Seepage and Conveyance Technical Feedback Group Meeting

January 31, 2014

Patti Ransdell

INTRODUCTION

Agenda

- Introductions
- Purpose
- Restoration Flow Update
- Status of Seepage Projects
- Project Designs
- Real Estate Actions
- Parcel Prioritization
- Wrap-up

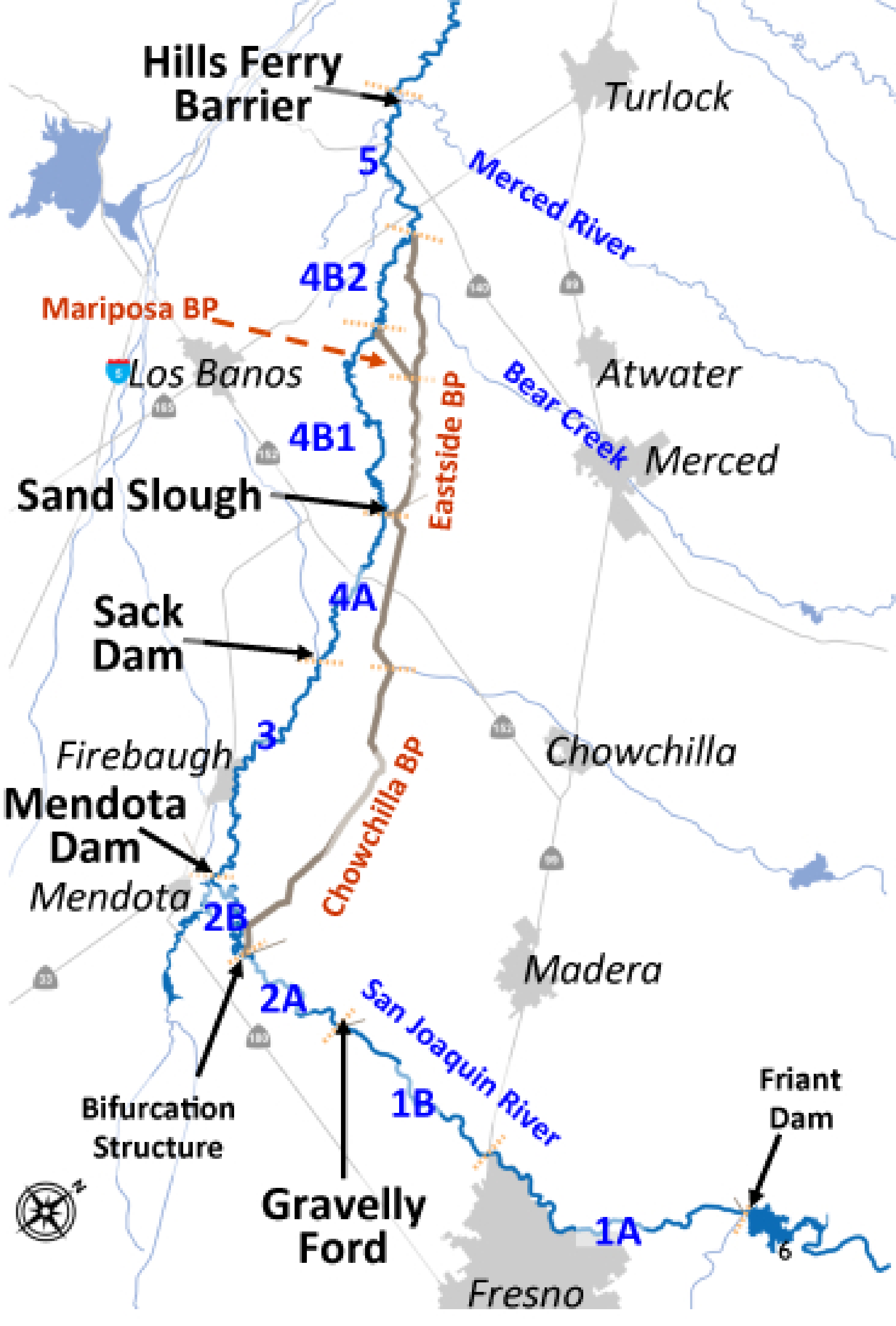
Today's Outcomes

- Present draft seepage project designs
- Solicit additional design considerations

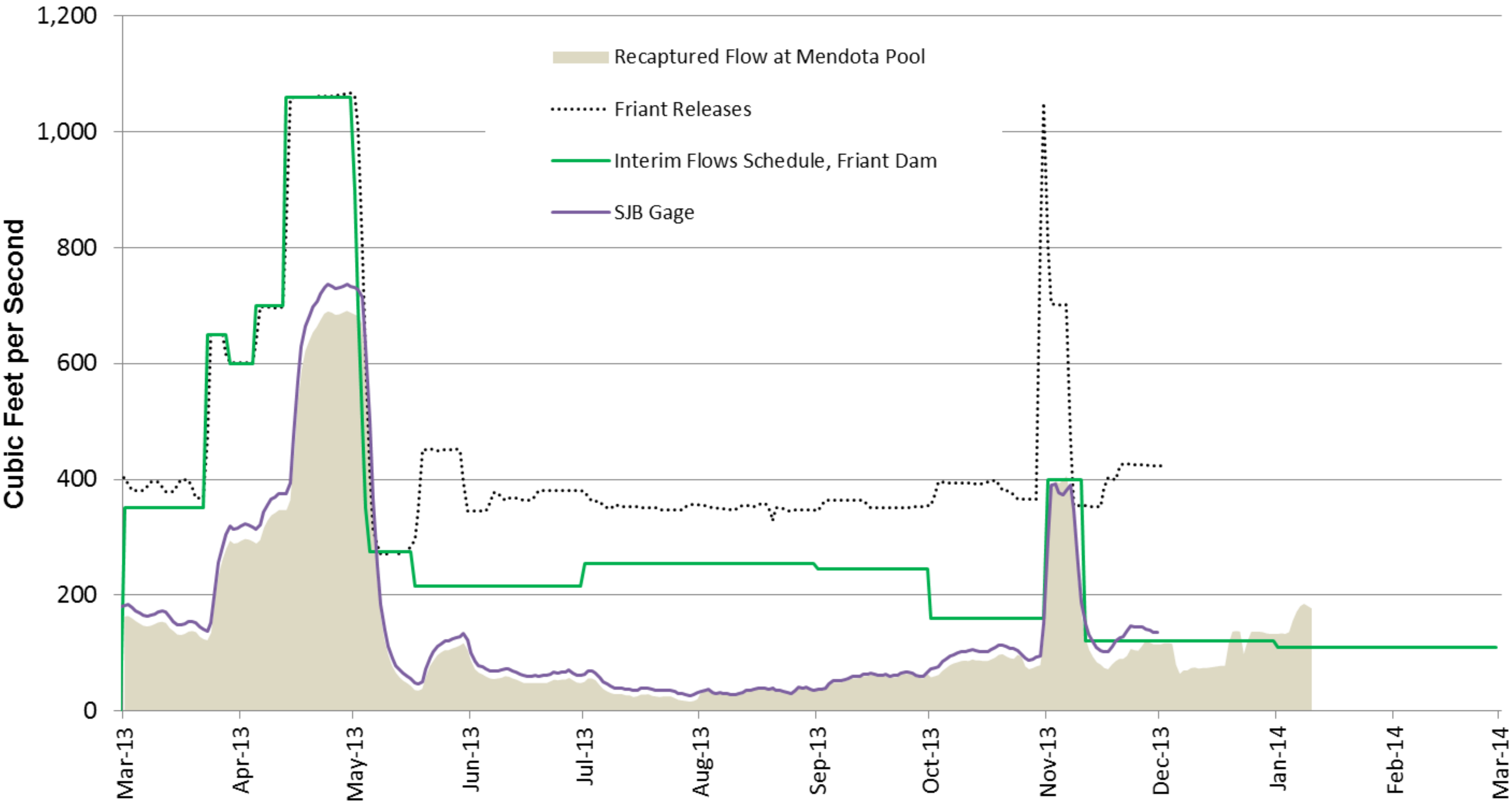
Katrina Harrison

RESTORATION FLOW SCHEDULE

- SJRRP Flow Releases
  - To Mendota Pool
  - No flow below Sack Dam
- Critical-Low Water Year Type
  - No water for SJRRP after March 1



Water Year 2013 Flows



Preliminary draft – subject to change

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SEEPAGE MANAGEMENT OVERVIEW

Seepage Management

- Reduce or avoid material adverse seepage impacts
  - Waterlogging (disease, anoxia, temperature)
  - Root zone salinity

Seepage Management Goal 1

- Limit Restoration Flow releases based on groundwater seepage thresholds
  - Seepage Management Plan (SMP)
  - December 2010 through March 2011: 5 SCTFG meetings
  - SMP Peer Review in 2012
  - Peer Review findings in February 2013
  - Revisions to SMP per peer review findings in April 2013

Seepage Management Plan

- Seepage impacts
- Locations of known risks
- Operations conceptual model
- Monitoring program
- Thresholds
- Triggers, site visit, and response
- Site evaluation and projects

SMP Appendices

ID	Title
A	Seepage Effects of Concern
B (formerly C)	Historic Groundwater Levels and Surface-Water Flow
C (formerly B)	Areas Potentially Vulnerable to Seepage Effects
D	Sediment Texture and Other Data
E (formerly F)	Monitoring Network
F (new)	Aerial Imagery, Remote Sensing Data
G	Soil Salinity Thresholds
H	Groundwater Level Thresholds
I (formerly J)	Groundwater Modeling
J (formerly E)	Operations
K (formerly I)	Landowner Claims Process
L (formerly K)	Seepage Project Handbook
M (formerly L)	References Cited

Seepage Management Goal 2

- Identify locations and mitigate to allow increased flows without groundwater impacts
  - Areas vulnerable to seepage; Seepage Project Handbook (SPH)
  - March 2011 through December 2011: 6 SCTFG meetings
  - Periodic updates on seepage projects since April 2012
  - Today we will share our evaluation approach and template designs so far

Brian Heywood

SEEPAGE PROJECT STATUS

SAN JOAQUIN RIVER
RESTORATION PROGRAM

Seepage Project Approach

- Split potential areas of impact into seepage parcel groups
- Prioritize parcel groups based on most at-risk properties
- Initiate first tier of priority parcel groups

Flow	# Projects
300 cfs	3
700 cfs	1
1,300 cfs	6
2,000 cfs	11
4,500 cfs	70
Total	**91**

SAN JOAQUIN RIVER RESTORATION PROGRAM

Seepage Project Process

1 Site Evaluation — 6 mo.

Reclamation	Land Owner	
☐	☐	Site Visit
☐		Prepare Methods Report
	☐	Review Methods Report
	☐	Landowner Provides Site Data
☐		Prepare Site Evaluation Report
	☐	Review Site Evaluation Report
☐		Final Site Evaluation Report

2 Project Report — 4 mo.

Reclamation	Land Owner	
☐		Appraisal Level Design and Costing
☐	☐	Plan Formulation Meeting
☐		Environmental Compliance
☐		Prepare Project Report
	☐	Review Project Report
☐		Final Project Report

3 Financial Assistance — Varies

Reclamation	Land Owner	
☐	☐	Meeting
	☐	Supply DUNS Number
	☐	Completed Form SF-424
☐		Reclamation Contracting
☐	☐	Signed Financial Agreement
☐	☐	Invoicing
☐	☐	Reporting
☐	☐	Close-Out

4 Design — Varies

- ☐ Design Data Collection
- ☐ Final Design
- ☐ Prepare Final Design Report
- ☐ Review of Final Design Report
- ☐ Final Design Report

5 Bid, Award, Construction — Varies

- ☐ Bid, Award
- ☐ Pre-Construction Meeting
- ☐ Pre-Construction Survey
- ☐ Construction

Contact

Contact the Seepage Hotline to schedule further discussion or a site visit.

Phone: 916-978-4398

Email: interimflows@restoresjr.net

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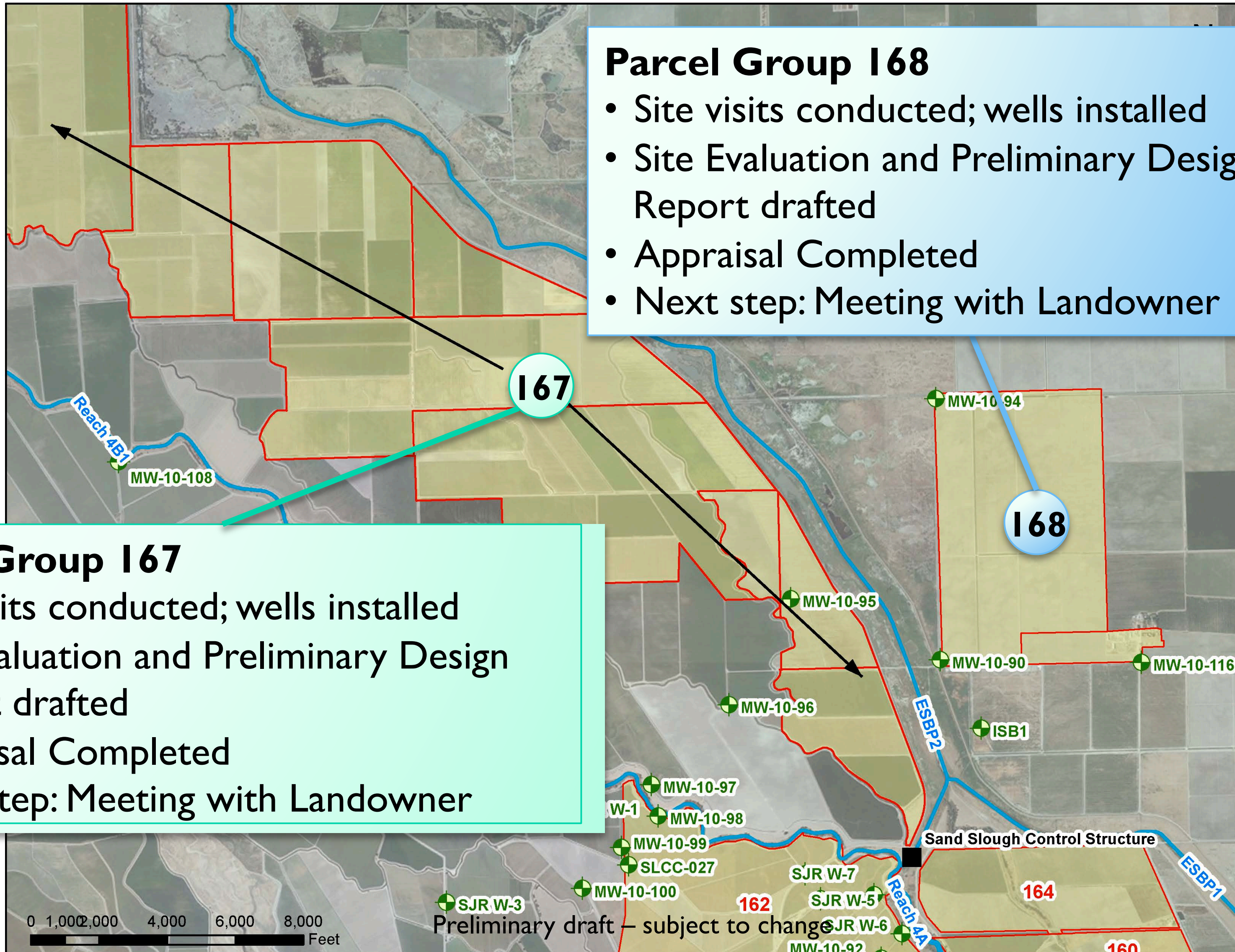
Priority Parcel Groups and Projects Initiated



