SJC-315

CALIFORNIA WATERFIX

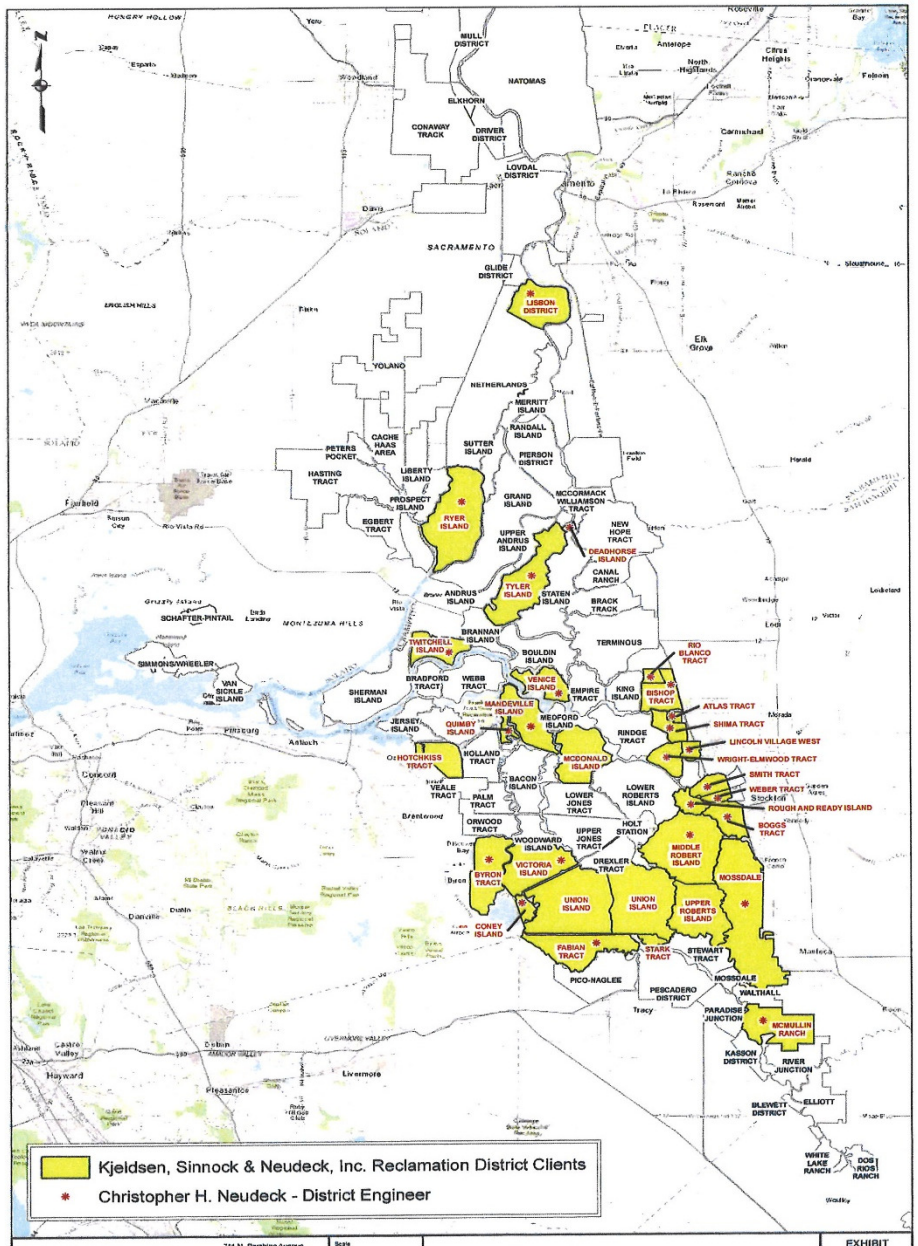
COUNTY OF SAN JOAQUIN, SAN JOAQUIN FLOOD CONTROL AND WATER CONSERVATION DISTRICT, AND MOKELUMNE RIVER WATER AND POWER AUTHORITY

HEARING IN THE MATTER OF CALIFORNIA DEPARTMENT OF WATER RESOURCES AND UNITED STATES BUREAU OF RECLAMATION REQUEST FOR CHANGE IN POINT OF DIVERSION FOR CALIFORNIA WATER FIX
PART 2
CASE IN CHIEF

TESTIMONY OF CHRISTOPHER H. NEUDECK (WITNESS)

