ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA
TRABUCO CANYON WATER DISTRICT
ADMINISTRATION FACILITY
32003 DOVE CANYON DRIVE, TRABUCO CANYON, CA
OCTOBER 2, 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 | OCTOBER 2, 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. September 4, 2024 Committee Meeting

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

RECOMMENDED ACTION:
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

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

ITEM 4: SYSTEM WIDE ARC FLASH COORDINATION STUDY

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

ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Golf Club SLS Construction Report
2. SCADA Project Update – Schedule for Completion
3. Extended Maintenance and System Service (EMASS) Annual Service Contract – Hydrotech Electric Proposal
4. Trabuco Creek Groundwater Treatment Facility – Potential Berm Reinforcement
5. 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 6: WATER SYSTEM UPDATES

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

ITEM 7: WASTEWATER SYSTEM UPDATES

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

ITEM 8: MAINTENANCE DEPARTMENT UPDATES

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

REGULATORY AND OTHER MATTERS

ITEM 9: 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 | OCTOBER 2, 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. *September 4, 2024 Committee Meeting*

CONTACTS (staff responsible): PALUDI/PEREA

TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | SEPTEMBER 4, 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
Phil Serpas, CMMS/SCADA Administrator
Roseann Lejsek, Executive Assistant

STAFF ABSENT
None

PUBLIC PRESENT
None

CALL MEETING TO ORDER
Director Safranski called the September 4, 2024 Engineering/Operational Committee Meeting to order at 7:01 a.m.

VISITOR PARTICIPATION
No comments were received.

ORAL COMMUNICATION
No comments were received.

COMMITTEE MEMBER COMMENTS
Director Dopudja wished everyone in attendance a happy belated Labor Day.

REPORT FROM THE GENERAL MANAGER
Mr. Paludi reported that the next Chat with TCWD Public Forum would be held on September 5, 2024 at 6:30 p.m.

ITEM 1: ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP
Mr. Paludi presented the Engineering/Operational Committee Meeting Recap for Committee review in accordance with the agenda. Director Safranski commented on the Robinson Ranch Wastewater Treatment Plant (WWTP) Blower Relocation project, and he recommended that staff diligently review the noise mitigation efforts.

MOTION: Approve the Engineering/Operational Committee Meeting Recap and recommend that the Board receive and file the same (Consent Calendar) – Director Dopudja

SECOND: Director Safranski
AYES: Directors Dopudja & Safranski
NOES: None
ABSTAIN: None
MOTION PASSED/FAILED: Passed 2 – 0

ITEM 2: DOVE RECYCLED PUMP STATION IMPROVEMENTS DESIGN AWARD

Mr. Paludi presented this matter for Committee consideration. Ms. Lausten reported that the District sent out a Request for Proposals (RFP) to seven firms. Ms. Lausten stated that five firms attended the pre-bid meeting, however, the District only received one bid. Ms. Lausten stated that she is not comfortable moving forward due to the high cost of the electrical components in the bid. Ms. Lausten stated that she would like to re-evaluate the electrical component before moving forward with the project. Discussion occurred regarding extending the bidding period for firms to possibly increase responsivity and the overall project scope of work.

MOTION: None – Informational item only.

ITEM 3: HERITAGE SEWER LIFT STATION DESIGN COMPLETION

Mr. Paludi presented this matter for Committee consideration, and he stated that this project was temporarily delayed but restarted. Ms. Lausten provided a brief background of the project, and she stated that the design for full upgrade was started in 2021. Ms. Lausten reported that during that time, the design was close to completion, however, due to the prioritization of the Golf Club Sewer Lift Station improvements, the project was put on hold and the plans were not completed. Ms. Lausten reported that staff solicited proposals from the original design engineers, and she stated that the scope of the project has been revised to address the asset condition information from the conditional assessment performed by Hazen Sawyer. Ms. Lausten provided a handout with information regarding the original project scope and proposed amendments.

MOTION: 1. Recommend the Board of Directors authorize the General Manager to execute Amendment No. 3 to JIG Consultants for the Heritage Sewer Lift Station Mechanical Improvements in the not-to-exceed amount of $66,050 (Action Calendar) – Director Dopudja
2. Recommend the Board of Directors authorize the General Manager to execute Amendment No. 2 to DMc Engineering for the Heritage Sewer Lift Station Site Improvements in the not-to-exceed amount of $23,580 (Action Calendar) – Director Dopudja
SECOND: Director Safranski
AYES: Directors Dopudja & Safranski
NOES: None
ABSTAIN: None
MOTION PASSED/FAILED: Passed 2 – 0

ITEM 4: QUARTERLY CIP UPDATE

Mr. Paludi presented this matter for Committee consideration. Ms. Lausten provided a CIP Summary handout, and she presented updates to various CIP projects. Ms. Lausten reported on new projects added to the CIP FY24-25 budget due to reliability, end-of-service life, and safety issues. Discussion occurred regarding extended lead times for equipment and how that may affect project timelines.

MOTION: None – Informational item only.

ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. **Robinson Ranch Wastewater Treatment Plant Blower Replacement Project-Sound Study**
   Ms. Lausten provided an update on this matter, and she reported that although staff performed initial sound testing and found there to be no issues, a sound study will provide a thorough evaluation and offer possible recommendations for improvements. Discussion occurred regarding the prudence of completing a sound study to ensure minimal noise impact to residents.

2. **Barneburg Manhole and Wet Well Recoating Summary**
   Mr. Ulloa provided an update on this matter, and he reported that both the manhole and wet well required re-coating to maintain the integrity of the wet well. Mr. Ulloa provided a summary of the work that was completed, including setting up the bypass and using an electrical pump to minimize the noise impact to residents. Mr. Perea added that this asset has been added into Cartegraph for tracking of costs and future maintenance.

3. **Golf Club Sewer Lift Station Construction Report**
   Ms. Lausten provided an update on this matter, and she reported that the project experienced downtime due to the procurement of bypass equipment but is moving along for the expected October completion date. Ms. Lausten also noted that staff is working with the Dove Canyon Golf Club on parking lot repairs.

4. **Santa Margarita Parkway Force Main Rehabilitation**
   Ms. Lausten provided an update on this matter, and she reported that staff received a preliminary budgetary estimate of $1.2 to $1.4 million for the slip lining of both pipes. Discussion occurred regarding the scope of the necessary repairs. Director Dopudja commented that this is a more cost-effective solution than replacing the line. Ms. Lausten added that District staff will be meeting with pipeline slip-line vendor later in the week; Director Safranski requested to attend the meeting to learn more about the process.

5. **WWTP Handrailing Improvements**
   Ms. Lausten provided an update on this matter, and she reported that Engineering and Operations are working together to find cost-effective solutions to replace and repair various handrails at the WWTP. Ms. Lausten also reported that there are two segments that will need handrails installed as a safety measure. Discussion occurred regarding the importance of the project to ensure the District is in compliance for the upcoming State Water Board safety inspection. Mr. Ulloa stated that staff would like to purchase the rails and complete the installation to mitigate costs. Mr. Ulloa added that Operations is looking for cost-savings ideas while maintaining safety.

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. Responded to 16” main break across from Dimension Water Treatment Plant (DWTP) along with Maintenance and Wastewater Departments.
2. Worked with contractor to repair 16” main and add a blow off on bike trail.
3. Repaired stuck hydrant on Flannigan Road.
4. Replaced broken hydrant auxiliary valve on Banstead in Dove Canyon.
5. Worked with the Maintenance Department to install a new 8” meter at Topanga Booster Pump Station.
6. Worked with developer to repair struck Air Vac in Saddle Crest development.
7. Worked with Hazen & Sawyer to investigate/diagnose the causes of the physical shifting of Filter #4 at DWTP.

Mr. Kessler presented the Water System Summary for Committee review, and he reported that he did not have the most current numbers yet, but that the DWTP was operating at 3 CFS. Mr. Kessler also reported filter # 4 was found to be bound with organics after shifting from its foundation after the recent earthquake. Mr. Kessler stated that Operations took the plant offline to clean out the filter. Director Dopudja commented that the District needs an analysis on what the cost will be to complete a sizeable retrofit of the facility. Discussion occurred regarding the cost of shutting down the plant and purchasing treated water, as well as the District's ability to utilize the Baker Treatment Plant as a source. Mr. Paludi stated that he will continue to have discussions with Irvine Ranch Water District concerning Baker Water Treatment Plant (BWTP) operations and their source water.

MOTION: 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. Set up a bypass at Heritage Lift Station during SCE repairs to electrical feed to the station.
2. Set up bypass at Barneburg Lift Station to recoat wet well and manhole.
3. Installed a backup level control system to Via Allegre Lift Station.
4. Repaired two check valves at O'Neill Lift Station.
5. Assisted in the bypass for Golf Club Lift Station.

Mr. Ulloa presented the Recycled Water System Summary for Committee review, and he reported that he did not have the most current numbers yet, but he reported that Dove Lake had 6 feet of freeboard. Ms. Lausten reported that contractors were currently diving the dam to inspect the condition of the previously completed repairs. Mr. Ulloa added that there is adequate supply in Dove Lake in anticipation of the pending heatwave.

MOTION: 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. Worked with Operations and Ferreira Construction on the 16" potable water transmission line break across from the Dimension Water Treatment Plant. Assisted with post-repair cleanup at the impacted Montessori Pre-School.
2. Investigated issues with hydro-pneumatic system air compressor at Canyon Creek Booster Pump Station.
3. Booster #3 and Blower #2 issues at Dimension Water Treatment Plant. Hydrotech Electric troubleshooting and sourcing parts. MCC is outdated and obsolete.
4. Flowmeter installation at Topanga Booster Pump Station.

Wastewater Operations

1. Attended meeting with Operations and Pacific Hydrotech (contractor) to review the Golf Club Sewer Lift Station bypass.
2. New transformer pad and transformer install with Southern California Edison (SCE) at Heritage Sewer Lift Station.
3. Barneburg Sewer Lift Station bypass for wet well coating.
4. Job walk with Ferreira Construction (contractor) at Heritage Sewer Lift Station.

District Fleet Upgrades & Other Projects

1. Coyote Flats cleanup
2. LOF truck #2 Toyota Tundra
3. New front tires installed on Vactor truck with Daniel's Tire Service (vendor)

MOTION: None – Informational item only.

ITEM 9: OTHER MATTERS/REPORTS

There were no other matters reported.

MOTION: None

ADJOURNMENT

Director Safranski adjourned the September 4, 2024 Engineering/Operational Committee Meeting at 8:21 a.m.