Parcel Group 168
- Site visits conducted; wells installed
- Site Evaluation and Preliminary Design Report drafted
- Appraisal Completed
- Next step: Meeting with Landowner

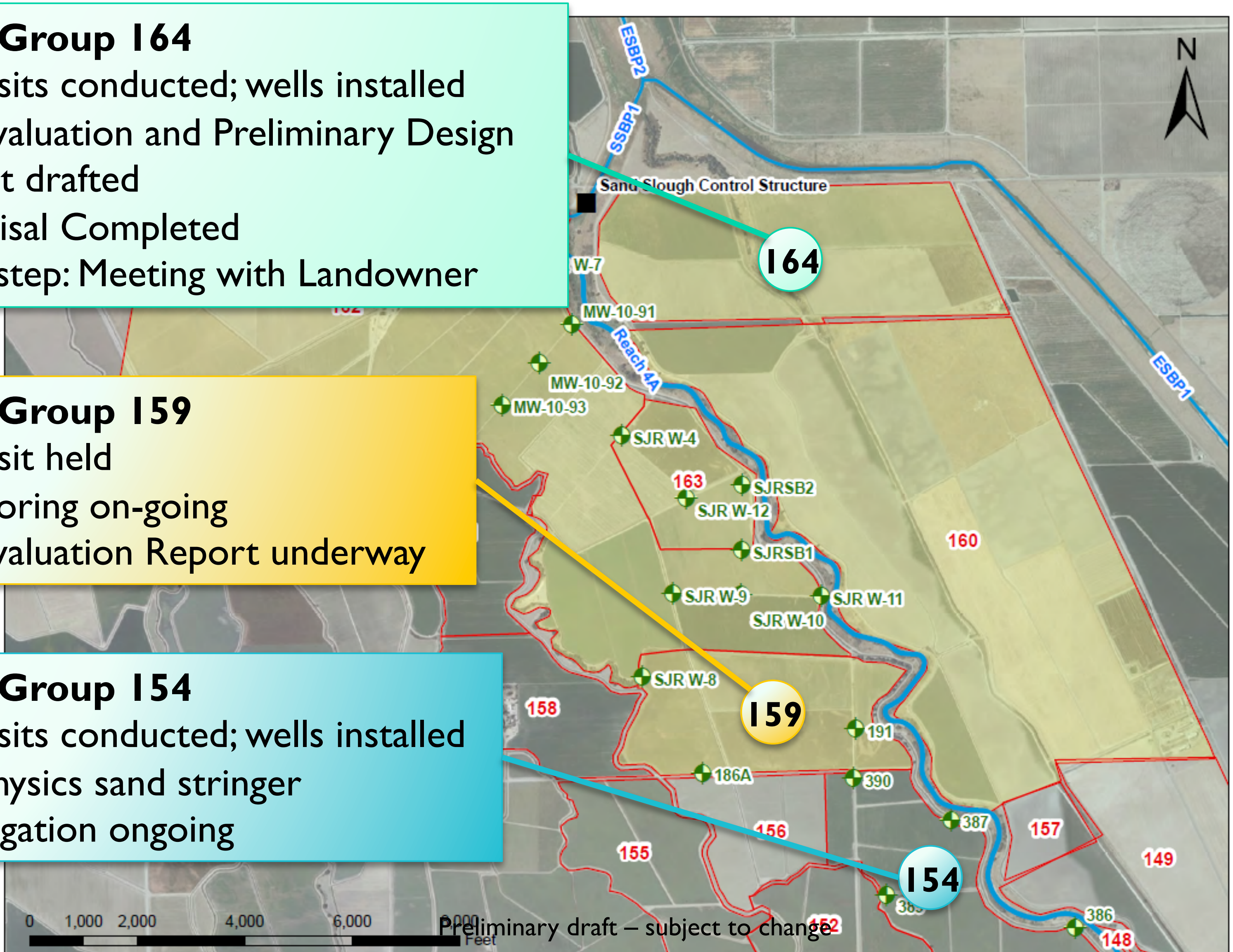
Parcel Group 167
- Site visits conducted; wells installed
- Site Evaluation and Preliminary Design Report drafted
- Appraisal Completed
- Next step: Meeting with Landowner

Priority Parcel Groups and Projects Initiated

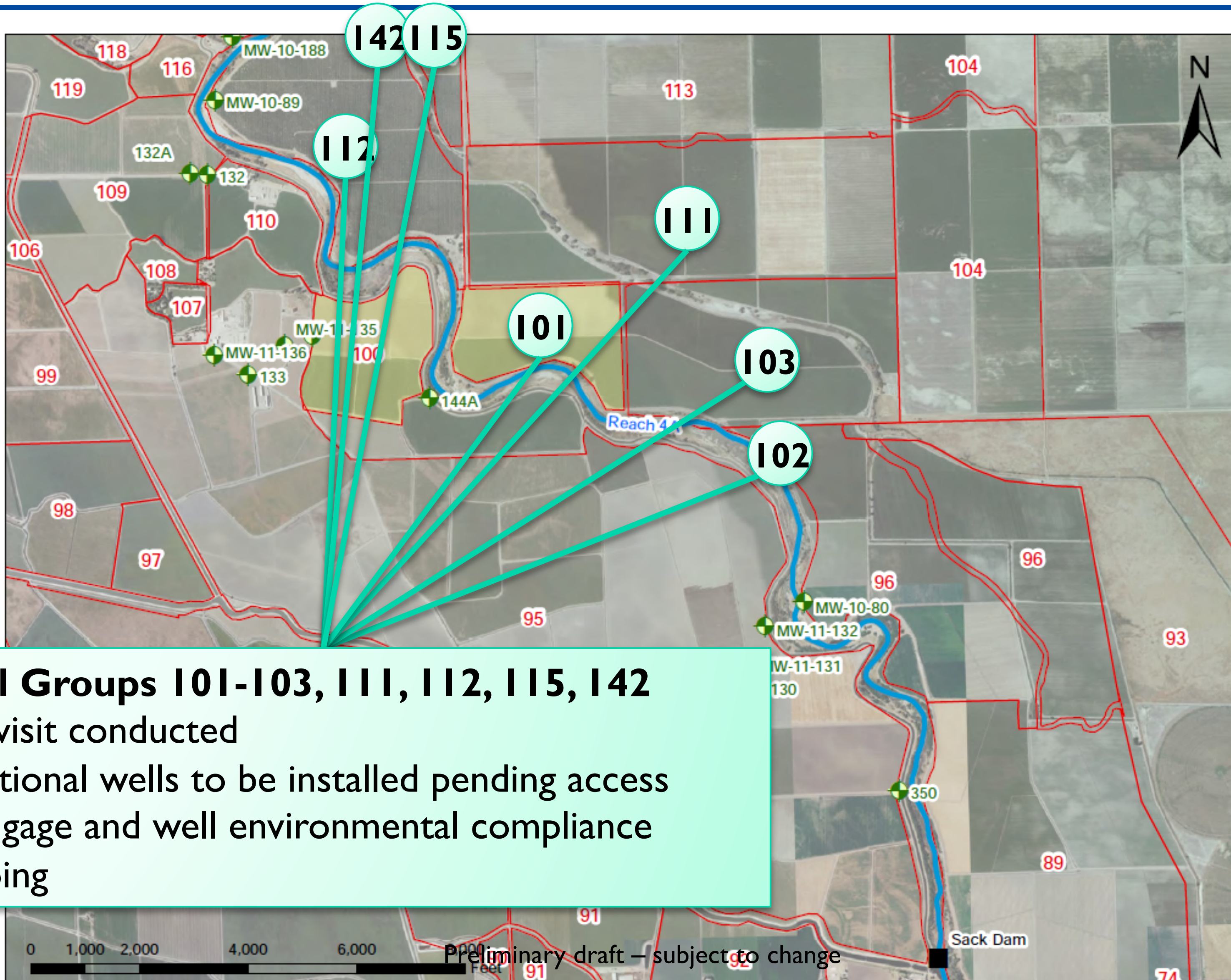
Parcel Group 164
- Site visits conducted; wells installed
- Site Evaluation and Preliminary Design Report drafted
- Appraisal Completed
- Next step: Meeting with Landowner

Parcel Group 159
- Site visit held
- Monitoring on-going
- Site Evaluation Report underway

Parcel Group 154
- Site visits conducted; wells installed
- Geophysics sand stringer investigation ongoing

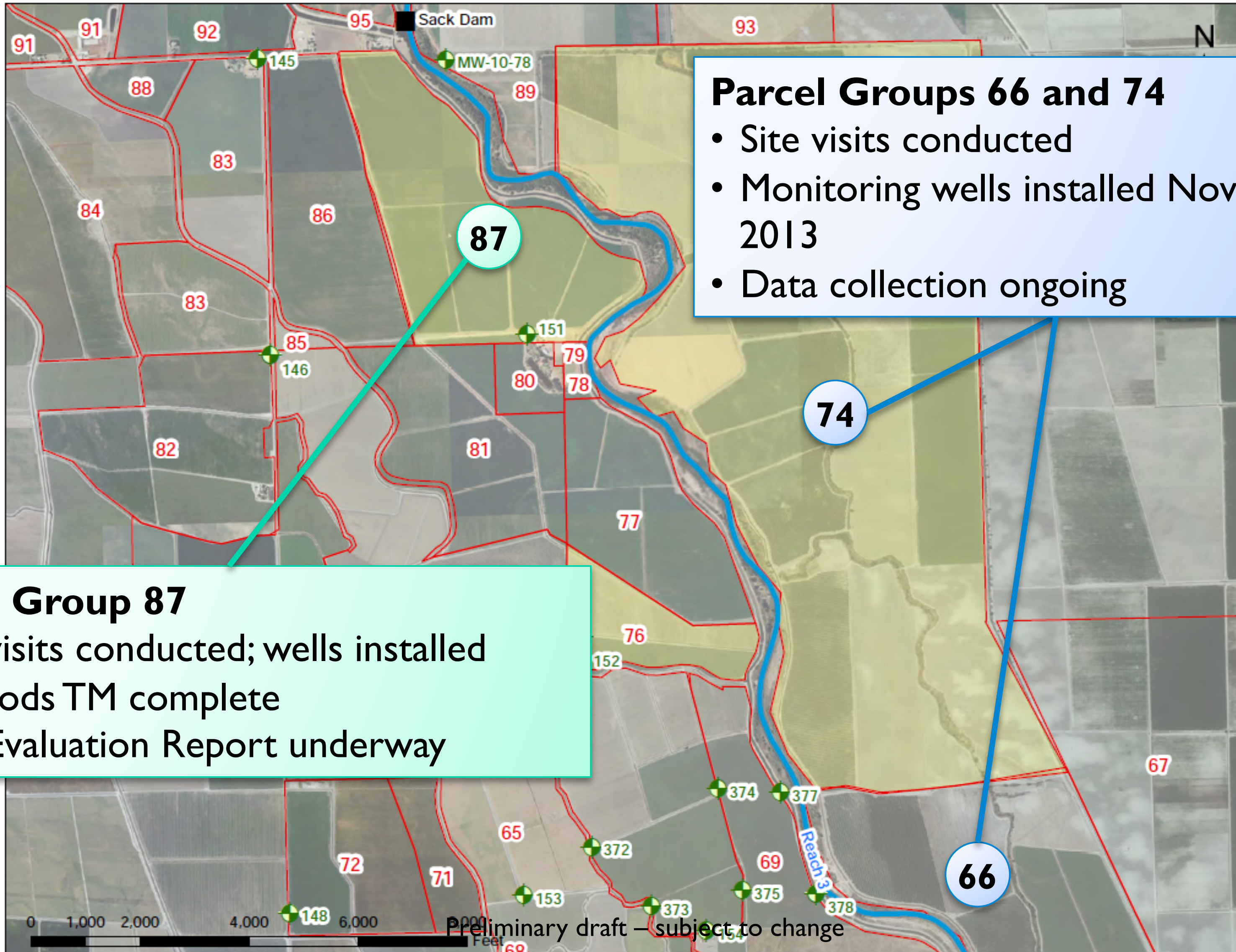


Priority Parcel Groups and Projects Initiated



Parcel Groups 101-103, 111, 112, 115, 142
- Site visit conducted
- Additional wells to be installed pending access
- Staff gage and well environmental compliance ongoing

