

APPENDIX 10.2.3

OPC BRIEFING

DOHENY OCEAN DESALINATION PROJECT

ENVIRONMENTAL IMPACT REPORT

SOUTH COAST
WATER DISTRICT
Partnering With The Community



INTER-AGENCY DESALINATION BRIEFING MAY 24TH, 2016



MEETING AGENDA

MAY 24TH 2016 * SACRAMENTO, CA

SOUTH COAST
WATER DISTRICT
Partnering With The Community



- *Welcome and Introductions*
- *About South Coast Water District*
- *Water Supply Portfolio –Current and Projected*
- *Project History*
- *Project Need and Objectives*
- *Project Description*
- *Environmental Issue Areas*
- *Preliminary Schedule*
- *Next Steps*
- *Questions?*



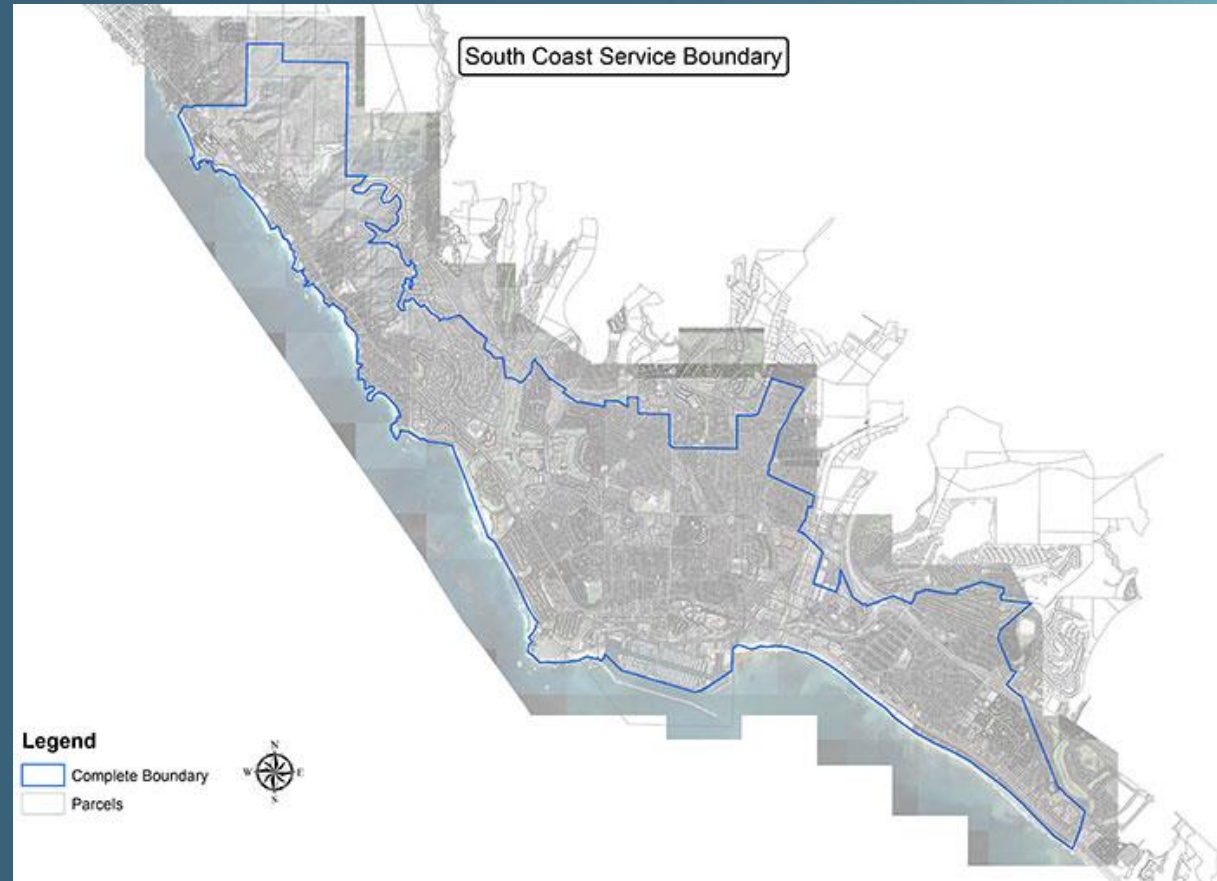
WELCOME AND INTRODUCTIONS

- ▶ Mr. Andrew Brunhart, Ph.D., PE
 - South Coast Water District, General Manager
- ▶ Mr. Rick Shintaku, PE
 - South Coast Water District, Chief Engineer
- ▶ Mr. Mark Donovan, PE
 - GHD
- ▶ Mr. Kevin Thomas, CEP
 - Kimley-Horn & Associates