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

ENGINEERING MATTERS

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

Trabuco Canyon Water District staff regularly evaluates available external funding opportunities against the District's planned capital project needs. Currently, the United States Bureau of Reclamation's (USBR) WaterSMART "Drought Response Program: Drought Resiliency Projects for Fiscal Year 2025" presents an opportunity for the District to apply for the design and construction of the Live Oak Pipeline Replacement Project, referred to in the grant application as the Live Oak Pipeline Improvements Drought Resiliency Project (Project). The project, currently at 30% design completion, is identified in the District's current Capital Improvement Program.

Under Funding Group II of this grant program, USBR may award 50% of the total allowable project costs up to $3,000,000 for a project that can be completed within three years. Given total current estimates for project construction, it is anticipated that the grant award would offset half of the project cost. The project is scheduled to be in construction in the fourth quarter of 2025 and should be completed well within the three year requirement of the grant. USBR's anticipated award date for the grant is September 1, 2025.

USBR requires the District to support the submission of the grant application through the adoption of a resolution by the Board of Directors. The draft resolution is included as Exhibit 1.

FUNDING SOURCE:
General Fund

FISCAL IMPACT (PROJECT BUDGET)
The cost of preparation of the grant application is covered under the District's professional services agreement with Soto Resources. If successful, the grant award could offset District capital expenditures by up to $3,000,000.

ENVIRONMENTAL COMPLIANCE:
Not applicable.

RECOMMENDED ACTION:
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.

EXHIBIT(S):
1. Draft Resolution

CONTACTS (staff responsible): PALUDI/LAUSTEN

TRABUCO CANYON WATER DISTRICT

RESOLUTION NO. 2024-XX

RESOLUTION OF THE BOARD OF DIRECTORS OF THE TRABUCO CANYON WATER DISTRICT AUTHORIZING THE SUBMITTAL OF AN APPLICATION FOR THE WATERSMART DROUGHT RESPONSE PROGRAM: DROUGHT RESILIENCY PROJECTS FOR FY 2025

WHEREAS, the United States Bureau of Reclamation is currently offering grant opportunities through the WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year ("FY") 2025;

WHEREAS, said WaterSMART Drought Response Program: Drought Resiliency Projects for FY 2025 is a cost-shared program emphasizing drought resiliency;

WHEREAS, the Board of Directors ("Board") of the Trabuco Canyon Water District ("District" or "TCWD") supports the submission by the TCWD of a grant application for the Live Oak Pipeline Improvements Drought Resiliency Project Project ("Project") prepared and approved by the TCWD, to the WaterSMART Drought Response Program: Drought Resiliency Projects for FY 2025; and

WHEREAS, under the WaterSMART Drought Response Program: Drought Resiliency Projects for FY 2025 program, the United States Bureau of Reclamation may award up to 50% of the total allowable project costs and the TCWD is capable of providing cash, other contributed costs, or third-party in-kind contributions specified in the grant application's funding plan to pay for all remaining Project costs.

WHEREAS, if selected for a WaterSMART Drought Response Program: Drought Resiliency Projects for FY 2025, TCWD will work with the United States Bureau of Reclamation to meet established deadlines for entering into a grant or cooperative agreement regarding funding for the Project.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE TRABUCO CANYON WATER DISTRICT HEREBY RESOLVE, DETERMINE AND ORDER AS FOLLOWS:

Section 1: The Board does hereby approve the submission of the application for the Project for the WaterSMART Drought Response Program: Drought Resiliency Projects for FY 2025 by TCWD for FY 2025-2026, 2026-2027, and 2027-2028.

Section 2: In the event grant funding is provided by the United States Bureau of Reclamation, the General Manager and legal counsel to the District and the District's staff and consultants are authorized to take any and all actions necessary to accept the grant and sign any contract for administration of the grant funds.

Section 3: The recitals provided in this resolution are true and correct and are incorporated into the operative part of this resolution.

Section 4: If any section, subsection, sentence, clause or phrase of this resolution is, for any reason, held to be invalid or unconstitutional, such decision shall not affect the validity or constitutionality of the remaining portions of this resolution. The Board hereby declares that it would have passed this resolution, and each section, subsection, sentence, clause or phrase hereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional. The District Secretary shall certify to the adoption of this resolution and henceforth and thereafter the same shall be in full force and effect.

Section 5: The Board finds the adoption of this resolution is not subject to the California Environmental Quality Act ("CEQA") pursuant to Sections 15060(c)(2) (the activity will not result in a direct or reasonably foreseeable indirect physical change in the environment) and 15060(c)(3) (the activity is not a project as defined in Section 15378) of the CEQA Guidelines, California Code of Regulations, Title 14, Chapter 3, because it has no potential for resulting in physical change to the environment, directly or indirectly.

Section 6: This resolution shall be effective as of October 17, 2024 ("Effective Date").

ADOPTED, SIGNED, and APPROVED this 17th day of October 2024.

TRABUCO CANYON WATER DISTRICT

_____
President/Vice President

_____
District Secretary

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

ENGINEERING MATTERS
ITEM 3: 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

District staff has collaborated with MWDOC/WEROC and Herndon Group - HSG (Consultant) during the months of August and September 2024 to provide the appropriate responses to prepare the Draft MJHMP in conformance with the goals 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 2019 Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) Annex excerpts

CONTACTS (staff responsible): PALUDI/PEREA/LAUSTEN

TRABUCO CANYON WATER DISTRICT ANNEX

The Trabuco Canyon Water District (TCWD) is a participant (Member Agency [MA]) in the Orange County Water and Wastewater Multi-Jurisdictional Hazard Mitigation Plan (HMP or Plan). As a participant MA, TCWD representatives were part of the HMP Planning Process and served on the Planning Team responsible for the Plan Update; refer to Section 2 of the Plan. The primary Plan, including the hazard mitigation plan procedural requirements and planning process apply to TCWD.

This Annex supplements information contained in the primary Plan and describes how TCWD's risks vary from the planning area. The Risk Assessment (Section 3) summarizes the hazards and risks that pose a threat to Orange County. The primary 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 strategy.

HAZARD MITIGATION PLAN POINT OF CONTACT AND DEVELOPMENT TEAM

The following representatives attended the Planning Team meetings on behalf of TCWD and coordinated the hazard mitigation planning efforts with TCWD staff:

Primary Point of Contact

Lorrie Lausten
Principal Engineer
949-858-0277 ext. 130
llausten@tcud.cu.gov

In addition to participating on the Planning Team, an internal team was also formed to support Planning Team representatives and provide information for the Plan update. The following staff served as TCWD's internal hazard mitigation planning development team.

Representative	Title	How Participated
Michael Perea	Assistant General Manager	Reviewed Draft Plan

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. The District was organized on February 26, 1962 under Division XII of the California Water Code. The District 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 the District is generally steep hills and canyons throughout the central area of the District. The east and west sides consist of more gentle terrain made primarily of rolling hills. Elevations within the District 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 of the District 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.

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

HAZARDS

Detailed hazard profiles for the planning area are provided in Section 3. TCWD is located inland and therefore is not subject to coastal hazards such as coastal storms/erosion and tsunami. TCWD is subject to the other hazards identified in for the planning area. Many of these hazards are dispersed and may affect the entire region, including climate change, drought, ground shaking from earthquakes, geologic hazards, and high wind. Regarding the hazard of dam/reservoir failure, the District owns and operates two dams: Trabuco Dam/Reservoir and Dove Canyon and would be subject to inundation in the event of failure; refer to Section 3. In addition, much of the area is located within a very high fire hazard zone and the northernmost portion is susceptible to landslides. Human-caused hazards and power outages are also hazards that could impact the District. There are no hazards that are unique to TCWD.

Based on the risk assessment, the TCWD development team identified the following hazards that affect TCWD and summarized their geographic extent, probability of future occurrence, magnitude/severity and significance; refer to Table Q-1.

Table Q-1
TCWD Hazard Identification

Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Significance
Climate Change	Extensive	Likely	Limited	Medium
Contamination/ Salt Water Intrusion	Limited	Unlikely	Negligible	Low
Dam/Reservoir Failure	Extensive	Unlikely	Catastrophic	High
Drought	Extensive	Likely	Catastrophic	High
Earthquake Fault Rupture & Seismic Hazards	Extensive	Likely	Catastrophic	High
Flood	Significant	Likely	Limited	Medium
Geologic Hazards	Limited	Unlikely	Limited	Low
High Winds/Santa Ana Winds	Extensive	Highly Likely	Limited	High
Landslide/Mudflow	Significant	Likely	Limited	Medium
Wildland/Urban Fire	Extensive	Likely	Critical	High
Human-Caused Hazards	Limited	Unlikely	Limited	Low
Power Outage	Significant	Significant	Limited	Medium

Geographic Extent
Limited: Less than 10% of planning area
Significant: 10-50% of planning area
Extensive: 50-100% of planning area

Probability of Future Occurrences
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.

Magnitude/Severity
Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths.
Critical—25-50 percent 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 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability.
Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid.

Significance
Low: Minimal potential impact
Medium: Moderate potential impact
High: Widespread potential impact

The identification of hazards provided in Table Q-1 is highly dependent on the location of facilities within each agencies 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 agencies' expertise and knowledge.

Hazard Maps

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

VULNERABILITY AND RISK ASSESSMENT

Assets Susceptible to Hazard Events

Table Q-2, TCWD Infrastructure and Exposure to Hazards, identifies TCWD's water and wastewater infrastructure assets that are located within the mapped hazard zones, identified above.

Table Q-2
TCWD Infrastructure and Exposure to Hazards

Hazard		Infrastructure Type							
		Interties (#)	Pump Stations (#)	Reservoirs (#)	Wells (#)	Treatment Plants (#)	Lift Stations (#)	Potable Pipeline (miles)	Wastewater Pipeline (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	6	7	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
Ground 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	0	0	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	0	0	0	0	0	0	0

Much of TCWD's service area and its associated infrastructure are in very high and high fire hazard areas and areas identified as having high or moderate risk for high ground shaking in the event of an earthquake. Several reservoirs and lift stations are located within landslide hazard areas. TCWD contains infrastructure or pipelines in all hazard areas except the Alquist-Priolo rupture and tsunami zones.

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 Plan. TCWD's internal development team revised the capabilities identified in the 2012 plan and collaborated to identify current local capabilities and mechanisms available to the MA for reducing damage from future hazard events. Tables Q-3a through Q-3d 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.

