

# MBNMS Sanctuary Advisory Council

## Desal Update

Karen Grimmer

February 17, 2017



# Overview

1. California American Water Company (CalAm) proposes the Monterey Peninsula Water Supply Project (MPWSP)
2. Deepwater Desal proposed the Monterey Bay Regional Water Project (MBRWP)
3. People's of Moss Landing
4. ONMS proposes 2 new categories of Special Use Permit for desal projects

# MPWSP draft EIR/EIS

- California American Water Company (CalAm) proposes the Monterey Peninsula Water Supply Project (MPWSP) to develop water supplies for CalAm's Monterey District service area (Monterey District)
- The State CEQA lead agency is the California Public Utilities Commission (CPUC)
- The Federal NEPA lead agency is Monterey Bay National Marine Sanctuary (MBNMS)

# Project Background

- 2004: CalAm Proposed the Coastal Water Project (CWP)
- 2009: CPUC Prepared EIR on Impacts of CWP and two Alternatives – North Marina Project and Regional Project
- 2010: CPUC Approved the Regional Project
- 2012: CalAm Proposed the MPWSP
- 2014: CalAm granted CDP for Test Slant Well
  - construction, operation and decommissioning
  - expires Feb 2018

# Test Slant Well



# Project Background

- April 2015: CPUC published the MPWSP Draft EIR
- May 2015: CalAm applied to MBNMS for Permits
- August 2015: NOAA issued a Notice of Intent (NOI) to prepare an EIS
- September 2015: CPUC announced the MPWSP Draft EIR would be revised and recirculated as a joint Draft EIR/EIS, in coordination with MBNMS
- September 2015: MBNMS held NEPA scoping meeting

# Proposed Project Purpose and Need

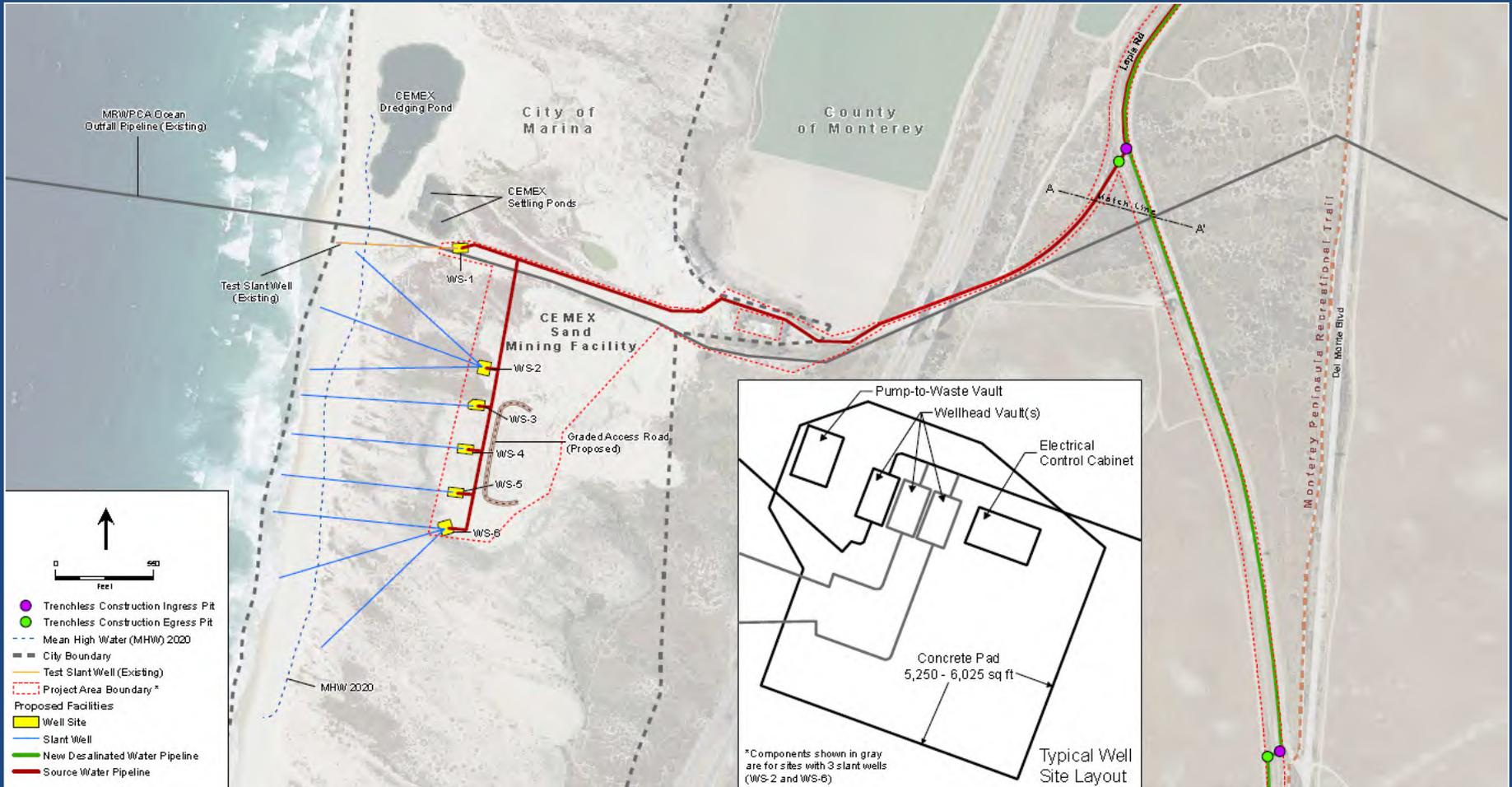
- To replace existing water supplies that are constrained by legal decisions affecting the Carmel River and Seaside Groundwater Basin:
  - State Water Resources Control Board Order 95-10
  - SWRCB Order 2016-0016 (revised Cease and Desist order)
  - Adjudication of Seaside Groundwater Basin



