

# CalAm Monterey Peninsula Water Supply Project DEIR Review

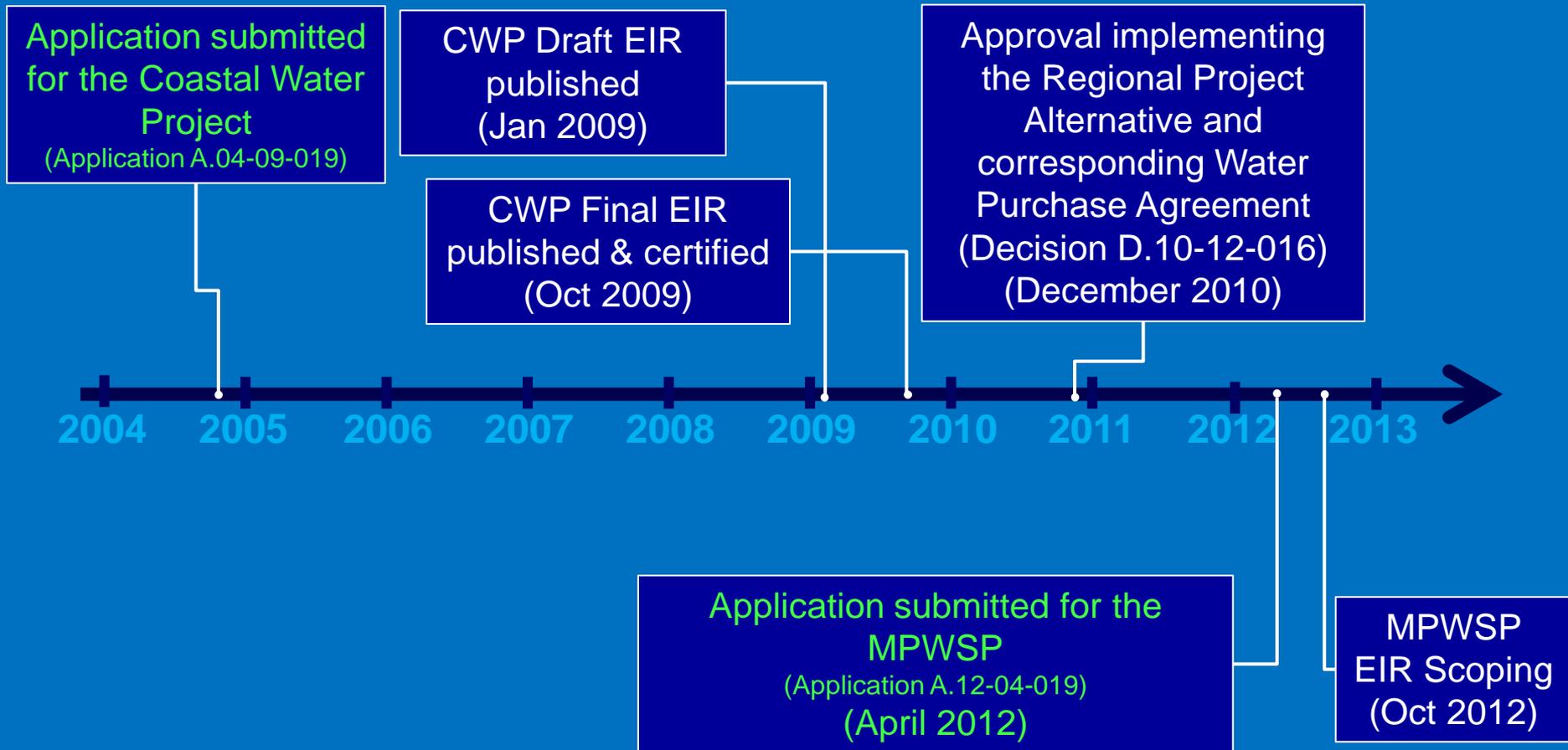
SPECIAL JOINT MEETING  
of the  
MARINA CITY COUNCIL  
and the  
MARINA PLANNING COMMISSION

May 12, 2015

# California Public Utilities Commission (CPUC)

- Led by 5 governor-appointed commissioners
- Regulates privately-owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies
- Serves the public interest by ensuring the provision of safe, reliable utility service and infrastructure at reasonable rates, with a commitment to environmental enhancement and a healthy California economy
- CEQA Lead Agency for the Proposed Project

# Project History

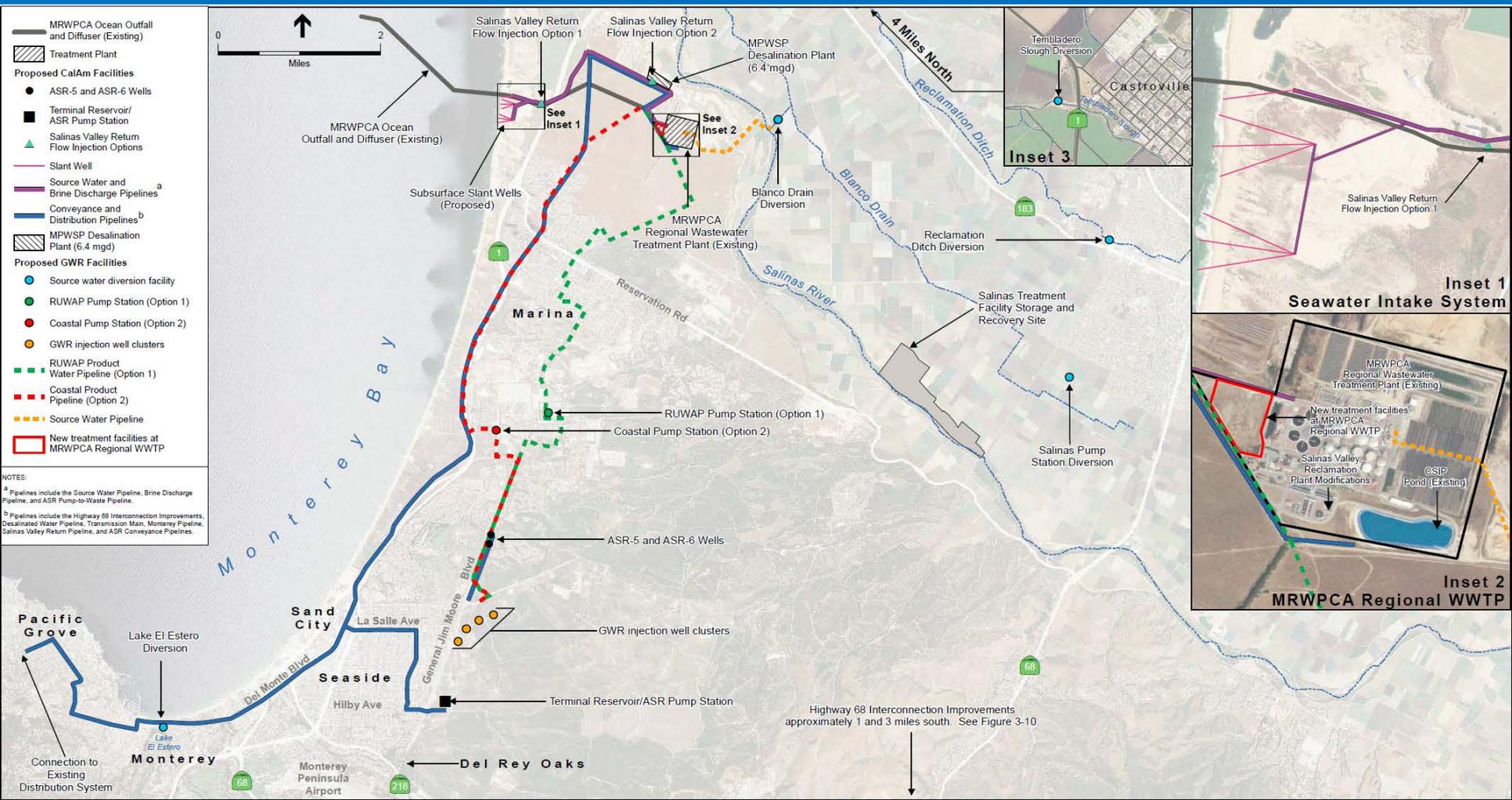


# Monterey Peninsula Water Supply Project

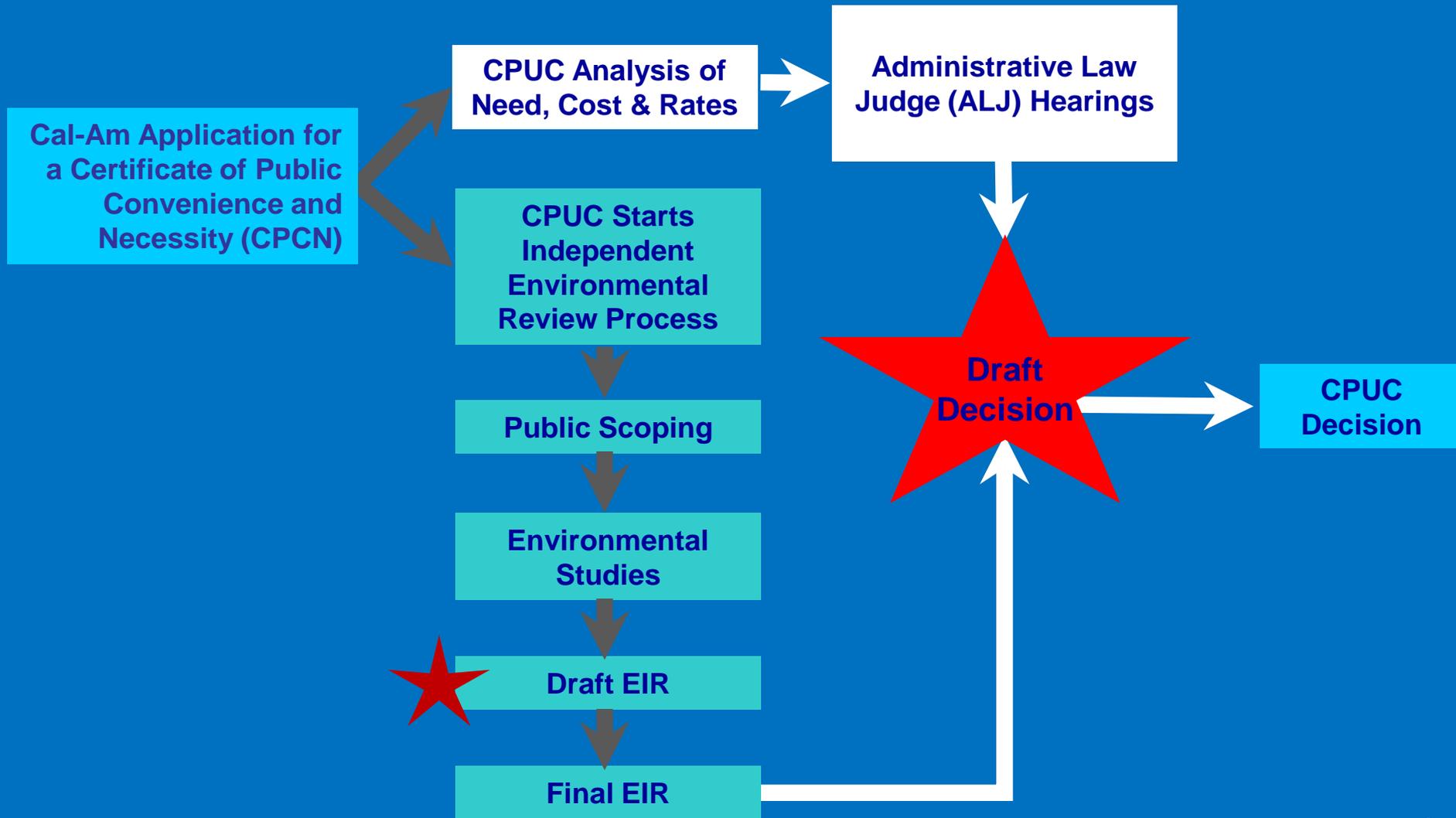
(A.12-04-019)



# MPWSP Variant



# CPUC Process for Project Review



# California Environmental Quality Act (CEQA)

- Requires that state and local agencies identify the significant environmental impacts of their actions and avoid or mitigate those impacts, if feasible
- Environmental Impact Report (EIR) identifies significant impacts, mitigation to avoid or reduce such impacts, and project alternatives

# Focus of Draft EIR Review

- In reviewing draft EIRs . . . focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the proposed project might be avoided or mitigated.

*(CEQA § 15204. Focus of Review)*

# Focus of Draft EIR Review

- Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects.

# Executive Summary



# Table ES-4

Executive Summary

TABLE ES-4 (Continued)  
COMPARISON OF THE ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT VS. MPWSP VARIANT

Impact	Proposed Project: Impacts and Mitigation as presented in Chapter 4 of this EIR	Mitigation Measures and Improvement Measures – Proposed Project and CalAm Facilities of the MPWSP Variant	MPWSP Variant: Impacts and Mitigation of GWR Facilities are as presented in the <i>Pure Water Monterey WR DEIR (MRWPCA, April 2015)</i>	Additional Mitigation Measures – GWR Facilities of the MPWSP Variant (MRWPCA, 2015)
<b>4.11 Greenhouse Gas Emissions (cont.)</b>				
Impact 4.11-1 (cont.)	emissions would be reduced to a less-than-significant level. Therefore, this impact is considered to be significant and unavoidable, even with implementation of mitigation.		implementation of the identified mitigation would reduce the overall carbon footprint of the Project Variant, the CPUC cannot substantiate that the mitigated GHG emissions would be reduced to a less-than-significant level. Therefore, this impact is considered to be significant and unavoidable, even with implementation of mitigation.	
Impact 4.11-2: Conflict with Executive Order S-3-05 and AB 32 Emissions Reduction Goals.	<p><b>SUM</b></p> <p>GHG emissions associated with the MPWSP would exceed the emissions significance threshold, which indicates that implementation of the project may not be consistent with the GHG emission reduction goals for year 2020 identified in Executive Order S-3-05 and AB 32. Therefore, it is concluded that the MPWSP would conflict with Executive Order S-3-05 and AB 32, and would result in a potentially significant impact.</p> <p>Implementation of the identified mitigation would ensure construction activities are conducted in a fuel-efficient manner and would reduce the overall carbon footprint of the project. Although implementation of the identified mitigation would reduce the overall carbon footprint of the project, the CPUC cannot substantiate that the mitigated GHG emissions would be reduced to a less-than-significant level. Therefore, this impact is considered to be significant and unavoidable, even with implementation of mitigation.</p>	<p><b>MM 4.11-1: GHG Emissions Reduction Plan.</b></p> <p><b>MM 4.18-1: Construction Equipment Efficiency Plan.</b></p>	<p><b>SUM</b></p> <p>Implementation of the MPWSP Variant CalAm facilities combined with the GWR facilities would result in the same potential conflicts with Executive Order S-3-05 and AB 32 as described for the MPWSP, which would be a significant impact. As under the MPWSP, this impact would not be reduced to a less-than-significant level with implementation of the identified mitigation measures. Therefore, this impact for the MPWSP Variant is considered to be significant and unavoidable, even with implementation of mitigation.</p>	None proposed.
Impact 4.11-3: Conflict with the AB 32 Climate Change Scoping Plan.	<p><b>SUM</b></p> <p>The MPWSP Desalination Plant designs include state of the art energy recovery and energy efficient features in place of standard energy saving systems; although there may be additional feasible energy reducing features available to further reduce the electrical consumption associated with the project. CARB has set a 20 percent electricity use reduction target for AB 32 Climate Change Scoping Plan Measure W-3; therefore, a 20 percent reduction in electricity use associated with the proposed project's energy recovery and energy saving features would indicate a less-than-significant impact associated with the proposed project's consistency with this measure. Although the identified mitigation would ensure that to the extent feasible, the electricity use would be reduced to a less-than-significant level.</p>	<b>MM 4.11-1: GHG Emissions Reduction Plan.</b>	<p><b>SUM</b></p> <p>The GWR facilities would not conflict with the AB 32 Climate Change Scoping Plan. Same as for the proposed project, the identified mitigation would ensure that the CalAm facilities under the MPWSP Variant are operated in an energy-efficient manner to the extent feasible, but the CPUC cannot substantiate that the MPWSP Variant's electricity use would be reduced to a less-than-significant level. Therefore, this impact is considered to be significant and unavoidable, even with implementation of mitigation.</p>	None required.

**Proposed Project**

**Project Variant**

<b>4.12 Noise and Vibration</b>				
Impact 4.12-1: Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity during construction.	<p><b>SUM</b></p> <p>The operation of trucks, backhoes, bulldozers, excavators, front-end loaders, compactors, scrapers, and other heavy-duty construction equipment would generate high noise levels. Temporary noise increases during project construction activities could result in substantial adverse effects on daytime and evening activities at nearby noise-sensitive receptors by exceeding speech and sleep interference thresholds. The potential for project construction activities to significantly affect daytime and evening activities at noise-sensitive receptors was determined based on the anticipated construction work hours for each project component, ambient noise levels at sensitive receptors, and the estimated noise levels generated by the loudest pieces of equipment expected to be used during project construction.</p> <p>Construction of the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline, Salinas Valley Return Pipeline, and Brine Discharge Pipeline would result in less-than-significant daytime and nighttime noise impacts. Construction of the Transfer Pipeline, Terminal Reservoir, ASR Pump Station, ASR Conveyance Pipelines, ASR Pump-to-Waste Pipeline, Main System-Hidden Hills Interconnection Improvements, and Ryan Ranch-Bishop Interconnection Improvements would result in a less-than-significant impact related to temporary increases in daytime noise levels and no impact related to nighttime noise.</p>	<p><b>MM 4.12-1a: Neighborhood Notice</b></p> <p><b>MM 4.12-1b: General Noise Controls for Construction Equipment</b></p> <p><b>MM 4.12-1c: Noise Control Plan for Nighttime Pipeline Construction</b></p> <p><b>MM 4.12-1d: Additional Noise Controls for ASR-5 and ASR-6 Wells</b></p> <p><b>MM 4.12-1e: Offsite Accommodations for Substantially Affected Receptors.</b></p>	<p><b>SUM</b></p> <p>Like the MPWSP, nighttime noise impacts of the MPWSP Variant would remain significant and unavoidable even with implementation of mitigation. Nighttime construction would occur at additional locations associated with GWR facilities; however, because impacts at those locations could be mitigated to a less-than-significant level, they would not contribute to the overall significant and unavoidable impact of the MPWSP Variant.</p> <p><i>CalAm Facilities:</i></p> <p>Construction noise levels generated during construction of the CalAm facilities would be identical to those of the proposed project except that the duration of slant well drilling noise would be reduced because three fewer slant wells would be constructed. As under the MPWSP, with the exception of nighttime noise impacts associated with the Monterey Pipeline and ASR-5 and ASR-6 Wells, which would remain significant and unavoidable, implementation of the prescribed mitigation measures would reduce all other construction-related nighttime noise impacts to a less-than-significant level.</p>	<p><b>Mitigation Measure NV-1a: Drilling Contractor Noise Measures.</b></p> <p><b>Mitigation Measure NV-1c: Neighborhood Notice.</b></p>

# Chapter 1

## Introduction

# Project Purpose and Need

To replace existing water supplies that are constrained by legal decisions affecting the Carmel River and Seaside Groundwater Basin:

- SWRCB Order 95-10 requires that CalAm reduce surface water diversions from the Carmel River in excess of legal entitlement (3,376 AFY)
- Adjudication of Seaside Groundwater Basin effectively reduces CalAm's allocation of groundwater supplies to 1,474 AFY
- SWRCB Order 2009-0060 requires that CalAm secure replacement supplies for the Monterey District by December 2016

# Project Objectives

- Replace existing Carmel River diversions in accordance with SWRCB Order 95-10
- Reduce pumping from the Seaside Groundwater Basin from approximately 4,000 to 1,474 afy, in accordance with the adjudication of the groundwater basin and consistent with natural yield
- Pay back the Seaside Groundwater Basin by approximately 700 afy over 25 years as established by the Seaside Groundwater Basin Watermaster

# Project Objectives

- Reliable water supply for the CalAm's Monterey District service area, accounting for the peak month demand of existing customers
- Reliable water supply that meets fire flow requirements
- Provide supplies to serve existing legal lots of record
- Accommodate tourism demand under recovered economic conditions

# Project Objectives

- Provide sufficient conveyance capacity to accommodate supplemental water supplies that may be developed at some point in the future to meet build out demand, in accordance with adopted General Plans
- Minimize energy requirements and greenhouse gas emissions per unit of water delivered