Table Q-3a
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 District service area.
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 District 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 District 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 District service area.
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 District service area.
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 District service area.
General Plan	TCWD Master Plan	TCWD Master Plan outlines the current and future conditions of the District. TCWD also complies with applicable General Plans for cities within the District service area.
Capital Improvements Plan	TCWD CIP	TCWD develops a 10-year CIP for water, waste-water, and recycled water.
Emergency Response Plan	CDHP, SEMS, NIMS, WEROC, MET	The district works with local agencies and WEROC for emergency response.
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 due to the California Department of Water Resources (DWR) by July 1, 2016.
How can these capabilities be expanded and improved to reduce risk?		
Conduct a 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 CA Southern California Catastrophic Plan. Evaluate ability to contract with local fuel distributors and gas stations for emergency backup supply.		

Table Q-3b
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.
Floodplain manager	County of Orange, Sheriff's Department	
Surveyors	Outside consultant in coordination with District staff	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.
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.
Emergency Manager	MWDOC, WEROC, Emergency Coordinator	Coordinate with WEROC and the County.
Grant Writers	Engineering Department	Actively searches for Federal and State grants.
Lab Specialist	Contract Laboratories, Neighboring Water Districts	Coordinates with other agencies and outsider consultant.
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 CalOES Safety Assessment Program (SAP) training for building inspections.		

Table Q-3c
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.
Fees for Water, Sewer, Gas, or Electric Service	Administrative Services Department	The district is able to charge customers fees for water and sewer services.
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.
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.		

Table Q-3d
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.
How can these capabilities be expanded and improved to reduce risk?		
Participate in WEROC lead 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 our utility.		

MITIGATION STRATEGY

Mitigation Goals

TCWD adopts the hazard mitigation goals developed by the Planning Team; refer to Section 4.

Mitigation Actions

The internal development team reviewed the mitigation actions identified in the 2012 plan and the updated risk assessment to determine if the mitigation actions were completed, require modification, should be removed because they are no longer relevant, and/or should remain in the Plan Update. New mitigation actions to address the updated risk assessment and capabilities identified above were also considered and added. Table Q-4, TCWD Mitigation Actions, identifies the mitigation actions, including the priority, hazard addressed, risk, timeframe, and potential funding sources.

Table Q-4
TCWD Mitigation Actions

Priority (High, Medium, or Low)	Action/Task/Project Description	Location/ Facility	Risk (High, Medium, or Low)	Cost	Responsible	Timeframe (Immediate, Short Term, or Long Term)	Possible Funding Sources	Status/ Progress (New, Existing, Modified)	Status Rationale
Medium	Evaluate water tanks for structural stability and seismic activity and install flexible coupling and seismic valves where recommended.	Water storage tanks	Low	$2,000,000	Engineering	Immediate	General Fund	Existing	Assessments, evaluations, and implementations in progress. Seismic; dam/reservoir failure.
Medium	Implement erosion control and slope stabilization measures at Wastewater Treatment Plant and service roads to the facility.	Wastewater treatment plant and service road	Medium to Low	> $1,000,000	Operations	Long Term	Grants, General Fund	Completed	Completed slope improvement from 2017 failure. Add. Work unfunded. Seismic; Landslide/mudflow
Medium	Construct new storage tanks: -Saddlecrest = 0.6 MG -Harris= 1.5 MG	New water storage tank(s)	Medium	$2,000,000	Operations	Short Term	Restricted Reserves	Existing On going	Engineering feasibility study completed. Tank Construction Budgeted in FY 18-19 & FY 19-20. Multi-hazards, including seismic, fire and wind.
High	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.	Medium to High	>5,000,000	Operations	Short to Long Term	Grants, General Fund	Existing	Budgetary constraints, unfunded. Seismic; Landslide/ mudflow

Table Q-4 [continued]
TCWD Mitigation Actions

Priority (High, Medium, or Low)	Action/Task/Project Description	Location/ Facility	Risk (High, Medium, or Low)	Cost	Responsible	Timeframe (Immediate, Short Term, or Long Term)	Possible Funding Sources	Status/ Progress (New, Existing, Modified)	Status Rationale
High	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 recompaction/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	Medium to High	> $10,000,000	Engineering	Short to Long Term	Grants, General Fund	Existing On going	Budget constraints, unfunded. Seismic; Landslide/ mudflow
Medium	Install emergency standby generators	Water treatment plant, Ridgeline booster pump station, high altitude pressure zones (Canyon Creek, Rose Reservoir)	High	$2,000,000	Operations	Short Term	Grant, General Fund	Existing On going	Ridgeline PS upgrade budgeted in FY 18-19. Multi hazards, including fire and wind and power outage.
Low	Install surveillance and lighting equipment.	Water Treatment Plants and System Storage Tanks	Medium	$250,000	Operations	Long Term	Grants	Existing	Budgetary constraints, unfunded. Human-caused hazards.

Table Q-4 [continued]
TCWD Mitigation Actions

Priority (High, Medium, or Low)	Action/Task/Project Description	Location/ Facility	Risk (High, Medium, or Low)	Cost	Responsible	Timeframe (Immediate, Short Term, or Long Term)	Possible Funding Sources	Status/ Progress (New, Existing, Modified)	Status Rationale
Low	Expand SCADA system monitoring.	Water and Wastewater Facilities	Low	$3,000,000	Information Technology/ Operations	Short Term	General Fund, Restricted Reserves	Existing On going	Study & Design Completed in FY 17-18. Final design and communication. Budgeted in FY 18-19. Multi hazards, including fire and wind.
Low	Add laboratory sampling and analyses for unregulated compounds related to potential terrorist threat or vandalism.	Water Treatment Plants and System Storage Tanks	Medium	Cost estimate not available	Water Quality	Long Term	Grants, General Fund	Existing	Waiting for EPA or AWWA to issue clear direction for compounds, test method, and cost. Human-caused hazards.

Notes:
Timeframe to Completion of Project: "Immediate" is up to 1 year; "Short Term" is 1 to 3 years; "Long Term" is 3 years or longer.
Status: "New" refers to a mitigation initiative newly created as part of the plan update process; "Existing" refers to an unfinished initiative that is carried over from the 2012 plan; "Modified" refers to an existing initiative that carried over from the previous plan, but has changed to limit or expand its scope of activities.
Status Rationale: A statement of justification as to why the project is currently in the status it is in.

Completed or Removed Mitigation Initiatives

The following mitigation actions from the 2012 plan have been completed or are in progress and therefore are removed from the Plan update.

Mitigation: 16-inch Serrano Creek raw water main crossing relocation, 16-inch treated water creek crossing

Status: Complete.

Mitigation: One slope stability improvement.

Status: Complete.

Mitigation: Expand SCADA system monitoring.

Status: Completed study and design; ongoing.

Mitigation: Replace existing 10' with 16' looped water transmission line at Live Oak Canyon Road.

Status: Removed. Budgetary constraints; unfunded. System-wide study is needed to identify and prioritize area for loops. Varying pressure zones makes this task complex.

Mitigation: Implement Vulnerability Risk Assessment recommendations.

Status: Complete.

Mitigation: Install razor or barbed wire around site perimeter at water treatment/storage sites.

Status: Complete.

Mitigation: Install additional security measures/alarms at facility access points, including intrusion alarms.

Status: Complete.

Mitigation: Improve lock system.

Status: Complete.

Mitigation: Keep emergency response plan up to date and coordinate with local fire and sheriff authorities.

Status: Complete.

Mitigation: Coordinate with IRWD and perform studies for treatment of Irvine Lake Water.

Status: Complete.

Mitigation: Install new software and hardware for accessing system infrastructure and manuals.

Status: Complete.

Mitigation: Procure new computer hardware for field emergency use.

Status: Complete.

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 HMP, the District will continue to integrate mitigation priorities into these documents.

Since the previous Plan Update, TCWD incorporated information from the HMP 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.

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

ENGINEERING MATTERS
ITEM 4: SYSTEM WIDE ARC FLASH COORDINATION STUDY

Regulations have advanced since the District's facilities were originally constructed to better protect personnel from arc flash and other electrical hazards. Compliance with these regulations is not only a legal obligation but also integral to safeguarding the well-being of our personnel. In keeping with the District's commitment to safety and regulatory compliance, District staff, along with their consultant P2S Engineering, completed a System-Wide Arc Flash and Coordination Study (Study) this year. Below is a summary of the deliverables the District received:

1. Engineered Stamped Arc Flash Reports
2. Single-Line Arc Flash Drawings (PDF and Autocad)
3. Field installation of the Arc Flash Labels
4. Electrical Issues Report-Provides recommendations to bring each facility into compliance.
5. Staff training.

FUNDING SOURCE:
General Fund

FISCAL IMPACT (PROJECT BUDGET)
Project Budget: $147,800
Project Cost: $138,200

ENVIRONMENTAL COMPLIANCE:
Not Applicable

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

EXHIBIT(S):
1. Existing Electrical Issues Observed at TCWD Facilities

CONTACTS (staff responsible): PALUDI/LAUSTEN

Trabuco Canyon Water District

Existing Electrical Issues Observed at TCWD Facilities

P2S ENG

A division of P2S, a Legence Company

www.p2sinc.com

August 28, 2024

P2S Project #23-1092

EXECUTIVE SUMMARY

This report includes observations of electrical issues observed by P2S staff during site visits to twenty-five Trabuco Canyon Water District facilities on January 29th, 2024 and recommendations that are based on the observations.

