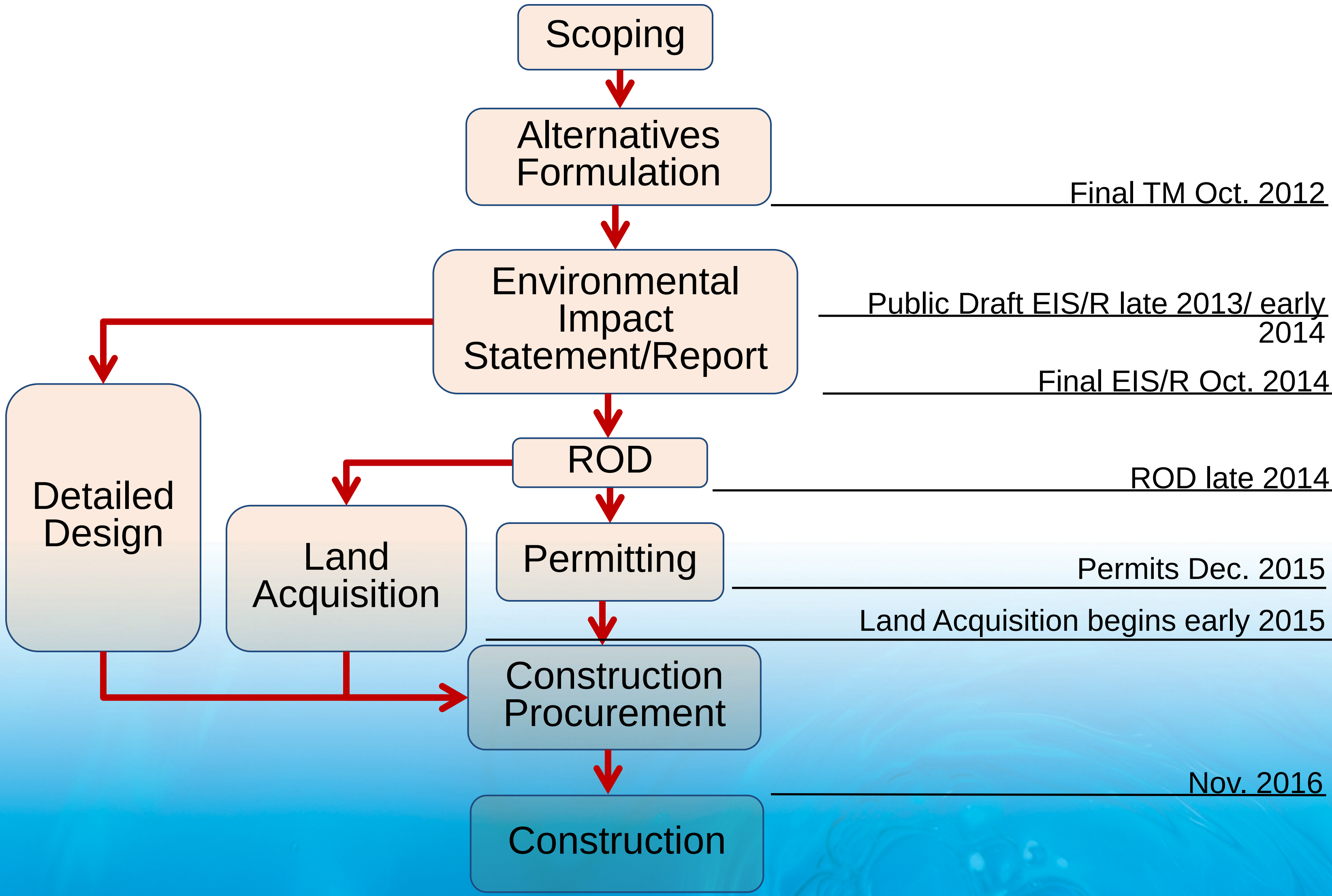
Reach 2B Project Update

Available Technical Reports

1.	Final Scoping Report	February 2010
2.	Exist. Env. Conditions: Data Needs and Survey Approach TM	March 2010
3.	Initial Options TM	April 2010
4.	Analytical Tools TM	October 2010
5.	Final Field Survey Report	November 2011
6.	Project Description TM	October 2012

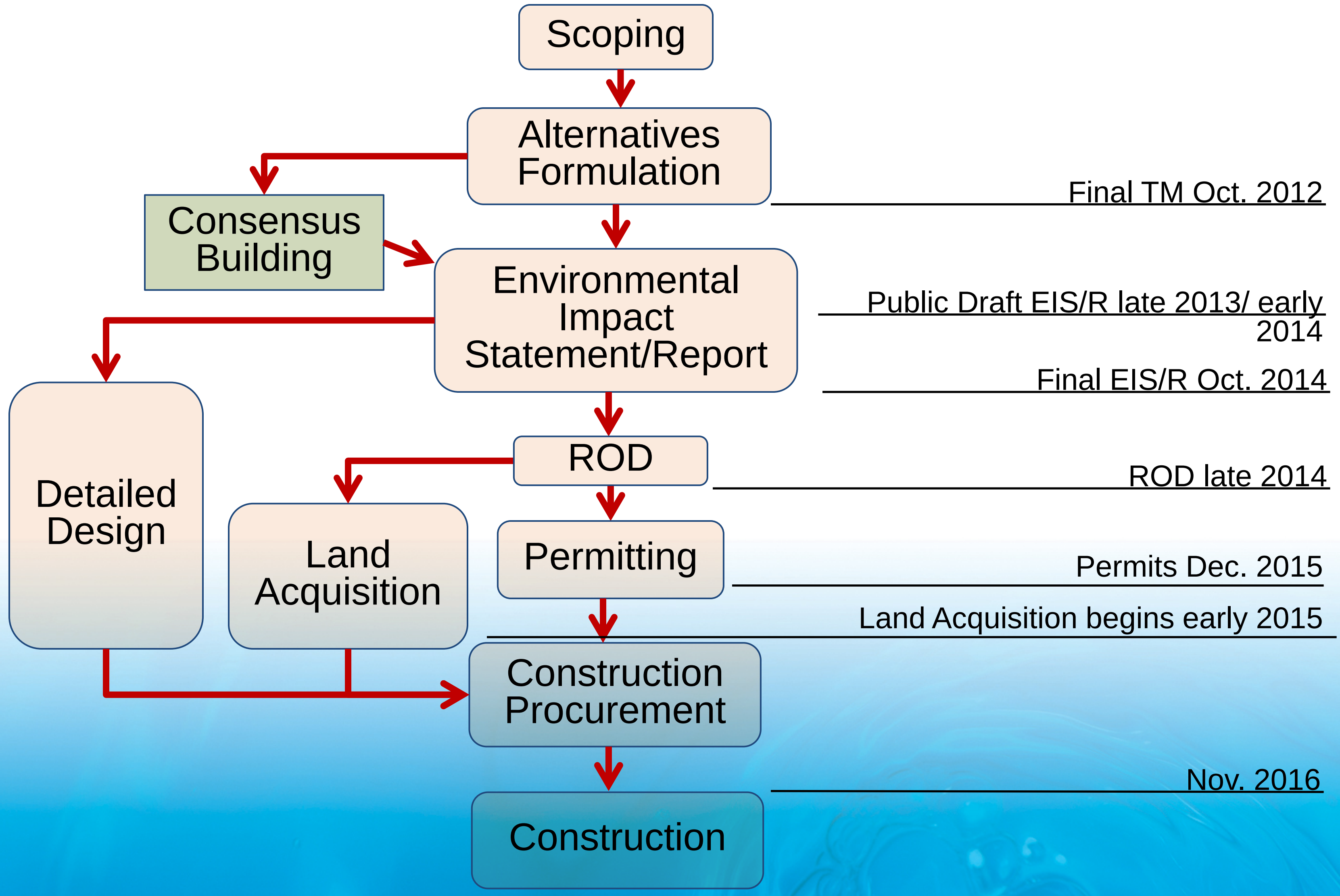
Reach 2B Project Update

Project Overview/Process



Reach 2B Project Update

Project Overview/Process



Reach 2B Project Update

Consensus-based Alternative:

1. Consensus-based alternative input will assist final agency decisions
2. Mix and match approach

Approach to Consensus-based Alternative

Consensus-based Alternative
Objectives

1) Identify one alternative that is acceptable to all stakeholder parties
2) Provide a thorough understanding of project to stakeholders
3) Provide decision-makers with information on critical issues

- Outcome: Propose a "consensus-based" alternative to agencies by July 2013

Consensus-based Alternative
Process Overview

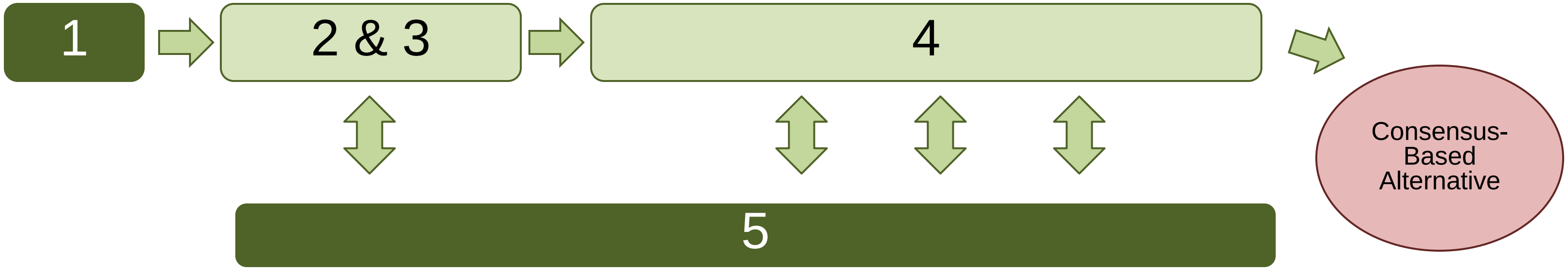
- Stakeholder-driven process
- Support from Agencies and Reclamation/DWR Project team is available
- Thoughtful consideration of competing goals and objectives
- Focus on
  - Respectful dialog
  - Actions, as opposed to issues
  - Complete Alternatives

Consensus-based Alternative
Level of Agency Support

Range of Potential Agency Support:

- Stay out of the way
- Provide technical analyses and facts to address questions
- Providing professional facilitation
- Some combination of above
- Other actions?

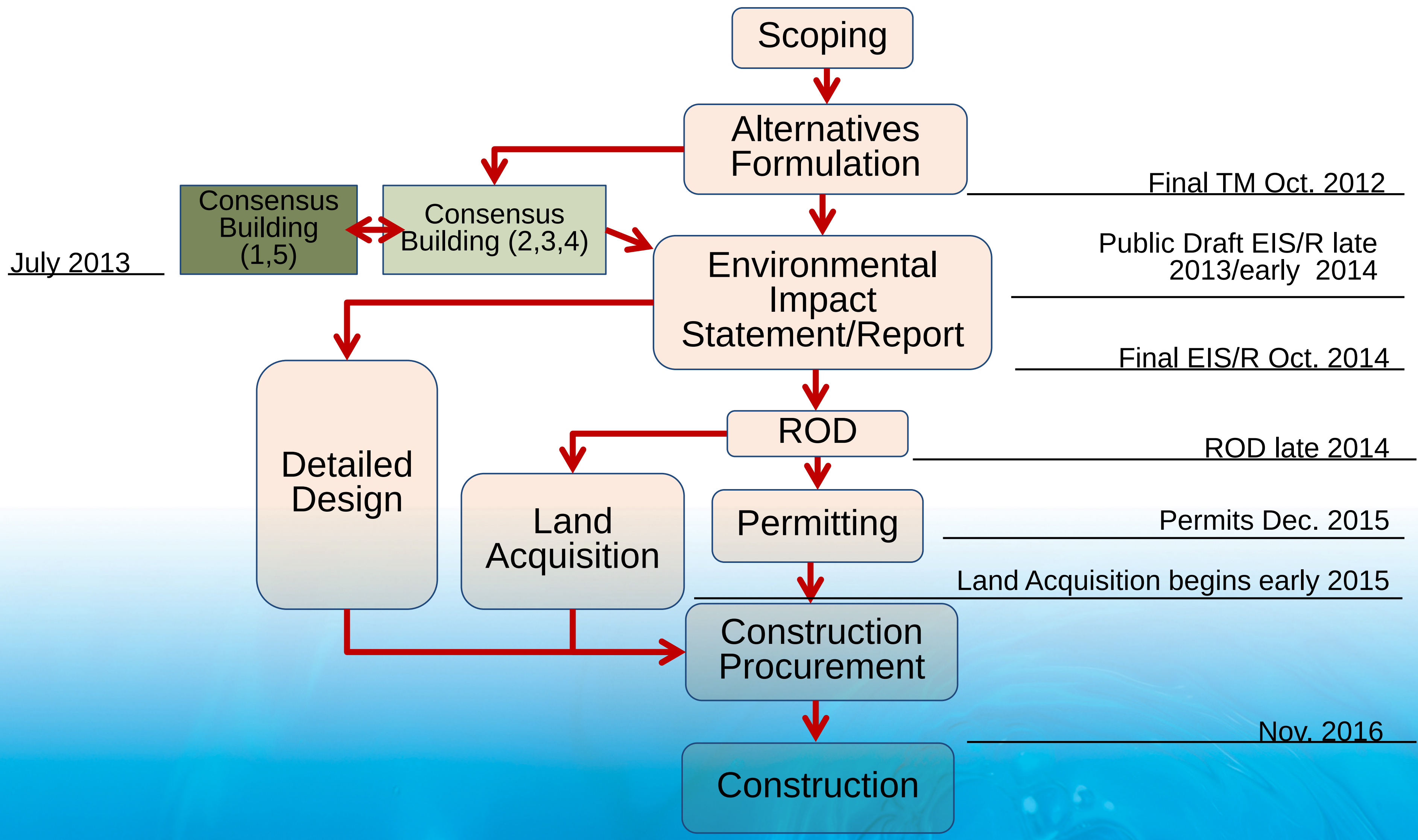
Consensus-based Alternative
Possible Approach



Activity Progression:

1. Provide an overview of Alternatives (Project Team)
2. Develop a process to guide consensus-based alternative development (Stakeholder Group)
3. Set protocols, ground rules, roles and responsibilities, and decision-making structure (Stakeholder Group)
4. Develop consensus-based alternative (Stakeholder Group)
5. Provide technical support and analysis (Project Team)

Consensus-based Alternative
Possible Approach



Consensus-based Alternative
Possible Approach

Considerations:

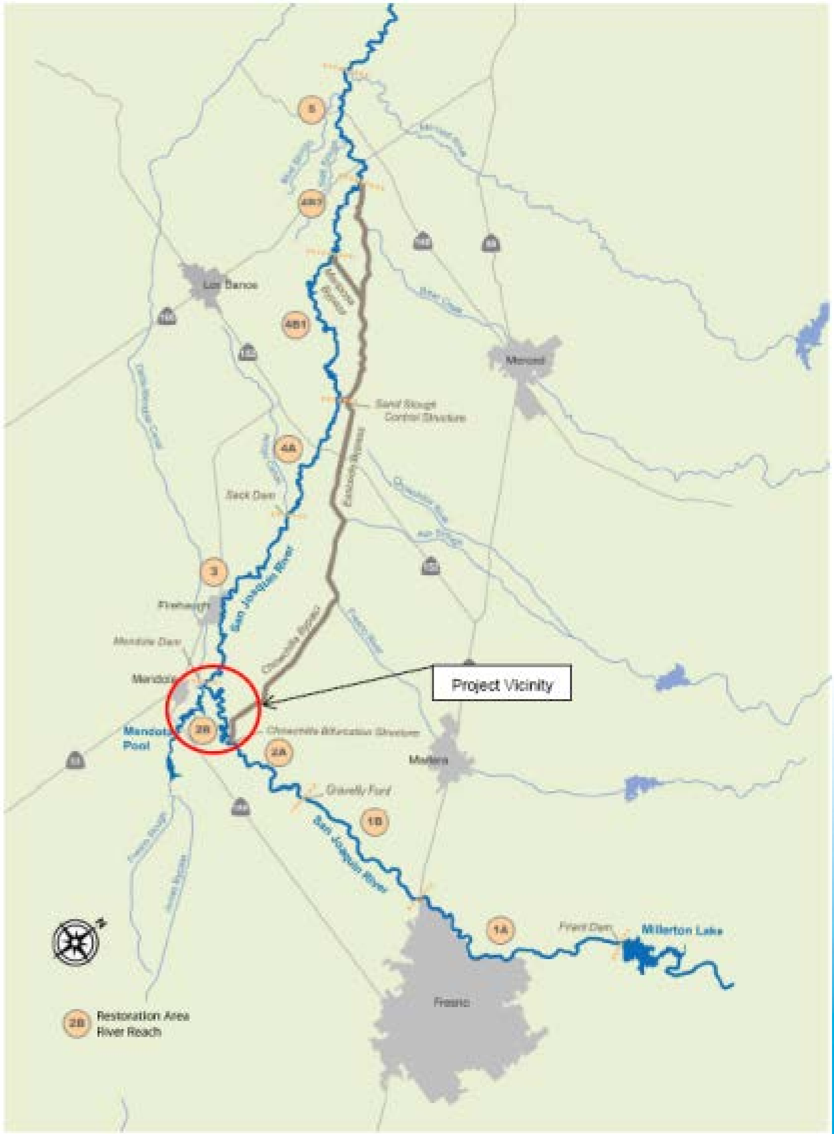
- Goals and Objectives (What's the necessary project? What should be accomplished?)
- Advantages and Limitations (How does the alternative meet the Goals and Objectives? What are the drawbacks?)
- Modifications (How can limitations be addressed? How can advantages be enhanced?)
- Analysis (Do limitations outweigh advantages? Should alternative be eliminated?)