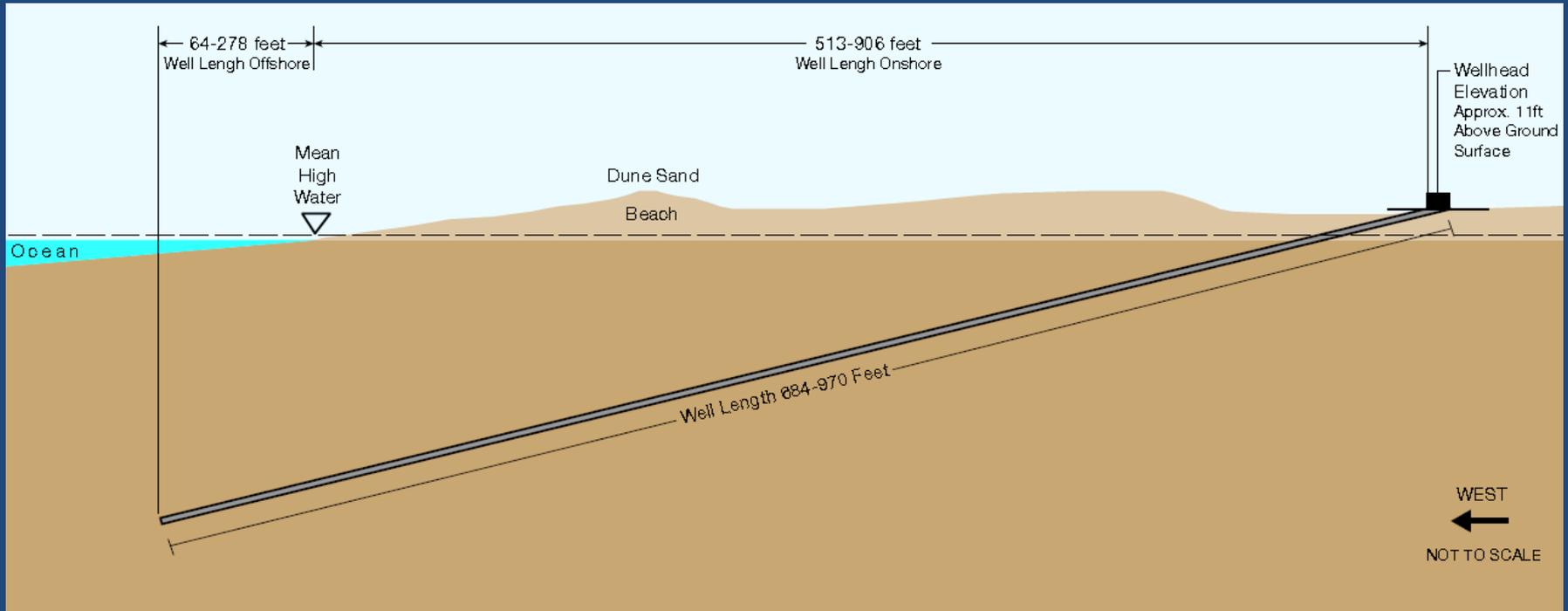
# Proposed Project

- **Seawater Intake System:**
  - 9 new subsurface slant wells extending offshore into MBNMS
  - Conversion of existing test slant well into a permanent well
- **Source Water Pipeline**
- **A 9.6 mgd Desalination Plant**
- **Brine Discharge through Existing Outfall**
- **Desalinated Water Pipelines**
- **Expanded ASR system**
  - two additional injection/extraction wells
  - three parallel pipelines
- **CV Pump Station and Satellite pipelines**

