

# Carlsbad Desalination Project Local Conveyance

*~ Project Completion Report ~*

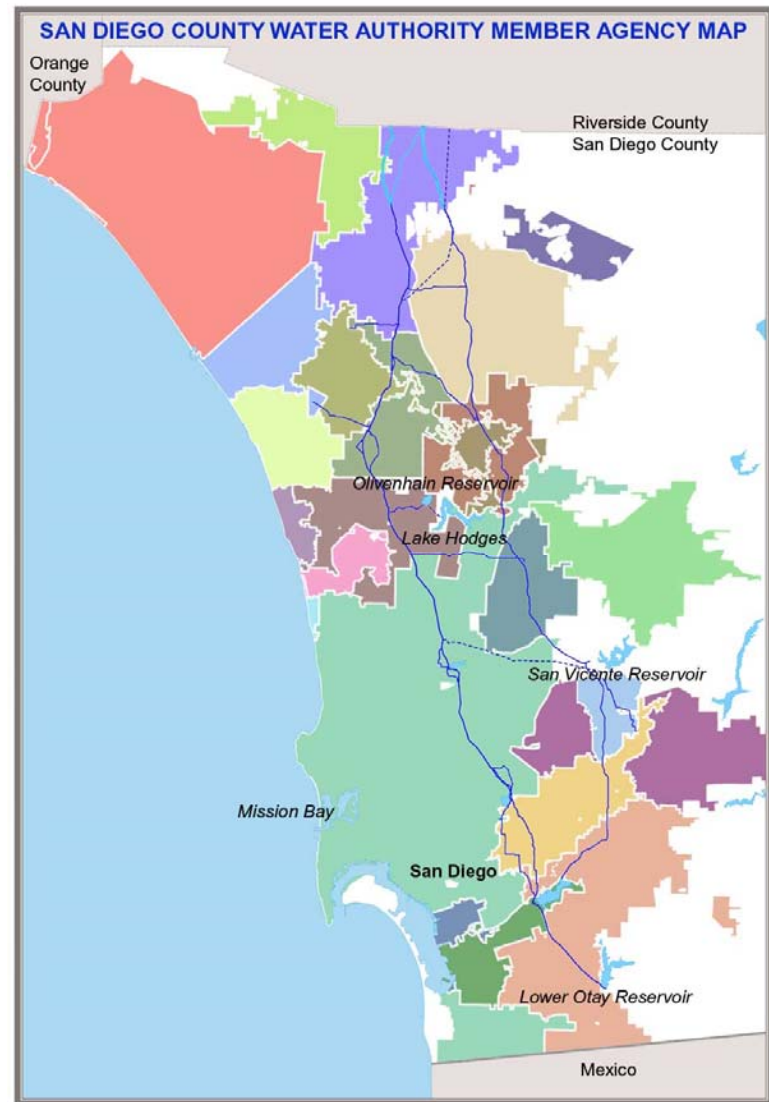
Jeremy Crutchfield, PE  
San Diego County Water Authority

*SD IRWM, Regional Advisory Committee Meeting  
August 5, 2015*



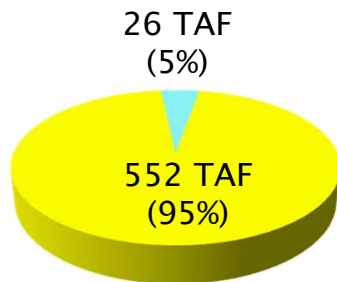
# San Diego County Water Authority

- ▶ Wholesale water agency created by State Legislature in 1944
  - 24 member agencies
  - 36-member board of directors
  - Serves 3.2 million people and region's \$206 billion economy
  - 97% of county's population
- ▶ Mission is to provide safe and reliable water supply to member agencies



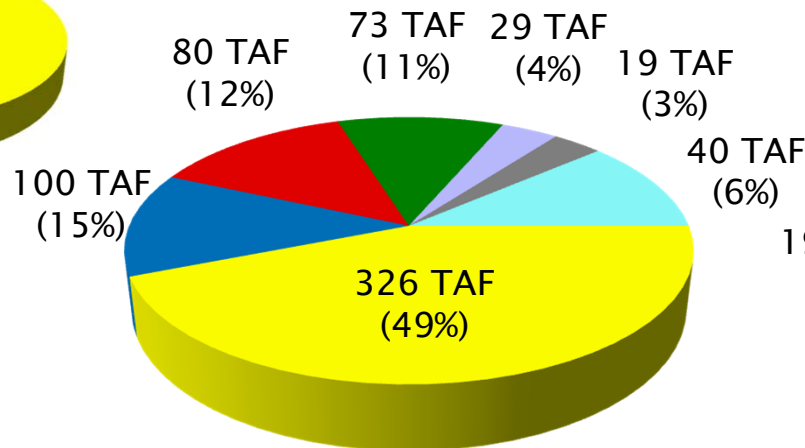
# Increasing San Diego Region's Water Supply Reliability through Supply Diversification