Reach 2B
Project Alternatives

SAN JOAQUIN RIVER RESTORATION PROGRAM

Reach 2B Project Alternatives

Vicinity Map



DRAFT – For Discussion Purposes Only

Reach 2B Project Alternatives
Reach 2B Settlement Agreement

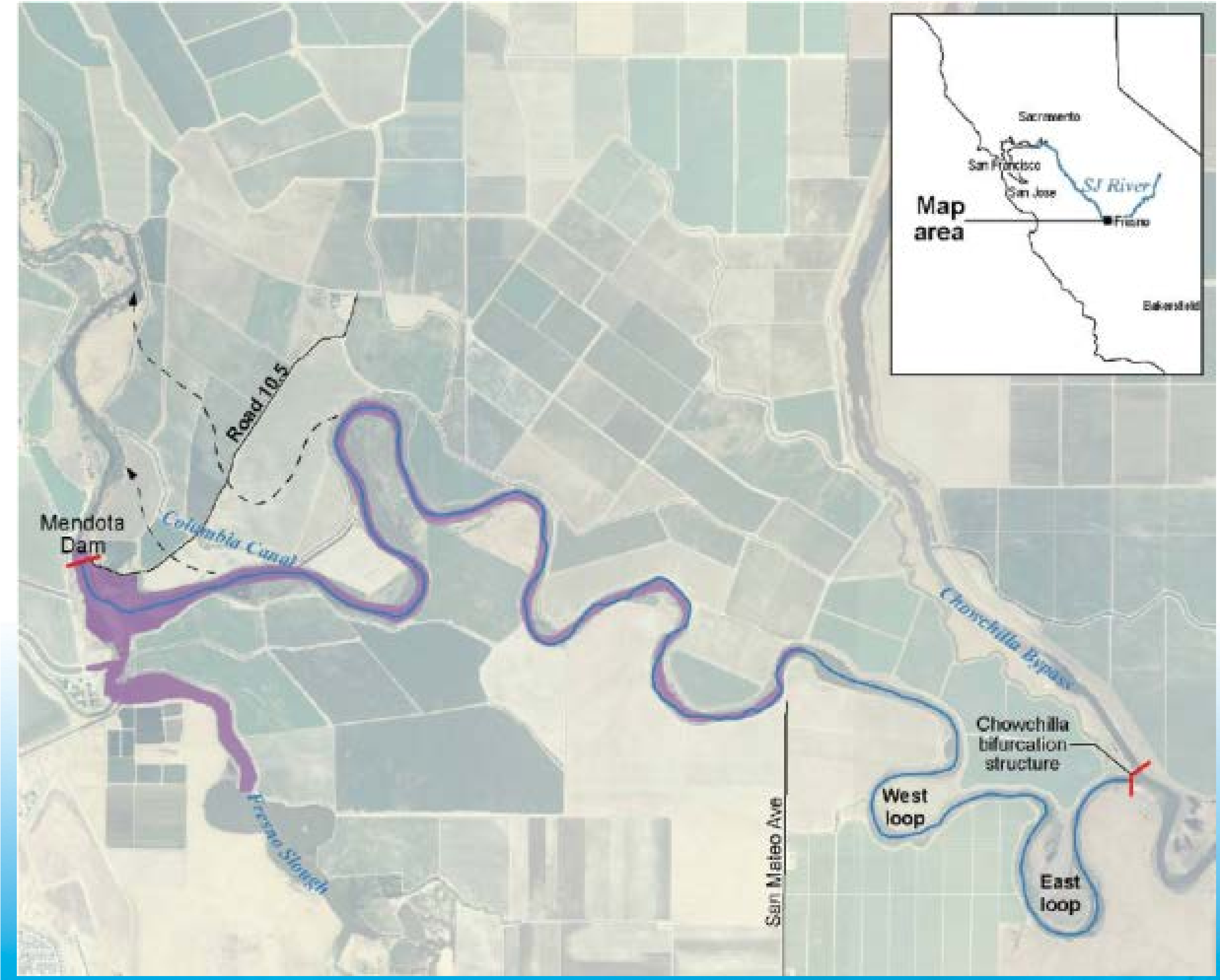
Paragraph 11(a)

- (1) Creation of a bypass channel around Mendota Pool to ensure conveyance of at least 4,500 cfs from Reach 2B downstream to Reach 3. This improvement requires construction of a structure capable of directing flow down the bypass and allowing the Secretary to make deliveries of San Joaquin River water into Mendota Pool when necessary

- (2) Modifications in channel capacity (incorporating new floodplain and related riparian habitat) to ensure conveyance of at least 4,500 cfs in Reach 2B between the Chowchilla Bifurcation Structure and the new Mendota Pool bypass channel

Reach 2B Project Alternatives

Existing Conditions



1. Project Extents (Phase 1)
    - Upstream Chowchilla Bifurcation Structure
    - Downstream Bypass Connection
2. Existing Structures
    - Chowchilla Bifurcation
    - San Mateo Crossing
    - Mendota Dam
    - Water Supply Infrastructure
3. Existing Conditions
    - Limited capacity (1,300 cfs – 2,500 cfs)
    - Pool backs up to San Mateo Ave.
    - Shallow Groundwater
4. Settlement Requirements
    - Pool Bypass
    - Channel/Floodplain capacity up to 4,500 cfs
    - Floodplain & related habitat
    - Pool Deliveries