OBSERVATIONS

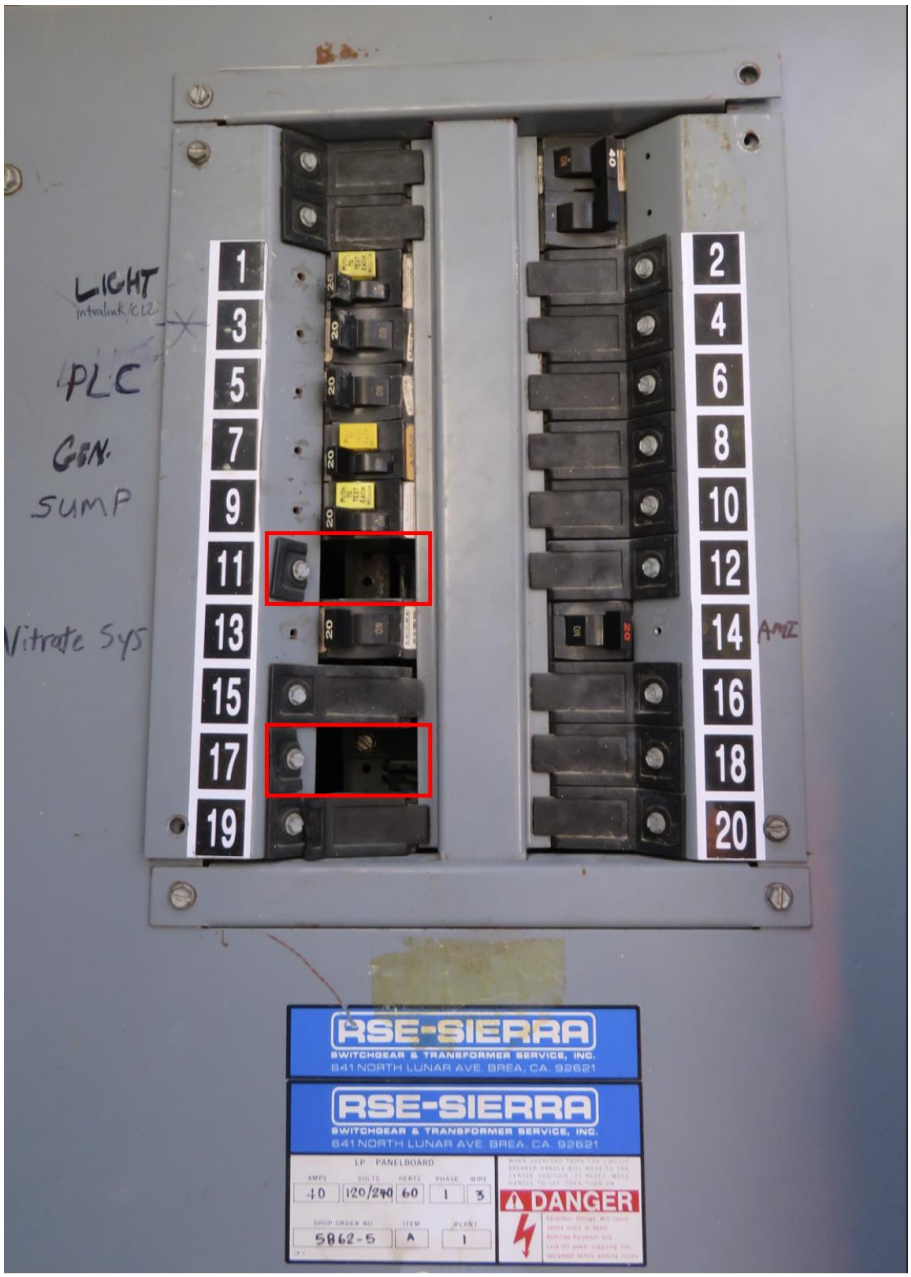
The following is a summary of the electrical issues that were observed by P2S staff:

1. TCWD Main Office
    a. The 208V electrical service that supplies TCWD's main office is rated at 400A and includes 400A rated fuses as main overcurrent protective device. An automatic transfer switch has been installed adjacent to the service switchboard, which is electrically downstream of the fused service disconnect. A set of 4-#3/0AWG conductors, rated for 200 amps, are installed from the fused service disconnect over to the ATS's line side normal power source terminations, and another set of 4-#3/0AWG conductors are installed from the ATS's load side terminations that run back over to the service switchboard and are terminated at the switchboard's 400A rated bus. There is also a set of 4-#3/0AWG conductors that are installed from the ATS's emergency power line side terminations to a receptacle that is installed in the ATS enclosure.

Per NEC 240.4, conductors shall be protected against overcurrent in accordance with their ampacities specified in NEC 310.15. The ampacity of the 4-#3/0AWG conductors is

200A, which is far less than the 400 ampere rating of the overcurrent device protecting the conductors and must be resolved. Refer to the Recommendations section for a recommended solution.

2. Barneburg Lift Station
    a. The 480V MCC installed at Barneburg Lift Station includes a 40 ampere rated 120/240V lighting panel that supplies lighting and control power to electrical equipment on site. There are multiple spaces in the lighting panel that are unused and do not have a circuit breaker installed. The equipment manufacturer's plastic filler plate that is used to "blank off" unused spaces has broken off, exposing the busbar inside.



Per NEC 408.7, unused openings for circuit breakers and switches shall be closed using identified closures, or other approved means that provide protection substantially equivalent to the wall of the enclosure. The exposed busbar imposes a serious shock hazard and must be resolved.

3. Canyon Creek Booster Pump Station
    a. The 480V service switchboard at Canyon Creek Booster Pump Station includes fuses as the form of overcurrent protection for it's main disconnect and for its outgoing feeders to pumps, and the low voltage lighting transformer. The 80 ampere fuses that provide overcurrent protection for the conductors that supply PUMP 2M are mismatched. Two of the fuses are Gould Shawmut Type TRS, and one of the fuses is a Littlefuse Type FLS-R.
4. 

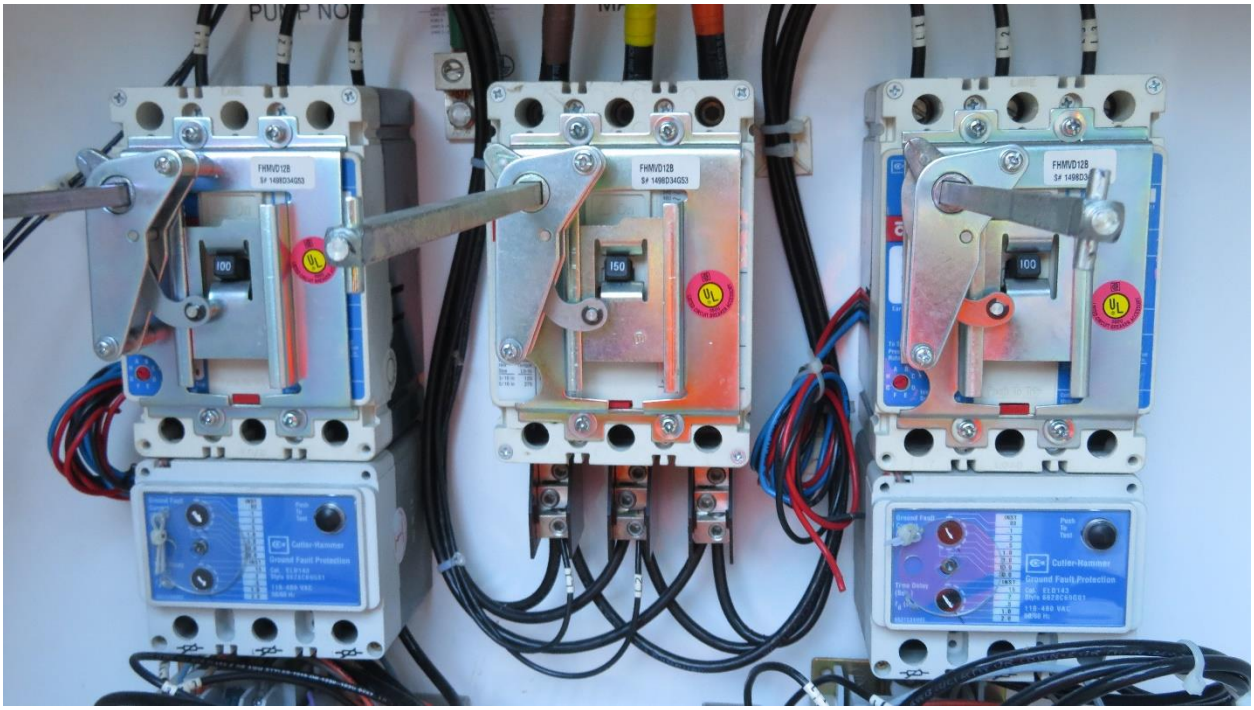
    Mismatched fuses are not a code violation as long as the conductors are properly protected for their rated ampacity. However, every fuse has unique time-current characteristics that affect the minimum trip and maximum clearing times for which an overcurrent or short circuit is cleared. The arc flash hazard calculations are based on these time-current characteristics, therefore mismatched fuses may result in being exposed to higher arc flash incident energy than expected. Refer to the Recommendations section for a recommended solution.
5. Dove Canyon Robinson Ranch Pump Station
    a. As a result of the protective device coordination study, it was determined that miscoordination exists between the booster pump's 200A feeder breaker and the service switchboard's 800A main breaker. Refer to the Recommendations section for a recommended solution.
6. Falcon Booster Pump Station
    a. The 600A Motor Control Center installed at Falcon Booster Pump Station includes a 150 ampere motor circuit protector that feeds a fire pump. There is 1 set of 3-#2AWG conductors, rated for 115 amperes that supply the fire pump.

        Per NEC 240.4, conductors shall be protected against overcurrent in accordance with their ampacities specified in NEC 310.15. The amacity of the conductors is 115 amperes, which is far less than the 150 ampere rating of the overcurrent device protecting the conductors and must be resolved. Refer to the Recommendations section for a recommended solution.
    b. As a result of the Power System Analysis Report dated July 5, 2024, it was determined that the instantaneous pickup setting for the 50 ampere circuit breakers that feed

Booster Pump 1 and 2 can be turned down and still coordinate with an across the line start of Booster Pump #4. P2S also recommended adjusting the instantaneous pickup of the standby generator's circuit breaker down which resulted in lower arc flash incident energies at the motor circuit protector and providing protection for the generator in the event of a short circuit. Refer to the Recommendations section for a recommended solution.

7. Trabuco Creek GWTF
    a. As a result of the Power System Analysis Report dated July 5, 2024, it was determined that the short time pickup and short time delay setting for the 500 ampere main breaker in the service switchboard and the short time pickup for the motor control center's main breaker could be adjusted, resulting in selective coordination between the switchboard and motor control center's main breakers and downstream protective devices.
8. Heritage Lift Station
    a. Per the Technical Review of System Findings Report that was produced by Tesco Controls, Inc. dated July 3, 2023, The MCC panel was extremely difficult to open and close.
9. O'Neal Lift Station
    a. O'Neal Lift Station's electrical equipment is housed in a stainless steel enclosure. Inside the enclosure is a control panel that includes a 150 ampere main breaker, and two 100 ampere circuit breakers that are tapped off of the load side of the 150 ampere main breaker. These 100 ampere circuit breakers feed pumps 1 and 2, which are rated 30 horsepower.

       The tapped conductors appear to be #6AWG, but the size must be confirmed by TCWD. If they are confirmed to be #6AWG, they are adequately sized for the 30 horsepower motors that they feed. However, the 100A circuit breakers that are providing overcurrent protection for these conductors are oversized.



Per NEC 240.4, conductors shall be protected against overcurrent in accordance with their ampacities specified in NEC 310.15. The amacity of the conductors is 60A, which is far less than the 100 ampere rating of the overcurrent device protecting the conductors

and must be resolved. Refer to the Recommendations section for a recommended solution.

b. Per the TCWD Lift Stations Infrared Report that was produced by National Infrared that is dated November 13-14, 2023, the sump pump disconnect switch has excessive dirt and debris inside the enclosure.

