# Crescenta Valley Water District

## Steering Committee Meeting No. 4
## Summary Notes
### Local Hazard Mitigation Plan, Project M-1004
### January 20, 2021 – 3:00 pm

**Attendance:**

**Steering Committee (SC):**

| | |
|---|---|
| Sharon Raghavachary - Chair | CVWD, Board of Director |
| Harry Leon – Vice-Chair | Crescenta Valley Town Council, President |
| James Bodnar | CVWD, Board of Director |
| Paul Dutton | Crescenta Valley Community Emergencies Response Team |
| Ken Herman | FMWD, District Engineer |
| Doug Caister | La Cañada Irrigation District, General Manager |
| Shahan Atmajian | City of La Cañada Flintridge, Emergency Services Coordinator |
| Brian Hodge | Crescenta Valley Fire Safe Council, President |
| Richard Ruyle | Glendale Water and Power, Water Services Administrator<br>Alternate for Michael De Ghetto - Glendale Water and Power |
| Dan Hargrove | City of Glendale Public Works, Assistant Deputy Director |
| Dave Weeshoff | San Fernando Valley Audubon Society |

**Core Planning Team (CPT):**

| | |
|---|---|
| David Gould | CVWD, Director of Engineering |
| Brook Yared | CVWD, Engineering Manager |
| Christy Colby | CVWD, Regulatory and Public Affairs Manager |
| Jennifer Bautista | CVWD, Project Coordinator |
| John Robinson | John Robinson Consulting, Inc. |
| Bart Spencer | Tetra Tech, Inc., Lead Project Planner |
| Rob Flaner | Tetra Tech, Inc., Project Manager |
| Des Alexander | Tetra Tech, Inc., Profiling Lead and Junior Planner |

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1. Welcome and Introduction
   - i. Call to order – Ms. Raghavachary, Committee Chair
   - ii. Roll call – Ms. Alexander, Tetra Tech
2. Planning Process
   - i. Approval of Steering Committee Meeting No. 3 Summary Notes

   Request for Motion

   Ms. Raghavachary requested a motion from the SC to approve summary notes for Steering Committee Meeting No. 3
   - Mr. Bodnar made a motion to approve summary notes for Steering Committee Meeting No. 3
   - Mr. Hodge second the motion
   - Steering Committee – Approved – 10-0 with Mr. Leon abstaining

ii. Profiling Process Summary – Ms. Alexander presented a draft and description of the CVWD HMP Hazard Profile. The Hazard Analysis is a comprehensive plan of the District and its impacts and exposure to various hazard scenarios.

a. District Profile
- History of CVWD
- Service Areas
- District Facilities
- Administrative Structure
- History of Events in Planning Area
- Physical Characteristics
  - Topography
  - Soils and Geology
  - Climate
- Development Profile
  - Current Land Use
  - Development Trends
- Demographics
  - Population Characteristics
  - Age Distribution
  - Race, ethnicity, language
  - Individuals with disabilities or access and functional needs
- Financial Summary
  - Budget

b. Hazard Profile – Ms. Alexander indicated that Ms. Baumann will provide details for the exposure and vulnerability assessment at a future meeting. Ms. Alexander will provide the following for the hazard profile:
- General background
- Definitions
- Past events
- Location, frequency, severity, warning time, secondary hazards
- Exposure and vulnerability
- Development trends
- Scenario
- Issues

3. Hazard Analysis – Mr. Flaner presented the hazard summary update with exposure and HAZUS modeling results for CVWD's water and wastewater structures. The data and results will be presented at the future public meeting.

i. Exposure Results –See Appendix A for details of the graphs and charts discussed by Tetra Tech.

a. Liquefaction Soil Zones – As an example, 66.7% of CVWD's wells are within the Liquefaction Zones.
b. NEHRP Soils Zones – C Soils and D Soils – Example - 91.3% of the District's pipelines are in D soils, which can lead to amplification of ground motion during an earthquake.
c. Landslide Risk Zones – The results from the model indicated the hazards to CVWD's infrastructure are deterministic and not probability results.

d. Very High Wildfire Severity Zone – Subterranean assets such as pipelines and valves are considered not at risk during a wildfire, but critical assets such as above ground pumps, buildings, and other structures in the Wildland Urban Interface (WUI) zone are deemed at a high risk.
    - Another scenario discussed was to overlay the Landslide Risk Zones and Very High Wildfire Severity Zone to see the results.

ii. HAZUS modeling Results – ShakeMap, a real time map of the USGS Earthquake Hazards Program, is inserted into the HAZUS model to provide deterministic results for the Probability of Damage, Building Loss, and Expected Functionality of the water and sewer system following a M6.9 event as shown in Appendix B.

a. Potable Water Buildings
    - Based on date of construction, the HAZUS model will apply a fragility curve and use the existing code standards at the time of construction.

b. Wastewater Facilities
    - The results of the modeling showed as an example, CVWD's wastewater lift station has a 5% chance of complete damage and a 20% chance of extensive damage. The results showed that the lift station may be repairable, but it will not be operable post event. The estimated financial loss for the wastewater lift station was estimated to be about $160,000.

c. Critical Facilities – The modeling results show that this is a chance of extensive and/or complete damage of CVWD's storage tanks and pumps during an earthquake event including:
    - Aeration Towers
    - Ramsdell Mixing Station
    - MCC's
    - Treatment Plants
    - PRVs
    - Reservoirs
    - Pump Stations
    - Wells
    - Pipelines – The damage to potable water pipelines is slightly higher than the damage to wastewater pipelines.

4. Public Outreach

i. LHMP Survey Results – Ms. Colby presented the final results of the LHMP e-mail survey. See Appendix C.

ii. Public Meeting– Virtual Zoom meeting in March or April 2021.

a. Local groups such as the Crescenta Valley Town Council and the Crescenta Valley Community Association will be invited to the public meeting.

b. Mr. Flaner recommended providing information to the public on earthquake/wildfire preparedness education.

5. Committee Member's Request for Future Agenda Items – Committee Chair

i. Ms. Colby will provide an outline on how CVWD will engage the public and advertise the public meeting.

6. Next Steering Committee Meeting – Wednesday, February 17, 2021

7. Adjournment

Request for Motion

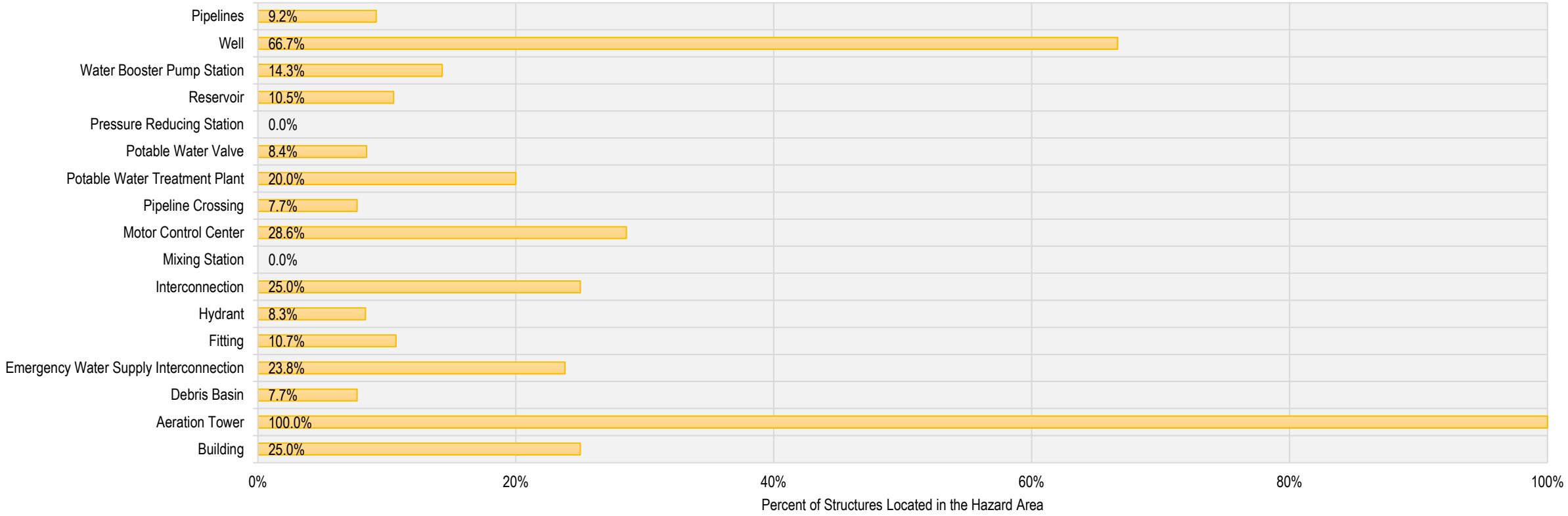
- Ms. Raghavachary requested a motion to adjourn the meeting.
- Steering Committee – Approved 11-0.