KSN DELTA DISTRICTS

SJC-292



SJC-293

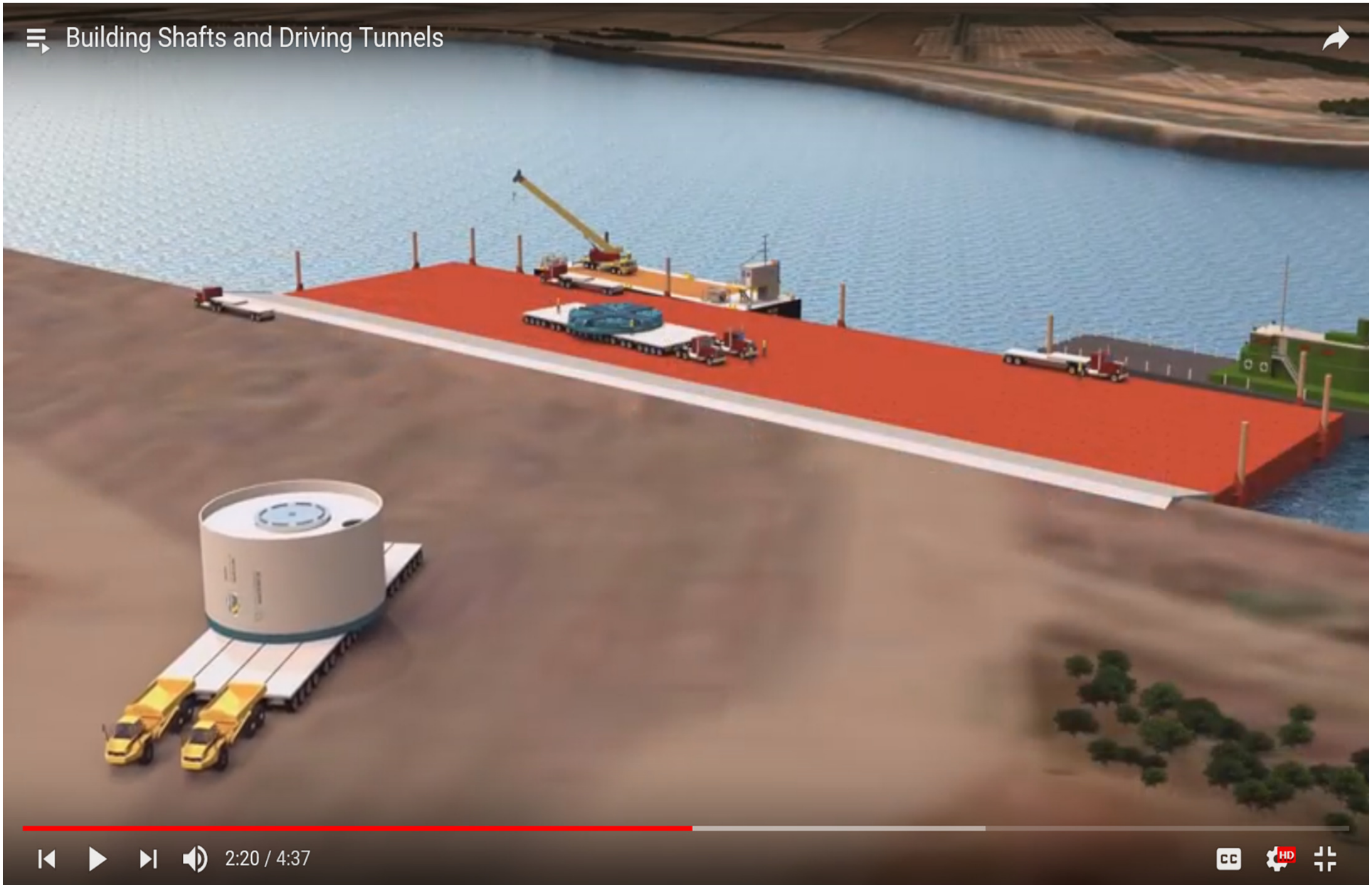
ONGOING CHALLENGES: CRITICAL WIND-DRIVEN LEVEE EROSION

SJC-294

BARGES & TEMPORARY BARGE OFFLOADING FACILITIES

BARGES & TEMPORARY BARGE OFFLOADING FACILITIES

SJC-295



BARGE MOUNTED MARINE EQUIPMENT FOR LEVEE REHABILITATION AND MAINTENANCE

SJC-296

MAINTAINING AND IMPROVING FLOOD PROTECTION AND PROTECTING CALIFORNIA'S WATER SUPPLY

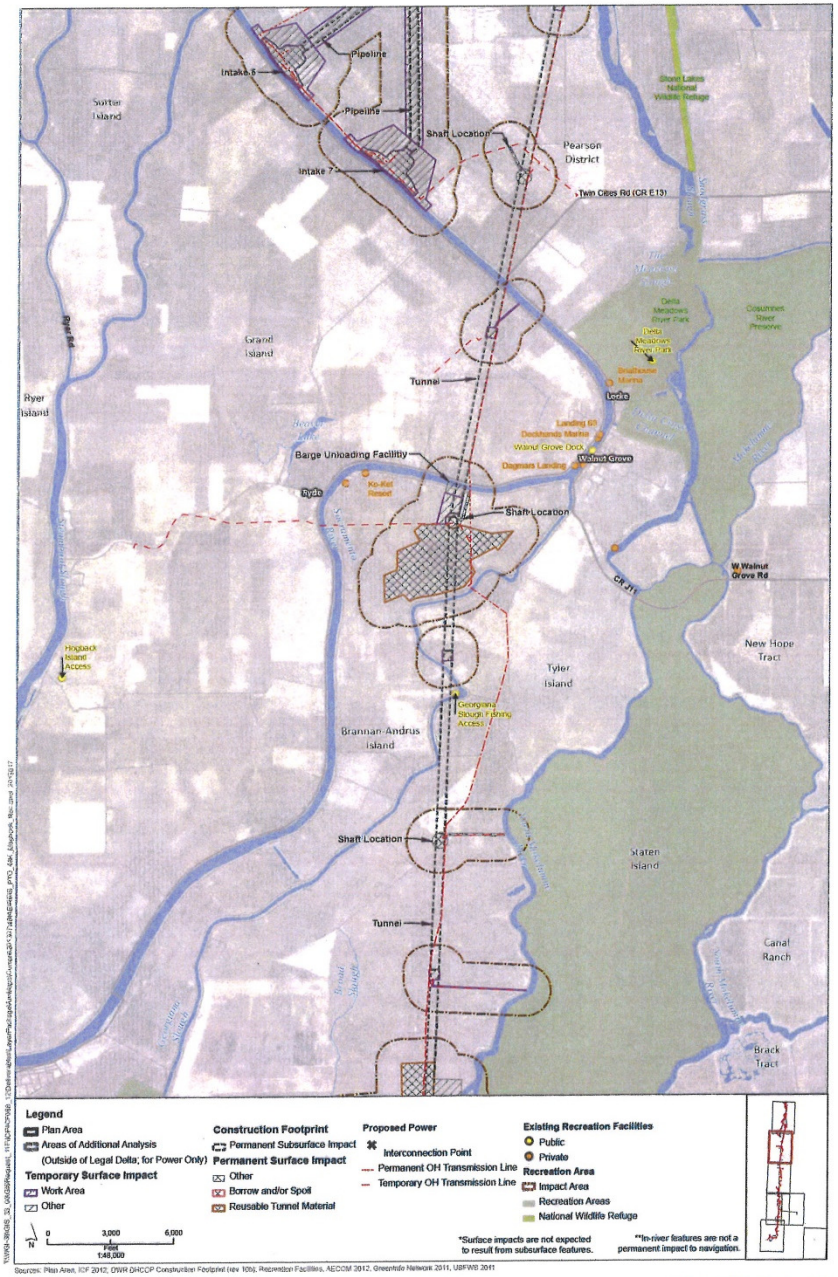
- ✓ Requires Barge-mounted Equipment
- ✓ Construction materials – including rock
- ✓ Multiple sources to manage costs and meet emergency response needs