Priority Parcel Groups and Projects Initiated



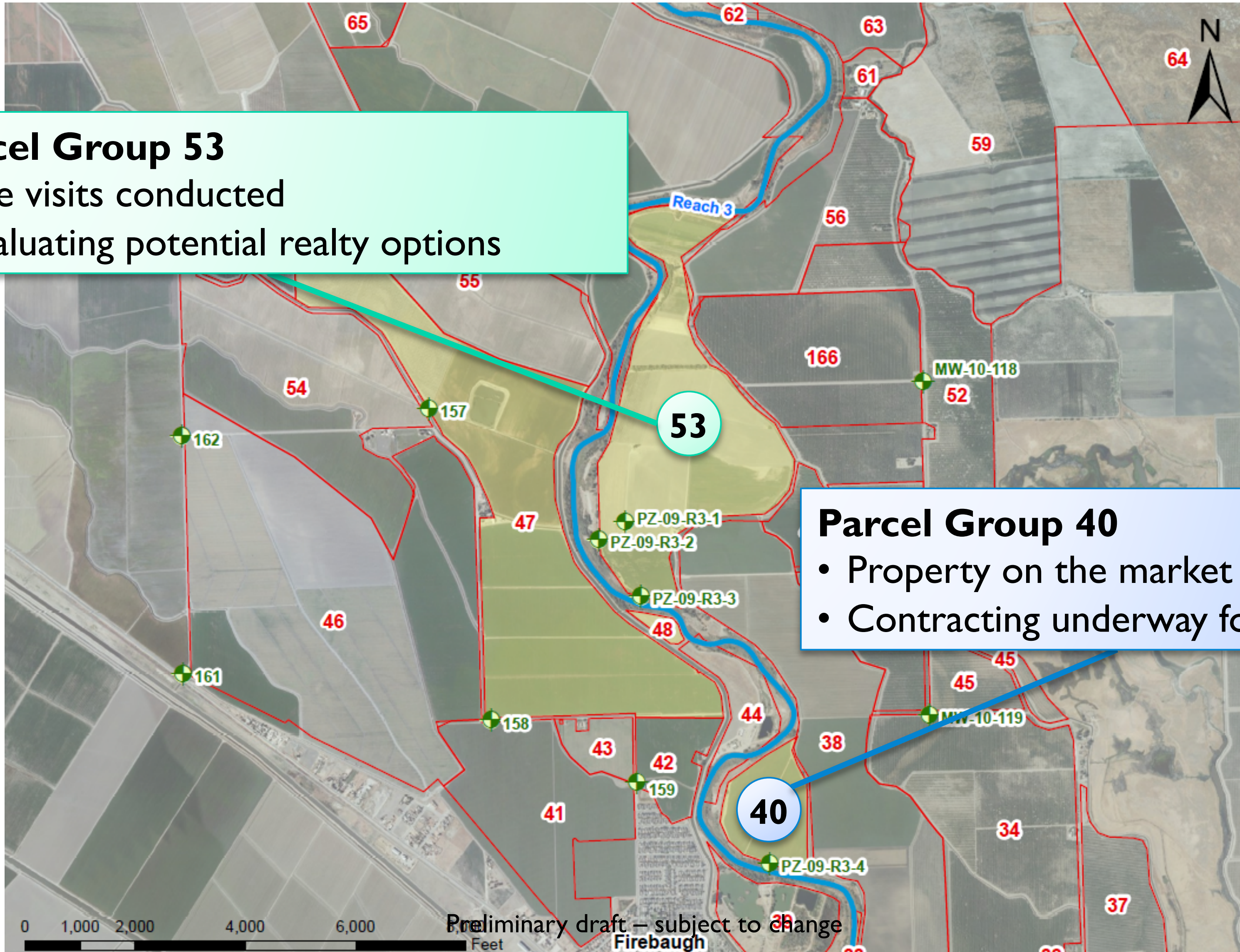
Parcel Groups 66 and 74
- Site visits conducted
- Monitoring wells installed November 2013
- Data collection ongoing

Parcel Group 87
- Site visits conducted; wells installed
- Methods TM complete
- Site Evaluation Report underway

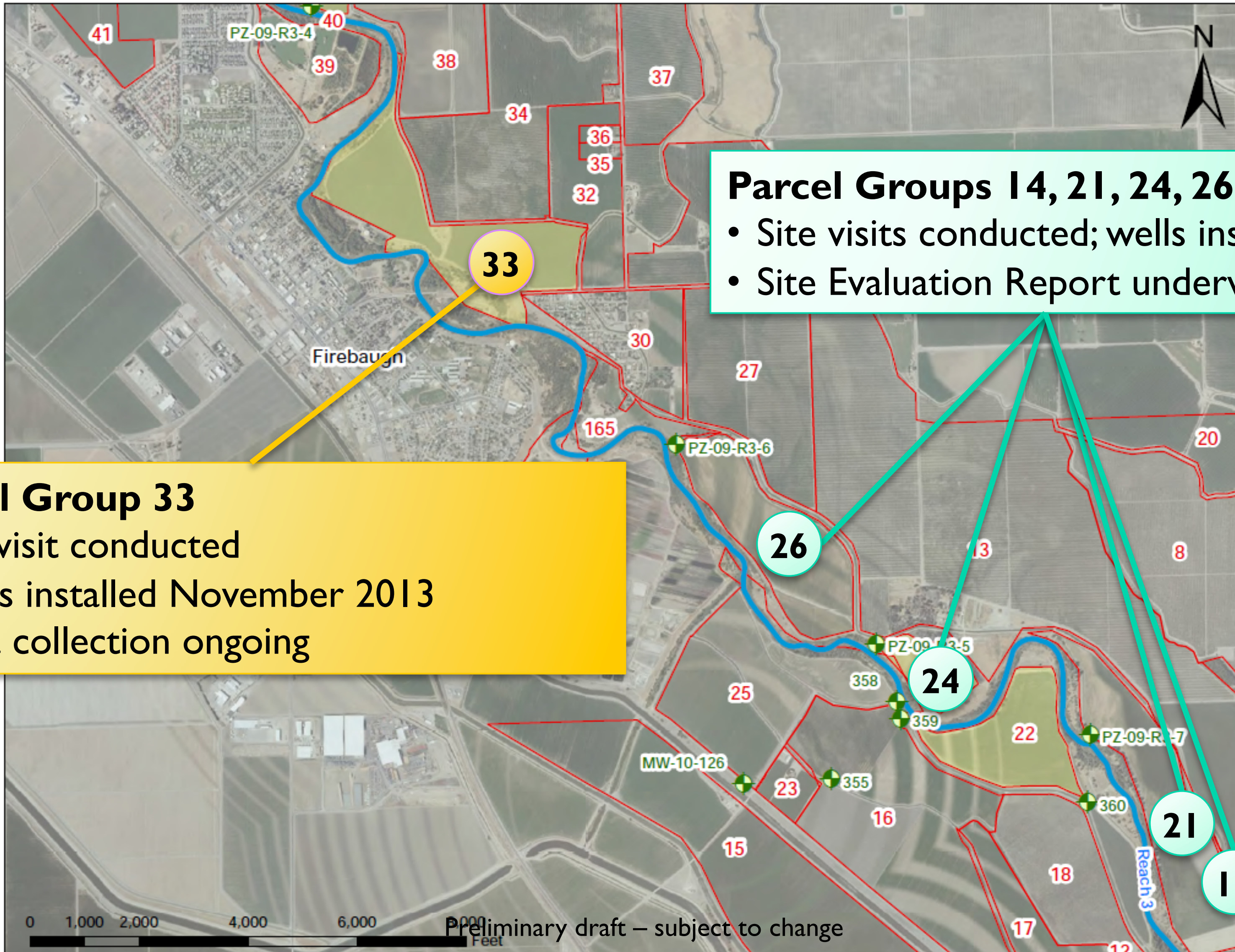
Priority Parcel Groups and Projects Initiated

Parcel Group 53
- Site visits conducted
- Evaluating potential realty options

Parcel Group 40
- Property on the market
- Contracting underway for appraisal



Priority Parcel Groups and Projects Initiated



Parcel Groups 14, 21, 24, 26

- Site visits conducted; wells installed
- Site Evaluation Report underway

Parcel Group 33

- Site visit conducted
- Wells installed November 2013
- Data collection ongoing

SAN JOAQUIN RIVER RESTORATION PROGRAM

Seepage Projects Summary

Flow	# Projects*	Site Visits Performed	Targeted Monitoring Begun	Site Evaluations Begun	Preliminary Designs Begun
>300 cfs	3	3	3	3	3
300 - 700 cfs	1	1	1		
700 - 1,300 cfs	6	5	3	2	
1,300 - 2,000 cfs	11	4	3	1	
2,000 - 4,500 cfs	70	1	1		
Total	**91**	**14**	**11**	**6**	**3**

*Based on initial parcel prioritization.

Eric Abrahamsen

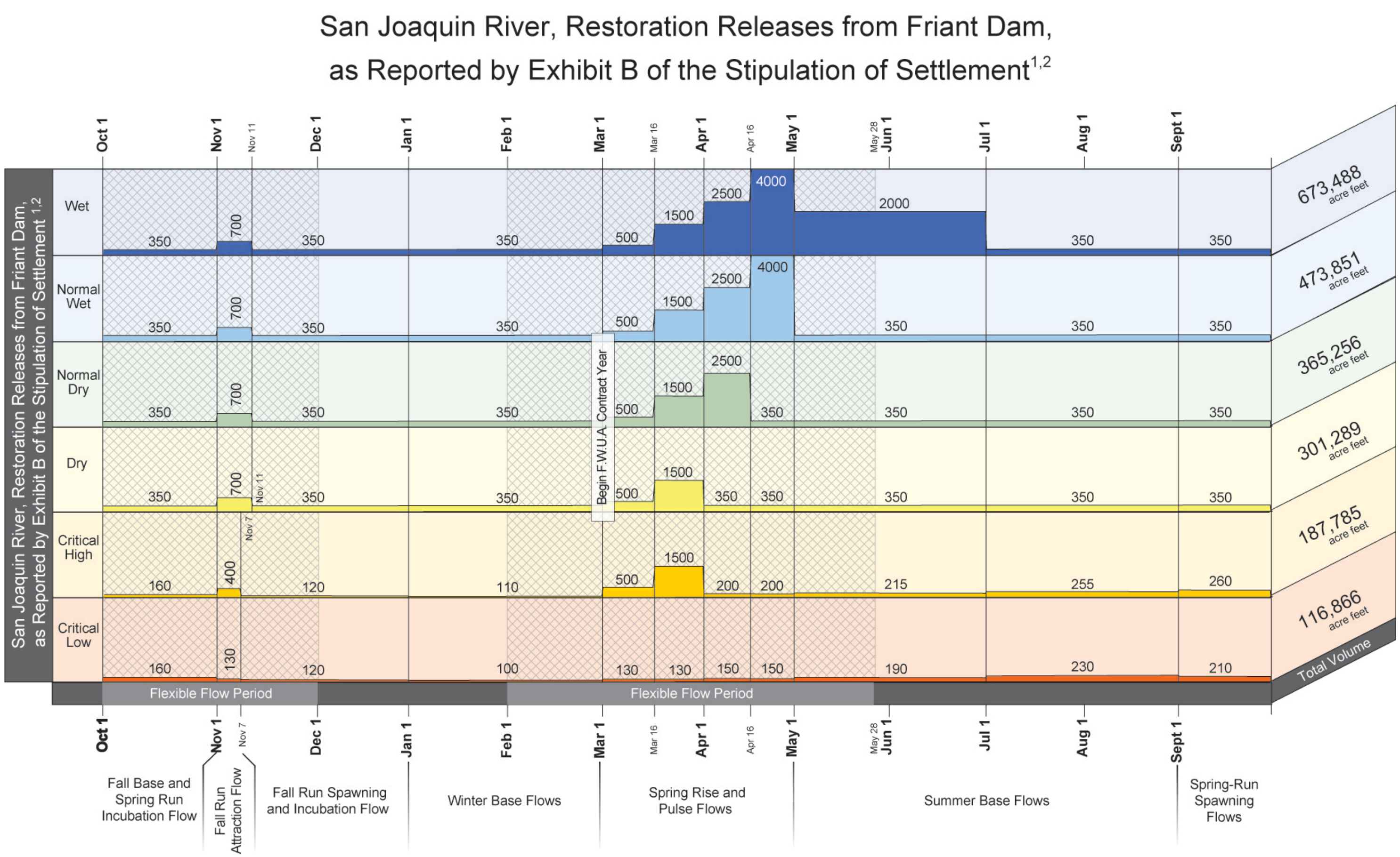
SITE EVALUATIONS

Site Evaluations

- Purpose
  - Evaluate the property's susceptibility to seepage damage from restoration flows in the SJR/Bypasses
  - Provide direction on preferred seepage mitigation designs

Level of Protection

SJRRP Hydrograph

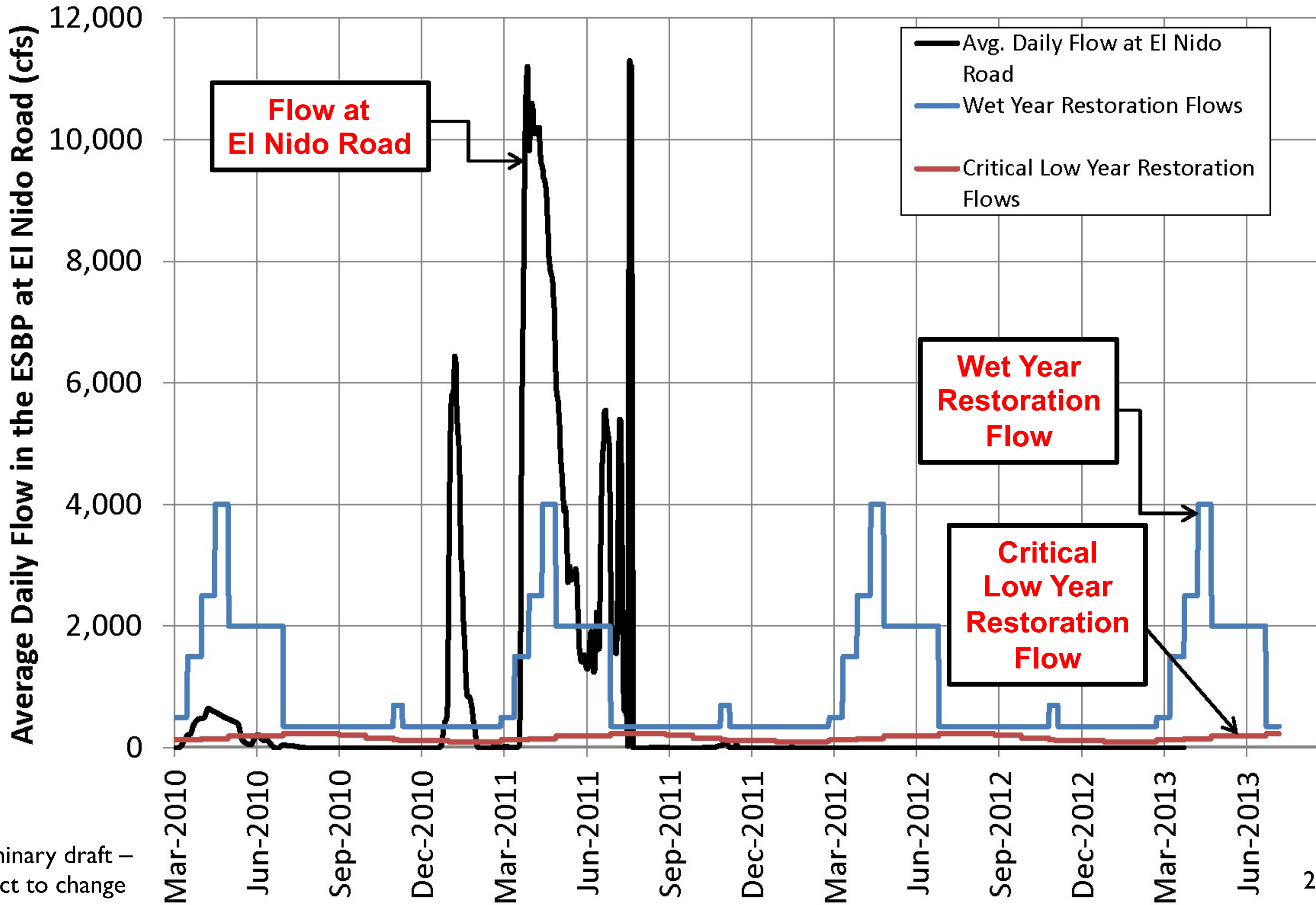


Preliminary draft – subject to change

Level of Protection

- 4,500 cfs design flow
  - Based on 4,500 cfs design capacity from the Settlement
  - Water surface elevation from the SJRRP HEC-RAS Model,
  - Protection intended for Restoration Flows, not Flood Flows
- Pre-existing shallow groundwater
  - Addressed during Site Evaluation
  - SJRRP designs are not intended to improve existing site conditions

