



City of Santa Cruz and Soquel Creek Water District  
**Proposed scwd<sup>2</sup> Regional  
Seawater Desalination Project**



**Draft Environmental Impact Report**  
SCH# 2010112038

May 2013

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Prepared for:

City of Santa Cruz and Soquel Creek Water District

Prepared by:

URS Corporation



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## List of Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
µg/m <sup>3</sup>	micrograms per cubic meter
A.D.	Anno Domini
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
AC	alternate-current
ADA	Americans with Disabilities Act
ADT	average daily traffic
af	acre-feet
afd	acre-feet per day
afy	acre-feet per year
A.M.	morning
AMBAG	Association of Monterey Bay Area Governments
AQMP	Air Quality Management Plan
ARR	Annual Review and Report
B	beneficial impacts
B.C.	Before Christ
BAG	Basin Advisory Group
BIG	Basin Implementation Group
BMP	Best Management Practice
BOD	biochemical oxygen demand
CAAQS	California Ambient Air Quality Standards
CaCO <sub>3</sub>	calcium carbonate
CalAm	California American Water
Cal-EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
Capitola	City of Capitola
CAR	California Climate Action Reserve
CARB	California Air Resources Board
CAT	Climate Action Team
CB	Beach Commercial
CBC	California Building Code
CCA	California Coastal Act
CCAR	California Climate Action Registry
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCCC	California Climate Change Center
CCLEAN	Central Coast Long-term Environmental Assessment Network
CCR	California Code of Regulations
CCX	Chicago Climate Exchange

CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CDWR	California Department of Water Resources
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CESA	California Endangered Species Act
cf	cubic feet
cf/s	cubic feet per second
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
CH <sub>4</sub>	methane
CHHSLs	California Human Health Screening Levels
CIP	clean-in-place
City	City of Santa Cruz
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
CO-CAT	Coastal and Ocean Working Group of the California Climate Action Team
COPC	California Ocean Protection Council
County	County of Santa Cruz
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRLF	California red-legged frog
CSLC	California State Lands Commission
CUPA	Certified Unified Program Agencies
CUWCC	California Urban Water Conservation Council
CWA	Clean Water Act
CWD	Central Water District
CWUS	Culverted Waters of the United States
DAF	dissolved air floatation
dB	Decibels
dBA	A-weighted sounds levels
dbh	diameter at breast height
DBPs	disinfectant byproducts
DC	direct-current
District	Soquel Creek Water District
DMA	Disaster Mitigation Act of 2000 (federal)
DNL/L <sub>dn</sub>	day/night average sound level
DO	dissolved oxygen

DPR	Direct Potable Reuse
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
DU	designated units
<i>E. coli</i>	<i>Escherichia coli</i>
EC	electrical conductivity
EDR	Environmental Data Resources, Inc.
EECS	Energy Efficiency Conservation Strategy
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EMFAC	(Air Quality Model)
EOP	Emergency Operations Plan
ERD	Energy Recovery Device
ESA	Endangered Species Act
ESHA	Environmental Sensitive Habitat Areas
ESLs	Environmental Screening Levels
ESU	Evolutionary Significant Unit
ETM	Empirical Transport Model
ETWG	Energy Study Technical Working Group
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FHWG	Fisheries Hydroacoustic Working Group
fps	feet per second
GHG	greenhouse gas
GHWTP	Graham Hill Water Treatment Plant
GMP	Groundwater Management Plan
gpcd	gallons per capita per day
gpd	gallons per day
gpm	gallons per minute
GS	Gold Standard
GWP	Global Warming Potential
HAA5	haloacetic acids
HABMAP	Harmful Algal Bloom Monitoring and Alert Program
HAPC	Habitat Areas of Particular Concern
HCP	Habitat Conservation Plan
HFCs	hydrofluorocarbons
HMBP	Hazardous Materials Business Plan
HMMP	Hazardous Materials Management Plan
HMTA	Hazardous Materials Transportation Act of 1976
HSC	Health and Safety Code
HWCL	Hazardous Waste Control Law
IG	General Industrial District
in/sec	inches per second

IRP	Integrated Resources Plan
IS	Initial Study
ISO	Independent System Operator
IWP	Integrated Water Plan
kV	kilovolt
kW	kilowatt
kWh/kgal	kilowatt-hours of power per thousand gallons of water produced
LAFCO	Local Agency Formation Commission
LCP	Local Coastal Program
LCRS	leachate collection and removal system
L <sub>dn</sub> /DNL	day/night average sound level
LEED-NC	Leadership in Environmental and Energy Design – New Construction
L <sub>eq</sub>	Equivalent Noise Level
LID	Low-Impact Development
L <sub>max</sub>	maximum noise level
L <sub>min</sub>	minimum noise level
LOS	Level of Service
LRDP	Long Range Development Plan
LTS	less than significant
LTSM	less than significant with mitigation
LUST	Leaking underground storage tank
MBNMS	Monterey Bay National Marine Sanctuary
MBTA	Migratory Bird Treaty Act
MBUAPCD	Monterey Bay Unified Air Pollution Control District
mcf	million cubic feet
MCL	Maximum Contaminant Level
MF/UF	microfiltration/ultrafiltration
mfl	million fibers per liter
mg	million gallons
mg/L	milligrams per liter
mgd	million gallons per day
mgy	million gallons per year
MIDR	minimum initial dilution requirement
ml	milliliter
mm	millimeter
MMPA	Marine Mammal Protection Act
MMRP	Mitigation Monitoring and Reporting Program
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MRDL	maximum residual disinfectant levels
MSDS	Material Safety Data Sheets
MT	metric ton
MW	megawatt
Mw	Moment Magnitude
MWh	megawatt hours

