2020 National Earthquake Conference

Emergency Water Supplies for San Diego, California

March 5, 2020
San Diego County Water Authority

Wholesale water agency created by state Legislature in 1944

- Serves 3.3 million people and region’s $231 billion economy through 24 member agencies

Provides 75% of water used in San Diego County

- Invested more than $2 billion in facilities (desalination, pipelines, treatment and reservoirs) in the last 15 years
Sources of San Diego County’s Water Supply (2014-2018 five-year average)

11% State Water Project (MWD supplies)

72% Colorado River (Long-term Transfers and MWD supplies)

17% Local Supplies
300+ Miles of Pipeline
Emergency/Carryover Storage Project
Four Phases

- System of pipelines, pump stations and reservoirs
- Store water locally
- Provide more flexible water deliveries
- ESP = 90,000 AF
- Carryover Storage (CSP) = 100K AF
Project: Olivenhain Dam & Reservoir
Complete: 2003
Benefit: 24,000 AF of storage

Designed to withstand 7.25M earthquake on Rose Canyon fault.
Peak Ground Acceleration (g): 0.371 (horiz.) / 0.348 (vert.)
Project: Olivenhain Pump Station
Completed: 2005
Benefit: 24,000 AF of storage
Project: Lake Hodges Projects
Completed: 2012
Benefits: 20,000 AF ESP storage; 40MW power
Lake Hodges Pump Station

- 120 feet deep
- Equivalent to a 10 story building underground
- Helps to capture runoff
- Pumps up 770 feet to Olivenhain Reservoir
Project: San Vicente Pump Station
Completed: 2010
Benefit: Connects San Vicente to 2^{nd} Aqueduct
Project: San Vicente Dam Raise
Completed: 2014
Benefit: Increase reservoir capacity by 152,000 Acre-Feet

Designed to withstand 7.5M earthquake on Elsinore fault.
Peak Ground Acceleration (g): $0.275$ (horiz.) / $0.236$ (vert.)
Enhancing Regional Water Supply Reliability

<table>
<thead>
<tr>
<th>Year</th>
<th>Project</th>
<th>Water Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>OLIVENHAIN</td>
<td>24,000 AF</td>
</tr>
<tr>
<td>2012</td>
<td>HODGES</td>
<td>20,000 AF</td>
</tr>
<tr>
<td>2014</td>
<td>SAN VICENTE</td>
<td>152,000 AF</td>
</tr>
</tbody>
</table>

TOTAL = 196,000 AF

(90K Emergency + 100K Carryover + 6K Operational)
Water is treated at Twin Oaks Valley WTP and flows north and south in 2nd Aqueduct.

- San Dieguito/Santa Fe
- Escondido/Vista
- Oceanside
- Poway
- Helix
- Olivenhain
- Sweetwater
- City of San Diego

Pump from Carlsbad Desal to 2nd Aqueduct.

Pump from Olivenhain to 2nd Aqueduct.

Pump from Hodges to Olivenhain.

Pump from San Vicente to Moreno Lakeside PL.

.... and north in 2nd Aqueduct.

.... and across to 1st Aqueduct.

.... and flows north and south in 2nd Aqueduct.
Stay in Touch with the Water Authority

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Questions?