-End 4:45 pm

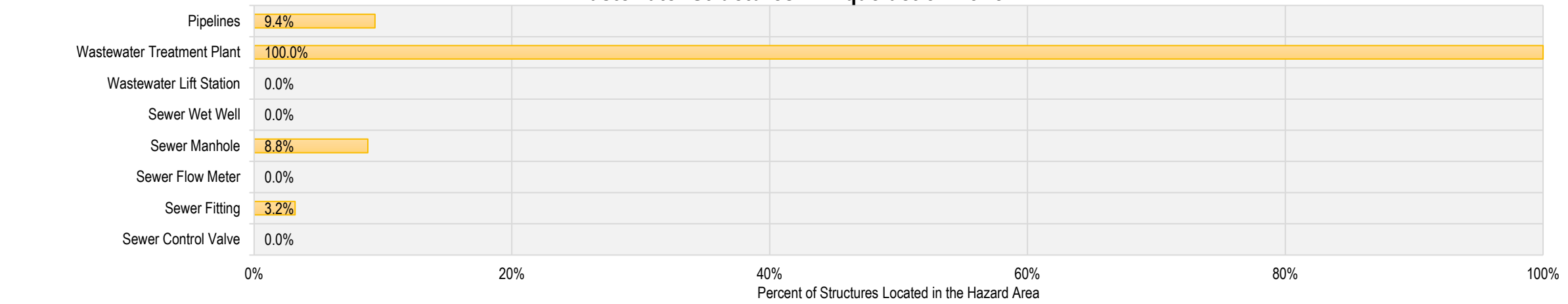
# APPENDIX A

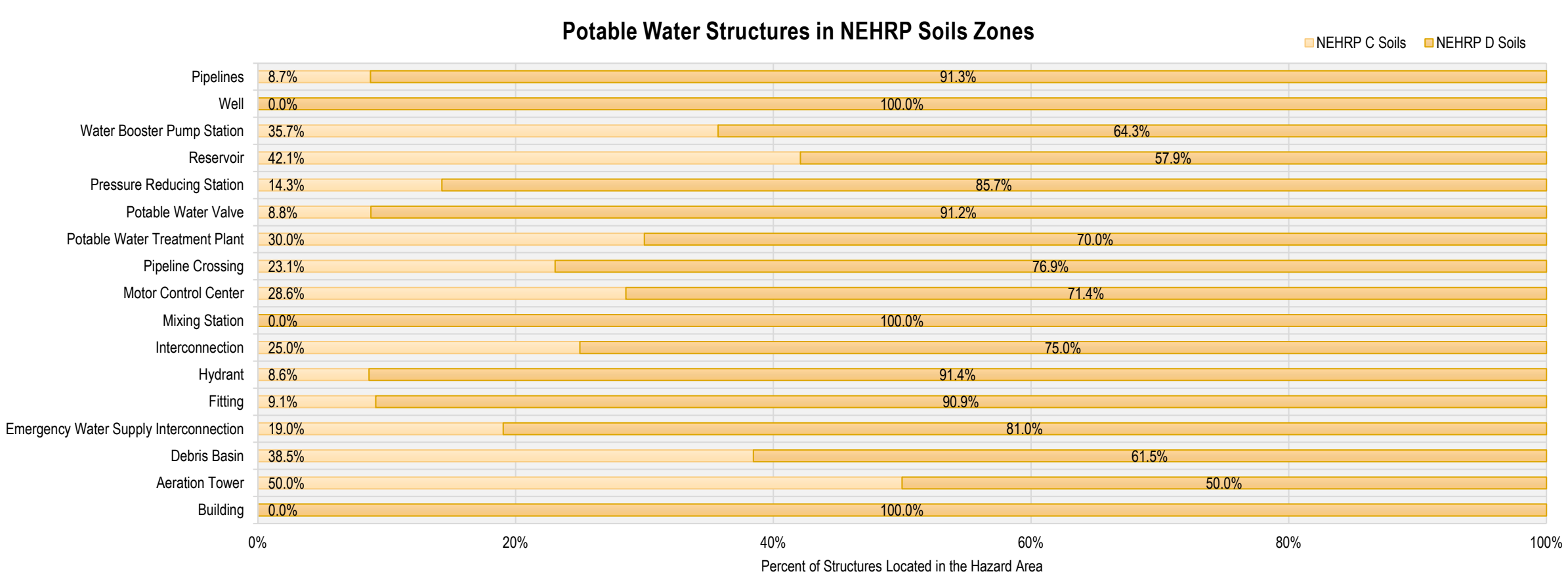
## EXPOSURE RESULTS

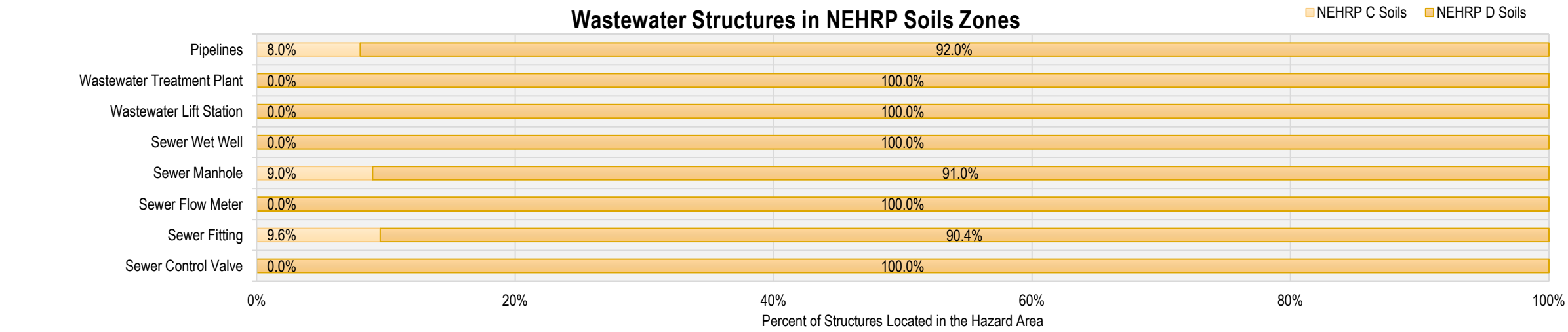
## Potable Water Structures in Liquefaction Zone