# Seawater Intake System at CEMEX

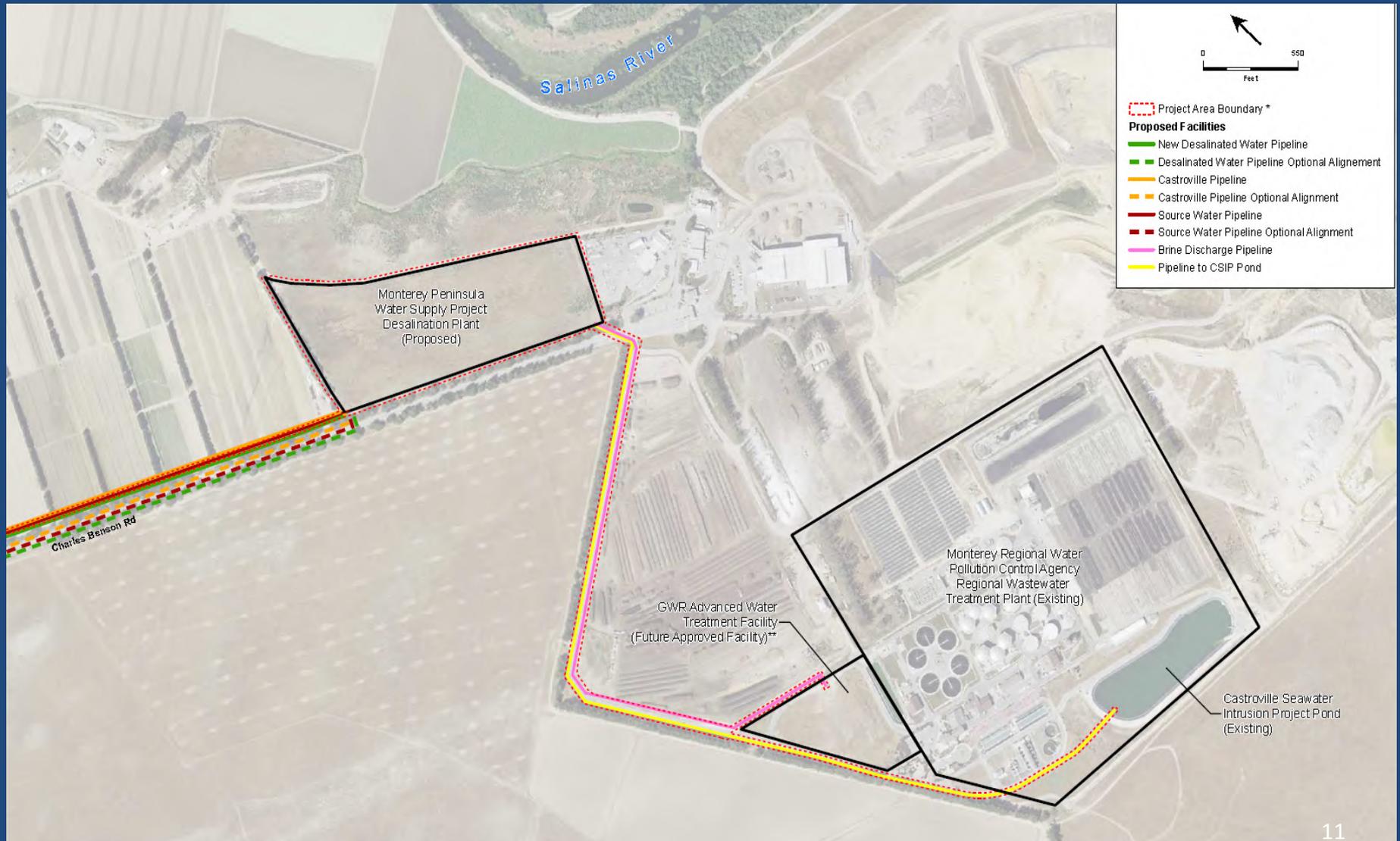


# Seawater Intake System at CEMEX



| WELL NUMBER            | DEPTH OF WELL CASING (BELOW WELL HEAD) | WELL LENGTH (PLAN) | WELL LENGTH ONSHORE (PLAN) | WELL LENGTH OFFSHORE (PLAN) |
|------------------------|--|--------------------|----------------------------|-----------------------------|
| 1                      | 242'                                   | 970'               | 906'                       | 64'                         |
| 2                      | 242'                                   | 970'               | 757'                       | 213'                        |
| 3                      | 242'                                   | 970'               | 830'                       | 140'                        |
| 4                      | 242'                                   | 970'               | 826'                       | 144'                        |
| 5                      | 242'                                   | 970'               | 780'                       | 190'                        |
| 6                      | 242'                                   | 970'               | 725'                       | 245'                        |
| 7                      | 242'                                   | 970'               | 736'                       | 234'                        |
| 8                      | 242'                                   | 970'               | NA                         | NA                          |
| 9 (Stand-by-2)         | 242'                                   | 970'               | 692'                       | 278'                        |
| <b>Test Slant Well</b> | 283'                                   | 684'               | 513'                       | 171'                        |

# Desalination Plant on Charles Benson Road



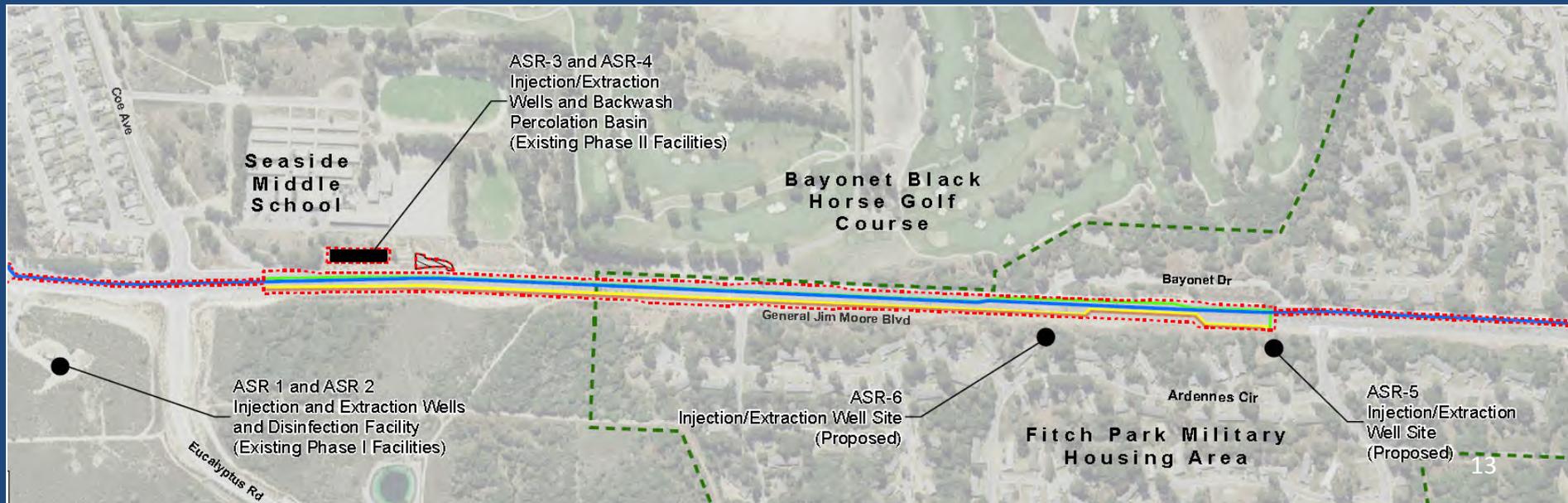
# Pipelines



- Source Water  
2.2 miles, 42" diameter
- New Desalinated Water  
3.3 miles, 36" diameter
- New Transmission Main  
6 miles, 36" diameter
- Castroville Pipeline  
4.5 miles, 12" diameter
- Pipeline to CSIP Pond  
1.2 miles, 12" diameter

# Aquifer Storage and Recovery

- ASR Well-5 and ASR Well-6
- ASR Pipelines
  - Recirculation
  - Conveyance
  - Pump-to-Waste



# CPUC and the CPCN

- CalAm is a public utility under the CPUC's jurisdiction, and has applied for:
  - a Certificate of Public Convenience and Necessity (CPCN) to build, own, and operate all elements of the MPWSP, and
  - permission to recover present and future costs for the proposed project
- The CPUC may issue a CPCN as requested, refuse to issue it, or issue it for only part of a project, and may attach terms and conditions