10. Plano Pump Station and Lift Station

a. The electrical system at Plano Pump Station and Lift Station includes an automatic transfer switch that is supplied from a set of 3-#3/0AWG conductors that are tapped off of the service switchboard's bus. The conductors terminate at a switch inside the automatic transfer switch that does not provide overcurrent protection.

   Per NEC 240.21(B)(2)(2), for tapped conductors that do not exceed 25 feet in length, the tap conductors must terminate in a single circuit breaker or set of fuses. Refer to the Recommendations section for a recommended solution.

b. The electrical system at Plano Pump Station and Lift Station also includes an emergency standby generator. It was confirmed by TCWD staff that the generator doesn't include an overcurrent protective device in its enclosure, and none were observed between the generator and the automatic transfer switch.

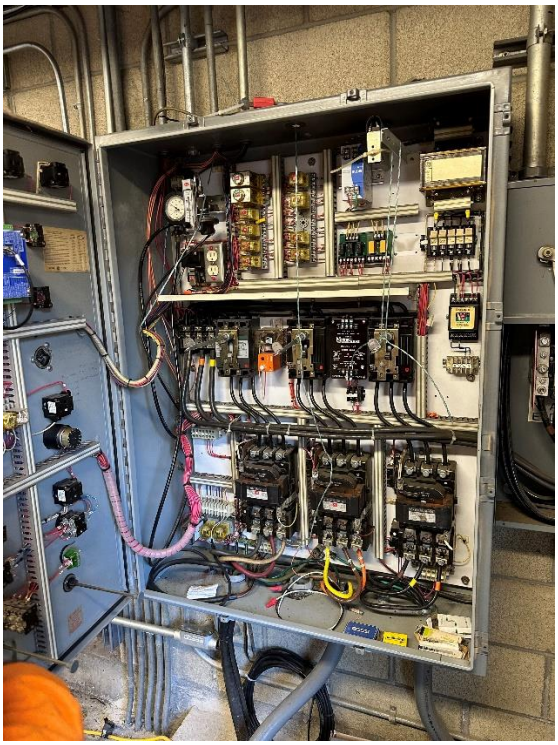
   Per NEC 445.12, generators shall be protected from overload by circuit breakers, fuses, protective relays, or other overcurrent protective means. Refer to the Recommendations section for a recommended solution.

c. As a result of the arc flash hazard study, it was determined that the circuit breakers in the control panel that feed pumps 1, 2, and 3 have an interrupting rating of 14 kiloamperes and are underrated for the short circuit currents that could possibly be seen at the control panel. Underrated circuit breakers are a serious issue. The circuit breaker may not open in the event of short circuit resulting in high arc flash incident energies experienced at this location because the circuit breaker upstream of these underrated circuit breakers must now clear the fault. Refer to the Recommendations section for a recommended solution.

d. Per the TCWD Pump Stations Infrared Report that was produced by National Infrared that is dated November 13-14, 2023, The line side termination and conductor on phase A of the transformer disconnect switch had a temperature difference of 10 degrees Fahrenheit versus phase B.

e. The electrical system includes a meter/main disconnect combo panel and an 175 ampere enclosed circuit breaker. Southern California Edison has confirmed that the the meter/main disconnect combo is not theirs and the panel appears to be left over from an old 480V utility service and currently is only being used as a junction box. The enclosed circuit breaker served a purpose at one time, but it currently has no use. Both pieces of equipment only add confusion to additiona points of failure to the facilities electrical system as they contain energized equipment and can be the source of nuisance tripping and a loss of power to other equipment in the facility.

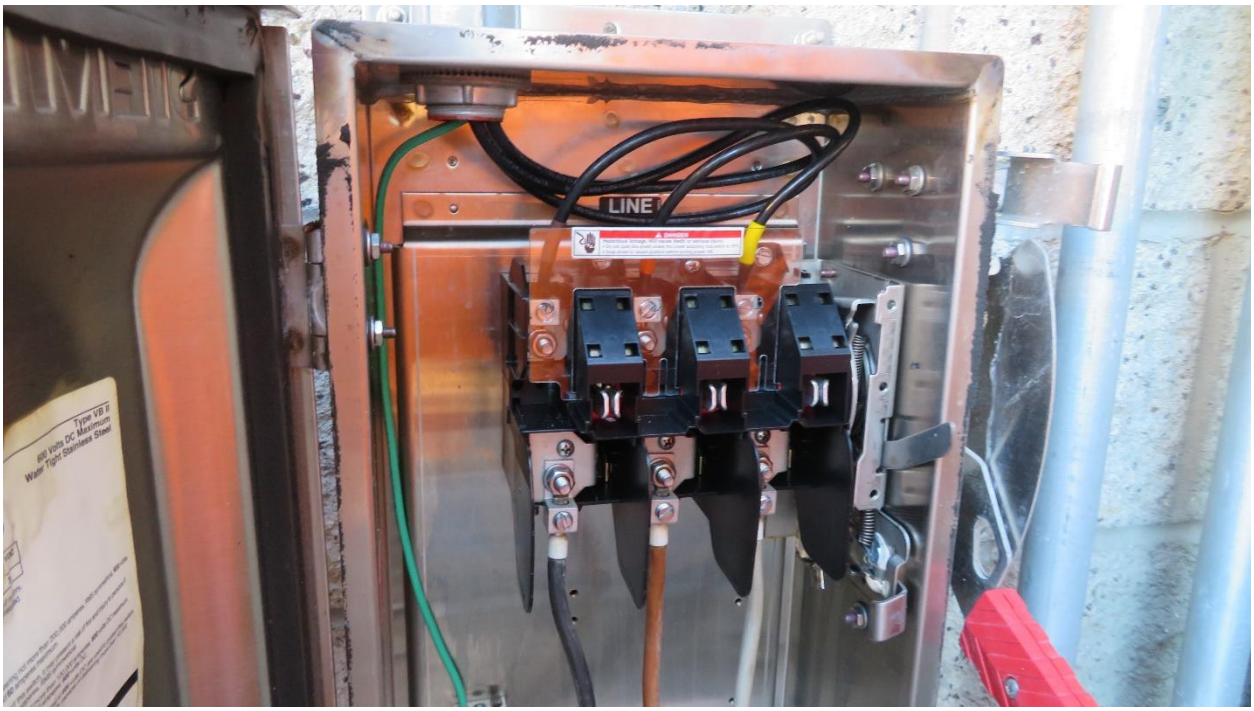
f. Thre is a control panel on the western wall of the electrical room that contains both 480V and 120V equipment. The control panel has three disconnect switches mounted on the hinged door that allow operation of the 480V circuit breakers that supply power to three pumps at the lift station. A couple of these disconnect switches are broken and being supported by string that is tied to equipment above the control panel. Without the string to support the switches, the alignment of the switches on the door with the breaker actuator won't allow the control panel door to be closed and secured. The control panel does not have a main disconnect allowing operators to shut off the control panel for maintenance without disrupting power to the entire lift station. The source to the 277V-120V control power transformer is also tapped off of the same terminal block as the 480V source to the lift station pumps, which doesn't allow maintenance on one system without turning off power to the other system. Because of this and the configuration of the 120V control power equipment in the control panel being above the 480V equipment, there is a greater chance of electrocution and arc flash to electricians performing maintenance on equipment within the control panel because they must work on the 120V equipment while keeping the lift station energized.



11. Reservoir 1
    a. Reservoir 1's electrical system is supplied from a 20A, single pole, 120V circuit in a panelboard installed at El Toro Lift Station, roughly 800 feet away. While not a code violation, P2S recommends that the voltage be measured at Reservoir 1 to determine if the conductors supplying Reservoir 1 are adequately sized for voltage drop.
12. Robinson Ranch Pump Station
    a. Per the TCWD Pump Stations Infrared Report that was produced by National Infrared that is dated November 13-14, 2023, The load side termination and conductor for phase B on the disconnect switch inside a control panel had a temperature difference of 36 degrees Fahrenheit versus the other phases.
13. Santiago Lift Station
    a. It was confirmed by TCWD staff that Santiago Lift Station is supplied from a separate Southern California Edison service pedestal located across Santiago, not Falcon Ridge Booster Pump Station as previously thought. P2S recommends that a label or engraved nameplate be installed on the electrical cabinet at Santiago Lift Station, identifying the source of electrical power to the cabinet. This recommendation should also be considered for equipment at other TCWD facilities whose disconnect source is not immediately apparent.
    b. The service pedestal that supplies Santiago Lift Station is heavily corroded. The corrosion is inteferring with the operation and maintenance of the pedestal and facility equipment downstream.

c. 

14. Topanga Booster Pump Station
    a. As a result of the Power System Analysis Report dated July 5, 2024, it was determined that the short time pickup setting for the 400 ampere circuit breaker that feeds Booster Pump #4 can be turned down and still coordinate with downstream protective devices. P2S also recommended adjusting the instantaneous pickup of the standby generator's circuit breaker which would result in lower arc flash incident energies at the motor circuit protector and providing protection for the generator in the event of a short circuit.
15. Via Allegre Lift Station
    a. The motor control center installed at Via Allegre Lift Station includes 100A motor circuit protectors that provide overcurrent protection for the conductors that supply pumps 1 and 2. The conductors that are installed from the motor starters in the motor control center and run out to disconnect switches at Pumps 1 and 2 appear to be 3-#6AWG but must be verified by TCWD. If confirmed to be 3-#6AWG, the conductors are adequately sized for the 30 horsepower pumps that they feed, however the 100A motor circuit protectors are oversized.

16. 

    Per NEC 240.4, conductors shall be protected against overcurrent in accordance with their ampacities specified in NEC 310.15. The amacity of the conductors is 60A, which is far less than the 100 ampere rating of the overcurrent device protecting the conductors and must be resolved. Refer to the Recommendations section for a recommended solution.

    As a result of the protective device coordination study, it was determined that miscoordination exists between pump 1 and 2's 100A feeder breaker and the service switchboard's 100A main breaker. P2S recommended adjusting the instantaneous pickup for pump 1 and 2's 100 ampere breakers in the Power System Analysis Report dated July 5, 2024, to improve coordination with the service switchboard's main breaker.