# Chapter 2

## Demand and Supply

# Demand and Supply

## Demand (afy)

System Demand	13,291
PB Entitlements	325
Tourism Rebound	500
Lots of Record	1,180
<b>TOTAL</b>	<b>15,296</b>

## Supply Portfolio (afy)

Carmel River Rights	3,376
Seaside Basin GW	774
ASR	1,300
Sand City Desal	94
<b>Remaining Need</b>	<b>9,752</b>

# Chapter 3

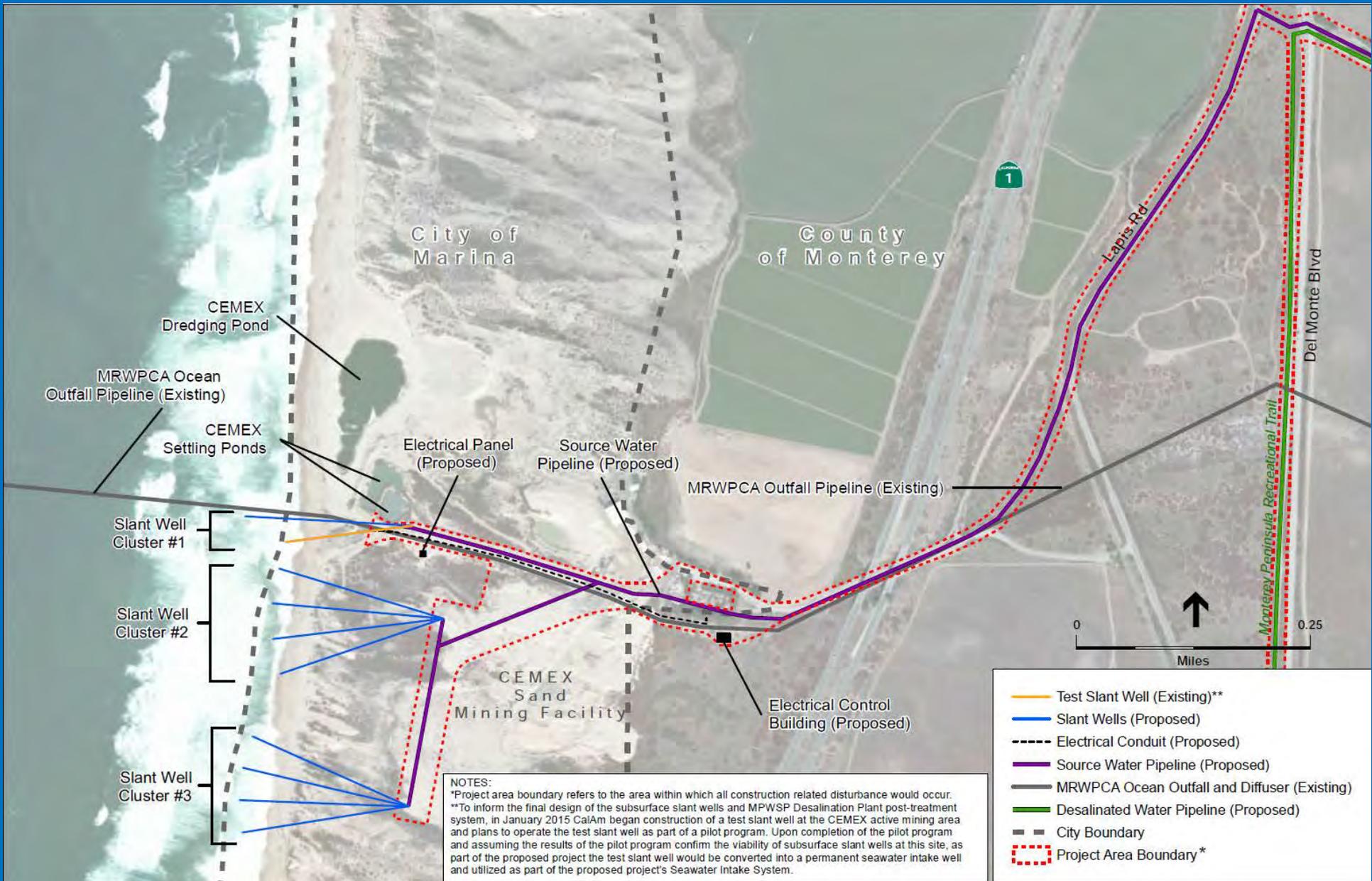
## Project Description

# Proposed Project

- Seawater intake system:
  - 8-slant wells at CEMEX
- 9.6 MGD desal plant
- Brine discharged via existing MRWPCA ocean outfall and diffuser
- Water conveyance facilities
- Improvements to existing Seaside Groundwater Basin ASR system

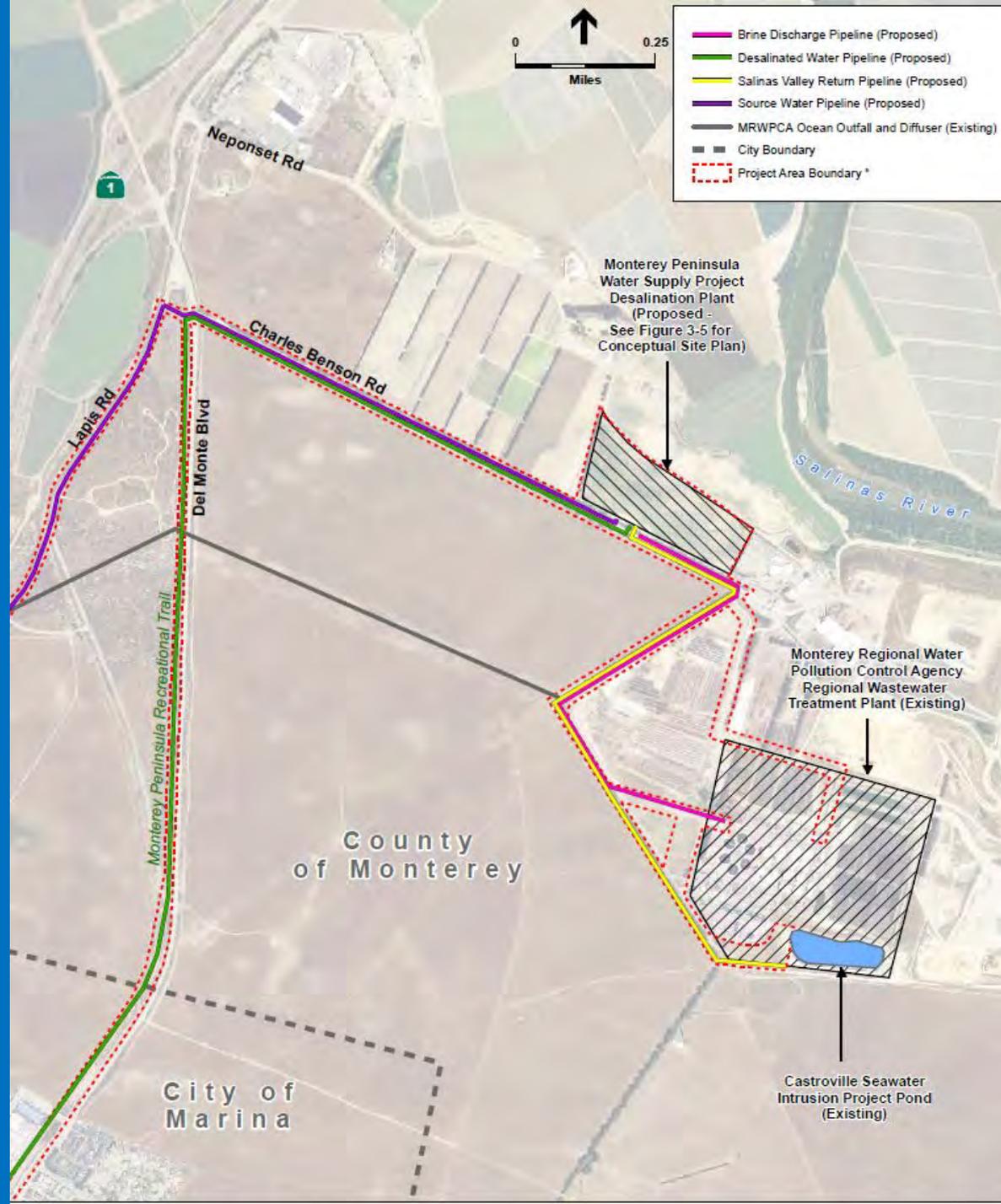


# Subsurface Intakes at CEMEX



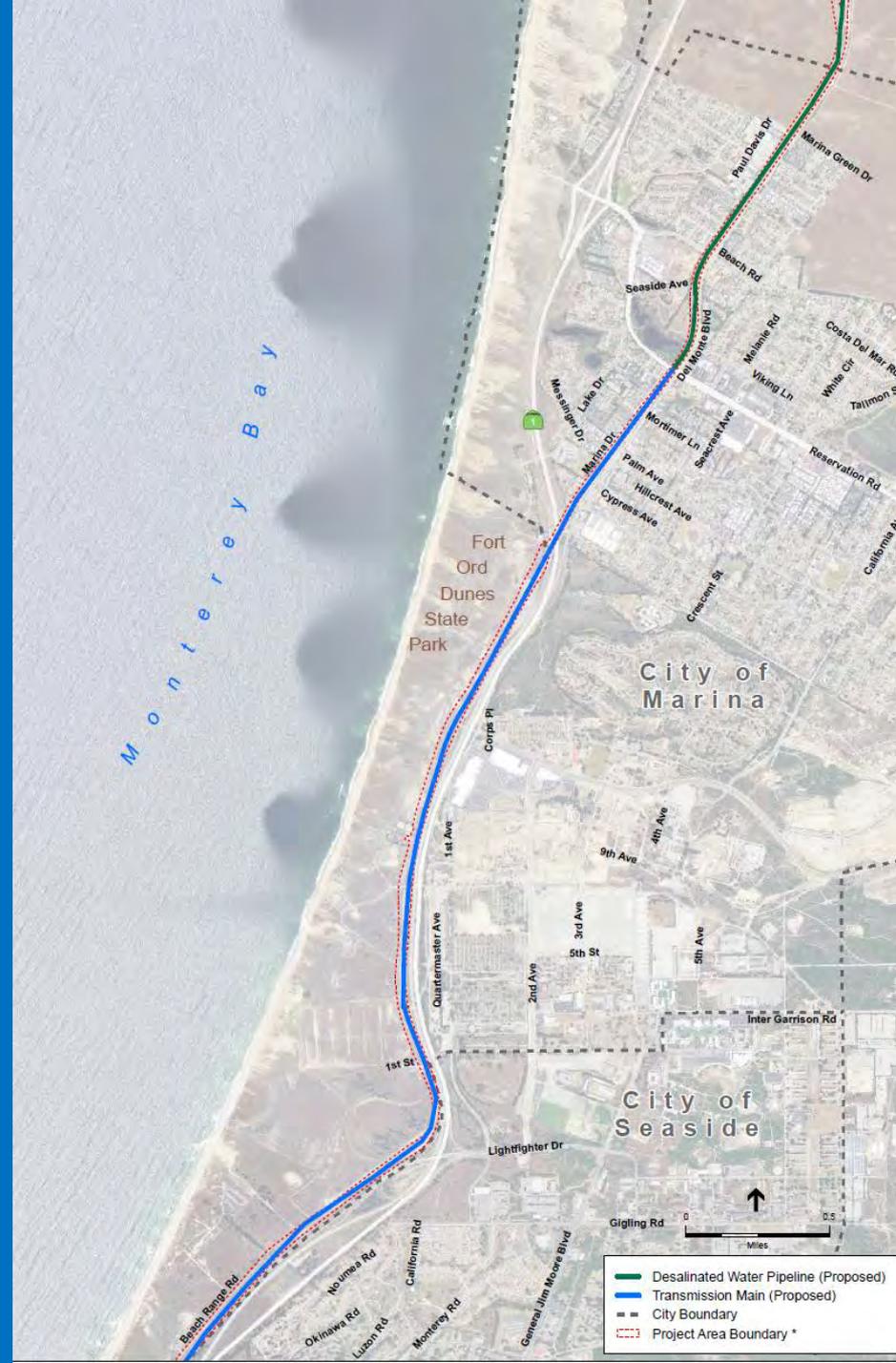
# Desalination Plant

- Source Water Pipelines
- Brine Discharge Pipeline
- Salinas Valley Return Pipeline



# Desalinated Water Pipeline (north of Reservation Rd)

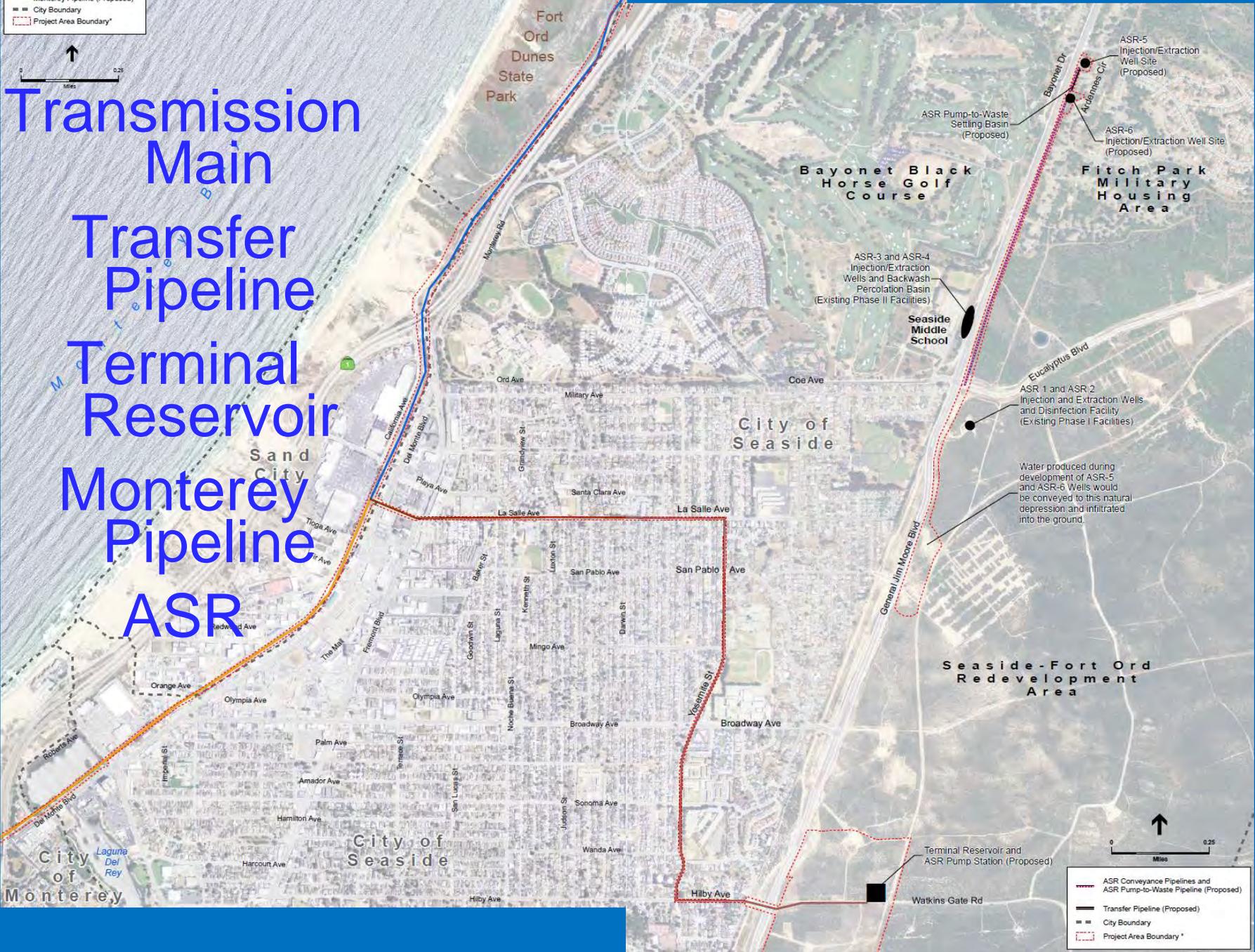
# Transmission Main (south of Reservation Rd)



- Transfer Pipeline (Proposed)
- Transmission Main (Proposed)
- Monterey Pipeline (Proposed)
- City Boundary
- Project Area Boundary\*



Transmission Main  
 Transfer Pipeline  
 Terminal Reservoir  
 Monterey Pipeline  
 ASR



- ASR Conveyance Pipelines and ASR Pump-to-Waste Pipeline (Proposed)
- Transfer Pipeline (Proposed)
- City Boundary
- Project Area Boundary \*

ASR-5 Injection/Extraction Well Site (Proposed)  
 ASR-6 Injection/Extraction Well Site (Proposed)  
 ASR Pump-to-Waste Settling Basin (Proposed)

Bayonet Black Horse Golf Course  
 Fitch Park Military Housing Area

ASR-3 and ASR-4 Injection/Extraction Wells and Backwash Percolation Basin (Existing Phase II Facilities)

Seaside Middle School

ASR 1 and ASR 2 Injection and Extraction Wells and Disinfection Facility (Existing Phase I Facilities)

Water produced during development of ASR-5 and ASR-6 Wells would be conveyed to this natural depression and infiltrated into the ground.

Seaside-Fort Ord Redevelopment Area

Terminal Reservoir and ASR Pump Station (Proposed)