SJC-298

ONGOING CHALLENGES:CRITICAL LEVEE EROSION

WaterFix EIR Figure M15-1 Sheet 2 of 7

SJC-299



Sources: Plan Area, IOF 2012, DWR DHCCP Construction Footprint (rev 10b), Recreation Facilities, AECOM 2012, Greenway Network 2011, USFWS 2011

Figure M15-1: Sheet 2 of 7
Recreation Facilities — Pipeline/Tunnel Alignment

WaterFix EIR Figure M15-1 Sheet 3 of 7

SJC-300

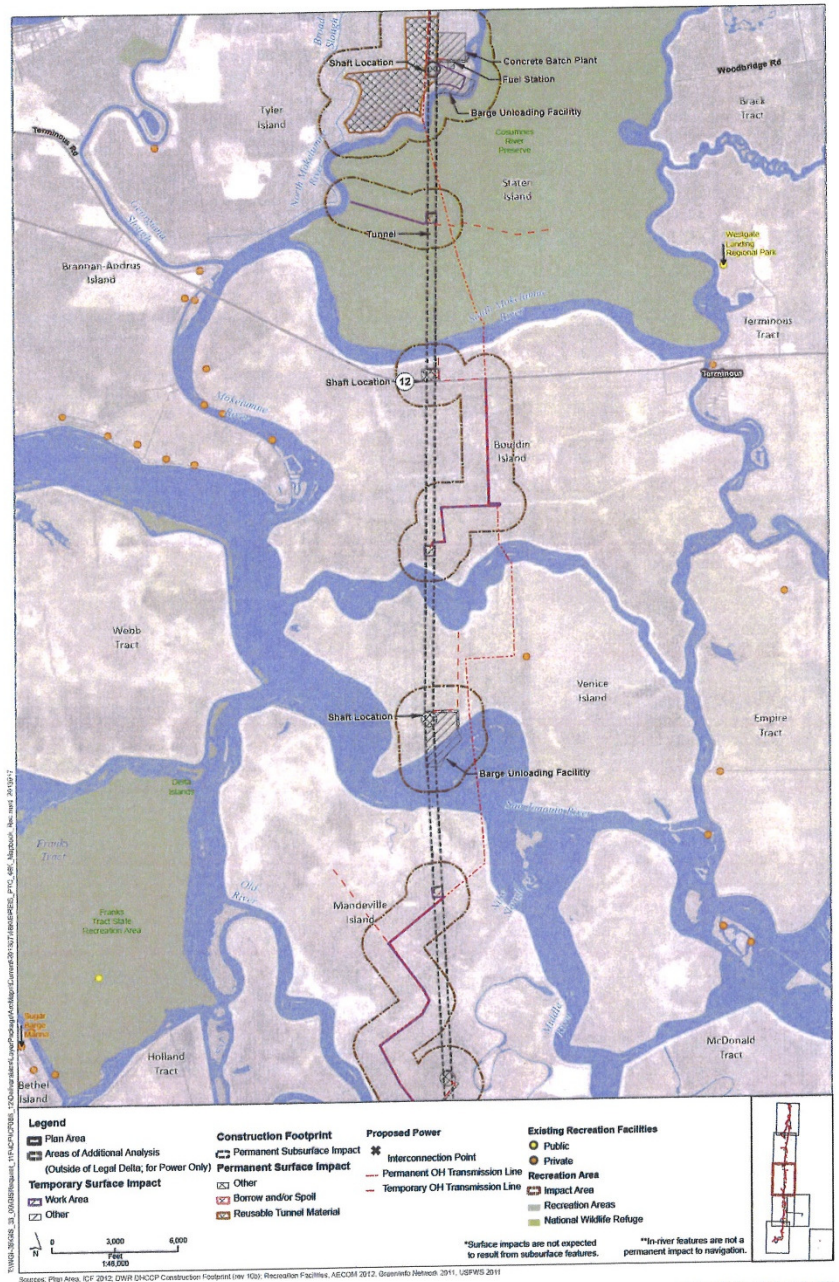
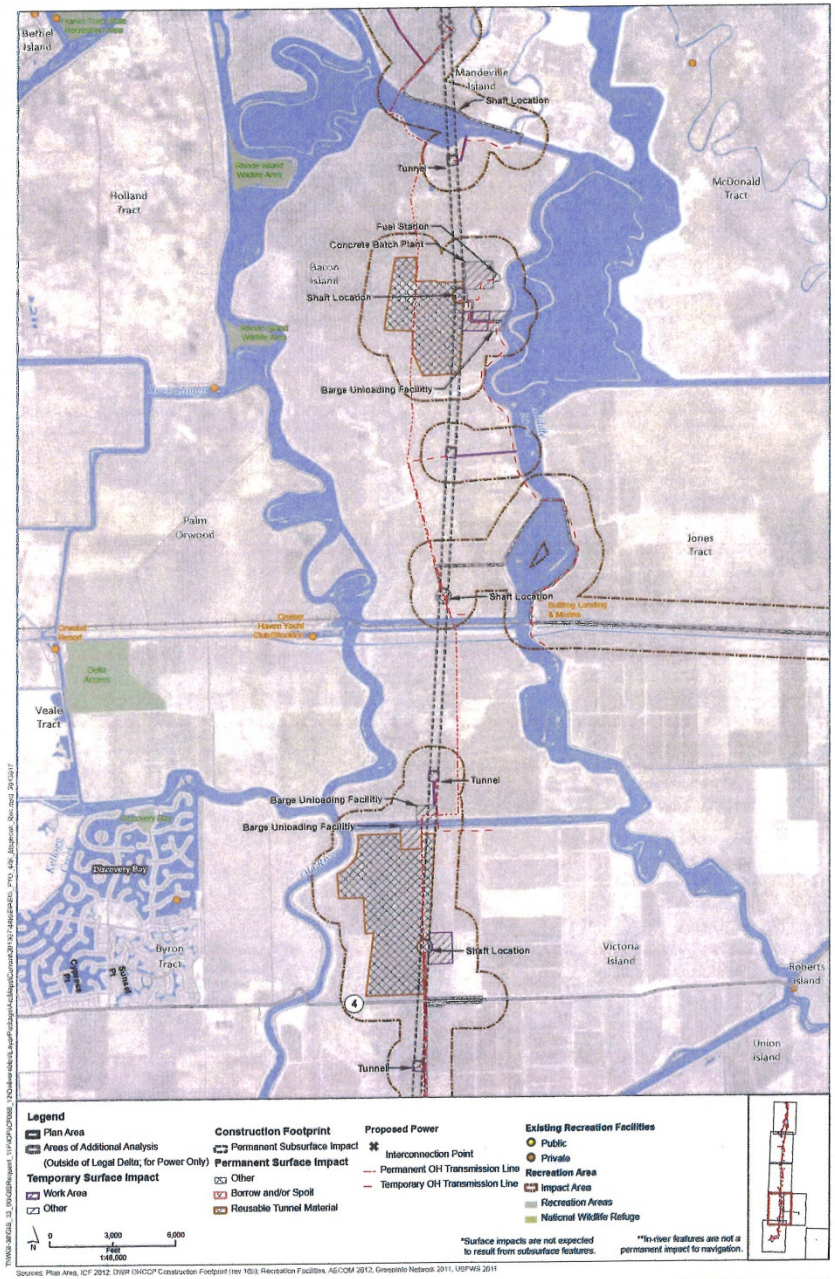


