ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA
TRABUCO CANYON WATER DISTRICT
ADMINISTRATION FACILITY
32003 DOVE CANYON DRIVE, TRABUCO CANYON, CA
NOVEMBER 6, 2024 AT 7:00 AM

COMMITTEE MEMBERS
Michael Safranski, Committee Chair
Stephen Dopudja, Committee Member
Don Chadd, Committee Member Alternate

DISTRICT STAFF
Fernando Paludi, General Manager
Michael Perea, District Secretary
Lorrie Lausten, District Engineer
Gary Kessler, Water System Superintendent
Oscar Ulloa, Wastewater Superintendent
Jason Stroud, Maintenance Superintendent

AGENDA NOTE:
Trabuco Canyon Water District (District) will make this Engineering/Operational Committee Meeting available by telephone audio as follows:

Telephone Audio: *1 (669) 900-6833* ***Access Code:*** 973-7562-7682

*Persons desiring to monitor the Committee meeting agenda items may download the agenda and documents on the internet at **www.tcwd.ca.gov**. You may submit public comments by email to the Committee at **mperea@tcwd.ca.gov**. In order to be part of the record, emailed comments on meeting agenda items must be received by the District at the referenced e-mail address not later than 7:00 a.m. (PDT) on the day of the meeting.*

CALL MEETING TO ORDER

VISITOR PARTICIPATION
*Members of the public wishing to address the Committee regarding a particular item on the agenda are requested to submit public comments by email to the Committee at **mperea@tcwd.ca.gov**. The Committee Chair will call on the visitor following the Committee's discussion about the matter. Committees do not constitute a quorum of the Board of Directors and Committee Members cannot make decisions on matters. The Committee makes recommendations only to the Board of Directors. Members of the public will be given the opportunity to speak to the Committee prior to making a recommendation on the matter. For persons desiring to make verbal comments and utilizing a translator to present their comments into English reasonable time accommodations, consistent with State law, shall be provided. Please limit comments to three minutes.*

ORAL COMMUNICATION
*Members of the public who wish to make comment on matters not appearing on the agenda are requested to submit oral communication by email to the Committee at **mperea@tcwd.ca.gov**. Under the requirements of State Law, Directors cannot take action on items not identified on the agenda and will not make decisions on such matters. The Board President may direct District Staff to follow up on issues as may be deemed appropriate. For persons desiring to make verbal comments and utilizing a translator to present their comments into English reasonable time accommodations, consistent with State law, shall be provided. Please limit comments to three minutes.*

COMMITTEE MEMBER COMMENTS

REPORT FROM THE GENERAL MANAGER

TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA | NOVEMBER 6, 2024

ENGINEERING MATTERS

PRESENTER(S): FERNANDO PALUDI, GENERAL MANAGER
MICHAEL PEREA, ASSISTANT GENERAL MANAGER
LORRIE LAUSTEN, DISTRICT ENGINEER

ITEM 1: ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP

RECOMMENDED ACTION:
Approve the following Engineering/Operational Committee Meeting Recap(s) and recommend that the Board receive and file same (Consent Calendar).
1. October 2, 2024 Committee Meeting

ITEM 2: MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE AND PUBLIC OUTREACH EFFORTS

RECOMMENDED ACTION:
Committee to receive project status updates at the time of the Committee Meeting.

ITEM 3: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Golf Club SLS Improvements Project Construction Report
2. Heritage SLS Pump and Header Replacement Project Construction Report
3. Dove/Rob. Ranch Recycled Water Pump Station Improvements Project – RFP Issued
4. WWTP Effluent Reservoir Outlet Gate System Replacement Project - Update
5. Supervisory Control and Data Acquisition (SCADA) Improvements Project - Update
6. Other Projects

RECOMMENDED ACTION:
Committee to receive project status updates at the time of the Committee Meeting.

OPERATIONAL MATTERS

PRESENTER(S): GARY KESSLER, WATER SYSTEM SUPERINTENDENT
OSCAR ULLOA, WASTEWATER OPERATIONS SUPERINTENDENT
JASON STROUD, MAINTENANCE DEPARTMENT SUPERINTENDENT

ITEM 4: WATER SYSTEM UPDATES

RECOMMENDED ACTION:
Committee to receive system status updates. No action required.

ITEM 5: WASTEWATER SYSTEM UPDATES

RECOMMENDED ACTION:
Committee to receive system status updates. No action required.

ITEM 6: MAINTENANCE DEPARTMENT UPDATES

RECOMMENDED ACTION:
Committee to receive system status updates. No action required.

REGULATORY AND OTHER MATTERS

ITEM 7: OTHER MATTERS/REPORTS

RECOMMENDED ACTION:
Hear Other Matters/Reports that may have arisen after the posting of the agenda.

ADJOURNMENT

AVAILABILITY OF AGENDA MATERIALS
Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the Trabuco Canyon Water District Board of Directors in connection with a matter subject to discussion or consideration at an open meeting of the Board of Directors are available for public inspection at the Trabuco Canyon Water District Administrative Facility, 32003 Dove Canyon Drive, Trabuco Canyon, California (District Administrative Facility) or will be posted online on the District's website located at www.tcwd.ca.gov. If such writings are distributed to members of the Board less than 72 hours prior to the meeting, they will be available online at www.tcwd.ca.gov at the same time as they are distributed to the Board Members, except that, if such writings are distributed immediately prior to or during the meeting, they will be posted online on the District's website located at www.tcwd.ca.gov.

COMPLIANCE WITH THE REQUIREMENTS OF CALIFORNIA GOVERNMENT CODE SECTION 54954.2
In compliance with California law and the Americans with Disabilities Act, if you need special disability-related modifications or accommodations, including auxiliary aids or services in order to participate in the meeting, or if you need the agenda provided in an alternative format, please contact the District Secretary at (949) 858-0277, at least 48 hours in advance of the scheduled Board meeting. Notification at least 48 hours prior to the meeting will assist the District in making reasonable arrangements to accommodate your request. The Board Meeting Room is wheelchair accessible.

TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | NOVEMBER 6, 2024

ADMINISTRATIVE MATTERS
ITEM 1: ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP

RECOMMENDED ACTION:
Approve the following Engineering/Operational Committee Meeting Recap(s) and recommend that the Board receive and file same (Consent Calendar):

1. *October 2, 2024 Committee Meeting*

CONTACTS (staff responsible): PALUDI/PEREA

TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | OCTOBER 2, 2024

DIRECTORS PRESENT
Mike Safranski, Committee Chair
Stephen Dopudja, Committee Member

STAFF PRESENT
Fernando Paludi, General Manager
Michael Perea, Assistant General Manager
Lorrie Lausten, District Engineer
Gary Kessler, Water Superintendent
Oscar Ulloa, Wastewater Superintendent
Jason Stroud, Maintenance Superintendent
Roseann Lejsek, Executive Assistant

STAFF ABSENT
None

PUBLIC PRESENT
None

CALL MEETING TO ORDER
Director Safranski called the October 2, 2024 Engineering/Operational Committee Meeting to order at 7:00 a.m.

VISITOR PARTICIPATION
No comments were received.

ORAL COMMUNICATION
No comments were received.

COMMITTEE MEMBER COMMENTS
None

REPORT FROM THE GENERAL MANAGER
Mr. Paludi reported that a portion of the District's Porter Property was burned in the Airport Fire, and he stated that the District will be submitting the reported damages to CalOES this week.

Mr. Paludi provided the Committee with a status update on the Montessori School's damage claim.

ITEM 1: ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP
Mr. Paludi presented the Engineering/Operational Committee Meeting Recap for Committee review in accordance with the agenda. Discussion occurred regarding the format of the District's Committee Meeting Recaps. The Committee requested that this discussion be brought before the Executive Committee and Legal Counsel before approving the agendized recap.

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RECOMMENDATION: The Committee recommended forwarding this matter to the Executive Committee.

ITEM 2: GRANT RESOLUTION FOR LIVE OAK PIPELINE IMPROVEMENTS – DROUGHT RESILIENCY PROJECT

Mr. Paludi presented this matter for Committee consideration. Ms. Lausten reported that the District is applying for grant funding through the United States Bureau of Reclamation's (USBR) WaterSMART Drought Response Program, and she stated that the USBR may award 50% up to $3 million dollars of the total allowable project costs. Ms. Lausten stated that USBR requires the District to support the submission of the grant application through the adoption of a resolution by the Board of Directors.

RECOMMENDATION: Recommend the Board of Directors adopt Resolution No. 2024-XXXX – Authorizing the Submittal of an Application for the USBR "WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2025" Grant Program.

ITEM 3: MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE AND PUBLIC OUTREACH EFFORTS

Mr. Paludi presented this matter for Committee consideration. Mr. Perea reported that the District's Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) requires periodic review and was previously updated in 2019. Mr. Perea stated that public outreach is required, and he noted that the District is employing various public outreach methods to obtain community members' input to support the preparation of the plan. Mr. Perea provided the Committee with the timeline for review and completion of the plan. Mr. Perea expressed his appreciation for Ms. Lausten and David Rodriguez efforts in gathering information for this plan update. Ms. Lausten noted that the MJHMP is required in order to apply for federal grant funds.

RECOMMENDATION: None – Informational item only.

ITEM 4: SYSTEM WIDE ARC FLASH COORDINATION STUDY

Mr. Paludi presented this matter for Committee consideration. Ms. Lausten provided the Committee with an outline of the deliverables that the District received from the study, and she stated that Mr. Stroud has taken the lead in implementing the recommendations. Mr. Stroud stated that staff will work with Hydrotech Electric to prepare the schedule and budget. Discussion occurred regarding the prioritization of the most critical items and staff was directed to competitively bid the work.

RECOMMENDATION: None – Informational item only.

ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. **Golf Club SLS Construction Report**
   Ms. Lausten provided an update on this matter, and she reported that there have been no changes to the project budget but that the completion date has been changed to November 13th due to procurement issues.

2. **SCADA Project Update – Schedule for Completion**
   Mr. Paludi provided an update on this matter, and he reported that the project is on schedule with contractor WM Lyles. Mr. Perea added that the projected completion is scheduled for the end of this calendar year.

3. **Extended Maintenance and System Service (EMASS) Annual Service Contract – Hydrotech Electric Proposal**
   Mr. Stroud provided an update on this matter, and he reported that the District had a multi-year contract with TESCO Controls for EMASS but that Hydrotech Electric took over when the District terminated its contracts with TESCO. Mr. Stroud added that staff will have Hydrotech Electric complete this year's EMASS and that the District will competitively bid for a new service contract next year.

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4. **Trabuco Creek Groundwater Treatment Facility – Potential Berm Reinforcement**
   Mr. Perea provided an update on this matter, and he reported that he and Mr. Kessler met with the Orange County Fire Authority (OCFA) at the wells site to discuss berm reinforcement. Mr. Perea provided the Committee with an overview of the discussion, and he noted that OCFA was very receptive to working with the District on this matter.

5. **Other Projects**
   Ms. Lausten provided an update on this matter, and she reported that multiple businesses are moving into Dove Center Plaza. Ms. Lausted stated that staff is looking into what types of services will be offered to ensure each type of business complies with the District's standards.

   RECOMMENDATION: None – Informational item only.

ITEM 6: WATER SYSTEM UPDATES

Mr. Kessler reviewed the projects and repairs for the prior month, and he reported that Water Operations staff had completed the following tasks:

1. Repaired 2" service to the Trabuco Presbyterian Church on Las Amigas.
2. Disassembled and cleaned clarifier on filter #4 at Dimension Water Treatment Plant.
3. Worked extensively with developer/contractors at the Saddle Crest Development.
4. Responded to emergency conditions of the Airport Fire.
5. Responded to and worked to get main break repaired on Sycamore Canyon in Dove Canyon.

Mr. Kessler presented the Water System Summary for Committee review. Discussion occurred regarding the water quality issues from the Baker Water Treatment Plant and the challenges with utilizing this asset to meet the District's potable water demands. Mr. Paludi reported that he is meeting with Irvine Ranch Water District's General Manager to discuss these issues.

RECOMMENDATION: None – Informational item only.

ITEM 7: WASTEWATER SYSTEM UPDATES

Mr. Ulloa reviewed the projects and repairs for the prior month, and he reported that Wastewater Operations staff had completed the following tasks:

1. Assisted in the inspection of Myers Diving for WWTP Reservoir Dam Valve.
2. Coordinated and evacuated heavy equipment out of WWTP during fire event.
3. Replaced 20' section of 6" airline at the WWTP.
4. Replaced a pump at Tick Creek Dry Season Recovery Station.
5. Repaired air vac that was struck by a vehicle on Plano Lift Station Force Main.

Mr. Ulloa presented the Recycled Water System Summary for Committee review, and he reported that he did not have the most current numbers yet. Mr. Ulloa reported that the Reservoir was at 1258 feet and that Dove Lake had 10 feet of freeboard. Mr. Ulloa added that there is adequate supply in Dove Lake in anticipation of any potential heatwaves. Discussion occurred regarding the amount of water pulled from Dove Lake to assist in firefighting efforts of the Airport Fire. Discussion also occurred regarding potential risks to staff at the WWTP

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during emergency events; Mr. Ulloa reported that Operations and Maintenance staff evacuated heavy equipment, vehicles, and staff in a safe and timely manner.

RECOMMENDATION: None – Informational item only.

ITEM 8: MAINTENANCE DEPARTMENT UPDATES

Mr. Stroud reviewed the projects and repairs for the prior month, and he reported that Maintenance staff completed the following tasks:

Projects and Repairs

Maintenance staff performed and/or completed the following tasks and projects:

Water Operations

1. Removed failed booster pump from Topanga Booster Pump Station and sent to Vaughan Industrial for tear down and repair.
2. Saddle Back Meadows site visit.
3. Picked up parts for Vactor to assist Water Department at DWTP filter #4 clean up.
4. Water line break in Dove Canyon on Sycamore and Inverary.

Wastewater Operations

1. Site visit with TCWD Engineering Department at WWTP and Dove Recycled Booster Station.
2. Pothole at WWTP for electrical survey.
3. Tick Creek dry season pump/motor failed. Swapped out motor (to be installed).
4. Sutorbilt motor failure WWTP blower room. Worked with Hydrotech to replace.

District Fleet Upgrades & Other Projects

1. Primus/Performance Pipeline lunch & learn at Admin.
2. Airport Fire Response.
3. Service trucks sent to Deaver Spring for rear leaf spring upgrades.
4. Quarterly BIT inspection.
5. Emergency diesel/gen repairs and PM's using Duthie Power.

RECOMMENDATION: None – Informational item only.

ITEM 9: OTHER MATTERS/REPORTS

There were no other matters reported.

RECOMMENDATION: None

ADJOURNMENT

Director Safranski adjourned the October 2, 2024 Engineering/Operational Committee Meeting at 7:57 a.m.