Watkins Gate Rd

# Monterey Pipeline



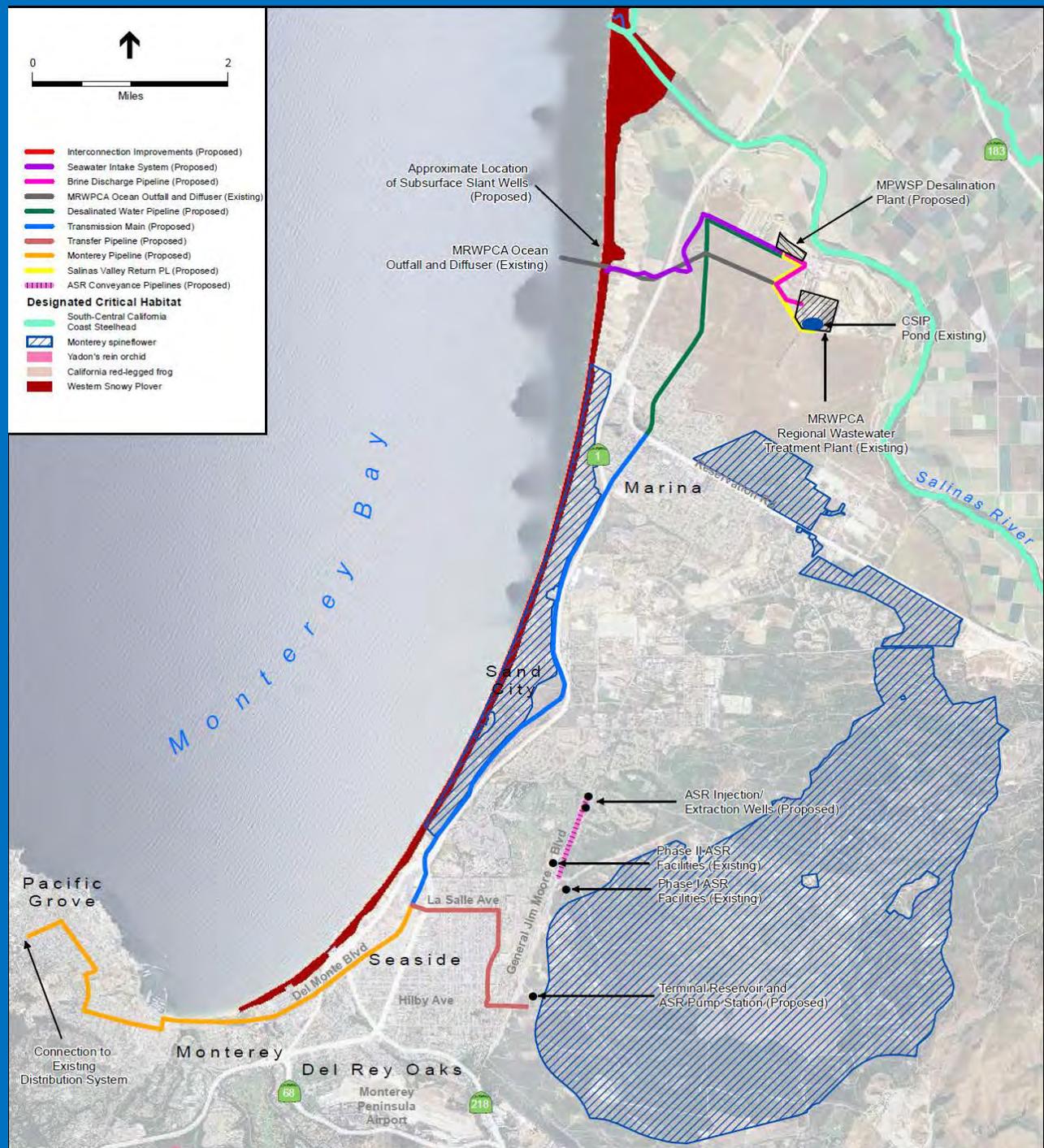
# Chapter 4

## Environmental Setting, Impacts and Mitigation

# 4.6 Terrestrial Biological Resources

IMPACT	Subsurface Slant Wells	MPWSP Desalination Plant	Source Water PL	Brine Discharge PL	Salinas Valley Return PL	Desalinated Water PL	Transmission Main	Transfer PL	Monterey PL	Terminal Reservoir/ ASR Pump Station	ASR-5 and ASR-6 Wells	ASR Conveyance PLs and ASR Pump-to-Waste PL	ASR Settling Basin	Ryan Ranch-Bishop Interconnection Improvements	Main System-Hidden Hills Interconnection Improvements	Valley Greens Pump Station (Option 1)	Valley Greens Pump Station (Option 2)	Overall Impact Significance Determination for Proposed Project
<b>Section 4.6: Terrestrial Biological Resources</b>																		
<b>Impact 4.6-1:</b> Result in substantial adverse effects on species identified as candidate, sensitive, or special-status, either directly or through habitat modification, during construction.	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM	LSM
<b>Mitigation Measures</b>																		
4.6-1a: Retain a Lead Biologist to Oversee Implementation of Protective Measures.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4.6-1b: Construction Worker Environmental Awareness Training and Education Program.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4.6-1c: General Avoidance and Minimization Measures.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4.6-1d: Protective Measures for Western Snowy Plover.	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.6-1e: Avoidance and Minimization Measures for Special-status Plants.	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X	-	-	-
4.6-1f: Avoidance and Minimization Measures for Smith's Blue Butterfly.	X	-	X	-	-	-	X	-	X	-	-	-	-	-	-	-	-	-
4.6-1g: Avoidance and Minimization Measures for Black Legless Lizard, Silvery Legless Lizard, and Coast Horned Lizard.	X	-	X	-	-	X	X	X	X	X	X	X	X	-	-	-	-	-
4.6-1h: Avoidance and Minimization Measures for Western Burrowing Owl.	-	-	X	-	-	X	X	X	-	X	-	-	-	-	-	-	-	-
4.6-1i: Avoidance and Minimization Measures for Nesting Birds.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4.6-1j: Avoidance and Minimization Measures for American Badger.	-	-	X	-	-	X	X	X	-	X	X	X	X	X	X	-	-	-
4.6-1k: Avoidance and Minimization Measures for Monterey Dusky-Footed Woodrat.	-	-	-	-	-	-	-	X	-	X	X	X	X	X	X	-	-	-
4.6-1l: Avoidance and Minimization Measures for Special-status Bats.	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4.6-1m: Avoidance and Minimization Measures for Native Stands of Monterey Pine.	-	-	-	-	-	-	-	X	X	X	-	-	-	X	X	X	X	X
4.6-1n: Habitat Mitigation and Monitoring Plan.	X	X	X	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X
4.6-1o: Avoidance and Minimization Measures for California Red-legged Frog and California Tiger Salamander.	-	X	X	X	X	X	-	X	-	X	-	-	-	X	-	X	-	-
4.12-1b: General Noise Controls for Construction Equipment.	X	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.14-2: Site-Specific Construction Lighting Measures.	X	X	X	X	X	X	X	X	X	-	X	X	X	-	-	-	-	-

# Designated Critical Habitat



# 4.9: Traffic and Transportation

IMPACT	Subsurface Slant Wells	MPWSP Desalination Plant	Source Water PL	Brine Discharge PL	Salinas Valley Return PL	Desalinated Water PL	Transmission Main	Transfer PL	Mortuary PL	Terminal Reservoir/ ASR Pump Station	ASR-5 and A SR-6 Wells	ASR Conveyance PLs and ASR Pump-to-Waste PL	ASR Settling Basin	Ryan Ranch-Bishop Interconnection Improvements	Main System-Hidden Hills Interconnection Improvements	Valley Greens Pump Station (Option 1)	Valley Greens Pump Station (Option 2)	Overall Impact Significance Determination for Proposed Project	
<b>Section 4.8: Traffic and Transportation</b>																			
Impact 4.8-1: Temporary traffic increases on regional and local roadways due to construction-related vehicle trips.	LS	LS	LS	LS	LS	LS	LDM	LDM	LSM	LDM	LDM	LDM	LDM	LDM	LDM	LS	LS	LSM	
<b>Mitigation Measures</b>																			
4.9-1: Traffic Control and Safety Assurance Plan.	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	-	-		
Impact 4.8-2: Temporary reduction in roadway capacities and increased traffic delays during construction.	LS	LS	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LS	LS	LDM	LS	LDM	LDM	LS	LS	LSM	
<b>Mitigation Measures</b>																			
4.9-1: Traffic Control and Safety Assurance Plan.	-	-	X	X	X	X	X	X	X	-	-	X	-	X	X	-	-		
Impact 4.8-3: Increased traffic safety hazards for vehicles, bicyclists, and pedestrians on public roadways during construction.	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LSM
<b>Mitigation Measures</b>																			
4.9-1: Traffic Control and Safety Assurance Plan.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Impact 4.8-4: Impaired emergency access during construction.	LS	LS	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LS	LS	LDM	LS	LDM	LDM	LS	LS	LSM	
<b>Mitigation Measures</b>																			
4.9-1: Traffic Control and Safety Assurance Plan.	-	-	X	X	X	X	X	X	X	-	-	X	-	X	X	-	-		
Impact 4.8-5: Temporary disruptions to public transportation, bicycle, and pedestrian facilities during construction.	LS	LS	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LS	LS	LDM	LS	LDM	LDM	LS	LS	LSM	
<b>Mitigation Measures</b>																			
4.9-1: Traffic Control and Safety Assurance Plan.	-	-	X	X	X	X	X	X	X	-	-	X	-	X	X	-	-		
Impact 4.8-6: Increased wear-and-tear on the designated haul routes used by construction vehicles.	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LDM	LSM
<b>Mitigation Measures</b>																			
4.9-6: Roadway Rehabilitation Program.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Impact 4.8-7: Parking interference during construction.	NI	NI	LS	LS	LS	LS	LS	LS	LDM	LS	LS	LS	LS	LS	LS	LS	LS	LSM	
<b>Mitigation Measures</b>																			
4.9-7: Construction Worker Parking Requirements.	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-		
Impact 4.8-8: Long-term traffic increases on regional and local roadways during project operations and maintenance.	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS	
<b>Mitigation Measures</b>																			
None required.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Cumulative Impacts related to transportation and traffic.										<b>SUM</b>									
<b>Mitigation Measures</b>																			
4.8-C.1: Construction Traffic Coordination Plan.										X									

# 4.11: Greenhouse Gas Emissions

- The Project would have an incremental contribution to climate change from GHG emissions
  - Construction emissions (vehicles and equipment)
  - Net annual emissions from operations (energy use)
- Mitigation will not reduce GHGs to meet the threshold **SUM**

## 4.12: Noise and Vibration

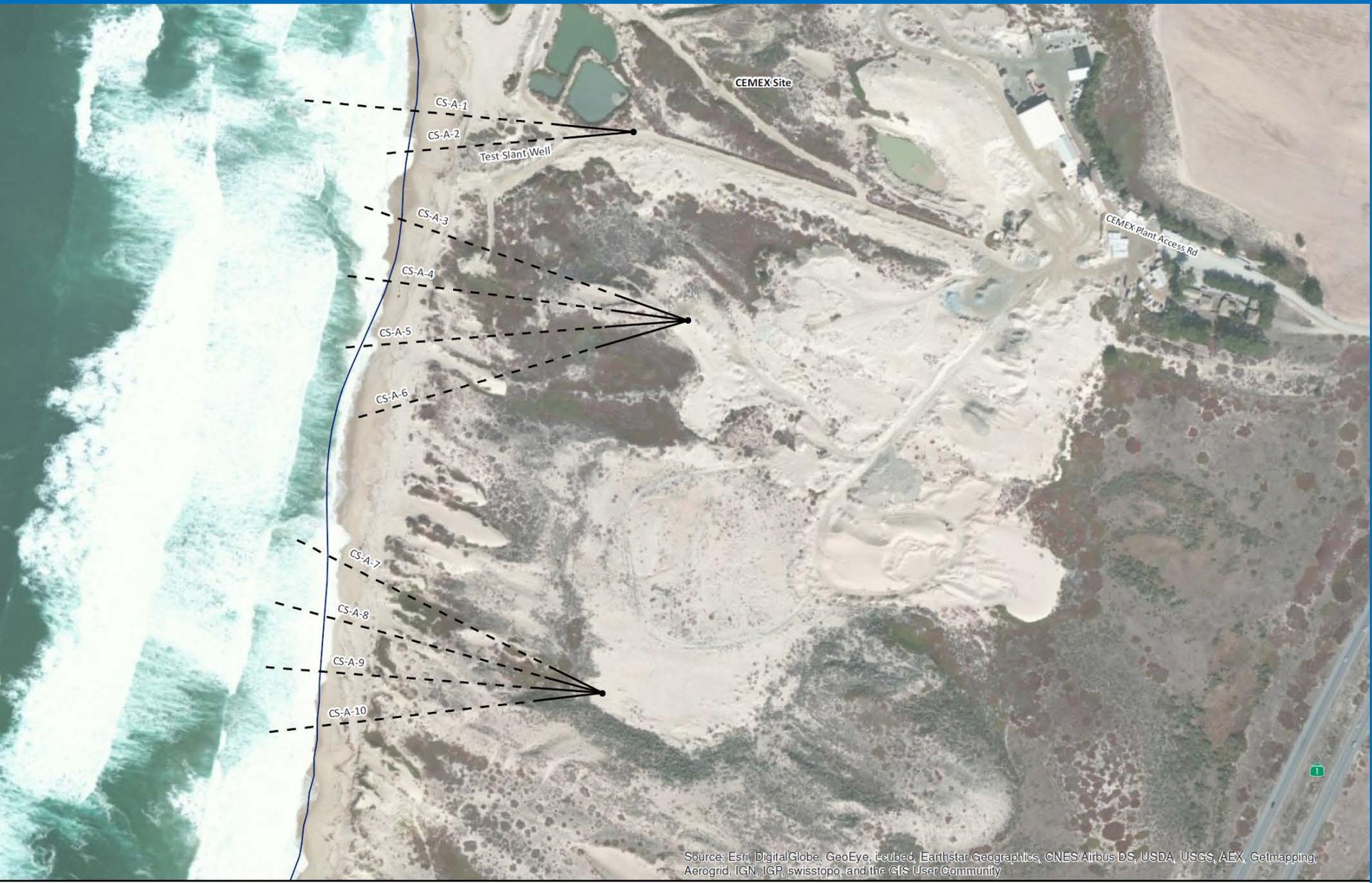
- The Project could cause an increase in ambient noise levels during construction
  - Most facilities would be LS
  - Some facilities would be LSM
  - Nighttime construction of the Monterey Pipeline, and ASR Wells 5 and 6, would exceed sleep thresholds. **SUM**

# 8: Growth Inducement

- The MPWSP would not *directly* contribute to the creation of additional housing or jobs
- However, the proposed project would *indirectly support growth* by removing, to some extent, water supply limitations as an obstacle to growth
- That would enable a degree of growth under the approved general plans within the area served by the MPWSP.

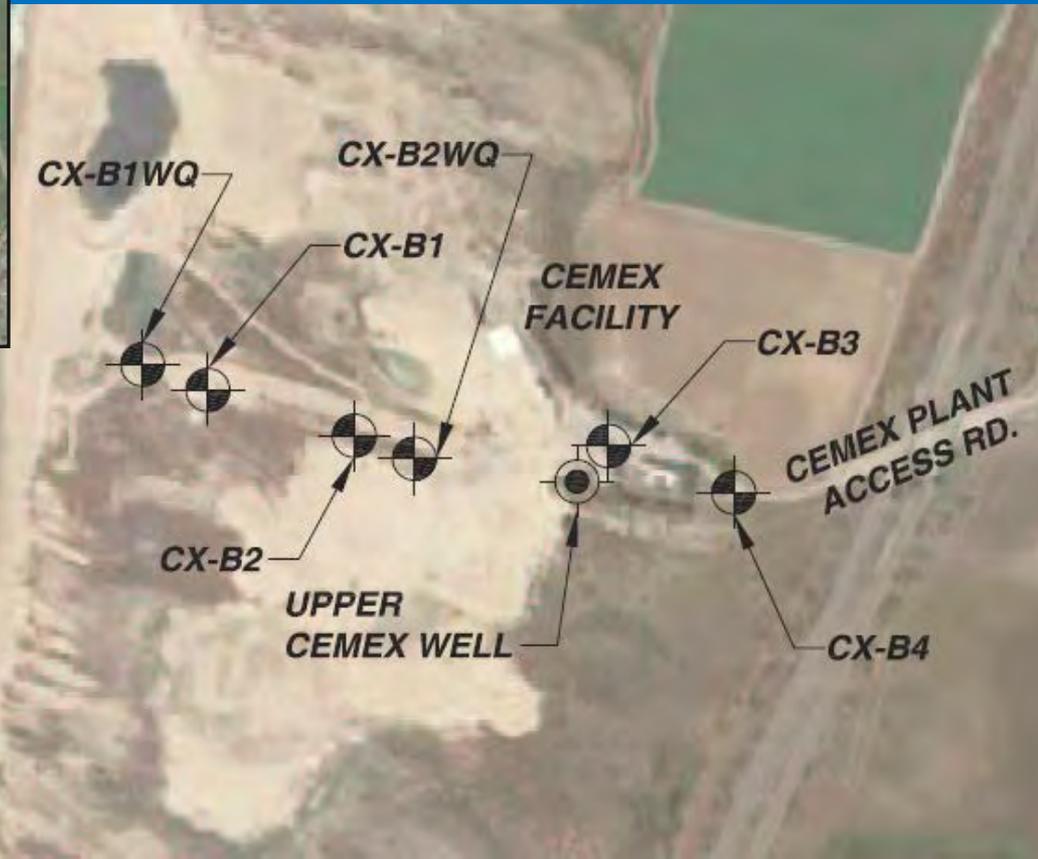
# Subsurface Intakes and Groundwater Resources