17. Dimension Water Treatment Plant
    a. As a result of the arc flash hazard study, it was determined that the circuit breakers in MCC-A that feed pump 1, pump 2, pump 3, pump 4, blower 1, blower 2, blower 3, sump pump 1, and sump pump 2 have an interrupting rating of 10 kiloamperes and are underrated for the short circuit currents that could possible be seen at MCC-A. Underrated circuit breakers are a serious issue. The circuit breaker may not open in the event of short circuit resulting in high arc flash incident energies experienced at this location because the circuit breaker upstream of these underrated circuit breakers must now clear the fault. Refer to the Recommendations section for a recommended solution.
    b. As a result of the Power System Analysis Report dated July 5, 2024, it was determined that the instantaneous pickup setting for the 1000 ampere circuit breaker that feeds Booster Pump #4 can be turned down and still coordinate with an across the line start of Booster Pump #4. P2S also recommended adjusting the instantaneous pickup of MCC-A's main, which would result in lower arc flash incident energies at MCC-A while still coordinating with downstream protective devices.
18. El Toro Lift Station
    a. There is a meter/main disconnect that is mounted to a plywood backboard with a 2"x4" wood post that supplies a transformer at the County Yard. The structure is falling over.

19. Heritage Lift Station
    a. While P2S was on site at Heritage Lift Station observing the electrical system with TCWD and Hydro-tech Electric personnel, a junction box containing the 480V source feeder to the Lift Station from Southern California Edison's service transformer was opened for observation. The junction box contains a termination block for "splicing" Southern California Edison's feeder to TCWD's feeder. Upon opening the junction box, it was observed that the junction termination block was no longer secured to the junction box due to the weight of the service conductors, and the terminations were extremely close to making contact with the cover of the junction box. This was extremely dangerous and could have resulted in electrocution and an arc flash incident. Per P2S conversation with Hydro-Tech Electric personnel, the terminal block has been resecured to the junction box, and a replacement junction box has been ordered that is larger and deeper, allowing more clearance between the box's cover and the terminations inside.

       Per Hydro-Tech Electric, this junction box will eventually be removed completely when the facilities meter/main disconnect combo panel is relocated from inside the building to an exterior wall of the building.
    b. Heritage Lift Station's electrical system includes a similary control panel to the one that is installed at Plano Lift Station and Booster Pump Station. Although it does not have disconnect switches supported with string, the issues mentioned in section 10f of this report are applicable to the control panel at this facility.
20. Robinson Ranch WWTP
    a. As a result of the Power System Analysis Report dated July 5, 2024, it was determined that the instantaneous pickup setting for the 400A ampere circuit breaker that feeds Building B, the 300A circuit breaker that feeds the Backwash Filter MCC, and MCC-A's main breaker can be turned down resulting in lower incident energy at these equipment and still coordinate with downstream protective devices.
    b. Per the TCWD Main Office-Treatment Plants Infrared Report that was produced by National Infrared that is dated November 13-14, 2023, The line side termination and conductor for phase C on the disconnect switch inside the East Hoffman Blower Disc had a temperature difference of 89 degrees Fahrenheit versus the other phases.

RECOMMENDATIONS

1. TCWD Main Office
    a. P2S recommends two options to correct the issue discussed in Item 1a of the Observations section of this report. Option 1 is to replace the 400A fuses that are installed in the main service disconnect with 200A fuses. Before this option is chosen, the peak load of TCWD's main office must be verified to be less than 160 amperes, or 200 continuous amperes. A full month of load recordings taken during the summer when the air conditioning is in operation is recommended to establish the building's peak load.

       The second option to correct the issue would be to install a second parallel set of 4-#3/0AWG conductors from the main service disconnect over to the automatic transfer switch, and a second set of parallel conductors from the automatic transfer switch's load side terminations back over to the switchboard's bus.
2. Barneburg Lift Station
    a. P2S recommends replacing the broken plastic filler plates in the panel that is located in the MCC. If replacement filler plates cannot be obtained because they are obsolete, filler plates can be created using sheet metal that is bolted or riveted in place. A second option would be to obtain and install spare circuit breakers in the blank spaces.
3. Canyon Creek Booster Pump Station

       P2S recommends replacing the Littlefuse Type FLS-R 80 ampere fuses with Gould Shawmut Type TRS 80A fuses to match the other fuses installed.
4. Dove Canyon Robinson Ranch Pump Station
    a. P2S recommended adjusting the settings for the 800 ampere main breaker in the Power System Analysis Report dated July 5, 2024, to improve coordination with the downstream 200 ampere circuit breakers.
5. Falcon Booster Pump Station
    a. If a fire pump does exist at Falcon Booster Pump Station, the motor's horsepower rating would need to be confirmed to determine whether replacing the motor circuit protector, or replacing the conductors that feed the fire pump is the best course of action.
    b. P2S recommends adjusting the instantaneous pickup setting for the 50 ampere circuit breakers that feed Booster Pump 1 and 2 down to 200 amperes. P2S also recommends adjusting the instantaneous pickup of the standby generator's circuit breaker down to 1500 amperes.
6. Trabuco Creek GWTF
    a. P2S recommends adjusting the short time pickup and short time delay setting for the 500 ampere main breaker in the service switchboard. P2S also recommends adjusting the short time pickup for the motor control center's main breaker up to 3000 amperes.
7. O'Neal Lift Station
    a. If the tapped conductors that are installed from the load side of the 150 ampere main breaker to the 100 ampere breakers that feed pumps 1 and 2 are confirmed to be #6AWG, P2S recommends replacing the 100 ampere circuit breakers with 60 ampere circuit breakers in the control panel.
    b. Per the TCWD Lift Stations Infrared Report that was produced by National Infrared that is dated November 13-14, 2023, the sump pump disconnect switch has excessive dirt and debris inside the enclosure. P2S recommends de-energizing the disconnect switch and vacuuming out the dirt and debris.
8. Plano Pump Station and Lift Station

a. P2S recommends installing a fused disconnect or an enclosed circuit breaker between the switchboard and the automatic transfer switch, and terminating the tapped conductors at the fused disconnect or enclosed circuit breaker. The tapped conductors must be less than 25 feet in length.

   Another option would be to contact the manufacturer of the automatic transfer switch to determine of replacement of the switch inside the ATS that the tapped conductors is terminated at can be replaced with a circuit breaker that provides overcurrent protection.

b. P2S recommends that TCWD confirm whether or not the diesel generator's controller provides protection in the event of an internal overload or fault. If it is confirmed that the generator's controller does not provide protection, an overcurrent protective device must be installed within 10 feet of the generator's terminations.

c. P2S recommends that the GE Type TED 3-Pole 90A circuit breakers that feed pump1, 2, and 3 be replaced with GE THED 3-Pole 90A circuit breakers.

d. Per the TCWD Pump Stations Infrared Report that was produced by National Infrared that is dated November 13-14, 2023, The line side termination and conductor on phase A of the transformer disconnect switch had a temperature difference of 10 degrees Fahrenheit versus phase B. National Infrared recommended replacing the disconnect switch.

e. P2S recommends that the meter/main disconnect combo panel and an 175 ampere enclosed circuit breaker be removed and the electrical system be reconfigured by installing a main disconnect for the control panel in place of the meter/main disconnect combo panel.

f. P2S recommends that the disconnect switches be repaired, or the control panel be replaced. It is recommended that the equipment that replaces the control panel include a main disconnect, and a separate disconnect for the source to the 120V control power transformer. It is also recommended that the 120V control power be contained in it's own cabinet, separate from the 480V equipment.

9. Reservoir 1
   a. P2S recommends that the voltage be measured at Reservoir 1 to determine if the conductors supplying Reservoir 1 are adequately sized for voltage drop.
10. Robinson Ranch Pump Station
   a. Per the TCWD Pump Stations Infrared Report that was produced by National Infrared that is dated November 13-14, 2023, The load side termination and conductor for phase B on the disconnect switch inside a control panel had a temperature difference of 36 degrees Fahrenheit versus the other phases. National Infrared recommended replacing the disconnect switch.
11. Santiago Lift Station
   a. P2S recommends that a label or engraved nameplate be installed on the electrical cabinet at Santiago Lift Station identifying the source of electrical power to the cabinet. This recommendation should also be considered for equipment at other TCWD facilities whose disconnect source is not immediately apparent.
   b. P2S recommends that the service pedestal be replaced.
12. Topanga Booster Pump Station
   a. P2S recommends the short time pickup setting for the 400 ampere circuit breaker that feeds Booster Pump #4 be turned down to 1800 amperes. P2S also recommends adjusting the instantaneous pickup of the standby generator's circuit breaker down to 500 amperes.
13. Via Allegre Lift Station
   a. If the conductors that feed pumps 1 and 2 are confirmed to be 3-#6AWG by TCWD, P2S recommends that the 100A motor circuit protectors that protect the conductors that feed pumps 1 and 2 be replaced with 60 ampere motor circuit protectors.

b. P2S recommended adjusting the instantaneous pickup setting down to 400A for pump 1 and 2's circuit breakers.

14. Dimension Water Treatment Plant
    a. P2S recommends that the circuit breakers in MCC-A that feed pump 1, pump 2, pump 3, pump 4, blower 1, blower 2, blower 3, sump pump 1, and sump pump 2 be replaced with GE Type SELA circuit breakers if the same trip rating as the existing circuit breakers.
    b. P2S recommends the instantaneous pickup setting for the 1000 ampere circuit breaker that feeds Booster Pump #4 can be turned down to 4000 amperes. P2S also recommends adjusting the instantaneous pickup of MCC-A's main breaker down to 7200 amperes.
15. El Toro Lift Station
    a. Replace the meter, main disconnect, and its support structure.
16. Heritage Lift Station
    a. P2S recommends that the control panel be replaced. It is recommended that the equipment that replaces the control panel include a main disconnect, and a separate disconnect for the source to the 120V control power transformer. It is also recommended that the 120V control power be contained in it's own cabinet, separate from the 480V equipment.
17. Robinson Ranch WWTP
    a. P2S recommends the instantaneous pickup setting for the 400A ampere circuit breaker that feeds Building B, the 300A circuit breaker that feeds the Backwash Filter MCC, and MCC-A's main breaker can be turned down. Refer to the Power System Analysis Report dated July 5th, 2024 for the recommended settings for each circuit breaker.
    b. Per the TCWD Main Office-Treatment Plants Infrared Report that was produced by National Infrared that is dated November 13-14, 2023, The line side termination and conductor for phase C on the disconnect switch inside the East Hoffman Blower Disc had a temperature difference of 89 degrees Fahrenheit versus the other phases. National Infrared recommended replacing the disconnect switch.

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

ENGINEERING MATTERS
ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Golf Club SLS Construction Report
2. SCADA Project Update – Schedule for Completion
3. Extended Maintenance and System Service (EMASS) Annual Service Contract – Hydrotech Electric Proposal
4. Trabuco Creek Groundwater Treatment Facility – Potential Berm Reinforcement
5. 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 – Sep 2024 Monthly Report
2. EMASS Proposal

CONTACTS (staff responsible): PALUDI/PEREA/LAUSTEN

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

Construction Report
September 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	*October 4, 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 August 29th through September 24th, 2024 for the Golf Club Sewer Lift Station Project.