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TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | NOVEMBER 6, 2024

ENGINEERING MATTERS
ITEM 2: MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE AND PUBLIC OUTREACH EFFORTS

BACKGROUND

TCWD, and other participating agencies, are working through Municipal Water District of Orange County (MWDOC) Water Emergency Response of Orange County (WEROC) to update its Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). The current MJHMP was previously updated in August 2019; excerpts of the MJHMP Annex is included as an exhibit. The MJHMP is the strategic plan to assess and reduce the threats that their communities face from current and future hazard conditions which include:

- Climate Change
- Coastal Storms/Erosion
- Contamination
- Dam/Reservoir Failure
- Drought
- Earthquake Fault Rupture
- Flood
- Geologic Hazards – Expansive Soils
- Geologic Hazards – Land Subsidence
- High Winds/Santa Ana Winds
- Human-Cause Hazards – Terrorism
- Human-Caused Hazards – Hazardous Materials
- Landslide/Mudflow
- Power Outage
- Seismic Hazards – Ground Shaking
- Seismic Hazards – Liquefaction
- Tsunami
- Urban Fire
- Wildfire

The overarching goals of the MJHMP include but are not limited to:

Goal 1: Minimize vulnerabilities of critical facilities and infrastructure to minimize damages and loss of life and injury to human life caused by hazards.
Goal 2: Minimize security risks to water and wastewater infrastructure.
Goal 3: Minimize interruption to water and wastewater utilities.
Goal 4: Improve public outreach, awareness, education, and preparedness for hazards in order to increase the community resilience.
Goal 5: Eliminate or minimize wastewater spills and overflows (Wastewater agencies).
Goal 6: Protect water quality and supply, critical aquatic resources and habitat to ensure a safe water supply.
Goal 7: Strengthen Emergency Response Services to ensure preparedness, response, and recovery during any major or multi-hazard event.

Guidelines from the Federal Emergency Management Agency (FEMA) require that the agency preparing the plan create opportunities for members of the public to be involved in developing their MJHMP and that these opportunities are documented. This process helps ensure the MJHMP reflects community values, concerns, and priorities. The goals will be reflected throughout the District's outreach process, with the intent to educate community members and obtain feedback openly and transparently to support the preparation of the plan. Public outreach methods include, but are not limited to, (1) notification of the MJHMP Update process through the District's website, newsletter, and social media outlets; (2) an online survey for public input on the District's website; (3) public review of the Draft MJHMP; (4) MJHMP final adoption hearing at a public meeting.

PROJECT STATUS - <u>UPDATED</u>

<u>District staff internally reviewed the Draft Administrative Report and Annex Jurisdictional Profile (Annex) specific to TCWD during late October and provided comments and edits to MWDOC/WEROC and Herndon Group - HSG (Consultant) by the deadline of November 1, 2024; a copy of the Annex with redlines is included for Committee review.</u>

District staff will agendize this matter for Board consideration and review and plans to present the Draft MJHMP findings at the November 21, 2024 Regular Board Meeting prior to submittal to CalOES and FEMA for their review in December 2024; this review period will be approximately three months. The final MJHMP will be presented to the TCWD Board of Directors at the March 2025 Regular Board Meeting.

The MJHMP update is one component of a cost sharing agreement between TCWD and MWDOC for HSG to update existing regulatory plans; the other two components are the America's Water Infrastructure Act (AWIA) Risk and Resilience Assessment (RRA) and Emergency Response Plan (ERP) [regulated by the EPA] which will be updated in CY 2026.

More information may be presented at the time of the meeting.

FUNDING SOURCE:
General Fund

FISCAL IMPACT (PROJECT BUDGET)

Hazard Mitigation Plan Update(MJHMP)	$	9,300
Risk & Resilience Assessment (RRA)	$	32,200
Emergency Response Plan (ERP)	$	17,250
Total Project Costs	**$**	**58,750**

ENVIRONMENTAL COMPLIANCE:
Not applicable

RECOMMENDED ACTION:
Committee to receive project status updates at the time of the Committee Meeting.

EXHIBIT(S):
1. Trabuco Canyon Water District 2024 DRAFT Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) Annex Jurisdictional Profile- REDLINES

CONTACTS (staff responsible): PALUDI/PEREA/LAUSTEN

2024

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Orange County Water and Wastewater Multi-Jurisdictional Hazard Mitigation Plan

Annex M: Trabuco Canyon Water District

WATER EMERGENCY RESPONSE ORGANIZATION OF ORANGE COUNTY

WEROC

Contents

Exhibits

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TRABUCO CANYON WATER DISTRICT ANNEX

Trabuco Canyon Water District (TCWD) is a participant (Member Agency [MA]) in the Orange County Water and Wastewater Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). As a participant MA, TCWD representatives were part of the MJHMP planning process and served on the planning team responsible for the plan update; refer to **Section 2** of the MJHMP. The base plan, including the MJHMP procedural requirements and planning process apply to TCWD.

This annex details the hazard mitigation planning elements specific to TCWD and describes how TCWD's risks vary from the planning area. This annex is not intended to be a standalone document but supplements the information contained in the base plan. All sections of the MJHMP, including the planning process and other procedural requirements, apply to and were met by TCWD. The base plan treats the entire county as the planning area and identifies which MAs are subject to a profiled hazard. The purpose of this annex is to provide additional information specific to TCWD with a focus on the risk assessment and mitigation strategies.

M.1 HAZARD MITIGATION PLAN POINT OF CONTACT AND DEVELOPMENT TEAM

The representative listed in **Exhibit M-1** lead the TCWD planning team, attended meetings, and coordinated the hazard mitigation planning efforts with TCWD staff and the consultant team supporting the effort.

Exhibit M-1. Planning Team Lead

Primary Point of Contact
Name: Michael Perea
Title: Assistant General Manager
Telephone: (949) 858-0277
Email: mperea@tcwd.ca.gov

TCWD followed the planning process detailed in **Section 2** and formed an internal team to support and provide information for the plan update. The following staff served as TCWD's internal hazard mitigation planning development team.

Exhibit M-2. Internal Hazard Mitigation Planning Development Team

Name	Title
Lorrie Lausten	District Engineer
David Rodriguez	Engineering Support

Outreach to the public within TCWD's service area was performed to ensure residents could access information on this planning effort. To reach the largest number of people possible, TCWD published a webpage with information on the MJHMP process and a link to the MJHMP survey.

Note to Staff: Please add any additional outreach efforts you have undertaken such as social media posts or public meetings.

TCWD maintains a dedicated webpage to the MJHMP update on its official website with a link to the public input online survey. TCWD used its social media platform outlets (X, Facebook, and Instagram) to communicate to the public, and specifically, its customers, regarding the MJHMP

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update efforts and the need for public input by the online survey in September and October 2024. Additionally, District staff agendized the MJHMP update process for review with the District's Engineering/Operational Committee and the Board of Directors at public meetings held at the Administration Facility in October 2024.

M.2 JURISDICTION PROFILE

Service Population: 12,700

TCWD is a county water district organized and operating pursuant to Section 30,000 and following of the Water Code of the State of California. TCWD was organized on February 26, 1962, under Division XII of the California Water Code. TCWD is governed by a five-member Board of Directors elected to alternating four-year terms at elections held every two years.

TCWD is located in the southeastern portion of Orange County at the foothills of the Santa Ana Mountains and encompasses approximately 9,100 acres. The terrain within TCWD is generally steep hills and canyons throughout the central area. The east and west sides consist of more gentle terrain made primarily of rolling hills. Elevations within TCWD range from approximately 900 feet above mean sea level in the lower Aliso Creek area and the southern area of Dove Canyon, to nearly 2,400 feet in the northeasterly portion adjacent to the Cleveland National Forest. In addition, TCWD owns, operates and maintains water and sewer facilities outside of its service area and these vary in elevation from 575 feet (ARWTL) to 950 feet (El Toro Road Trunk Sewer) above mean sea level.

TCWD serves a 2015 estimated population of 12,700 in the Cities of Rancho Santa Margarita, Mission Viejo, and Lake Forest, and unincorporated areas of Orange County in Trabuco Canyon.

TCWD provides water, wastewater, and recycled water service to major communities within the service area. TCWD sources of water supply are imported treated water, imported surface water treated at the TCWD treatment plant, and treated local groundwater. To provide reliability and redundancy, TCWD system is interconnected with adjacent utilities including Santa Margarita Water District, El Toro Water District, and Irvine Ranch Water District.

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M.3 HAZARDS

This section is intended to profile the hazards and assess the vulnerabilities that TCWD faces, distinct from that of the county-wide planning area. The hazard profiles in the MJHMP discuss overall impacts to the planning area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. For more information on risk assessment methodologies, see **Section 3**.

TCWD's service area is subject to most of the other hazards identified for the planning area. Many of these hazards are dispersed and may affect the entire region, including power outages, drought, seismic shaking, and windstorms. Based on the risk assessment, the TCWD development team discussed which hazards should or should not be profiled in the base plan. This discussion resulted in the identification of the following hazards that affect TCWD and summarized their probability of future occurrence, level of impact and significance as outlined in **Exhibit M-3.** Detailed hazard profiles for the planning area are provided in **Section 3** of the base plan.

Exhibit M-3. Trabuco Canyon Hazard Identification

Hazard Type	Occurrence Probability*	Affected Area*	Primary Impact*	Secondary Impact*	Hazard Planning Consideration*	Significance to Trabuco Canyon
Human-Caused Hazards: Power Outage	Highly Likely	Medium	Catastrophic	High	High	High
Wildfire	Highly Likely	Medium	Critical	High	High	High
Human-Caused Hazards: Terrorism (Cyber Threat)	Highly Likely	Medium	Critical	Limited	High	High
Seismic Hazards: Seismic Shaking	Likely	Medium	Catastrophic	High	High	High
Seismic Hazards: Seismic Liquefaction	Likely	Medium	Catastrophic	High	High	Low
Severe Weather: Windstorm	Highly Likely	Large	Limited	Negligible	Medium	High
Severe Weather: Extreme Heat	Likely	Medium	Critical	Moderate	Medium	Medium
Severe Weather: Drought	Highly Likely	Large	Negligible	Negligible	Medium	High
Dam/Reservoir Failure	Somewhat Likely	Medium	Catastrophic	High	Medium	High
Flood	Likely	Medium	Limited	Negligible	Medium	Medium
Coastal Hazards: Coastal Storms	Likely	Small	Limited	Limited	Medium	N/A
Coastal Hazards: Coastal Erosion	Likely	Isolated	Limited	Limited	Medium	N/A
Seismic Hazards: Fault Rupture	Somewhat Likely	Isolated	Catastrophic	Limited	Medium	Low
Geological Hazards: Landslide and Mudflow	Somewhat Likely	Small	Limited	Moderate	Medium	Medium
Coastal Hazards: Sea Level Rise	Likely	Isolated	Limited	Negligible	Medium	N/A
Human-Caused Hazards: Contamination/ Saltwater Intrusion	Unlikely	Small	Critical	High	Low	Medium
Human-Caused Hazards: Terrorism (MCI)	Unlikely	Isolated	Critical	Moderate	Low	Low
Human-Caused Hazards: Hazardous Materials	Unlikely	Isolated	Limited	Moderate	Low	Medium
Urban Fire	Unlikely	Isolated	Limited	Negligible	Low	Low
Geological Hazards: Land Subsidence	Unlikely	Isolated	Negligible	Limited	Low	~~N/A~~Low
Geological Hazards: Expansive Soils	Unlikely	Isolated	Negligible	Limited	Low	Low
Coastal Hazards: Tsunami	Unlikely	Isolated	Negligible	Negligible	Low	N/A

**The values within these columns are representative of the entire planning area of Orange County and are not narrowed down to TCWD's service area.*

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Geographic Affected Area	Significance
▪ Isolated: Less than 10% of planning area ▪ Small: 10-30% of planning area ▪ Medium: 30-60% of planning area ▪ Large: 60-100% of planning area	▪ Low: Minimal potential impact ▪ Medium: Moderate potential impact ▪ High: Widespread potential impact
Probability of Future Occurrences	**Magnitude/Severity**
▪ Highly Likely: Near 100% chance of occurrence in next year or happens every year. ▪ Likely: Between 10 and 100% chance of occurrence in next year or has a recurrence interval of 10 years or less. ▪ Occasional: Between 1 and 10% chance of occurrence in the next year or has a recurrence interval of 11 to 100 years. ▪ Unlikely: Less than 1% chance of occurrence in next 100 years or has a recurrence interval of greater than every 100 years	▪ Catastrophic: More than 50% of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths. ▪ Critical: 25-50% of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability. ▪ Limited: 10-25% of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable; does not result in permanent disability. ▪ Negligible: Less than 10% of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid

The FEMA Local Mitigation Planning Handbook requires each agency to identify the magnitude/severity of each hazard to their infrastructure. The identification of hazards provided in **Exhibit M-3** is highly dependent on the location of facilities within each agency's jurisdiction and takes into consideration the history of the hazard and associated damage (if any), information provided by agencies specializing in a specific hazard (e.g., FEMA, California Geological Survey), and relies upon each agency's expertise and knowledge. The table was created with input from the Water Emergency Response Organization of Orange County (WEROC), consultant staff, and TCWD.

M.4 HAZARD MAPS

The following maps show the location of hazard zones within the jurisdiction relative to potable water systems, as applicable.

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Exhibit M-4. Fire Hazard and TCWD Potable Water Infrastructure