MWh/yr	mega-watt hours per year
N	nitrogen
N <sub>2</sub> O	nitrous oxide
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NALMA	North American Land Mammal Age
NBSB	Natural Bridges State Beach
NCCAB	North Central Coast Air Basin
NCCP	Natural Community Conservation Plan
NCCPA	Natural Community Conservation Planning Act
NCD	Newell Creek Dam
NCDC	National Climatic Data Center
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NI	no impact or not applicable
NMFS	National Marine Fisheries Service
NMSA	National Marine Sanctuaries Act
NO	nitric oxide
NO <sub>2</sub>	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NO <sub>x</sub>	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPS	nonpoint source
NRCS	Natural Resources Conservation Service
NTU	nephelometric turbidity units
NWIC	Northwest Information Center
O <sub>3</sub>	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OFFROAD	(Air Quality Model)
OSHA	Occupational Safety and Health Administration (federal)
OWUS	Other waters of the United States
PAH	polyaromatic hydrocarbons
PCE	Primary Constituent Elements
PCS	Pacific Collegiate School
PFCs	perfluorocarbons
PG&E	Pacific Gas and Electric Company
PHG	Public Health Goal
P.M.	afternoon/evening
PM <sub>10</sub>	particulate matter 10 microns in diameter or less
PM <sub>2.5</sub>	particulate matter 2.5 microns in diameter or less
ppb	parts per billion
ppt	parts per trillion



PPV	peak particle velocity
PRC	Public Resources Code
PRGs	Preliminary Remediation Goals
PRS	paleontological resources specialist
PS	pump station
PV	photovoltaic
PVWMA	Pajaro Valley Water Management Agency
RCRA	Resource Conservation and Recovery Act of 1976
RL	Multiple-residence Low Rise
RMS	root mean squared
RO	reverse osmosis
RRF	Resource Recovery Facility
RSLs	Regional Screening Levels
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCCEHS	Santa Cruz County Environmental Health Services
SCCRTC	Santa Cruz County Regional Transportation Commission
SCMNH	Santa Cruz Museum of Natural History
SCMTD	Santa Cruz Metropolitan Transit District
scwd <sup>2</sup>	Santa Cruz Water Department/Soquel Creek Water District
SEL	Sound Energy Levels
SEPT	Social, Economical, Political, Technological
sf	square feet
SF <sub>6</sub>	sulfur hexafluoride
SFHA	Special Flood Hazard Areas
SHMA	State Hazards Mapping Act
SHPO	State Historic Preservation Office
SI	seawater intake
SIMoN	Sanctuary Integrated Monitoring Network
SIP	State Implementation Plan
SIU	Significant Industrial Users
SO <sub>2</sub>	sulfur dioxide
SOI	Sphere of Influence
S <sub>ox</sub>	sulfur oxides
SPCC	Spill Prevention, Control, and Countermeasures Plan
SSC	Species of Special Concern
STLC	soluble threshold limit concentration
SU	significant and unavoidable impact
SVP	Society of Vertebrate Paleontology
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWRO	seawater reverse osmosis
TAC	Toxic Air Contaminants
TDS	total dissolved solids

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TMDL	total maximum daily load
TON	threshold odor number
tpd	tons per day
TSS	total suspended sediments
TSS	total suspended solids
TTHM	total trihalomethanes
TTLC	total threshold limit concentration
TUa	toxicity unit acute
TUc	toxicity unit chronic
TWG	Technical Working Group
U.S.	United States
UBC	Uniform Building Code
UCMP	University of California Museum of Paleontology
UCSC	University of California Santa Cruz
URS	URS Corporation
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
V	volt
VCS	Voluntary Carbon Standard
VOCs	volatile organic compounds
VRP	Visibility Reducing Particles
WDRs	Waste Discharge Requirements
WEAP	Worker Environmental Awareness Program
WGNCEP	Working Group on Northern California Earthquake Potential
WQOs	Water Quality Objectives
WRCC	Western Regional Climate Center
WWTF	Wastewater Treatment Facility
WWUS	Wetland waters of the United States
µg/L	micrograms per liter
µS/c	microsiemens per centimeter