# MBNMS Approvals Required

- Four MBNMS approvals are required for CalAm's project:
  - authorization of a Coastal Development Permit for CalAm to drill subsurface wells in the submerged lands of MBNMS
  - authorization of a Central Coast RWQCB-issued permit to allow brine discharge into MBNMS via an existing ocean outfall pipe
  - a proposed Special Use Permit for the continued presence of a pipeline conveying seawater to a desalination facility
  - a proposed Special Use Permit for the use of MBNMS sediments to filter seawater for desalination

# Other Agency Approvals

- Local Agencies
  - City of Marina
- State Agencies
  - RWQCB
  - California Coastal Commission
- Federal Agencies
  - US Army
  - Army Corps of Engineers
- EIR/EIS contains full list of permits and approvals needed for the project
  - See Draft EIR/EIS Chapter 3, Table 3-8

# What's Different from April 2015 DEIR

- Two Lead Agencies (CPUC and MBNMS)
- This is a combined State/Federal EIR/EIS
- Cumulative Impacts are now addressed in each Topical Section
- The “Variant”(reduced size project) is now referred to as Alternative 5a and 5b
- DeepWater Desal and People's Project are fully considered as stand-alone alternatives

# What's Different from April 2015 DEIR

- Revisions to the Proposed Project Description
  - revised Slant Well Layout at CEMEX
  - revised Pipeline Alignments
    - ✓ new Transmission Main
    - ✓ no Transfer Pipeline
    - ✓ no Monterey Pipeline
    - ✓ no ASR Pump Station
  - Salinas Valley Return Water to Castroville CSD

# Impact Designations

- No Impact (NI)
- Less than Significant impact (LS)
- Less than Significant impact with Mitigation (LSM)
- Significant and Unavoidable impact even with implementation of Mitigation (SU)

# Groundwater Impacts on Nearby Production Wells (Less than Significant)

- An impact would be considered significant if the proposed project lowered groundwater levels in a nearby municipal or private groundwater production well enough to cause a substantial reduction in well yield, or to cause physical damage due to exposure of well screens and well pumps.

# Less Than Significant with Mitigation

- Soil Erosion/Loss of Topsoil
- Coastal Erosion
- Water Quality/Brine Discharge
- Terrestrial Biological Resources
- Hazardous Materials
- Traffic and Transportation
- Noise and Vibration
- Public Services and Utilities
- Light and Glare
- Cultural Resources
- Energy
- Socioeconomics/  
Environmental Justice

# Significant and Unavoidable

1. Project-specific and cumulative **nighttime noise** impacts
  - from the drilling and development of the ASR-5 and ASR-6 Wells
  - from construction of the Castroville Optional Alignment.
2. Contribution to significant cumulative impacts on **Traffic and Transportation** during construction, given the size of the MPWSP, along with the number of cumulative projects and uncertainty regarding overlap in project construction timing

# Significant and Unavoidable

3. Disturbance to vegetation communities designated as primary or secondary habitat, in conflict with the City of Marina's Local Coastal Plan
  - Slant Wells at CEMEX
  - Source Water Pipeline
  - Desalinated Water Pipeline
  - New Transmission Main

# Significant and Unavoidable

4. Short-term construction emissions in excess of MBUAPCD significance thresholds for ozone and NO<sub>2</sub> standards on sensitive receptors
5. **Greenhouse Gas** emissions in excess of the 2,000 metric tons/year significance threshold
  - Potential conflicts with AB 32 Climate Change Scoping Plan Measure W-3 regarding electricity use
6. Indirect **growth inducement** by removing, to some extent, water supply limitations as an obstacle to growth in CalAm's Monterey District service area

# Alternatives Screened from EIR/EIS Analysis

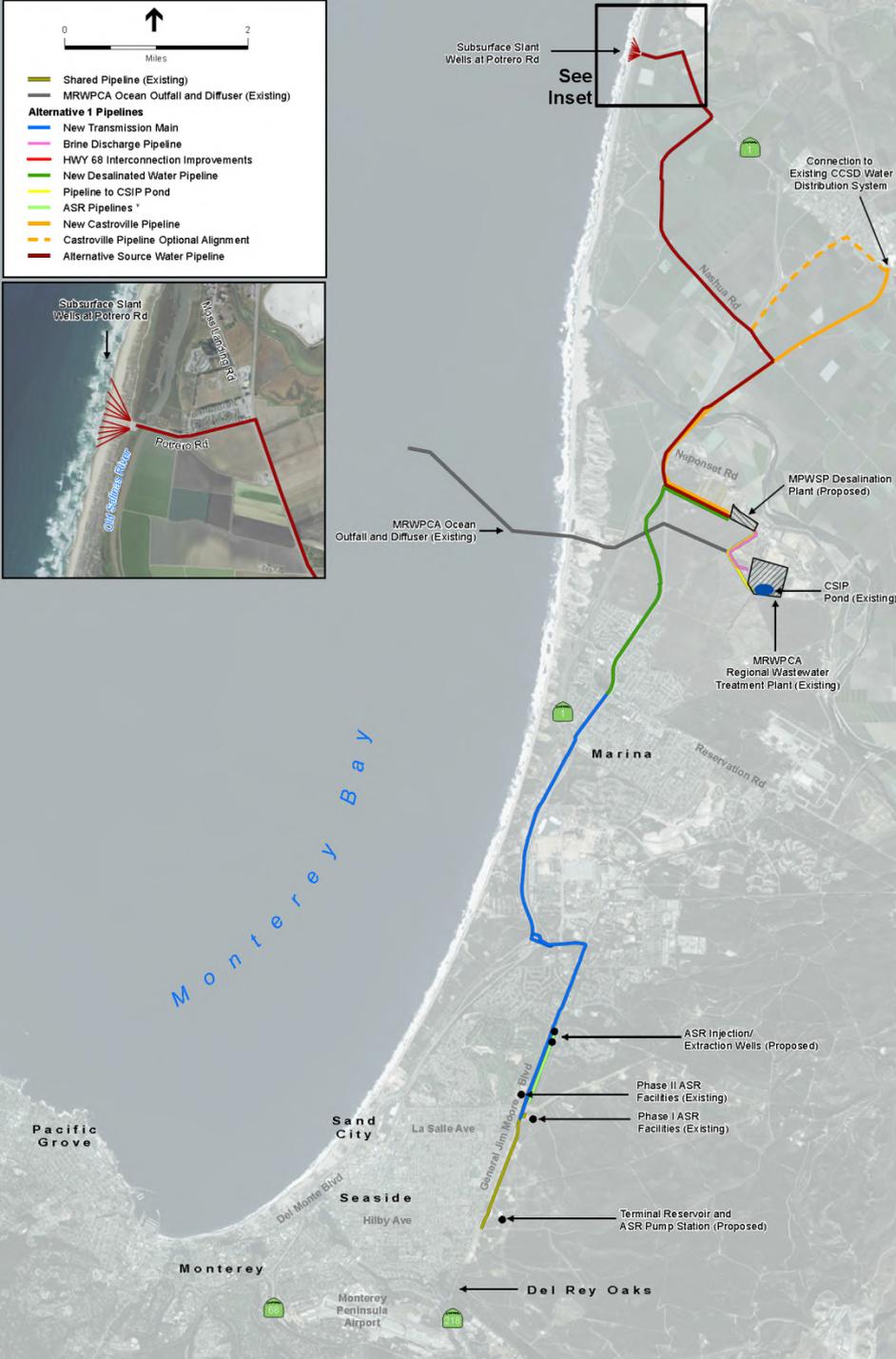
- New Los Padres Dam and Reservoir
- Carmel River Dam and Reservoir Project
- CPUC Water Supply Contingency Plan (Plan B)
- Coastal Water Project/Regional Project
- MCWRA-Proposed Interlake Tunnel
- Pure Water Monterey Groundwater Replenishment Project (stand-alone)