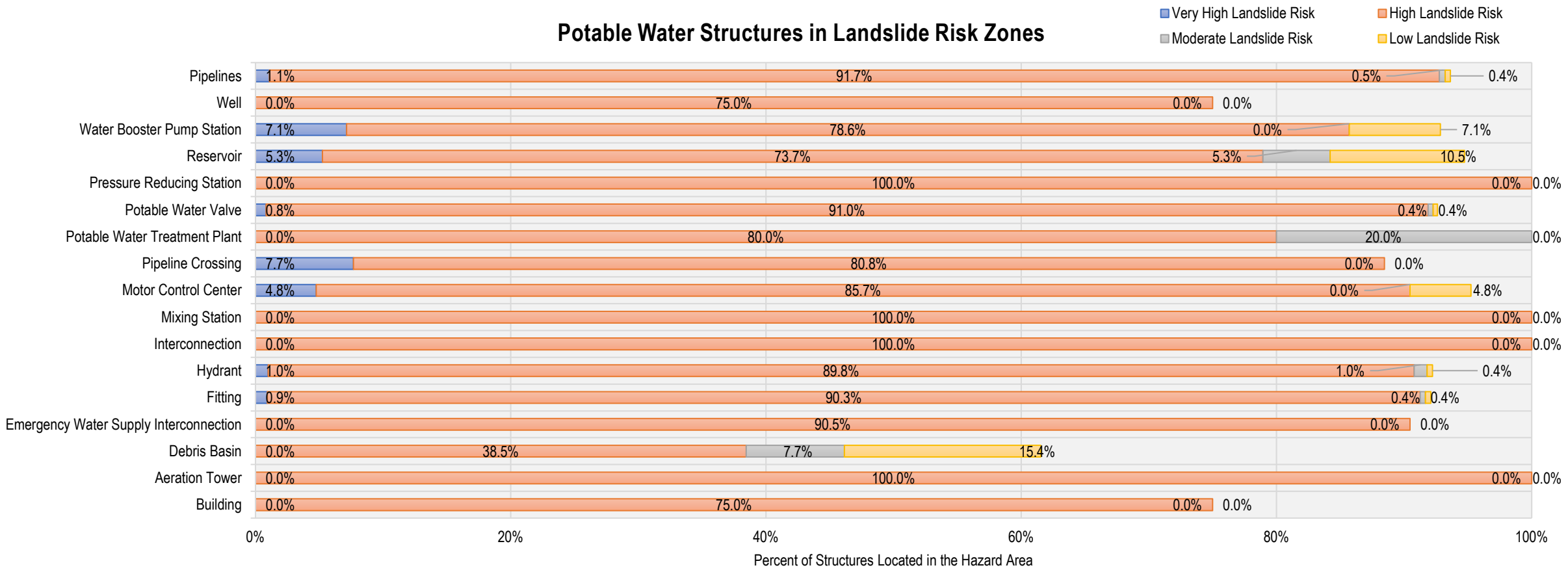


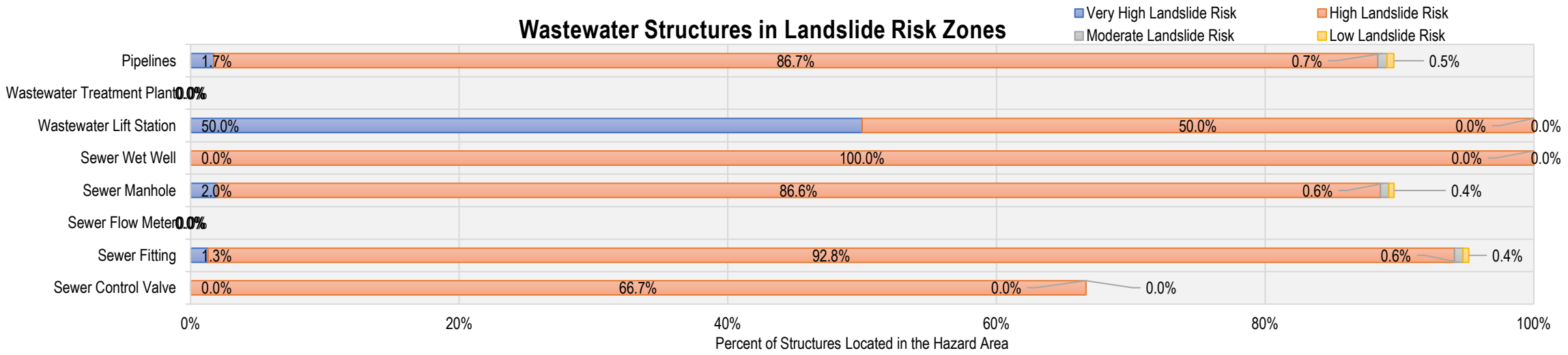

## Wastewater Structures in Liquefaction Zone



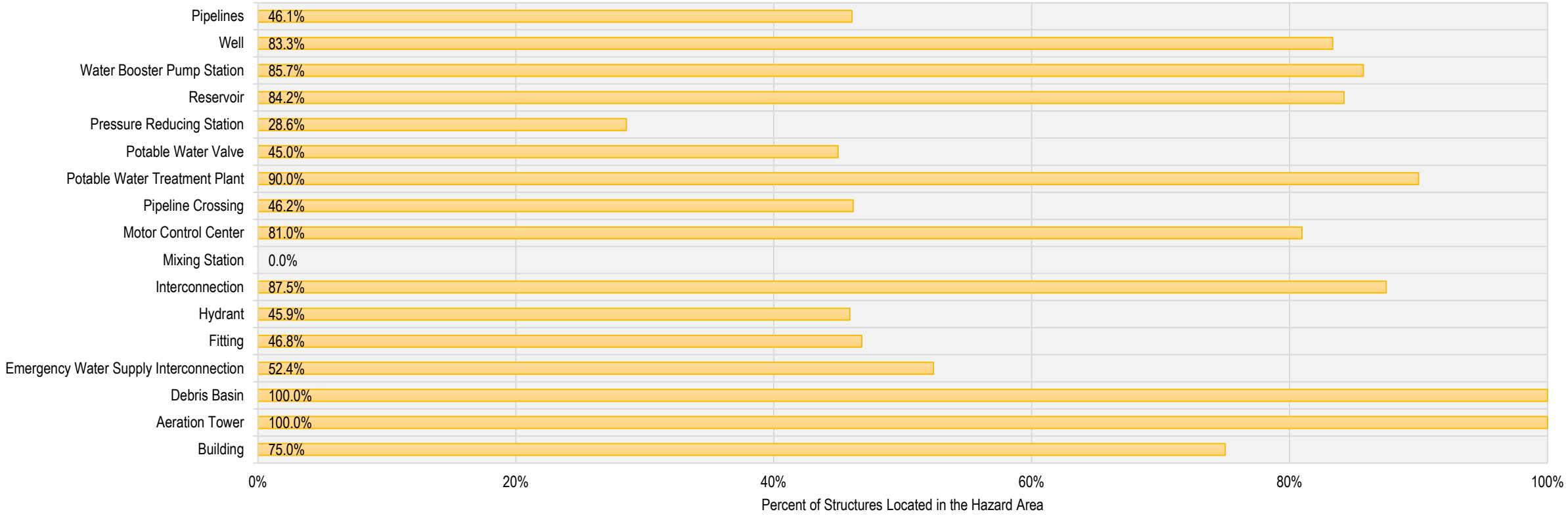

Potable Water Structures in NEHRP Soils Zones
NEHRP C Soils
NEHRP D Soils
Pipelines 8.7% 91.3%
Well 0.0% 100.0%
Water Booster Pump Station 35.7% 64.3%
Reservoir 42.1% 57.9%
Pressure Reducing Station 14.3% 85.7%
Potable Water Valve 8.8% 91.2%
Potable Water Treatment Plant 30.0% 70.0%
Pipeline Crossing 23.1% 76.9%
Motor Control Center 28.6% 71.4%
Mixing Station 0.0% 100.0%
Interconnection 25.0% 75.0%
Hydrant 8.6% 91.4%
Fitting 9.1% 90.9%
Emergency Water Supply Interconnection 19.0% 81.0%
Debris Basin 38.5% 61.5%
Aeration Tower 50.0% 50.0%
Building 0.0% 100.0%
0%
20%
40%
60%
80%
100%
Percent of Structures Located in the Hazard Area


Wastewater Structures in NEHRP Soils Zones
NEHRP C Soils
NEHRP D Soils
Pipelines 8.0% 92.0%
Wastewater Treatment Plant 0.0% 100.0%
Wastewater Lift Station 0.0% 100.0%
Sewer Wet Well 0.0% 100.0%
Sewer Manhole 9.0% 91.0%
Sewer Flow Meter 0.0% 100.0%
Sewer Fitting 9.6% 90.4%
Sewer Control Valve 0.0% 100.0%
0%
20%
40%
60%
80%
100%
Percent of Structures Located in the Hazard Area

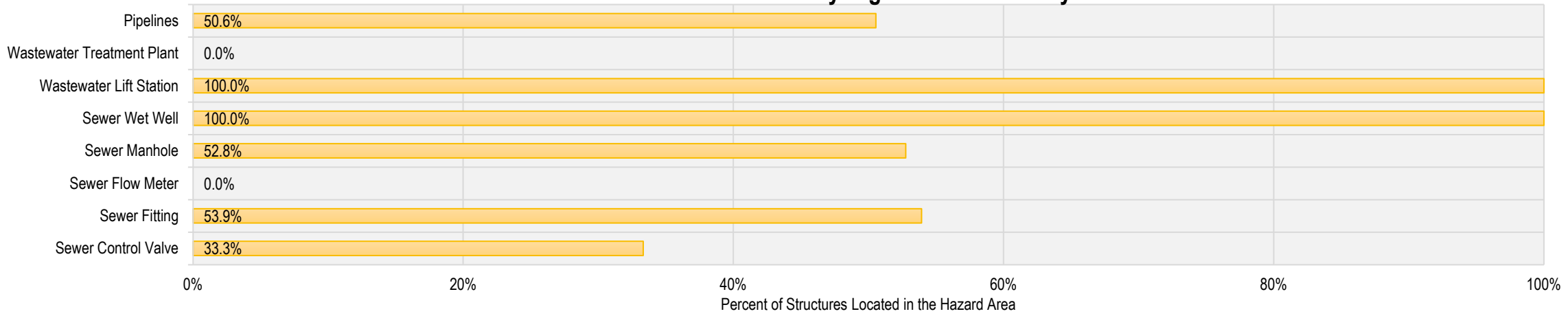

Potable Water Structures in Landslide Risk Zones
Very High Landslide Risk
High Landslide Risk
Moderate Landslide Risk
Low Landslide Risk
Pipelines 1.1% 91.7% 0.5% 0.4%
Well 0.0% 75.0% 0.0% 0.0%
Water Booster Pump Station 7.1% 78.6% 0.0% 7.1%
Reservoir 5.3% 73.7% 5.3% 10.5%
Pressure Reducing Station 0.0% 100.0% 0.0% 0.0%
Potable Water Valve 0.8% 91.0% 0.4% 0.4%
Potable Water Treatment Plant 0.0% 80.0% 20.0% 0.0%
Pipeline Crossing 7.7% 80.8% 0.0% 0.0%
Motor Control Center 4.8% 85.7% 0.0% 4.8%
Mixing Station 0.0% 100.0% 0.0% 0.0%
Interconnection 0.0% 100.0% 0.0% 0.0%
Hydrant 1.0% 89.8% 1.0% 0.4%
Fitting 0.9% 90.3% 0.4% 0.4%
Emergency Water Supply Interconnection 0.0% 90.5% 0.0% 0.0%
Debris Basin 0.0% 38.5% 7.7% 15.4%
Aeration Tower 0.0% 100.0% 0.0% 0.0%
Building 0.0% 75.0% 0.0% 0.0%
0% 20% 40% 60% 80% 100%
Percent of Structures Located in the Hazard Area


Wastewater Structures in Landslide Risk Zones
Very High Landslide Risk
High Landslide Risk
Moderate Landslide Risk
Low Landslide Risk
Pipelines 1.7% 86.7% 0.7% 0.5%
Wastewater Treatment Plant 0.0%
Wastewater Lift Station 50.0% 50.0% 0.0% 0.0%
Sewer Wet Well 0.0% 100.0% 0.0% 0.0%
Sewer Manhole 2.0% 86.6% 0.6% 0.4%
Sewer Flow Meter 0.0%
Sewer Fitting 1.3% 92.8% 0.6% 0.4%
Sewer Control Valve 0.0% 66.7% 0.0% 0.0%
0% 20% 40% 60% 80% 100%
Percent of Structures Located in the Hazard Area