Figure M15-1: Sheet 3 of 7
Recreation Facilities — Pipeline/Tunnel Alignment

WaterFix EIR Figure M15-1 Sheet 4 of 7

SJC-301



Sources: Plan Area, ICF 2012; DWR DHCCP Construction Footprint (rev 10b); Recreation Facilities, AECOM 2012; Greenlinks Network 2011, USFWS 2011

Figure M15-1: Sheet 4 of 7
Recreation Facilities — Pipeline/Tunnel Alignment

WaterFix EIR Figure M15-1 Sheet 5 of 7

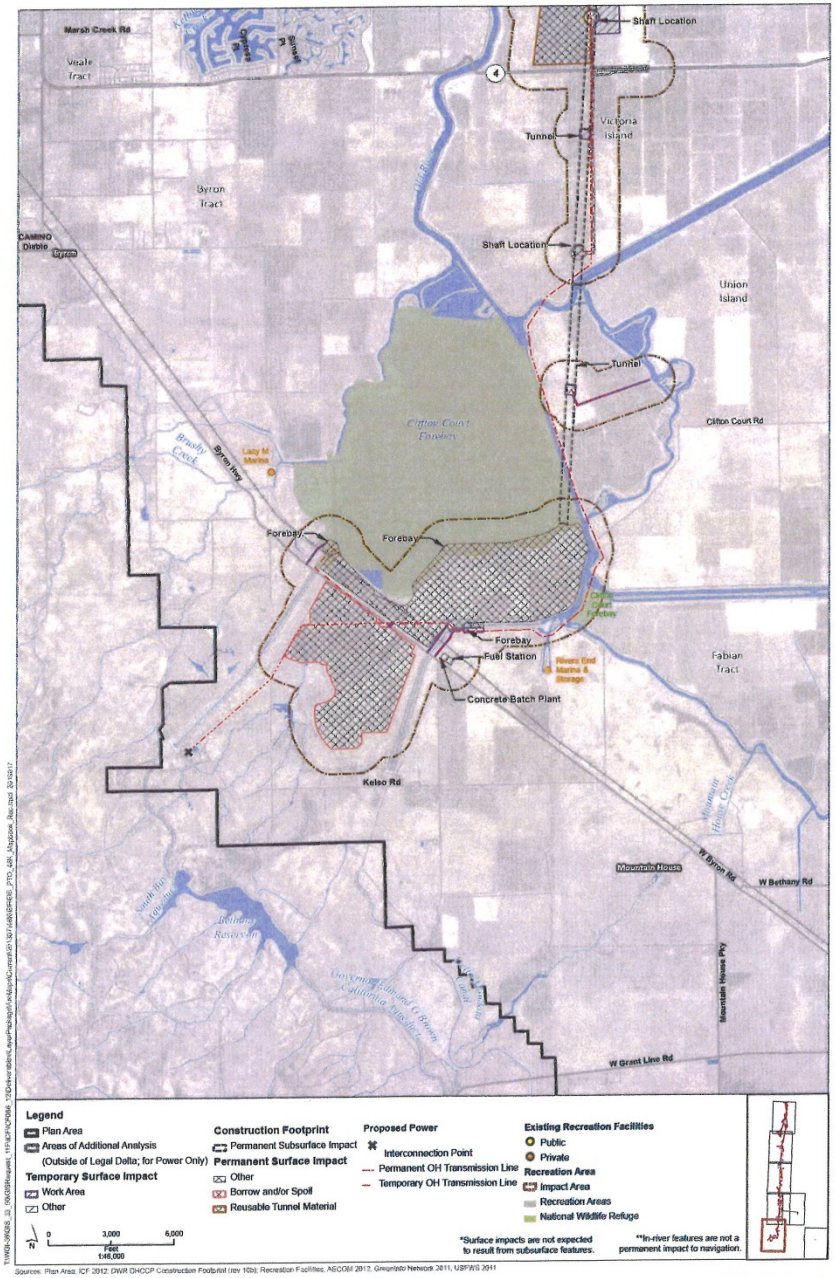
SJC-302

Sources: Plan Area, ICF 2012; DWR DHCCP Construction Footprint (rev 10b); Recreation Facilities, AECOM 2012, GreenInfo Network 2011, USFWS 2011