Wet Year Restoration Hydrograph vs. 2010/2011 Flood Flows



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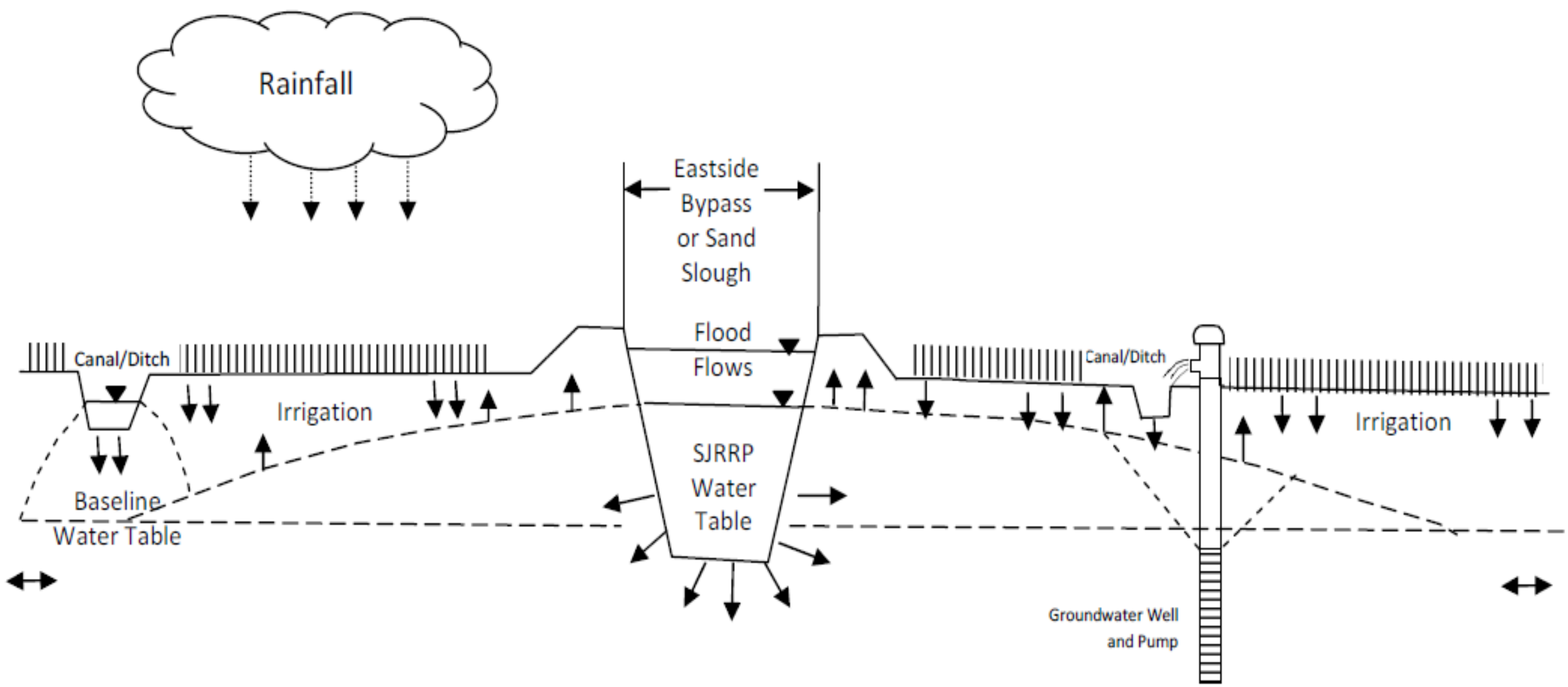
Site Evaluation Data Evaluated

Conceptual Model of Factors Influencing Groundwater Levels



Preliminary draft – subject to change

Site Evaluations Data Evaluated

- Monitoring wells
  - Construction
  - Geologic logs
  - Groundwater quality
  - Groundwater levels
  - Depth to barrier
- Soil borings
  - Geologic logs
  - Hydraulic conductivity
  - Depth to barrier

GEOLOGIC LOG OF DRILL HOLE NO. MW-10-90 SHEET 1 OF 3

FEATURE: Groundwater Monitoring
LOCATION: Reach 4B1, River Bank Right, North of Sand Slough Structure
BEGUN: 4/17/10 FINISHED: 4/17/10
WATER LEVEL DEPTH AND ELEVATION: NA
DATE WATER LEVEL WAS MEASURED: NA

PROJECT: San Joaquin River Restoration Program
COORDINATES: N 2,297,746.3 E 6,099,622.5 (NAGD83)
TOTAL DEPTH: 31.2 ft.

STATE: California
GROUND SURFACE ELEVATION: 101.3 ft. (NAVD88)
T.O.C ELEVATION: 103.9 ft. (NAVD88)
HOLE LOGGED BY: A. Warren
REVIEWED BY: J. Vauk

DEPTH	% CORE RECOVERY	% SILT	% CLAY	% FINES	% SAND	% GRAVEL	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE CONTENT %	LABORATORY CLASSIFICATION / ELEVATION	VISUAL CLASSIFICATION / ELEVATION	GEOLOGIC UNIT SYMBOL
	91										SC / 98.8	
											SM / 96.8	
5												
	100	42.3	14.5	56.8	43.2	0.0	24.3	5.1	20.2	s(CL-ML) / 94.3	SC/SM / 93.7	Qal

NOTES

ALL MEASUREMENTS ARE IN FEET FROM THE GROUND SURFACE.

PURPOSE OF HOLE:
To recover core, collect data to determine geologic and hydrologic site conditions, and install a groundwater monitoring well.

LOCATION:
Reach 4B1, river right, about 850 feet east of the center of the Eastside Bypass, north-side of the W. El Nido Road at its intersection with the Eastside Bypass levee.

DRILLED BY:
PN-Regional Drill Crew
Jerry Hansen, Driller
Cody Kelly, Helper
Ken Kreitz, Helper

DRILL RIG:
Central Mining Equipment 75 drill rig (CME-75)

DRILLING & SAMPLING METHODS:
Drill hole MW-10-90 was advanced using hollow stem flight augers with a continuous dry core sampling system (FADC) from the ground surface to a total depth of 31.2 feet. FADC uses 7-5/8-inch O.D., 4-1/4-inch I.D. hollow stem augers, with a 5-foot-long, 3-inch I.D. split sample barrel.

Interval Method
0.0 to 31.2 ft. - FADC

DRILLING CONDITIONS AND DRILLER'S COMMENTS:
0.0 to 4.3 ft. smooth drilling, soft
4.3 to 8.7 ft. moved sampler out 0.2 ft.
8.7 to 13.7 ft. moved sampler out 0.2 ft.
13.7 to 18.7 ft. moved sampler in 0.3 ft.
18.7 to 31.2 ft. soft

CLASSIFICATION AND PHYSICAL CONDITION

0.0 to 31.2 feet
QUATERNARY ALLUVIUM (Qal)

0.0 to 2.5 ft.: CLAYEY SAND WITH ORGANIC FINES, SC: About 60% fine sand; about 40% fines with medium plasticity and organic soil; trace of fine, elongated, flat, hard, angular gravel; maximum size: fine gravel; moist, brown; moderately soft consistency, soil is previously disturbed.

2.5 to 4.5 ft.: SILTY SAND, SM: About 70% fine to coarse sand; about 30% fines with low plasticity; maximum size: coarse sand; moist, tan; soft consistency; several clayey layers; cemented lens approximately 0.1- to 1-inch-thick.

4.5 to 7.6 ft.: SILTY CLAYEY SAND, SC/SM: About 55% fine sand containing mica; about 45% fines with low plasticity; maximum size: fine sand; moist to wet, brown; soft consistency.

Laboratory Data Interval
6.0 to 7.0 ft.

7.6 to 8.7 ft.: LEAN CLAY WITH SAND, (CL)s: About 85% fines with medium plasticity, low toughness, and slow dilatancy; about 15% fine sand; maximum size: fine sand; moist, dark brown with reddish brown; moderately firm consistency.

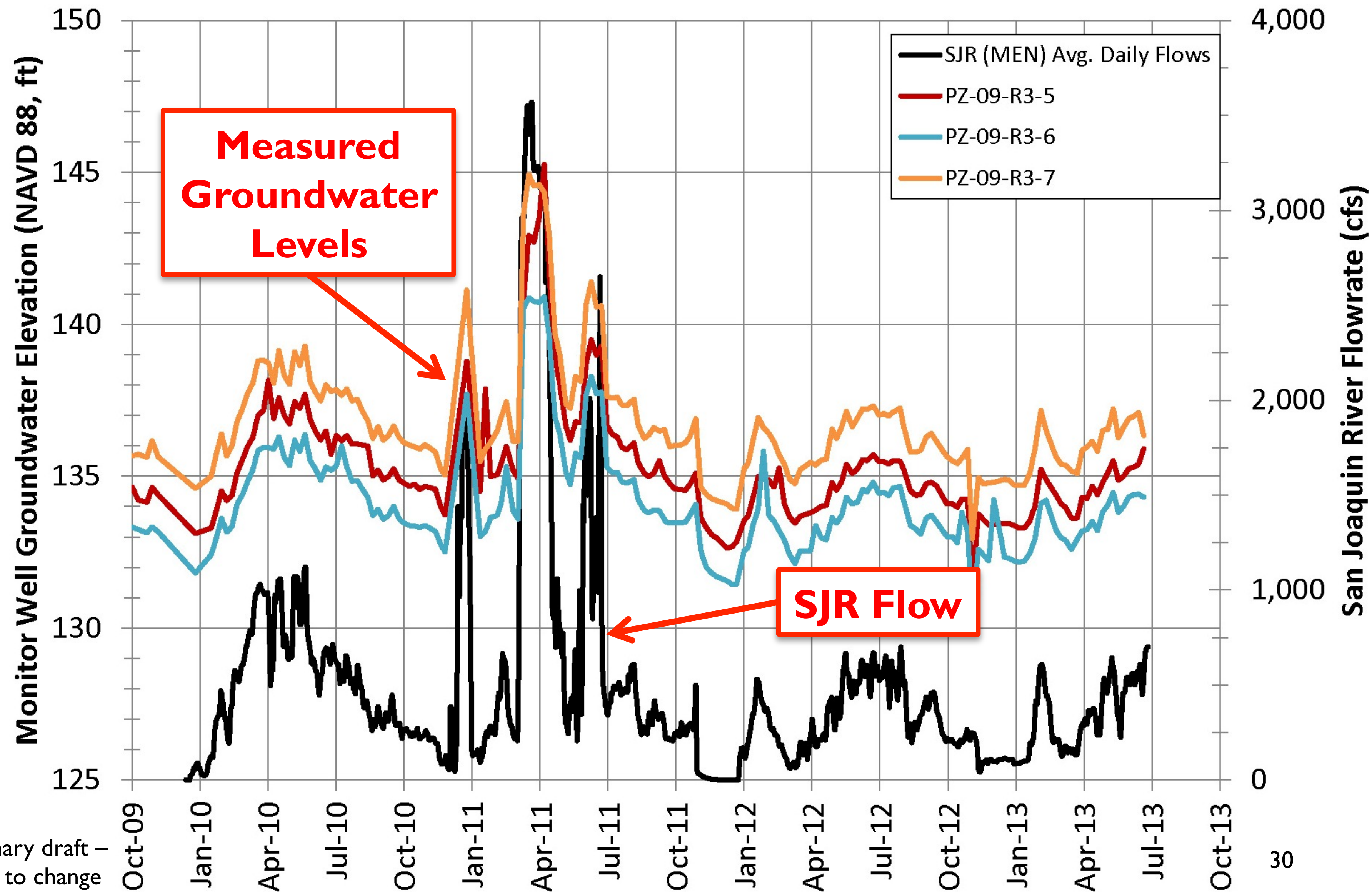
8.7 to 10.0 ft.: SANDY LEAN CLAY, s(CL): About 65% fines with medium plasticity, low toughness, and slow dilatancy; about 35% fine sand; maximum size: fine sand; moist, dark brown with reddish brown; moderately firm consistency; percentage of sand increases with depth.

Laboratory Data Interval
9.0 to 10.0 ft.

10.0 to 11.8 ft.: SITY SAND, SM: About 80% fine sand containing mica; about 20% non-plastic fines; maximum size: fine sand; wet, brown; moderately firm consistency; percentage of sand increases with depth.