# Slant Wells at CEMEX

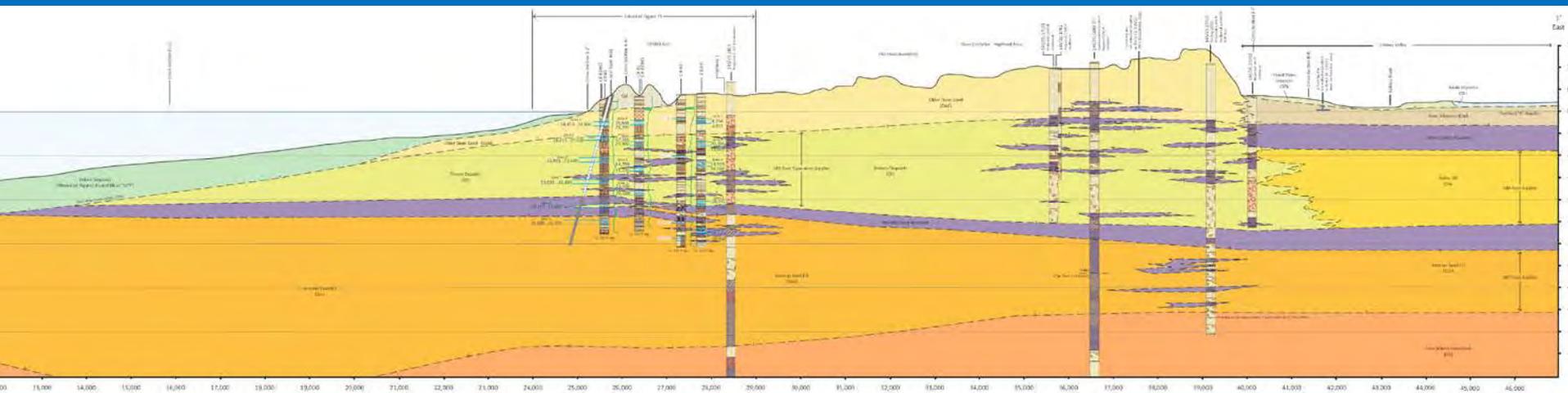




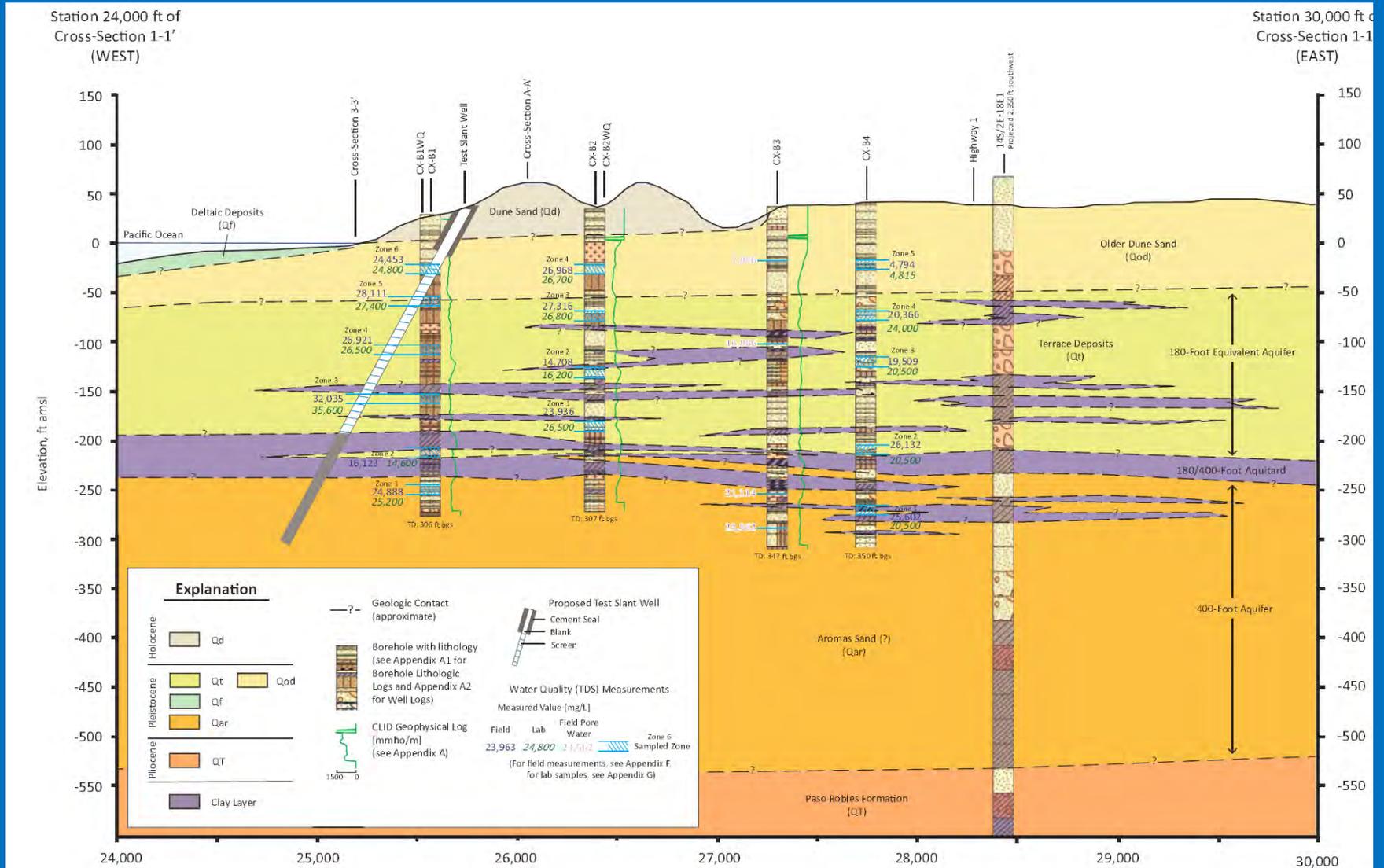
# Exploratory Boreholes



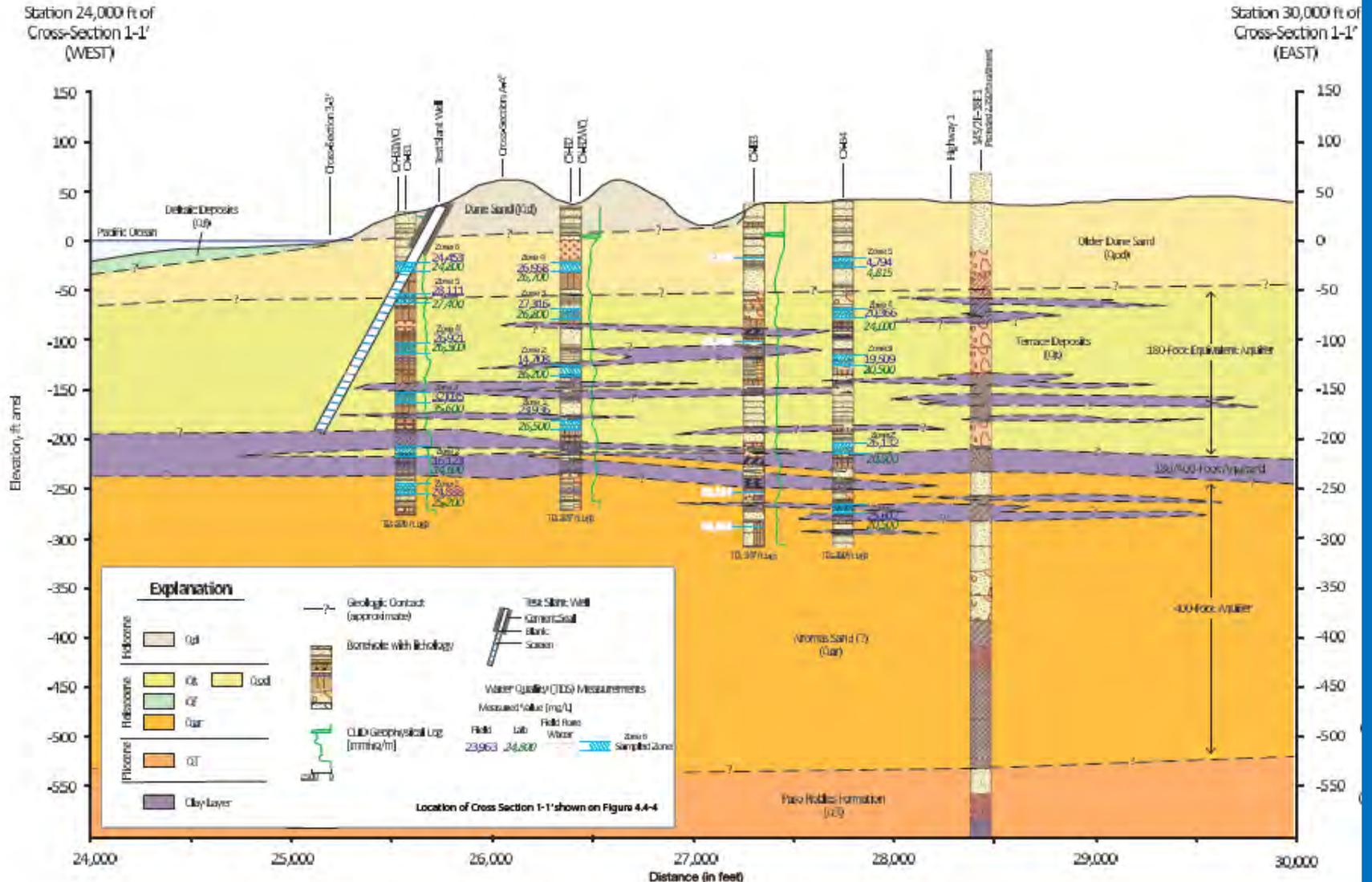
# Geologic Cross Section 1-1'



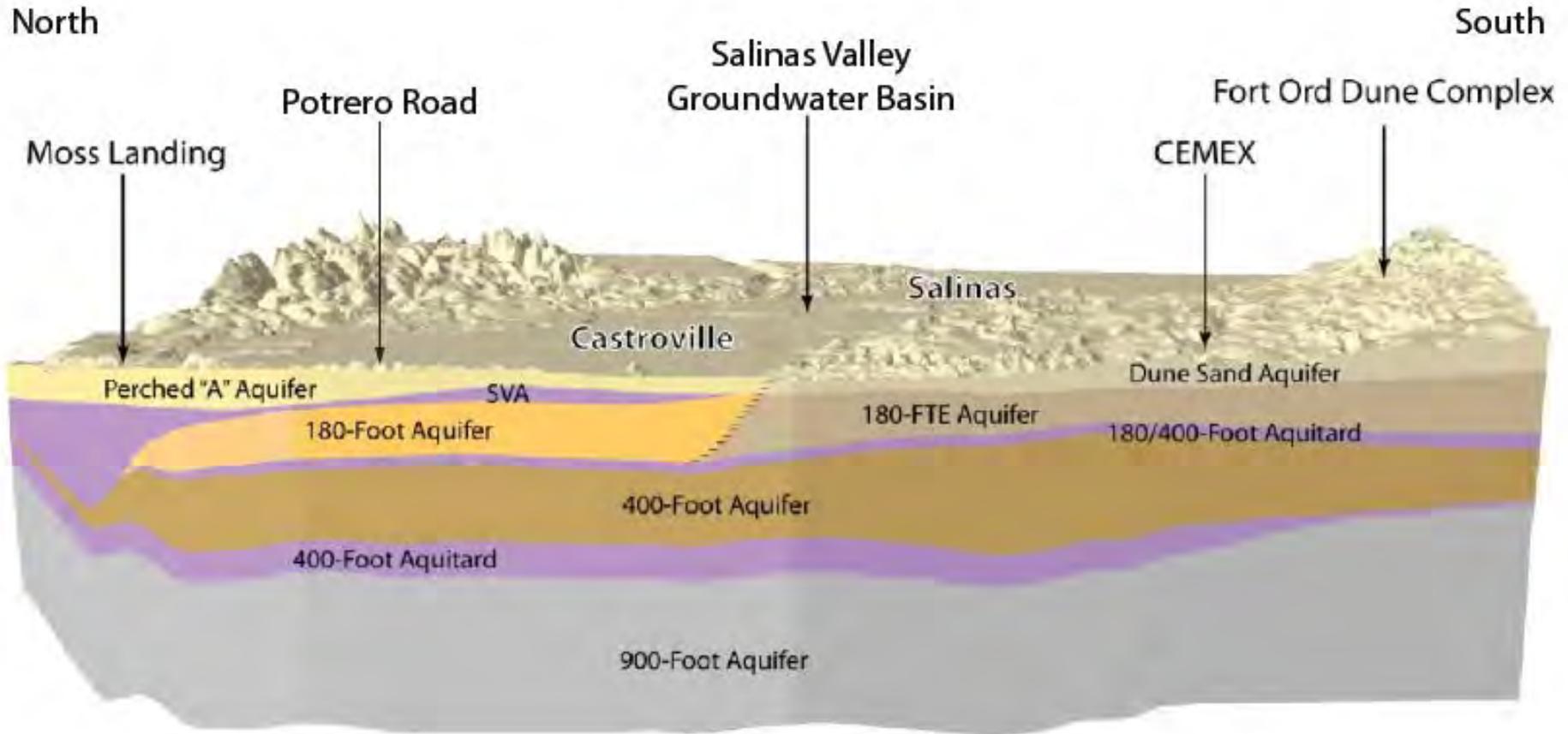
# Cemex Portion of Cross Section Interpreted Before Test Well



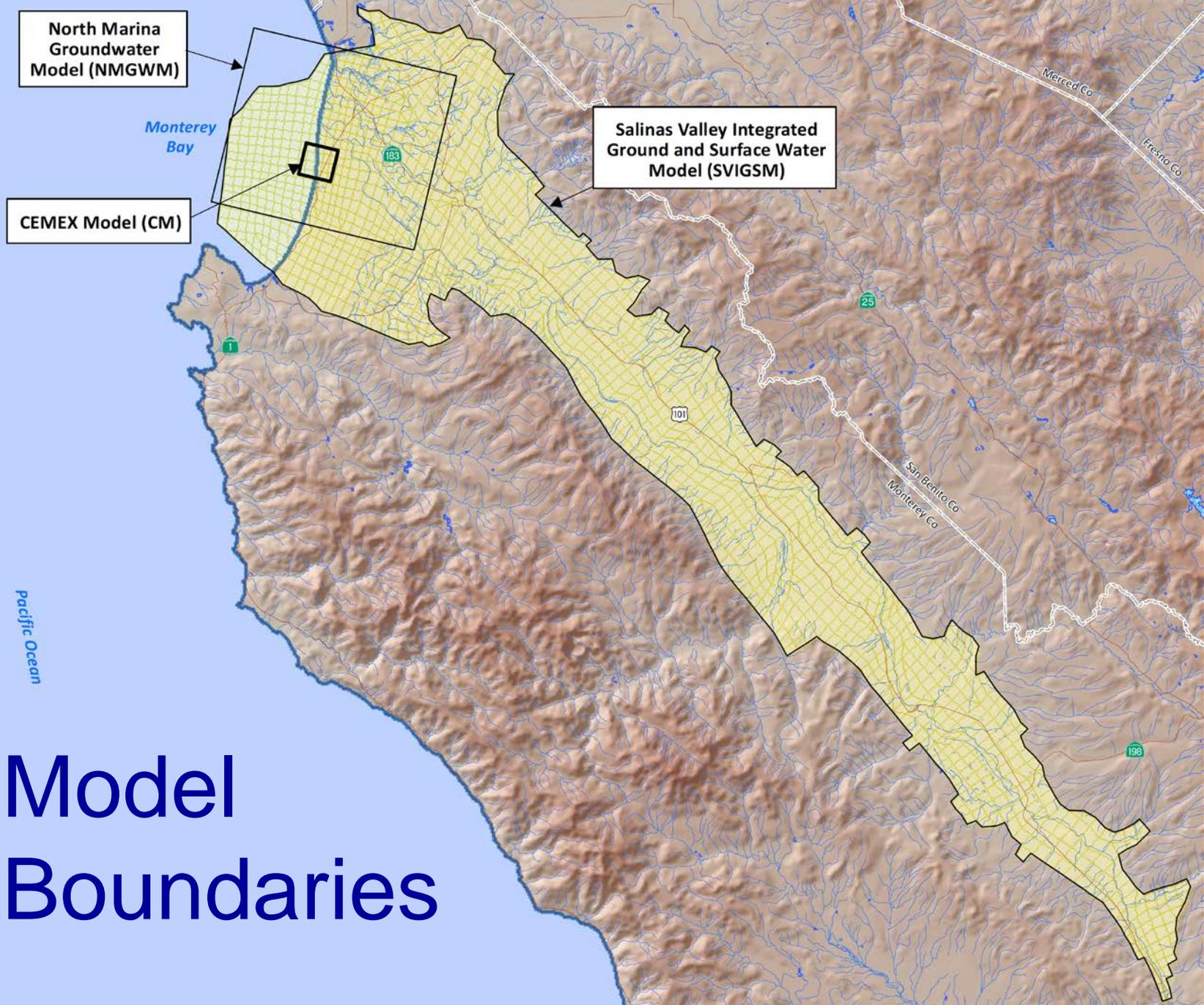
# Cemex Portion of Cross Section Interpreted After Test Well



# Conceptual Model



10x Vertical Exaggeration



North Marina  
Groundwater  
Model (NMGWM)

Monterey  
Bay

CEMEX Model (CM)

Salinas Valley Integrated  
Ground and Surface Water  
Model (SVIGSM)