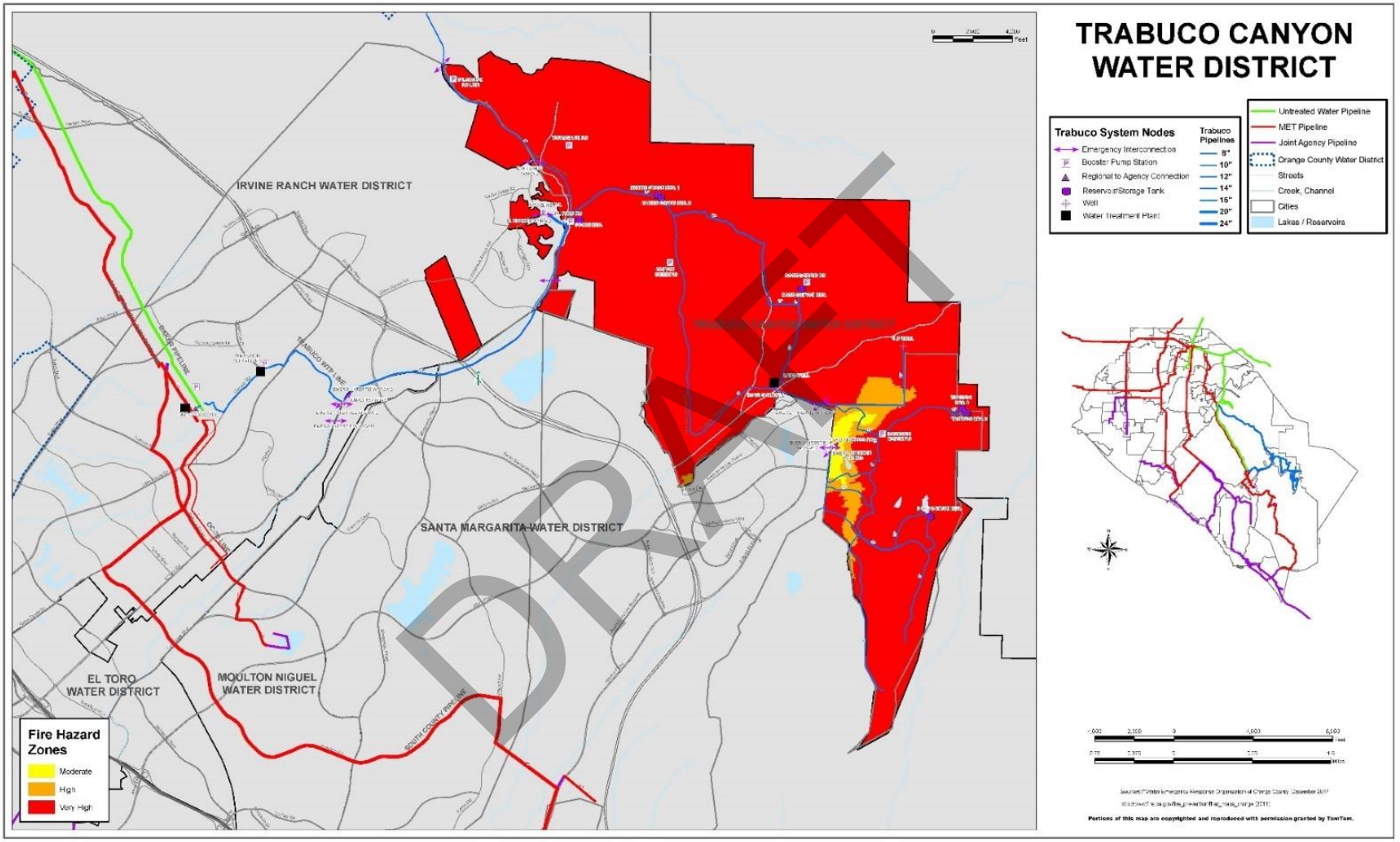

Exhibit M-5. Fire Hazard and TCWD Wastewater Infrastructure

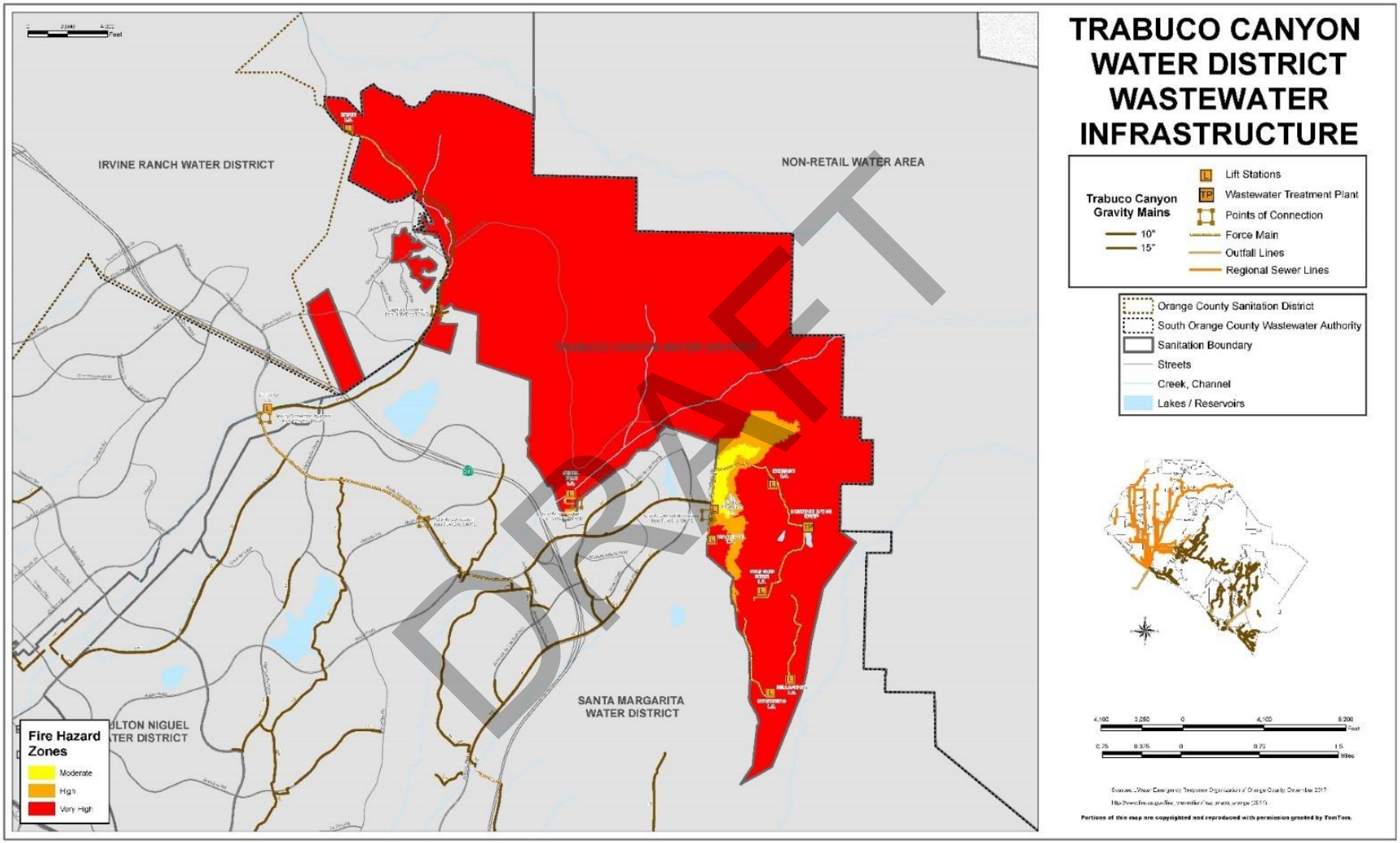

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Exhibit M-6. Flood Hazard and TCWD Potable Water Infrastructure

