



**ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA
TRABUCO CANYON WATER DISTRICT
ADMINISTRATION FACILITY
32003 DOVE CANYON DRIVE, TRABUCO CANYON, CA
JULY 2, 2025 AT 8:00 AM**

COMMITTEE MEMBERS

Mark Anderson, Committee Chair
Glenn Acosta, Committee Member
John Horst, 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 at the time of the meeting or 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 at the time of the meeting 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

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. June 4, 2025 Committee Meeting

ITEM 2: APPROVAL OF SCADA INTEGRATION ON-CALL SERVICES AGREEMENT WITH ADVANCED INTEGRATION & CONTROLS (AIC) [A W.M. Lyles Company]

RECOMMENDED ACTION:

Recommend the Board of Directors authorize the General Manager to execute a professional services agreement with Advanced Integration & Controls (AIC) [A W.M. Lyles Company] for a not-to-exceed amount of \$100,000 (Action Calendar).

ITEM 3: DIMENSION WATER TREATMENT PLANT IMPROVEMENTS

RECOMMENDED ACTION:

Recommend the Board of Directors award a construction contract for the DWTP Filter 4 Repair Project to SS Mechanical Construction Corp. in the amount of \$48,910 plus a 10% contingency of \$4,890, for a not-to-exceed amount of \$53,800 (Action Calendar).

ITEM 4: QUARTERLY CAPITAL IMPROVEMENT PROGRAM UPDATE

RECOMMENDED ACTION:

Receive information at the time of the meeting. No action required.

ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Recycled Water Reservoir Dam V-Ditch and Storm Drain Culvert Repair Project Update
2. Heritage SLS Update
3. Saddle Crest Development Update
4. Oaks at Trabuco Development Update
5. Saddleback Meadows Development Update
6. Other Projects

RECOMMENDED ACTION:

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



**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA | JULY 2, 2025**

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 | JULY 2, 2025**

ENGINEERING 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. *June 4, 2025 Committee Meeting*

CONTACTS (staff responsible): PALUDI/PEREA



TRABUCO CANYON WATER DISTRICT ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | JUNE 4, 2025

DIRECTORS PRESENT

Mark Anderson, Committee Chair
Glenn Acosta, Committee Member

STAFF PRESENT

Fernando Paludi, General Manager
Michael Perea, Assistant General Manager
Lorrie Lausten, District Engineer
Gary Kessler, Water Superintendent
Oscar Ulloa, Wastewater Superintendent
Jason Stroud, Maintenance Superintendent
Roseann Lejsek, Executive Assistant
Karen Warner, Principal Accountant
Phil Serpas, CMMS/SCADA Administrator

STAFF ABSENT

None

DISTRICT CONSULTANTS

None

PUBLIC PRESENT

None

CALL MEETING TO ORDER

Director Anderson called the June 4, 2025 Engineering/Operational Committee Meeting to order at 8:00 a.m.

VISITOR PARTICIPATION

No comments were received.

ORAL COMMUNICATION

No comments were received.

COMMITTEE MEMBER COMMENTS

None

REPORT FROM THE GENERAL MANAGER

None

ITEM 1: ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP

Mr. Paludi presented the Engineering/Operational Committee Meeting Recap for Committee review in accordance with the agenda.

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | JUNE 4, 2025**

RECOMMENDATION: The Committee recommended forwarding this matter to the Board of Directors (Consent Calendar).

ITEM 2: ROBINSON RANCH WASTEWATER TREATMENT PLANT BLOWER MODIFICATION PROJECT – CONSTRUCTION CONTRACT AWARD

Mr. Paludi presented this matter for Committee consideration, and he expressed his thanks to Ms. Lausten and staff for their hard work putting together the bid packet, which resulted in multiple responses. Mr. Paludi noted that one bid came in lower than the engineer’s estimate. Ms. Lausten complimented Mr. Ulloa and his team for their joint effort in putting together the bid packet for this project. Ms. Lausten reported that the bid was sent to eight contractors and that the District received four bids, and that staff recommends awarding the construction contract to SS Mechanical. Ms. Lausten provided an overview of the bid summary, and she stated that items 1 through 15 would be awarded, but that optional item 16 – sound panels and accessories, will not be awarded. Ms. Lausten added that the sound study does not indicate that sound panels will be needed and therefore, will not be awarded at this time. Mr. Paludi stated that this project is expected to be completed in early 2026.

RECOMMENDATION: Committee recommended the Board of Directors authorize the General Manager to award the Robinson Ranch Wastewater Treatment Plant Blower Modification Project to SS Mechanical Construction Corp. in the amount of \$919,022, with a 10% contingency of \$91,900 for a not to exceed amount of \$1,010,922 (Action Calendar).

ITEM 3: DIMENSION WATER TREATMENT PLANT TRANSMISSION MAIN REHABILITATION PROJECT

Mr. Paludi presented this matter for Committee consideration. Ms. Lausten reported that she worked with Mr. Kessler to address bid questions from vendors, and she stated that she will be sending out an addendum responding to these questions in advance of the bid due date of June 10. Discussion occurred regarding the proposed construction methods. Mr. Paludi stated that this item will be added to the Regular Board Meeting agenda for award, and he added that Director Mandich requested that the Sources of Supply Ad Hoc Committee schedule a meeting for June 16 to review the bids prior to the Board meeting.

RECOMMENDATION: None – Informational item only.

ITEM 4: PRELIMINARY 10-YEAR CAPITAL IMPROVEMENT PROGRAM

Mr. Paludi presented this matter for Committee consideration, and he reported that staff provided a District-wide 10-Year Capital Improvement Program (CIP) handout for discussion. Mr. Paludi highlighted proposed FY 2026 CIP projects for Potable Water, Recycled Water, and Wastewater Systems, including costs. Discussion occurred regarding the difference in rates between potable water and recycled water. Mr. Paludi provided a brief history of discounts provided to customers as an incentive to purchase recycled water. Further discussion occurred regarding the value of recycled water and possibly reviewing recycled water use and the cost of recovery.

RECOMMENDATION: None – Informational item only.

ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Heritage Sewer Lift Station Rehabilitation Update

Ms. Lausten reported that this project is in the design phase. Ms. Lausten stated that the design will be completed in approximately six weeks and that the plans will be brought to the Committee for review. Ms. Lausten added that the previous Committee requested a block wall be installed, and she stated that she is looking for an alternative solution. Ms. Lausten noted that she is working with the HOA on this matter.

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | JUNE 4, 2025**

2. 2025 Consumer Confidence Report

Mr. Paludi reported that the District entered into a shared services agreement with Municipal Water District of Orange County (MWDOC) to assist Ms. Lausten and Mr. Kessler in completing the annual water quality report. Mr. Paludi stated that the report is published on the District's website and a notice of the website address is provided to customers on the June utility bill, and he added that as a cost savings measure, a limited number of physical copies are printed and made available.

3. Saddle Crest Development Update

Mr. Paludi reported that the Saddle Crest agreement has been signed and that the District is waiting for the bills of sale to be completed and sent over. Mr. Paludi stated that staff will bring this item to the Board for acceptance of on-site water and sewer facilities.

4. Saddleback Meadows Development Update

Mr. Paludi reported that Trumark (developer) is in discussions with California Quartet to acquire the development, and that there are ongoing discussions regarding the water storage requirements. Mr. Paludi noted that the Board approved an agreement related to this matter that no other actions have been taken by the District at this time.

5. District CMMS Asset Summary Update

Mr. Perea provided a brief update in Mr. Serpas' absence. Mr. Perea reported that staff is updating asset information in the CMMS system, and that Mr. Serpas prepared a Department CMMS Monthly Status Report handout to ensure the Committee was updated with the most current information. Mr. Perea also reported that Mr. Serpas sent out an RFP for SCADA On Call Maintenance services to five firms and that the District received three proposals. Mr. Perea stated that Mr. Serpas will bring an update to the Committee next month.

6. Other Projects

Urban Water Management Plan (UWMP) – Ms. Lausten reported that the District will be entering into a shared services agreement with MWDOC to complete the District's UWMP.

Cross Connection Control Management Plan – Mr. Perea reported that a Public Hearing will be held at the June Regular Board Meeting to receive public comment relating to adoption of the TCWD Cross Connection Control Ordinance.

Director Anderson noted that he has received feedback from members of his community that staff is doing a great job with the meter downsizing program.

RECOMMENDATION: None – Informational item only.