11.8 to 18.7 ft.: POORLY GRADED SAND,

Site Evaluations Data Evaluated



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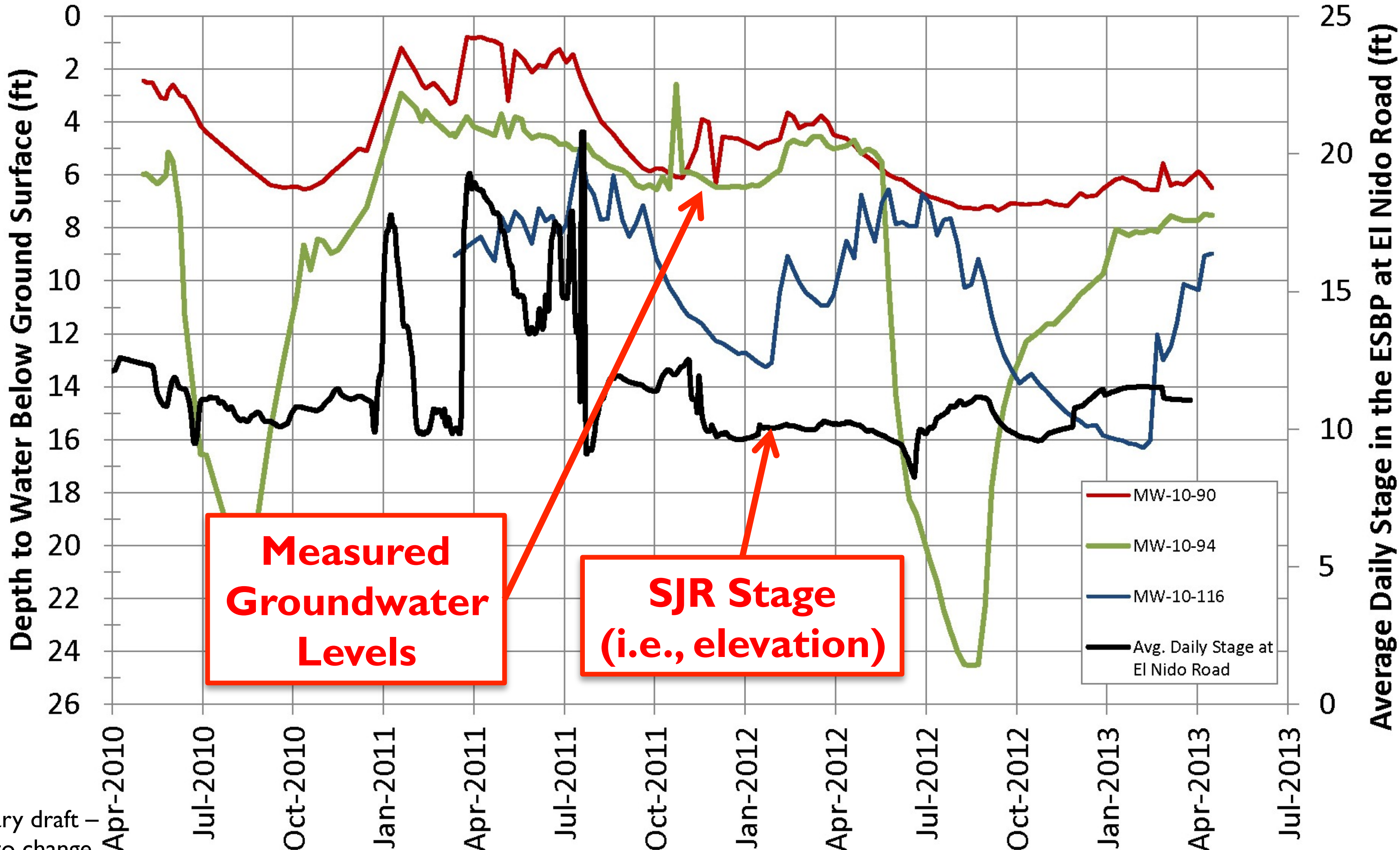
Site Evaluations Data Evaluated



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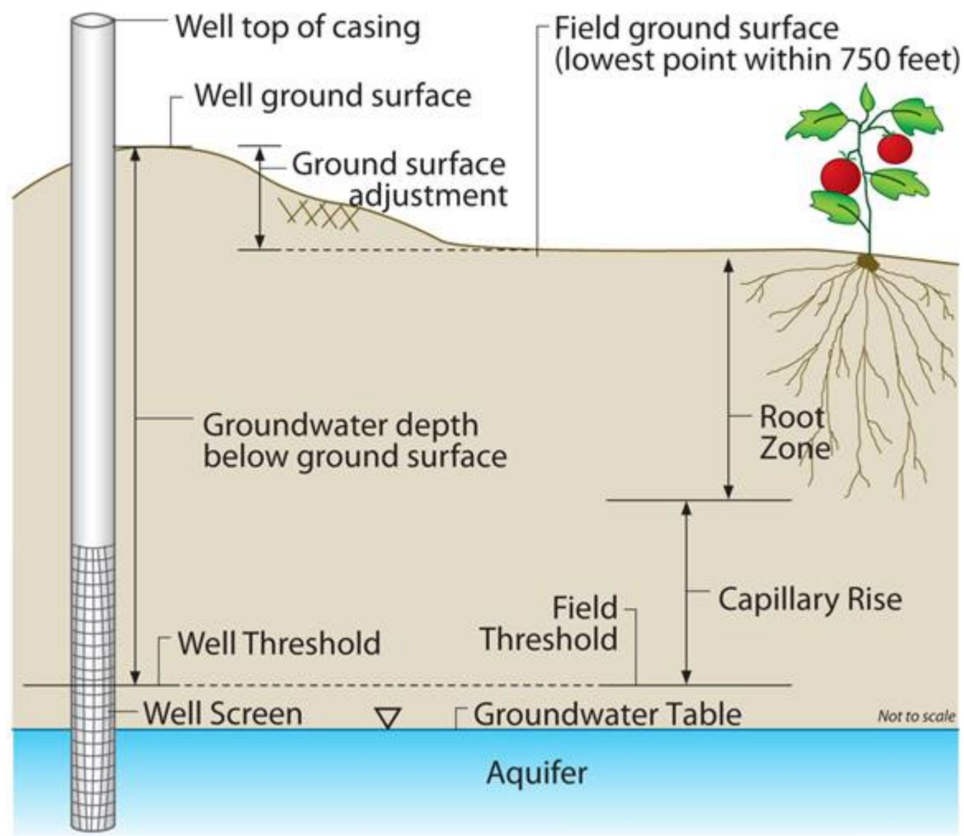
Site Evaluations Data Evaluated Cont.

- Climate
- Irrigation practices
- Soils and salinity
- DWR levee assessment (NULE program)
  - Geomorphic assessment
  - Geotechnical assessment
  - Cone penetration testing (CPT)
- Topography
  - LiDAR
- Subsidence
- Historic observations
  - Past locations of the SJR (historic maps)
  - Past impacts due to flooding events (landowner reported, 2011 observations)
  - Paleo-channel mapping
- HEC-RAS hydraulic model
  - Determination of water surface elevations in relation to nearby ground

Seepage Threshold

- Shallower of two methods
  - Agricultural method
    - Effective root zone
    - Capillary fringe
  - Historical groundwater method



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Data Evaluation

- Does the data indicate a possible seepage problem influenced by SJRRP Restoration Flows?
- Which seepage projects are feasible based upon the data, which will be effective in mitigating the impacts from SJRRP Restoration Flows?
- Develop initial screening of seepage project alternatives
- Present findings to the landowner

Mike Day

PRELIMINARY DESIGNS AND ESTIMATES

Seepage Project Alternatives

- Physical
  - Cut-off wall (e.g., slurry walls, sheet piles)
  - Seepage plug
  - Drainage ditch
  - Interceptor lines
  - Shallow groundwater pumps
  - Buildup of low lying areas
  - Channel conveyance improvements
- Non-Physical
  - Seepage easements

Project Alternative Screening

- Alternatives reviewed, but typically not selected
  - Sheet piles
    - Expensive compared to slurry walls
  - Seepage plug
    - Needs site dewatering, expensive
  - Buildup of low lying areas
    - Need proper borrow material, ag soil suitability, expensive
  - Shallow groundwater pumps
    - Expensive

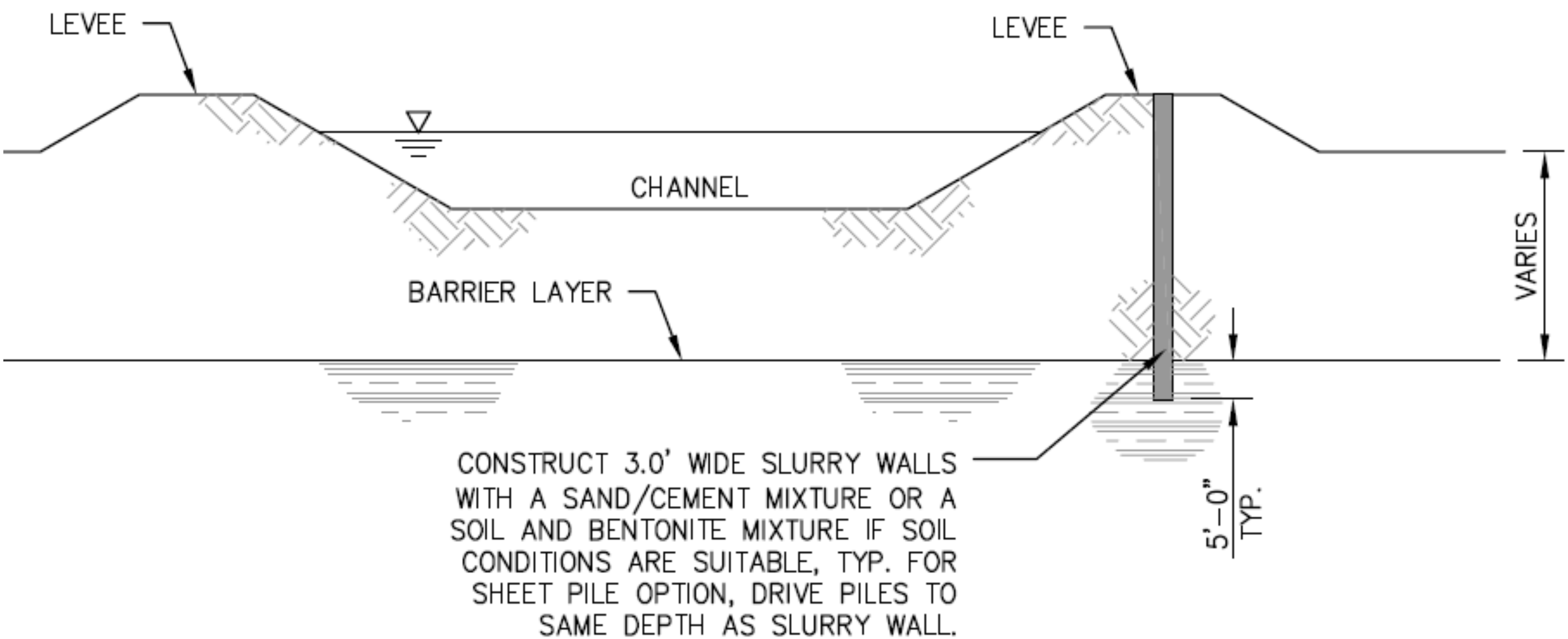
Project Alternative Screening

- Alternatives typically not screened out
  - Slurry walls
  - Drainage ditch
  - Interceptor lnes
  - Pumping of existing wells to supplement other options
  - Seepage easements (to be discussed later)

Slurry Wall Preliminary Design

- Located in the center of the existing levee embankments
- Depth to barrier determined by utilizing geologic information from monitoring well geologic logs
- Extend from the top surface of the embankment to depth of 5 feet into the barrier
- 3 feet in width
- Soil-bentonite slurry; sand-cement could be used if needed/required

Slurry Wall – Typical Detail



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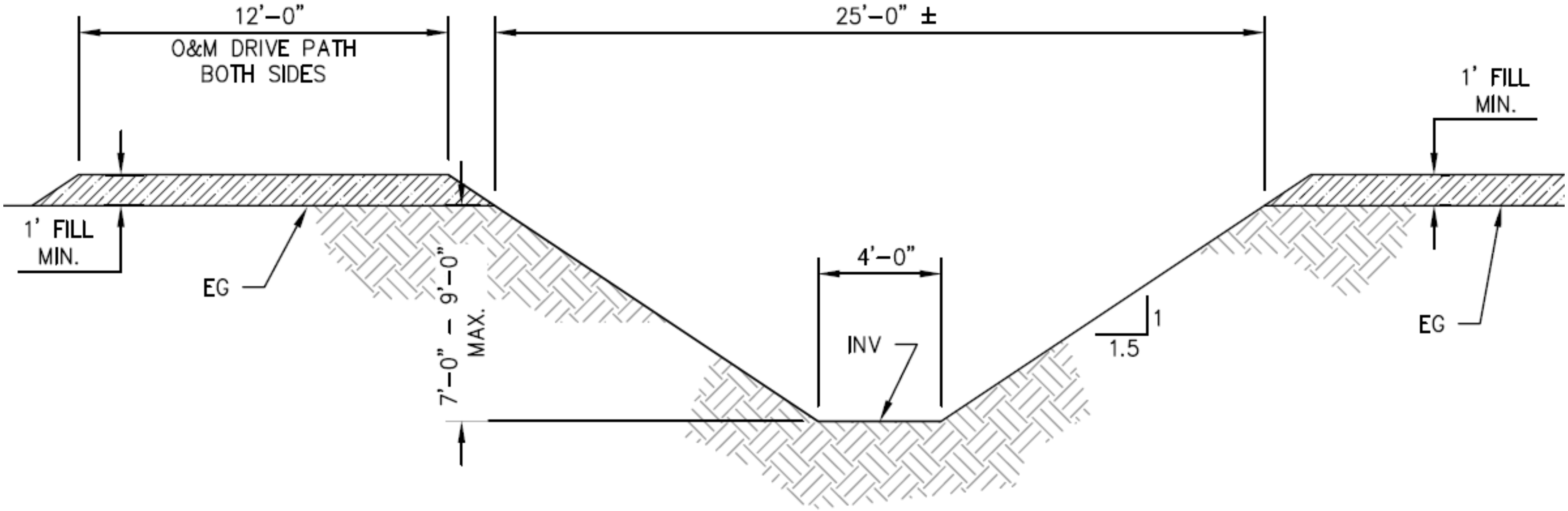
Drainage Ditch Preliminary Design