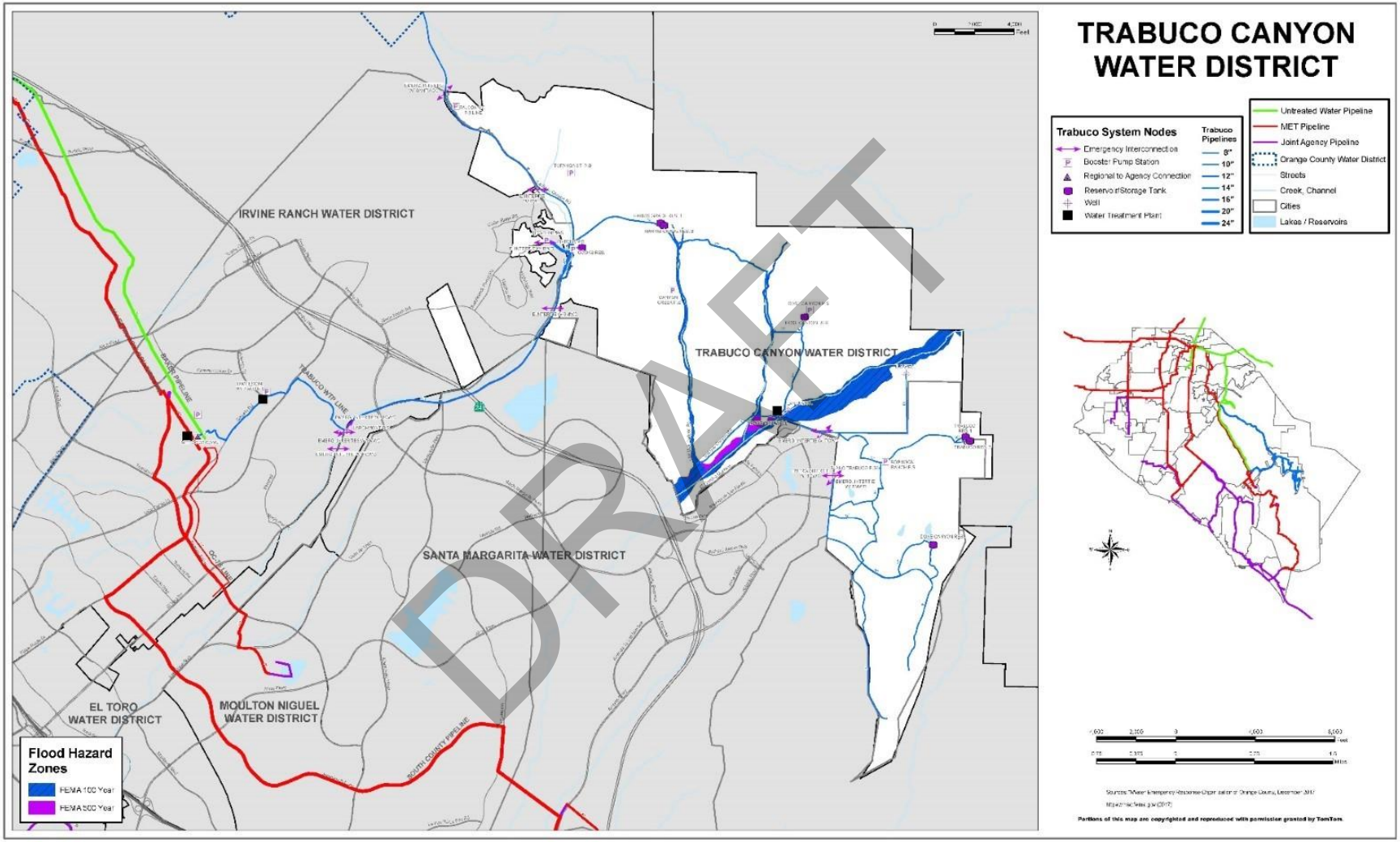


Exhibit M-7. Flood Hazard and TCWD Wastewater Infrastructure

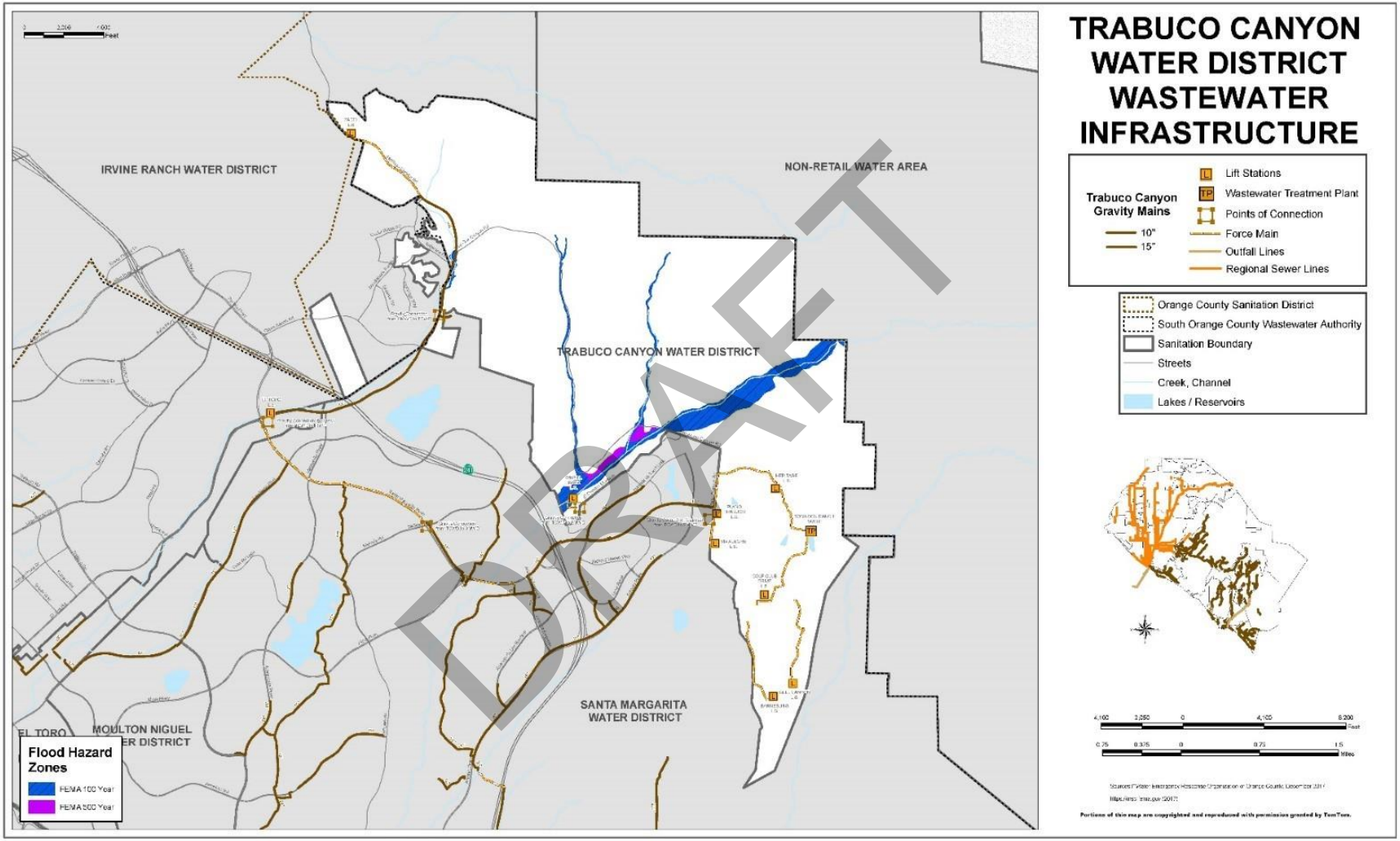


Exhibit M-8. Seismic Shaking Hazard and TCWD Potable Water Infrastructure

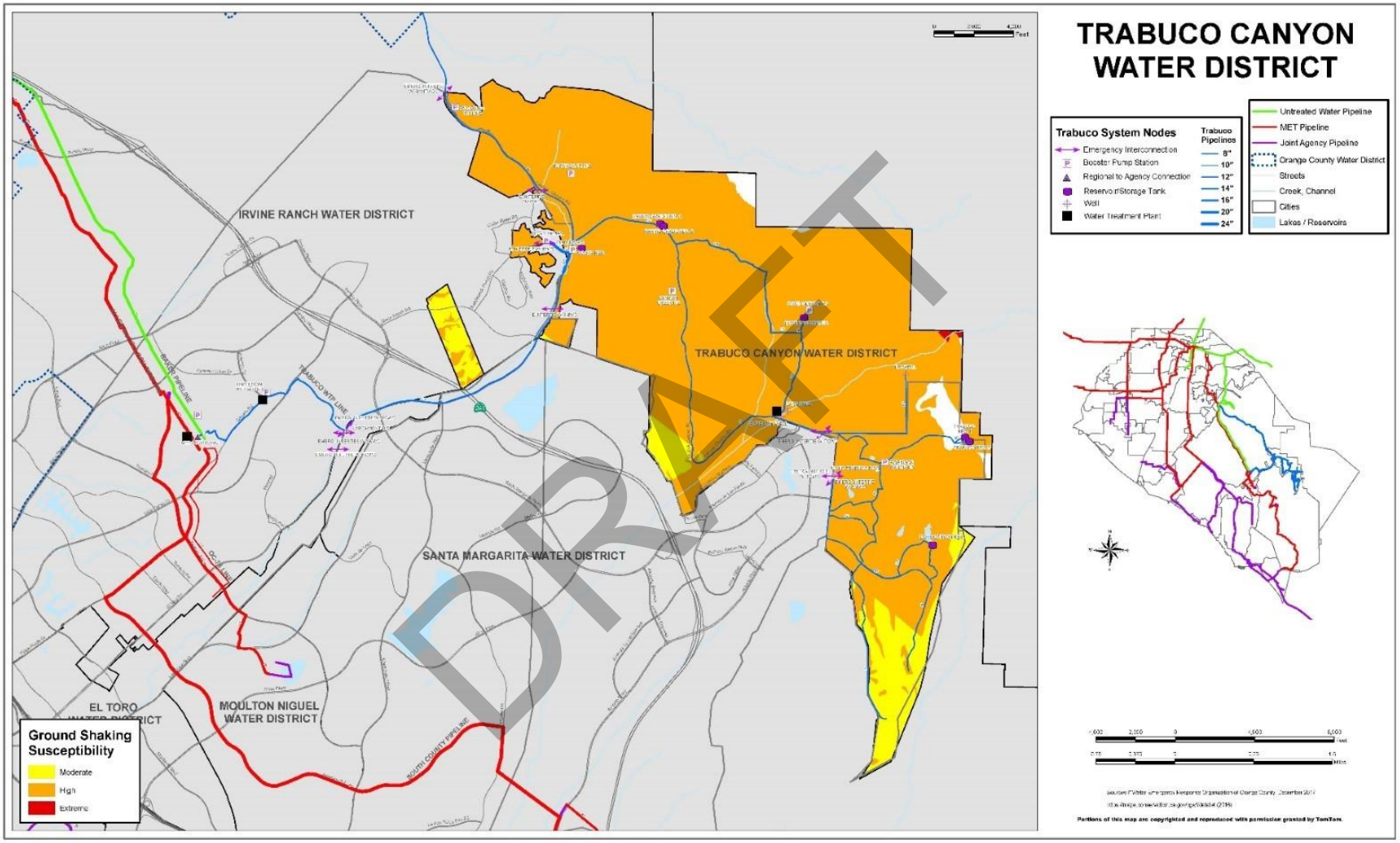


Exhibit M-9. Seismic Shaking and Trabuco Canyon Wastewater Infrastructure

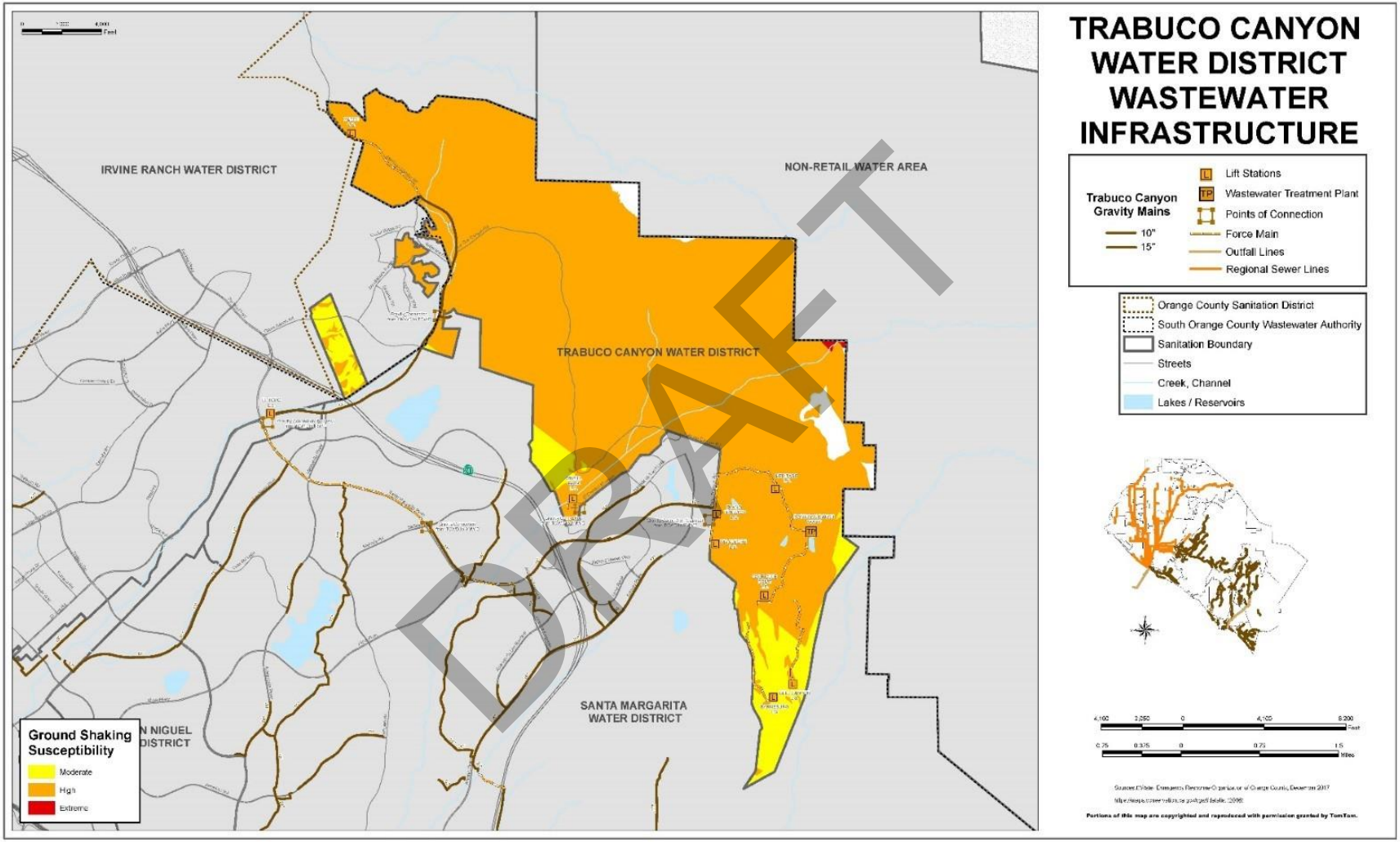


Exhibit M-10. Landslide Hazard and TCWD Potable Water Infrastructure

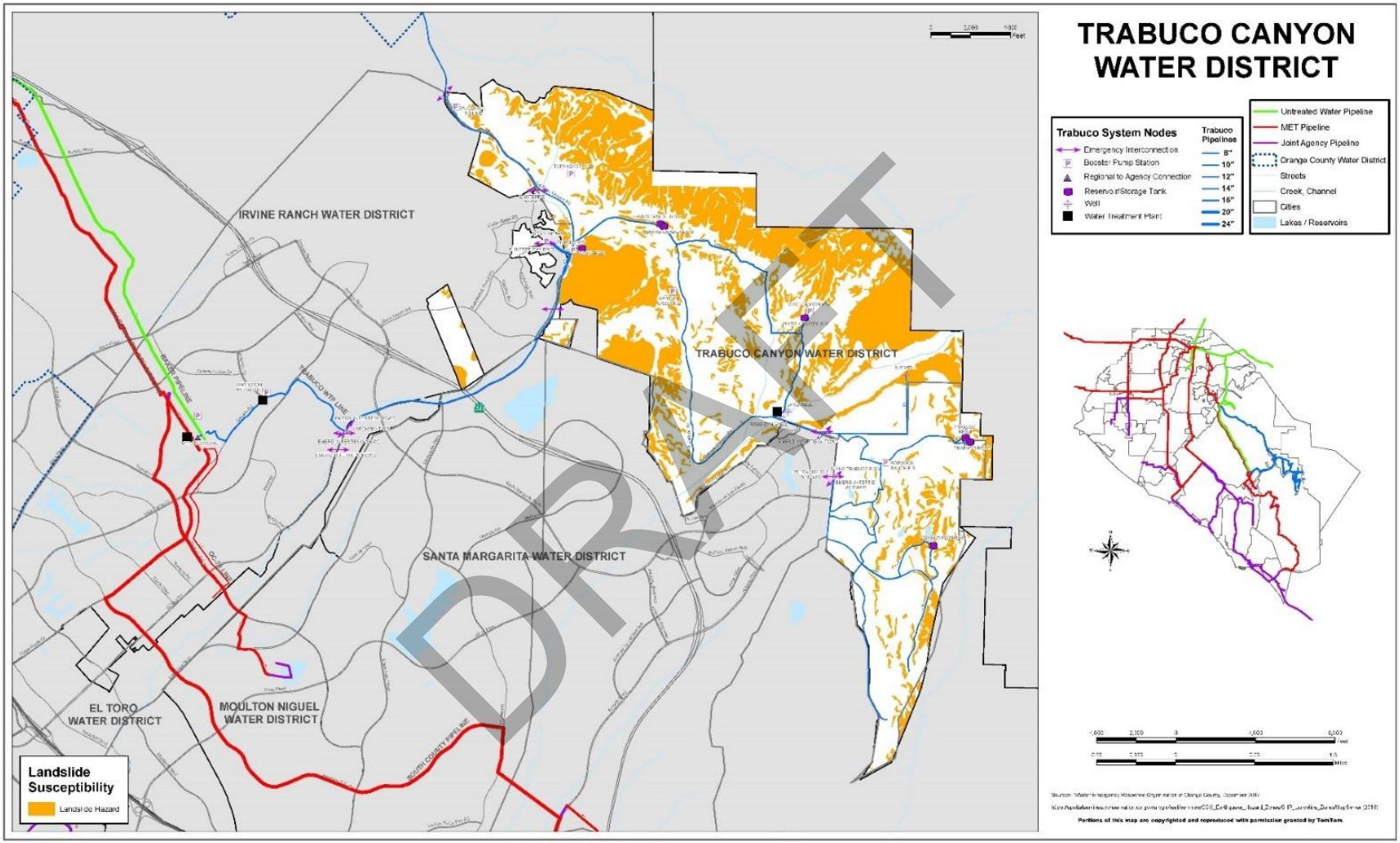


Exhibit M-11. Landslide Hazard and TCWD Wastewater Infrastructure

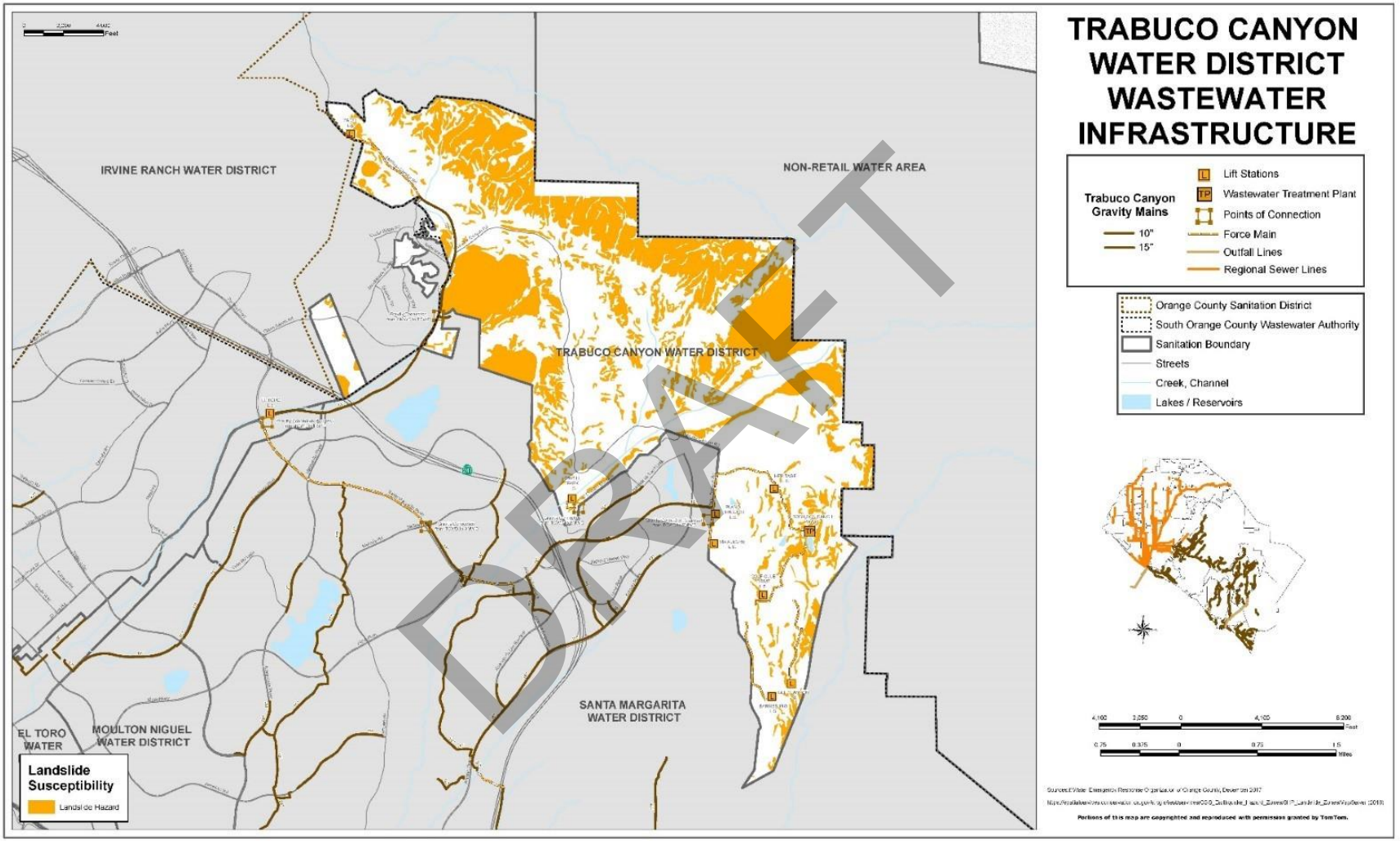


Exhibit M-12. Liquefaction Hazard and TCWD Potable Water Infrastructure

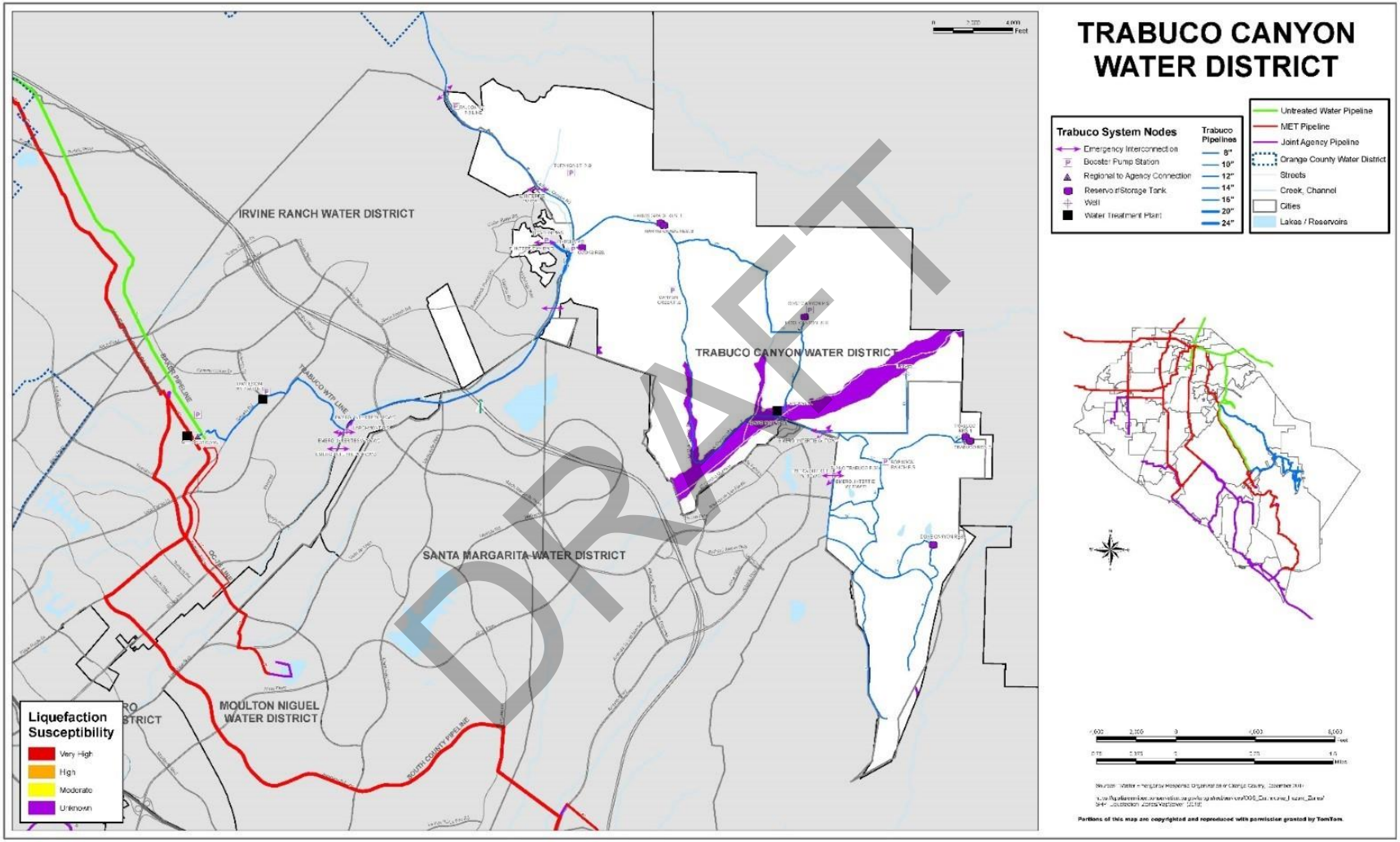
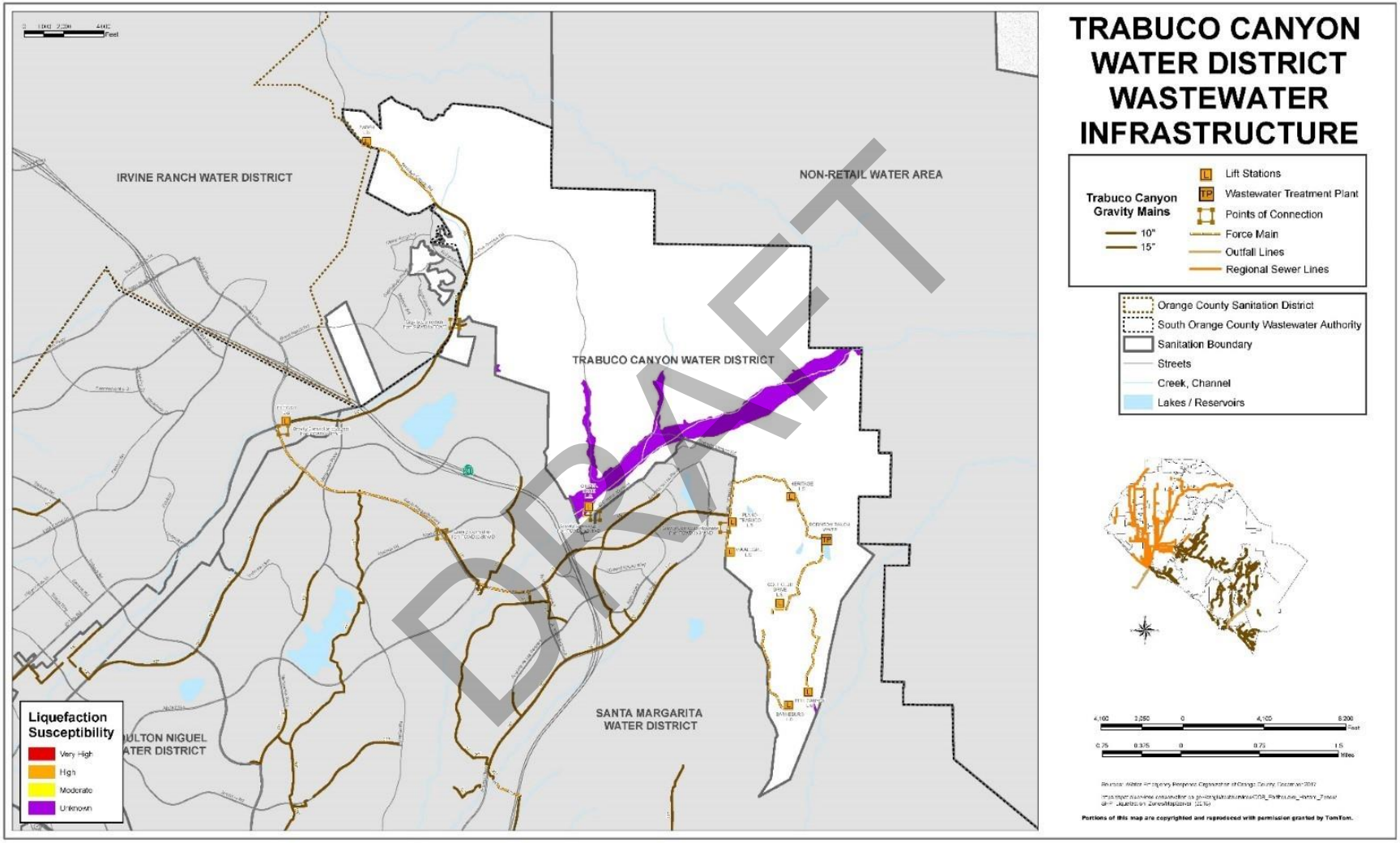


Exhibit M-13. Liquefaction Hazard and TCWD Wastewater Infrastructure



M.5 VULNERABILITY AND RISK ASSESSMENT

Assessing vulnerabilities shows the unique characteristics of individual hazards and begins the process of narrowing down locations within TCWD's service area that are vulnerable to specific hazard events. The vulnerability assessment considered unique local knowledge of hazards and impacts and a GIS overlaying method for examining such vulnerabilities more in depth. Using these methods vulnerable populations, infrastructure, and potential losses from hazards can be estimated.

Assets Susceptible to Hazard Events

TCWD's infrastructure is outlined in **Exhibit M-14**, which lists the number of TCWD's infrastructure assets are located within the mapped hazard zones identified above.

Exhibit M-14. TCWD Infrastructure and Exposure to Hazards

Hazard		Infrastructure Type							
		Interties (#)	Pump Stations (#)	Reservoirs (#)	Wells (#)	Treatment Plants (#)	Lift Stations (#)	Potable Pipelines (miles)	Wastewater Pipelines (miles)
Fire Hazard Zone	Moderate	2	1	0	0	0	2	1.2	0
	High	0	0	0	0	1	0	2.8	0
	Very High	6	7	8	3	1	7	13.4	3.5
FEMA Flood Zone	100-Year	0	0	0	2	0	1	0.5	0.2
	500-Year	0	0	0	0	1	0	0	0
Alquist-Priolo Rupture Zone		0	0	0	0	0	0	0	0
Seismic Shaking	Moderate	0	0	0	0	0	2	0.6	0.1
	High	8	10	7	2	2	6	16.5	3.4
	Extreme	0	1	1	0	0	0	0	0
Liquefaction	Moderate	0	0	0	0	0	0	0	0
	High	0	0	0	0	0	0	0	0
	Very High	0	0	0	0	0	0	0	0
	Unknown	1	2	0	3	1	1	2.0	0.5
Landslide Zone		0	2	5	0	0	5	1.2	0.5
Tsunami Zone		0	1	1	0	0	0	0	0

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Much of TCWD's service area and its associated infrastructure are located in very high fire hazard areas and high seismic shaking hazard areas. Several reservoirs and lift stations are located within landslide hazard areas. Additionally, TCWD does not contain infrastructure or pipelines in the Alquist-Priolo Rupture Zone nor in the tsunami zone except for the new Saddlecrest location.

Changes in Land Use and Development

TCWD serves eight communities across 7,000 plus acres that consist mostly of residential and open space land use. Approximately 56% of the service area is residential housing, with high, medium, and low-income families living in the communities. Within these communities, there are currently over 40 development projects that are anticipated to generate an additional 1.3 MGD of average daily demand by 2035. To ensure the ability to serve all customers, ~~Trabuco Canyon~~TCWD has a variety of projects ongoing and planned to increase service capacity. Projects on the potable

water system such as improvements at the Dimension~~s~~ Water Treatment Plant, upgrades to Plano Trabuco Pump Station, pipeline replacements, and the creation of a new 1.5 MG reservoir are anticipated to help meet the new drinking water demand. Within the wastewater system, TCWD is performing upgrades to lift stations across the service area and improvements~~ing~~ to the Robinson Ranch Wastewater Treatment Plant.

Vulnerabilities Associated with Climate Change

Hazard	Climate Change Vulnerabilities
Hazards of High Concern	
Dam/Reservoir Failure	There are no expected climate change impacts on dam/reservoir failure. However, fluctuations in the amount of precipitation and intensity of events could cause stress on dam/reservoir facilities not previously anticipated during initial design. These types of issues could increase the vulnerability of these facilities, which is described in the base plan.
Human-Caused Hazard: Power Outage	Climate change will likely increase TCWD's vulnerability to power outages as local electric companies implement protocols such as rolling blackouts or targeted shutoffs that may impact facilities located within areas such as the Dove Canyon and Bell Peak area.
Human-Caused Hazards: Terrorism (Cyber Threat)	Connections between climate change and cyber based terrorism have not been identified.
Seismic Hazards: Seismic Shaking	Climate change is not expected to cause any changes to the frequency or intensity of seismic shaking occurring within TCWD's service area.
Severe Weather: Drought	Droughts are expected to increase in length and frequency due to climate change and impact TCWD as described in the base plan.
Severe Weather: Windstorm	The challenges to TCWD from climate change's impacts on windstorms is expected to follow the impacts described in the base plan.
Wildfire	Climate change is expected to cause an increase in wildfires within TCWD's service area due to the high amount of urban-wildland interfaces and the proximity to the Trabuco Ranger District of the Cleveland National Forest.
Hazards of Medium Concern	
Flood	Climate change is expected to potentially cause some increased flooding within TCWD's service area, especially along the Tijeras Creek area.
Geological Hazards: Landslide and Mudflow	Climate change could indirectly affect the conditions for landslides within TCWD's service area as increased precipitation and storm intensities may cause more moisture-induced landslides.
Human-Caused Hazards: Contamination/ Saltwater Intrusion	Changes in contamination and saltwater intrusion vulnerability due to climate change are expected to follow the changes outlined in the base plan.
Human-Caused Hazards: Hazardous Materials	Climate change has the potential of increasing hazardous materials releases resulting from transportation crashes or damage to storage vessels.
Severe Weather: Extreme Heat	Temperatures are expected to increase due to climate change and impact TCWD's service area as described in the base plan.
Hazards of Low Concern	
Geological Hazards: Expansive Soils	The impacts to expansive soils within TCWD's service area are anticipated to be as described in the base plan.
Human-Caused Hazards: Terrorism (MCI)	Climate change has no direct link to human-caused hazards and is expected to follow the impacts described in the base plan.

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Hazard	Climate Change Vulnerabilities