1991



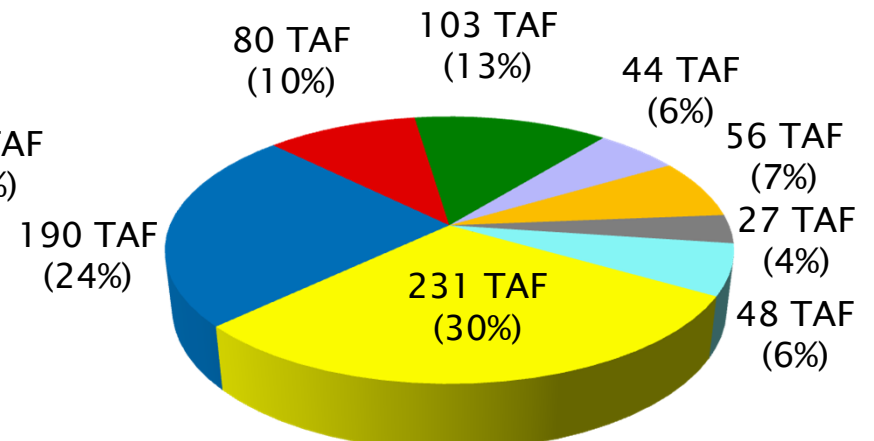
Total = 578 TAF

2014

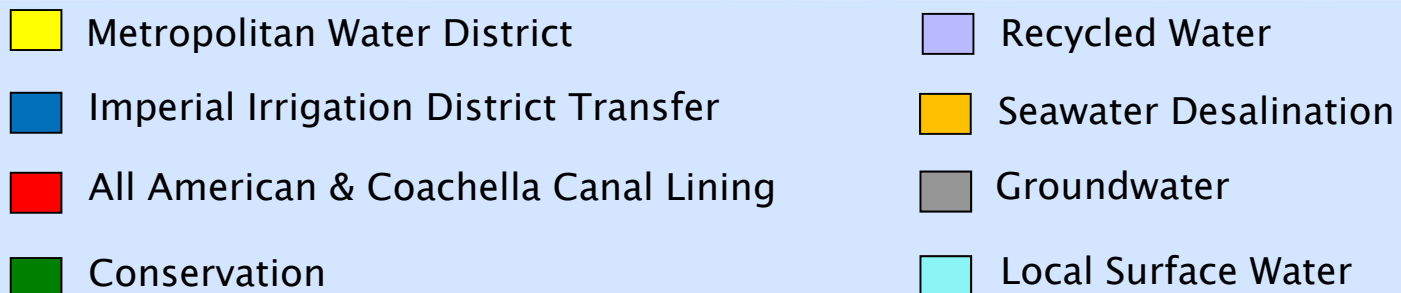


Total = 667 TAF

2020



Total = 779 TAF



# IRWM Objectives

- ▶ Increase local water supplies
- ▶ Improved regional water supply reliability
- ▶ Develop conveyance infrastructure to serve up to 56,000 acre-feet of local desalinated water a year from the Carlsbad Desalination Plant to Water Authority member agencies



**PROP 50  
FUNDING  
\$2.1M**



# Carlsbad Desalination Local Conveyance Project

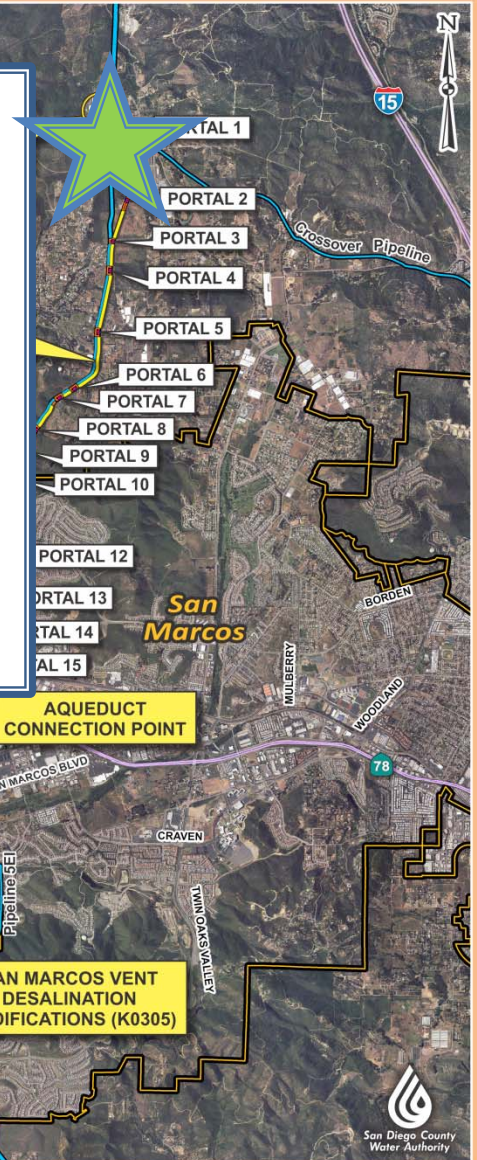
- ▶ Original Project (June 2008)
  - Olivenhain Municipal Water District
  - Develop system of conveyance piping and pump stations to deliver water from the Carlsbad Desalination Plant to Water Authority member agency distribution systems
  - Project Cost - \$80M
- ▶ Amended Project (November 2012)
  - San Diego County Water Authority
  - Develop conveyance system to receive, blend and deliver water from the Carlsbad Desalination Plant to Water Authority system
  - Project Cost - \$15.5M