# Alternatives Process

- Screened and Evaluated Component Options
  - Screened 13 intakes; evaluated 7
  - Evaluated 7 outfalls
  - Evaluated 3 desalination plant sites
- Combined Components into Whole Alternatives
- Evaluated Whole Alternatives
- Identified the Environmentally Superior/Environmentally Preferred Alternative

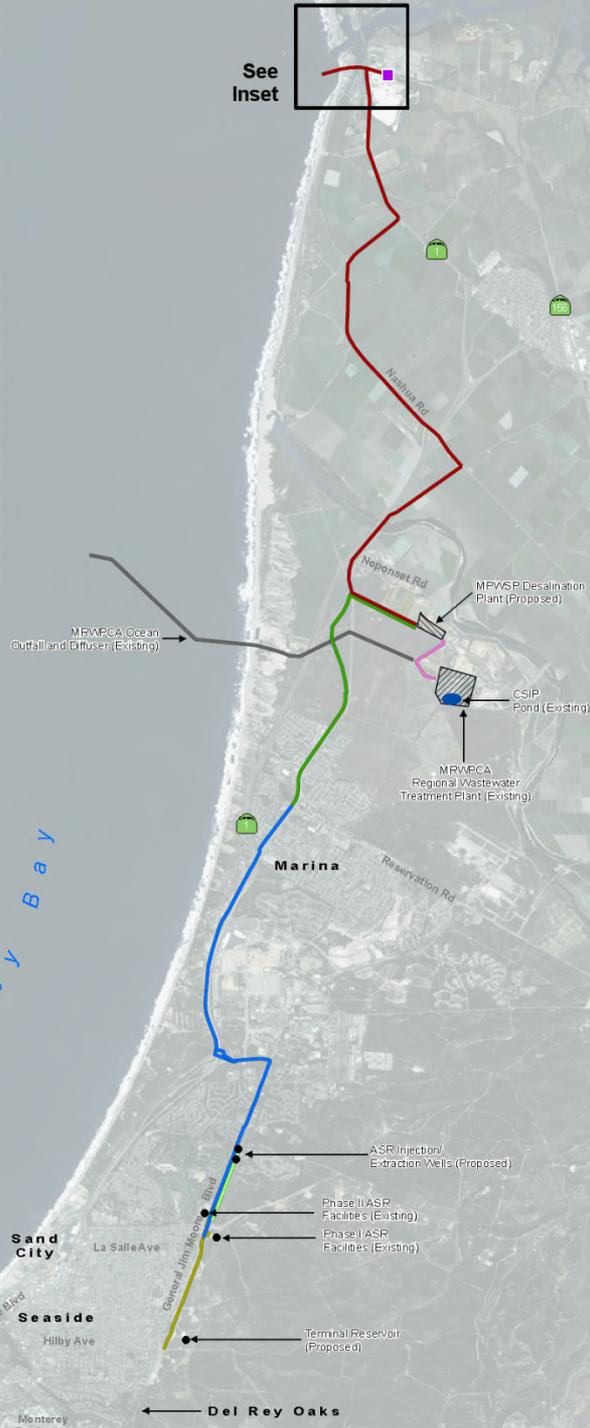
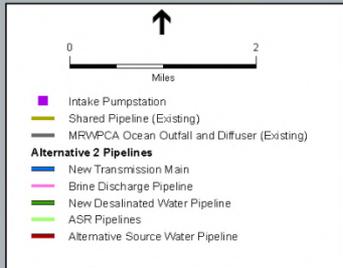
# Combined Components into Whole Alternatives

- Alt 1: Subsurface Slant wells at Potrero Road
- Alt 2: Open-water Intake at Moss Landing
- Alt 3: DeepWater Desal
- Alt 4: People's Project
- Alt 5a and 5b: Reduced-Sized Project
- No Action Alternative



# Alternative 1: Slant Wells at Potrero Road

- 10 new slant wells within the 1-acre parking lot
- 5.5 miles of additional Source Water Pipeline
- All Other Components Same as Proposed Project