DRAFT – For Discussion Purposes Only

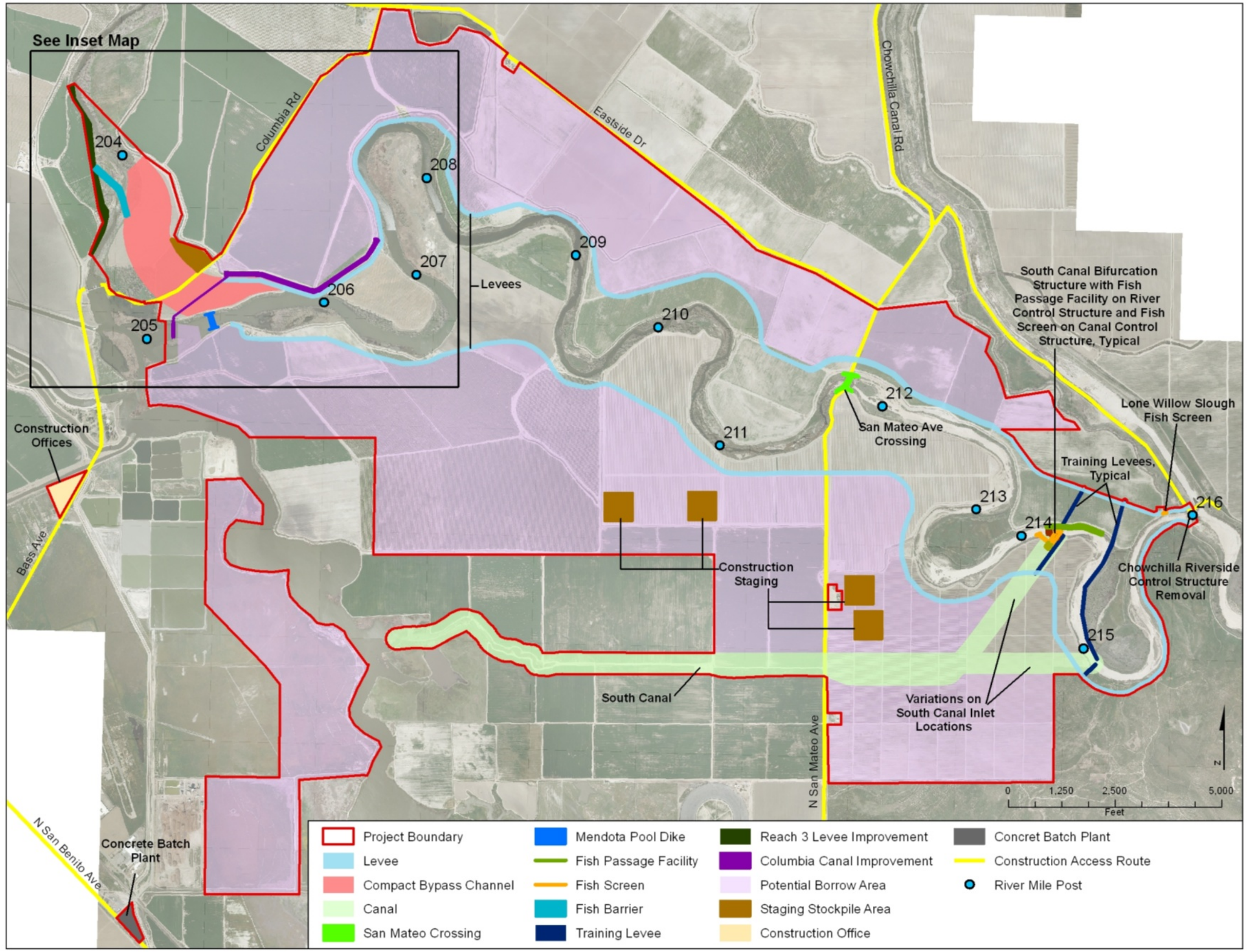
Reach 2B Project Alternatives

- Four Alternatives presented in the Reach 2B Project Description TM
  - Compact Bypass with Narrow Floodplain and South Canal
  - Compact Bypass with Wide Floodplain and Bifurcation Structure
  - Fresno Slough Dam with Narrow Floodplain and Short Canal
  - Fresno Slough Dam with Wide Floodplain and North Canal

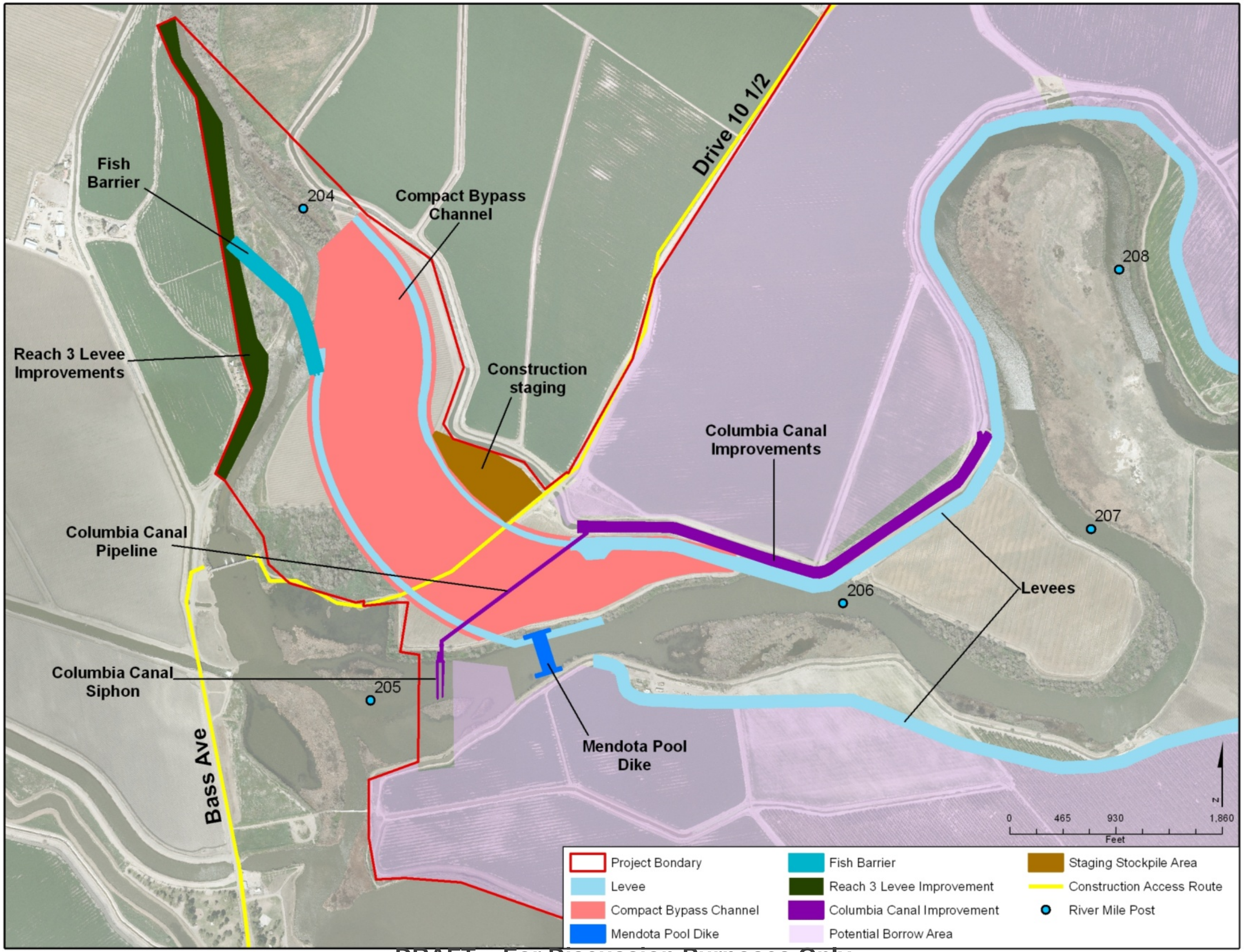
Compact Bypass with Narrow Floodplain and South Canal

- Compact Bypass
  - New channel and structures capable to convey up to 4,500 cfs of Restoration Flows around Mendota Pool
- Narrow Floodplain
  - Floodplain habitat approx. 3,000 feet wide on average
- South Canal
  - South Canal and structures to convey up to 2,500 cfs from Reach 2B to Mendota Pool (includes fish passage facility)
- Other
  - Removal of Chowchilla riverside control structure