ITEM 6: WATER SYSTEM UPDATES

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

1. Repaired a potable water service line leak on Saratoga in the Dove Canyon community.
2. Worked with Ferreira Construction to abandon two valves in the Cooks Corner intersection on Santiago Canyon Road.
3. Conducted two fire flow tests in the Saddle Crest community and Dove Canyon Plaza.
4. Repaired two air vacs on Live Oak Canyon Road and Hamilton Trail.
5. Serviced 59 valves in the Trabuco Oaks community.

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | JUNE 4, 2025**

Mr. Kessler presented the Water System Summary for Committee review, and he noted that the District had not been made aware that Santa Margarita Water District (SMWD) changed their meter from gallons to cubic feet at the beginning of this year. Mr. Kessler stated that the information in the report has been corrected.

RECOMMENDATION: None – Informational item only.

ITEM 7: WASTEWATER SYSTEM UPDATES

Mr. Ulloa reported that due to an oversight, the Wastewater System Updates report provided with the meeting materials was outdated. Mr. Ulloa provided a current staff report handout to the Committee at the time of the meeting. Mr. Ulloa reviewed the projects and repairs for the prior month, and he reported that Wastewater Operations staff had completed the following tasks:

1. Replaced five 8” filter valves at the WWTP.
2. Cleaned and repaired the wash assembly for the Belt Filter Press at the WWTP.
3. Installed new D.O. probes for the SBR tanks at the WWTP.
4. Prepped and conducted a plant tour for the Scouts.
5. Removed an old irrigation system on the reservoir and performed weed abatement.

Mr. Ulloa presented the Recycled Water System Summary for Committee review, and he reported that the reclaimed reservoir was at 1,270 feet and that Dove Lake is spilling.

Mr. Ulloa presented the annual Sewer System Monitoring Plant Program Audit, and he provided an overview of the audit results for Committee consideration. Mr. Ulloa indicated that the final audit report will be filed with the State Water Resources Control Board.

RECOMMENDATION: None – Informational item only.

ITEM 8: MAINTENANCE DEPARTMENT UPDATES

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

Projects and Repairs

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

Water Operations

1. Assisted Water Operations in meeting with Orange County Public Works (OCPW).
2. Worked with Hydrotech Electric at Field Office/Booster Pump Station (BPS) One to replace damaged wiring in attic.
3. Attended job walk at Dimension Water Treatment Plant (DWTP) and Bike Trail for Transmission Main Pipeline Rehabilitation Project.
4. Performed Preventative Maintenance at DWTP, Falcon BPS, Topanga BPS, Robinson BPS, and Field Office – Oil change and grease motors/pumps.

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | JUNE 4, 2025**

Wastewater Operations

1. Assisted Operations and Beavens Systems on new SCADA system at WWTP.
2. Performed weed abatement at WWTP and Porter Ranch.

District Fleet Upgrades & Other Projects

1. Fleet Preventative Maintenance on Vehicle No. 30
2. Inspect CAT Skid Steer and worked with vendor to install non-pneumatic wheels and tires.
3. Maintenance team attended pump class training.
4. Ordered and received sand, base, and rock from GreenStone Materials.
5. UPDATE: District mobile generator repairs are almost completed; new fuel tank installation.

Mr. Perea reported that due to slides and debris flow, Orange County Public Works (OCPW) will be installing a gate at Trabuco Creek Road, which will go across the District’s property. Mr. Perea reported the area will be closed to the public, and that access to the area will be limited to property owners.

RECOMMENDATION: None – Informational item only.

ITEM 9: OTHER MATTERS/REPORTS

There were no other matters reported.

RECOMMENDATION: None

ADJOURNMENT

Director Anderson adjourned the June 4, 2025 Engineering/Operational Committee Meeting at 9:24 a.m.

DRAFT

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | JULY 2, 2025**

ENGINEERING MATTERS

ITEM 2: APPROVAL OF SCADA INTEGRATION ON-CALL SERVICES AGREEMENT WITH ADVANCED INTEGRATION & CONTROLS (AIC) [A W.M. Lyles Company]

Trabuco Canyon Water District (TCWD or District) uses a Supervisory Control and Data Acquisition (SCADA) system to control its facilities and equipment through automation and real-time monitoring to ensure the continuity of water, wastewater, and recycled water services to its customers. The District’s SCADA system was upgraded in phases over several agreements and multiple fiscal years with a prior vendor TESCO Controls (TESCO). In late 2023 through early 2024, the District’s SCADA upgrade project experienced significant delays, faulty equipment, and other serious contract performance issues which resulted in the District terminating the outstanding agreements with TESCO in April 2024.

The District subsequently issued a temporary contract with W.M. Lyles (Lyles) on an emergency basis to address critical communications failures and other urgent work related to the SCADA upgrade project. Lyles was selected primarily because they hired several programmers and integrators from TESCO that had worked on the District SCADA project and thus have a sound working knowledge of District systems and facilities. District staff prepared a scope of services to address the remaining portions of the SCADA upgrade project that needed completion, and the Board of Directors approved a professional services agreement with Lyles to perform SCADA integration services at the July 2024 Regular Board Meeting. At this time, the SCADA upgrade project has been completed, and on-call integration services are needed to augment staff and to provide necessary integration support services.

District staff issued a request for proposals for on-call SCADA integration services in April 2025 to seven firms and received three proposals from the following integrators:

SCADA Integration Firms Responding to RFP
Advanced Integration & Controls (AIC) [A W.M. Lyles Company]
Enterprise Automation [A Tetra Tech Company]
Vertech Industrial Automation & Information Services

After careful review of the proposals received, District staff recommends the Board of Directors award a professional services agreement with Advanced Integration & Controls (AIC) for on-call SCADA integration services for Fiscal Year 2025-26. Staff’s recommendation is based primarily on the following advantages: (1) AIC has first-hand knowledge and experience of the District’s system because of completing the SCADA upgrade project, and (2) their proposal includes a locked in rate for the first 200 hours of service. A summary of the proposals and the associated rates of service is attached for consideration. More information may be provided at the time of the meeting.

FUNDING SOURCE:

General Fund – Consultant Services

FISCAL IMPACT (PROJECT BUDGET):

FY 2025-26 Budget: \$100,000

ENVIRONMENTAL COMPLIANCE:

Not applicable

RECOMMENDED ACTION:

Recommend the Board of Directors authorize the General Manager to execute a professional services agreement with Advanced Integration & Controls (AIC) [A W.M. Lyles Company] for a not-to-exceed amount of \$100,000 (Action Calendar).

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | JULY 2, 2025**

EXHIBIT(S):

1. Summary of Proposals
2. Advanced Integration & Controls (AIC) Proposal

CONTACTS (staff responsible): PEREA/SERPAS

Trabuco Canyon Water District

SCADA Integration On-Call Service RFP - Summary of Proposals

Advanced Integration & Controls (AIC)			
Classification	Normal Rate	Overtime	Double Time
Initial 200 Hours	\$195	N/A	N/A
Field Technician	\$225	\$350	\$550
I&C Engineer	\$225	\$350	\$550
Automations Engineer	\$250	\$375	\$600
Project Manager	\$225	N/A	N/A
Production (In-House)	\$200	\$275	\$450
Rate Hours	7:00 a.m. - 4:00 p.m.	4:00 p.m - 7:00 a.m.	12 Hour +

Enterprise Automation			
Classification	Normal Rate	After Hours Rate	Holiday/Weekend Rate
Engineering Intern	\$105	\$158	\$210
I&C Technician	\$150	\$225	\$300
Automation Specialist	\$200	\$300	\$400
Project Technician Lead	\$275	\$413	\$550
Project Manager	\$225	\$338	\$450
Automation Architect	\$280	\$420	\$560

Vertech Industrial Automation & Information Services			
Classification	Normal Rate	After Hours Rate	Holiday Rate
Field Technician	\$140	\$210	\$280
I&C Technician/Programmer	\$205	\$310	\$410
Network Engineer	\$230	\$345	\$460
Project Manager	\$205	\$310	\$410
Solutions Architect	\$255	\$360	\$510

May 15, 2025



32003 Dove Canyon Drive
Trabuco Canyon, California 92679

Attn: Phil Serpas, CMMS/SCADA
Administrator
Phone: (949) 858-0277
Email: pserpas@tcwd.ca.gov

FOR PROJECT:

SCADA SYSTEMS INTEGRATOR ON-CALL SERVICES

SUBMITTED BY:

Advanced Integration & Controls
9332 Tech Center Drive,
Suite 200/300
Sacramento, CA 95826

POINT OF CONTACT:
Keith Webb,
Business Development
(916) 337-9368
keith.webb@wateraic.com



Table of Contents



1.	Introductory Letter	1
2.	Service Provider Description	2
3.	Project Understanding, Management, and Approach	3-4
4.	Team and Experience	5-19
5.	Scope of Services	20-21
6.	Comparable Projects	22-24
7.	Service Pricing and Rate Schedule	25



1



INTRODUCTORY
LETTER

May 15, 2025

Trabuco Canyon Water District
32003 Dove Canyon Drive
Trabuco Canyon, CA 92679

Re: Proposal for SCADA System Integrator On-Call Services

Attn: Phil Serpas CMMS/SCADA Administrator

Phil,

Advanced Integration & Controls (AIC) is pleased to present this proposal to Trabuco Canyon Water District for the SCADA System Integrator on-call services project. This proposal specifically addresses troubleshooting and field repair needs including system software update, Cybersecurity assistance, hardware engineering and design assistance, software programming, parts and supplies, 24-hour support, as well as documentation and training services.