Figure M15-1: Sheet 5 of 7
Recreation Facilities — Pipeline/Tunnel Alignment

WaterFix EIR Figure M15-1 Sheet 6 of 7

SJC-303



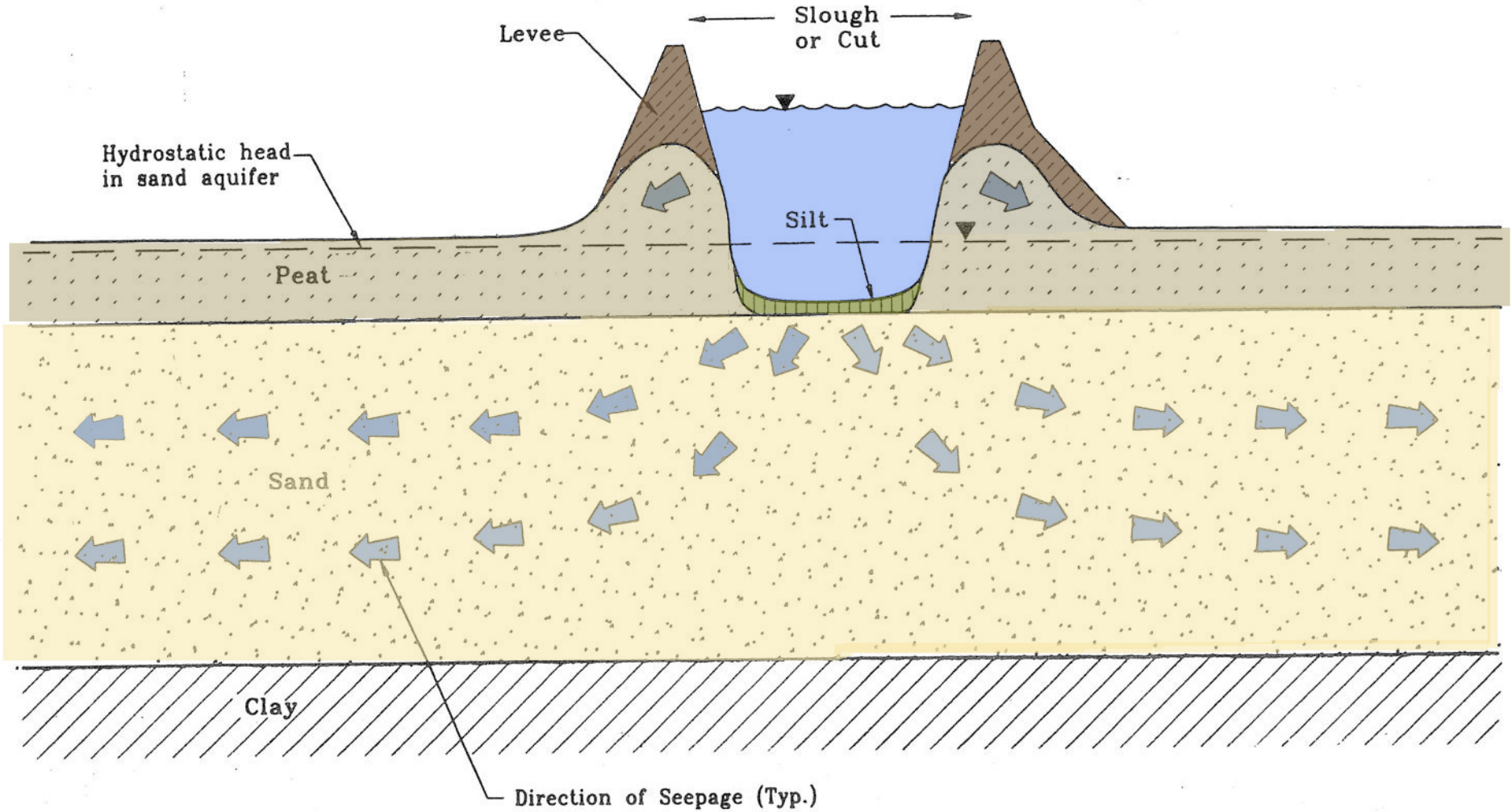
Sources: Plan Area, ICF 2012; DWR DHCCP Construction Footprint (rev 16b); Recreation Facilities, AECOM 2012; Greenfeld Network 2011, USFWS 2011