Merced Co

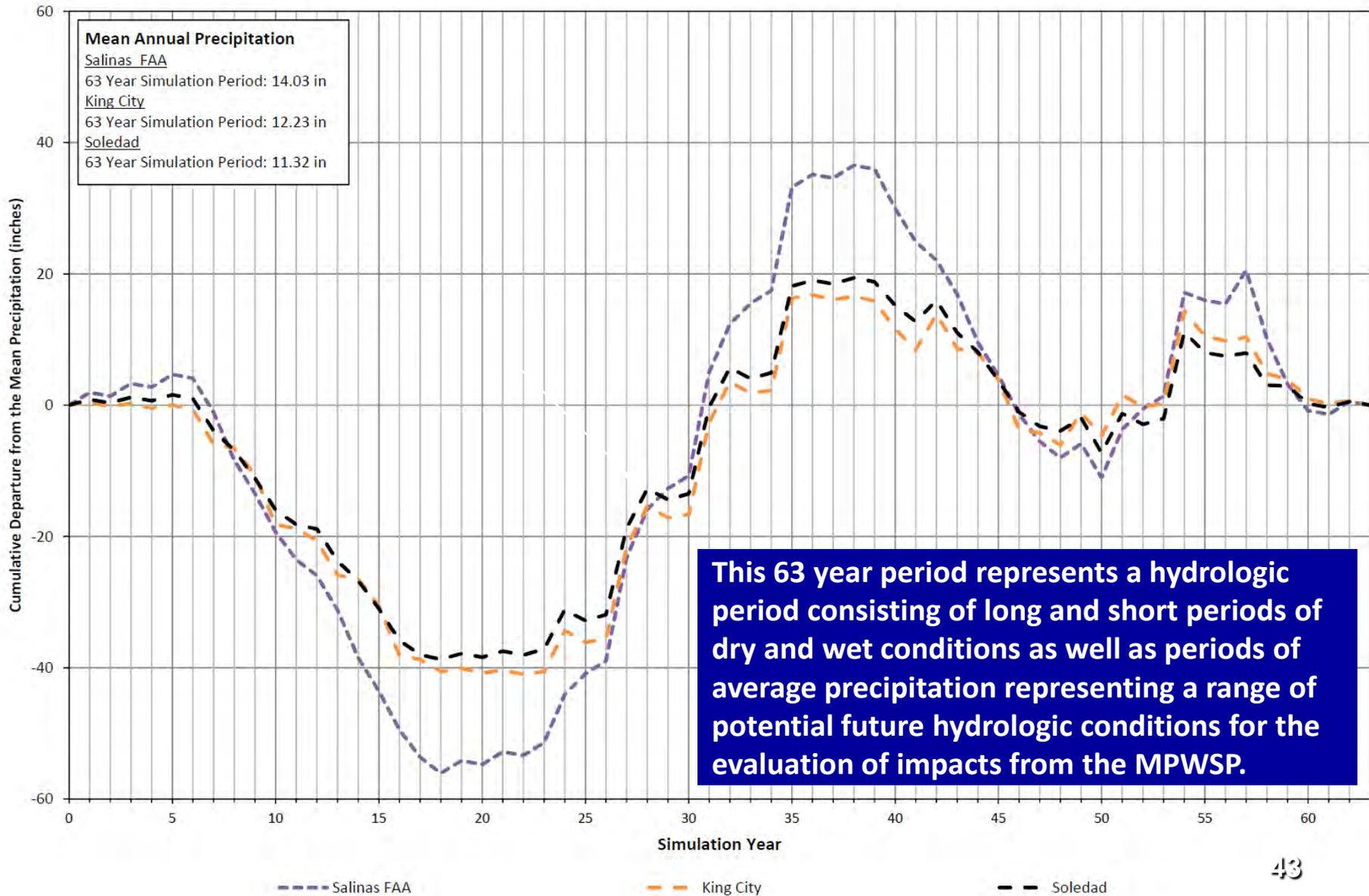
Fresno Co

San Benito Co  
Monterey Co

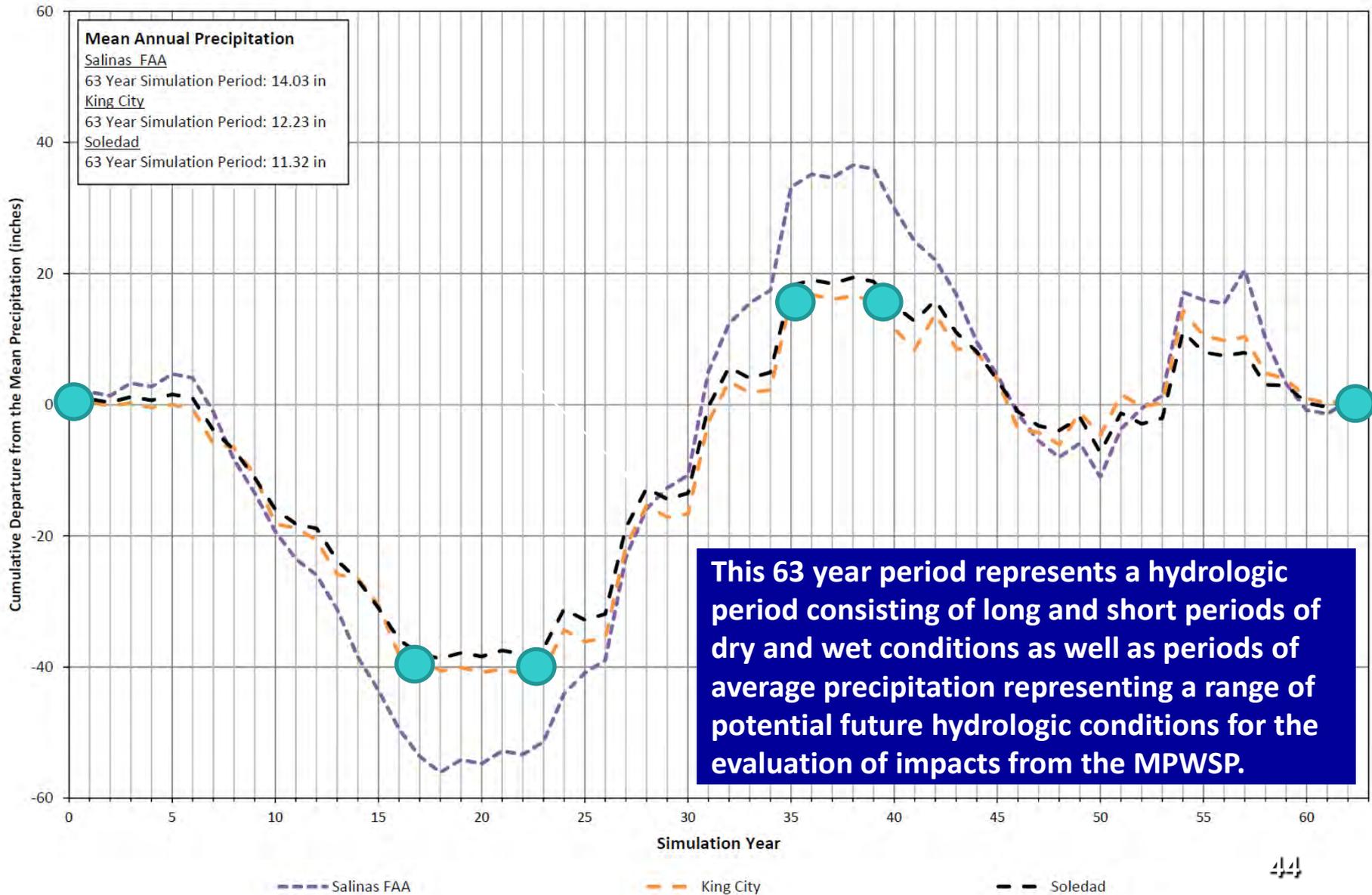
Pacific Ocean

# Model Boundaries

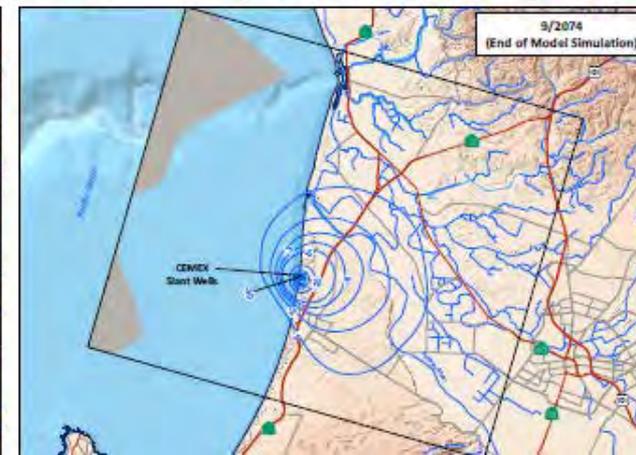
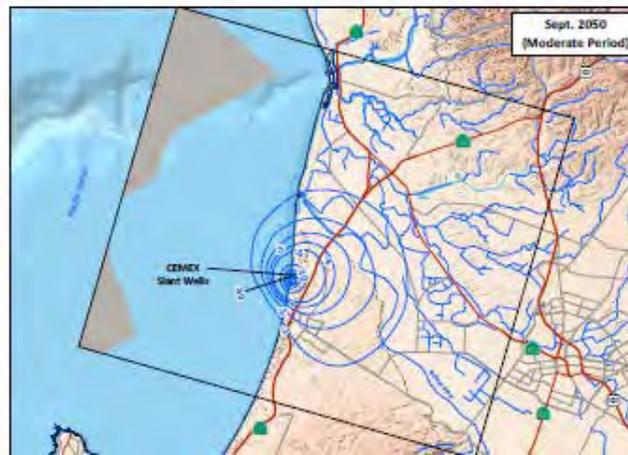
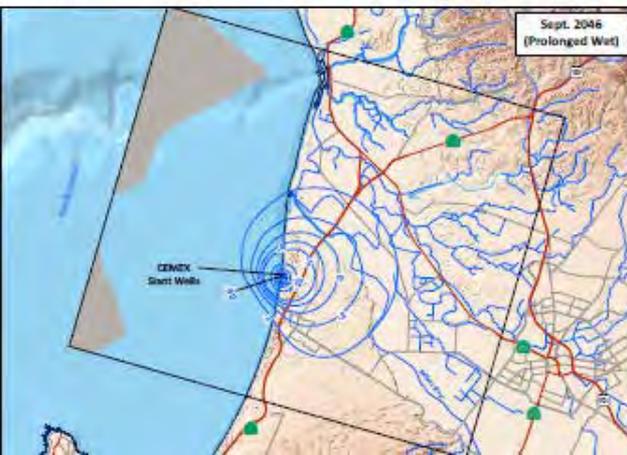
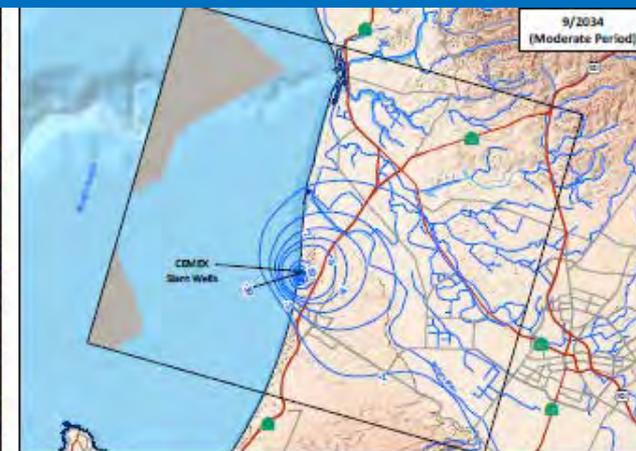
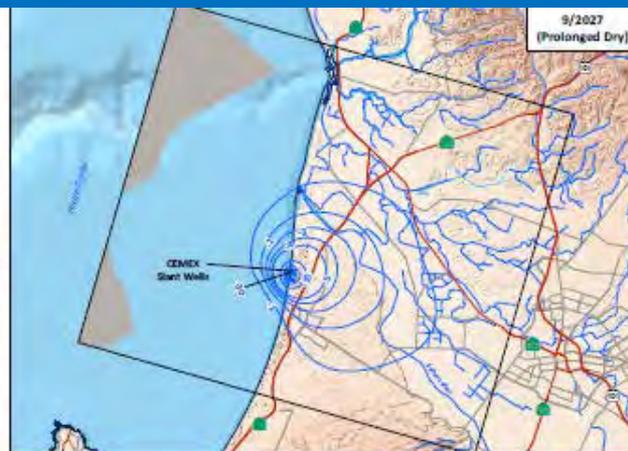
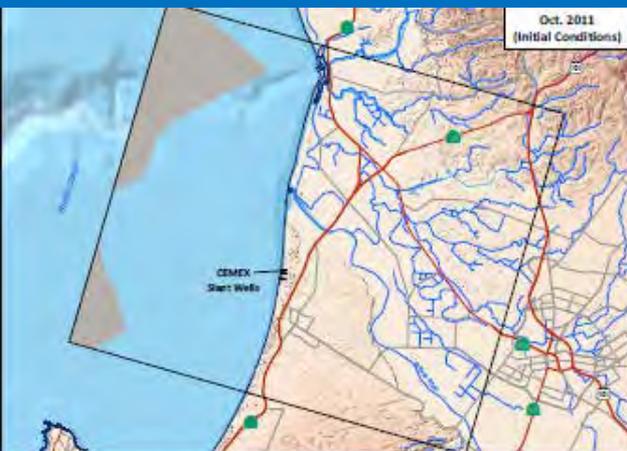
# Hydrologic Base Period



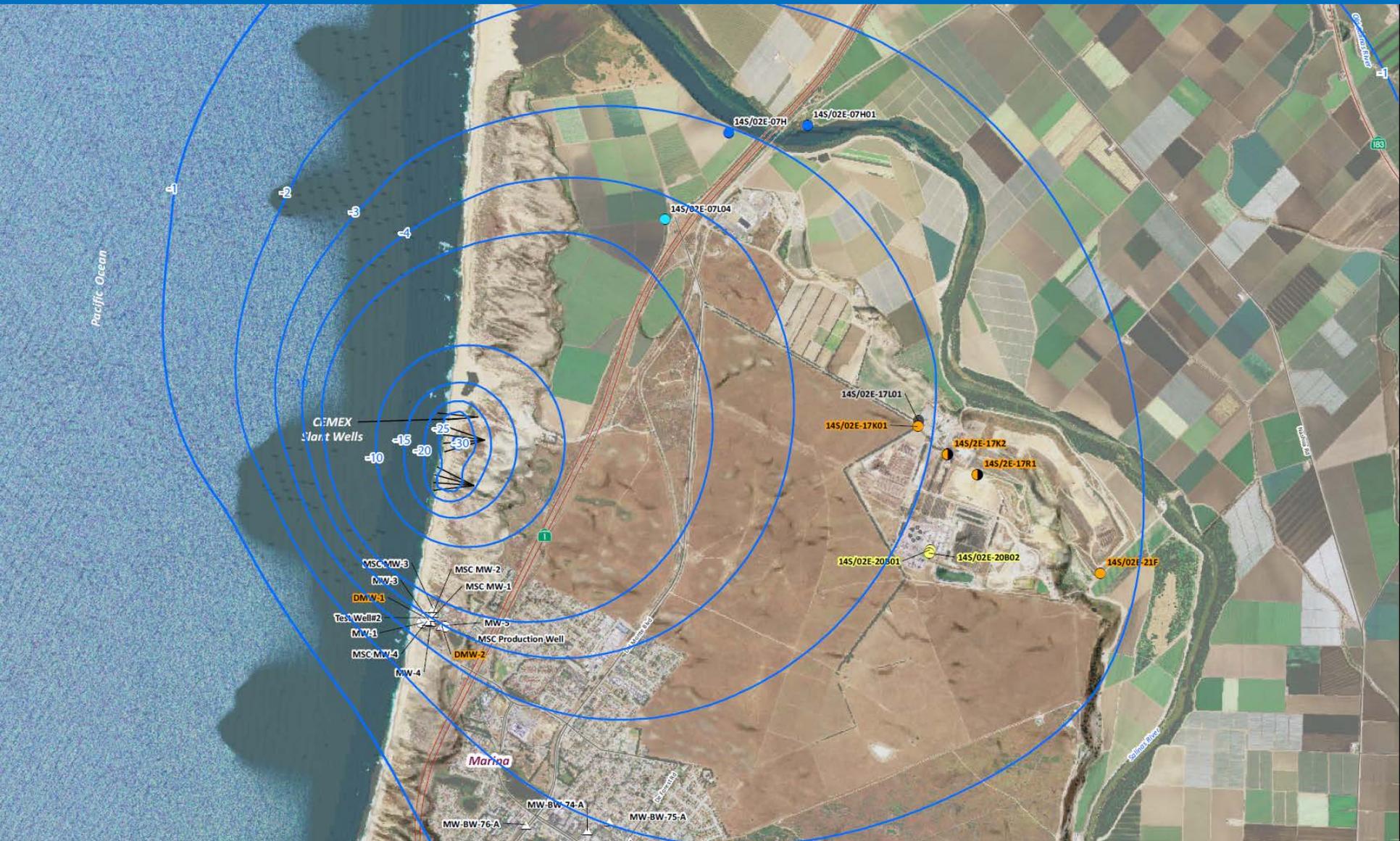
# Selected Period for Analysis



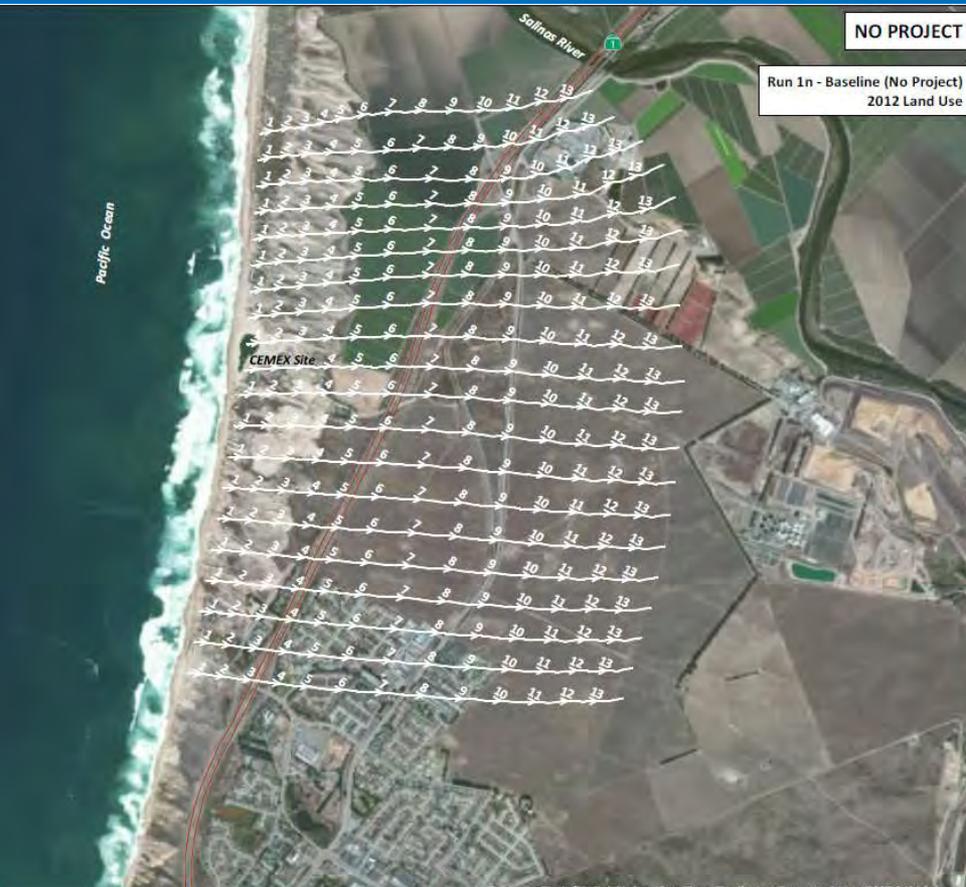
# Simulated GW Elevation Change Between Baseline and Proposed Project



# Active Wells Within Radius of Influence



# Particle Tracking/Flow Paths at CEMEX



Forward Particle Tracking from Coastline

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

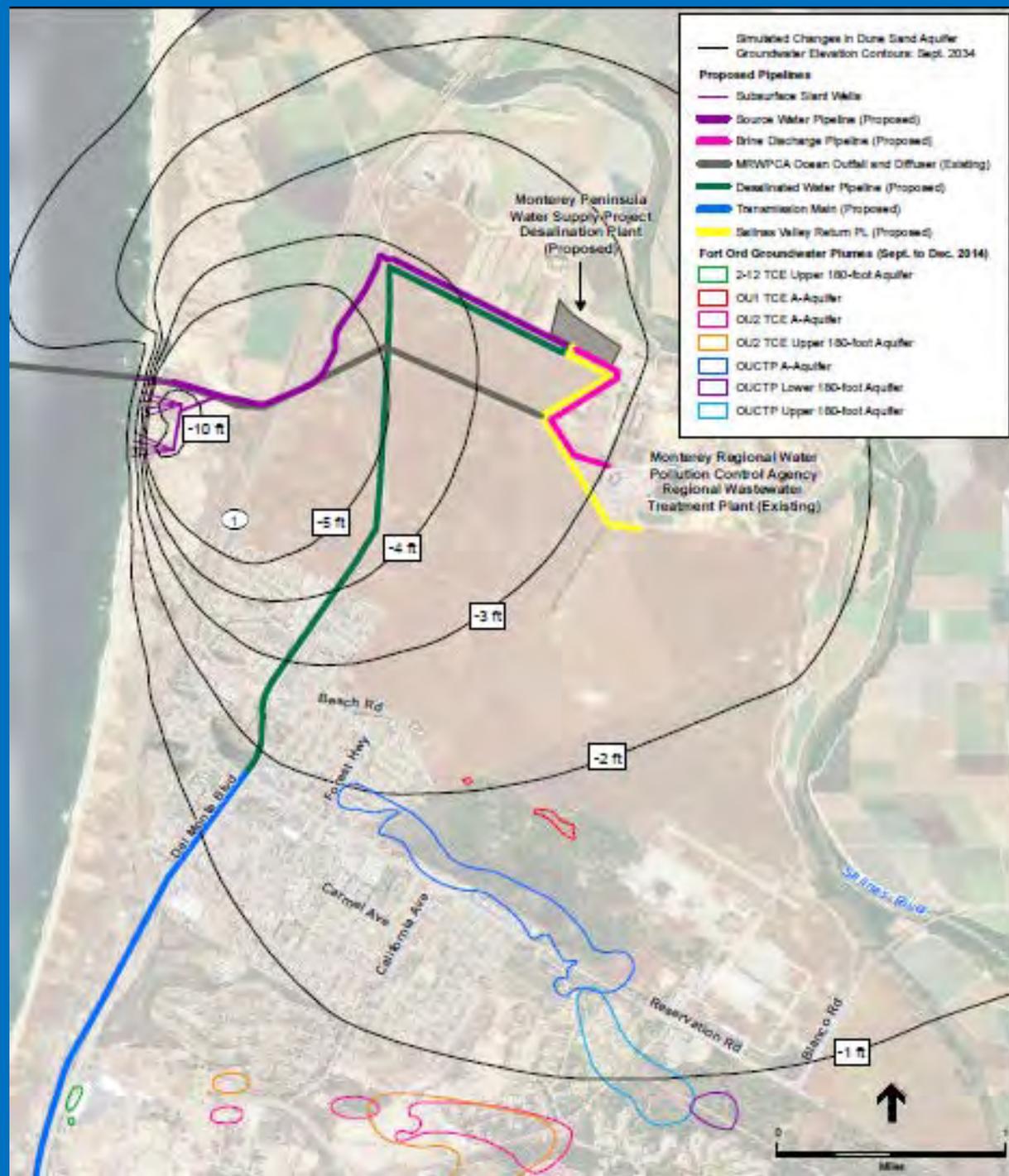
Reverse Particle Tracking from CEMEX Slant Wells

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

# Particle Tracking/Flow Paths at North County



# Simulated GW Elevation Change at Fort Ord Plumes



DISCHARGE



Data © SUMB SFML, CA OPC

Google

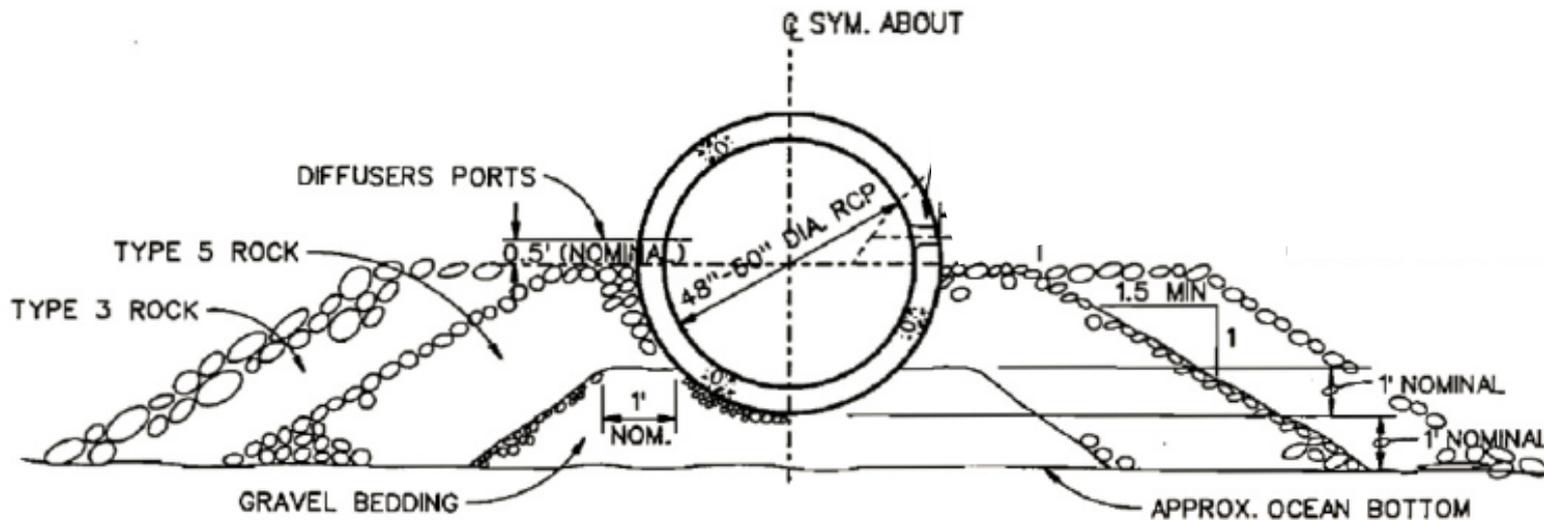
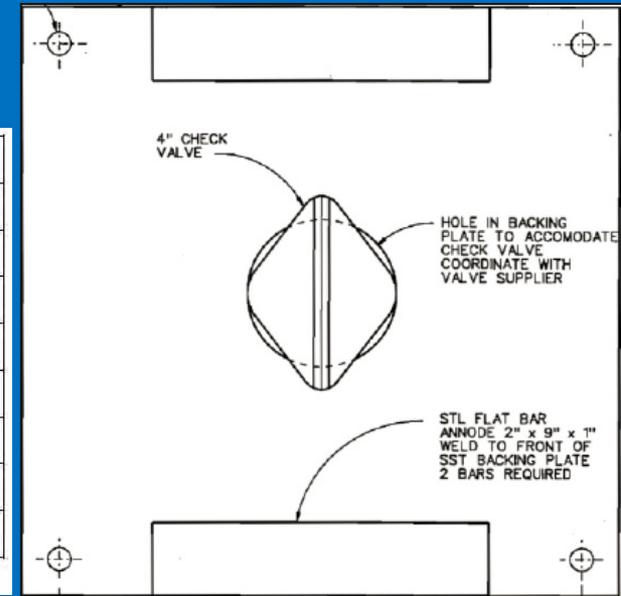
Imagery Date: 5/5/2012 36°42'44.57" N 121°47'55.05" W elev 34 ft

1998

# Existing Outfall

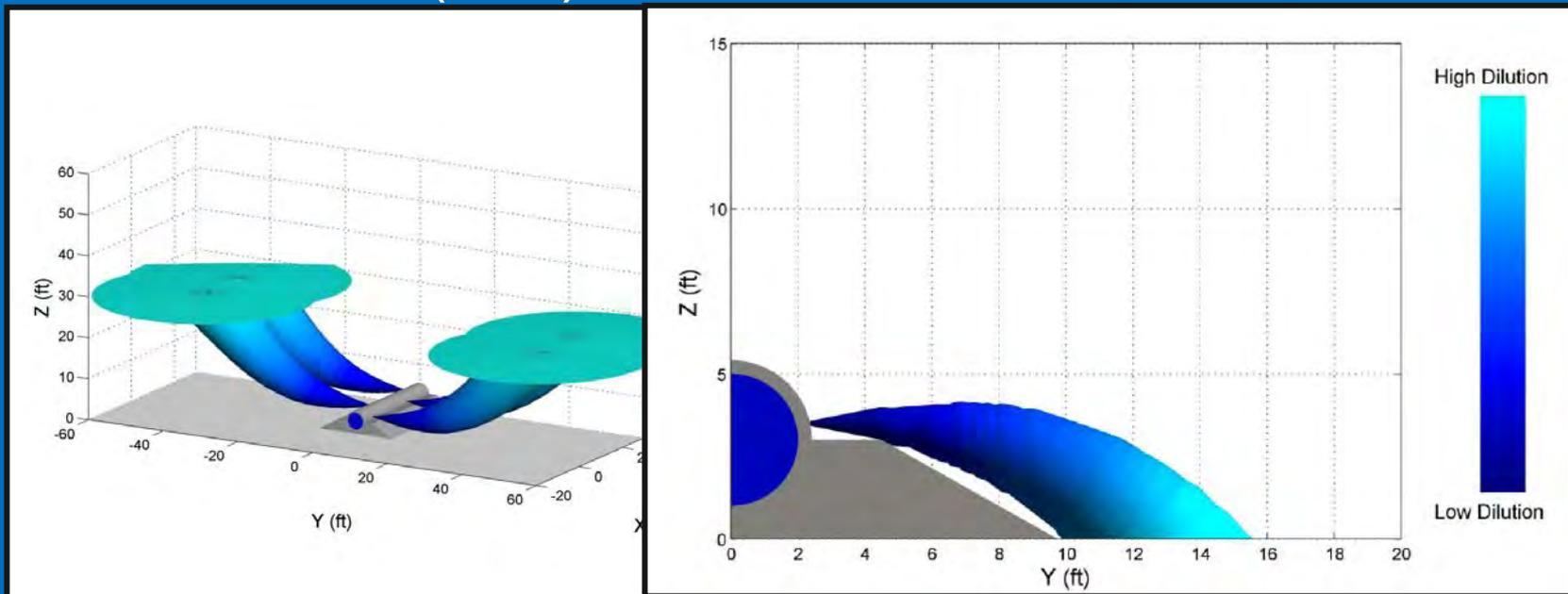
Parameter	Value
Diffuser length	1368 feet (417 m*)
Depth of diffuser ports	95 to 109 feet below MSL
Number of open ports	120
Port spacing	8 feet (2.44 m*)
Port diameter	2 inches (0.051 m*)
Port exit condition	Tideflex Series 35 4-inch duckbill valves
Port vertical angle	0° (horizontal)
Port elevation above sea floor	3.5 feet (1.07 m*)

\*m = meters



# Brine Modeling Considerations

- Near-field
  - How much dilution will occur in the Zone of Initial Dilution (ZID)?