We are excited about this opportunity to partner with the District and continue the journey of modernizing your control system. We believe that both AIC and the District share a common goal: not only to establish a robust control system but also to elevate it to the next level where technology and optimized processes are leveraged for enhanced operational efficiency and ultimately achieve District self-sufficiency. We look forward to collaborating and enhancing your control system where operation staff is comfortable managing your complex telemetry architecture.

Thank you for the opportunity to submit this proposal and please feel free to reach out to us with any questions and/or concerns.

Regards,

Advanced Integration & Controls



Michael R. Prosser
Collaborative Delivery Manager – Design-Build Services
Advanced Integration & Controls
Mobile – (916) 296-2016

2

SERVICE PROVIDER DESCRIPTION



Service Provider Description

Service Provider Description:

AIC is a full-service ICS integration and manufacturing firm, specializing in the Water and Wastewater industry. AIC was established in 2023 to fulfill the integration and support services needs of clients relying on ICS products including SCADA, PLC, and network telemetry. Our parent company, W. M. Lyles Construction Group has been in business for over 80 years serving Water and Wastewater districts throughout California and employs over 800 individuals. Both W. M. Lyles Construction and AIC are staffed and equipped to support your systems.

With office locations in Sacramento and Temecula, California, and a UL508A and UL698A-certified manufacturing facility in Sacramento, AIC is equipped to provide comprehensive control system integration services to Trabuco Canyon Water District. AIC's Temecula California office has 15 automation and field activity engineers on staff who are available to assist the District. Our Sacramento office has an additional 40 team members who can provide supplemental support whenever it is needed. Additionally, AIC has the administrative and financial backing of W.M. Lyles

Construction Group, who is one of California's largest family-owned General Contractors.

AIC is an integrator who will fulfill all your integration needs. We specialize in SCADA configuration, PLC programming, cybersecurity compliant network infrastructure, pump and motor control panels, as well as instrumentation used throughout your systems. We have an ISA accredited staff with over twenty years experience in the Water / Wastewater Industry and have the programming tools and knowledge to service Allen-Bradley, Modicon, and other major PLC platforms. In addition, our staff is certified in major SCADA platforms, such as Inductive Automation, AVEVA, and Rockwell FactoryTalk. AIC has multiple ISA Certified Cybersecurity Experts to assist with securing the existing control system and assisting with designs for future needs. We have an in-depth understanding of your system including wireless communication methodologies, network switches and routers, SCADA field investigations and system audits, and remote access equipment used in your ICS.





3



PROJECT UNDERSTANDING, MANAGEMENT & APPROACH

Project Understanding, Management and Approach

Project Understanding

It is understood that the District is seeking a qualified Control System Integrator (CSI) to provide 24/7/365 on-call services for their SCADA and control system equipment within the Water and Wastewater systems. In addition to 24/7/365 on-call services, the District seeks qualified CSI capable of hardware/software design and supply, programming, configuration, installation, training and maintenance. The District expects CSI to follow the District standards and policies while adhering to industry best practices. All documentation and digital assets associated with work performed by CSI are to be delivered to the District, which aligns with AIC policy.

Approach and Methodology

AIC believes a collaborative partnership with the District is a necessity to achieve goals set forth by the District. To ensure there is clear and open communication between AIC and the District, we have assigned two dedicated teams to support the District, one for 24/7/365 emergency support and another for non-emergency tasks. Non-emergency tasks will be referred to as Task Order (TO).

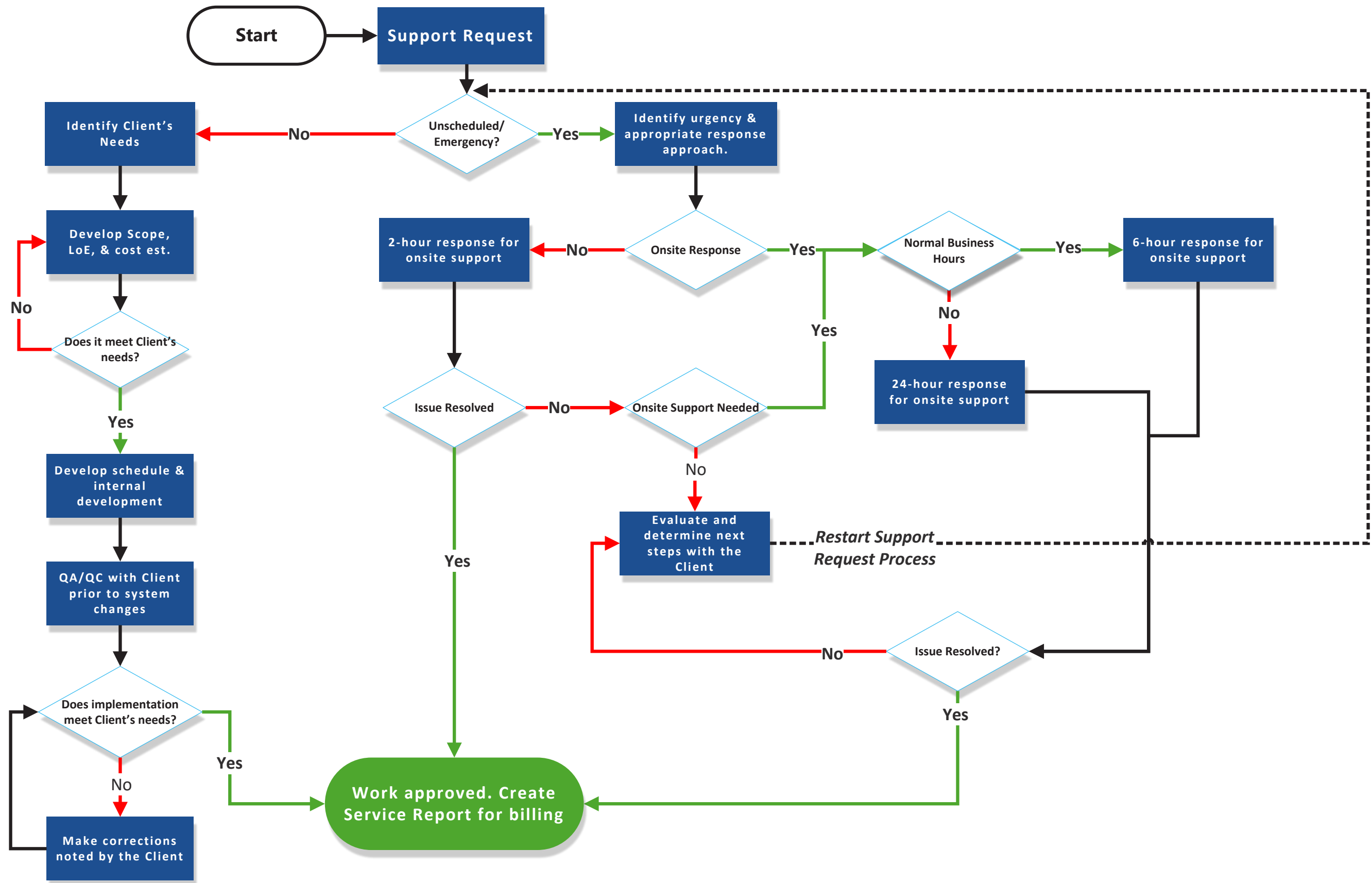
Our Project Manager will be your main point of contact during regular business hours, ensuring all tasks are managed effectively and communicated promptly. If the primary manager is unavailable, the backup Project Manager will step in ensuring continuity in service. For non-business hour emergencies, the District will be provided with a dedicated number to our on-call support team.