Seismic Hazards: Fault Rupture	There are no expected changes to the frequency or intensity of fault ruptures occurring within Trabuco Canyon's service area as a result of climate change.
Seismic Hazards: Seismic Liquefaction	Climate change is anticipated to impact liquefaction potential within the TCWD service area as periods of both intense rain and drought could potentially increase or decrease groundwater elevations affecting the risk of liquefaction, depending on the circumstances.
Urban Fire	There is no anticipated impact to how climate change could influence the ignition or behavior of urban fires.

M.6 CAPABILITIES ASSESSMENT

The capabilities assessment is designed to identify existing local agencies, personnel, planning tools, public policy and programs, technology, and funds that have the capability to support hazard mitigation activities and strategies outlined in this MJHMP. TCWD's internal development team revised the capabilities identified in the 2019 plan and collaborated to identify current local capabilities and mechanisms available to the MA for reducing damage from future hazard events. **Exhibits M-15a through M-15d** assess the authorities, policies, programs, and resources that the jurisdiction has in place that are available to help with the long-term reduction of risk through mitigation. These capabilities include planning and regulatory tools, administrative and technical resources, financial resources, and education and outreach programs. TCWD has the ability to expand on and improve existing emergency management policies and programs to implement mitigation programs. In some instances, methods of expansion and improvement have been identified within a specific capability, while a majority of these capabilities are anticipated to be expanded and improved upon through additional projects/initiatives underway by the Agency. These have been included at the bottom of each table.

Exhibit M-15a. Planning and Regulatory Capabilities Summary

Ordinance, Plan, Policy, Program	Responsible Agency or Department	Description/Comments
Building Code	Local Cities, CA Division of Dams, OCFA, AQMD	TCWD complies with applicable building codes and works with public agencies in the service area. **Expansion and Improvement:** As retrofits and replacement projects are identified TCWD will anticipate meeting or exceeding the latest building codes to ensure greater resilience is incorporated into their infrastructure.
Zoning Ordinance	County of Orange, City of Rancho Santa Margarita, City of Lake Forest, City of Mission Viejo	TCWD complies with applicable zoning ordinances and works with public agencies in the service area.
Subdivision Ordinance or Regulations	Local cities, County of Orange	TCWD complies with applicable subdivision ordinances or regulations and works with public agencies in the service area.
Special Purpose Ordinance	County of Orange, Army Corps of Engineers, USFWS/CDFG	TCWD complies with applicable special purpose ordinances and works with the cities within the service area.

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Ordinance, Plan, Policy, Program	Responsible Agency or Department	Description/Comments
Growth Management Ordinances	Local cities, County of Orange, Foothill Specific Plan, LAFCO	TCWD complies with applicable growth management ordinances and works with the public agencies in the service area. **Expansion and Improvement:** Growth management ordinances need to take into account water needs and available supplies for existing and future populations. Working closely with the Cities and County in the region, SCWD can help better understand how growth management ordinances could impact these resources.
Site Plan Review Requirements	Local Cities, County of Orange, Orange County Fire Authority, CA Legislative Bills and Propositions	TCWD complies with applicable site plan review requirements and works with public agencies within the service area. **Expansion and Improvement:** Developing better methods and techniques to support site plan reviews within Orange County can help ensure adequate planning, design, and engineering analysis is available to Cities and the County when new subdivisions are proposed.
General Plans	TCWD Master Plan	TCWD Master Plan outlines the current and future conditions and complies with applicable General Plans for cities within the service area.
Capital Improvements Plan	TCWD CIP	TCWD develops a 10-year CIP for water, wastewater, and recycled water. **Expansion and Improvement:** Incorporation of mitigation strategies into the CIP can help support future funding of improvements necessary to enhance water/wastewater systems.
Emergency Response Plan	CDHP, SEMS, NIMS, WEROC, MET	The district works with local agencies and WEROC for emergency response. **Expansion and Improvement:** Continued improvement and enhancement of emergency response plans can help ensure TCW is better prepared for future incidents and can anticipate their communities' needs.
Disaster Recovery Plan	County of Orange	Adhere to County plan.
Post-Disaster Recovery Ordinance	Local cities, County of Orange, State of California, FEMA	Works with County on Post-Disaster Recovery Ordinance.
Water Discharge Requirements	RWQCB, SOCWA, EPA, County of Orange State Water Resources Control Board	Adhere to all Federal and State regulations.
Vulnerability Assessment	EPA, CA State Water Resources Control Board, Division of Drinking Water	The district works with State, local agencies to determine vulnerabilities.
Urban Water Management Plan	TCWD	The UWMP has been prepared consistent with the requirements under Water Code Sections 10610 through 10656 of the Urban Water Management Planning Act and is

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Ordinance, Plan, Policy, Program	Responsible Agency or Department	Description/Comments
		due to the California Department of Water Resources (DWR) by July 1, 2021~~6~~. **Expansion and Improvement:** Integration of future projects from UWMPs into Local Hazard Mitigation Plans can ensure both plans are supporting the necessary improvements needed to ensure future water supplies and minimize risks to hazards and disasters.

How can these capabilities be expanded and improved to reduce risk?
▪ Update the risk and resilience assessment (RRA) and corresponding Emergency Response Plan (ERP) per the America's Water Infrastructure Act of 2018 (AWIA). Consider this plan as a resource to meet the AWIA requirements. ▪ Conduct disaster response fuel analysis and contingency planning with WEROC as a component of the Southern California Catastrophic Plan. ▪ Evaluate ability to contract with local fuel distributors and gas stations for emergency backup supply.