ABOUT SOUTH COAST WATER DISTRICT

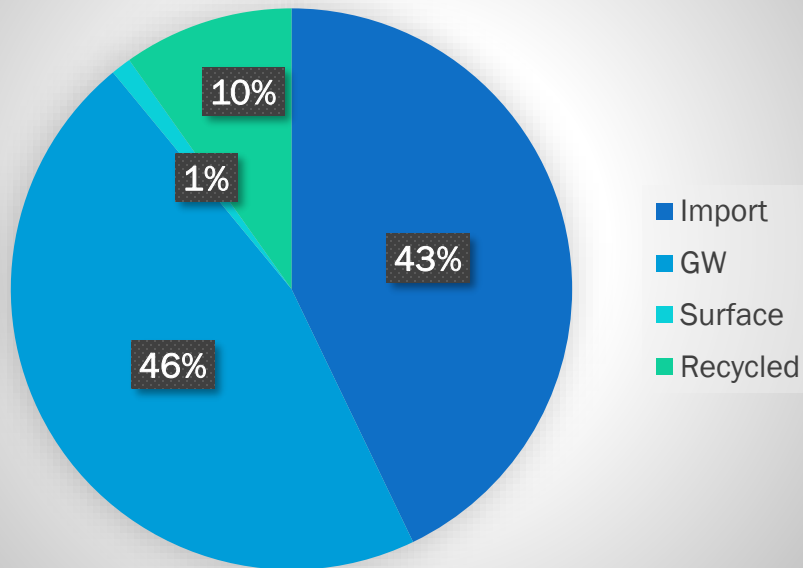


- Created in 1932
- 5-member Board of Directors
- Serves
 - 40,000 residents
 - 1,000 businesses
 - 2 million annual visitors
- Providing water and wastewater services to the communities of
 - Dana Point
 - South Laguna
 - areas of San Clemente
 - areas of San Juan Capistrano

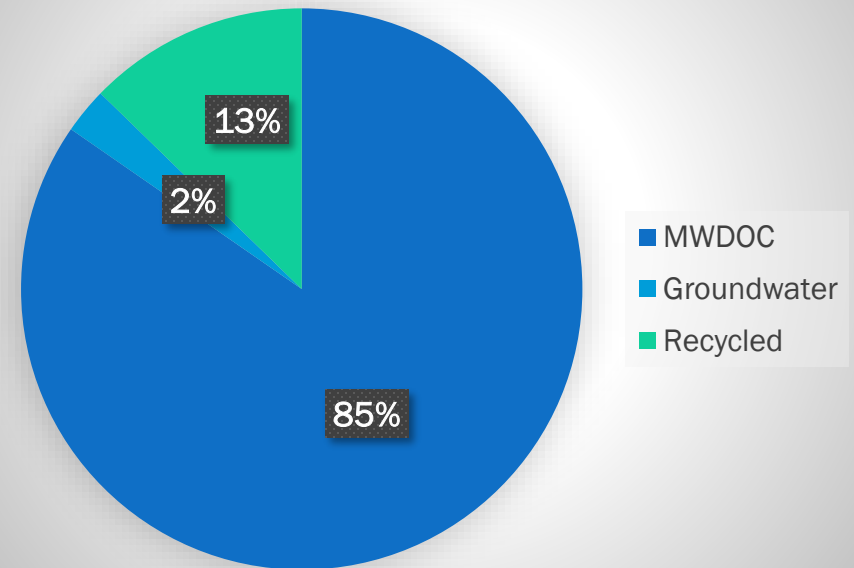


CURRENT WATER SUPPLY PORTFOLIO

MWDOC 2015 Supply



SCWD 2015 Water Supply



NOTE – SCWD GRF project is currently not operating due to groundwater basin stress