We propose two initial workshops to ensure the District's needs are well-understood (one for Water Department stakeholders and one for Wastewater). Feedback collected from the District stakeholders during workshops will be documented, reviewed, and tracked in a centralized system. This ensures all feedback is acted upon and stakeholders can see the outcomes of their suggestions. During these workshops, our team will review the format of our customer service reports, technical memorandums, and project workshops to explain our suggested collaborative approach. Quality control and schedule review procedures will be discussed and the feedback loop for stakeholders will be explained. We believe that by maintaining a collaborative and transparent approach to all projects, the District stakeholders will receive the best experience. AIC will work with stakeholders to establish clear proj-

ect timelines, with milestones for each phase of work. Our Project Manager will keep our internal AIC team members and stakeholders informed through regular meetings, with detailed written updates on schedule, budget, quality control, and progress. Regular updates will be provided not only in scheduled meetings but also through proactive communications whenever important developments arise, ensuring that everyone is always informed.

We are proposing an initial allotment of 200 hours of service at a discounted rate of \$195/hr that can be used to service emergency calls or TOs as they arise. While RFP calls for certain services based on the District request, AIC believes it is beneficial for the District ICS to be maintained on schedule. For example, per industry standard/recommendation, the District ICS software should be updated on regular basis for security and stability. We believe this is the proper preventive maintenance approach versus reactive services, which can be costly.

The District requests for products or services will be processed through our organization as shown in the following chart:






4

TEAM &
EXPERIENCE

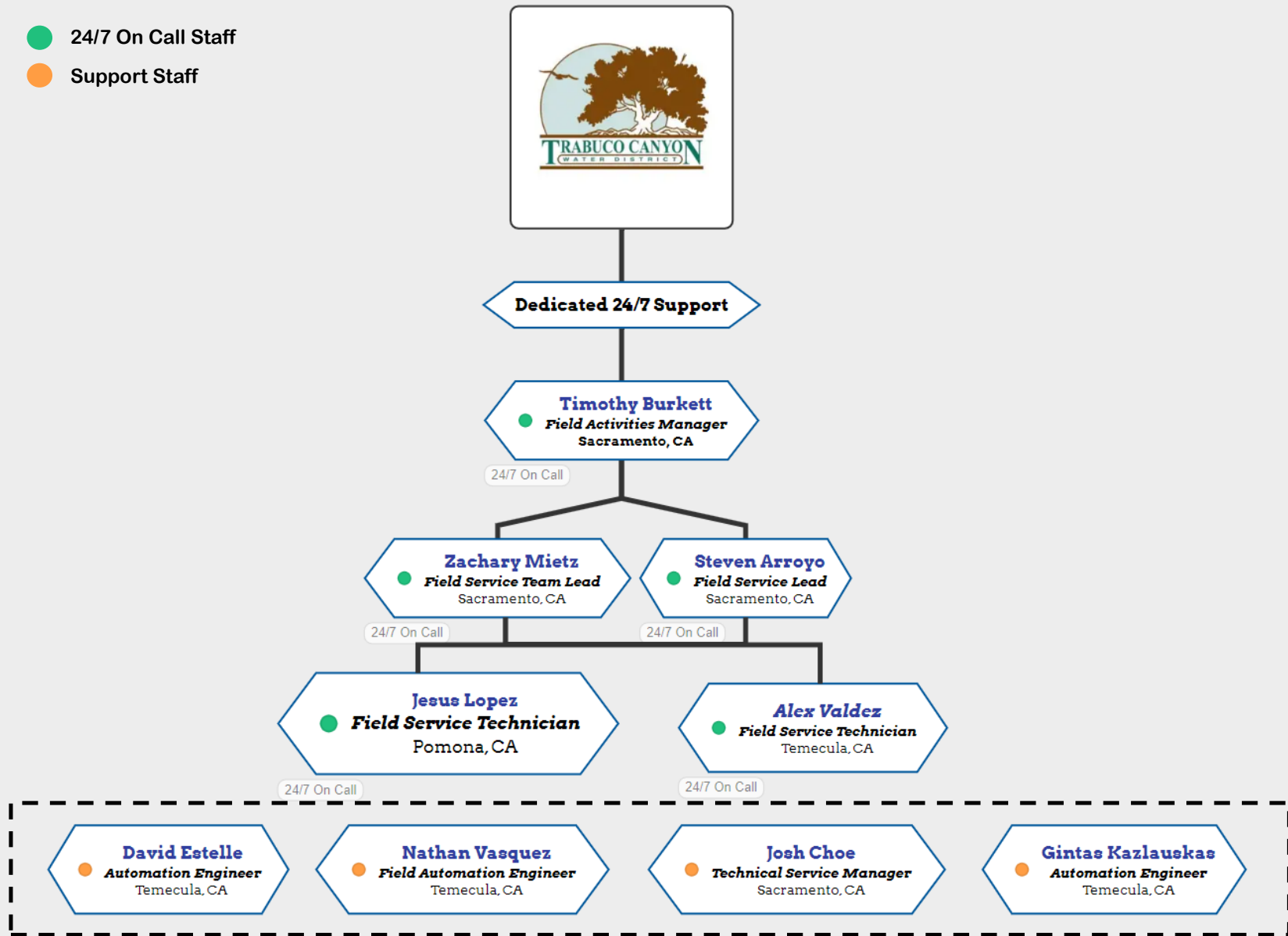
AIC Project Team



			
<p><u>Project Management</u> Scheduling / Coordination / Point-of-Contact</p>	<p>Sydne Shearer Project Manager Temecula, CA</p>	<p>Kevin Ford, PMP Project Manager Sacramento, CA</p>	
<p><u>Networking</u> Communications / Cybersecurity</p>	<p>Josh Choe Technical Service Manager Sacramento, CA</p>	<p>Matt Wong Automation Engineer Sacramento, CA</p>	
<p><u>Automation Engineering</u> PLC / SCADA</p>	<p>David Estelle Automation Engineer Temecula, CA</p>	<p>Nathan Vasquez Automation Engineer Temecula, CA</p>	
<p><u>Electrical, Instrumentation & Controls Engineering</u></p>	<p>Alfonso Ducreux Technical Service Manager Temecula, CA</p>		
<p><u>Field Activities</u> Instrumentation / Installation / Testing</p>	<p>Tim Burkett Field Activities Manager Sacramento, CA</p>	<p>Zach Mietz Field Service Engineer Sacramento, CA</p>	
		<p>Quinn LaPoint Field Service Engineer Sacramento, CA</p>	
		<p>Jesus Lopez Field Service Technician Temecula, CA</p>	<p>Alex Valdez Field Service Technician Temecula, CA</p>

On-Call Chart

- 24/7 On Call Staff
- Support Staff



Josh Choe

Technical Services Manager



Northern Ca.

9332 Tech Center Drive, Ste. 300
Sacramento, CA 95826



916.644.9500



joshua.choe@WaterAIC.com



Summary:

With 25+ years of experience in system integration for the Water & Wastewater industry, Josh has held key roles, including SCADA Engineer, Networking Engineer, SCADA Manager, and now leads AIC's Technical Team. His diverse expertise allows him to navigate complex challenges seamlessly.

Josh is highly focused on cybersecurity, continuously evaluating new and emerging technologies to ensure robust and secure solutions for our clients.

Project Experience:

Role: Technical Lead / System Architect

Baton Rouge, City of



2021 - 2022



Louisiana

Baton Rouge was faced with an aging SCADA system and operational constraints and management concerns about the systems viability into the future. The goal was to modernize and migrate from iFix to Ignition with a focus on cybersecurity and resilience & stable communications to over 500 TESCO PLCs.

Primary Activities:

- Developed system architecture leveraging virtualization, Stratus hardware and Next-Generation networking equipment meeting NIST 800.82 and ISA 62443 guidelines.
- Created a migration path leading to zero downtime during the project migration and installation
- Lead the development team in converting iFix Historical data to Ignition.
- Ensured communication to Baton Rouge's 550+ sites with TESCO PLCs was secure and viable with the project upgrade

Role: Technical Lead / System Architect

East Orange County Water District (EOCWD)



2024 - 2025



Southern California

EOCWDs replaced nine (9) of their remote site control panels, including wireless communications, PLCs, and integration into SCADA. The District was faced with a hard shutdown date of their aging analog phonelines, making the project schedule a challenge.