Figure M15-1: Sheet 6 of 7
Recreation Facilities — Pipeline/Tunnel Alignment

SEEPAGE

SJC-304

Figure 1 - Existing Conditions Between Two Agricultural Islands



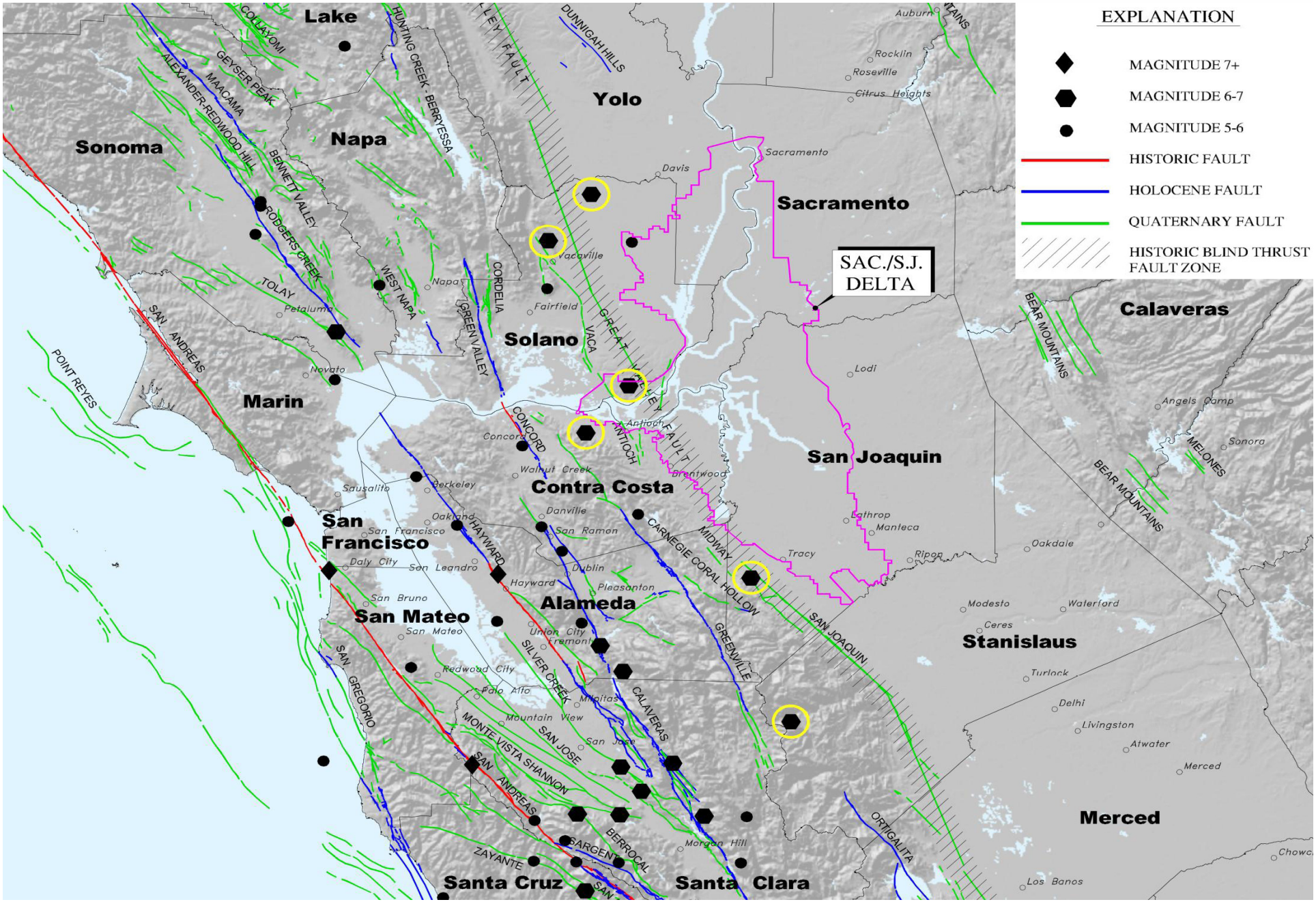
SEEPAGE FROM HIGH WATER IN ADJACENT RIVER