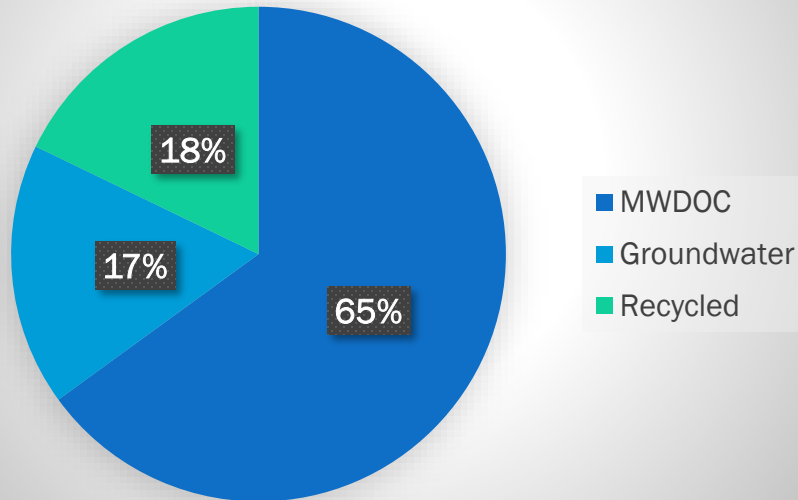
DISTRICT EFFORTS TOWARDS CREATING A BALANCED WATER SUPPLY PORTFOLIO

- **Conservation**
 - 26% reduction achieved (June 2015 – Feb 2016)
 - Water system losses < 2%
 - AMR Leak Detection Program
 - Landscape efficiency program
- **Groundwater Recovery Facility**
 - Shut down since Sep 2014 due to basin stress
- **Recycled Water**
 - Aliso Creek Runoff Recovery & Reuse Project
 - Recycled Water System Expansion

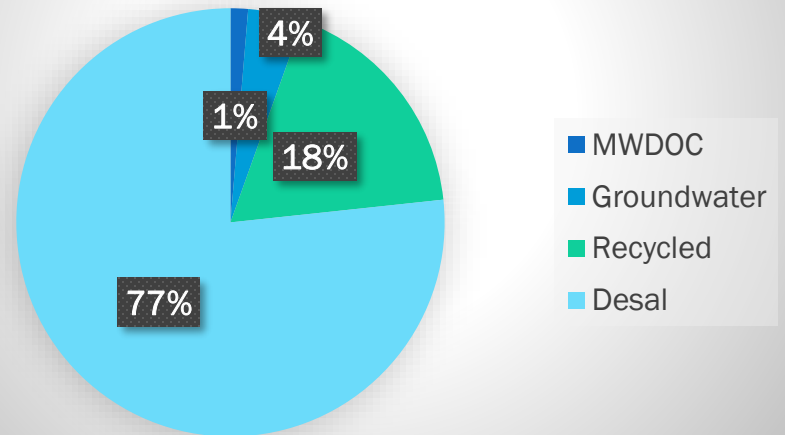


WATER SECURITY THROUGH DESALINATION

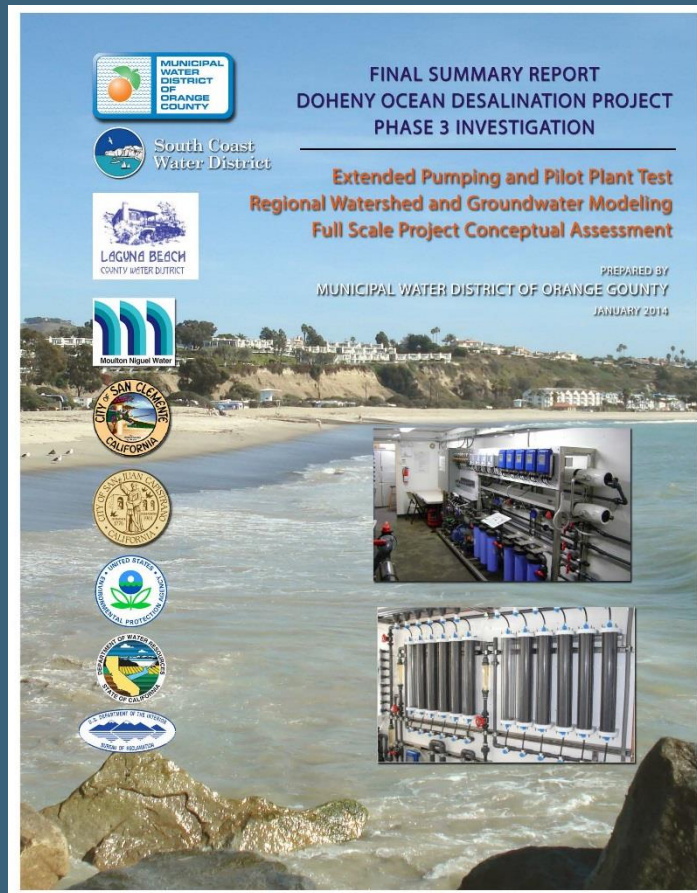
SCWD 2035 Water Supply Without Desalination