Primary Activities:

- Performed telemetry modeling and field survey to develop a viable wireless communications architecture. A mix of RF and cellular was required due to the complex geography
- Lead cybersecurity assessment to ensure EOCWD is meeting AWIA guidelines and provided recommendations
- Developed a migration plan to meet EOCWDs analog phoneline shutdown allowing operations to maintain monitor and control of the system

Did you know:

- Josh moved to California from South Korea when he was 9 years old
- Is an acting member of the ISA committee developing SCADA standards guidelines
- Enjoys travelling with his family when his kids have time off from school

Products & Technologies:

- AVEVA, InTouch / System Platform
- Ignition, Vision / Perspective
- Rockwell Factory Talk View
- Wireless communication design and configurations
- Virtualization
- Network & System Architecture

Licenses & Certifications:

- OSHA 30
- ISA, Cybersecurity Expert
- ISA, Design Specialist
- ISA, Risk Assessment Specialist
- ISA, Fundamentals Specialist
- ISA, Maintenance Specialist
- AVEVA System Platform
- Rockwell Plant PAX System Design
- Ignition Core
- MDS Radios
- Fortinet Networking Equipment

Industry History:

- 26 Years
- 2 with AIC

Education:



BS - Computer Science

University of California, Davis



CERTIFICATE



Scan to validate



ISA/IEC 62443 Expert

Is awarded to

Joshua Choe

by

International Society of Automation

Issue Date

November 16, 2023

Expiration Date

October 04, 2026

Verify Badge here

<https://bcert.me/stvfrjvvh>

Kevin Ford, PMP

Manager of Project Management



Northern Ca.

9332 Tech Center Drive, Ste. 300
Sacramento, CA 95826



916.644.9500



kevin.ford@WaterAIC.com



Summary:

With over 20 years of project management experience in the Water & Wastewater Industry, Kevin has a deep understanding of projects both large and small. His industry expertise allows him to approach projects with a team-focused perspective, ensuring the needs of clients and partners are met.

Kevin is highly focused on schedules, collaboration, and communication, driving efficiency and success throughout the project life-cycle.

Project Experience:

Role: Project Manager

South Orange County Wastewater Authority (SOCWA)



2024 - 2025



Southern California

SOCWA's objective with this project is to upgrade the SCADA hardware and software at two (2) of their wastewater treatment plants. As part of the upgraded and modernization in combatting aging hardware, they also wanted to bolster their cybersecurity posture.

Primary Activities:

- Led bi-weekly meetings with the client and activities team
- Developed a project schedule with regular review and updates to the client
- Delivered submittal packages and lead AICs procurement efforts
- Managed billings as set forth with the client
- Ensured proper team engagement throughout the project

Role: Project Manager

East Orange County Water District (EOCWD)



2024 - 2025



Southern California

EOCWDs replaced nine (9) of their remote site control panels, including wireless communications, PLCs, and integration into SCADA. The District was faced with a hard shutdown date of their aging analog phonelines, making the projects schedule a challenge.

Primary Activities:

- Lead bi-weekly meetings with the client and activities team
- Developed a project schedule that would allow the District to have monitor and control access of their system without interruptions with the looming analog phone-line shutdown
- Managed nine (9) sites through development, procurement and startup in a four (4) month timeframe
- Ensured proper team engagement throughout the project
- Manage team coordination with operations team, electrical contactor and vendors

Did you know:

- Kevin has successfully managed over \$400 million in projects throughout his career
- Enjoys camping with his family of four (4) throughout the year
- Is an avid golfer and enjoys spending time on the course with his friend

Products & Technologies:

- Primavera
- MS Project
- ViewPoint
- Instrumentation & Controls
- Contract Requirements Management

Licenses & Certifications:

- OSHA 10
- OSHA Hazardous Waste Operations
- Project Management Profession - PMP
- ISA - Automation Engineer, Integrator Version
-

Industry History:

- 22 Years
- 2 with AIC

Education:



BS - Environmental Science

California State University, Sacramento



Alfonso Ducreux

Technical Services Manager

 Southern California

42142 Roick Drive
Temecula, CA 92590

 916.644.9500

 alfonso.ducreux@WaterAIC.com



Summary:

Alfonso brings over 17 years of experience as a Senior Project Engineer and Electrical Engineer (BSEE), with extensive expertise in planning and leading multi-disciplinary teams and contractors to successfully deliver both short- and long-term projects on time and within budget.

He has dedicated the majority of his career to the Water and Wastewater Industry, allowing him to fine-tune his EI&C (Electrical, Instrumentation, and Controls) skills to meet the specific needs and challenges of this sector.

Project Experience:

Role: Lead EI&C Engineer

East Orange County Water District (EOCWD)

 2024 - 2025  Southern California

EOCWDs replaced nine (9) of their remote site control panels, including wireless communications, PLCs, and integration into SCADA. The District was faced with a hard shutdown date of their aging analog phonelines, making the projects schedule a challenge.

Primary Activities:

- Onsite investigation of incomplete control cabinets, to identify missing components and cross reference wiring to drawing sets.
- Update/redline as-built drawings for all control cabinets
- Developed & architected system and network overview drawings
- Led workshop in review of existing drawings & involved with startup & commissioning plan to minimize system downtime

Role: Lead EI&C Engineer

City of Redlands

 2023 - 2024  Southern California

The City of Redlands had a multi-year well rehabilitation & Booster Pump Replacement project; four (4) potable water wells and three (3) non-potable water wells. This work involve full site investigation, design, & installation of each control panel

Primary Activities:

- Coordinated internal tracking of Engineering activities via bi-weekly meetings with the City.
- Work with Design Engineering Team to develop Contract drawings and Bill of Materials for the upgrade.
- Led Design team efforts on Control Panels and Motor Control Center design.
- Led Instrumentation design team on part selection and supplier of components including Site investigations

Did you know:

- Enjoys about playing soccer
- Guitarist, exploring rock, classical, and flamenco genres.
- Annual international trips with my family.

Products & Technologies:

- Electrical Engineering Design & Installation for Water/Wastewater Treatment systems
- Power Design & Studies
- Manufacturing of Electrical and Instrumentation & Controls Equipment
- Control Panel/MCC/Switch-Board/VFD Design
- AutoCAD
- SolidWorks


Licenses & Certifications:

- OSHA 30
- AutoCAD Electrical
- ISA, Bootcamp for control systems

Industry History:

- 17 Years
- 1 with AIC

Education:

 BS - Electrical Engineering, Specialization: Power, Controls, and Computers

California State University, Los



David Estelle, PE

Automation Engineering Lead

 **Southern California**
42142 Roick Drive
Temecula, CA 92590

 916.644.9500
 david.estelle@WaterAIC.com



Summary:

David has over 8 years of controls experience, with a strong focus on the Water and Wastewater Industry. He is well-versed in field activities, PLC and SCADA programming, electrical engineering, and system design. His experience also includes leading project teams and facilitating technical workshops for projects of varying sizes.

David brings a strong drive for continuous improvement and professional growth. He consistently explores new technologies and pursues knowledge—not only to enhance his own expertise but also to support the development of his team.

Project Experience:

Role: Lead Automation Engineer

Irvine Ranch Water District (IRWD)

 2024 - 2024  Southern California

Conducted comprehensive end-to-end PLC and SCADA development for a new biosolids facility installation. The project utilized Modicon Quantum and M340 PLCs along with the AVEVA System Platform SCADA application.

Primary Activities:

- Collaborated closely with the owner's representation to meticulously test and validate the system's full functionality in a controlled bench test environment.
- Engaged with various vendors specializing in screening, centrifuge, conveyance, digested gas conditioning, and flare systems.
- Demonstrated aptitude in incorporating feedback from both operations staff and process design teams to optimize the system during the commissioning phase of the project.
- Performed extensive troubleshooting of the Modbus TCP industrial network. Established historical trending based on specification requirements and process optimization feedback from staff.

Role: Lead Automation Engineer

Trabuco Canyon Water District (TCWD)

 2024 - 2024  Southern California

TCWD had an aging controls system that was due to be upgraded, many of the PLCs were over 20 years old. The scope addressed the replacement or upgrade to 40+ sites control panels, PLCs, OITs, Radio network and the conversion of their InTouch SCADA system to Ignition.

Primary Activities:

- Led a team of PLC Applications engineers in successfully retrofitting over twenty water and wastewater sites with new Modicon M340 PLCs.
- Led workshops with operations staff to determine desired control strategy.
- Collaborated closely with SCADA and Networking Teams to minimize downtime during the commissioning phase.
- Engaged with operations staff to implement feedback and incorporate additional functionalities into the system.

