

# **ATTACHMENT B**

**2019 WATER MASTER PLAN – POWERPOINT PRESENTATION TO CITY COUNCIL  
ON MAY 14, 2019**



## 2019 Water Master Plan

April 29, 2019



# 2019 Water Master Plan

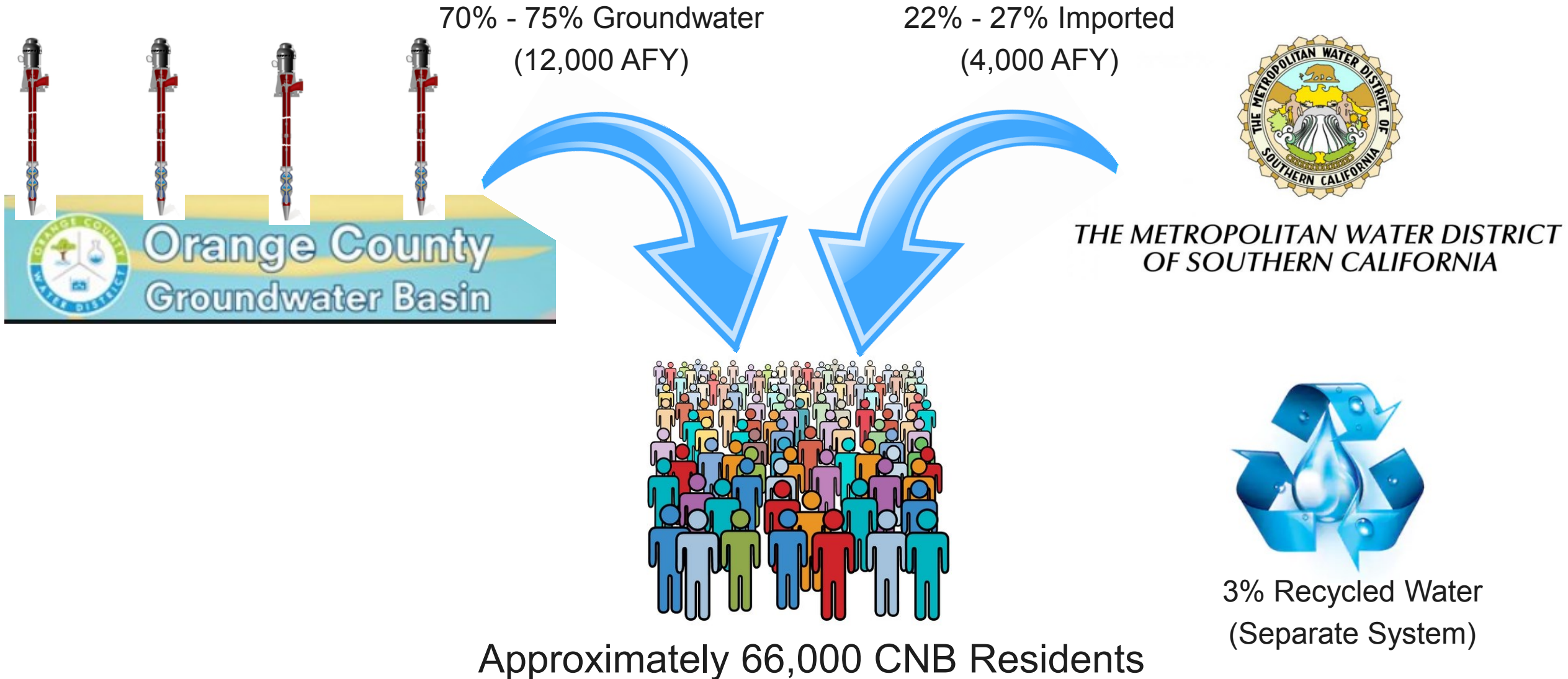
Newport Beach City Council Meeting  
May 14, 2019

# Background and Purpose

- Previous Water Master Plan (WMP) was completed in 1999 and updated in 2008
- 2019 WMP reflects recent water demands (2007-2016)
- Incorporates projected water demands and land use from General Plan
- Evaluated all water facilities - horizontal (pipelines) and vertical facilities
- Conducted risk and condition analysis of our facilities
- Prioritize and recommend Capital Improvement Program projects for the next 30 years



# Water Supply





# Existing System Infrastructure

- Serves approximately 66,000 customers over 11 square miles
- Approximately 300 miles of pipelines, three storage reservoirs, four groundwater wells, and five pump stations
- Five major pressure zones with 43 pressure regulating stations
- Six imported water connections with Metropolitan Water District and 12 emergency connections with IRWD and Mesa Water District



# Water System Modeling

- Developed new GIS based hydraulic model
- Calibrated model with field measurements
- Used model to analyze system performance
- Ability to predict impacts to water system due to change in demand





# Hydraulic Analysis Results



Storage Capacity



Pumping Capacity



Fire Flow Protection



Water Pressure



Ability to Meet Demand



# Aging Water Infrastructure

- Existing water mains that are 100 years old
- Water wells and BCR cover will require rehabilitation and/or replacement
- Continue with Cast Iron pipe replacement program
- Start Asbestos Cement (AC) pipe replacement program
- Transitioning from manual water meters to “smart” meters with our Advance Metering Infrastructure projects





# Water Main Breaks

Los Angeles Times

LOCAL

U.S.