# Alternative 2: Open Water Intake at Moss Landing

- New Screened Open Water Intake in Monterey Bay with one 36" diameter intake
- 6.5 miles of additional Source Water Pipeline
- All Other Components Same as Proposed Project
  - No Salinas Valley Return Pipeline

# Alternative 3: DeepWater Desal (MBRWP)



- New Screened OW Intake in Monterey Bay – two pipelines
- New Brine Discharge in Monterey Bay – two pipelines (HDD) and diffuser
- New 22-mgd Desal Plant on 110-acre Parcel off Dolan Road
- Co-located Data Center
- 8 miles of Additional Desalinated Water Pipeline to CalAm Connection Point
- 25 miles of Additional Desalinated Water Pipeline to meet a regional need for water

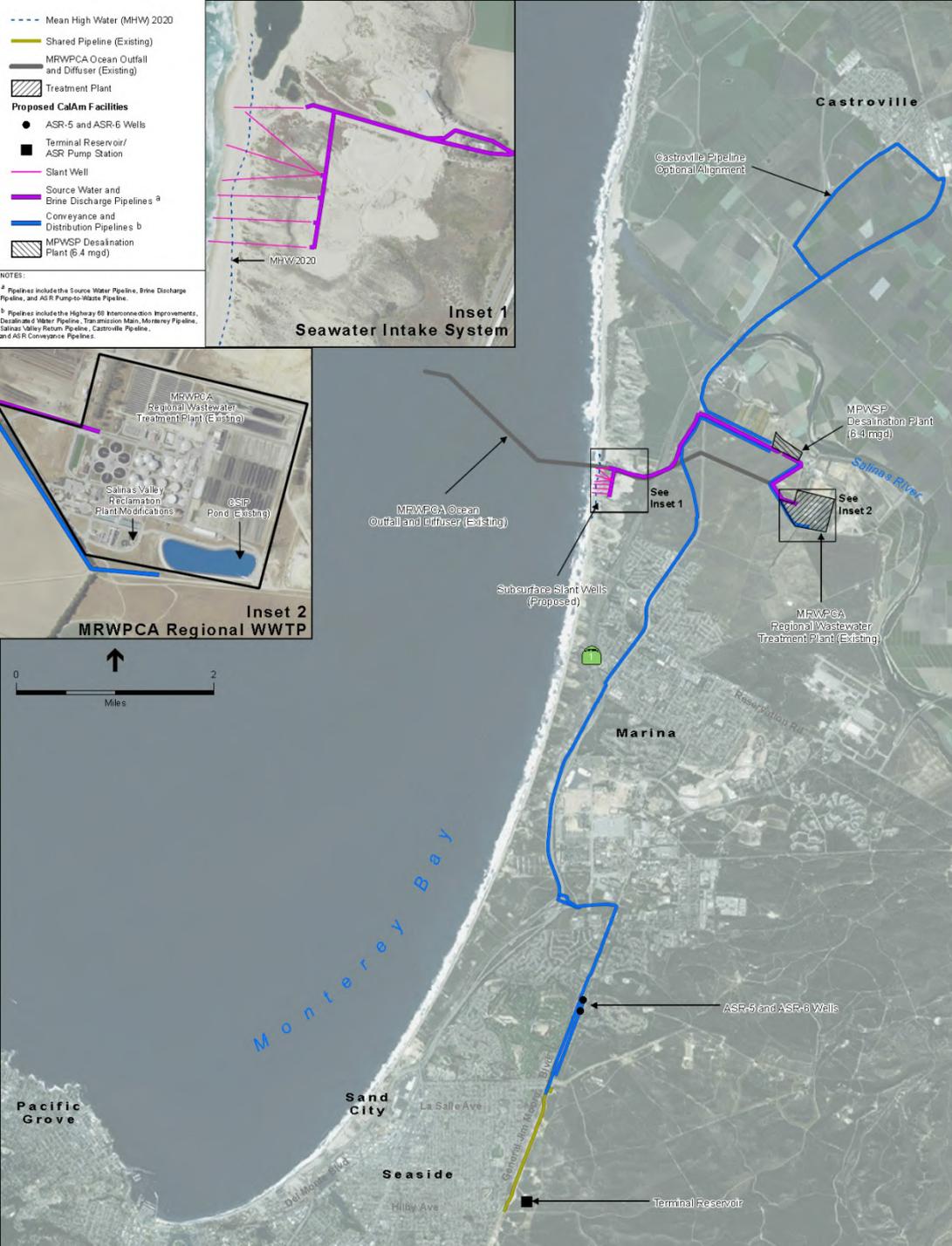
# Alternative 4: People's Project

- Rehabilitation of Existing Infrastructure
  - Pipelines
  - Caisson at Sandholdt Road for Pump Station
- New Screened OW Intake in Monterey Bay
- Extension of existing pipeline for brine discharge in Monterey Bay
- New 12 mgd Desal Plant at Former National Refractories
- 5.5 miles of additional Desalinated Water Pipeline to CalAm Connection Point