Did you know:

- Enjoys all things outdoors - snowboarding, biking, hiking.
- Playing piano is my favorite indoor hobby.
- Currently working towards goal of visiting every national park with my wife.

Products & Technologies:

- Allen-Bradley, Control Logix, SLC500, MicroLogix PLCs
- AVEVA InTouch/Historian/System Platform
- Schneider Modicon M340/M580
- Wireless communication configuration & commissioning
- Ethernet/IP, DeviceNet, ControlNet, Modbus Protocols
- Ignition, Vision / Perspective


Licenses & Certifications:

- OSHA 30
- Professional Engineer (PE), Controls System Engineering
- OSHA Electrical Safety OTC 306
- AVEVA InTouch
- Inductive Automation University
- GE - MDS Orbit

Industry History:

- 8 Years
- 1 with AIC


Education:



 BS - Mechanical Engineering
California State University, Fullerton



Jesus Lopez

Field Service Technician

 **Southern California**
42142 Roick Drive
Temecula, CA 92590

 916.644.9500
 jesus.lopez@WaterAIC.com



Summary:

Jesus brings 25 years of extensive field service experience, specializing in servicing and troubleshooting a wide range of equipment, including PLCs, OITs, VFDs, and field instrumentation. His expertise also encompasses the demolition and installation of control panels, wire termination, and performing loop checks.

Highly skilled in instrument calibration and operations training, Jesus ensures seamless system performance and efficiency. His technical proficiency and commitment to customer satisfaction consistently contribute to successful outcomes in complex service environment.

Project Experience

Role: Field Service Technician

East Orange County Water District (EOCWD)

 2024 - 2025  Southern California

Primary Activities:

- Commissioned all remote sites.
- Led the Field Team during the commissioning phase.
- Tested all PLC Programming and SCADA Graphics with system.
- Coordinated on-site activities with Electrician and Operations team.

Role: Field Service Technician

Trabuco Canyon Water District (TCWD)

 2024 - 2025  Southern California

TCWD was in need of a reliable and responsive System Integrator to provide task based and on-call support services for their Water system. Their needs included remote support four (4) hour response time & on-site support within a 24-hour mobilization.

Primary Activities:

- Diagnose and resolve control wiring issues within MCC Panels (Troubleshoot control wiring in MCC Panels)
- Configure and program VFD parameters for optimal performance (Program VFD Parameters)
- Comprehensive commissioning and testing of VFDs (Full Commissioning Testing of VFD)
- Instrument validation including 4-20 mA spanning

Did you know:

- Enjoys working cars.
- Avid Dodger & Laker Fan.
- Has a to do list that never ends.

Products & Technologies:

- Allen-Bradley PLC
- Allen-Bradley-VFD
- Endress+Hausser Promag
- Modicon PLC
- C-More OIT
- Yasakawa VFD
- Instrument Calibrations
- Operations Training


Licenses & Certifications:

- OSHA 30
- OSHA Electrical Safety OTC 306 OTC 306

Industry History:

- 26 Years
- 1 with AIC

Education:

 AA - Applied Science Electronic Technology
DeVry Institute of Technology



Zach Mietz

Field Activities Lead



Northern California

9332 Tech Center Drive, Ste. 300
Sacramento, CA 95826



916.644.9500



zach.meitz@WaterAIC.com



Summary:

Zach has over 7 years of experience in control systems within the Water and Wastewater Industry. He brings extensive knowledge in PLC programming—including TESCO PLCs—as well as startup and commissioning, process control narratives, and field activities.

His industry expertise enables him to deliver reliable and comprehensive automation solutions. With a strong focus on customer satisfaction and solutions that meet design expectations, Zach is a valuable asset to any team.

Project Experience:

Role: Lead Field Engineer

East Orange County Water District (EOCWD)



2024 - 2025



Southern California

EOCWDs replaced nine (9) of their remote site control panels, including wireless communications, PLCs, and integration into SCADA. The district was faced with a hard shutdown date of their aging analog phonelines, making the projects schedule challenge.

Primary Activities:

- Appointed and successfully commissioned and launched all remote sites, ensuring seamless integration and optimal functionality
- Led the Field Team through the commissioning phase, ensuring timely and efficient project execution.
- Conducted comprehensive testing of all PLC programming and SCADA graphics to ensure seamless system integration and functionality.
- Conducted comprehensive testing of all PLC programming and SCADA graphics to ensure seamless system integration and functionality.

Role: Lead Field Technical Engineer

City of Napa



2025 - 2025



Northern California

To support this critical infrastructure, the City contracts with a systems integrator to provide emergency backup services in the event City staff are unavailable. This includes troubleshooting and repair of SCADA hardware and software during unscheduled outages or system issues. The integrator is required to meet the remote and onsite response times

Primary Activities:

- Replaced legacy ControlNet PLC modules with Ethernet modules to modernize communication protocols.
- Upgraded ten (10) Allen-Bradley ControlLogix PLC processors at one of the District's water treatment facilities.
- Remote troubleshooting of the SCADA and virtualized server environment to minimize downtime impacts to the operations team
- VFD configuration & validation

Did you know:

- Enjoys Snowboarding in Tahoe most weekends.
- Like spending time outdoors (camping, fishing, hiking).
- Enjoy traveling abroad (spent a month in Asia in 2023).

Products & Technologies:

- Tesco PLCs
- Allen-Bradley, Control Logix, SLC500, MicroLogix PLCs
- AVEVA InTouch/Historian/System Platform
- Schnieder Modicon M340/M580
- Wireless communication configuration & commissioning
- Ethernet/IP, DeviceNet, ControlNet, Modbus Protocols

Licenses & Certifications:

- OSHA 30
- GE - MDS Orbit
- OSHA Electrical Safety OTC 306 Safety Training

Industry History:

- 6 Years
- 1 with AIC

Education:



BS - Electrical Engineering
California State University, Sacramento



Sydne Shearer

Project Manager

 Southern California

42142 Roick Drive
Temecula, CA 92590

 916.644.9500

 sydne.shearer@WaterAIC.com



Summary:

Sydne brings over 10 years of experience as a project manager and is a results-driven, detail-oriented leader with a proven track record of guiding cross-functional teams and delivering successful projects on time and within budget. Her expertise includes adapting and implementing both Agile and traditional project management methodologies to boost team performance, drive efficiency, and ensure client satisfaction throughout the entire project lifecycle.

Project Experience:

Role: Project Manager

Caltrans

 2025 - 2025  Northern California

Caltrans (2025) Upgrade of SCADA hardware and PLC programming, and new equipment deliveries including data cabinets, control cabinets, seismic panels and metered pedestals.

Primary Activities:

- Worked with technical team to deliver submission packages on time. (Collaborated with the technical team to ensure the timely delivery of submission packages.)
- Developed and managed billings established by the client (Developed and managed client-established billing processes.)
- Ensured active team engagement, across cross-functional teams, throughout the project lifecycle.
- Lead kickoff meetings with the client and activities teams (Led kickoff meetings with clients and cross-functional teams to ensure alignment and project success.)
- Created and maintained project schedules to ensure milestones, and adjust as needed (Created and maintained project schedules, ensuring milestones were met and making adjustments as needed to stay on track.)

Role: Project Manager

DRP Construction

 2021 - 2024  Northern California

(DRP Construction) Implementation of 3rd party software certificate of insurance tracking with API interface and OCR technology.

Primary Activities:

- Coordinated weekly project milestone meetings with client and internal teams.
- Developed a project plan and schedule, providing regular updates to the client.
- Ensured project deliverables were completed on time.
- Managed client billings and project budget.
- Developed a hyper care plan to facilitate smooth deployments and track issues for efficient resolution.

Did you know:

- Enjoys running.
- Own a signed Vince Scully baseball.
- Serial documentary TV Show and movie watcher.

Products & Technologies:

- Primavera
- MS Project
- ViewPoint
- Instrumentation & Controls
- Contract Requirements Management


Licenses & Certifications:

- OSHA 10
- Certified Associate of Project Management (CAPM)
- Construction Risk and Insurance Specialist (CRIS) Certification

Industry History:

- 1 Years
- 1 with AIC


Education:



 BA - Communication
University of Arizona



Alex Valdez

Field Service Technician

 **Southern California**
42142 Roick Drive
Temecula, CA 92590

 916.644.9500
 alex.valdez@WaterAIC.com



Summary:

Alex is a results-driven Field Service Technician with extensive experience in RTU and UPS replacements, telemetry communications troubleshooting, and control cabinet repairs. He is well-versed in startup, commissioning, and maintenance services, ensuring seamless integration and optimal system performance.