SCWD 2035 Water Supply With Phase I Doheny Desalination

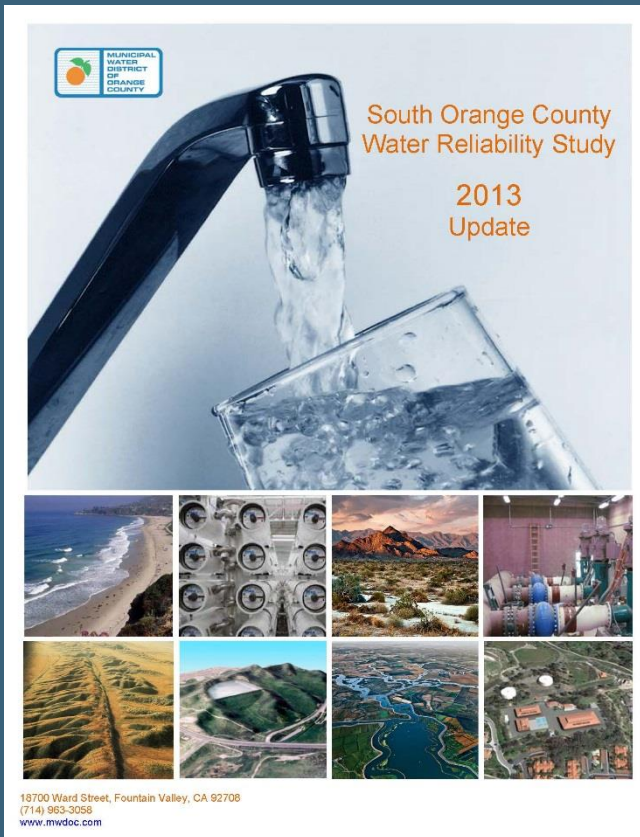


DOHENY OCEAN DESALINATION PROJECT HISTORY



- 2003 Feasibility Study
- 2004 Engineering Report
- 2004 Water Reliability Study
- 2004/2005 Hydrogeology Studies
- 2004-2007 Slant Test Well Pilot Study
- 2007 Engineering Feasibility Report
- 2008-2013 - Phase 3 Extended Pumping & Pilot Plant Test
- 2014-2016 – MWD Foundational Actions Funding Program
- Fall 2015 – Initiated Full-scale Doheny Ocean Desalination Project

PROJECT NEED & OBJECTIVES



- **Reliable, Sustainable Supply**
- **Locally controlled supply**
- **Drought proof** – “multi-decadal drought”
- **Imported Supplies are constrained**
 - Bay Delta
 - Colorado River
- **Groundwater basin is constrained**
 - Drought effects
 - Water rights
 - Water quality
- **System Redundancy** from Major Seismic Event
- **Provides seawater intrusion barrier**
- **Consistent** with the Ocean Plan Amendment, California Water Plan, MWD Integrated Water Resources Plan, MWD Seawater Desalination Program

SOUTH ORANGE COUNTY RELIABILITY

System Outage Durations Can Be Lengthy

Fault	Potential Damages	Recovery Period Months
Bay Area	Delta Levee Failure - Salt Water Intrusion	up to 36
San Andreas	Edmonston PP severe damages	up to 36
	Tehachapi - Carley V Porter Tunnel severed	up to 24
	East Branch Aqueduct severe damages	up to 36
	Colorado River Aqueduct severe damages	up to 6
San Jacinto	Transmission System Damages	up to 6
	East Branch SWP	up to 12
	Colorado River Aqueduct	up to 6
	Transmission System Damages	up to 6
Whittier/ Elsinore	Lower Feeder	up to 2
	Yorba Linda Feeder	up to 2
	Diemer WTP	up to 2
	Orange County Feeder	up to 1

The 2013 South County Water Reliability Study Update Suggests 30 to 60 days as a "Goal" for South County