## Potable Water Structures in Very High Wildfire Severity Zone




## Wastewater Structures in Very High Wildfire Severity Zone

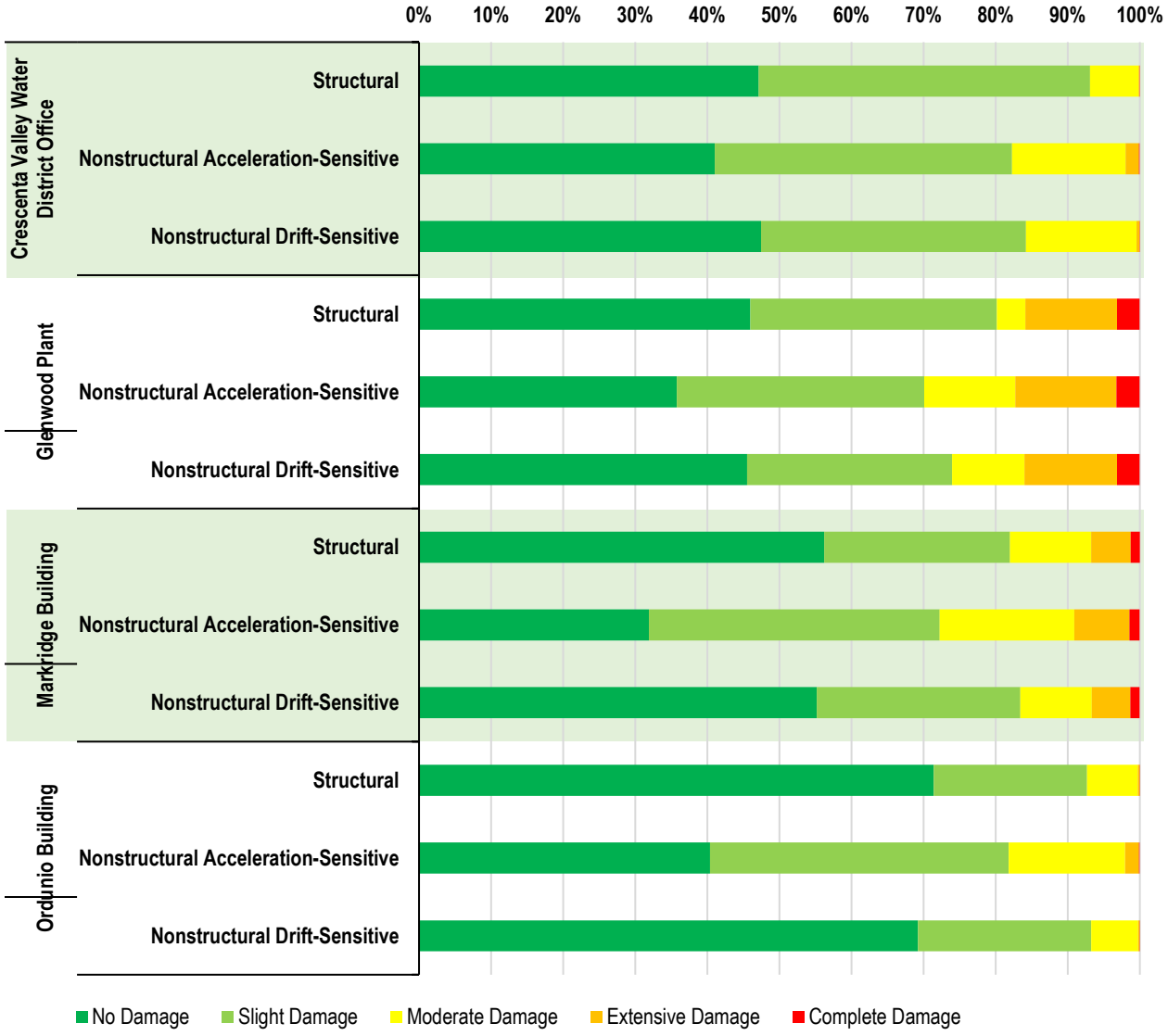


# APPENDIX B

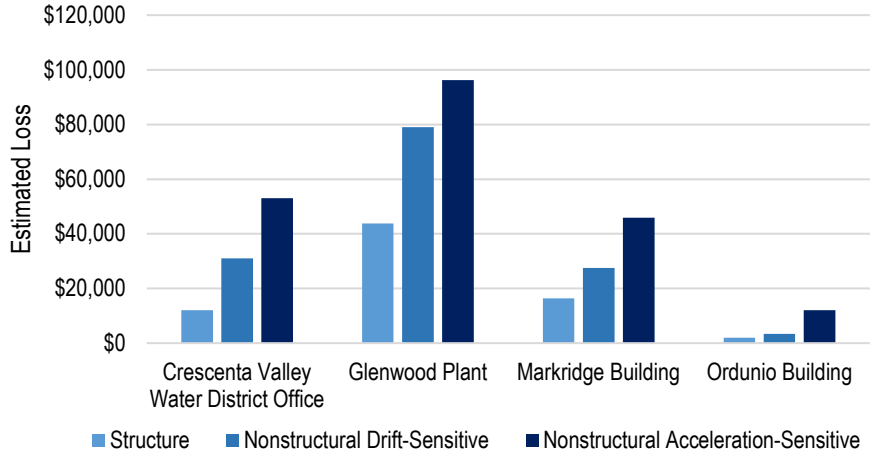
## HAZUS RESULTS

# Northridge M6.9 Event Impacts on Potable Water Buildings

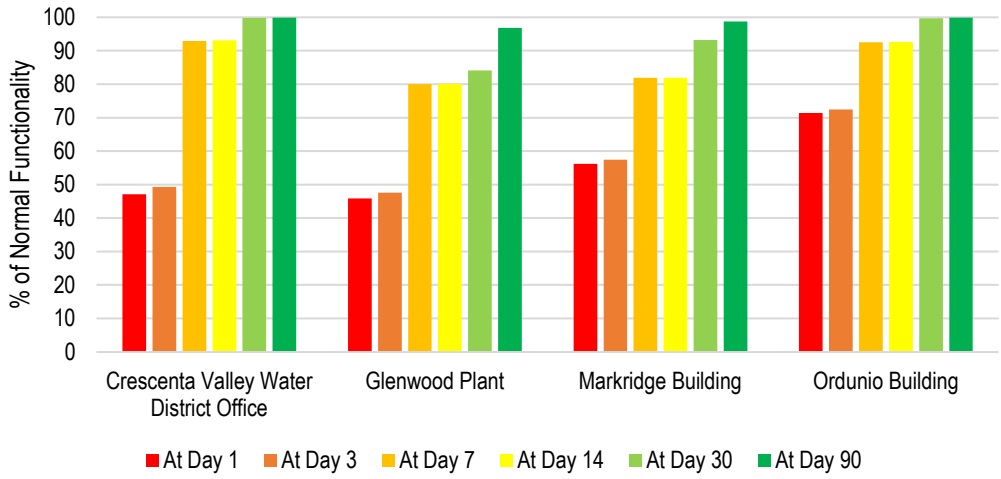
## Probability of Damage to Buildings from Northridge M6.9 Event