Compact Bypass with Narrow Floodplain and South Canal



Compact Bypass with Narrow Floodplain and South Canal

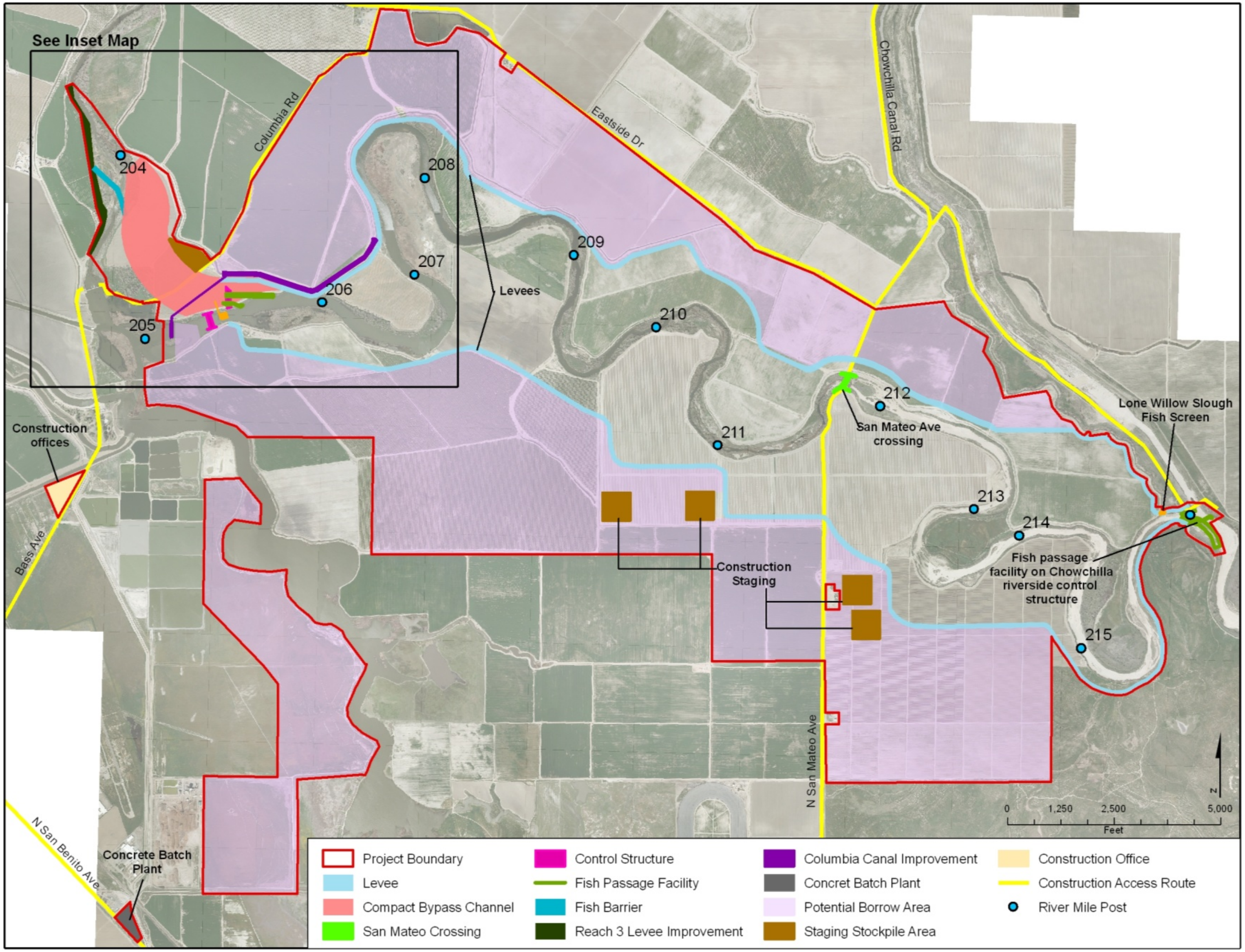


DRAFT – For Discussion Purposes Only

Compact Bypass with Wide Floodplain and Bifurcation Structure

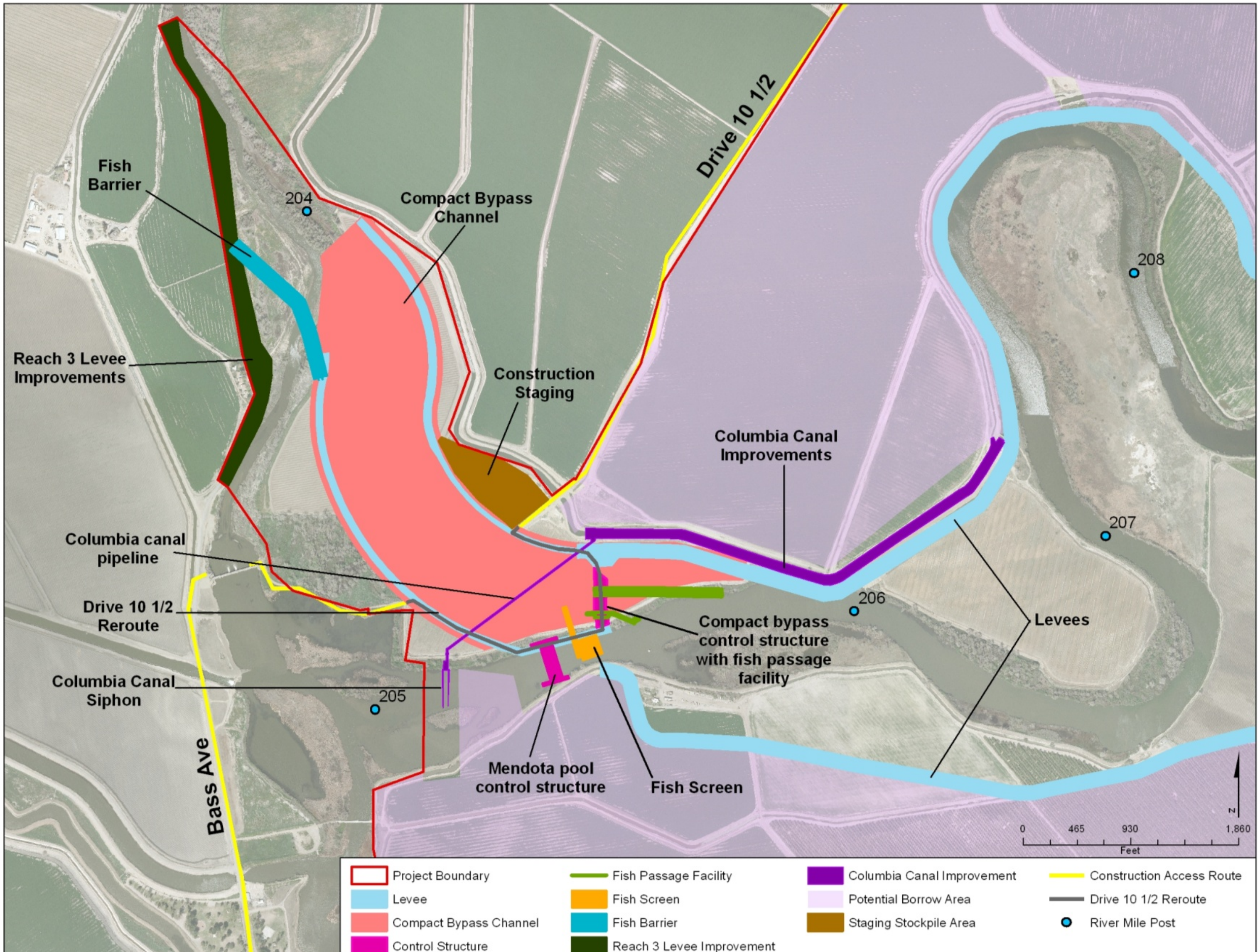
- Compact Bypass
  - New channel and structures capable to convey up to 4,500 cfs of Restoration Flows around Mendota Pool
- Wide Floodplain
  - Floodplain habitat approx. 4,200 feet wide on average
- Bifurcation Structure
  - Mendota Pool control structure to convey up to 2,500 cfs from Reach 2B to Mendota Pool
- Other
  - Fish passage facility at Compact bypass control structure
  - Fish passage facility at Chowchilla riverside control structure