SJC-305

SEEPAGE FROM HIGH WATER IN ADJACENT RIVER

HISTORIC EARTHQUAKE MAP

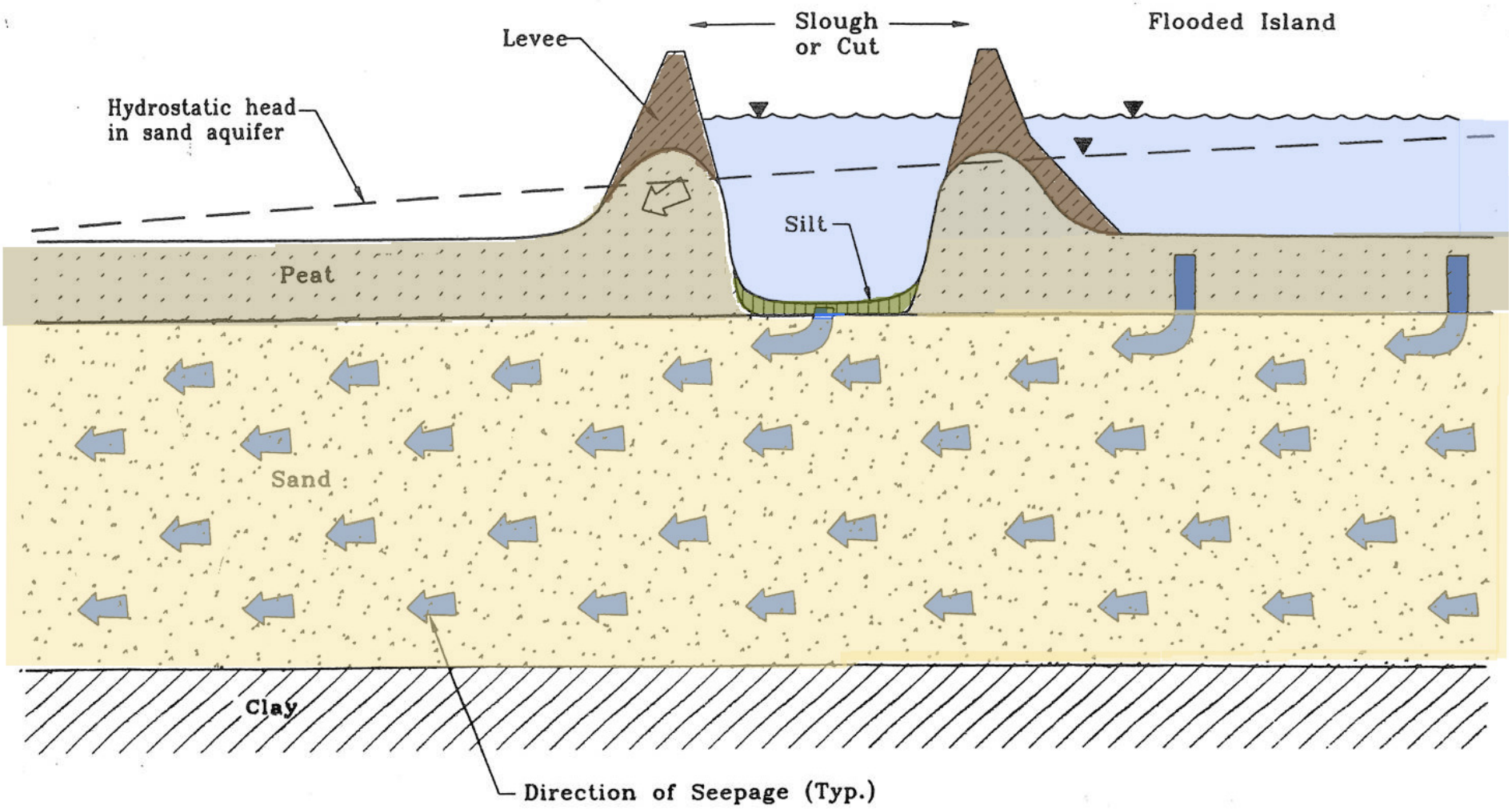
SJC-307



SEEPAGE

SJC-308

Figure 2 - Existing Conditions Opposite A Flooded Island



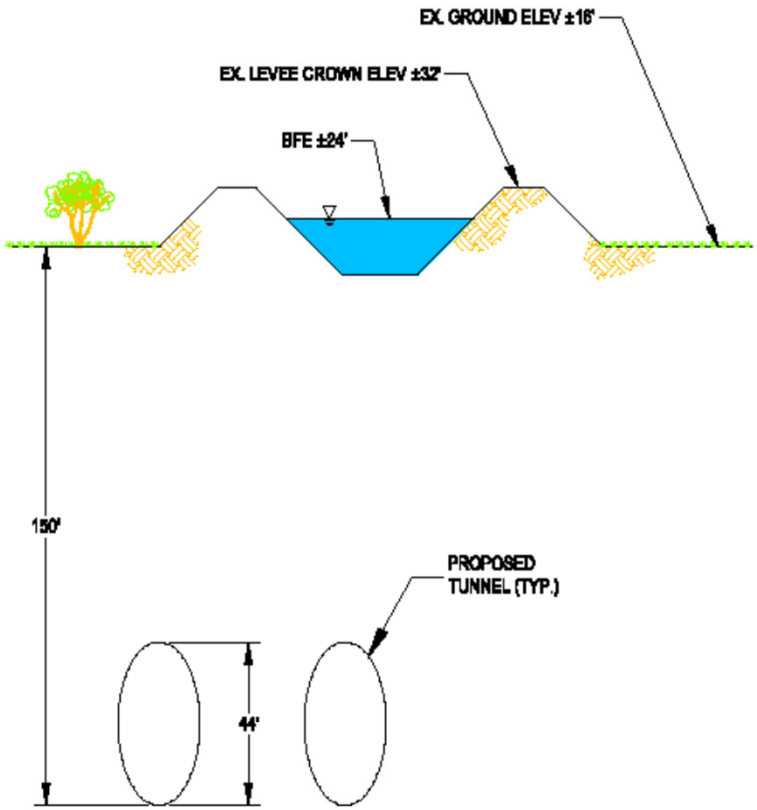
SJC-309

SEEPAGE FROM ADJACENT FLOODED ISLAND

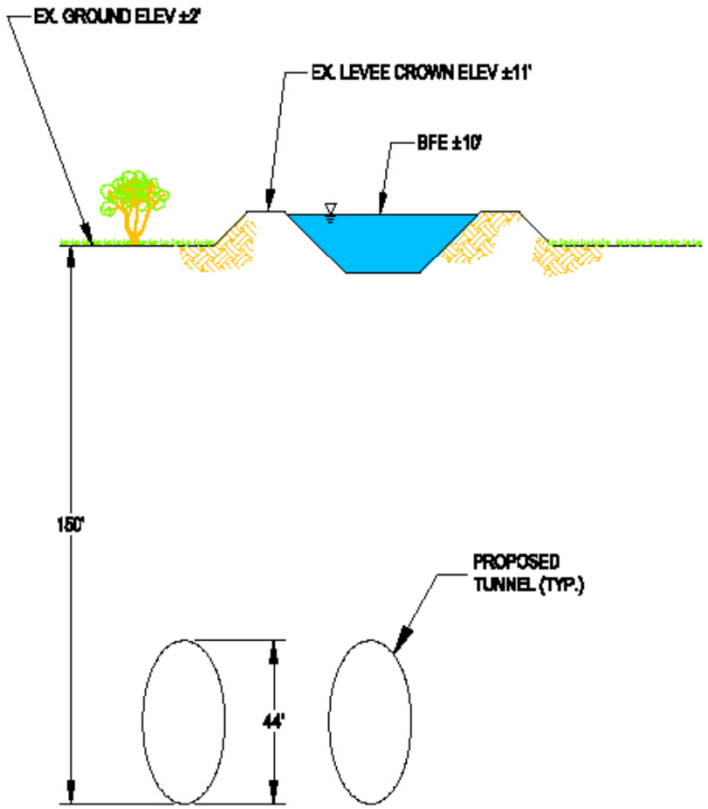
SJC-310

SEEPAGE FROM ADJACENT FLOODED ISLAND

HEAD DIFFERENCE IN TUNNEL BETWEEN INTAKE AND DISCHARGE



SACRAMENTO RIVER @ CLARKSBURG



CLIFTON COURT FOREBAY

VERTICAL DATUM: NAVD88

NORTH ORIENTATION

KJELDSEN SINNOCK NEUDECK
711 N Pershing Avenue
Stockton, CA 95203
209-946-0268
1550 Harbor Drive, Suite 212
West Sacramento, CA 95691
916-403-5900
www.ksnlnc.com

TESTIMONY OF CHRISTOPHER H. NEUDECK
CALIFORNIA WATERFIX
PETITION FOR CHANGE PART II
EXHIBIT ___

DRAWING SCALE
VERT: 1" = 15'
HORIZ: 1" = 30'