Pacific Hydrotech Corporation (PHC) continued with improvements of the Golf Club Lift Station, particularly removal of the existing lining system within the existing Wet Well. The coating subcontractor, Techno Coatings (TECHNO), was on-site to complete the lining-removals, sandblast the exposed, interior wall of the Wet Well, and patch areas of the interior wall of the Wet Well, where needed. The patches were accomplished by a multi-grout application, and a high-strength, concrete grout mix. At the same time, PHC continued to install new mechanical piping and improvements in the existing Dry Well, particularly, installing and grouting the pipe supports.

TECHNO demobilized from the project site, is expected to return when the Wet Well is ready for the permanent lining application, i.e. Raven epoxy coating.

PHC started to sawcut and demolish the hardscape improvements at the surface of the existing Wet Well. Then proceeded to excavate between the Dry Well and Wet Well to expose and demolish the existing piping to accommodate the new improvements – combination of stainless steel and ductile iron, suction piping and connections.

PHC removed and demolished a portion of the existing chamfer, or concrete slope, at the bottom of the existing Wet Well. This was to accommodate spacing of the new bases/supports of the submersible pumps. The bottom of the existing Wet Well required a leveled concrete surface, which PHC prepared and poured with rapid set concrete mix.

Soon after the bottom of the existing Wet Well was cured and leveled, PHC proceeded to layout the bases/supports for the submersible pumps and continued to install the stainless steel piping within the existing Wet Well. At the same time, the ductile iron piping from the Dry Well continued through the penetrations, joined the stainless steel piping, and flex couplings were installed between the dissimilar materials. PHC started to perform wall repairs to mitigate the penetrations through the Wet Well and Dry Well.

Through the end of September, piping installation will be completed, and pipe zone backfill will be accomplished with gravel and the remaining depth of the excavation will contain a slurry backfill.

The Temporary Bypass System remains in place through PHC's efforts and the System continues to be monitored and maintained to ensure functionality.

III. CONSTRUCTION ACTIVITIES FOR THIS REPORTING PERIOD

The following work activities were performed during this reporting period:

- TECHNO completed removals of the lining application in the existing Wet Well, sandblasted the exposed interior wall of the Wet Well, and performed patching – multi-grout application and high-strength concrete grout mix, where needed. Upon completion of these efforts, TECHNO demobilized from the project site.
- PHC continued with demolition of the existing Wet Well by excavating in between the Dry Well to remove piping. This was to accommodate the new piping – ductile iron and stainless steel – between the structures.
- More demolition and removals within the existing Wet Well consisted of the concrete chamfer or slope at the bottom of the Well performed by PHC.
- PHC leveled the bottom of the existing Wet Well in order to lay out the new Submersible Pump bases and the plumbed alignment of the mechanical piping.
- PHC installed the Pump bases, continued installation of the stainless steel piping within the Wet Well, and through the penetrations leading into the Dry Well to connect to the ductile iron piping.
- PHC installed flex couplings to join the dissimilar piping materials, started to form-and-pour concrete collars (or pilasters), and performed wall repairs to mitigate the penetrations through the Wet Well and Dry Well.
- Completion of the pipe installation will continue through the end of September, which includes pipe zone of gravel and slurry backfill between the Dry and Wet Well.
- The Temporary Bypass System remains in place and PHC continues to monitor and maintain the System to ensure functionality.

IV. ANTICIPATED CONSTRUCTION ACTIVITIES – NEXT REPORTING PERIOD

The work activities anticipated in the next reporting period:

- PHC to trim the top of the existing Wet Well in preparation for the new lid structure.
- Techno Coatings will return to the project site to continue and complete the epoxy lining application in the existing Wet Well.
- PHC will remove and replace the Exhaust Fan.
- PHC to install Submersible Pumps into the existing Wet Well, while their electrical subcontractor, Hydrotech Electric, will complete the wiring and terminations.
- Functional Test of the Submersible Pumps will start before the end of October.

V. CONTRACTOR SUBMITTALS

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

	Lift Station
Prior Submittals	71
Submittals Received This Period	3
TOTAL SUBMITTALS	74

VI. CONTRACTOR REQUEST FOR INFORMATION (RFIs)

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

	Lift Station
Prior RFIs	9
RFIs Received This Period	1
TOTAL RFIs	10

VII. CHANGE ORDERS

No change order requests were submitted by PHC and change orders process by TCWD.

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 October 4, 2024. This will result in an anticipated non-compensable, time extension under a separate Change Order to be issued to Pacific Hydrotech Corporation.

Due to the recent and nearby Airport Fire event, conditions at the project site yielded unsatisfactory air quality, and affected the PHC crew. As such, PHC requested a “Rain Day” for September 11, 2024, and was granted and recognized by TCWD.

IX. PHOTOS

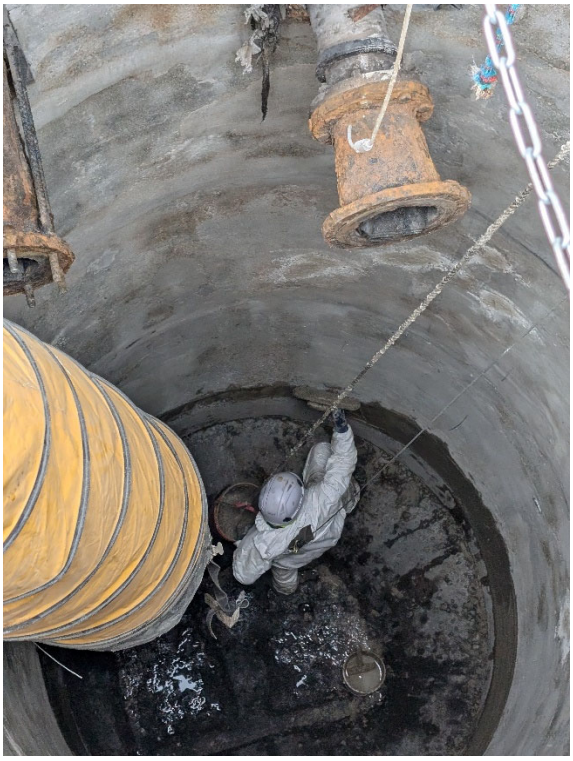
Construction photos documenting PHC's activities and progress during this reporting period are provided in Appendix A.

APPENDIX A

Construction Photos

Existing Wet Well – after lining application was removed, TECHNO proceeded to sandblast the interior concrete, wall surfaces.

Existing Wet Well – where any leakage from the interior, concrete walls were observed, TECHNO injected a Multigrout application.



Existing Wet Well – TECHNO mixed and applied a mortar mix where gaps in the concrete walls were observed; particularly above the concrete chamfer slope.

Existing Wet Well – Mortar Mix material used to mix and fill in gaps in the concrete walls.

Dry Well – PHC continued with improvements by installing pipe supports and finished with a Rapid Set mortar mix.

Dry Well – PHC continued with improvements by installing pipe supports and finished with a Rapid Set mortar mix.

Existing Wet Well – TECHNO demobilized the project site, and cleaned up the bottoms of the Well.

Existing Wet Well – PHC proceeded to sawcut existing finished surfaces at Wet Well to continue with demolition and removals of piping.

Existing Wet Well – Hardscape removals.

Existing Wet Well – Removals of hardscape completed.

Existing Wet Well – PHC started excavation between Wet Well and Dry Well.

Existing Wet Well – PHC started excavation between Wet Well and Dry Well.

Existing Wet Well – PHC exposed existing pipes between Dry Well and Wet Well and couplings to be demolished and removed.

Existing Wet Well – PHC exposed existing pipes between Dry Well and Wet Well to be demolished and removed.

Existing Wet Well – Pipe removals.

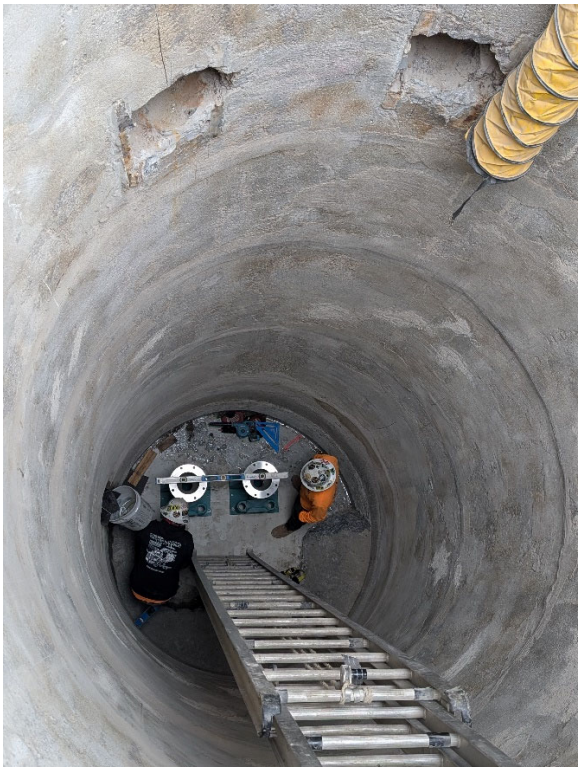
Dry Well – pipe removal, and penetrations from Dry Well looking towards Existing Wet Well.

Existing Wet Well – Removal of Concrete Chamfer Slope.

Existing Wet Well – Rapid Set mix to level bottom of Well in preparation for Pump Bases.

Dry Well – PHC installed ductile iron pipe through Dry Well.

Dry Well – Ductile iron pipe installed through penetrations of Dry Well.



Existing Wet Well – PHC setting Pump Bases on newly leveled bottom of Well.

Dry Well – Finished ductile iron pipe spools and connections in Dry Well.

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

Existing Wet Well – Pump Base template and bolt extensions set.

Existing Wet Well – Pump Bases set.

Existing Wet Well & Dry Well – Flex couplings installed and joined dissimilar materials – ductile iron and stainless steel.

Existing Wet Well – connected and extended stainless steel suction piping.

Existing Wet Well & Dry Well – Form-and-pour concrete collars.

Temporary Bypass System – typical conditions.

Temporary Bypass System – typical conditions.