Compact Bypass with Wide Floodplain and Bifurcation Structure



DRAFT – For Discussion Purposes Only

Compact Bypass with Wide Floodplain and Bifurcation Structure

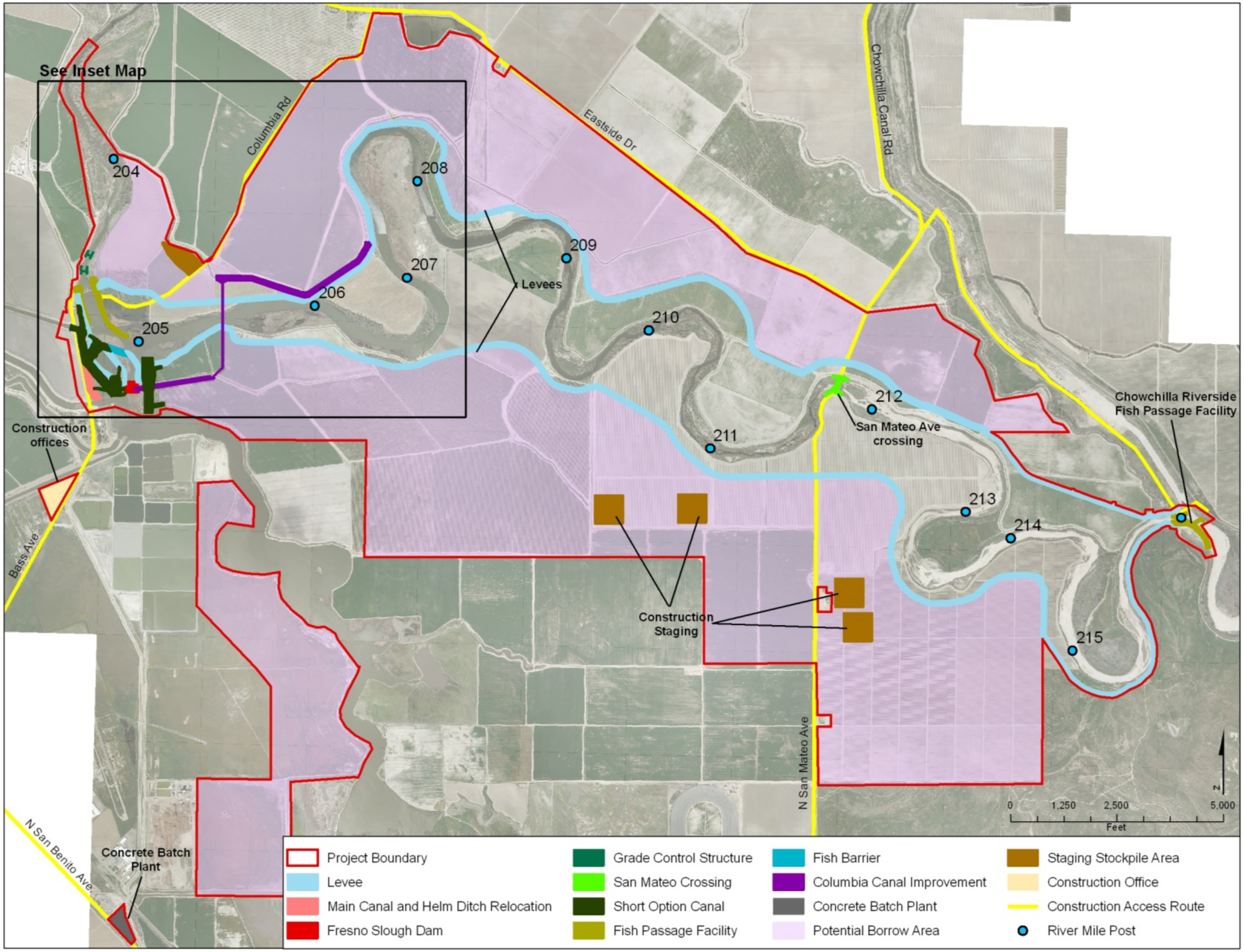


DRAFT – For Discussion Purposes Only

Fresno Slough Dam with Narrow Floodplain and Short Canal

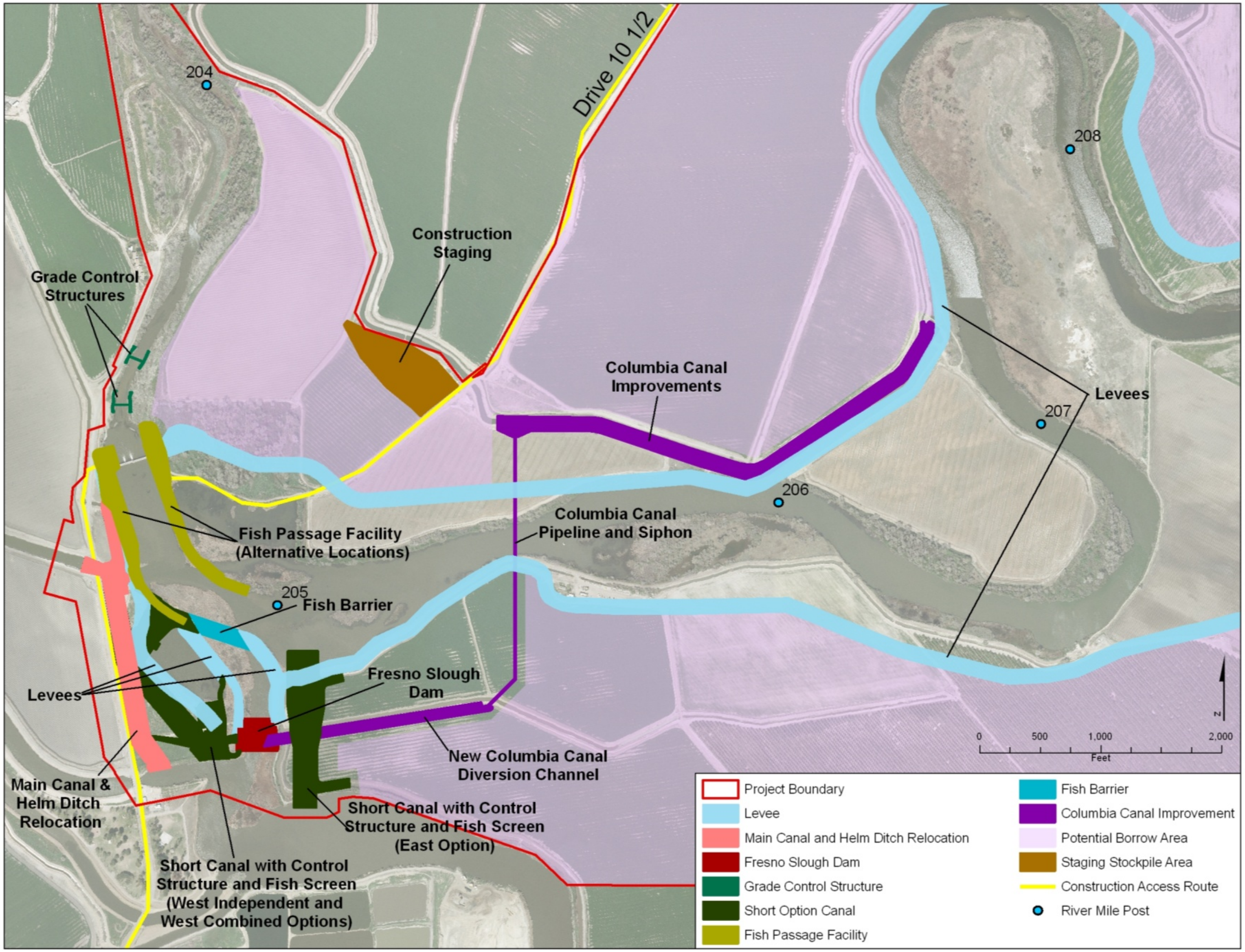
- Fresno Slough Dam
  - New dam to restrict Mendota Pool to Fresno Slough so that up to 4,500 cfs of Restoration Flows can be conveyed around Mendota Pool
  - Mendota Dam fish passage facility
- Narrow Floodplain
  - Floodplain habitat approx. 3,000 feet wide on average
- Short Canal
  - Short Canal and structures to convey up to 2,500 cfs from Reach 2B to Mendota Pool
- Other
  - Fish passage facility at Chowchilla riverside control structure