- Modeling indicates plume exceeds ambient salinity by less than 2 ppt at the edge of the ZID<sup>33</sup>

# Ocean Plan Constituents and Potential Exceedences

## MPWSP

- Brine-only
  - PCBs (Monterey Bay already exceeds OP WQ Objectives)
- Brine and Wastewater
  - PCBs
  - Ammonia

## MPWSP Variant

- GWR-only
  - No exceedences
- Brine-only
  - PCBs
- Brine, WW and GWR-effluent
  - PCBs
  - Ammonia
  - Toxaphene
  - Chlordane
  - DDT
  - TCDD Equivalents

# Mitigation for Exceedences of Ocean Plan WQ Objectives

- If CalAm cannot demonstrate to RWQCB and MRWPCA that the water at the edge of the ZID will meet the Ocean Plan water quality objectives, CalAm will implement, individually or in combination:
  - Additional pre-treatment of source water
  - Additional treatment of discharge
  - Temporary storage and release of brine (LSM)

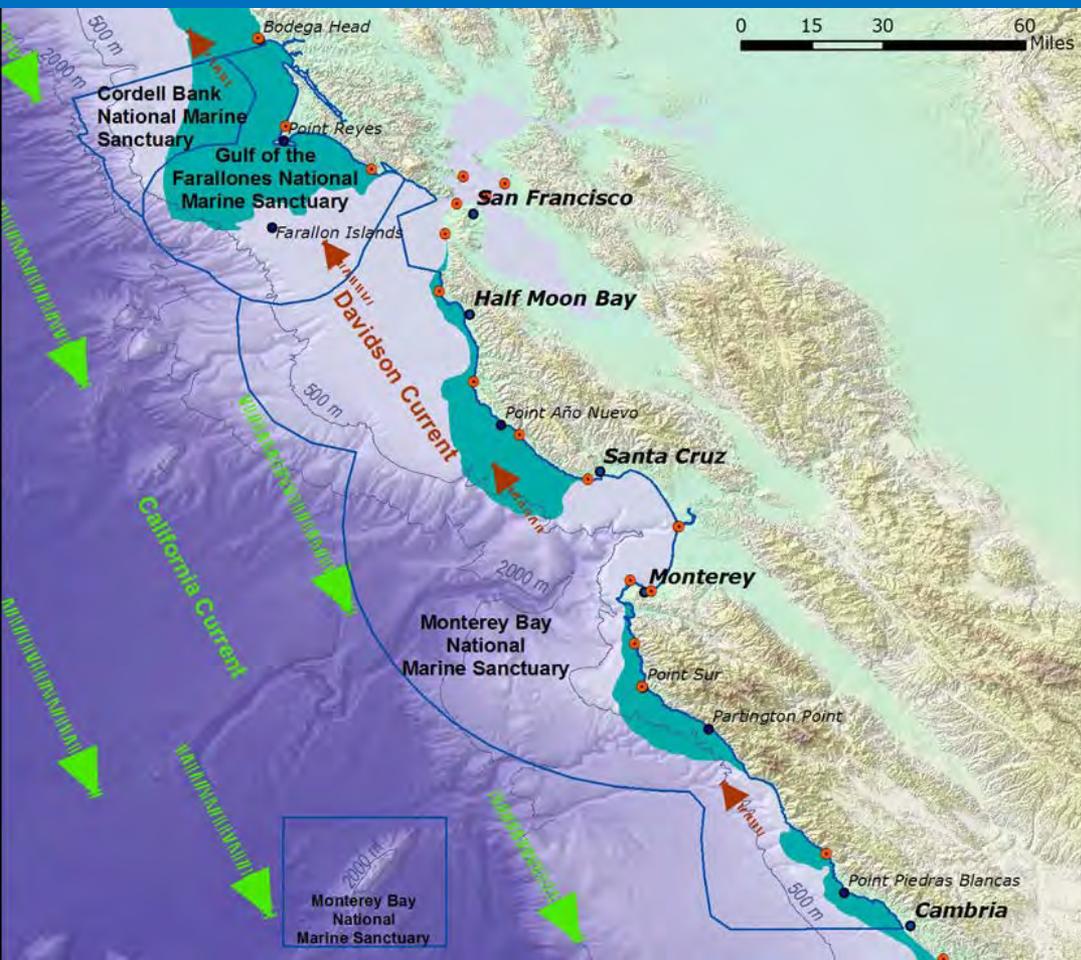
# Brine Modeling Considerations

- Far-field
  - Where will the plume go and does it continue to dilute?



*Bill Curtsinger, NGS*

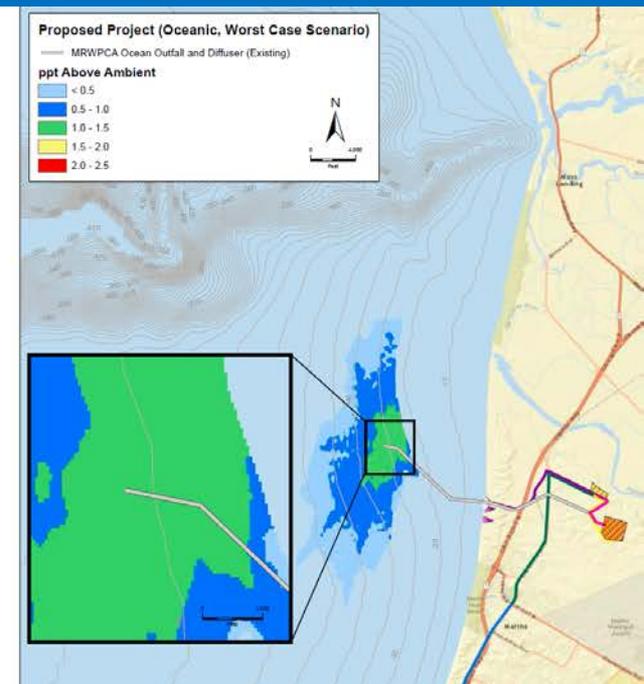
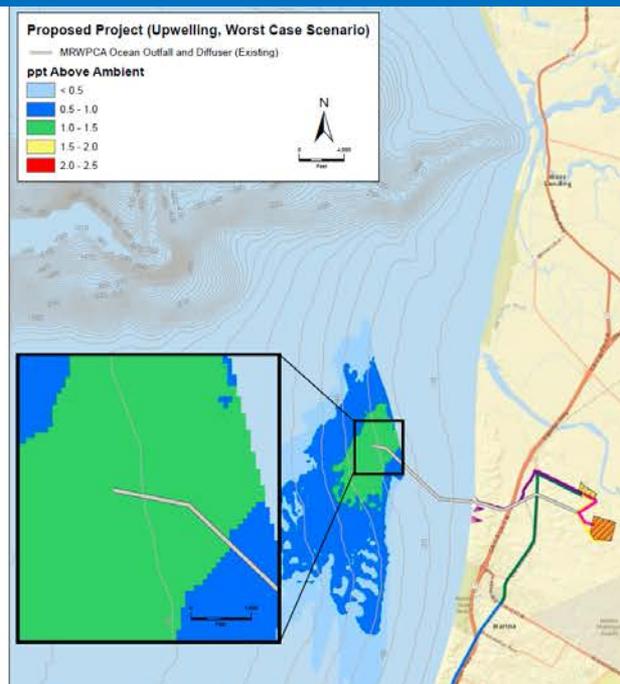
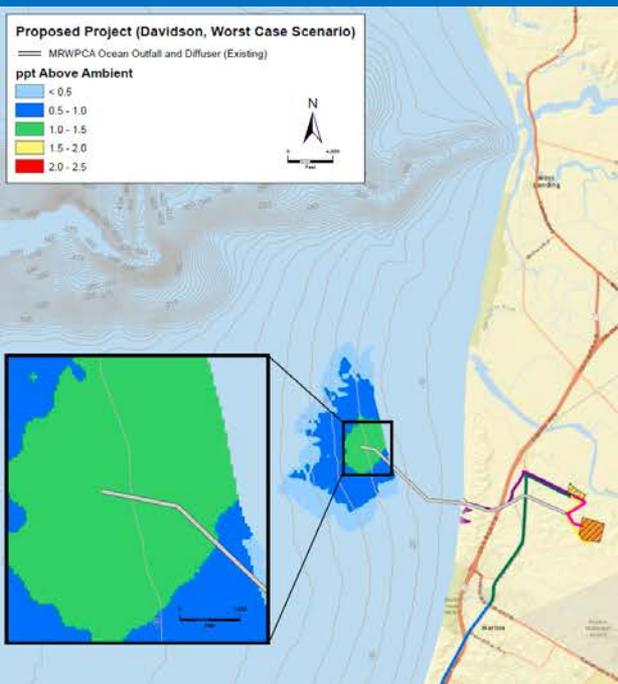
# Ambient Conditions in Monterey Bay



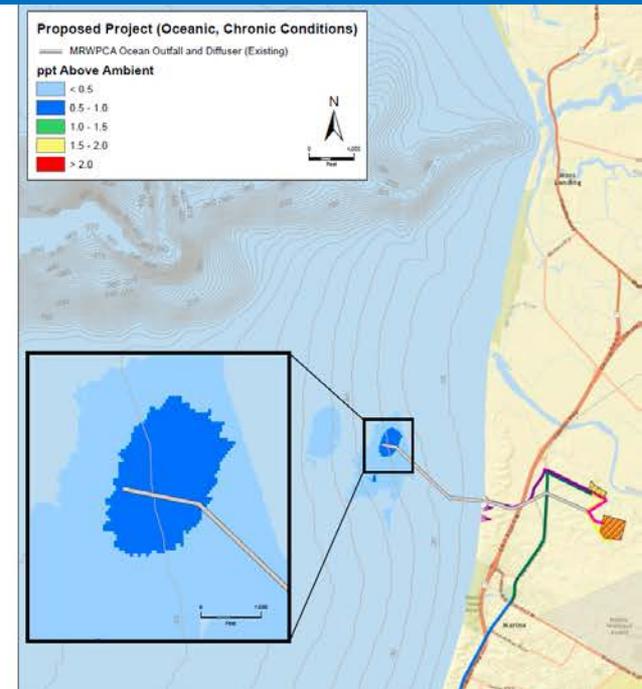
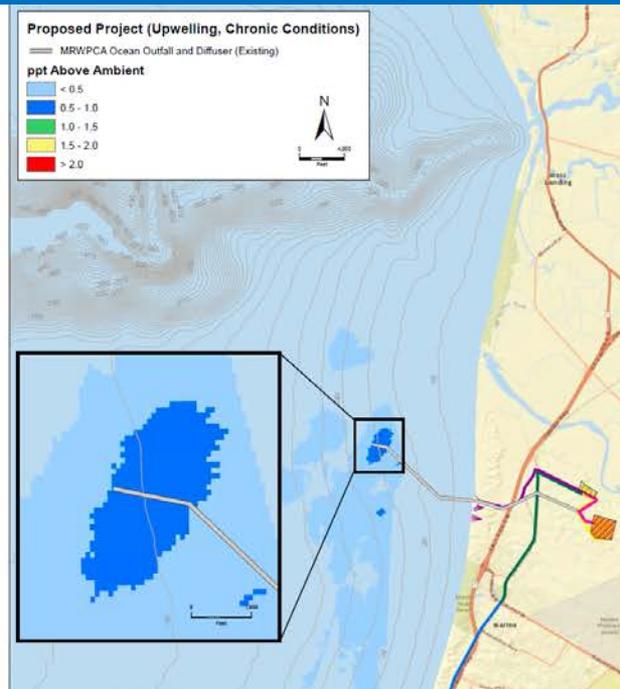
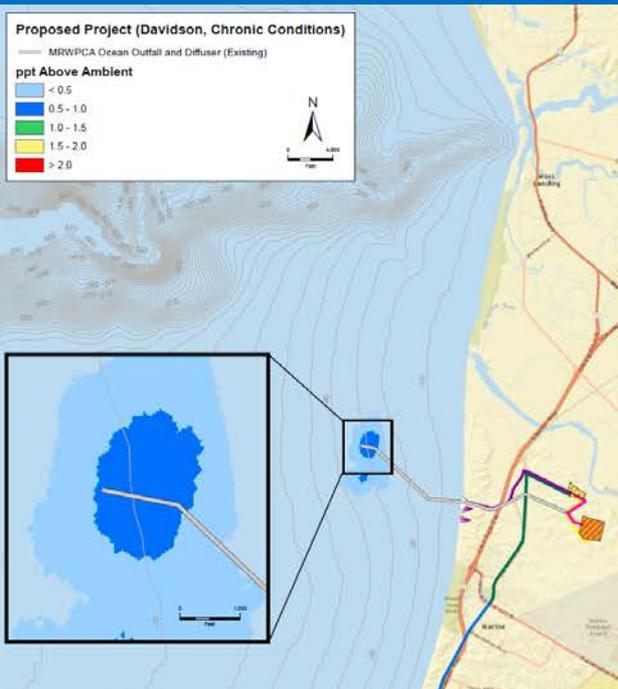
## Three oceanic seasons

- Davidson: approx Nov - March
- Upwelling: approx March - Sept
- Oceanic: approx Sept - Nov

# Salinity Above Ambient (Acute Condition)



# Salinity Above Ambient (Chronic Condition)



# Chapter 5

## Cumulative Impacts

# Ch 5: Cumulative Impacts

Cumulative impacts refer to two or more individual effects that, when taken together, are “considerable” or that compound or increase other environmental impacts.

CEQA Section 15355



# Cumulative Projects

(not an all-inclusive list)

- Monterey County
  - Salinas Valley Water Project Phase II
  - East Garrison Specific Plan
  - Omni Enterprises, LLC (aka Corral de Tierra)
  - Ferrini Ranch Subdivision
  - Interlake Tunnel
- City of Pacific Grove
  - Stormwater Recycling Project
  - Recycled Water Project (PBCSD)

# Cumulative Projects

(not an all-inclusive list)

- City of Marina
  - The Dunes on Monterey Bay
  - Cypress Knolls Senior Residential Project
  - Marina Heights
  - Marina Downtown Vitalization Specific Plan
  - Marina Airport Economic Development Area
  - Marina Station
  - CSUMB North Campus Housing Master Plan
  - Monterey Bay Shores Resort
  - CalAm Slant Test Well at CEMEX

# Cumulative Projects

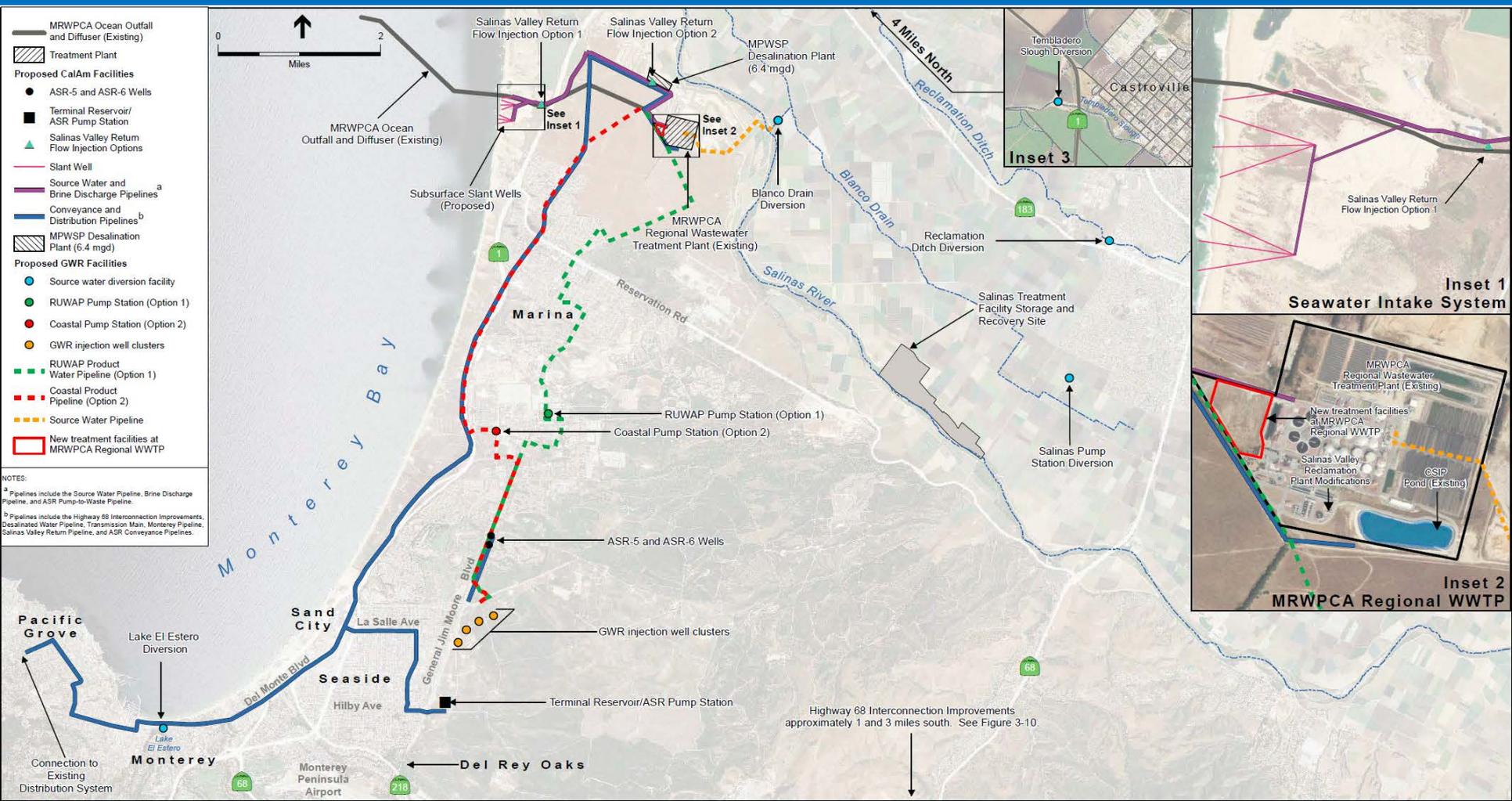
(not an all-inclusive list)