Alex excels at delivering high-quality technical support in fast-paced, complex industrial environments. Committed to enhancing operational efficiency and client satisfaction, he brings innovative solutions and a proactive approach to every project.

Project Experience:

Role: Field Service Technician

City of Tracy

 2024 - 2024  Northern California

City of Tracy needed their flow meters to be verified for accuracy. This was done at the John Jones Water Treatment Plant, the Wastewater Treatment Plant, and various remote sites for a total of Twenty-four (24) Flow meters.

Primary Activities:

- Utilized a third party verified clamp on flow meter to verify the accuracy of the City's process flow meters.
- Installed the clamp-on meter onto the existing pipe in accordance with the manufacturer's recommendations to ensure an accurate flow measurement.
- Prepare a report for the city detailing the accuracy of each flow meter and assess whether they fall within the manufacturer's specified range.

Role: Field Service Technician

City of Santa Cruz

 2024 - 2024  Northern California

Santa Cruz required a comprehensive evaluation of all control panels at their Water Treatment Plant in preparation for a major plant upgrade, which will introduce new process areas to the facility.

Primary Activities:

- Examine all field I/O points for each PLC control panel throughout the treatment plant.
- Test all applicable I/O points from the field through the PLC to SCADA.
- Update existing I/O list with findings from the investigation.

Did you know:

- Loves playing soccer throughout the week.
- Always working on electrical and woodwork side projects (family or stores).
- Enjoys playing any sports.

Products & Technologies:

- Endress+Hausser Promag
- ABB Magmaster
- Schnieder Modicon M340/M580
- Allen-Bradley PLC
- C-More OIT
- Yasakawa VFD


Licenses & Certifications:

- OSHA 30
- OSHA Electrical Safety OTC 306 OTC 306

Industry History:

- 1 Years
- 1 with AIC


Education:


 Electrical Technician
Perry Technical Institute



Nathan Vasquez

Automation Engineer

 **Southern California**
42142 Roick Drive
Temecula, CA 92590

 916.644.9500
 nathan.vasquez@WaterAIC.com



Summary:

Nathan has a strong passion for control systems and a deep interest in understanding the inner workings of water and wastewater treatment processes. He excels in delivering exceptional customer service and is continuously exploring new technologies to bring added value to AIC and its clients.

Project Experience:

Role: Automation Engineer

East Orange County Water District (EOCWD)

 2024 - 2025  Southern California

EOCWDs replaced nine (9) of their remote site control panels, including wireless communications, PLCs, and integration into SCADA. The district was faced with a hard shutdown date of their aging analog phonelines, making the projects schedule challenge.

Primary Activities:

- Programmed/Testing/Commissioned new M340 PLCs for all new sites
- Performed as-needed Ignition SCADA modifications in support of the Field Activities team.
- Remotely supported the customer as needed throughout the duration of the project
- Provided operations training for the SCADA system.

Role: Automation Engineer

Trabuco Canyon Water District (TCWD)

 2024 - 2024  Southern California

TCWD had an aging controls system that was due to be upgraded, many of the PLCs were over 20 years old. The scope addressed the replacement or upgrade to 40+ sites control panels, PLCs, OITs, Radio network and the conversion of their InTouch SCADA system to Ignition.

Primary Activities:

- Developed process control narratives for remote site PLCs
- Performed SCADA conversion efforts from InTouch to Ignition
- Programmed M340 PLCs, along with testing and commission in-house & field start-up and commissioning

Did you know:

- I can solve a Rubik's cube in about 30 seconds.
- I hold a swim record at my high school (only recently broken).
- I enjoy gardening and botany.

Products & Technologies:

- VM Ware
- Control experts/Modicons PLC
- In Touch
- Ignition
- Palo Alto Networks
- Modbus TCP


Licenses & Certifications:

- OSHA 30
- NCEES FE Electrical and Computer
- VTSCADA Advanced Configuration
- Inductive Automation Core

Industry History:

- 2 Years
- 1 with AIC


Education:


 BS - Computer Science
University of California, Merced



Gintas Kazlauskas

Automation Engineer

 **Southern California**
42142 Roick Drive
Temecula, CA 92590

 916.644.9500
 gintas.kazlauskas@wateraic.com



Summary:

Gintas is an Automation Engineer with a background in IT and system networking. He has experience in PLC and SCADA programming, working on both greenfield and brownfield systems. Gintas is highly skilled in troubleshooting complex issues and consistently delivers effective, reliable solutions.

Project Experience:

Role: Senior IT Specialist

Automation Engineering Services

 2022 - 2023  Southern California

Administration over various business software like Google Workspace, Microsoft 365, SolidWorks, AutoCAD, Rockwell, DeltaV and Confluence.

Primary Activities:

- Implemented an all-in-one networking solution to enhance network performance and security.
- Provided network administration support, overseeing operations for a global team of 200+ employees.”
- Implemented and maintained disaster recovery plans to protect servers, data and computers

Role: Automation Engineer

Automation Engineering Services

 2023 - 2024  Southern California

Worked in the pharmaceutical industry performing a wide variety of Automation Engineering task

Primary Activities:

- Software Lead for OEM projects in the biotech industry using Allen Bradley and Rockwell software to PLC program and develop HMI's.
- Reviewed, advised and followed electrical and mechanical designs and P&IDs.
- Conducted Factory Acceptance Testing (FAT) and Site Acceptance Testing (SAT) to ensure the functionality of systems, alongside testing and troubleshooting PLC programs. “
- Collaborated with clients to translate user requirements into functional specifications and ensured project compliance with industry standards.
- Reviewed and created URS, FS, FAT, SAT documentation.

Did you know:

- I enjoy the outdoors; fishing, camping, hiking, snowboarding, offroad, etc. “
- I was borned in Lithuanian, but grew up in San Diego.
- When home, I enjoy watching movies and playing video games.

Products & Technologies:

- Allen-Bradley, Control Logix, SLC500, MicroLogix PLCs
- Rockwell Factory Talk View
- Studio5000
- Schnieder Modicon M340/M580
- Ignition, Vision / Perspective
- Windows Servers/Active Directory/ Domain Controllers
- Virtualization
- TCP/IP


Licenses & Certifications:

- OSHA 30
- Inductive Automation Core
- Fortinet FCCF
- CISA 100W/210W

Industry History:

- 2 Years
- 1 with AIC

Education:

 BS - Computer Science
California State University, San Marcos



Tim Burkett

Field Activities Manager



Northern California

9332 Tech Center Drive, Ste. 300
Sacramento, CA 95826



916.644.9500



timothy.burkett@wateraic.com



Summary:

Tim is a dynamic and results driven Field Activities Managers with 29 years of experience in leading and managing field operations, overseeing technical support teams, and ensuring the efficient execution of on-site activities. Tim is adept at troubleshooting, system installations, and maintenance of complex technical equipments.

Project Experience:

Role: Emerson Technical Lead

Emerson Channel Partner



2021 - 2023



Northern California

Collaborated with Consulting Engineer to verify Emerson's CPE115 PLC & RSTi-EP RIO would meet Pierce County's specification. Once the CPE115 PLC & RSTi-EP was approved, provided programming support and additional engineering for Cellular Remote Communications to the PLC and SCADA System.

Primary Activities:

- Managed 24/7 support calls in collaboration with Emerson's Technical Support Team, addressing customer issues requiring additional assistance, including RMAs, hardware failure analysis, and firmware-related troubleshooting.
- Manage all aspects of technical field activities, including scheduling, resource allocation, and client coordination, resulting in customer satisfaction.
- Provided Tier 1 Technical Support to customers located throughout California, Oregon, Washington, and Alaska.
- Provided onsite support to customers, troubleshooting and resolving hardware issues to ensure smooth operations.

Role: Service Department Team Lead

Automation Group



2015 - 2018



Northern California

Managed a service department, and handled 400-450 service calls per year, including 24/7 support. Developed and implemented a comprehensive maintenance program and streamlined processes to improve operational efficiency and service delivery.