- Trapezoidal shaped ditch with 4-foot bottom width and 1.5:1 side slopes
- Invert depths of at least one foot below the seepage threshold
- Ditch sized for same flows as the interceptor line
- Discharges to local canals or river/bypass
- DWR Urban Levee Design Criteria followed for set-backs from the toe of the levees
  - 20-foot drive path, 50-foot set back from edge of field
  - Ditch invert above an additional 10:1 sloped surface past the 70 feet
  - Some sites not viable

Drainage Ditch – Typical Detail



Interceptor Line Preliminary Design

- USBR Drainage Manual methodology
- Channel water surface elevation from SJRRP HEC-RAS models
- Pipe invert depths of at least one foot below the seepage threshold (typically of 6 to 9.5 feet)
- HDPE single wall drainage pipe, diameters of 8-, 10-, 12-, and 15-inches
- Minimum pipe slope of 1 foot per 1,000 feet, except in special site conditions
- Well graded engineered sand and gravel filter, minimum 4-inches thick placed all around the pipe

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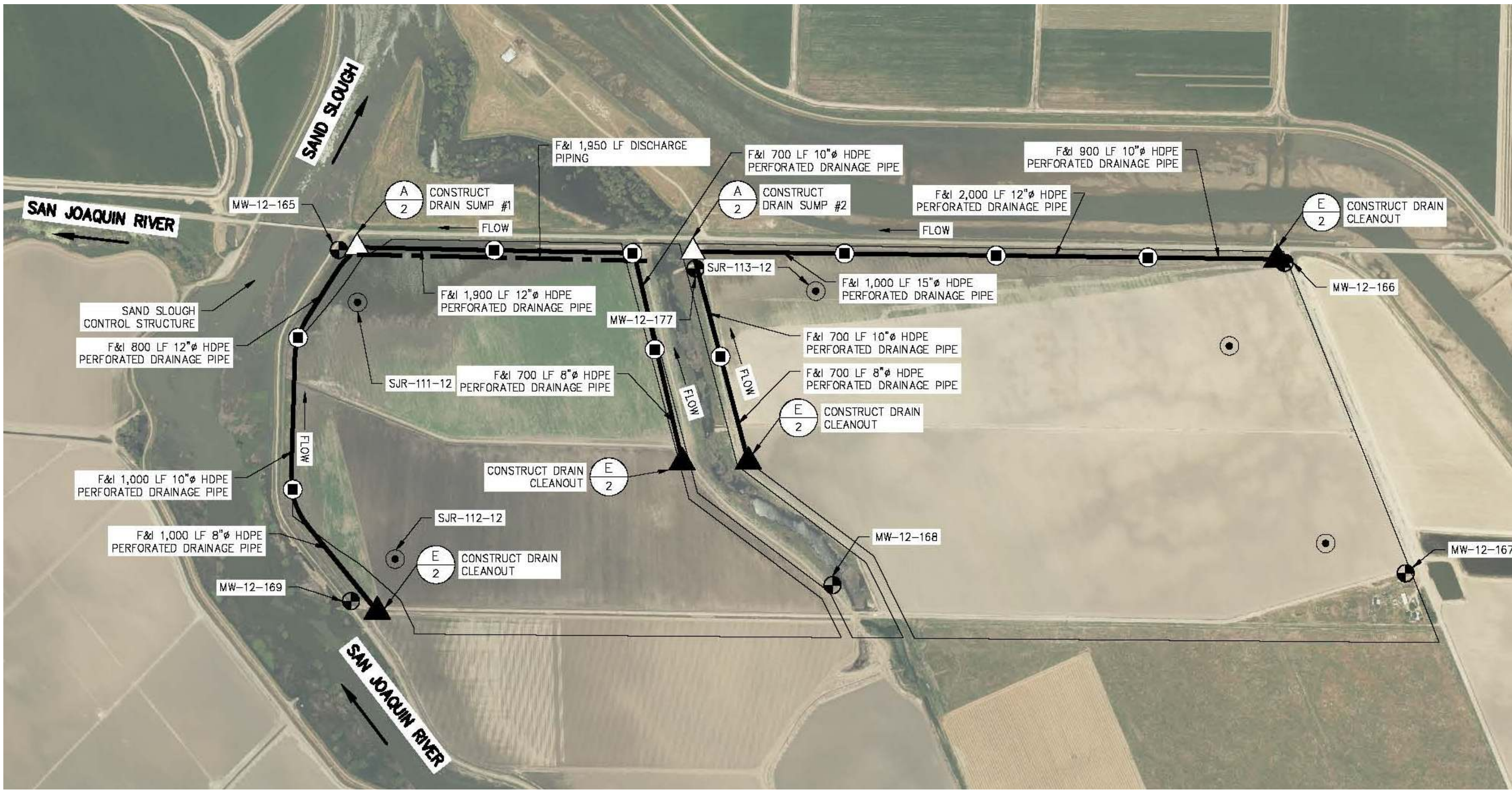
RESTORATION PROGRAM

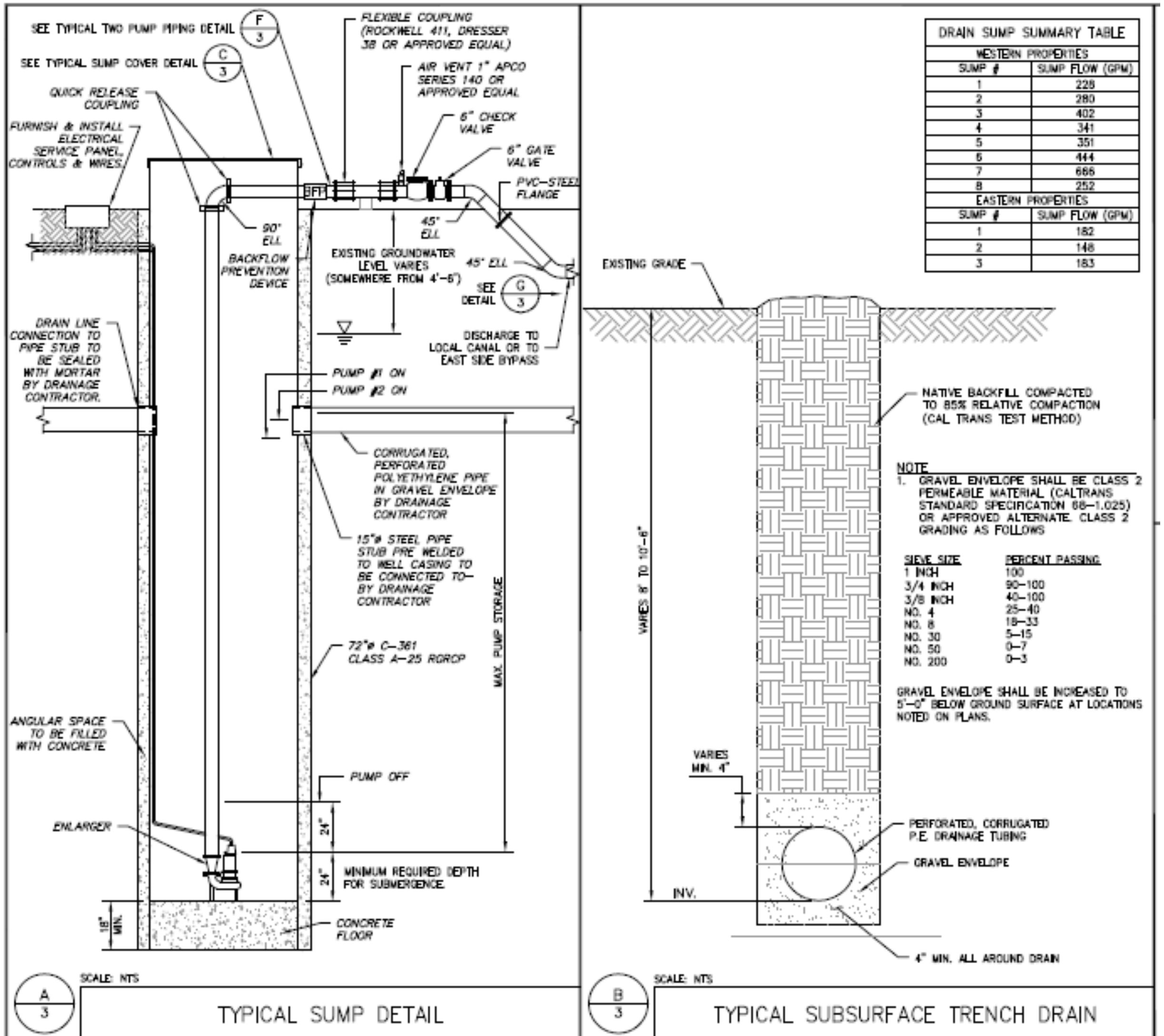
Interceptor Line Preliminary Design

- A channel distance flow-path adjustment was made for a river compared to a canal
- Manholes spaced to allow a maximum 1,000 feet pipe run from the manhole for maintenance purposes
- Electric driven submersible pumps
- Dual discharges to local irrigation canals or drains and the SJR/Bypass
- Installation by a "tile drain" trenching machine

Interceptor Line – Example Site Plan



Interceptor Line – Typical Details



DRAIN SUMP SUMMARY TABLE	
WESTERN PROPERTIES	
SUMP #	SUMP FLOW (GPM)
1	228
2	280
3	402
4	341
5	351
6	444
7	666
8	252
EASTERN PROPERTIES	
SUMP #	SUMP FLOW (GPM)
1	182
2	148
3	183

Interceptor Line – Photos

Drain Sump,
Submersible Pump

Drain Installation

Cost Estimates

- Discussed methods with local contractors that do the type of work being estimated
  - Inquip Associates: slurry walls
  - Viking Drillers: shallow pumping
  - McElvaney/LIDCO Imperial Valley: interceptor lines
  - M.A. McClish: sheet piles
- Approach similar to methods used by contractors to review, evaluate, and bid work
- Estimated materials and hours for equipment/labor

Cost Estimates

- Rates developed from Granite Construction labor rate sheet (union wages) and equipment rate sheet, or Caltrans standard rates – all with 15% markup
- Local area material suppliers plug sales tax and 15% markup
  - Granite Materials & Local Ready Mix Suppliers: aggregates related materials & ready mix concrete
  - Groeniger: PVC/DIP pipe, valves, fittings, etc.
  - Piranha Precast: RCP pipe & precast materials
- 25% contingency

Present Worth Cost Development

- 50-year economic analysis
- Federal Water Resource Planning 2013 discount rate, 3.75%
- Operations & maintenance costs included
- 25% contingency cost added to replacements
- No design or mobilization costs included in replacement costs
- Replacement frequency

Project Item	Replacement Frequency
Discharge Piping	20 years
Submersible Pumps	15 years
Wells	25 years
Electrical Motors, Controls, Connections	15 years
Drainage Sump & Manhole Structures	40 years
Interceptor Lines	40 years
Slurry Wall, Sheet Piles, Seepage Plug	50 years +

O&M Cost Assumptions

- Electric cost of $0.18/ KWH (average PG&E small agricultural rate)
- Pumps operate 365 days/ yr, seven days/wk, 24 hrs/day
- Hydro-jetting of interceptors every four years
- Clean out ditches every 5 years and remove one foot of sediment
- Weed spraying annually for easement area and drainage ditch

SAN JOAQUIN RIVER RESTORATION PROGRAM

Summary of Costs

Seepage Project Alternative	Unit	Estimated Initial Cost Range ($/unit)**	Present Worth Cost Range ($/unit)**
Slurry Walls	foot	$1,100 - $1,300	$1,100 - $1,300
Sheet Piles	foot	$2,300 - $2,600	$2,300 - $2,600
Seepage Plug	foot	$1,900 - $2,200	$1,900 - $2,200
Drainage Ditch	foot	$190 - $450	$390 - $760
Interceptor Lines	foot	$180 - $250	$390 - $490
Shallow Groundwater Pumps	foot	$640 - $840	$1,300 - $1,600
Seepage Easements	acre	Based upon appraisal	Based upon appraisal
Buildup of Low Lying Areas (4-foot)*	cubic yard	$31,000	$31,000
Buildup of Low Lying Areas (7-foot)*	cubic yard	$58,000	$58,000
Channel Conveyance Improvements	n/a	n/a	n/a

Notes:
*Approximately 3,000 cubic yard/acre for 4-foot buildup, and 7,900 cubic yard/acre for 7-foot buildup
**Costs from preliminary designs prepared
n/a: not addressed in this analysis

Interceptor Line O&M Arrangements

- Landowner operates, maintains, and receives water
  – Discharge to landowner property
  – Assumes price of water = O&M costs
- Reclamation operates, maintains, and receives water
  – Discharge to river or property
  – Reclamation would contract to district/other to do O&M
  – Landowner pays pumping costs during flood flows

Katrina Harrison

REALTY ACTIONS

Purpose and Objective

- Variety of options available for groundwater seepage mitigation
- Realty Actions include:
  - Seepage License Agreements (Rentals)
  - Seepage Easements (Permanent)
  - Acquisition
- Compensate for higher groundwater levels under the property

SAN JOAQUIN RIVER RESTORATION PROGRAM

Realty Process

- Goal: Maintain "arms-length" relationship with appraiser
- Solution: Office of Valuation Services (OVS)

- Reclamation contracts with OVS to:
  – Write a scope of work
  – Hire an appraiser
  – Review and revise the appraisal
  – Approve the appraisal for government use

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Land Acquisition Process

Contracting (8 – 16 months)

- IVIS Scope Review
- Interagency Agreement with OVS
- OVS contracting for appraiser

Planning (concurrent)

- NEPA
- Phase 1 Environmental Site Assessment
- Title Reports
- Legal Descriptions

Appraisal (6-10 months)

- Site Visit
- Valuation
- OVS Review of Appraisal
- OVS 2nd Level Review of Appraisal

Acquisition (1-3 months)

- Negotiation
- Purchase Contract (if applicable)
- Obligation Letter
- Payment Voucher
- Escrow Account

Requests of Landowner

- Appraiser site visit access
- Answer appraiser questions
- HAZMAT site visit access
- Interview by Reclamation HAZMAT
- Negotiation

- Land ownership, if necessary

Valuation

- Reclamation must offer the appraised value as a minimum
- Reclamation can pay more than the appraised value, with justification
- Landowner may, at their own cost, obtain their own appraisal, which Reclamation will consider