- MPWMD
  - ASR Phase 1 and 2
- Other
  - CalAm San Clemente Dam Removal Project
  - Deep Water Desal and Peoples' Moss Landing Desalination Projects
  - MCWD's RUWAP
    - Recycling Element
    - Desalination Element

# Chapter 6

## Project Variant

# Project Variant



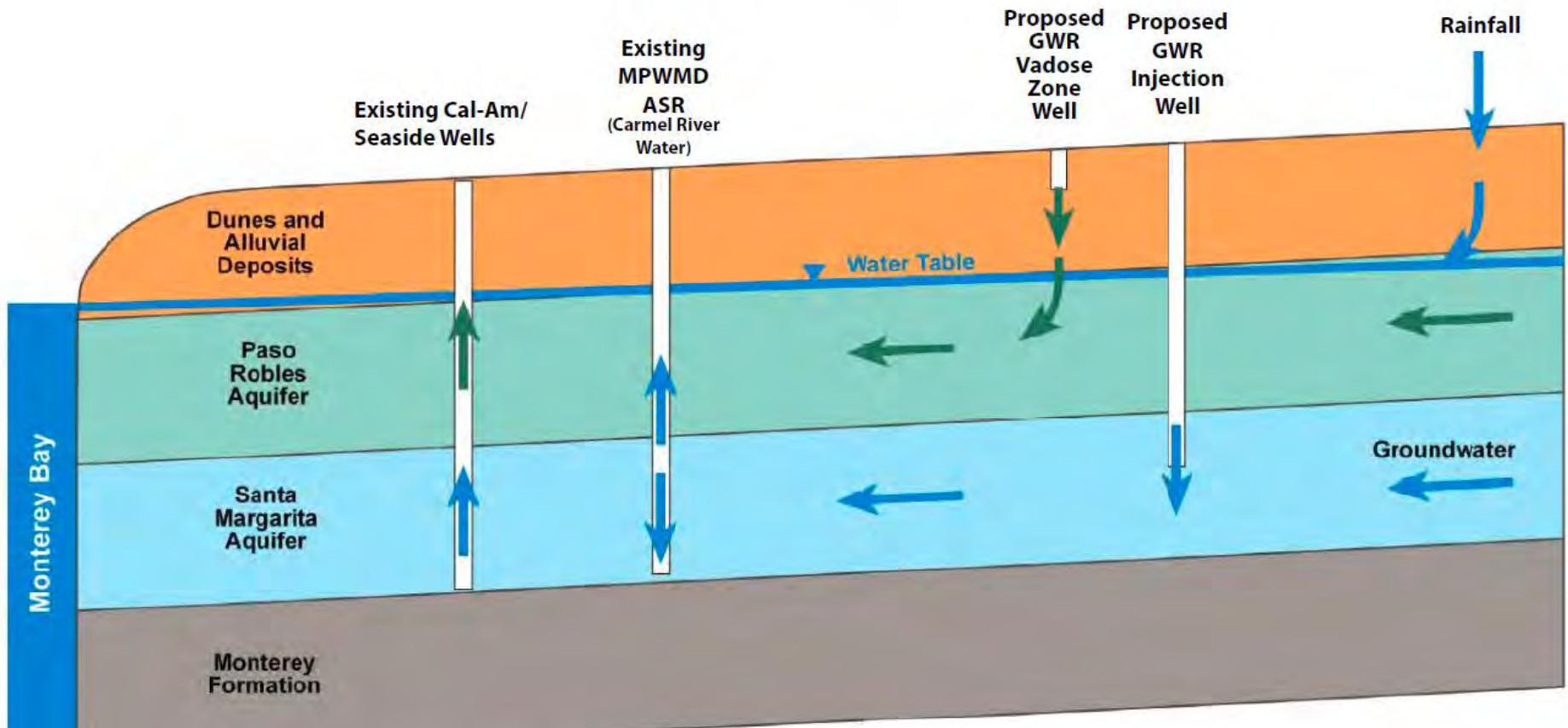
# Project Variant

- CalAm would build a 6.4 MGD desalination plant at Marina
  - 5 slant wells at Cemex
  - Brine discharged through existing outfall
  - Conveyance
  - ASR

# Project Variant

- MRWPCA would collect and treat a variety of new source waters
  - CalAm would purchase 3,500 afy from Pure Water Monterey GWR Project and extract it from the Seaside Groundwater Basin
  - GWR Project would provide 4,750 afy of recycled supplies to CSIP for agricultural irrigation in the northern Salinas Valley

# Conceptual Injection/Extraction of GWR Water



# Impacts would be more severe with the project variant

- Amount of soil that would be disturbed, and therefore, the potential to result in soil erosion and loss of topsoil (LSM)
- Temporary, construction-related trips on local roadways (LSM)
- Construction-related emissions of PM10 (SUM)

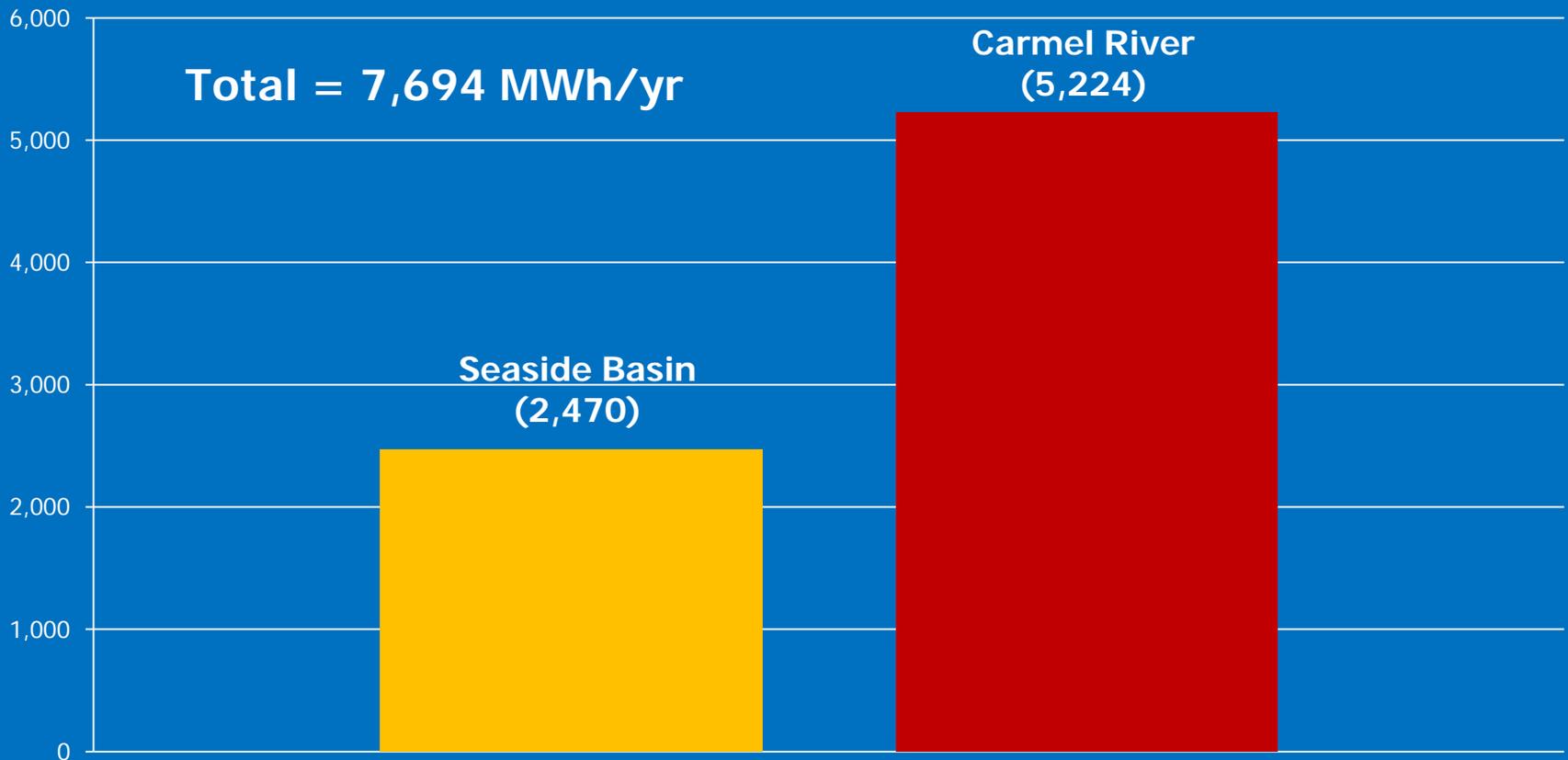
# Impacts would be less severe with the project variant

- Drawdown of the DSA and 180-FTE Aquifer in the SVGB (LS)
  - less water is extracted from the slant wells
  - more water is provided to CSIP for agricultural users
- Interference with the remediation of a contaminated groundwater plume is avoided (NI)

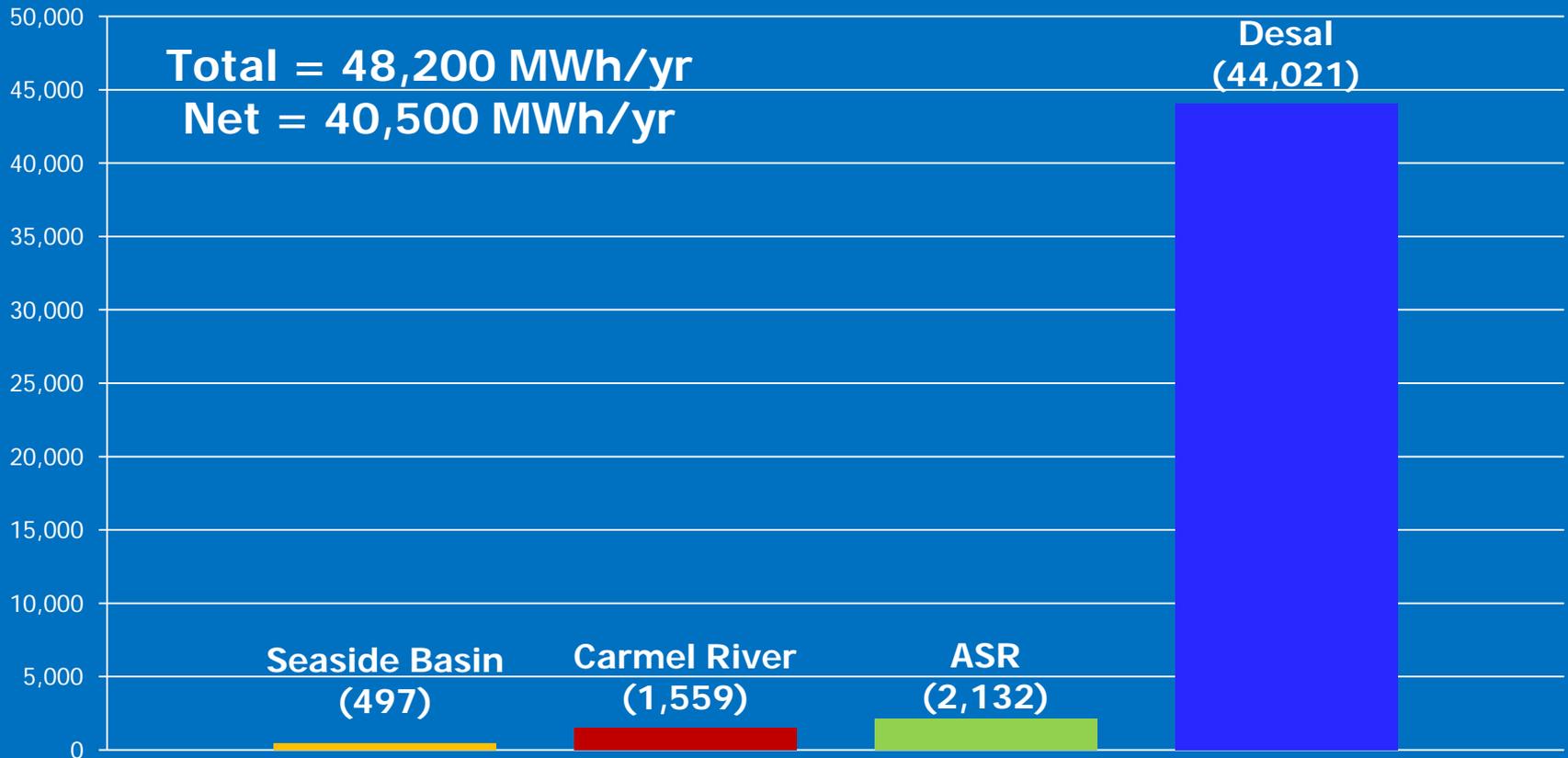
# Impacts would be less severe with the project variant

- Energy use: 4,700 MWh /year less  
35,800 MWh/year net increase in energy vs.  
40,500 MWh/year net increase
  - the energy would not be used in a wasteful or inefficient manner (LS)

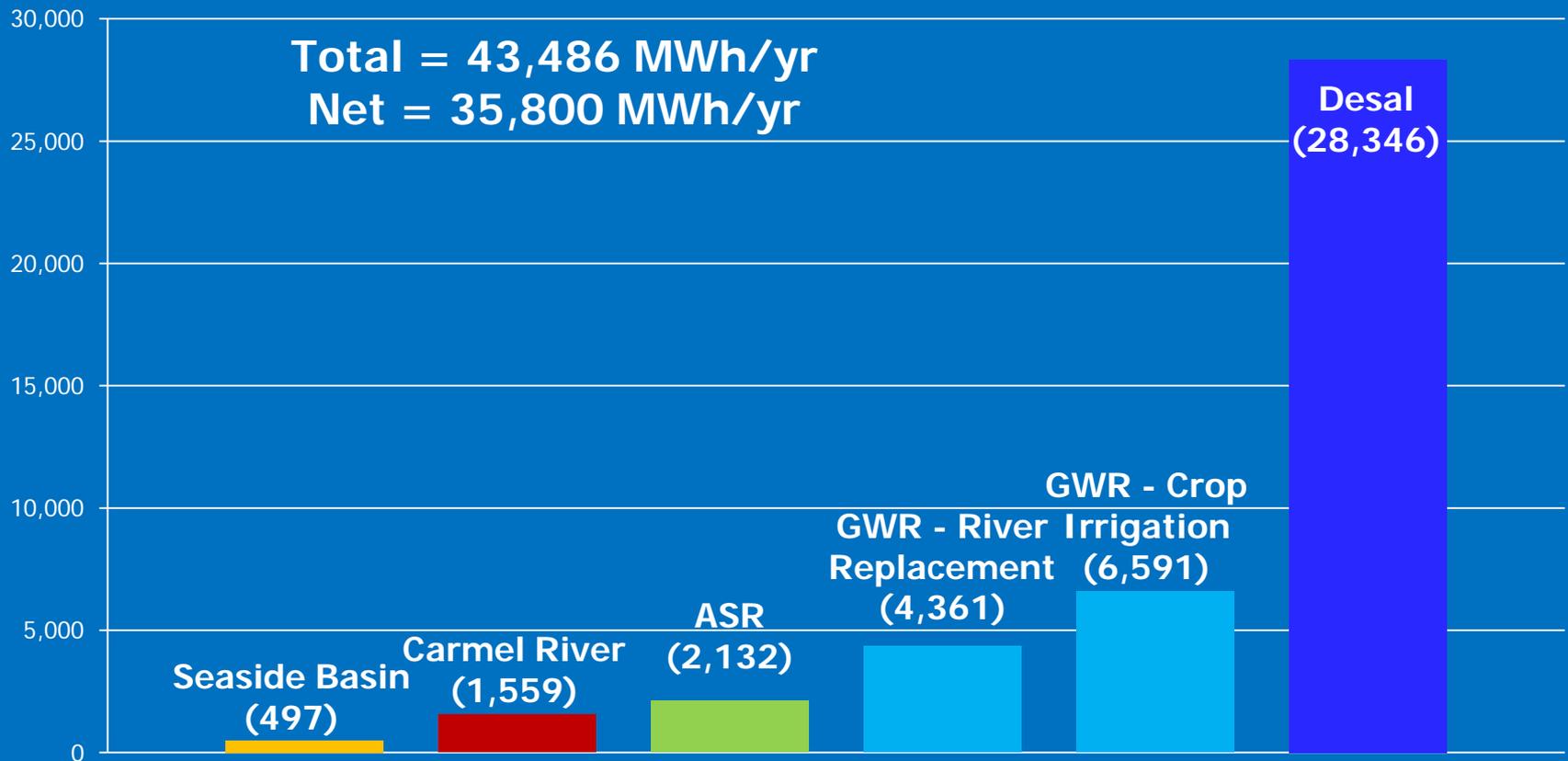
# Historic Energy Use (MWh/yr)



# MPWSP Energy Demand (MWh/yr)



# MPWSP Variant Energy Demand (MWh/yr)



# Impacts would be less severe with the project variant

- GHGs: 253 metric tons/year less  
5,928 metric tons/year versus  
6,181 metric tons/year

# Chapter 7

## Alternatives

# Alternatives

- An EIR must describe and evaluate a reasonable range of alternatives to the project, or to the location of a project, that would:
  - feasibly attain most of the basic project objectives
  - but would avoid or substantially lessen any identified significant effects of the project.

*Section 15126.6(a)*

# Overarching Goals for CEQA Alternatives Analysis

- Be responsive to EIR scoping comments requesting detailed analysis of desalination alternatives
- Facilitate/streamline NEPA compliance (if needed) by providing comprehensive review of intake and outfall options
- Identify the Environmentally Superior Alternative
- Provide flexibility during project approval and implementation

# Alternatives Considered and Dismissed

- New Los Padres Dam and Reservoir
- Carmel River Dam and Reservoir Project
- CPUC Water Supply Contingency Plan (“Plan B”)
- Coastal Water Project and Regional Project
- MCWRA-Proposed Interlake Tunnel

# Alternatives Considered and Dismissed

- Other Moss Landing Desalination Proposals were dismissed as whole actions, but the components were included in the screening and evaluation
  - The Monterey Bay Regional Water Project (DWD)
  - The Peoples' Moss Landing Water Desalination Project

# Evaluation of Desalination Alternatives – 3 Tiered Approach

- Tier 1: Screening
- Tier 2: Evaluation
- Tier 3: Whole Alternatives

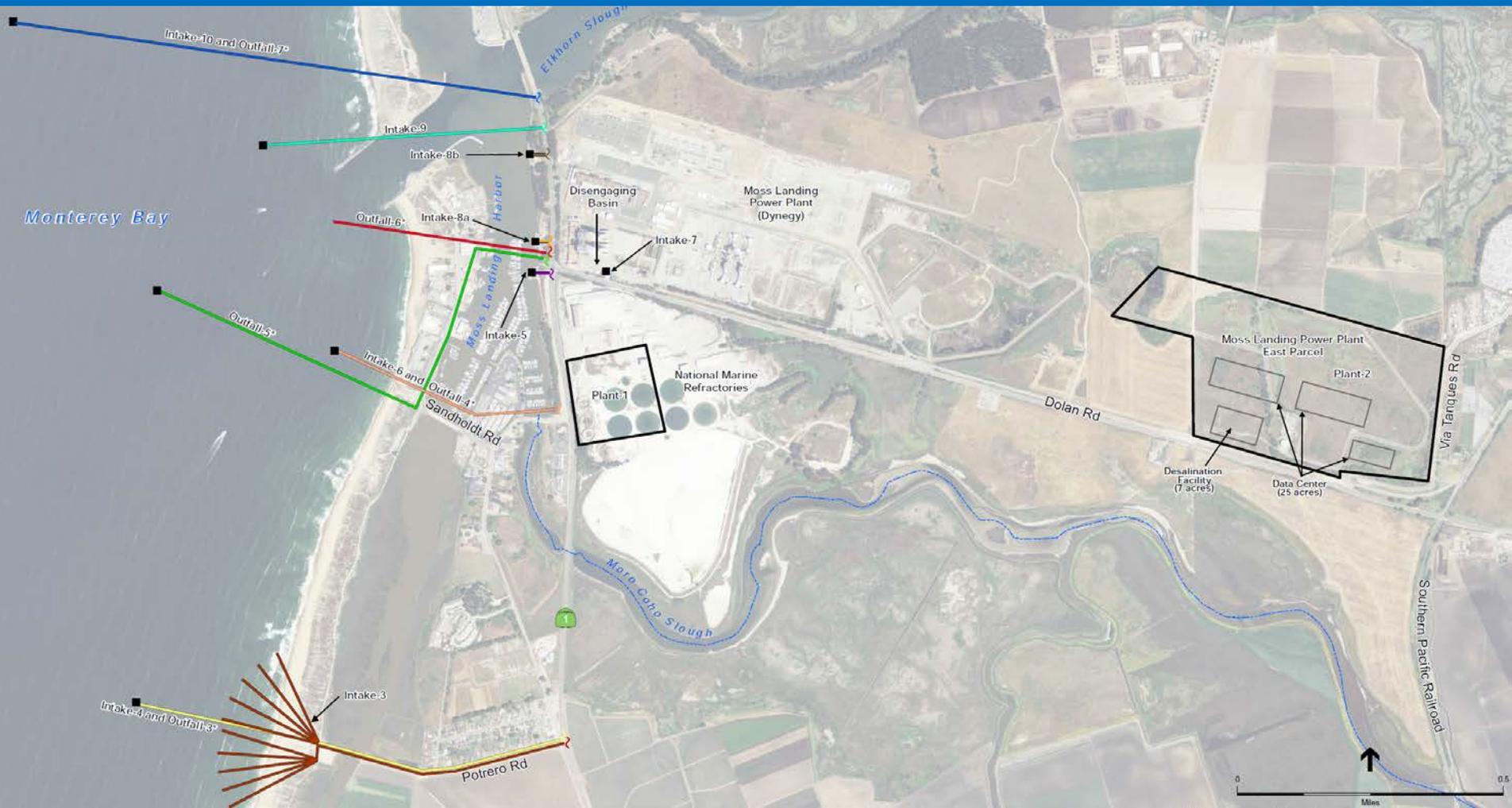
# Desalination Options

- Individual Options Considered
  - 13 intakes
  - 3 desalination plant sites
  - 7 outfalls
- Information Sources
  - CalAm Contingency Plan
  - Input from resource agencies
  - Project Scoping
  - Other commercial desalination proposals