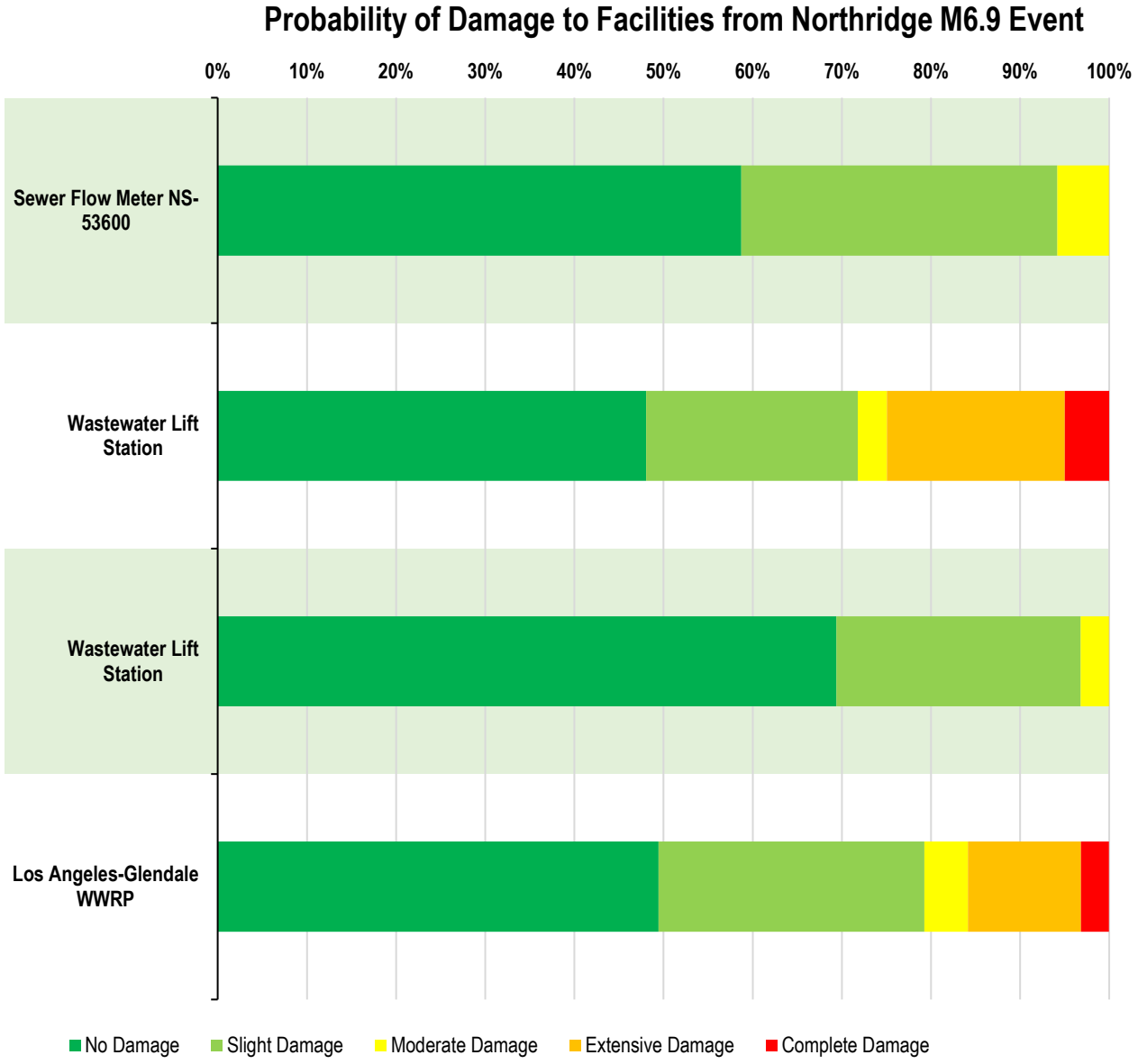

## Building Loss from Northridge M6.9 Event

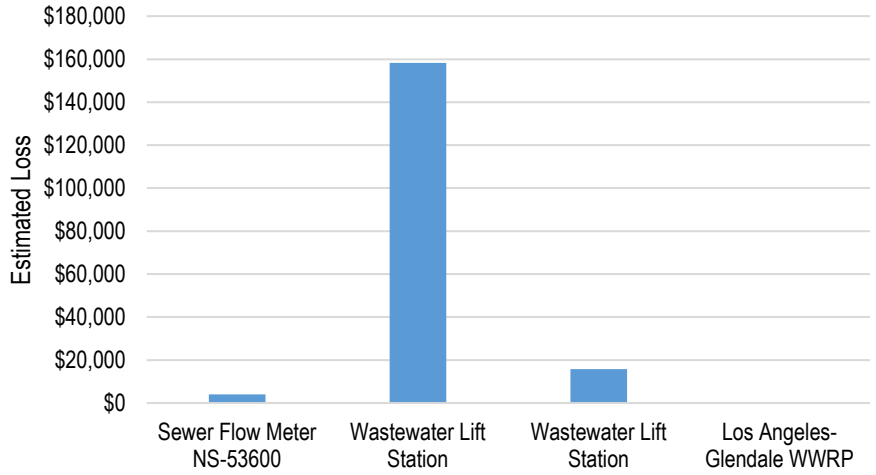


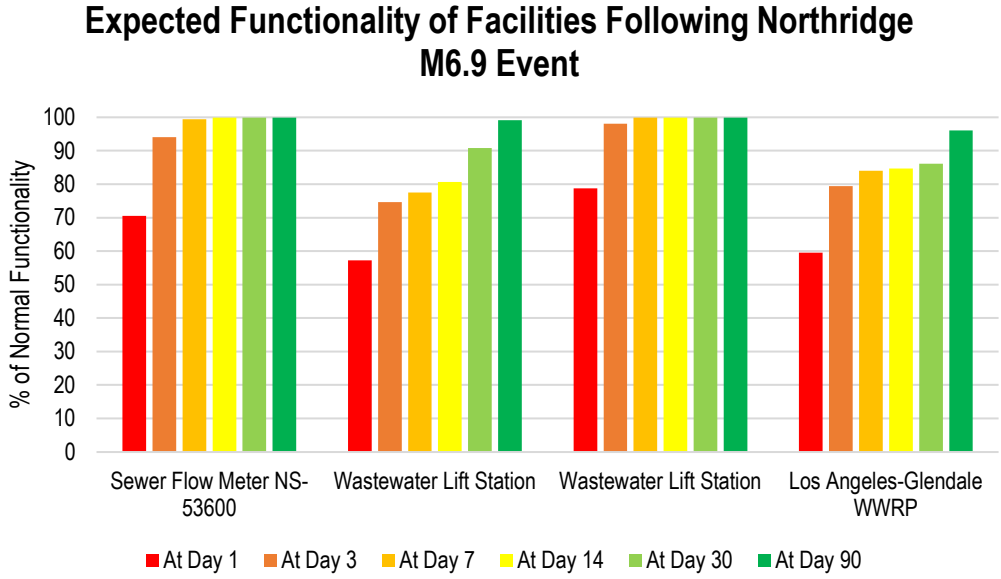

## Expected Functionality of Buildings Following Northridge M6.9 Event



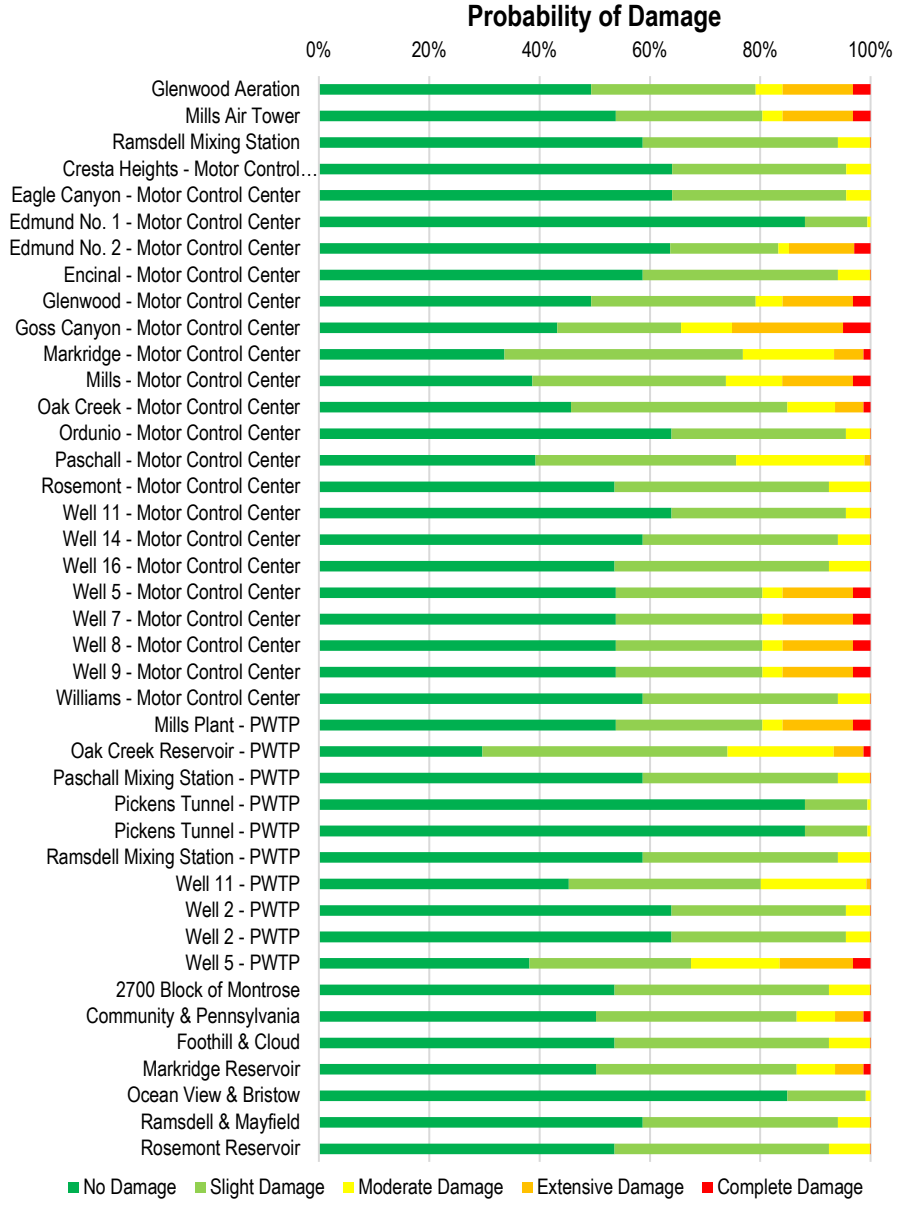
# Northridge M6.9 Event Impacts on Wastewater Facilities