# Carlsbad Desalination Project

Conveyance to Introduce Desalinated Water at the Twin Oaks Valley Water Treatment Plant



CARLSBAD  
DESALINATION  
PLANT (K0302)

MACARIO  
CANYON TUNNEL

DESALINATION PRODUCT WATER  
CONVEYANCE PIPELINE (K0303)  
(10 MILES, 54-INCH PIPE)

AQUEDUCT  
CONNECTION POINT

SAN MARCOS VENT  
DESALINATION  
MODIFICATIONS (K0305)

## LEGEND

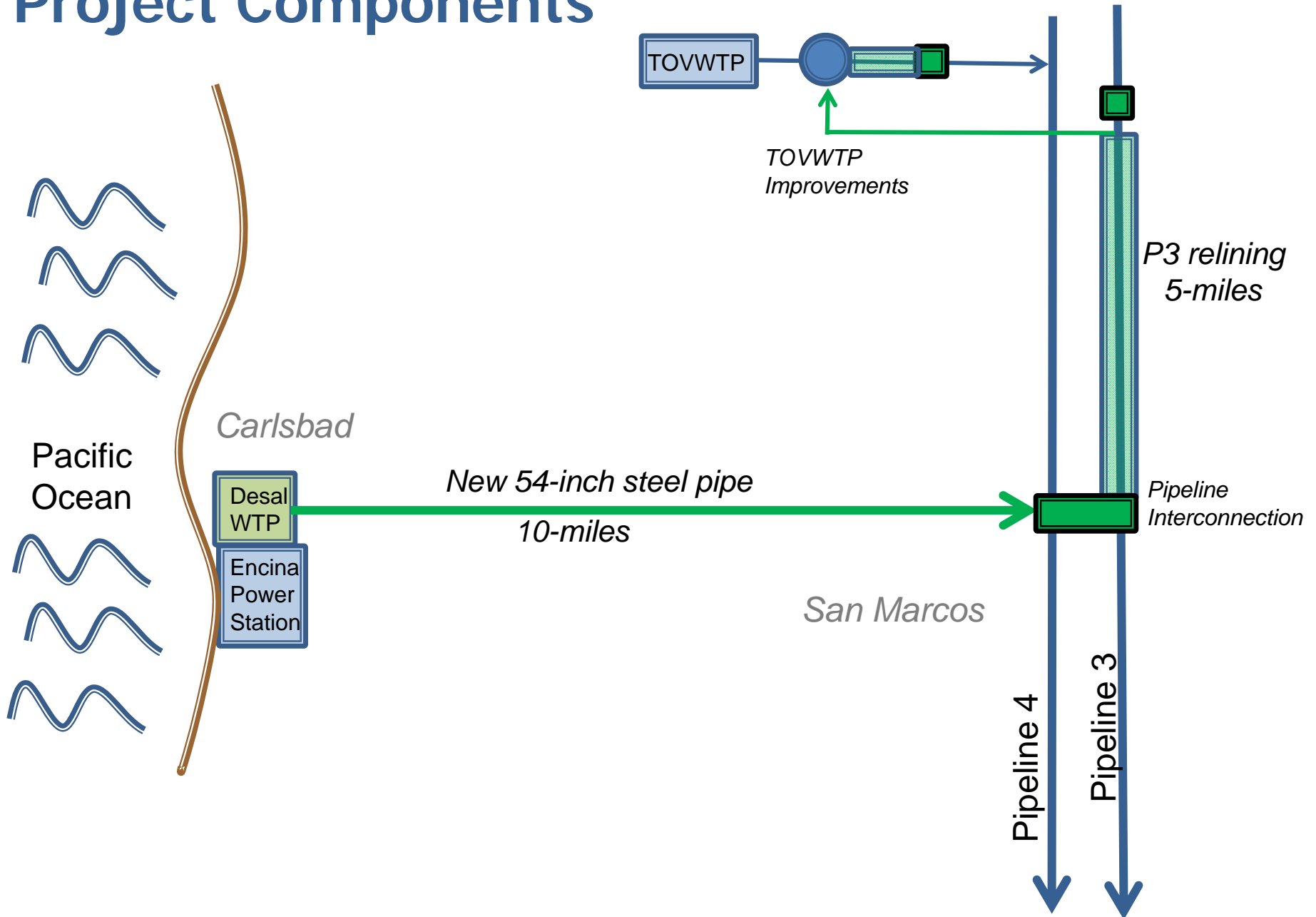
- Desalination Plant
- Desalination Pipeline
- Water Authority Pipeline
- Pipeline 3 Relining
- Portal Location
- Portal Staging Area