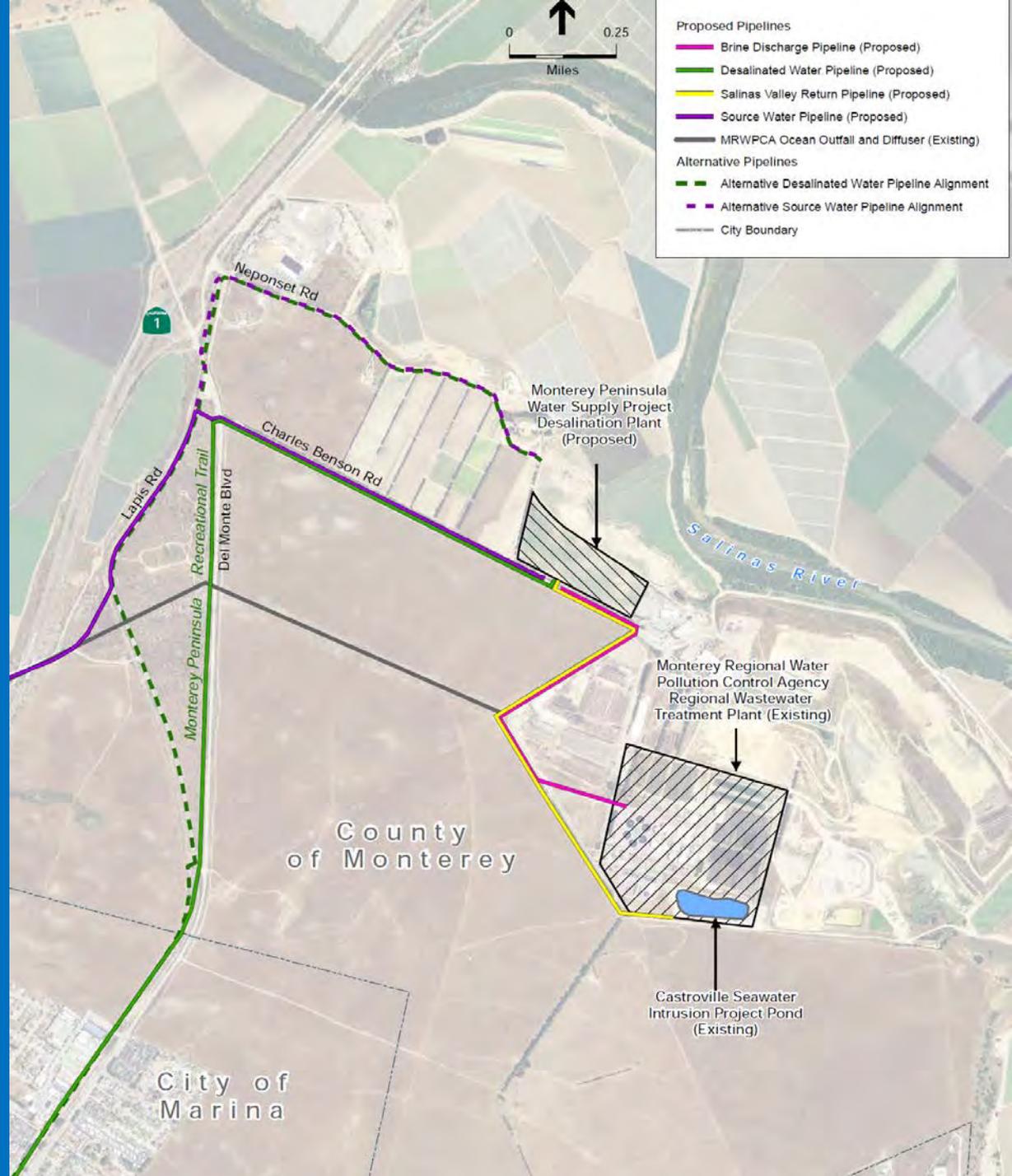
# Desalination Component Options: Marina and Seaside



# Desalination Component Options: Moss Landing



# Alternative Pipelines North of Reservation Road



# Alternative Transmission Main



# Alternative Transfer and Monterey Pipelines

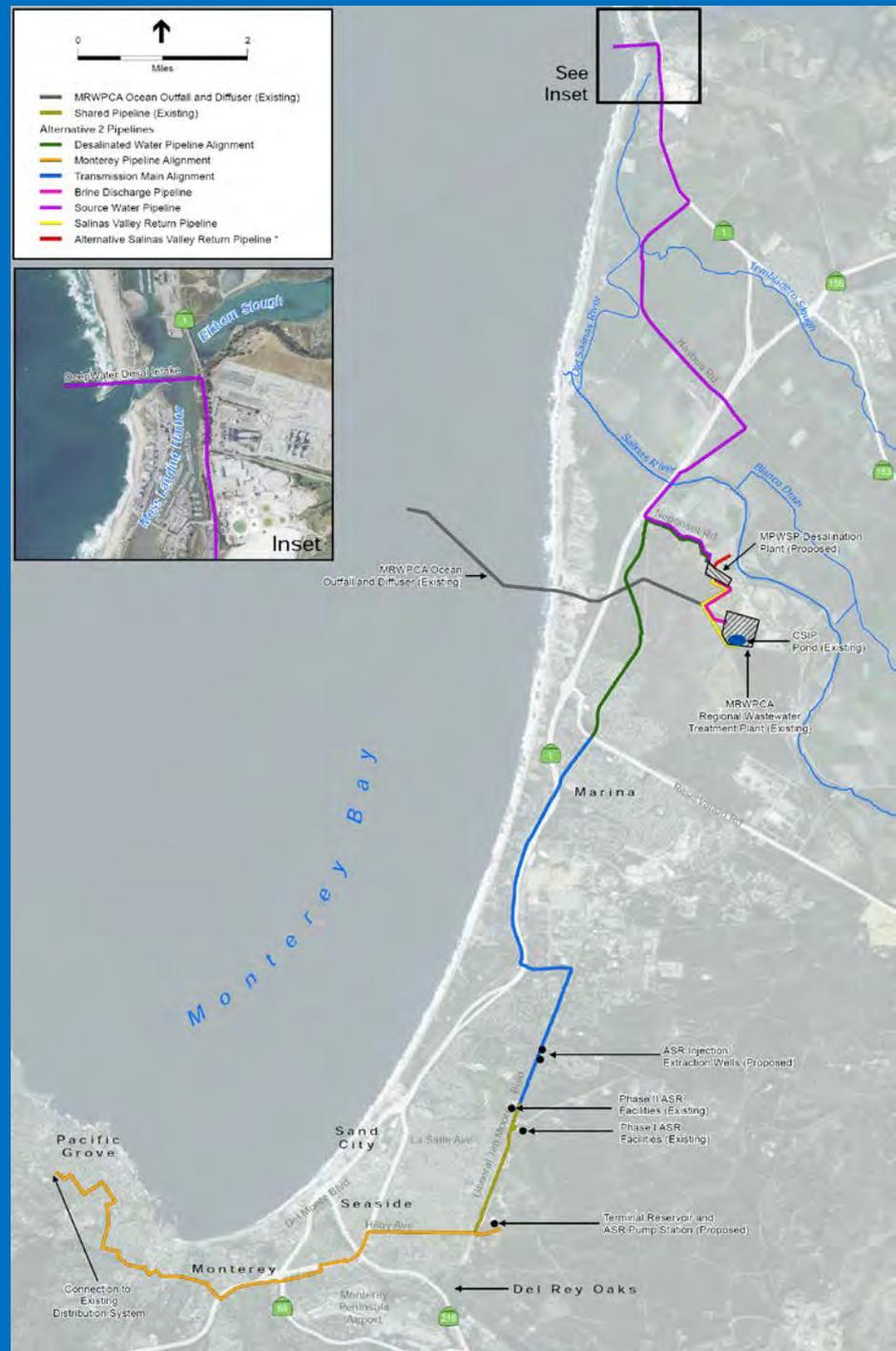
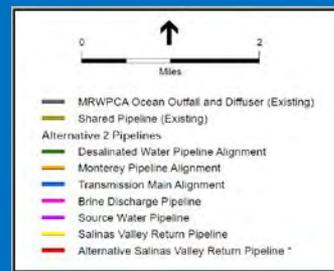


# No Project Alternatives

- No Build
- No Build + Interim SWRCB Agreement
  - the timeline established in the CDO would be extended for another five years, consistent with the draft proposal by the MPRWA and other Parties to amend the CDO
- Environmentally Superior but do not meet the basic Project Objectives

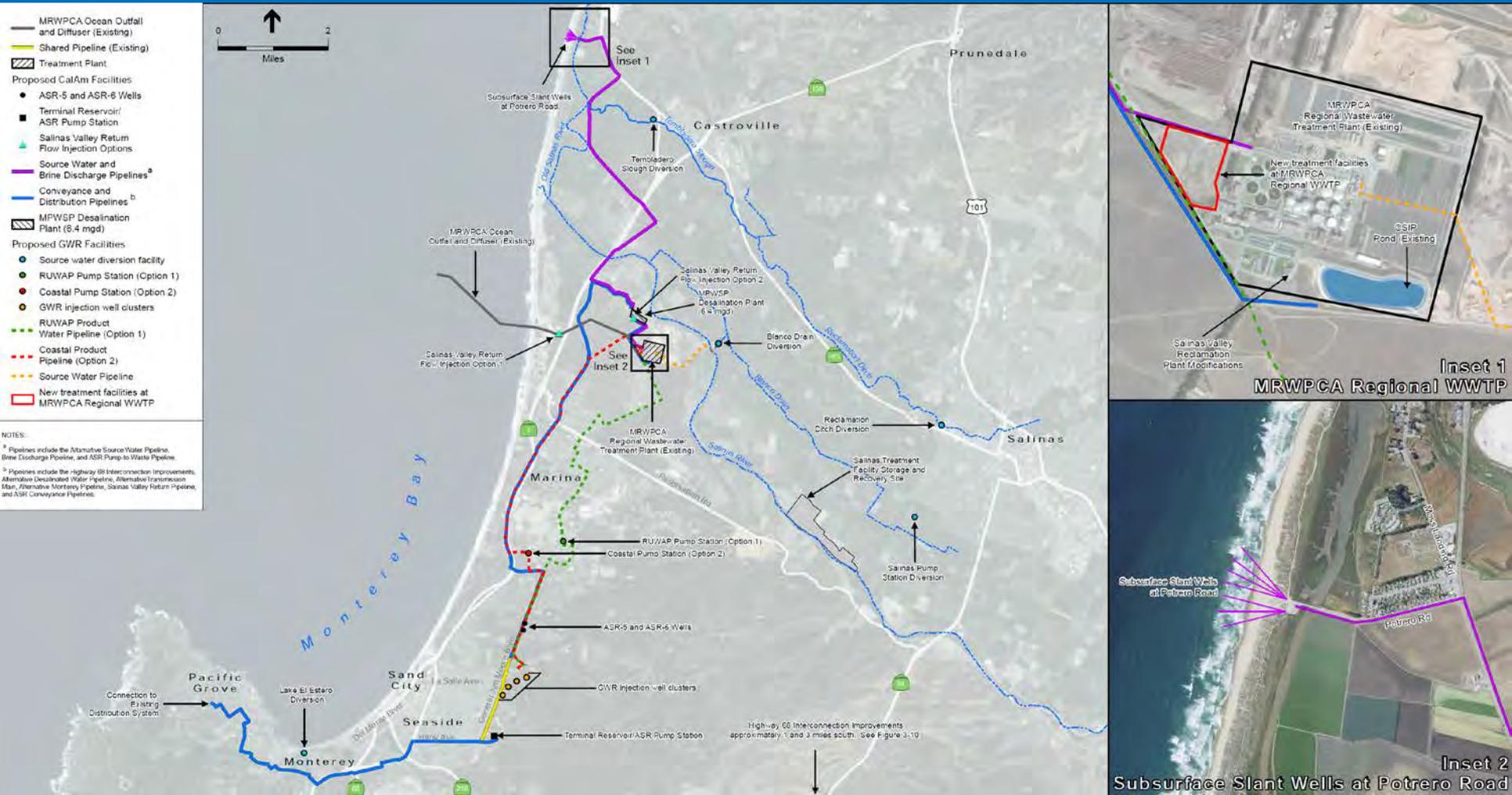


# Alternative 2: Open Water Intake at Moss Landing (with Alternative pipelines)



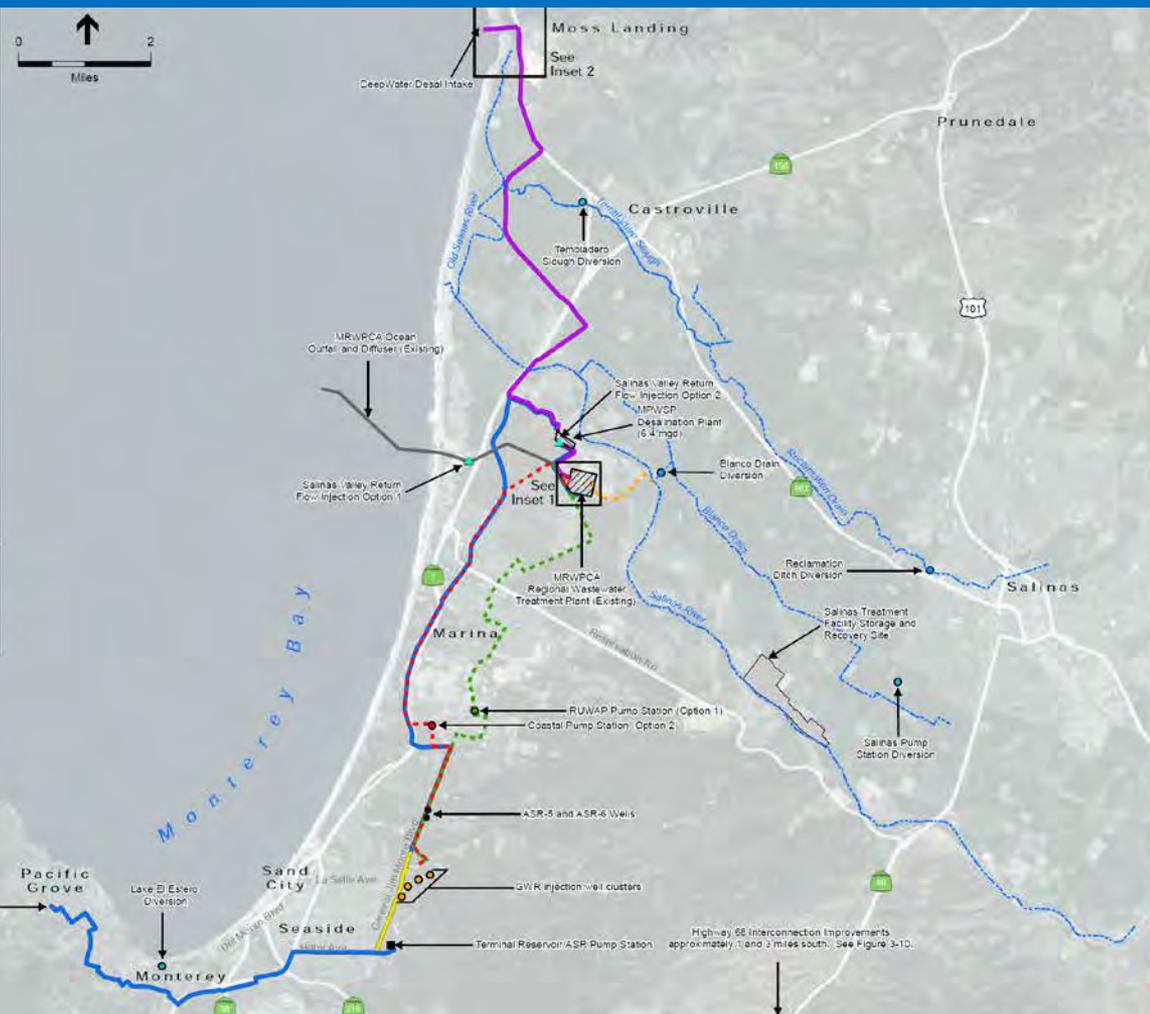
# Alternative 3: Project Variant with Slant Wells at Potrero Road

## (with Alternative pipelines)



# Alternative 4: Project Variant with Open Water Intake at Moss Landing (with Alternative pipelines)

- MRWPCA Ocean Outfall and Diffuser (Existing)
  - Shared Pipeline (Existing)
  - Treatment Plant
- Proposed CalAm Facilities
- ASR-5 and ASR-6 Wells
  - Terminal Reservoir/ASR Pump Station
  - Salinas Valley Return Flow Injection Options
  - Source Water and Brine Discharge Pipelines<sup>a</sup>
  - Conveyance and Distribution Pipelines<sup>b</sup>
  - MPWSP Desalination Plant (6.4 mgd)
- Proposed GWR Facilities
- Source water diversion facility
  - RUWAP Pump Station (Option 1)
  - Coastal Pump Station (Option 2)
  - GWR injection well clusters
  - RUWAP Product Water Pipeline (Option 1)
  - Coastal Product Pipeline (Option 2)
  - Source Water Pipelines
  - New treatment facilities at MRWPCA Regional WWTP
- NOTES:
- <sup>a</sup> Pipelines include the Alternative Source Water Pipeline, Brine Discharge Pipeline, and ASR Pump-to-Water Pipeline.
- <sup>b</sup> Pipelines include the Highway 68 Interconnection Improvements, Alternative Desalinated Water Pipeline, Alternative Transmission Main, Alternative Monterey Pipeline, Salinas Valley Return Pipeline, and ASR Conveyance Pipelines.



# Environmentally Superior: Proposed Project

- The proposed project would result in the least amount of construction and operation impacts compared with either Alternative 1 or Alternative 2
- The Proposed Project is the environmentally superior alternative of the proposed project alternatives (as opposed to project variant options)

# Environmentally Superior: Project Variant

- The MPWSP Variant would result in the least amount of construction and operation impacts compared with either Alternative 3 or Alternative 4
- The MPWSP Variant is the environmentally superior alternative of the MPWSP Variant alternatives

# Environmentally Superior Alternative

- The MPWSP Variant is deemed to be the environmentally superior alternative
  - less energy
  - lower GHG emissions
  - diversified portfolio of water supplies
  - reduced pumping from the SVGB
  - increased Seaside Basin groundwater supplies, and
  - improved groundwater levels and quality in the SVGB

# How to Submit EIR Comments

Mail comments to:

Andrew Barnsdale, CPUC  
c/o Environmental Science Associates  
550 Kearny Street, Suite 800  
San Francisco, CA 94108

Email comments to: [MPWSP-EIR@esassoc.com](mailto:MPWSP-EIR@esassoc.com)

Fax comments to: (415) 896-0332

**\*\* Comment period ends at 5pm on  
July 1, 2015 \*\***