WORLD

BUSINESS

SPORTS

ENTERTAINMENT

HEALTH

## L.A. NOW

SOUTHERN CALIFORNIA -- THIS JUST IN

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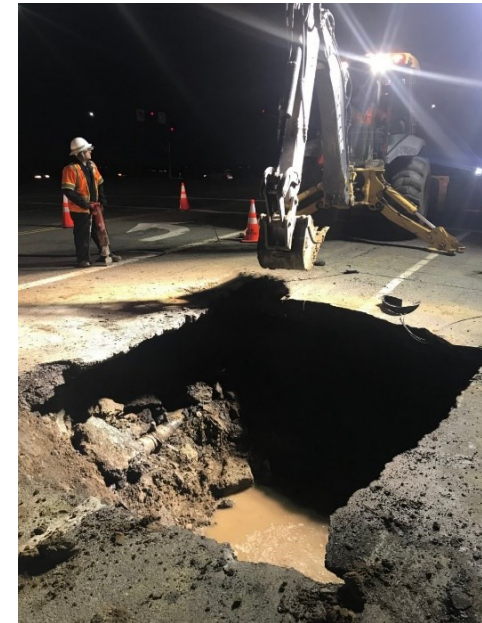


## Broken water main creates Newport Beach sinkhole [Updated]

OCTOBER 7, 2009 | 12:09 PM



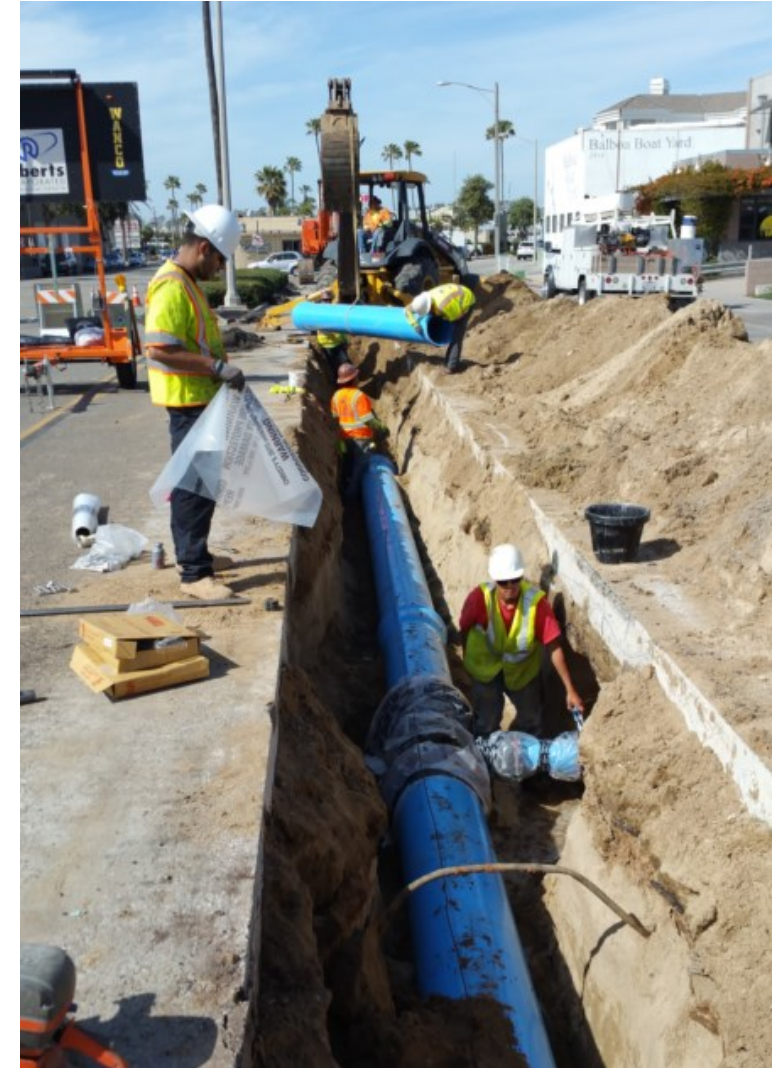
Via Lido by Newport Blvd



Jamboree Road by PCH

# 2019 Proposed 30-year Water CIP Budget

Pipeline Replacement and Relining	\$103,540,000
Facilities Projects	\$45,951,000
Advanced Metering Infrastructure	\$14,500,000
<u>Pressure Reducing Stations</u>	<u>\$1,207,000</u>
Total (without inflation)	\$165,198,000
 Total (with 2.5% inflation per year)	 \$216,715,000
Estimated Average Annual Budget	\$7,223,833





# Current Water CIP Budget

- Current average CIP budget is approximately \$5 million per year
- Proposed budget is \$7.2 million per year
- Additional \$2.2 million per year needed to address:
  - Increase in construction cost
  - Minimize expensive emergency repairs
  - Replace aging infrastructure
- Proactive approach in the maintenance of our water system prior to failure





# Recommendation and Next Steps

- Approve and adopt the 2019 Water Master Plan
- Include necessary funds in the 2019 Water Rate Study
- Review progress of Water Master Plan CIP every 10 years (Council Policy F-2)
- Complete water CIP projects as identified in the Master Plan





# Public Works Department

A Well-Engineered Machine

*Protecting and Providing Quality  
Public Improvements and Services*