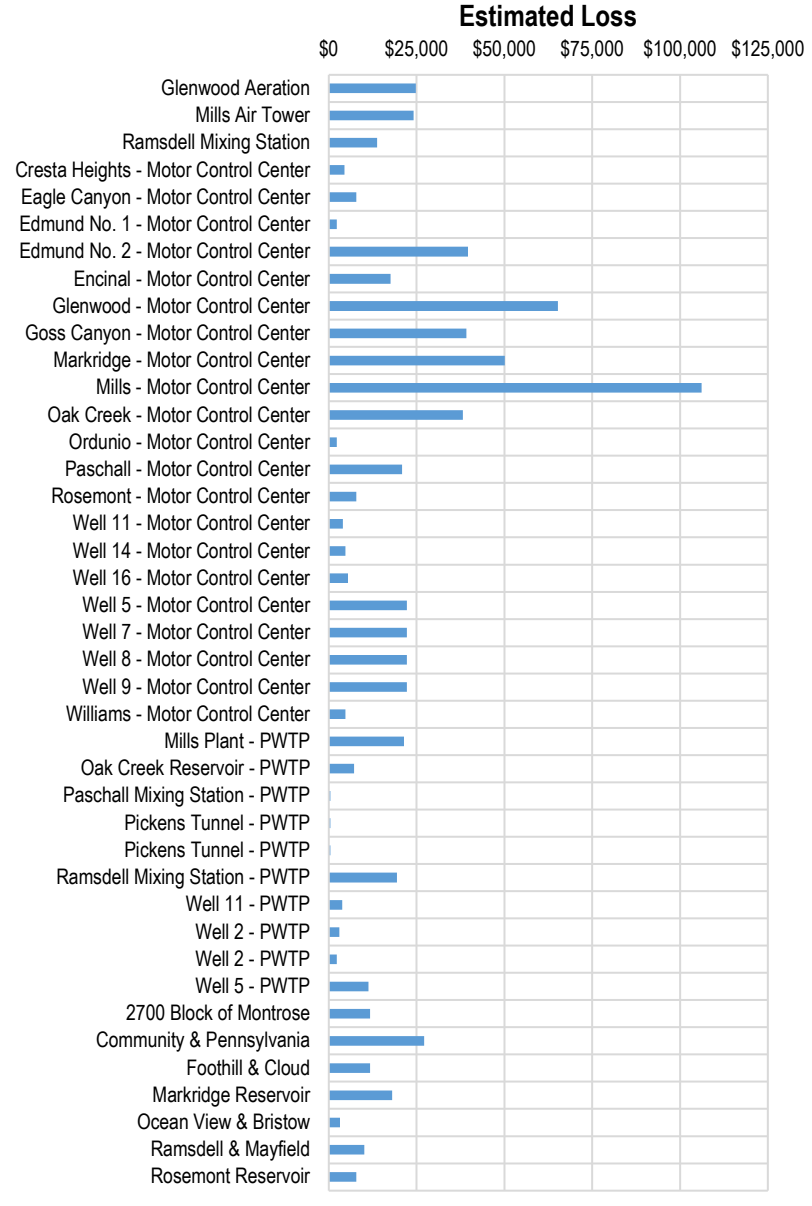


# Northridge M6.9 Event Impacts on Aeration Towers, Mixing Station, MCCs, Treatment Plants, PRVs

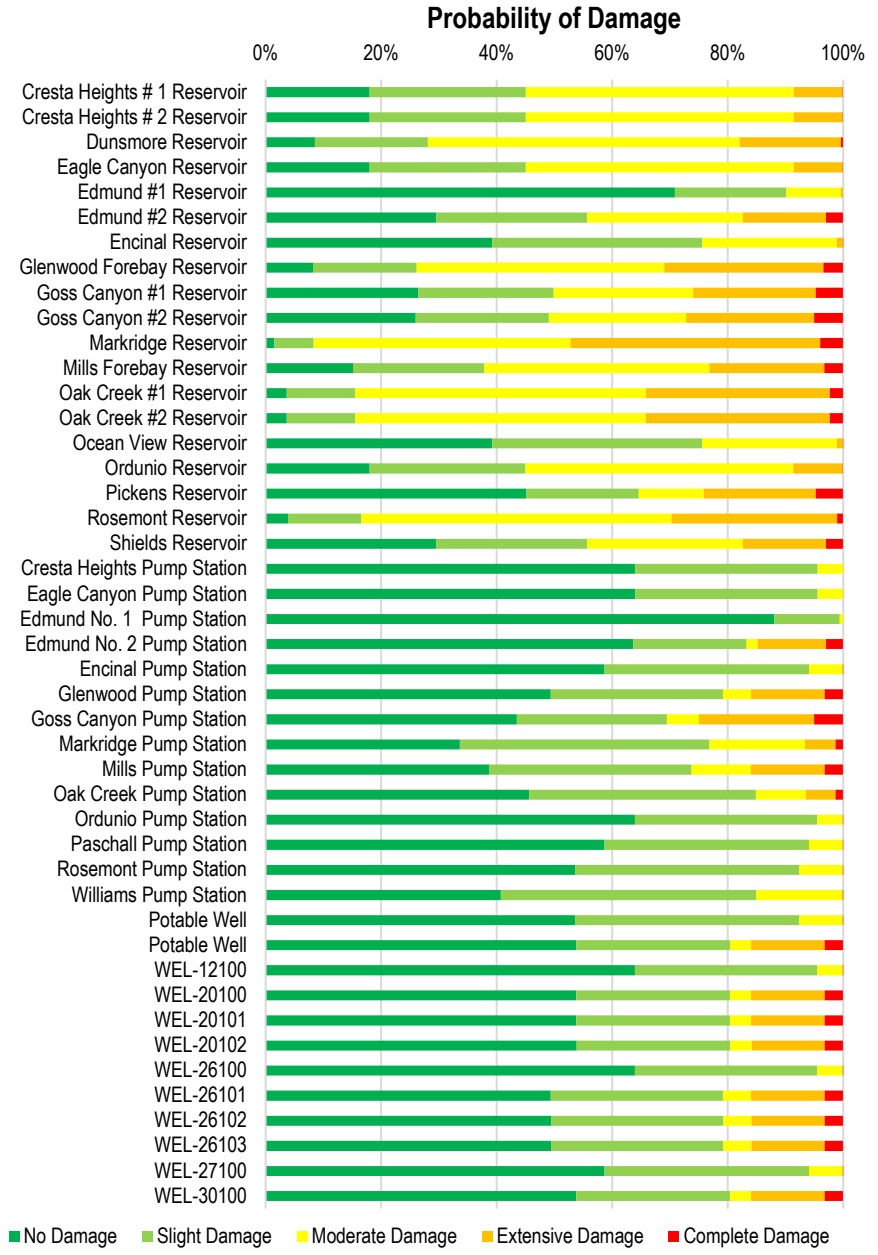


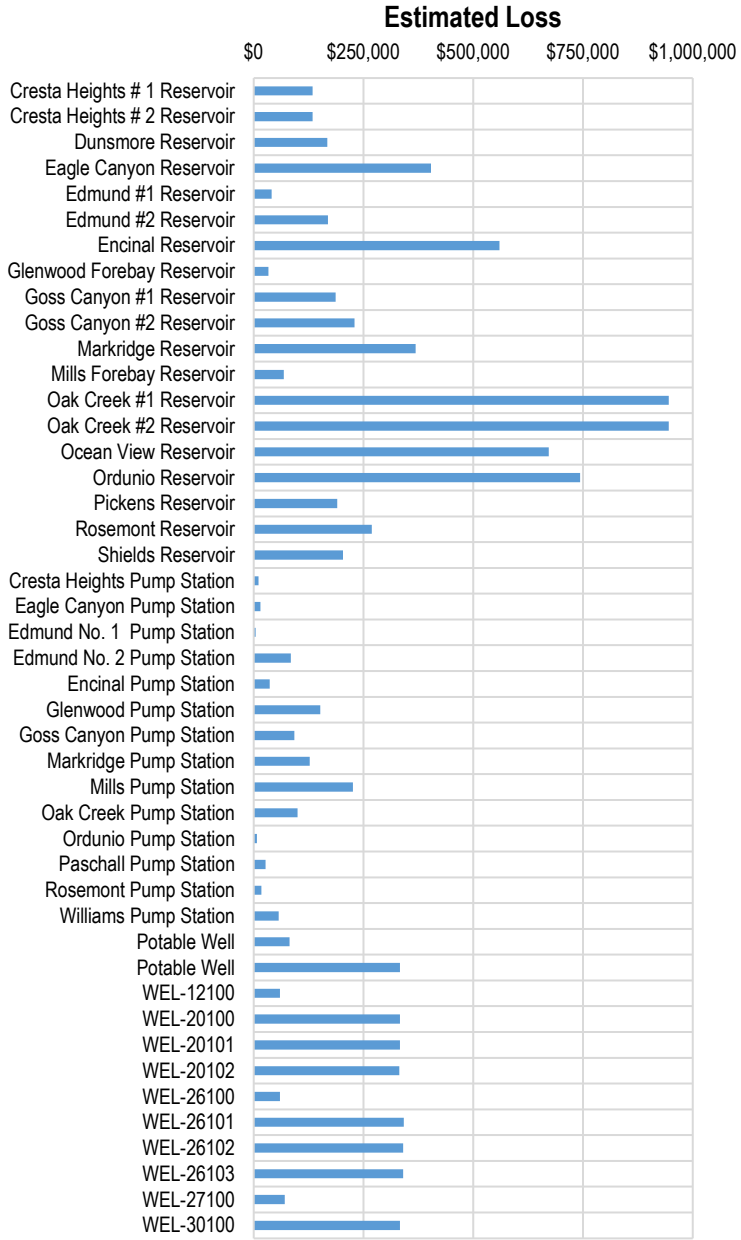




60% Functional | 85% Functional | 100% Functional

| Facility Name | Functionality (%) At Day 1 | At Day 3 | At Day 7 | At Day 14 | At Day 30 | At Day 90 |
|---|---|---|---|---|---|---|
| Glenwood Aeration | 71.50 | 85.60 | 87.00 | 87.90 | 90.50 | 97.80 |
| Mills Air Tower | 73.60 | 85.80 | 87.00 | 87.90 | 90.60 | 97.90 |
| Ramsdell Mixing Station | 82.30 | 98.80 | 99.80 | 99.80 | 99.90 | 99.90 |
| Cresta Heights - Motor Control Center | 84.90 | 99.10 | 99.90 | 99.90 | 99.90 | 99.90 |
| Eagle Canyon - Motor Control Center | 84.90 | 99.10 | 99.90 | 99.90 | 99.90 | 99.90 |
| Edmund No. 1 - Motor Control Center | 95.30 | 99.80 | 99.90 | 99.90 | 99.90 | 99.90 |
| Edmund No. 2 - Motor Control Center | 78.50 | 87.10 | 87.90 | 88.80 | 91.20 | 98.00 |
| Encinal - Motor Control Center | 82.30 | 98.80 | 99.80 | 99.80 | 99.90 | 99.90 |
| Glenwood - Motor Control Center | 71.50 | 85.60 | 87.00 | 87.90 | 90.50 | 97.80 |
| Goss Canyon - Motor Control Center | 63.00 | 77.10 | 79.50 | 81.00 | 85.10 | 96.70 |
| Markridge - Motor Control Center | 65.50 | 91.40 | 94.60 | 95.00 | 96.10 | 99.10 |
| Mills - Motor Control Center | 65.30 | 84.60 | 86.90 | 87.90 | 90.50 | 97.80 |
| Oak Creek - Motor Control Center | 73.20 | 92.90 | 94.70 | 95.10 | 96.10 | 99.10 |
| Ordunio - Motor Control Center | 84.80 | 99.10 | 99.80 | 99.80 | 99.90 | 99.90 |
| Paschall - Motor Control Center | 67.60 | 94.80 | 99.10 | 99.10 | 99.30 | 99.90 |
| Rosemont - Motor Control Center | 79.70 | 98.50 | 99.80 | 99.80 | 99.90 | 99.90 |
| Well 11 - Motor Control Center | 84.80 | 99.10 | 99.80 | 99.80 | 99.90 | 99.90 |
| Well 14 - Motor Control Center | 82.30 | 98.80 | 99.80 | 99.80 | 99.90 | 99.90 |
| Well 16 - Motor Control Center | 79.70 | 98.50 | 99.80 | 99.80 | 99.90 | 99.90 |
| Well 5 - Motor Control Center | 73.60 | 85.80 | 87.00 | 87.90 | 90.60 | 97.90 |
| Well 7 - Motor Control Center | 73.60 | 85.80 | 87.00 | 87.90 | 90.60 | 97.90 |
| Well 8 - Motor Control Center | 73.60 | 85.80 | 87.00 | 87.90 | 90.60 | 97.90 |
| Well 9 - Motor Control Center | 73.60 | 85.80 | 87.00 | 87.90 | 90.60 | 97.90 |
| Williams - Motor Control Center | 82.30 | 98.80 | 99.80 | 99.80 | 99.90 | 99.90 |
| Mills Plant - PWTP | 73.60 | 85.80 | 87.00 | 87.90 | 90.60 | 97.90 |
| Oak Creek Reservoir - PWTP | 62.90 | 90.80 | 94.50 | 94.90 | 96.00 | 99.10 |
| Paschall Mixing Station - PWTP | 82.30 | 98.80 | 99.80 | 99.80 | 99.90 | 99.90 |
| Pickens Tunnel - PWTP | 95.30 | 99.80 | 99.90 | 99.90 | 99.90 | 99.90 |
| Pickens Tunnel - PWTP | 95.30 | 99.80 | 99.90 | 99.90 | 99.90 | 99.90 |
| Ramsdell Mixing Station - PWTP | 82.30 | 98.80 | 99.80 | 99.80 | 99.90 | 99.90 |
| Well 11 - PWTP | 71.70 | 95.90 | 99.30 | 99.40 | 99.50 | 99.90 |
| Well 2 - PWTP | 84.80 | 99.10 | 99.80 | 99.80 | 99.90 | 99.90 |
| Well 2 - PWTP | 84.80 | 99.10 | 99.80 | 99.80 | 99.90 | 99.90 |
| Well 5 - PWTP | 62.50 | 83.10 | 86.50 | 87.50 | 90.30 | 97.80 |
| 2700 Block of Montrose | 79.70 | 98.50 | 99.80 | 99.80 | 99.90 | 99.90 |
| Community & Pennsylvania | 75.60 | 93.30 | 94.70 | 95.10 | 96.10 | 99.10 |
| Foothill & Cloud | 79.70 | 98.50 | 99.80 | 99.80 | 99.90 | 99.90 |
| Markridge Reservoir | 75.60 | 93.30 | 94.70 | 95.10 | 96.10 | 99.10 |
| Ocean View & Bristow | 94.00 | 99.80 | 99.90 | 99.90 | 99.90 | 99.90 |
| Ramsdell & Mayfield | 82.30 | 98.80 | 99.80 | 99.80 | 99.90 | 99.90 |
| Rosemont Reservoir | 79.70 | 98.50 | 99.80 | 99.80 | 99.90 | 99.90 |

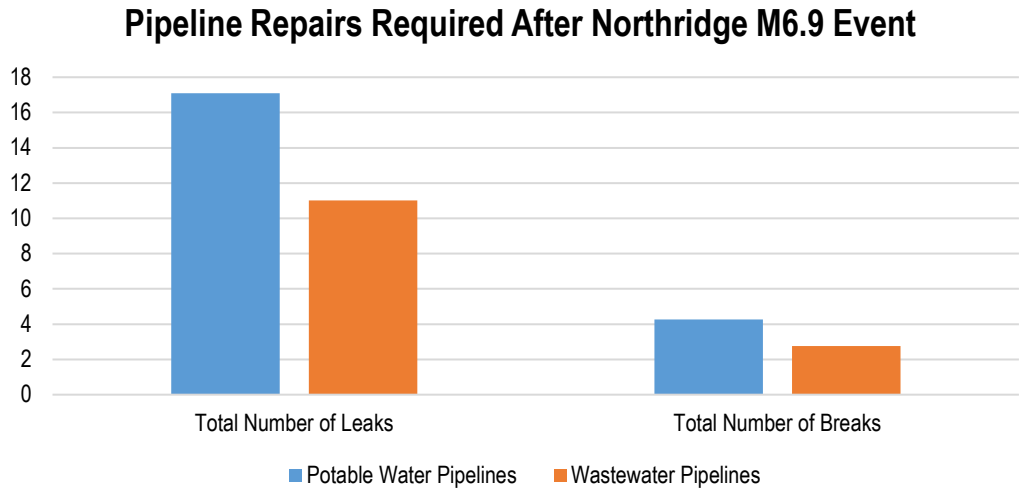
# Northridge M6.9 Event Impacts on Reservoirs, Pump Stations & Wells