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Licenses and Easements

- License Agreements
  - Temporarily allow higher groundwater levels
  - Rental rates for property
- Seepage Easements
  - Permanently allow higher groundwater levels
  - Encumbrance on deed
  - Recorded with the County

Easement Language

- "the Grantor does hereby grant, bargain, convey, sell, and approve the perpetual right to the United States, for a permanent easement for ingress and egress over and across said property, monitoring of groundwater levels, river conditions, and biological surveys, and the permanent right, regardless of future crop changes or other improvements made by the Grantor, to raise groundwater levels as a result of Restoration Flows and refuge water supply flows conveyed in the San Joaquin River and the Eastside Bypass adjacent to the following described land…"

Realty Agreements Summary

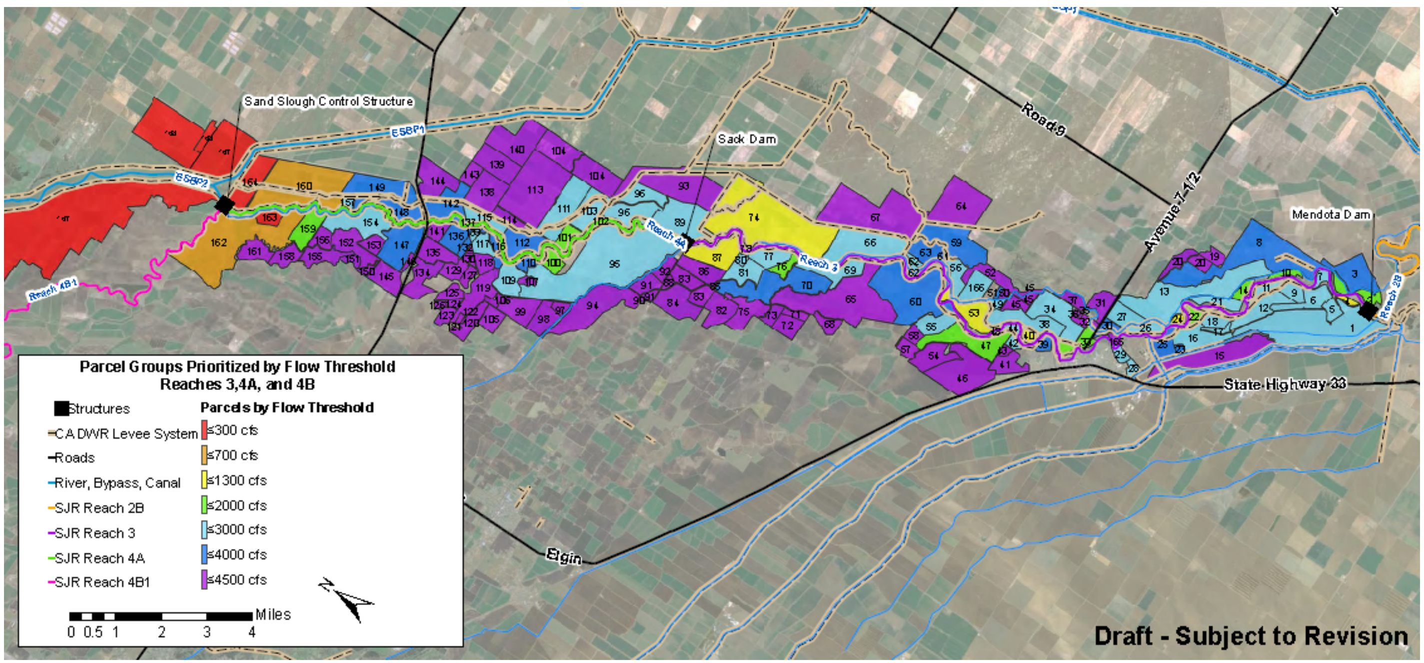
- Compensation may provide additional flexibility to the landowner for seepage project construction
- Reclamation will negotiate on terms
- Each parcel is unique and we will consider special circumstances brought to our attention during negotiations

Brian Heywood

PARCEL PRIORITIZATION UPDATE

Parcel Group Prioritization

- Purpose: Prioritize parcels based on those that are expected to see seepage impacts first
- SMP Appendix C



Revision to Prioritization

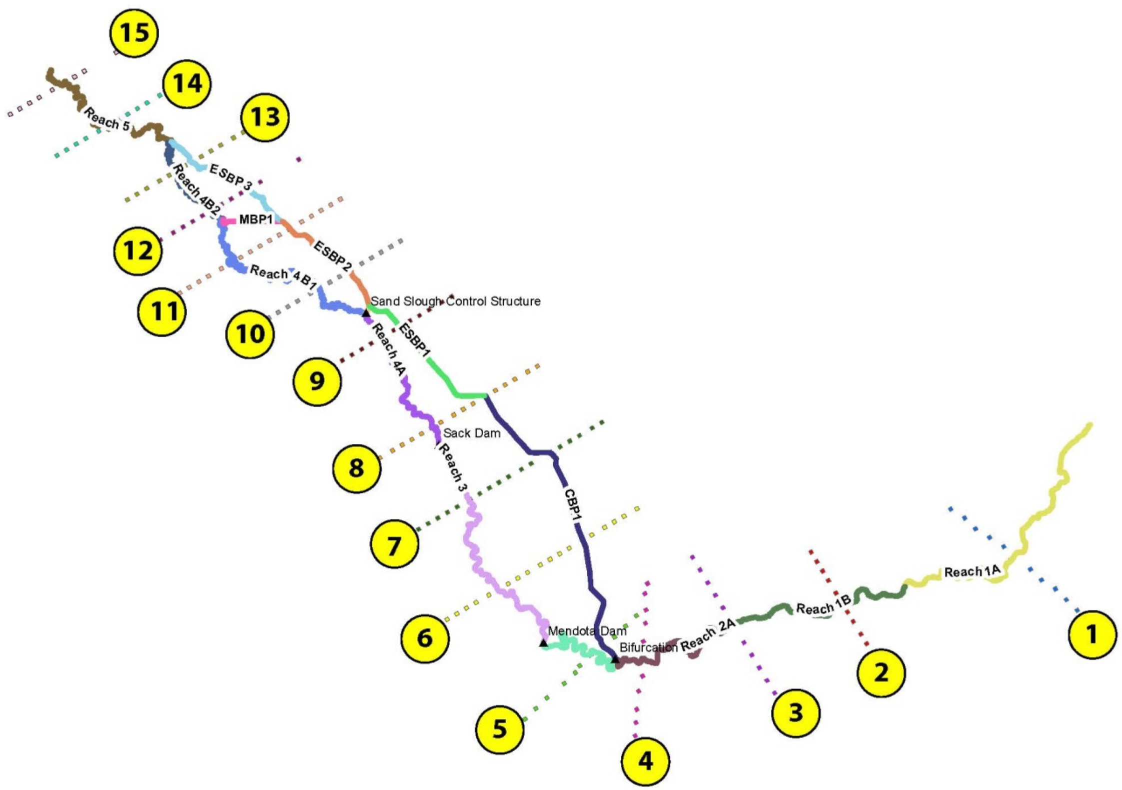
- Initial prioritization in 2012
- Update in 2014
  - Groundwater modeling
  - Additional reaches
  - Updated hydraulic models

Groundwater Modeling

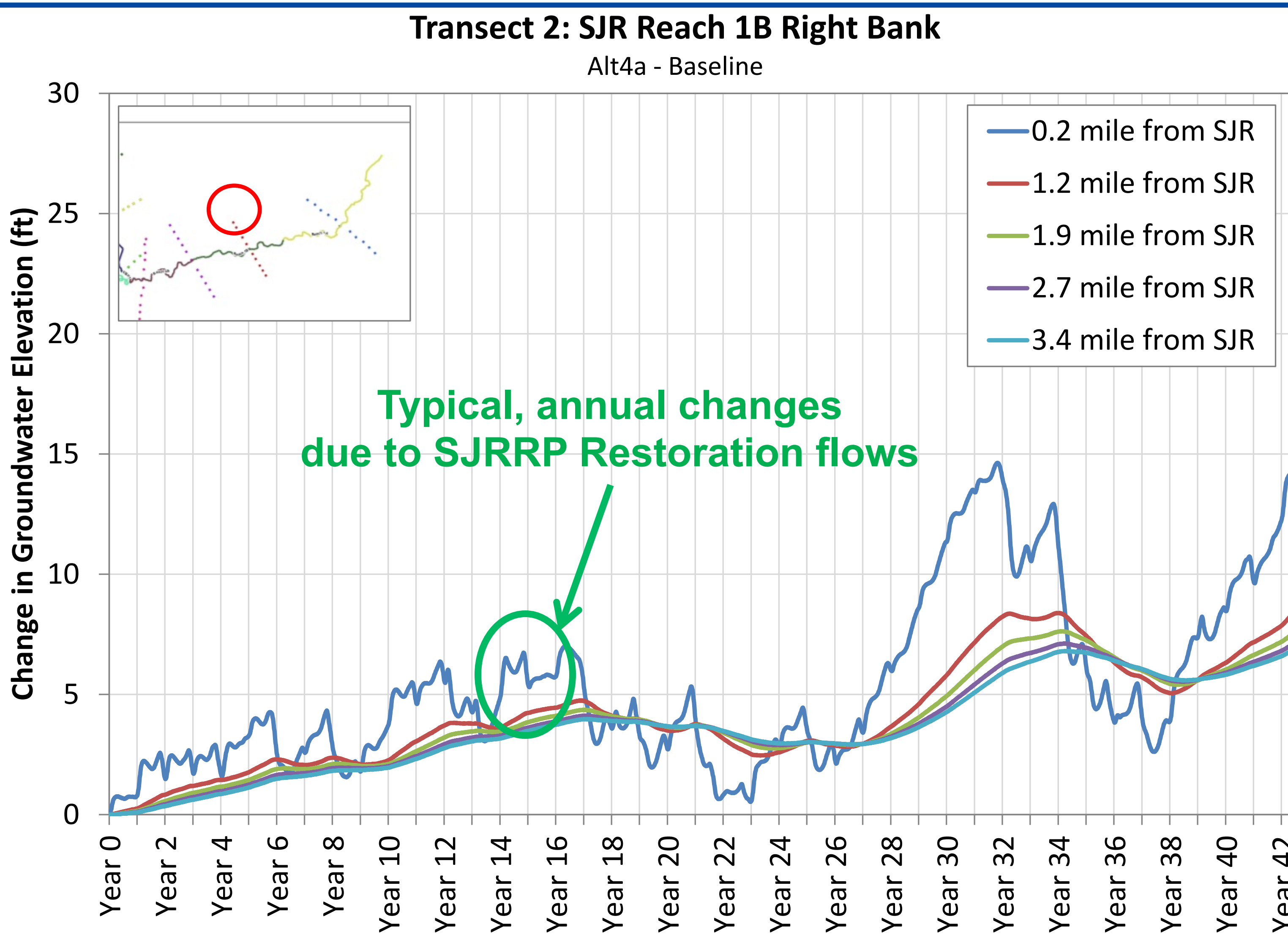
- San Joaquin River Restoration Program Groundwater Model (SJRRPGW)
  – USGS model
  – ¼ mile grid size
- Ran simulation of Restoration flows
- Change in groundwater level with distance from River/Bypass

SJRRPGW Results

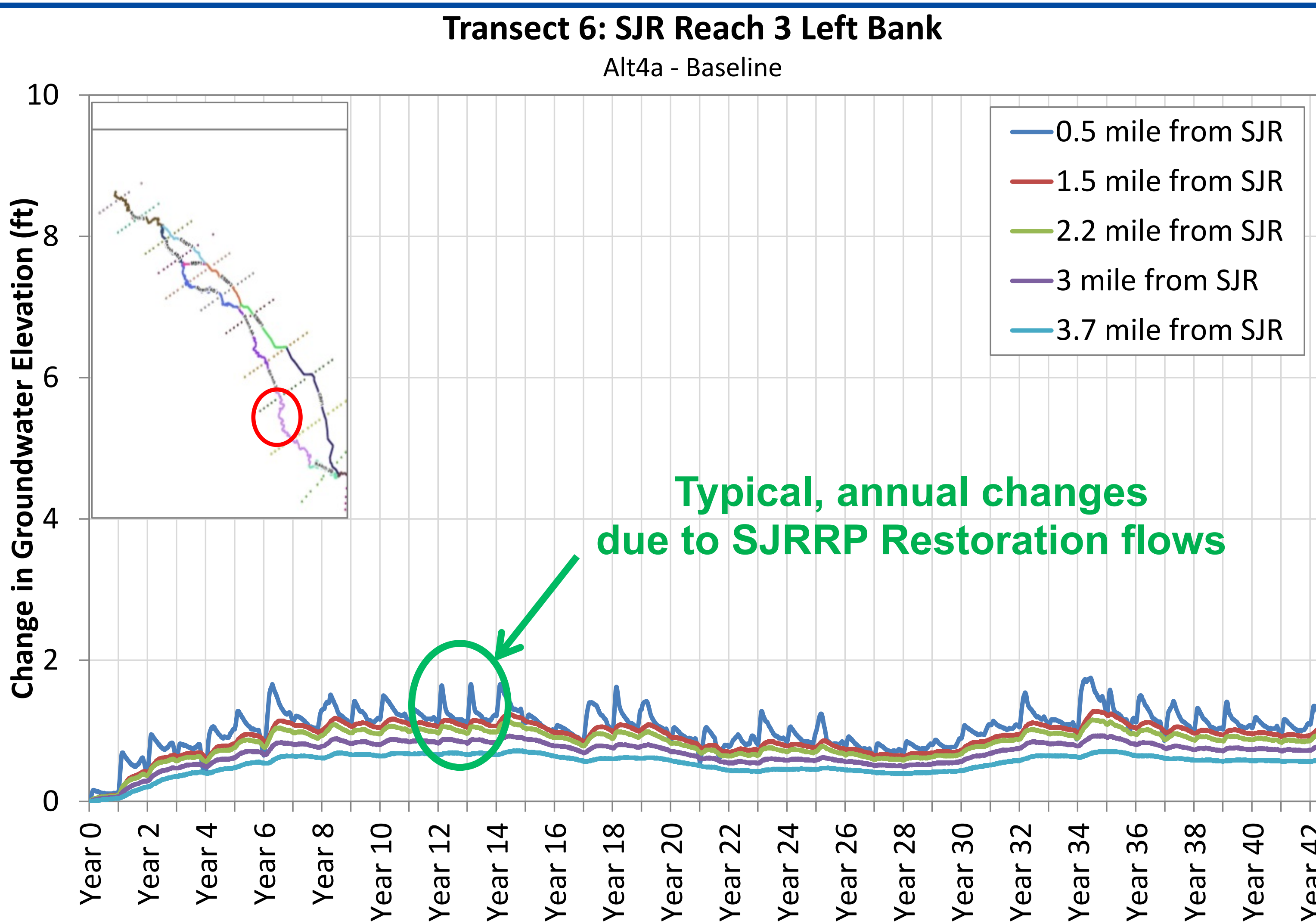
- Picked cross-sections along SJR and Bypasses
- Reviewed SJRRPGW Results