Fresno Slough Dam with Narrow Floodplain and Short Canal



DRAFT – For Discussion Purposes Only

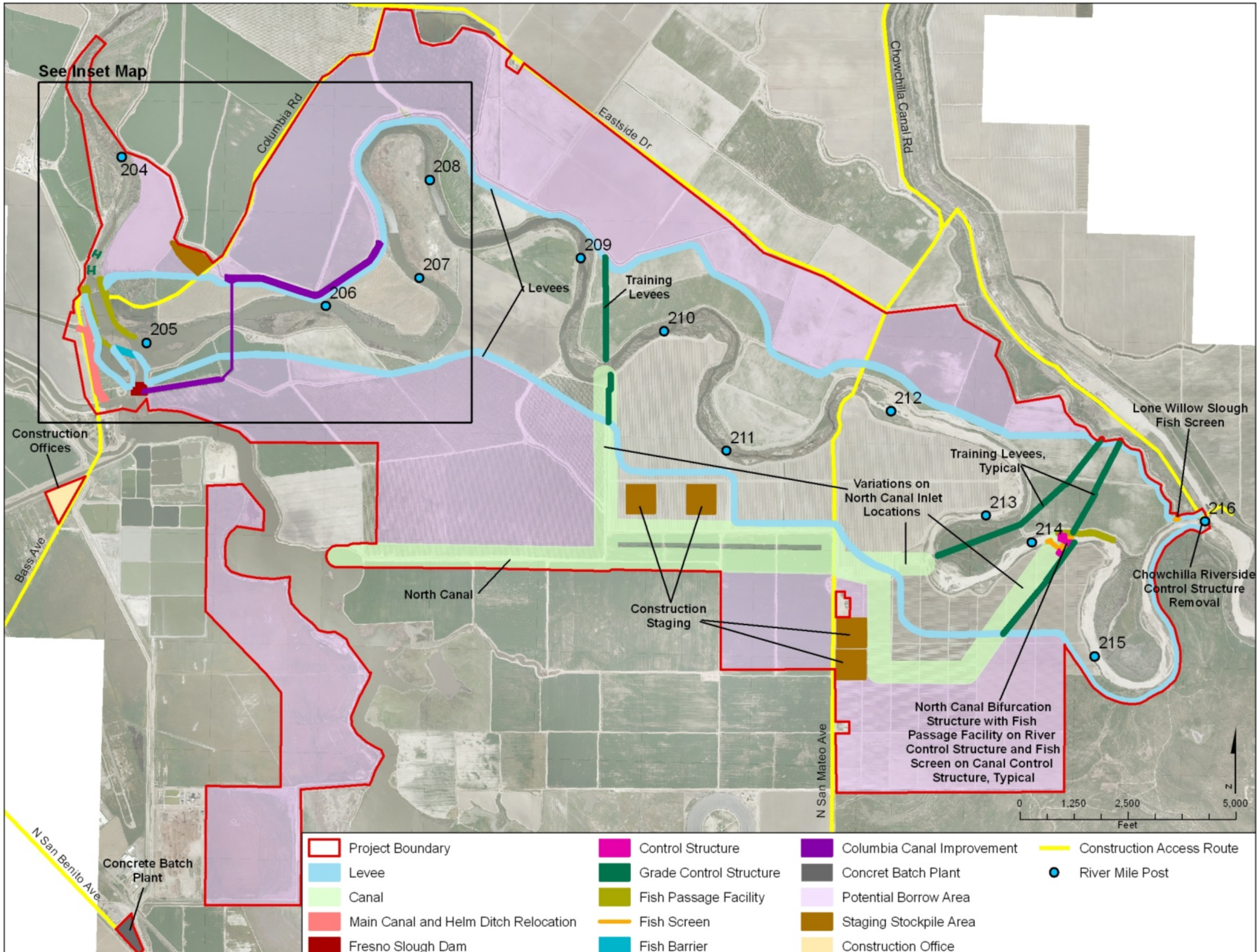
Fresno Slough Dam with Narrow Floodplain and Short Canal



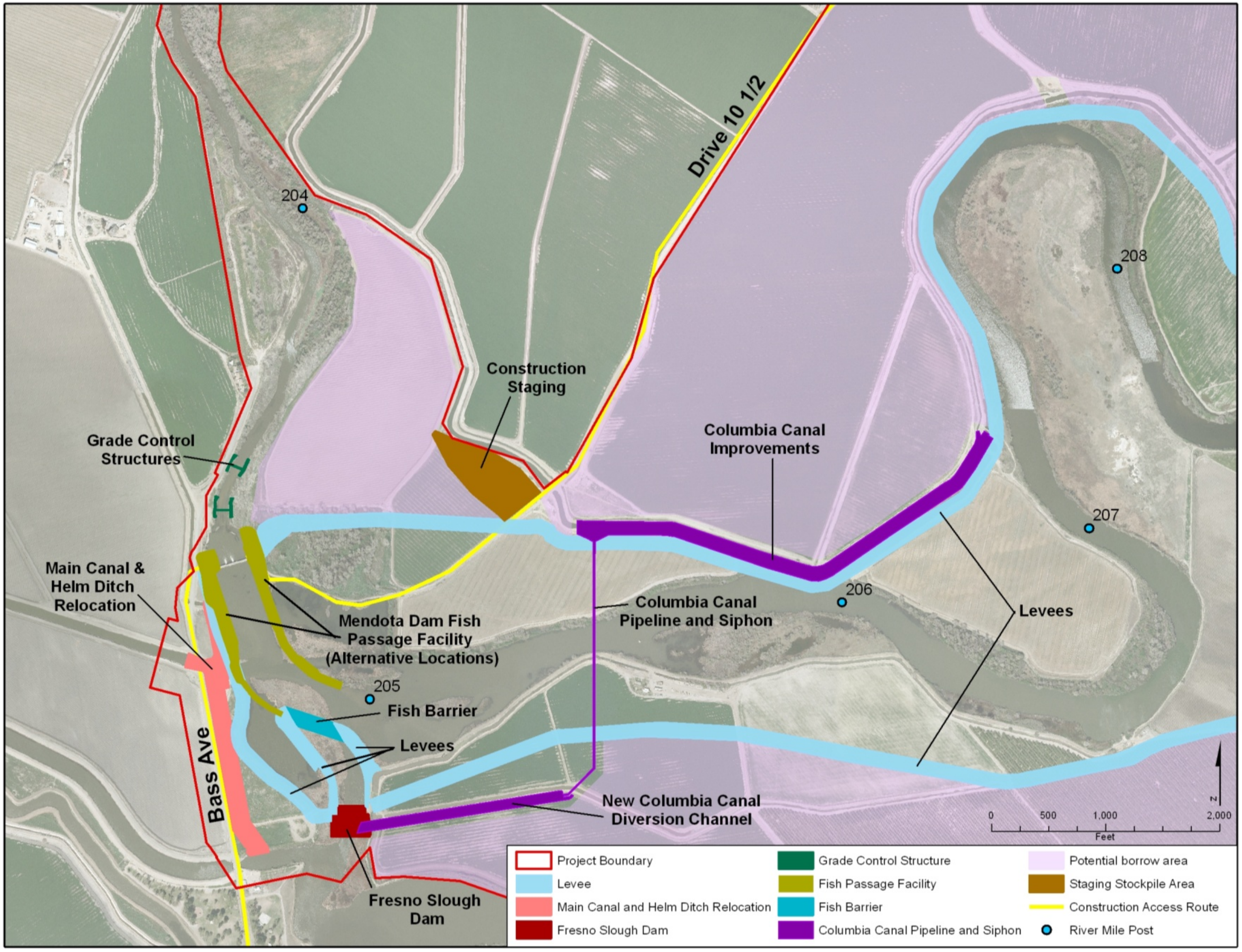
Fresno Slough Dam with Wide Floodplain and North Canal

- Fresno Slough Dam
  - New dam to restrict Mendota Pool to Fresno Slough so that up to 4,500 cfs of Restoration Flows can be conveyed around Mendota Pool
  - Mendota Dam fish passage facility
- Wide Floodplain
  - Floodplain habitat approx. 4,200 feet wide on average
- North Canal
  - North Canal and structures to convey up to 2,500 cfs from Reach 2B to Mendota Pool (with fish passage facility)
- Other
  - Removal of Chowchilla riverside control structure

Fresno Slough Dam with Wide Floodplain and North Canal



Fresno Slough Dam with Wide Floodplain and North Canal



Future Meetings

Future Meetings

- Topics of Interest for Future Meetings
- Dates for Future Meetings

Review Assignments & Follow-up

Questions?