SCALE (feet)

0 2,050 4,100 8,200



# Project Components





# Other Conveyance Components

- ▶ Carlsbad Desalination Plant
  - 50 MGD Seawater Desalination
  - One of the largest in Western Hemisphere
- ▶ Desal Conveyance Pipeline
  - 10-mile Pipeline through Three Cities
  - 54-inch diameter steel pipe
- ▶ Pipeline 3 Relining Project
  - Rehabilitate 5 miles of exist pipe





# Carlsbad Desalination Local Conveyance - Project Site







# Conveyance Pipeline

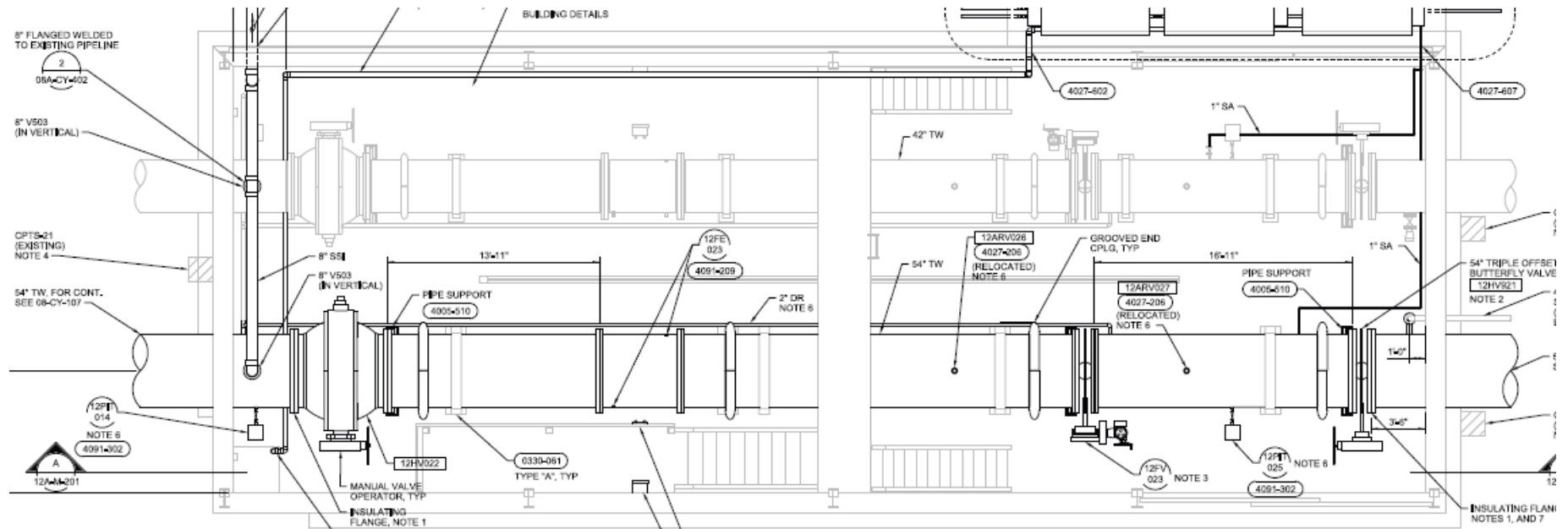




# Treated Water Clearwell



# Treated Water Flow Control Facility



# Remaining Tasks/Schedule

- ▶ Completed:
  - Construction – July 2014
  - Phase I Commissioning – April 2015
- ▶ Remaining:



Phase II  
Commissioning  
(September 2015)

Site Visit  
(October 6<sup>th</sup> or 7<sup>th</sup>)

Final Report  
(December 2015)



# Challenges

- ▶ Project Management Turnover
- ▶ Budget Categories for Design–Build Project
- ▶ Schedule
- ▶ Site Congestion





# Questions