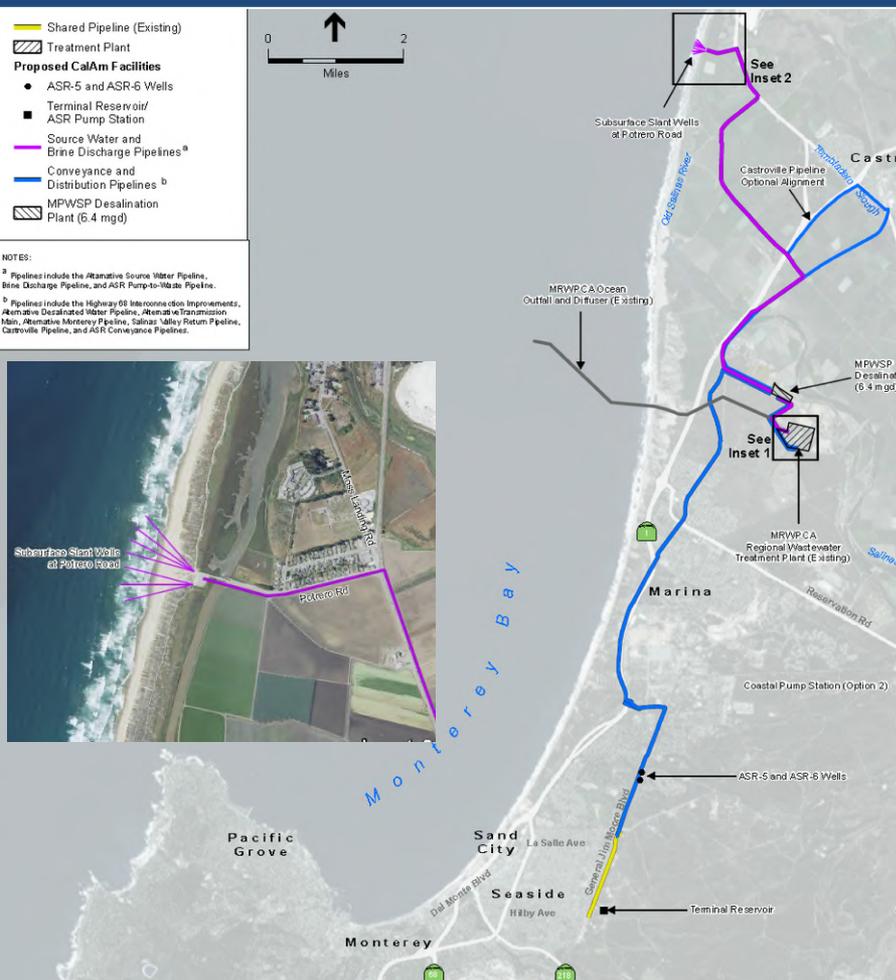


# Alternative 5a: Reduced-Size at CEMEX

- Same as Proposed Project, but Fewer Slant Wells (7) at CEMEX
- New 6.4 mgd Desal Plant
- All Other Components Same as Proposed Project, plus 3,500afy of GWR Supply



# Alternative 5b: Reduced-Size at Potrero Road



- Same as Alternative 1, but Fewer Slant Wells (7) at Potrero Road
- New 6.4 mgd Desal Plant
- 5.5 miles of Additional Source Water Pipeline
- All Other Components Same as Proposed Project , plus 3,500afy of GWR Supply

# No Project/No Action Alternative

- CPUC and MBNMS would not approve the MPWSP or another alternative
- No construction of MPWSP facilities
- Available supply would decrease from ~11,300afy to 6,380afy between 2017 and 2021
- Continuation of moratorium on new water permit applications
- No “payback” to the Seaside Groundwater Basin

# Environmentally Superior/ Environmentally Preferred Alternative

- Alternative 5a is the environmentally superior/  
environmentally preferred alternative, assuming  
implementation of the GWR Project
- While the combined Alternative 5a and GWR Project  
would result in a larger physical footprint than the  
proposed project alone, the pairing of Alternative 5a  
and the GWR project would result in:
  - reduced operational energy use
  - reduced GHG emissions
  - reduced Less than Significant effects on groundwater  
levels influenced by fewer slant wells and less volume of  
pumping

# Environmentally Superior/ Environmentally Preferred Alternative

- GWR would provide water to growers that would benefit the groundwater basin.
- Alternative 5a paired with the GWR project would be consistent with:
  - the 2016 California Action Plan seeking integrated water supply solutions
  - the Governor’s drought proclamations
  - the CPUC Water Action Plan goal of promoting water infrastructure investment, and
  - the California Ocean Plan and MBNMS Desalination Guidelines

# Draft EIR/EIS Public Meetings

## Wednesday, February 15, Open Houses

- 11am to 1pm  
Marina Public Library  
Seaside Circle, Marina
- 6pm to 8pm  
Oldemeyer Center  
987 Hilby Avenue, Seaside

## Thursday, February 16, Public Comment Hearing

- 4pm to 8pm  
Sunset Center, Carpenter Hall, San Carlos St at Ninth  
Carmel-by-the-Sea

# How to Submit Comments on the Draft EIR/EIS

- Comments may be submitted by the following methods:
  - *Electronic Submissions:* Submit all electronic public comments via the Federal e-Rulemaking Portal.  
Go to [www.regulations.gov](http://www.regulations.gov). In the search window, type [NOAA-NOS-2016-0156](#) and click the “Comment Now!” icon.
  - *Email:* [MPWSP-EIR@esassoc.com](mailto:MPWSP-EIR@esassoc.com)
  - *Mail:*

|                                 |                              |
|---------------------------------|------------------------------|
| MBNMS Desalination Project Lead | CPUC/MBNMS                   |
| 99 Pacific Ave., Bldg. 455a,    | c/o ESA                      |
| Monterey, CA 93940              | 550 Kearny Street, Suite 800 |
| or                              | San Francisco, CA 94108      |