Exhibit M-15b. Administrative and Technical Capabilities Summary

Staff/Personnel or Type of Resource	Responsible Agency or Department	Description/Comments
Planner(s) or Engineer(s) with Knowledge of Land Development and Land Management Practices	Outside consultants in coordination with the Engineering Department	District staff utilizes an outside consultant with input from staff.
Engineer(s) or Professional(s) Trained in Construction Practices Related to Buildings and/or Infrastructure	Outside consultants in coordination with the Engineering Department	District staff utilizes an outside consultant with input from staff.
Planners or Engineer(s) with an Understanding of Natural and/or Human - Caused Hazards	Outside consultants in coordination with the Engineering Department	District staff utilizes an outside consultant with input from staff.
Staff with Education or Expertise to Assess the Community's Vulnerability to Hazards	County of Orange, Emergency Response Plan, Sheriff's Dept., OCFA	Work with the County and local agencies to assess vulnerabilities.
Personnel Skilled in GIS and/or HAZUS	MWDOC, Center for Demographics Research, Outside Consultant	Work with MWDOC and outside consultant.
Emergency Manager	MWDOC, WEROC, Emergency Coordinator	Coordinate with WEROC and the County.
Lab Specialist	Contract Laboratories, Neighboring Water Districts	Coordinates with other agencies and outsider consultant.
Floodplain manager	County of Orange, Sheriff's Department	
Grant Writers	Engineering Department	Actively searches for Federal and State grants.

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Staff/Personnel or Type of Resource	Responsible Agency or Department	Description/Comments
Scientists Familiar with the Hazards of the Community	County, Orange County Fire Authority, Outside Consultants, Local University and Non-Profit Research Centers	Work with the County and local agencies who are familiar with community hazards.
Surveyors	Outside consultant in coordination with District staff	District staff utilizes an outside consultant with input from staff.
Mutual aid agreements	WEROC	~~Note to Staff: Do you use this tool?~~As an MA of MWDOC/WEROC, TCWD has utilized mutual aid request for disaster response efforts.

How can these capabilities be expanded and improved to reduce risk?
▪ Evaluate participation in MWDOC Water Loss Control Program, including meter testing and leak detection through training of internal staff or through MWDOC's Choice program. ▪ Have all agency-registered engineers and other qualified individuals attend California Governor's Office of Emergency Services (CalOES) Safety Assessment Program (SAP) training for building inspections.

Exhibit M-15c. Financial Capabilities Summary

Financial Resources	Agency or Department	Description/Comments
Capital Improvements Project Funding	Administrative Services Department	Annual review of capital requirements and forecasting future cap needs. **Expansion and Improvement:** During annual budgeting TCWD can highlight HMP strategies that support funding needs for the CIP.
Fees for Water, Sewer, Gas, or Electric Service	Administrative Services Department	The district is able to charge customers fees for water and sewer services. **Expansion and Improvement:** Analysis of future fees for services should analyze potential mitigation funding support opportunities to capture funding for these projects.
Incur Debt Through General Obligation Bonds	Administrative Services Department	Through a general election, the district can incur debt through general obligation bonds.
Incur Debt Through Special Tax And Revenue Bonds	Administrative Services Department	The district may incur special tax or revenue bonds as needed through the appropriate legal process.
Grants	Engineering Department	~~Note to Staff: Do you use this tool?~~ Actively searches for Federal and State grants.

How can these capabilities be expanded and improved to reduce risk?
▪ Learn about how to utilize post-disaster mitigation grants (Section 406) and incorporate it into the utility's disaster recovery strategy.

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Exhibit M-15d. Education and Outreach Capability Summary

Resource/ Programs	Agency or Department	Description/Comments
AlertOC	County of Orange	Residents are encouraged to sign up for emergency alerts with the City.
Emergency Preparedness Information	Municipal Water District of Orange County, Federal, State	The district directs the public the website for emergency preparedness resources.
Public Awareness and Education	District website & Social Media platforms	The District uses its official website as the primary source of public awareness and education. Social media platforms are a secondary source of public awareness and education.
Local News	Orange County Register	The newspaper is used for the publication of required notices or public outreach purposes.
Community Newsletter	TCWD On Tap Newsletter	The District publishes a monthly newsletter that is included with customer utility bills.

How can these capabilities be expanded and improved to reduce risk?
▪ Participation in WEROC-led efforts to develop standardized messaging for water outages, dam events, and general disaster response. Ensure that messaging will work for the general community, as well as the Access, Disability, and Functional Needs community specific to TCWD.

M.7 MITIGATION STRATEGY

M.7.1 Mitigation Goals

TCWD adopts the hazard mitigation goals developed by the planning team; refer to **Section 4**.

M.7.2 Mitigation Actions

The internal development team reviewed the mitigation actions identified in the 2019 plan and the updated risk assessment to determine if the mitigation actions were completed, required modification, should be removed because they are no longer relevant, and/or should remain in the MJHMP update. New mitigation actions to address the updated risk assessment and capabilities identified above were also considered and added. **Exhibit N-16,** TCWD Mitigation Actions, identifies the mitigation actions, including the priority, hazard addressed, risk, timeframe, and potential funding sources.

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Exhibit M-16. TCWD Mitigation Actions

Action/Task/Project Description	Location/ Facility	Hazard	Cost	Responsible	Timeframe	Possible Funding Sources	Status
HIGH PRIORITY							
Dove and Trabuco Dam Outlet Gate Structure Repair/Replacement.	Trabuco Dam	Dam/Reservoir Failure	$2,500,000	Engineering	Immediate	Grants, General Fund	New
Implement erosion control and slope stabilization measures at existing Transmission Mains. Install new structural supports and reinforce or replace unstable foundations and soils and bridge crossings.	System Wide, including 16-inch water main bridge crossings on old El Toro Road.	Geological Hazards: Landslide and Mudflow	>$5 Million	Operations	Short to Long Term	Grants, General Fund	Existing, On Going
Conduct structural, geotechnical, and/or erosion control studies to determine site specific mitigation measures to protect existing transmission mains. Mitigation measures may include rip-rap, drainage structures/pipes, asphalt paving, and re-compaction/fill of slopes and unpaved areas at or above existing transmission mains. If more feasible, relocate sections of piping and valves.	System Wide, including Rose Canyon water mains in unpaved areas, various treated water mains at and near Trabuco Creek, adjacent hill sides, and unpaved areas on Plano Trabuco Road	Geological Hazards: Landslide and Mudflow	>$10 Million	Engineering	Short to Long Term	Grants, General Fund	Existing, On Going
MEDIUM PRIORITY							
Evaluate water tanks for structural stability and seismic activity and install flexible coupling and seismic valves where recommended.	Water storage tanks	Seismic Hazards: Seismic Shaking	$5 Million	Engineering	Immediate	General Fund	Existing, On Going
Implement erosion control and slope stabilization measures at Wastewater Treatment Plant and service roads to the facility.	Wastewater treatment plant and service road	Geological Hazards: Landslide and Mudflow	>$1 Million	Operations	Long Term	Grants, General Fund	Existing, On Going
Construct a new storage tank~~, Harris Tank~~ with a capacity of 1.5 MG	New water storage tank	All Hazards	$7 Million	Operations	Short Term	Grants /Developer	Existing, On Going

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Action/Task/Project Description	Location/ Facility	Hazard	Cost	Responsible	Timeframe	Possible Funding Sources	Status
Install emergency standby generators	Water treatment plant, high altitude pressure zones (Robinson Ranch Pump Station, Canyon Creek, Rose Reservoir)	Human-Caused Hazards: Power Outage; Severe Weather: Windstorm; Wildfire	$4 Million	Operations	Short Term	Grant, General Fund	Existing, On Going
Fire Flow Availability Improvements	Sections of service area with less-than-optimal fire flow availability.	Wildfire, Urban Fire	$1,540,000	Engineering	Long Term	General Fund	New
LOW PRIORITY							
Install surveillance and lighting equipment.	Water Treatment Plants and System Storage Tanks	Human-Caused Hazards: Terrorism (MCI)	$250,000	Operations	Long Term	Grants	Existing, On Going
Expand SCADA system monitoring.	Water and Wastewater Facilities	Human-Caused Hazards: Terrorism (Cyber Threat)	$3 Million	Information Technology and Operations	Short Term	General Fund, Restricted Reserves	Existing, On Going
Add laboratory sampling and analyses for unregulated compounds related to potential terrorist threat or vandalism.	Water Treatment Plants and System Storage Tanks	Human-Caused Hazards: Contamination/ Saltwater Intrusion	No cost estimate available	Water Quality	Long Term	Grants, General Fund	Existing, On Going

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M.7.3 Completed or Removed Mitigation Initiatives

The following mitigation actions from the 2019 plan have been completed or are in progress and therefore are removed from this plan update.

- **Mitigation:** Construct new Saddlecrest storage tank.
  - **Status:** Complete in 2023.

M.8 PLAN INTEGRATION

TCWD's capital budget, Water, Reclaimed Water, and Wastewater Master Plan are all used to implement mitigation initiatives identified in this annex. After adoption of the MJHMP, TCWD will continue to integrate mitigation priorities into these documents.

Since the previous Plan Update, TCWD incorporated information from the MJHMP in its CIP, in addition to the following planning mechanisms:

- The risk assessment and mitigation actions were used to inform the City's Water Master Plan and Urban Water management Plan.
- Mitigation actions were incorporated into the Capital Budget to prioritize and complete initiatives.

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TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | NOVEMBER 6, 2024

ENGINEERING MATTERS
ITEM 3: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Golf Club SLS Improvements Project Construction Report
2. Heritage SLS Pump and Header Replacement Project Construction Report
3. Dove/Rob. Ranch Recycled Water Pump Station Improvements Project – RFP Issued
4. WWTP Effluent Reservoir Outlet Gate System Replacement Project – Update
5. Supervisory Control and Data Acquisition (SCADA) Improvements Project - Update
6. Other Projects

RECOMMENDED ACTION:
Committee to receive project status updates at the time of the Committee Meeting.

EXHIBIT(S):
1. Golf Club Sewer LS Improvement Project – October 2024 Monthly Report
2. Heritage Sewer LS Improvement Project – October 2024 Monthly Report

CONTACTS (staff responsible): PALUDI/PEREA/LAUSTEN

Golf Club Sewer Lift Station Improvement Project
TCWD Project No. 2122-010

Construction Report
October 2024

I. GENERAL PROJECT INFORMATION

Contract	Golf Club Sewer Lift Station Improvement Project
Contractor	Pacific Hydrotech Corporation (PHC)
Contract Time	
Original Calendar Days:	200 Calendar Days from Notice to Proceed
Notice to Proceed:	January 29, 2024
Original Contract Completion Date:	August 16, 2024
Revised Completion Date due to Long Lead Material Deliveries	*November 13, 2024*
Weather-Related Delay Days:	4 Days
Contract Price	
Original Contract Amount:	$1,889,300.00
Approved Change Order Amount:	$0.00
Revised Contract Amount:	$1,889,300.00

II. CONSTRUCTION MANAGER SUMMARY

This report provides a summary of activities from September 25th through October 25th, 2024, for the Golf Club Sewer Lift Station Project.

Pacific Hydrotech Corporation (PHC) continued with improvements of the Golf Club Lift Station, particularly completing a gravel backfill above and within the pipe zone area, and then overlain with a slurry backfill material separating the Lift Station Building and Wet Well. Prior to delivery and placement of the pre-cast top slab and hatch of the existing Wet Well, top had to be cut and leveled. At the same time, conduits for electrical, level switches, and air releases that were situated between the existing Dry Well and Wet Well were being finished.

The discharge and suction piping in the existing Wet Well were installed, and all other mechanical piping in the existing Dry Well were being completed. In early October, the coating subcontractor, Techno Coatings (TECHNO) mobilized onto the project site to start the permanent lining application, i.e. Raven epoxy coating. TECHNO proceeded to sandblast and prepare the interior surfaces of the existing Wet Well. Upon acceptance by CSI, In. (CSI) to perform the coating inspection, TECHNO applied primer and liner applications. Final inspections were conducted by CSI on the Raven epoxy coating applications, any discrepancies that were noted by CSI, TECHNO immediately mitigated them and were able to demobilize from the project site. CSI provided written results based on their field observations and inspections.

PHC continued to finalize improvements – mechanical piping, connections, and features – within the existing Wet Well and Dry Well. The new Submersible Pumps and their guide rails were installed and situated at the bottom of the Wet Well. Pump Motors provided by TCWD were provided, and under TCWD's direction, the pre-existing Pump Motors were removed and replaced. PHC improved and leveled the Pump Pedestals and their electrical subcontractor, Hydrotech Electric, restored power source to the replaced, Pump Motors.

Prior to the Start-Up of the new Submersible Pumps, a Functional Test was performed between PHC and TCWD Operations. This consisted of adjustment to level controls, securing Pump cabling, evaluate and determine Pump rotation, and perform Pump removal and replacement along the new guide rails with TCWD equipment. Up through this Functional Test, the Temporary Bypass System remains in place through PHC's efforts, and the System continues to be monitored and maintained to ensure functionality.

Soon after acceptance of the Functional Test by TCWD Operations, the Start-Up or 48-Hour Demonstration Test of the new improvements to the Golf Club Lift Station commenced on October 15th, 2024, and is expected to expire on October 17th, 2024. Under this Demonstration Test, TCWD observed and maintained the operation, and the Temporary Bypass System was left inoperable.

TCWD Operations accepted the operation of the Golf Club Lift Station on October 17th, 2024, and Temporary Bypass System was deemed to be decommissioned. PHC started decommissioning of the Temporary Bypass System on October 21st, 2024, and completed these efforts on October 24th, 2024.

While the Golf Club Lift Station is being operated by TCWD Operations, PHC proceeded to start on the civil improvements – grading, concrete aprons, and installation of the Flow Meter.

III. CONSTRUCTION ACTIVITIES FOR THIS REPORTING PERIOD

The following work activities were performed during this reporting period:

- PHC continued with mechanical and electrical improvements to the existing Wet Well and Dry Well.
- TECHNO remobilized onto the project site to complete the permanent lining system, i.e. Raven epoxy coating of the Wet Well.
- PHC completed the mechanical improvements; Hydrotech Electric completed the electrical improvements to the existing Wet Well and Dry Well.
- Functional Test between PHC and TCWD Operations was performed, while the Temporary Bypass System remained in place and PHC continued to monitor and maintain the System to ensure functionality of the Golf Club Lift Station.
- Start-Up or 48-Hour Demonstration Testing commenced on October 15th and completed on October 17th. As a result, TCWD Operations accepted operation of the Golf Club Lift Station.
- Started decommissioning of Temporary Bypass System on October 21st, and completed on October 24th when the Day Tank was picked up and demobilized.
- PHC continues to complete the civil improvements – grading, concrete paving, curb-and gutter and ribbon gutter – and installation of the Flow Meter.

IV. ANTICIPATED CONSTRUCTION ACTIVITIES – NEXT REPORTING PERIOD

The work activities anticipated in the next reporting period:

- PHC to complete the concrete improvements and surface drainage features.
- PHC to install Flow Meter slab, mechanical assembly, and vault substructure.
- PHC to grade and base pave the project site where asphalt pavement was removed.
- PHC to paint and coat the mechanical piping in the existing Dry Well.
- PHC to install Rolling Gate.
- PHC to clean-up the site and start to demobilize equipment and materials.
- Collect Close-Out Documents – O&M Manuals and Warranty Certificates
- Project Completion is anticipated to be November 13, 2024.