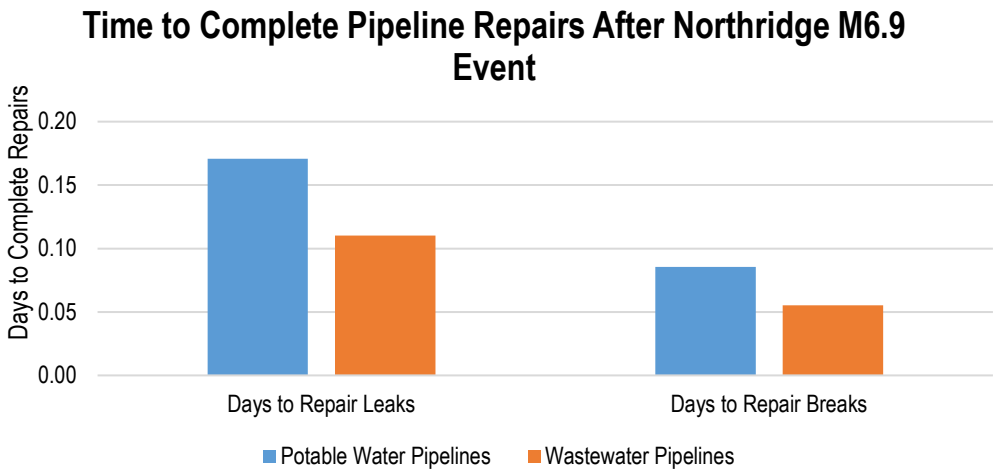


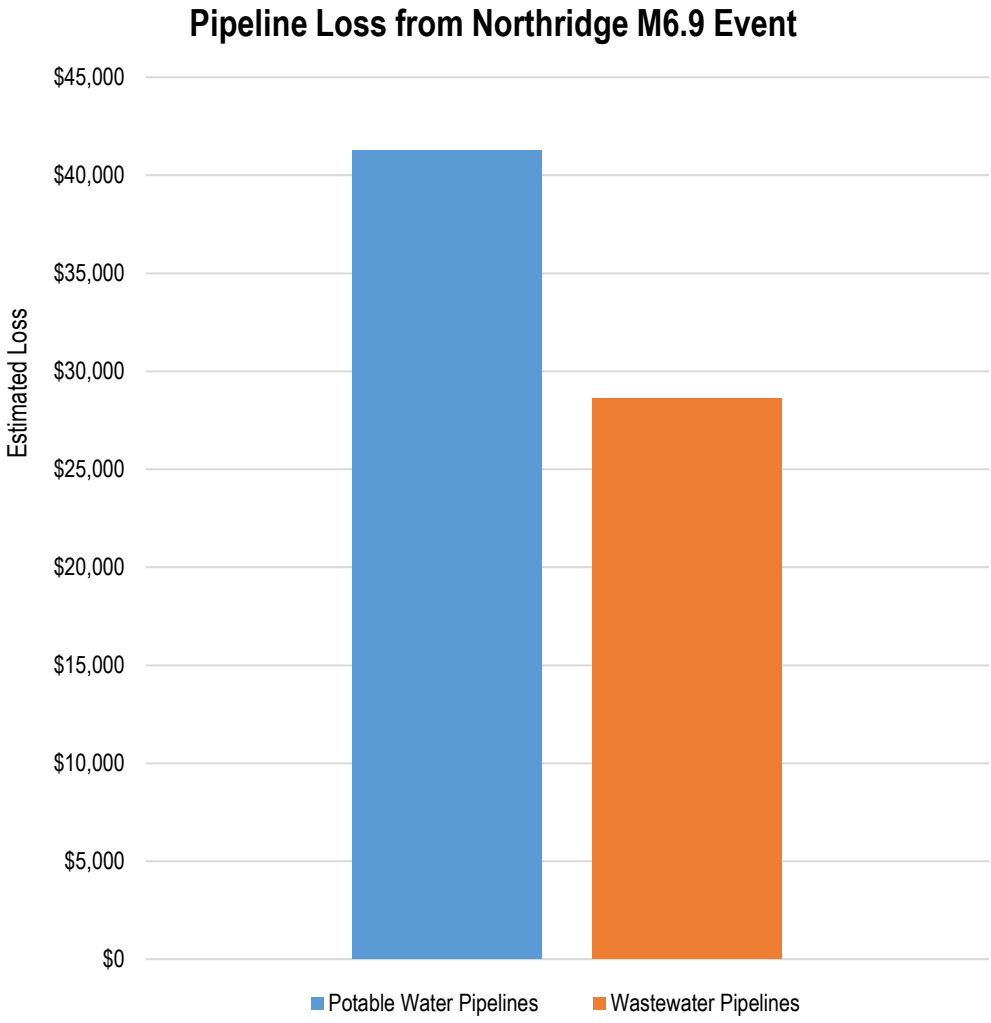




| | 22% Functional | | 85% Functional | | 100% Functional | |
|---|---|---|---|---|---|---|
| | Functionality (%) | | | | | |
| Facility Name | At Day 1 | At Day 3 | At Day 7 | At Day 14 | At Day 30 | At Day 90 |
| Cresta Heights # 1 Reservoir | 37.60 | 68.70 | 89.30 | 92.90 | 93.30 | 95.50 |
| Cresta Heights # 2 Reservoir | 37.60 | 68.70 | 89.30 | 92.90 | 93.30 | 95.50 |
| Dunsmore Reservoir | 28.80 | 56.80 | 80.80 | 85.10 | 86.10 | 90.60 |
| Eagle Canyon Reservoir | 37.60 | 68.70 | 89.30 | 92.90 | 93.30 | 95.50 |
| Edmund #1 Reservoir | 78.90 | 94.70 | 98.90 | 99.60 | 99.60 | 99.70 |
| Edmund #2 Reservoir | 45.70 | 71.10 | 83.10 | 85.50 | 86.30 | 90.40 |
| Encinal Reservoir | 55.70 | 87.00 | 97.30 | 99.00 | 99.10 | 99.40 |
| Glenwood Forebay Reservoir | 27.30 | 51.20 | 70.40 | 74.20 | 75.80 | 83.40 |
| Goss Canyon #1 Reservoir | 42.30 | 65.10 | 76.00 | 78.30 | 79.60 | 85.70 |
| Goss Canyon #2 Reservoir | 41.90 | 64.30 | 75.00 | 77.30 | 78.60 | 85.00 |
| Markridge Reservoir | 19.70 | 36.50 | 56.60 | 60.90 | 63.30 | 74.90 |
| Mills Forebay Reservoir | 33.70 | 60.00 | 77.40 | 80.70 | 81.90 | 87.40 |
| Oak Creek #1 Reservoir | 22.90 | 44.70 | 67.30 | 71.70 | 73.40 | 81.90 |
| Oak Creek #2 Reservoir | 22.90 | 44.70 | 67.30 | 71.70 | 73.40 | 81.90 |
| Ocean View Reservoir | 55.70 | 87.00 | 97.30 | 99.00 | 99.10 | 99.40 |
| Ordunio Reservoir | 37.60 | 68.70 | 89.20 | 92.80 | 93.30 | 95.50 |
| Pickens Reservoir | 56.70 | 73.30 | 78.50 | 79.80 | 80.90 | 86.60 |
| Rosemont Reservoir | 23.60 | 46.80 | 70.80 | 75.40 | 77.00 | 84.50 |
| Shields Reservoir | 45.70 | 71.10 | 83.10 | 85.50 | 86.30 | 90.40 |
| Cresta Heights Pump Station | 84.80 | 97.70 | 99.60 | 99.90 | 99.90 | 99.90 |
| Eagle Canyon Pump Station | 84.80 | 97.70 | 99.60 | 99.90 | 99.90 | 99.90 |
| Edmund No. 1 Pump Station | 95.30 | 99.60 | 99.90 | 99.90 | 99.90 | 99.90 |
| Edmund No. 2 Pump Station | 77.80 | 86.00 | 88.20 | 91.60 | 97.50 | 99.90 |
| Encinal Pump Station | 82.20 | 96.80 | 99.40 | 99.90 | 99.90 | 99.90 |
| Glenwood Pump Station | 70.60 | 83.50 | 87.10 | 91.00 | 97.40 | 99.90 |
| Goss Canyon Pump Station | 63.30 | 75.20 | 80.00 | 86.00 | 95.90 | 99.90 |
| Markridge Pump Station | 65.10 | 85.70 | 93.60 | 96.30 | 98.90 | 99.90 |
| Mills Pump Station | 64.40 | 80.70 | 86.70 | 91.00 | 97.30 | 99.90 |
| Oak Creek Pump Station | 72.80 | 89.80 | 94.30 | 96.30 | 98.90 | 99.90 |
| Ordunio Pump Station | 84.80 | 97.60 | 99.50 | 99.90 | 99.90 | 99.90 |
| Paschall Pump Station | 82.20 | 96.80 | 99.40 | 99.90 | 99.90 | 99.90 |
| Rosemont Pump Station | 79.70 | 96.00 | 99.30 | 99.90 | 99.90 | 99.90 |
| Williams Pump Station | 71.80 | 92.10 | 98.60 | 99.80 | 99.90 | 99.90 |
| Potable Well | 88.70 | 99.00 | 99.80 | 99.90 | 99.90 | 99.90 |
| Potable Well | 78.80 | 85.80 | 88.40 | 93.30 | 98.60 | 99.90 |
| WEL-12100 | 91.90 | 99.40 | 99.80 | 99.90 | 99.90 | 99.90 |
| WEL-20100 | 78.80 | 85.80 | 88.40 | 93.30 | 98.60 | 99.90 |
| WEL-20101 | 78.80 | 85.80 | 88.40 | 93.30 | 98.60 | 99.90 |
| WEL-20102 | 78.90 | 85.90 | 88.40 | 93.30 | 98.60 | 99.90 |
| WEL-26100 | 91.90 | 99.40 | 99.80 | 99.90 | 99.90 | 99.90 |
| WEL-26101 | 77.50 | 85.70 | 88.40 | 93.30 | 98.60 | 99.90 |
| WEL-26102 | 77.50 | 85.70 | 88.40 | 93.30 | 98.60 | 99.90 |
| WEL-26103 | 77.50 | 85.70 | 88.40 | 93.30 | 98.60 | 99.90 |
| WEL-27100 | 90.40 | 99.20 | 99.80 | 99.90 | 99.90 | 99.90 |
| WEL-30100 | 78.80 | 85.80 | 88.40 | 93.30 | 98.60 | 99.90 |