PROPOSAL

TCWD
EXTENDED MANTENANCE AND SYSTEM SERVIVE
EMASS
ANNUAL SERVICE CONTRACT

Proposal to provide assessments and preventative maintenance for TCWD's Water and Wastewater sites for Motor Control Centers, Remote Telemetry Units (RTU) and Control Panels including:

1. Exterior and interior checks of cabinet condition including door operations, seals, gaskets, door Mounted controls and switches, and exterior mounted generator receptacles as applicable.
2. Vacuum and cleaning of dust and debris.
3. Visually inspect cabling and wiring: perform insulation resistance testing if cabling is suspect.
4. Check for moisture intrusion.
5. Check for Rodent or pest intrusion.
6. Check ventilation fans for proper operation and clean filters as required.
7. Check for loose connections and signs of overheating.
8. Check for proper current and voltage input & output.
9. Check motor drives for proper operation and any missing components.
10. Check for any N.E.C. code violations or OSHA violations warranting remedial action.
11. Provide a complete assessment report with applicable recommendations.
12. Inspect battery backup and UPS systems.
13. Check for proper power supply voltage as applicable.
14. Check and Verify PLC processor and I/O module connections.
15. Verify functionality and proper output of instruments listed below:
    A. 5- Rosemount differential Pressure Transmitters.
    B. 1- Rosemount Level Indicating Transmitter.
    C. 1- Siemens Flow Meter.
    D. 7- Dimension Plant Flow Meters.
    E. 6- RRWWTP Flow Meters.
    F.1- Dove Creek Flow Meter.
    G. 1- Shadow Rock detention basin Flow Meter.

TCWD
EXTENDED MANTENANCE AND SYSTEM SERVIVE
EMASS
ANNUAL SERVICE CONTRACT

The following sites are included in this proposal:

1. Robinson Ranch Wastewater Treatment Plant:
   A. Blower Building.
   B. CL2 Building.
   C. Dove Lake site.
   D. Equalization Pumps Basin.
   E. Belt Press Building.
2. Shadow Rock Lift Station.
3. Plano Trabuco Lift Station.
4. The Oaks WWTP.
5. Heritage Lift Station.
6. Portola Basin Recycled Station (SMWD)
7. O'Neil Park Lift Station.
8. El Toro Lift Station & Domestic Station #9.
9. Santiago Lift Station.
10. Via Allegre Lift Station.
11. Golf Club Lift Station.
12. Bell Canyon Lift Station.
13. Dove Creek Lift Station.
14. Tick Creek Lift Station.
15. Barneburg Lift Station.
16. Harris Grade Tank site.
17. Joplin Tank site.
18. Reservoir 1 tank.
19. Dove Canyon Tank site.
20. Trabuco Tanks site.
21. Robinson Ranch Booster Pump Station.
22. Ground Water Treatment Facility.
23. Ridgeline Booster Pump Station.
24. Topanga Booster Pump Station.
25. Dimension WTP (Canada Filter Plant).
26. Rose Tank Booster pump Station.
27. Saddle Crest Booster Pump Station.
28. El Toro Field Office.
29. Plano Domestic Booster Pump Station.
30. Dove Cayon Recycled Booster Pump Station.

TCWD
EXTENDED MANTENANCE AND SYSTEM SERVIVE
EMASS
ANNUAL SERVICE CONTRACT

Labor rate for any required repairs or modifications not included in the above scope of work:

Journeyman Electrician……$140.00 per Hour.

Apprentice Electrician……...$78.50 per Hour.

After Normal Business Hours: Journeyman……...$177.75 per Hour

After Normal Business Hours: Apprentice…….$116.25 per Hour

Materials: Cost + 15%.

Proposal Price…….$36,500.00

Price good for 30 days.

If you have any questions or comments please call me,
Sincerely,
Ken Cloud.

37707 Green Knolls Road
Winchester Ca.

DIR# 1000001266
CLSB #977838
WBE Certified

909-948-1908
909-270-0430

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

OPERATIONAL MATTERS
ITEM 6: WATER SYSTEM UPDATES

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

Projects and Repairs

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

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.

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					165.5
Backwash, AF	0.0	2.2	1.6	0.0	0.0	0.0	1.2	2.4					7.4
Flushwater, AF	0.0	3.7	1.8	0.0	0.0	0.0	1.9	1.8					9.2
DWTP Effluent (1)	0.0	65.0	49.3	0.0	0.0	0.0	26.9	52.0					193.2
Groundwater, AF													
Trabuco Creek GWTF	0.0	0.0	32.6	98.1	115.2	111.7	91.2	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
Total Groundwater (2)	0.0	0.0	32.6	98.1	115.2	111.7	91.2	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					11.0
IRWD Treated Interconnections	96.1	17.0	9.6	0.0	34.2	71.2	92.3	159.0					479.4
IRWD Irvine Lake	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					490.4
Total Supply													
Total Supply AF (1,2,3)	**96.1**	**82.0**	**91.5**	**98.1**	**149.4**	**182.9**	**210.4**	**222.0**					1,132.4
% Year - Peak Prod. - 2,449 AF (2018)	4%	7%	11%	15%	21%	29%	37%	46%					46%
AF/Day	3.1	2.8	3.0	3.3	4.8	6.1	6.8	7.2					4.3
CFS/Day, Avg.	1.5	1.4	1.5	1.6	2.4	3.0	3.4	3.6					2.1
Reservoir Storage													
Monthly Average, MG	9.1	9.1	9.0	9.0	9.1	9.0	9.0	9.1					9.0
Monthly Average, AF	27.9	27.9	27.0	27.0	27.9	27.0	27.0	27.9					27.4
Days of Storage	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					3.93
Robinson Ranch WWTP	0.004	0.004	0.004	0.004	0.004	0.004	0.020	0.020					0.064
Supplemental Domestic to RW Res.	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					3.99
System Losses, AF (2)													
Flushing	0.00	3.00	3.00	2.80	3.00	3.00	1.50	1.50					17.80
Sewer Cleaning	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02					0.16
Line Breaks	0.00	0.00	0.23	0.00	0.27	0.02	0.01	1.00					1.53
Subtotal	0.02	3.02	3.25	2.82	3.29	3.04	1.53	2.52					19.49
Zone Demands, AF (3)													
Topanga Canyon	Inop.	Inop.	Inop.	Inop.	Inop.	Inop.	Inop.	0.4					0.42
Falcon Estates	0.13	0.1	0.1	0.0	0.1	0.8	0.9	0.6					2.76
Rose PRV/The Oaks	1.5	2.5	1.4	1.04	1.9	3.4	3.0	5.0					19.74
Canyon Creek	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.4					1.74
Rose Pump Station	0.5	1.5	0.4	0.8	0.7	0.3	0.2	0.8					5.22
Robinson Ranch	21.1	12.4	6.1	19.2	39.2	41.9	56.9	60.6					257.36
Dove Canyon	45.2	37.5	36.1	43.3	63.5	77.7	84.7	91.2					479.23
Subtotal	68.6	54.1	44.3	64.6	105.6	124.4	146.0	159.4					766.87
Total System Demand (1,2,3)	**68.6**	**57.1**	**47.7**	**67.4**	**108.9**	**127.4**	**149.5**	**163.8**					790.35

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					4.3
Daily Average, CFS	1.5	1.4	1.5	1.6	2.4	3.0	3.4	3.6					2.1
Other Water Deliveries/Purchases													
Ridgeline (DWTP Delivery)	0.0	51.5	43.4	0.0	0.0	0.0	26.9	48.0					121.8
El Toro (Interconnection Purchase)	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					731.2
Portola Hills (Wholesale Purchase)	8.5	7.5	7.0	7.2	7.5	11.0	11.0	13.0					59.7
Skyridge (Wholesale Purchase)	1.7	1.5	1.5	1.5	1.6	2.0	1.9	2.3					11.7
** Usage estimated*	*** Excludes Operational use, losses, and supplement to Recycled Water Reservoir (RW)*												

TRABUCO CANYON WATER DISTRICT
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OPERATIONAL MATTERS
ITEM 7: WASTEWATER SYSTEM UPDATES

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

Projects and Repairs

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

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 of Plano Lift Station Force Main

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	**6,400**
Total Sewer Line Cleaned (Ft) – Cleaning Cycle	84,514
Cleaning Cycle Period (Mos.) [Start date: 1/1/24]	9
Total Sewer Line Cleaned, %	**39%**
The Oaks at Trabuco – Pumping Frequency for the Month	10
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					324.2	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					-	-
Reclaimed Reservoir Free Board, FT	25.5	1.7	1.5	1.0	1.0	3.5	8.5	24.0	27.5					-	-
Reclaimed Reservoir Storage, AF	145.5	134.3	135.7	137.5	137.5	126.8	96.4	37.1	28.6					-	-
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	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					1.70	20.6%
Dove Canyon Golf Course	106.7	0.54	1.1	0.4	8.5	29.7	38.8	49.3	60.4					188.72	176.9%
Dove Canyon Master Association	279.3	0.90	1.2	3.0	4.6	23.2	24.5	28.9	30.8					117.05	41.9%
Robinson Ranch	80.2	0.78	1.1	0.3	0.4	2.2	3.0	4.1	5.4					17.27	21.5%
Trabuco Highlands	159.7	1.97	2.0	0.2	1.7	6.8	5.9	7.7	10.2					36.55	22.9%
City of RSM	0.1	0.03	0.00	0.00	0.01	0.04	0.03	0.06	0.03					0.19	147.7%
Construction Water	N/A	0.00	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					0.00	0.0%
SMWD	N/A	-	-	-	0.0	2.4	5.1	7.7	6.1					21.24	N/A
TY Nursery	17.9	0.00	0.00	0.0	0.0	0.0	0.0	11.5	7.2					18.75	104.8%
TOTAL, AF	**653.2**	**4.2**	**5.5**	**4.0**	**15.4**	**64.5**	**77.5**	**109.6**	**120.6**					**401.47**	**61.5%**
PERCENTAGE OF NDW ALLOCATION/YEAR		**0.6%**	**1.5%**	**2.1%**	**4.5%**	**14.3%**	**26.2%**	**43.0%**	**61.5%**						
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					0.13	14.2
Dove | Tick Creek Production*	*Dry Season*	4.9	0.0	0.0	0.0	0.0	0.0	0.0	4.9					9.8	43.5
	TCWD Portion	4.9	0.0	0.0	0.0	0.0	0.0	0.0	2.4					7.4	-
	SMWD Portion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4					2.4	-
Dove Lake Water Pumped		0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.1					66.1	183.0
Dove Lake Free Board, Ft		0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.0					-	-
Dove Lake Storage, AF		331.0	331.0	331.0	331.0	331.0	331.0	328.2	308.9					-	-
Total Rainfall, In.		4.7	11.0	4.5	1.6	0.4	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
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OPERATIONAL MATTERS
ITEM 8: MAINTENANCE DEPARTMENT UPDATES

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

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 with TCWD GM's and land developer
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

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

EXHIBITS

None

CONTACTS (staff responsible): PEREA/STROUD

TRABUCO CANYON WATER DISTRICT
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REGULATORY AND OTHER MATTERS
ITEM 9: 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