Michael Mitchener
SJRRP Deputy Program Manager
916-978-4640
mmitchener@usbr.gov

www.restoresjr.net

Pocket Slides

Fresno Slough Dam

Hydraulics

DRAFT - For Discussion
Purposes Only

Summary

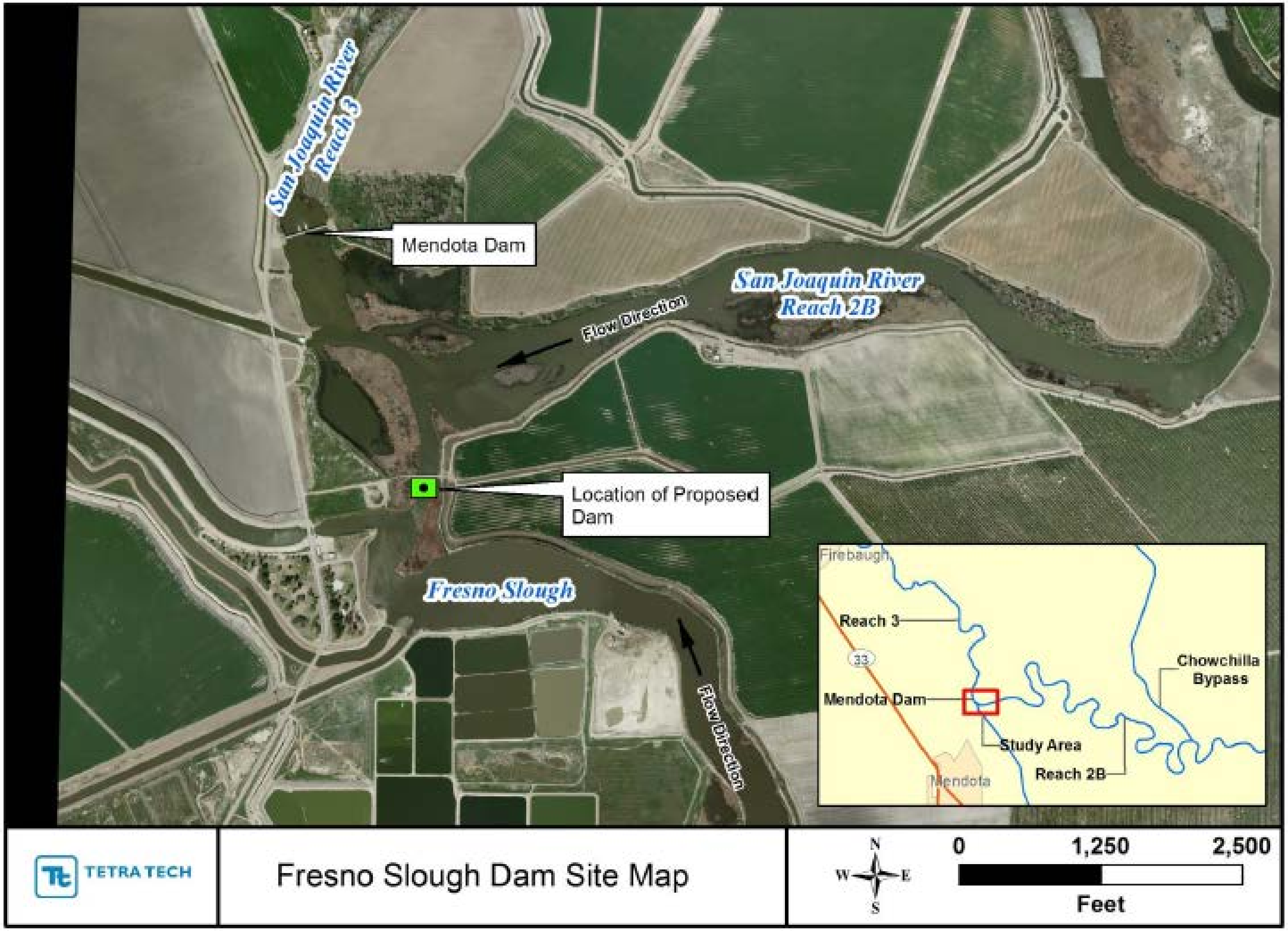
- Two Reach 2B alternatives include construction of a dam at the downstream end of Fresno Slough

- Peak flows from Fresno Slough ~5,500 cfs

- Losses through the dam bays and sill have the potential to impact upstream water surface elevations

- Goal is to design the dam to minimize the levees and upstream water surface impacts

Site Map



DRAFT - For Discussion
Purposes Only

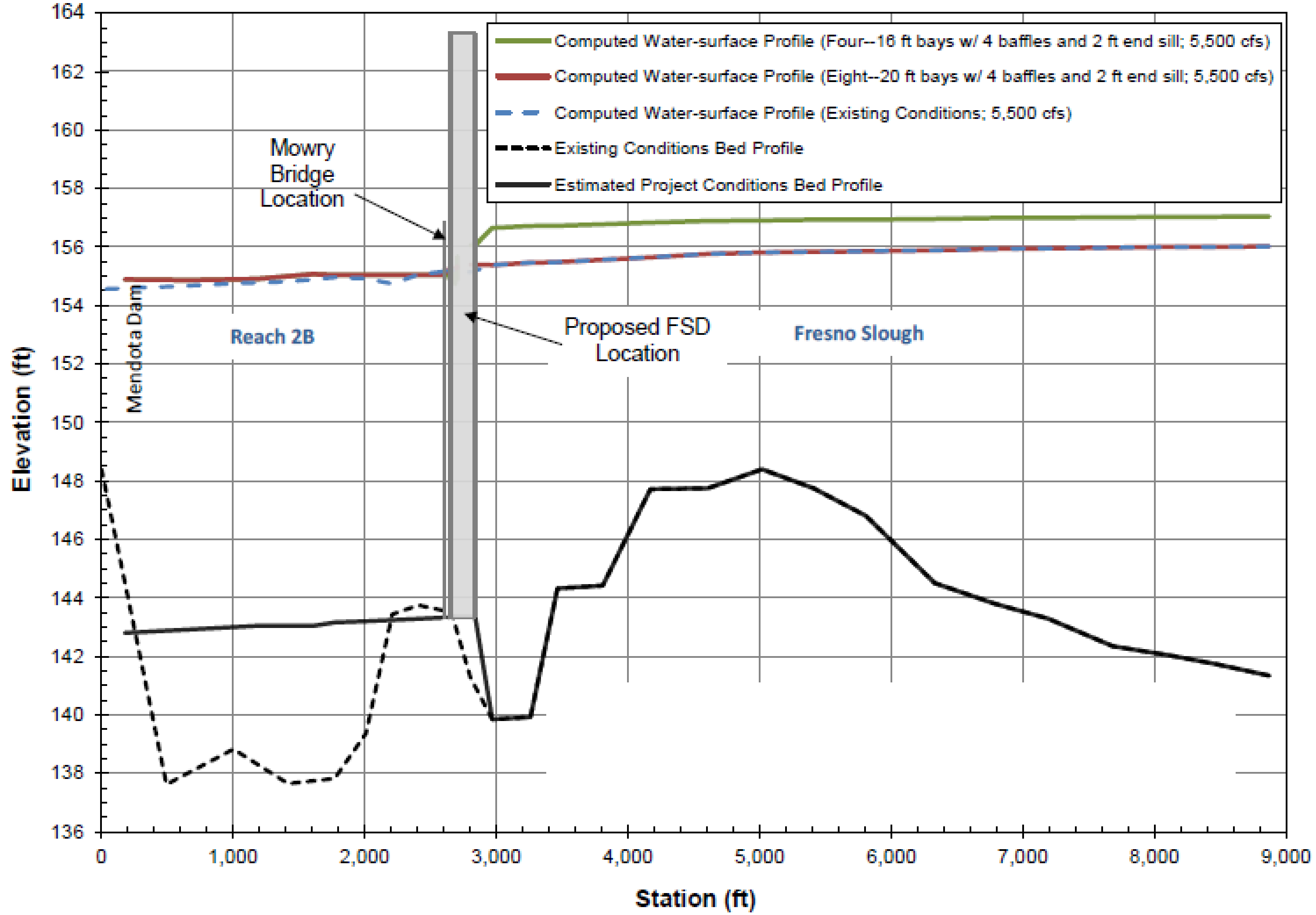
Analysis

- A 1-D hydraulic model of the lower end of Reach 2B and Fresno Slough was developed

- Existing conditions were compared to project conditions

- Project conditions were based on Appraisal level designs

Hydraulic Results



DRAFT - For Discussion Purposes Only

Hydraulic Results

- It would require approximately eight-20 ft bays to not significantly raise the upstream water surface elevation

- Sufficient area exists to allow for this type of dam design

- Other measures could also be implemented to reduce losses through structures and upstream water surface elevations