# Northridge M6.9 Event Impacts on Pipelines



# APPENDIX C

## LHMP SURVEY

## FINAL RESULTS

# Local Hazard Mitigation Survey - Final Results

## Constant Contact Survey Results

**Survey Name:** Haz Mitigation Plan
**Response Status:** Partial & Completed
**Filter:** None
Jan 07, 2021 2:46:40 PM

**1. What natural hazard have you experienced or been affected by in the past 3 years? (Check all that apply)**

| | Number of Response(s) | Response Ratio |
|---|---|---|
| None | 12 | 5.7% |
| Pandemic | 173 | 83.5% |
| Drought | 121 | 58.4% |
| Earthquake | 73 | 35.2% |
| Flooding Landslide/ Debris Flow | 4 | 1.9% |
| Severe Weather (wind, lightning, extreme cold or heat, winter storm, etc.) | 97 | 46.8% |
| Wildfire | 78 | 37.6% |
| Other | 3 | 1.4% |
| **Total** | 207 | 100% |

**2. What man-made hazard have you experienced or been affected by in the last 3 years? (Check all that apply)**

| | Number of Response(s) | Response Ratio |
|---|---|---|
| Critical Infrastructure Failure (utility, transportation, electrical or | 28 | 13.7% |
| Hazardous Materials (spill or release) | 2 | <1% |
| Cyber Attack or Security Incident | 16 | 7.8% |
| Planned/Unplanned Power Outage | 141 | 69.1% |
| Planned/Unplanned Water Outage | 16 | 7.8% |
| Terrorism | 0 | 0.0% |
| None | 53 | 25.9% |
| Other | 6 | 2.9% |
| **Total** | 204 | 100% |

**3. How prepared are you to deal with a disaster or big emergency, particularly water disruption? (Select One)**

| | Number of Response(s) | Response Ratio |
|---|---|---|
| Not prepared at all | 24 | 11.5% |
| Just a little | 66 | 31.8% |
| Average | 81 | 39.1% |
| Above prepared | 26 | 12.5% |
| Very prepared | 10 | 4.8% |
| No Responses | 0 | 0.0% |
| **Total** | 207 | 100% |

**4. What resources have helped you become more prepared for local emergencies and disasters? (Check all that apply)**

| | Number of Response(s) | Response Ratio |
|---|---|---|
| Community Emergency Response Training (CERT) or other disaster training | 43 | 20.9% |
| News or another media source | 110 | 53.6% |
| Attended meetings with disaster preparedness information | 36 | 17.5% |
| Emergency preparedness information from the government (write name of | 31 | 15.1% |
| Emergency preparedness information from your local utility (write in name of | 27 | 13.1% |
| Experience from past disasters | 101 | 49.2% |
| Schools | 18 | 8.7% |
| None | 20 | 9.7% |
| Other | 44 | 21.4% |
| **Total** | 205 | 100% |

# Local Hazard Mitigation Survey - Final Results

**5. Which of the following have you done to prepare for a disaster? (Check all that apply)**

| | Number of Response(s) | Response Ratio |
|---|---|---|
| Taken First Aid/CPR Training | 97 | 47.0% |
| Made a fire escape plan | 83 | 40.2% |
| Identified an evacuation meeting place | 58 | 28.1% |
| Identified utility shutoffs | 158 | 76.6% |
| Identified out-of-state contact | 78 | 37.8% |
| Made a disaster supply list | 66 | 32.0% |
| Installed smoke and carbon monoxide detectors on each level of the house | 178 | 86.4% |
| Written and practiced your family disaster plan | 16 | 7.7% |
| Stored food and water | 137 | 66.5% |
| Neighborhood preparedness/planning | 16 | 7.7% |
| Purchased satellite phone for emergency communications | 10 | 4.8% |
| Stored extra flashlights and batteries, radio or fire extinguisher | 157 | 76.2% |
| Stored extra medical supplies (first aid kit, medications) | 124 | 60.1% |
| None | 3 | 1.4% |
| Other | 10 | 4.8% |
| **Total** | 206 | 100% |

**6. How concerned are you about the following natural hazards? (Check one for each hazard)**

| Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option. | Not Concerned | Somewhat Concerned | Concerned | Very Concerned | Extremely Concerned |
|---|---|---|---|---|---|
| Pandemic | 11 | 36 | 50 | 50 | 57 |
| | 5% | 18% | 25% | 25% | 28% |
| Drought | 19 | 54 | 52 | 45 | 33 |
| | 9% | 27% | 26% | 22% | 16% |
| Earthquake | 5 | 44 | 69 | 51 | 33 |
| | 2% | 22% | 34% | 25% | 16% |
| Flooding | 103 | 51 | 29 | 13 | 4 |
| | 52% | 26% | 15% | 7% | 2% |
| Hazardous Materials | 94 | 58 | 31 | 10 | 5 |
| | 47% | 29% | 16% | 5% | 3% |
| Landslide/Debris Flow | 91 | 58 | 37 | 10 | 6 |
| | 45% | 29% | 18% | 5% | 3% |
| Wildfire | 8 | 35 | 43 | 58 | 60 |
| | 4% | 17% | 21% | 28% | 29% |
| Terrorism | 63 | 76 | 31 | 20 | 9 |
| | 32% | 38% | 16% | 10% | 5% |
| Severe Weather | 35 | 64 | 50 | 35 | 16 |
| | 18% | 32% | 25% | 18% | 8% |
| Climate Change | 38 | 36 | 36 | 39 | 51 |
| | 19% | 18% | 18% | 20% | 26% |

**7. How concerned are you about the following man-made hazards? (Check one for each hazard)**

| Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option. | Not Concerned | Somewhat Concerned | Concerned | Very Concerned | Extremely Concerned |
|---|---|---|---|---|---|
| Cyber Attacks | 19 | 51 | 65 | 41 | 29 |
| | 9% | 25% | 32% | 20% | 14% |
| Critical Infrastructure failures | 15 | 51 | 62 | 43 | 32 |
| | 7% | 25% | 31% | 21% | 16% |
| Hazardous Material (spills or releases) | 47 | 69 | 45 | 25 | 14 |
| | 24% | 35% | 23% | 13% | 7% |
| Planned/Unplanned Power Outage | 16 | 53 | 74 | 40 | 22 |
| | 8% | 26% | 36% | 20% | 11% |
| Planned/Unplanned Water Outage | 10 | 67 | 58 | 40 | 26 |
| | 5% | 33% | 29% | 20% | 13% |

# Local Hazard Mitigation Survey - Final Results

**8. In your opinion, what are the most effective ways of providing education on emergency preparedness? (Check all that apply)**

| | Number of Response(s) | Response Ratio |
|---|---|---|
| Newspaper | 72 | 34.9% |
| CVWD Website | 80 | 38.8% |
| Facebook | 58 | 28.1% |
| Public Meetings/Workshops/Community Safety Fairs | 70 | 33.9% |
| TV | 109 | 52.9% |
| Radio | 61 | 29.6% |
| Internet | 157 | 76.2% |
| Fire Department | 82 | 39.8% |
| Sheriff's Department | 74 | 35.9% |
| CERT Classes | 44 | 21.3% |
| Public Awareness Campaign (Great ShakeOut, Winter Storm Preparedness | 94 | 45.6% |
| Schools | 86 | 41.7% |
| Public Library | 34 | 16.5% |
| American Red Cross | 37 | 17.9% |
| Word of mouth (neighbors) | 79 | 38.3% |
| Government Agency (specify below) | 14 | 6.7% |
| Crescenta Valley Fire Safe Council | 34 | 16.5% |
| Other | 18 | 8.7% |
| **Total** | 206 | 100% |

**9. How prepared do you think CVWD is to provide you with water service following a disaster?**

| Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option. | Not prepared at all | Somewhat prepared | Prepared | More than Prepared | Very Prepared |
|---|---|---|---|---|---|
| | 16 | 69 | 89 | 18 | 5 |
| | 8% | 35% | 45% | 9% | 3% |

**10. If water service was temporarily disrupted, how long could you continue without any drinking water? (Select One)**

| | Number of Response(s) | Response Ratio |
|---|---|---|
| 1-3 days | 85 | 41.0% |
| 3-5 days | 50 | 24.1% |
| 5-7 days | 34 | 16.4% |
| More than 7 days | 36 | 17.3% |
| No Responses | 2 | <1% |
| **Total** | 207 | 100% |

**11. How would you expect to be notified in case of an immediate threat caused by a local hazard? (Check all that apply)**

| | Number of Response(s) | Response Ratio |
|---|---|---|
| Television | 119 | 57.4% |
| Email | 154 | 74.3% |
| Text Message | 174 | 84.0% |
| Radio | 107 | 51.6% |
| Social Media | 69 | 33.3% |
| Telephone | 108 | 52.1% |
| Nextdoor | 70 | 33.8% |
| Nixle | 33 | 15.9% |
| Community Warning System | 73 | 35.2% |
| Crescenta Valley Fire Safe Council | 30 | 14.4% |
| Red Cross | 23 | 11.1% |
| Other | 11 | 5.3% |
| **Total** | 207 | 100% |

# Local Hazard Mitigation Survey - Final Results

**12. I live or work in: (needed for demographic data)**

| | Number of Response(s) | Response Ratio |
|---|---|---|
| La Crescenta | 163 | 78.7% |
| Glendale | 14 | 6.7% |
| La Cañada Flintridge | 11 | 5.3% |
| Montrose | 10 | 4.8% |
| Other | 7 | 3.3% |
| No Responses | 2 | <1% |
| **Total** | 207 | 100% |

**13. What is your age range? (needed for demographic data)**

| | Number of Response(s) | Response Ratio |
|---|---|---|
| 18-29 | 0 | 0.0% |
| 30-39 | 14 | 6.7% |
| 40-49 | 41 | 19.8% |
| 50-59 | 47 | 22.7% |
| 60 or older | 104 | 50.2% |
| No Responses | 1 | <1% |
| **Total** | 207 | 100% |