V. CONTRACTOR SUBMITTALS

Through the end of the reporting period, the following submittals have been received:

	Lift Station
Prior Submittals	74
Submittals Received This Period	1
TOTAL SUBMITTALS	75

VI. CONTRACTOR REQUEST FOR INFORMATION (RFIs)

Through the end of the reporting period, the following RFIs have been received:

	Lift Station
Prior RFIs	10
RFIs Received This Period	1
TOTAL RFIs	11

VII. CHANGE ORDERS

Though no Change Order Requests were submitted by PHC, there were Owner-initiated changes made, and costs were used against the $75,000.00 Allowance Item. These Owner-initiated changes consisted of the following:

- Additional Concrete Areas – extend concrete improvements in driveway, apron area up to the new Roller Gate; and area around the new Bypass Wet Well, at a cost of $12,391.14.
- Remove and Replace Pump Motors – Owner-furnished pump motors to be removed and replaced in the existing Dry Well. Pump No. 2 pedestal required leveling and adjustment, perform concrete finish on both pedestals, and remove and restore electrical power, by electrical subcontractor, Hydrotech Electric, to both pump motors, at a cost of $5,039.63.

VIII. SCHEDULE

The Notice to Proceed (NTP) is based on January 29, 2024, with an immediate need to start and install the Surge Tank directed by TCWD. The Contract Duration is 200 Calendar Days, and this results in a Contract Completion on August 16, 2024.

It was discussed at the Pre-Construction Meeting that because of the immediate need to start the Surge Tank, the sum of the materials being procured and delivered for the Temporary Bypass System and stainless steel, Air Release Valves, will arrive at a later date, and it is anticipated that the Contract Completion will be extended.

As such, an updated Progress Schedule prepared by PHC reflects a Contract Completion of November 13, 2024. This will result in an anticipated non-compensable, time extension under a separate Change Order to be issued to Pacific Hydrotech Corporation.

IX. PHOTOS

Construction photos documenting PHC's activities and progress during this reporting period are provided in Appendix A.

APPENDIX A

Construction Photos

Existing Wet Well – Penhall getting ready to clean-cut top of Wet Well.

Existing Wet Well – result of a clean-cut Wet Well prior to Pre-Cast Slab/Hatch placement.

Existing Wet Well – Completing and restoring service conduits between Dry Well and Wet Well

Existing Wet Well – Extension of service conduits inside Wet Well.

Existing Wet Well – Finishing bottom of Wet Well, reinstallation of Chamfer Slope.

Existing Wet Well – PHC finalizing Discharge and Suction Piping.

Existing Wet Well – Additional Service Conduits into Wet Well.

Existing Wet Well – Delivery and Install of Pre-Cast, Lid & Hatch.

Existing Wet Well – Placement of Pre-Cast, Lid & Hatch.

Existing Wet Well – TECHNO Coatings remobilized and started lining application; Scaffolding being installed.

Existing Wet Well – TECHNO continuing to apply lining application.

Existing Wet Well – Lining application completed.

Existing Wet Well – Placement of Submersible Pumps; Electrical connections being made by Hydrotech Electric.

Existing Wet Well – Functional Test while TCWD Operations lifted Submersible Pumps with their equipment.

Existing Dry Well – Pump Motors removed and to be replaced; Pedestals to be leveled and improved.

Existing Dry Well – Pump Motors replaced; electrical connections and terminations performed by Hydrotech Electric.

Golf Club Lift Station – Acceptance of 48-Hour Demonstration Test; removal of last mechanical plug located in manhole to allow sewage flow.

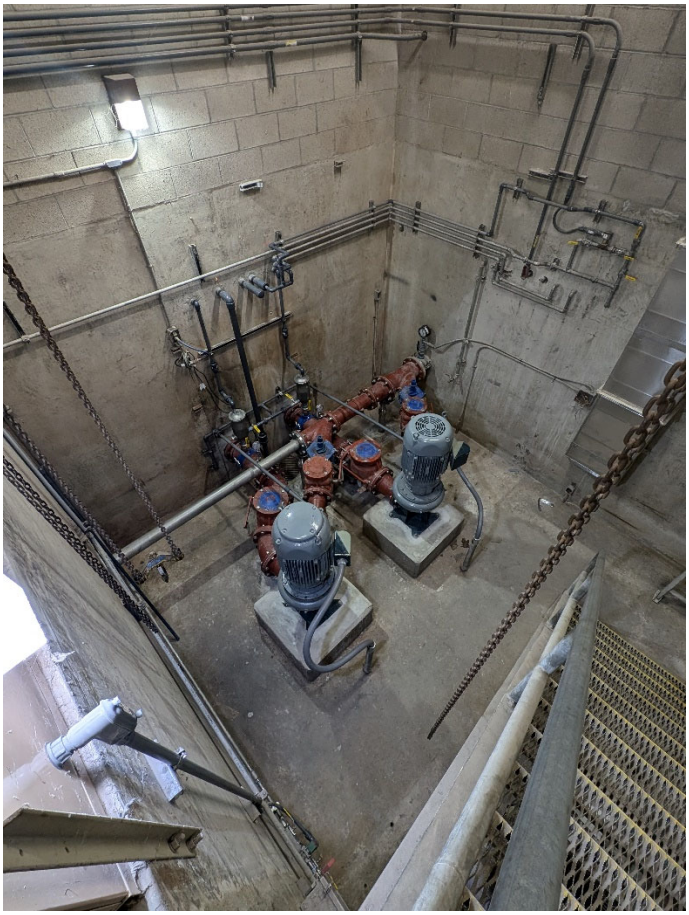
Golf Club Lift Station – Decommissioning of Temporary Bypass System

Golf Club Lift Station – Decommissioning of Temporary Bypass System.

Golf Club Lift Station – Decommissioning of Temporary Bypass System; Dry Tank being picked up and hauled off.

Existing Wet Well – Asphalt removals for concrete slab placement.

Existing Wet Well – Grading and compacting areas to be received with concrete slab improvements.



Existing Dry Well – Finished interior of mechanical piping in Dry Well.

Existing Dry Well – Finished interior of mechanical piping in Dry Well.

Heritage Sewer Lift Station
Dry Pit Improvements Project
TCWD Project No. 2224-104

Construction Report
October 2024

I. GENERAL PROJECT INFORMATION

Contract	Heritage Sewer Lift Station Dry Pit Improvements Project
Contractor	Ferreira Construction (FERREIRA)
Contract Time	
Original Calendar Days:	45 Calendar Days from Notice to Proceed
Notice to Proceed:	October 16, 2024
Original Contract Completion Date:	November 30, 2024
Weather-Related Delay Days:	0
Contract Price	
Original Contract Amount:	$173,201.00
Approved Change Order Amount:	$0.00
Revised Contract Amount:	$173,201.00

II. CONSTRUCTION MANAGER SUMMARY

This report provides a summary of activities from October 16th, 2024, for the Heritage Sewer Lift Station Dry Pit Improvements Project.

Ferreira Construction (FERREIRA) mobilized and started the improvements on October 16th, 2024. Materials deliveries were made and inventoried by FERREIRA. At this time, a Pre-Construction Meeting was held with FERREIRA and TCWD Engineering and Operations to discuss the Shut Down date to facilitate the improvements. It was determined that the Shut Down date was scheduled for October 22nd, 2024. Currently a Sewer Bypass installed by TCWD Operations is in place and will be utilized during the Shut Down efforts of the project.

FERREIRA started excavating and exposing the existing tee assembly in order to prepare for the Shut Down and the install the Cut-In Tee and Plug Valves Assembly. During the excavation an exposed 3-inch conduit that was recently installed by Southern California Edison was encountered, and FERREIRA protected-in-place the conduit to continue excavation efforts. The depth of the excavation was limited to about 5 ½ feet, and speed shores were used to stabilize and access the trench. At the same time and in the Dry Pit, FERREIRA removed the concrete pad of Pump No. 1 and set-up scaffolding in preparation for continued demolition efforts.

On October 22nd, Shut Down efforts were facilitated by TCWD Operations to allow FERREIRA to continue with demolition and "Cut-In-Tee" efforts. TCWD Operations provided Vactor Truck efforts, exercised valves to bypass sewage flows to other TCWD facilities. FERREIRA proceeded and was allowed to remove piping and valves at Pump No. 1 with a blind flange; and cut in a 6-inch wye on the north end of the Dry Pit.

On October 23rd an additional Shut Down effort was facilitated by TCWD Operations to allow FERREIRA to perform the "Cut-In-Tee" efforts at the excavation. After the sewage flow was diverted and minimized, FERREIRA proceeded to cut in "windows" or ports into the existing PVC piping to allow the snorkel of the Vactor Truck to collect any residual sewage flow. Subsequently, FERREIRA cut the tee assembly, section, and replaced it with the newly improved tee assembly with plug valves. This was connected onto the existing PVC piping with restrained mechanical couplings. All connections to the existing piping (Force Mains) and when sewage flow was restored to the Heritage Lift Station by TCWD Operations, were observed for any leakage, and if any, FERREIRA mitigated and eliminated any leaks.

During the Shut Down, the Air Vac contained within a Vault structure was removed, and a restraining band was installed.

Where there were no leaks, FERREIRA backfilled the excavation and the Air Vac Vault, and GMU performed field compaction testing for quality of backfill. FERREIRA continued to install the Valve Boxes with covers as the grade of backfill was approaching base pave levels. At the same time, materials and scaffolding were being brought into the Dry Pit in preparation for the 8-inch Ductile Iron Discharge Manifold Pipe and Pump No. 1 installations.

III. CONSTRUCTION ACTIVITIES FOR THIS REPORTING PERIOD

The following work activities were performed during this reporting period:

- FERREIRA mobilized and received materials deliveries on October 16th.
- FERREIRA started excavation to expose the existing tee assembly, and to prepare for the Shut Down facilitated by TCWD Operations on October 22nd.
- Demolition of Pump No. 1 in the Dry Pit started, and effectively, the Concrete Pad for the Pump No. 1 was formed and poured.
- Initial Shut Down of the Heritage Lift Station by TCWD Operations commenced, and FERREIRA proceeded to remove discharge piping and valves for Pump No. 1 and installed a blind flange on a portion of the existing Discharge Manifold pipe. Subsequently, a 6x6-inch wye was installed and blind flanged northern end of the existing Discharge Manifold pipe within the Dry Pit.
- After any leakage was mitigated and eliminated at the new connections, backfill of the excavation started, and Valve Boxes were being placed and situated.
- FERREIRA continued to stage equipment and materials in the Dry Pit in preparation for installation of the new Discharge Manifold pipe.

IV. ANTICIPATED CONSTRUCTION ACTIVITIES – NEXT REPORTING PERIOD

The work activities anticipated in the next reporting period:

- FERREIRA to complete installation new, Ductile Iron, Discharge Manifold Pipe and assemble connection to Pump No. 1.
- Electrical connections, terminations, and routing of conduits to be performed and completed.
- FERREIRA to schedule Start-Up of Pump No. 1 and perform Demonstration Testing.
- Perform Pressure Testing of the newly installed mechanical piping – Discharge Manifold.
- Paint and coat Discharge Manifold and mechanical piping.
- FERREIRA to complete backfill of all excavations and complete pavement restoration.
- Collect Close-Out Documents – O&M Manuals and Warranty Certificates
- Project Completion is anticipated to be mid-November.

V. CONTRACTOR SUBMITTALS

Through the end of the reporting period, the following submittals have been received:

	Lift Station
Prior Submittals	17
Submittals Received This Period	1
TOTAL SUBMITTALS	18

VI. CONTRACTOR REQUEST FOR INFORMATION (RFIs)

Through the end of the reporting period, the following RFIs have been received:

	Lift Station
Prior RFIs	1
RFIs Received This Period	0
TOTAL RFIs	1

VII. CHANGE ORDERS

No Change Order Requests were submitted by FERREIRA.

VIII. SCHEDULE

The last Look Ahead Schedule indicates a completion of November 8, 2024.

IX. PHOTOS

Construction photos documenting FERREIRA's activities and progress during this reporting period are provided in Appendix A.

APPENDIX A

Construction Photos

Heritage Lift Station – Mobilizing onto project site.

Heritage Lift Station – Materials being delivered by Western Waterworks.

Heritage Lift Station – Materials being delivered by Western Waterworks.

Heritage Lift Station – Plug Valves were long lead items.

Cut-In Tee & Plug Valves Assembly – Started excavation and expose existing tee connection.

Dry Pit – Removal of Concrete Pad

Dry Pit – Scaffolding and preparation of 6x6 Wye at Discharge Header.

Cut-In Tee & Plug Valves Assembly – Started excavation and exposed existing tee connection; notice 3-inch SCE Conduit crossing pipeline and protected-in-place.

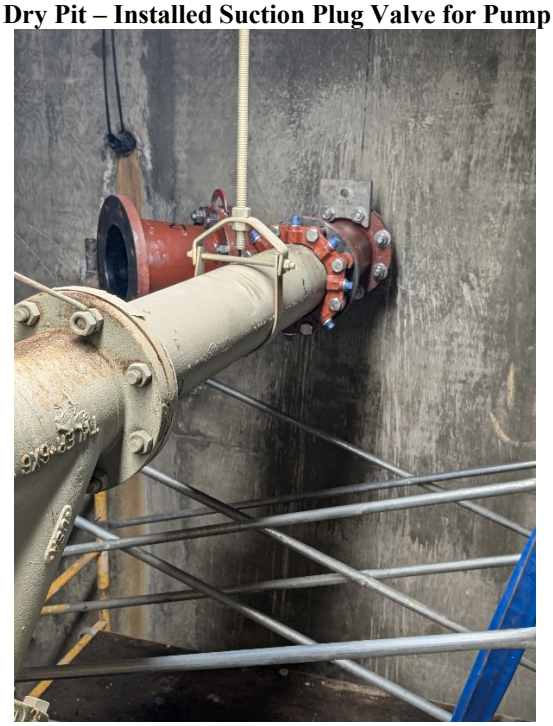
Cut-In Tee & Plug Valves Assembly – Started assembling and staging.

Dry Pit – Form and dowel new Concrete Pad for Pump No. 1.

Dry Pit – Poured Concrete Pad for Pump No. 1.

1st Shut Down – Vactor Truck on site.

Dry Pit – Installed Suction Plug Valve for Pump No. 1.



Dry Pit – Installed 6x6 Wye for new Discharge Header Pipe

2nd Shut Down – Vactor Truck mobilized near Excavated Tee Assembly

2nd Shut Down – Cut-In Windows/Ports for Vactor Truck Snorkel Access.

2nd Shut Down – Cut-In Windows/Ports for Vactor Truck Snorkel Access.

2nd Shut Down – Cut-In Windows/Ports for Vactor Truck Snorkel Access.

Cut-In Tee & Plug Valves Assembly – Removal of Existing Tee.

Dry Pit – Scaffolding Installed and Prepared

Air Vac Vault – Vactor Truck removing debris and exposed Electrical Duct Bank.

Air Vac Vault – Air Vac Removed, Restraining Band installed; Note: Exposed Electrical Duct Bank.