**\*\* Comments are due by 5pm on February 27, 2017 \*\***

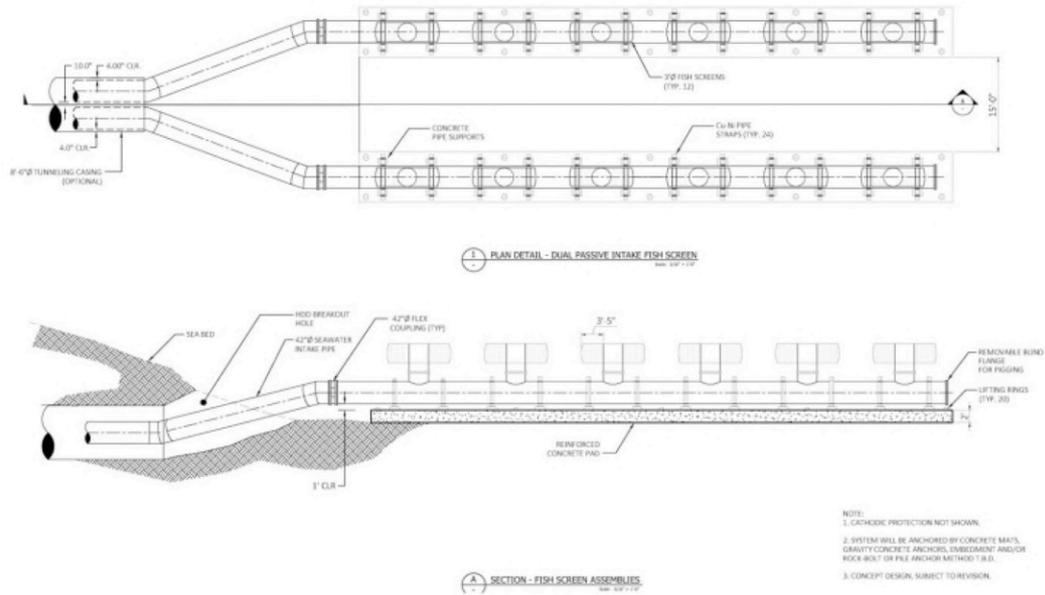
# Monterey Bay Regional Water Project

- Applicant - DeepWater Desal LLC
- CEQA Lead - California State Lands Commission
- NEPA Lead - MBNMS
- Consultant for lead agencies - Dudek
- Draft EIR/EIS under development
- Draft slated for release in Summer/Fall 2017
- New Screened OW Intake in Monterey Bay – two pipelines
- New Brine Discharge in Monterey Bay – two pipelines (HDD) and diffuser
- New 22-mgd Desal Plant on 110-acre Parcel off Dolan Road
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# MBRWP Project Components



## Proposed Intake Detail



## Example of Proposed Linear Diffuser



# MBRWP



# People's Desal Project

- Moss Landing Green Commercial Park
  - 16 acre site
- 13,400 acre ft./yr potable water
- Using existing 20' intake pump caisson adjacent to MLML
  - New 30" intake pipe extending 50' into MBNMS
  - Open water intake with 3 wedge wire passive screens

# People's Desal Project continued

- Open ocean outfall
  - Use existing 2,700' long 51" diameter outfall pipe
  - New diffusers
  - No dilution of brine
    - 62,000 mg/l



# Proposed Special Use Permit Categories

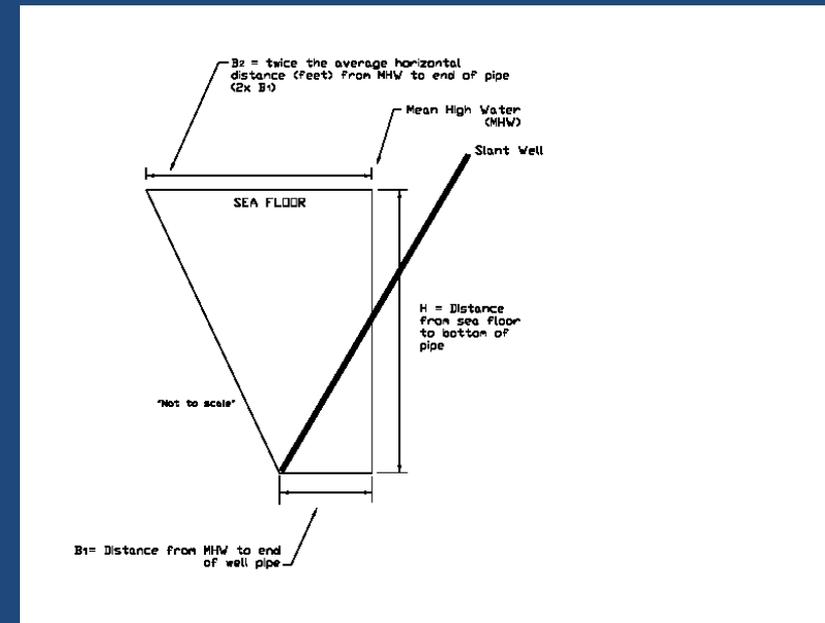
- There are currently 7 categories of SUPs ranging from continued presence of submarine cables to fireworks displays.
- SUPs apply nation-wide to sanctuaries (would need to be coastal and possess authorization authority)
- Issued for activities that do not destroy, cause the loss of, or injure sanctuary resources
- Provides ONMS the ability to assess fees for projects IF they get authorized and evaluated on a case-by-case basis by superintendent
- **(4) Waiver or reduction of fees:** The Secretary may accept in-kind contributions in lieu of a fee under paragraph (2)(C), or waive or reduce any fee assessed under this subsection for any activity that does not derive profit from the access to or use of sanctuary resource
- Three types of fees:
  - Administrative
  - Implementation and Monitoring
  - Fair Market Value (FMV) of use of sanctuary resource
- Public comment period was Jan. 12 – Feb. 13, 2017
- 7 public comments were received.

## Category 1 – Continued Presence of a Pipeline Transporting Seawater to or from a Desal Facility

- Existing pipelines are exempt; including those used for waste water, power plant cooling, and aquaculture.
- Fair Market Value
  - Volume of the pipeline multiplied by \$0.02 inch<sup>3</sup> / year
  - Example of 100 ft. long intake pipe with 15 inch radius
    - $V = 3.14159 \times 15 \text{ in}^2 \times 1200 \text{ in} = 848,230 \text{ in}^3$
    - Annual cost =  $848,230 \text{ in}^3 \times \$0.02 = \$16,964 / \text{year}$

## Category 2 – Use of Sediment to Filter Sea Water for Desalination

- Fair Market Value
  - Volume of trapezoid multiplied by \$ 0.003 / ft<sup>3</sup> / year
  - Example of one slant well extending 100 ft. into MBNMS terminating at depth of 325 ft. below seafloor.
    - $V = 200 \text{ ft.} \times 48,750 \text{ ft.}^2 = 9,750,000 \text{ ft.}^3$
    - Annual cost =  $9,750,000 \text{ ft.}^3 \times \$0.003$   
= \$ 29,250 / year



# Next Steps

- Review all comments
- Revise SUP based on comments
- Issue a final Federal Register notice for SUP categories

Questions?