9

New Supply (CFS)* to Achieve 30 or 60 days Off of MET Water (*CFS=Cubic Feet per Second)

Assumes Irvine Interconnection = 20 cfs [2]		
Agency	30 Days	60 Days
El Toro WD	0.0	3.3
Laguna Beach CWD	3.8	4.1
Moulton Niguel WD	8.8	12.5
San Clemente	4.3	6.1
San Juan Capistrano	0.0	0.0
Santa Margarita WD	15.0	22.1
South Coast WD	4.3	5.3
SDCWA San Onofre	1.1	1.3
Trabuco Canyon WD	0.0	0.0
Total Group (not sum of above)	33.0	51.0
Sum of Above	37.2	54.7

[1] Note: Based on annual average demands and no curtailment.
[2] Irvine Interconnection capacity declines over time



18

5.3 cfs ~ 2.85 MGD

DOHENY OCEAN DESALINATION PROJECT DESCRIPTION

- **Up to 15 MGD potable water**
 - Initial phase of 4-5 MGD
- **Subsurface Ocean water Intakes**
 - Slant wells @ Doheny State Beach
- **Desalination Plant**
 - @ existing District property
- **Product Water Conveyance**
- **Brine Discharge**
 - Via existing SOCWA Outfall
- **Project Stakeholders** – for 15 MGD



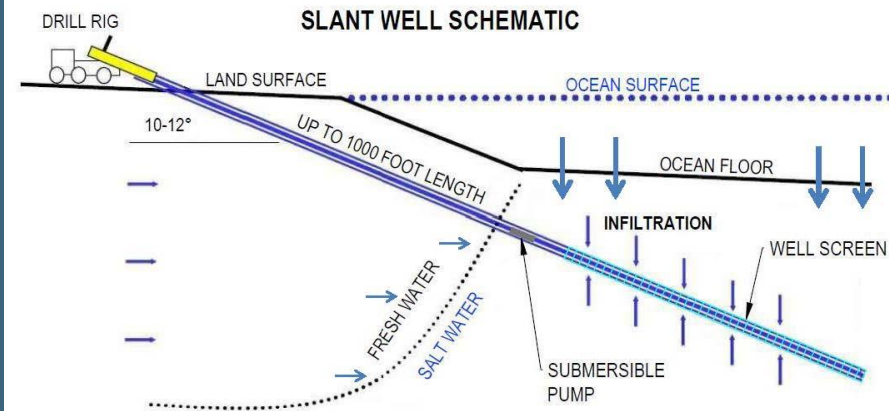
SLANT WELL INTAKE AREA



KEY PROJECT DESIGN FEATURES

- **Subsurface Intakes** – avoid marine life entrainment
- **Desalination Plant site** – on District property, inland
- **Brine discharge** – existing SOCWA outfall and diffuser system
 - To meet all Ocean Plan requirements
- **Phased implementation** to monitor intake/discharge
- **GHG Emissions Reduction**
 - Energy Recovery Devices
 - “Carbon Neutral” through GHG reduction plan