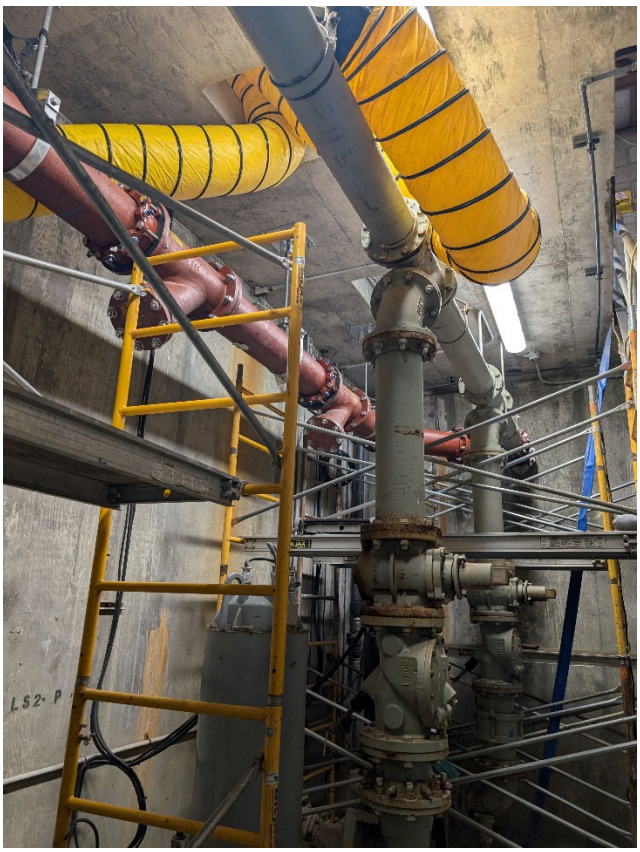
Cut-In Tee & Plug Valves Assembly – New Tee Assembly Installed; Wrapped Valves

Cut-In Tee & Plug Valves Assembly – Backfilled Excavation; Field Compaction Testing by GMU.

Dry Pit – Setting Pump

Dry Pit – Assembling Pump, Piping, and Valves

Cut-In Tee & Plug Valves Assembly – Installing Valve Boxes & Covers



Dry Pit – Discharge Manifold Being Installed

Dry Pit – Discharge Manifold Being Installed

TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | NOVEMBER 6, 2024

OPERATIONAL MATTERS
ITEM 4: WATER SYSTEM UPDATES

The following is a brief report of the water system through **October 2024**.

Projects and Repairs

Water Operations staff performed and/or completed the following tasks and projects:

1. Disassembled and cleaned algae from filters 1 – 3 at Dimension Water Treatment Plant (DWTP)
2. Worked with contractor to repair leak and install new isolation valve on 16" Main Transmission Line (Bike Trail)
3. Replaced fire hydrant and pad in Rancho Cielo
4. Recoated hydrostatic tank and piping at Topanga PS.

Monthly Water System Operations Summary

The Monthly Water System Operations Summary is attached for the Committee's review. Any anomalies will be presented at the time of the Engineering/Operational Committee Meeting.

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

EXHIBITS

1. Monthly Water System Operations Summary

CONTACTS (staff responsible): PEREA/KESSLER

TRABUCO CANYON WATER DISTRICT

MONTHLY WATER SYSTEM OPERATIONS SUMMARY - 2024

SYSTEM PRODUCTION/SUPPLIES	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	*TOTAL*
Number of Days	31	28	31	30	31	30	31	31	30	31	30	31	*365*
Dimension WTP	8%	17%	25%	33%	42%	50%	58%	67%	75%	83%	92%	100%	
SAC Pipeline Meter	0.0	61.3	52.5	0.0	0.0	0.0	0.0	51.7	0.0				165.5
Backwash, AF	0.0	2.2	1.6	0.0	0.0	0.0	1.2	2.4	0.0				7.4
Flushwater, AF	0.0	3.7	1.8	0.0	0.0	0.0	1.9	1.8	0.0				9.2
DWTP Effluent (1)	0.0	65.0	49.3	0.0	0.0	0.0	26.9	52.0	0.0				193.2
Groundwater, AF													
Trabuco Creek GWTF	0.0	0.0	32.6	98.1	115.2	111.7	91.2	0.0	0.0				448.8
U.S. Well AF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0
Total Groundwater (2)	0.0	0.0	32.6	98.1	115.2	111.7	91.2	0.0	0.0				448.8
Water Purchases, AF													
SMWD Treated Interconnection	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	1.0				12.0
IRWD Treated Interconnections	96.1	17.0	9.6	0.0	34.2	71.2	92.3	159.0	207.1				686.5
IRWD Irvine Lake	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0
Total Purchases (3)	96.1	17.0	9.6	0.0	34.2	71.2	92.3	170.0	208.1				698.5
Total Supply													
Total Supply AF (1,2,3)	**96.1**	**82.0**	**91.5**	**98.1**	**149.4**	**182.9**	**210.4**	**222.0**	**208.1**				1,340.5
% Year - Peak Prod. - 2,449 AF (2018)	4%	7%	11%	15%	21%	29%	37%	46%	55%				55%
AF/Day	3.1	2.8	3.0	3.3	4.8	6.1	6.8	7.2	6.9				4.9
CFS/Day, Avg.	1.5	1.4	1.5	1.6	2.4	3.0	3.4	3.6	3.5				2.4
Reservoir Storage													
Monthly Average, MG	9.1	9.1	9.0	9.0	9.1	9.0	9.0	9.1	9.1				9.1
Monthly Average, AF	27.9	27.9	27.0	27.0	27.9	27.0	27.0	27.9	27.9				27.5
Days of Storage	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				4.0
SYSTEM DEMANDS													
District Operations, AF (1)													
Dimension WTP	0.00	0.00	0.12	0.00	0.00	0.00	1.90	1.91	0.00				3.93
Robinson Ranch WWTP	0.004	0.004	0.004	0.004	0.004	0.004	0.020	0.020	0.020				0.084
Supplemental Domestic to RW Res.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.00
Subtotal	0.004	0.004	0.124	0.004	0.004	0.004	1.920	1.930	0.020				4.01
System Losses, AF (2)													
Flushing	0.00	3.00	3.00	2.80	3.00	3.00	1.50	1.50	3.50				21.30
Sewer Cleaning	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02				0.18
Line Breaks	0.00	0.00	0.23	0.00	0.27	0.02	0.01	1.00	1.50				3.03
Subtotal	0.02	3.02	3.25	2.82	3.29	3.04	1.53	2.52	5.02				24.51
Zone Demands, AF (3)													
Topanga Canyon	Inop.	Inop.	Inop.	Inop.	Inop.	Inop.	Inop.	0.4	3.1				3.52
Falcon Estates	0.13	0.1	0.1	0.0	0.1	0.8	0.9	0.6	0.9				3.66
Rose PRV/The Oaks	1.5	2.5	1.4	1.04	1.9	3.4	3.0	5.0	2.1				21.84
Canyon Creek	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4				2.14
Rose Pump Station	0.5	1.5	0.4	0.8	0.7	0.3	0.2	0.8	1.6				6.82
Robinson Ranch	21.1	12.4	6.1	19.2	39.2	41.9	56.9	60.6	55.6				312.96
Dove Canyon	45.2	37.5	36.1	43.3	63.5	77.7	84.7	91.2	86.4				565.63
Subtotal	68.6	54.1	44.3	64.6	105.6	124.4	146.0	159.4	150.1				916.97
Total System Demand (1,2,3)	**68.6**	**57.1**	**47.7**	**67.4**	**108.9**	**127.4**	**149.5**	**163.8**	**155.1**				945.49

TRABUCO CANYON WATER DISTRICT

MONTHLY WATER SYSTEM OPERATIONS SUMMARY - 2024

System Demands													
AF/Day	3.1	2.8	3.0	3.3	4.8	6.1	6.8	7.2	6.9				4.9
Daily Average, CFS	1.5	1.4	1.5	1.6	2.4	3.0	3.4	3.6	3.5				2.4
Other Water Deliveries/Purchases													
Ridgeline (DWTP Delivery)	0.0	51.5	43.4	0.0	0.0	0.0	26.9	48.0	0.0				169.8
El Toro (Interconnection Purchase)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0
Baker WTP (CSC Delivery)	89.1	89.7	106.2	106.3	115.6	119.4	104.9	90.6	85.8				907.6
Portola Hills (Wholesale Purchase)	8.5	7.5	7.0	7.2	7.5	11.0	11.0	13.0	14.4				87.1
Skyridge (Wholesale Purchase)	1.7	1.5	1.5	1.5	1.6	2.0	1.9	2.3	2.6				16.6
** Usage estimated*	*** Excludes Operational use, losses, and supplement to Recycled Water Reservoir (RW)*												

TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | NOVEMBER 6, 2024

OPERATIONAL MATTERS
ITEM 5: WASTEWATER SYSTEM UPDATES

The following is a brief report of the wastewater system through **October 2024.**

Projects and Repairs

Wastewater Operations staff performed and/or completed the following tasks and projects:

1. Replaced a 2" recycled meter at the Wastewater Treatment Plant (WWTP)
2. Assisted in the replacement and startup of a 100HP VFD at Dove Recycle Pump Station
3. De-commissioned bypass and put Golf Club Lift Station back in service
4. De-commissioned bypass and put Heritage Lift Station back in service
5. Repaired manhole lid on El Toro Bike Trail

Sewer System Management Plan (SSMP) Report

The purpose of the program is to communicate on a regular basis with the public on the development, implementation, and performance of TCWD's SSMP. Status updates on the work and type of work performed on the sewer system will be provided, including sewer line and manhole cleaning, system repairs, lift station cleaning, and updates from satellite facilities:

Sewer System Management Plan (SSMP) Monthly Update	
Total Sewer Line, Feet*	212,045
Total Sewer Line Cleaned (Ft) – Month	**58,303**
Total Sewer Line Cleaned (Ft) – Cleaning Cycle	142,817
Cleaning Cycle Period (Mos.) [Start date: 1/1/24]	10
Total Sewer Line Cleaned, %	**67%**
The Oaks at Trabuco – Pumping Frequency for the Month	13
O'Neill Park Sewer System Status	Ok
O'Neill Park Sewer System Repairs	None
SSMP Quarterly Report – *Next Quarterly Report*	3Q 2024
SSMP Program Audit – *Next Audit Report***	February 2025

**This amount includes the OC Parks-owned O'Neill Park sewer system the District is contracted to clean.*
***Periodic internal audits shall be conducted, at a minimum every two years, with reports kept on file. The audit shall focus on evaluating the effectiveness of the SSMP and TCWD's compliance with the mandatory elements of TCWD's SSMP:*

Monthly Recycled Water System Operations Summary

The Monthly Recycled Water System Operations Summary is attached for the Committee's review. Any anomalies will be presented at the time of the Engineering/Operational Committee Meeting.

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

EXHIBITS

1. Monthly Recycled Water System Operations Summary

CONTACTS (staff responsible): PEREA/ULLOA

TRABUCO CANYON WATER DISTRICT | RECYCLED WATER SYSTEM SUMMARY - 2024

RECYCLED WATER SUPPLY	MAX	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	FIVE YEAR AVG
WWTP Reclaimed Water Production, AF	78.3	39.4	40.0	42.4	42.1	41.7	39.1	39.1	40.3	36.6				360.8	517.2
Reclaimed Reservoir Level, FT	1274.5	1,272.8	1,273.0	1,273.5	1,273.5	1,271.0	1,266.0	1,250.5	1,247.0	1,257.2				-	-
Reclaimed Reservoir Free Board, FT	25.5	1.7	1.5	1.0	1.0	3.5	8.5	24.0	27.5	17.3				-	-
Reclaimed Reservoir Storage, AF	145.5	134.3	135.7	137.5	137.5	126.8	96.4	37.1	28.6	58.8				-	-
Supplemental Domestic Water Added, AF	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	5.2

RECYCLED WATER SYSTEM DEMAND		8%	17%	25%	33%	42%	50%	58%	67%	75%	83%	92%	100%		
NON DOMESTIC WATER USER	ALLOC. AF	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	ALLOC. %
Dahlia Court	8.2	0.00	0.1	0.1	0.2	0.2	0.2	0.4	0.5	1.0				2.66	32.4%
Dove Canyon Golf Course	106.7	0.54	1.1	0.4	8.5	29.7	38.8	49.3	60.4	97.1				285.82	268.0%
Dove Canyon Master Association	279.3	0.90	1.2	3.0	4.6	23.2	24.5	28.9	30.8	52.5				169.51	60.7%
Robinson Ranch	80.2	0.78	1.1	0.3	0.4	2.2	3.0	4.1	5.4	8.6				25.85	32.2%
Trabuco Highlands	159.7	1.97	2.0	0.2	1.7	6.8	5.9	7.7	10.2	16.9				53.48	33.5%
City of RSM	0.1	0.03	0.00	0.00	0.01	0.04	0.03	0.06	0.03	0.07				0.26	200.8%
Construction Water	N/A	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.00	N/A
Sakaida Nursery	1.1	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.00	0.0%
SMWD	N/A	-	-	-	0.0	2.4	5.1	7.7	6.1	6.1				27.32	N/A
TY Nursery	17.9	0.00	0.00	0.0	0.0	0.0	0.0	11.5	7.2	7.2				25.99	145.3%
TOTAL, AF	**653.2**	**4.2**	**5.5**	**4.0**	**15.4**	**64.5**	**77.5**	**109.6**	**120.6**	**189.4**				**590.90**	**90.5%**
PERCENTAGE OF NDW ALLOCATION/YEAR		**0.6%**	**1.5%**	**2.1%**	**4.5%**	**14.3%**	**26.2%**	**43.0%**	**61.5%**	**90.5%**					
TOTAL ANNUAL AVG. NDW AVAILABLE**	**774.36**														

URBAN RUNOFF CAPTURE AND REUSE															
DISTRICT FACILITY		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	FIVE YEAR AVG
Shadow Rock Detention Basin Production		0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.01	0.01				0.14	14.2
Dove | Tick Creek Production*	*Dry Season*	4.9	0.0	0.0	0.0	0.0	0.0	0.0	4.9	4.9				14.7	43.5
	TCWD Portion	4.9	0.0	0.0	0.0	0.0	0.0	0.0	2.4	2.4				9.8	-
	SMWD Portion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	2.4				4.9	-
Dove Lake Water Pumped		0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.1	60.9				127.0	183.0
Dove Lake Free Board, Ft		0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.0	7.8				-	-
Dove Lake Storage, AF		331.0	331.0	331.0	331.0	331.0	331.0	328.2	308.9	186.2				-	-
Total Rainfall, In.		4.7	11.0	4.5	1.6	0.4	0.0	0.0	0.0	0.0				22.3	14.7

**** SMWD share of Dove/Tick Pump Station Dry Season Water is 50% of production.***

***** Based on 5-Year Average Reclaimed Water Reservoir Base Supply & Recycled Water Production***

TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | NOVEMBER 6, 2024

OPERATIONAL MATTERS
ITEM 6: MAINTENANCE DEPARTMENT UPDATES

The following is a brief report of work completed by Maintenance staff through **October 2024**

Projects and Repairs

Maintenance staff performed and/or completed the following tasks and projects:

Water Operations

1. Finish repair work at Topanga BPS booster #1

Wastewater Operations

1. Continuing to work with Pac-Hydro at Golf Club
2. Continuing to work with Ferreira Cont. at Heritage LS

District Fleet Upgrades & Other Projects

1. Oil change on truck #7
2. AQMD inspection on emergency diesel gens
3. Completed upgrades to service truck at Deaver Spring
4. Finish weed abatement at Porter Ranch
5. Took Richards truck (#4) to Specialty Equipment for repair quote due to robbery

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

EXHIBITS

None

CONTACTS (staff responsible): PEREA/STROUD

REGULATORY AND OTHER MATTERS

ITEM 7: OTHER MATTERS/REPORTS

Other Matters/Reports from the General Manager and/or District staff may be provided at the time of the Engineering/Operational Committee Meeting.

RECOMMENDED ACTION:

Hear Other Matters/Reports that may have arisen after the posting of the agenda.

EXHIBITS

None

CONTACTS (staff responsible): PALUDI/PEREA