SJRRPGW Results - Example



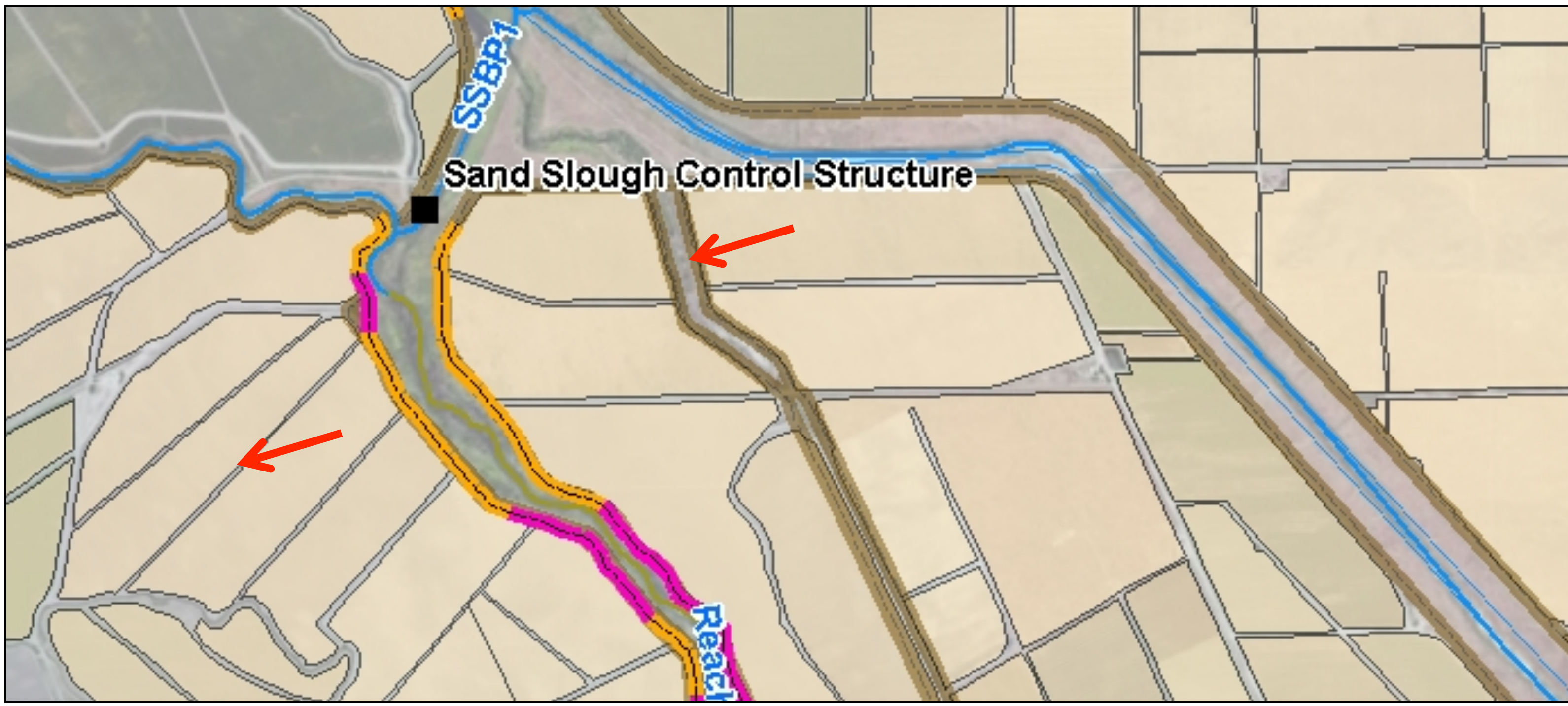
SJRRPGW Results - Example



Preliminary draft – subject to change

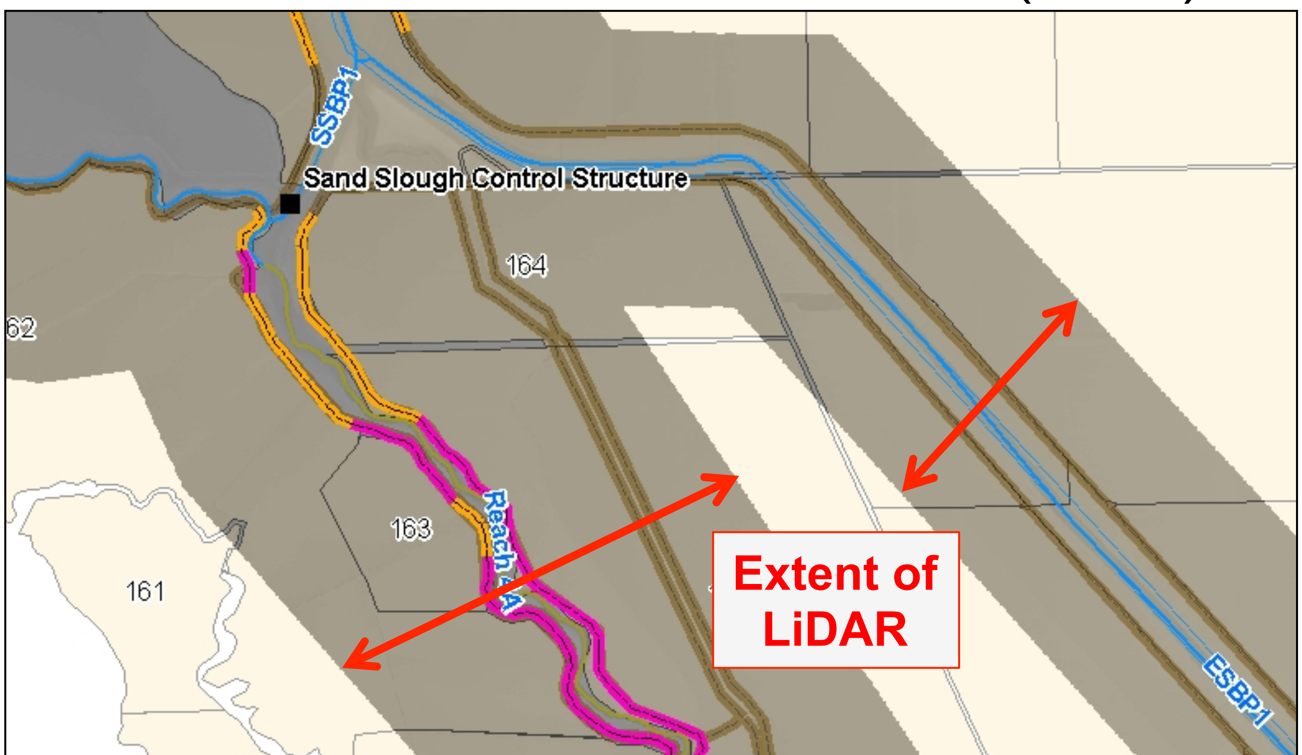
Parcel Elevations

- Identify minimum elevation on parcel
  - Exclude ditches, canals, etc.



Parcel Elevations

- Elevation datasets
  - LiDAR (reach specific, where available)
  - USGS National Elevation Dataset (NED)



Preliminary draft – subject to change

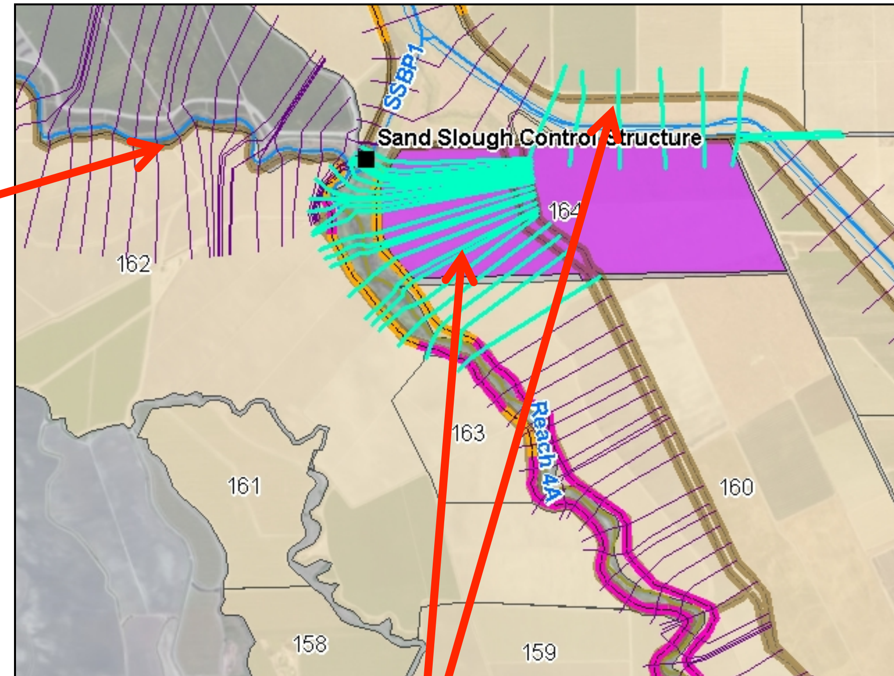
HEC-RAS (Surface Water Model)

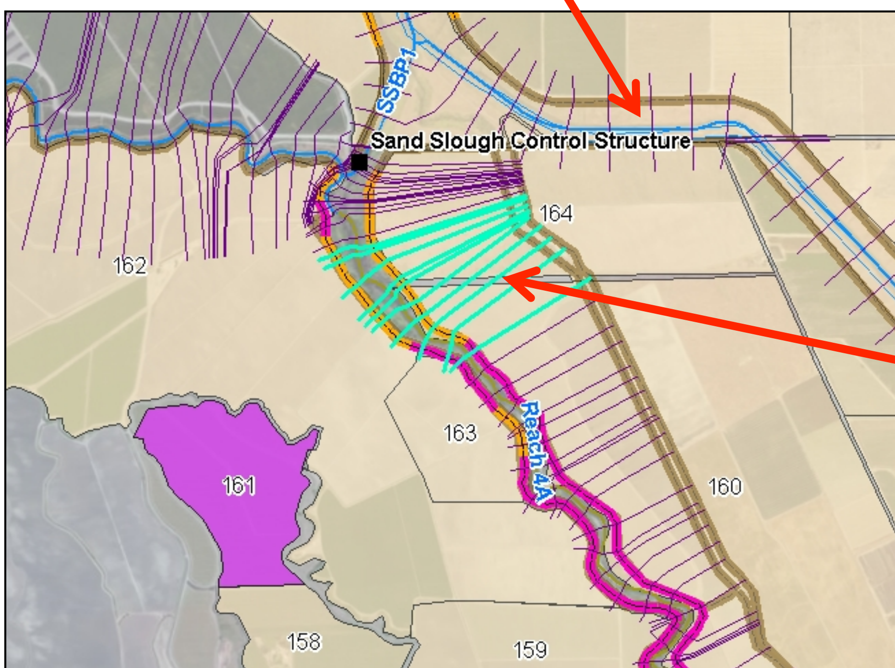
- Identify HEC-RAS cross-sections for a parcel
  - All sections along parcel edge bordering river/bypass
  - Closest to edge of parcel (e.g., those parcels not-bordering river/bypass), picked 5 sections either side

Select HEC-RAS Sections

Parcels adjacent to SJR/Bypass

HEC-RAS Sections



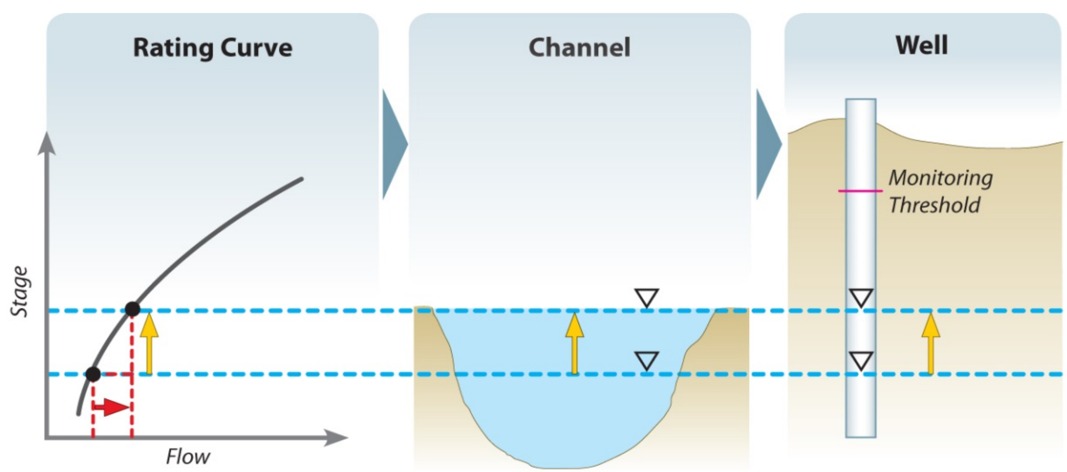


Selected HEC-RAS Sections

Parcels separated from SJR/Bypass

HEC-RAS

- Each section has surface geometry assigned
  - Flow vs. Stage relationship depends on geometry
- Identify flow in river/bypass that has elevation (i.e., stage) equal to lowest elevation on parcel
  - Determined flow at elevations 1 ft stage increments (+/- 5 ft) of the parcel elevation



Preliminary draft – subject to change

Prioritization - Next Steps

- Closely review prioritization results
- Incorporate groundwater elevation into process more clearly
  - Potentially exclude deep groundwater areas
- Review any changes in priority level
- Identify next priority seepage project locations

QUESTIONS

Contact

- Technical Feedback Group: Katrina Harrison
  - 916-978-5465
  - KHarrison@usbr.gov

- Seepage Concerns: Seepage Hotline
  - 916-978-4398
  - InterimFlows@restoresjr.net