Doheny Desalination Project

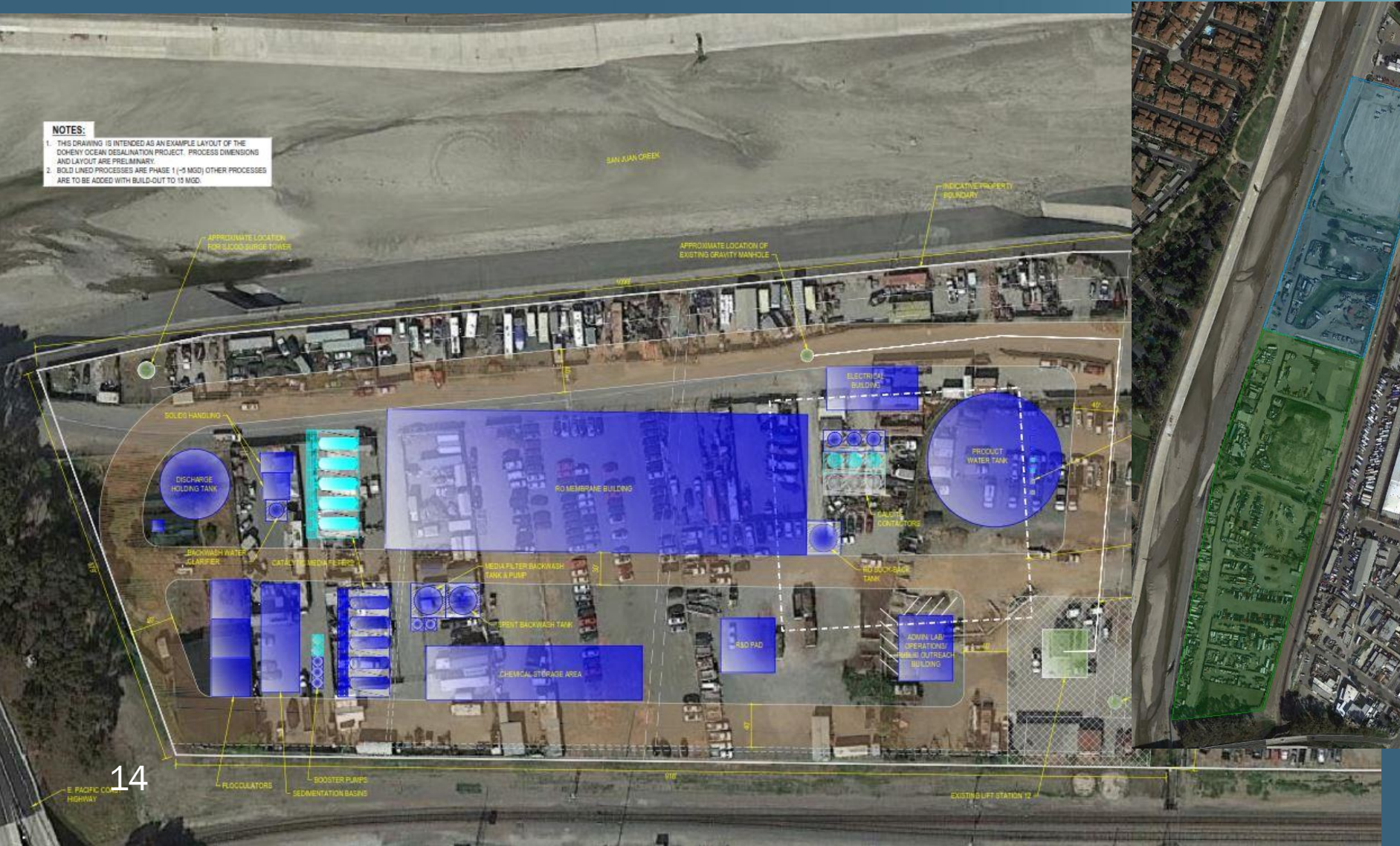


Slant well intake is about
95% Ocean Water



CONCEPTUAL DESALINATION PLANT LAYOUT

NOTES:
 1. THIS DRAWING IS INTENDED AS AN EXAMPLE LAYOUT OF THE DOHENY OCEAN DESALINATION PROJECT. PROCESS DIMENSIONS AND LAYOUT ARE PRELIMINARY.
 2. BOLD LINED PROCESSES ARE PHASE 1 (~5 MGD) OTHER PROCESSES ARE TO BE ADDED WITH BUILD-OUT TO 15 MGD.



ENVIRONMENTAL ISSUE AREAS

- **Aesthetics, Light, and Glare**
- **Air Quality/Greenhouse Gasses**
- **Biological Resources**
- **Cultural Resources**
- **Geotechnical Issues**
- **Hazards**
- **Hydrology/Water Quality**
- **Land Use and Planning**
- **Noise**
- **Public Services**
- **Recreation**
- **Traffic and Circulation**
- **Utilities and Service Systems**
- **Water Supply**
- **Cumulative impacts**
- **Growth-inducing Impacts**
- **Alternatives**

PRELIMINARY SCHEDULE

- **Technical Studies** *March – July 2016*
- **Regulatory Agency Consultation** *March – December 2016*
- **Draft EIR** *Late Summer 2016*
- **Final EIR** *Late 2016/early 2017*
- **Regulatory Permitting** *Summer 2016 – Summer 2017*
- **Design/Construction** *2017 - 2019*

NEXT STEPS

- *Technical Studies*
- *Stakeholder Consultation*
- *Regulatory Agency pre-application discussions*
- *Draft EIR - Public Review Period late Summer 2016*

QUESTIONS/COMMENTS ?