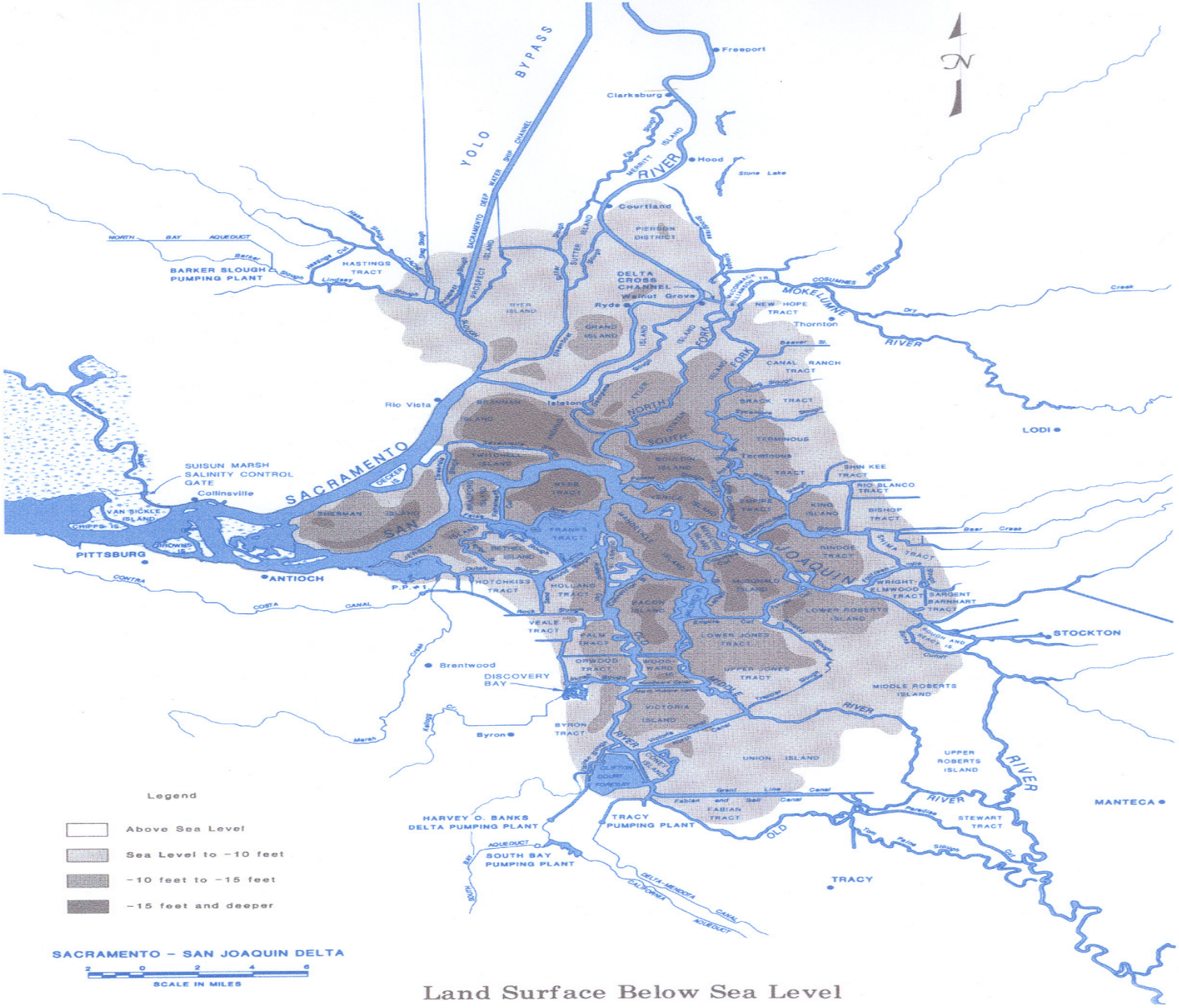
ORIGINAL DRAWING SCALE
0 1/2" 1"

EXHIBIT NO.

PAGE NO.

LAND SURFACE BELOW SEA LEVEL

SJC-312



Land Surface Below Sea Level

SOURCE:
DEPT. OF WATER RESOURCES
DELTA ATLAS, 1993

ONGOING CHALLENGES: BELOW SEA LEVEL ISLANDS

THE ECONOMIC SUSTAINABILITY PLAN FOR THE SACRAMENTO – SAN JOAQUIN DELTA ADOPTED BY THE DELTA PROTECTION COMMISSION IN JAN. OF 2012 STATES PG. 112

Chapter 7: Agriculture

7.1 Overview and Key findings

- Close to 80 percent of all farmland in the Delta is classified as Prime Farmland, the California Farmland Mapping and Monitoring Program's highest designated tier.
- Total cropped acreage in 2010 was 423,727 acres, not including approximately 38,000 acres of grazing land.
- The top five Delta crops in terms of acreage are: 1) Corn, 2) Alfalfa, 3) Processing Tomatoes, 4) Wheat, and 5) Wine Grapes.
- Total crop value in 2009 was approximately $702 million. Truck and vineyard crops account for 59 percent of crop revenues on 18 percent of acreage.
- The top five Delta crops in terms of value are: 1) Processing Tomatoes, 2) Wine Grapes, 3) Corn, 4) Alfalfa, and 5) Asparagus.
- The highest per-acre values in the Delta come from truck crops mainly situated in the southern Delta and deciduous crops principally located in the northern Delta.
- The approximately $702 million in Delta crop production and $93 million in Delta animal and animal product revenue has an economic impact of 9,681 jobs, $683 million in value added and $1.416 billion in output in the five Delta counties. Across all of California, the economic impact of Delta agriculture is 12,934 jobs, $819 million in value added, and $1.643 billion in output.
- When related value-added manufacturing such as wineries, canneries, and dairy products are included with the impact of Delta agriculture, the total economic impact of Delta agriculture is 13,179 jobs, $1.059 billion in value-added, and nearly $2.647 billion in economic output in the five Delta counties. Including value-added manufacturing, the statewide impact of Delta agriculture is 25,125 jobs, $2.135 billion in value-added, and $5.372 billion in economic output.
- The 10 year land allocation forecast in the baseline scenario predicts a future increase in vineyards, deciduous, and truck crops, and decreases in grain and pasture crops. Field crops will continue to account for 50 percent or more Delta agriculture acreage for the foreseeable future. This shift of 5 percent of land to higher value crops could lead to an approximately $111 million gain in crop revenues.
- The potential impact of policy changes on Delta salinity is highly uncertain at this time and depends on decisions on water quality standards and the effect of isolated conveyance. A preliminary estimate of losses from increased salinity is between $20 million and $80 million per year. The loss of farmland to construct the conveyance facility is estimated to generate an additional $10 to $15 million in crop losses per year.
- The agricultural impacts of most of the BDCP conservation measures are difficult to quantify due to the lack of precision in site specification and other details. Broad ranges of potential annual crop losses have been calculated from the land requirements and descriptions of easement costs in the draft BDCP.
    - Tidal habitat restoration losses range from $18 to $77 million annually with lower losses when restoration is targeted to Suisun Marsh.
    - Natural Communities Protection losses are estimated to range from $5 to $25 million annually.