Primary Activities:

- Provided customers with On-site Troubleshooting, Installation, Calibration and Repair of Automated and Control systems.
- Coordinated the calibration of flow meters to guarantee precise measurements and maintain optimal system performance.
- Troubleshoot complex system failures and provided timely, cost-effective solutions, reducing downtime and maintaining operational efficiency
- Provided ongoing technical support for clients, performing preventive maintenance

Did you know:

- Walked around the world within 10 seconds...during visit to the South Pole in 2007.
- 2022 rode 4210 miles in 2 days on my Harley
- Within 6 months, Tim traveled to the most northernmost US state, and then at the most southern state in Hawaii.

Products & Technologies:

- Allen-Bradley, Control Logix, SLC500, MicroLogix PLCs
- Schneider Modicon M340/M580
- Automation Direct / C-More
- Emerson / Movicon / PAC Edge
- Siemens Step 7 and TIA Portal


Licenses & Certifications:

- OSHA 30
- NFP70E
- Rockwell 5000
- Emerson (PAC Machine, Movicon SCADA Software Trainer)
- Schneider Electric
- NFP70E

Industry History:

- 28 Years
- 1 with AIC

Education:

 IC3 (Interior Communications Electrician)

U.S. Navy



Steven Arroyo

Field Service Team Lead



Norther California

9332 Tech Center Drive, Ste. 300
Sacramento, CA 95826



916.644.9500



steven.arroyo@wateraic.com



Summary:

Steven is a results-driven Field Service Team Leader with 16 years of experience leading teams to deliver exceptional customer service, ensure timely installation and provide troubleshooting support in high-pressure environments. Steven is skilled in managing field activities, maintaining technical equipment, and driving continuous improvements in service efficiency and safety.

Project Experience:

Role: Junior Engineer

Bronco Wine Company



2018 - 2019



Northern California

Bronco Winery upgraded 30 cabinets used to control sensor fuses and tank presses. After upgrade completion, the newly installed cabinets increased efficiency during crush season.

Primary Activities:

- Led redline completion for facility plans by conducting detailed site assessments across various locations
- Identified areas requiring upgrades and improvements to enhance system performance.
- Contributed to the assembly and on-site installation of panels in the field.
- Provide direct support at customer facilities, troubleshooting and resolving issues with new cabinets.

Role: Junior Engineer

Delicato Family Wines



2019 - 2020



Northern California

Delicato Winery replaced 40 aging machine control centers that managed critical processes such as fillers and case formers. The new control centers were fabricated and installed to improve operational efficiency and enhance production capabilities.

Primary Activities:

- Provided technical support for machine ignition and implemented PLC-to-Ignition tagging to ensure seamless system functionality.
- Developed binary code-based charts for the tank farm to optimize operations and prevent wine spillage, significantly reducing waste.
- Installed electro-pneumatic valves with integrated electrical displays to ensure proper operation by maintaining consistent PSI levels.
- Provided on-site troubleshooting and support to the customer during system start-up to ensure a smooth and successful handoff to operations.

Did you know:

- 6 years in the army 2003-2009
- I have 2 Emus, Bonnie & Clyde
- Played Guitar for 23 years

Products & Technologies:

- Allen-Bradley, Control Logix, SLC500, MicroLogix PLCs
- Schnieder Modicon M340/M580
- Ignition, Vision / Perspective
- Siemens Step 7 and TIA Portal
- Modbus
- Profibus
- Ethernet IP Communication

Licenses & Certifications:

- OSHA 30
- Theomography Cert
- Arc Flash
- OSHA Electrical Safety OTC 306
- CPR

Industry History:

- 15 Years
- 1 with AIC

Education:



AA - Industrial Maintenance Technology

San Joaquin Valley College



5

SCOPE OF SERVICES



Scope of Services

Approach and Plan

When AIC is contacted for assistance during normal working hours, the Project Manager will generate a task order, scope of work, schedule with project milestones, and a cost estimate for the District review and approval before any work begins. The Project Manager will host a consensus building workshop with AIC and the District stakeholders to review the proposed scope of work to ensure that goal and any concerns are addressed. Any changes identified in the scope of services workshop will be incorporated into the task order and presented for a follow up review.

When contacted for after-hours support, our on-call support team will document the request and work performed and will coordinate with the assigned Project Manager to finalize services, billings, and a customer service report with any recommendations identified during the challenge. All our proposed team members will be available to assist with configuration backups, training, field audits, and documentation requirements. Regarding approved task orders, AIC will schedule at least two weeks in advance of their start date.

At AIC we prioritize compliance and safety, adhering strictly to the District and industry standards. Our commitment includes rigorous adherence to the District safety protocols includes lockout/tagout procedures to ensure the utmost safety during project executions. The District requests for products or services will be processed through our organization as shown Support Service Flow Chart in section 3 of this proposal.

Task-1: Troubleshooting and Field Repairs

The District will be provided with a dedicated 24/7/365 support number. Our dedicated support team will assist the District in requested 30 minutes response time, either remotely or on-site.

Task-2: System Software Updates

AIC proposes to provide pre-scheduled SCADA and PLC software updates and services on a bi-annual basis. Manufacturer-recommended updates will be provided as they become available. Necessary software and firmware updates will first be tested on a replica of your system located at our corporate office. Once our Automation Engineering team has fully evaluated the update, an installation date will be scheduled with District stakeholders.

Critical SCADA computer operating system updates, PLC firmware updates, Operator Interface updates, firewall, and router updates will be scheduled as necessary, but only after testing on our replica of your SCADA system. Any other updates requested by the District will be evaluated, tested and installed as requested.

Task-3: Hardware Engineering and Design Layout

AIC is prepared to provide support and replacement products for any SCADA, PLC, networking, and wireless communications equipment in use at the District. Additionally, we are a full-service manufacturing company capable of servicing or supplying field instruments, control panels, motor control equipment, or custom fabrication. Our team has extensive experience and programming equipment required to work with Tesco, Allen-Bradley, and Modicon PLCs, as well as certified SCADA and PLC engineers.

Engineering and design support will be provided by our team of professional engineers. When assistance is requested, our Project Manager will coordinate resources to collaborate with District stakeholders to define the project and provide a lump-sum estimate for the task order. The design effort can use pre-allocated service contract hours to complete this work; however, the task order itself will be quoted independently.

Task-4: Hardware Upgrades

AIC's goal is to ensure the District ICS is up to date and exceeds industry standards. Our SMEs will collaborate with the District on any hardware request to ensure functionality and best practices are met. Additionally, your dedicated project team SMEs will inform you of any hardware that may be approaching End-of-Life and/or support. We believe that a preventative maintenance approach will provide the District with long-term benefits in both cost and downtime.

Task-5: Software Programming

When requested by the District, AIC team will collaborate with the District on the best approach for implementing program modifications. SMEs will ensure proper implementation through process control workshop, quality control, in-house testing, and witness testing (if desired by the District). Proper training, documentation and backups will be provided with commissioning.

Task-6: Parts and Supplies

When requested by district stakeholders, AIC will provide a written cost estimate for any requested parts or supplies. Any items provided shall be the same manufacture as an existing or approved equal that meets District standards. Parts and supplies will be billed at cost plus 20% and accounting will be transparent where any discounts that we are provided will be passed through to the District.

Task-7: Installation

When the District contacts AIC for installation services, the Project Manager will generate a task order, scope of work, schedule with project milestones, and a cost estimate for district review and approval before any work begins.

Task-8: User Training and Documentation

AIC will be available to provide training for any product or service provided to the District. We have close relationships with product suppliers and often use manufacturer-provided training materials for our classes. Training services can be in-person, on-site, computer-based, or virtual, depending on the District's preference. Updates to District documentation shall be provided for each task order performed. Additional documentation services for existing equipment are available upon request.

Conclusion

We understand that unforeseen challenges may arise during the term of this service contract. We have a risk management plan in place to address potential issues, including sudden loss of network or radio telemetry equipment, failed PLCs, corrupted application software, and failed computer hardware. We are uniquely positioned to support every component of your industrial control systems.



6

COMPARABLE
PROJECTS

Water & Wastewater Treatment SCADA Upgrades & On-Call Services

Project Team:

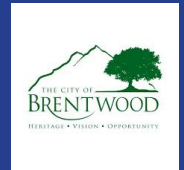
- AIC

AIC Role:

- System Integrator

Project Type:

- Bid, Direct to Owner



Contact

Casey Wichert

Director of Public Works

925.516.6070

cwitchert@brentwoodca.gov

2201 Elkins Way

Brentwood, Ca 94513

Key Project Elements:

- GE Fix32 Conversion to Ignition Vision
- VMWare
- VEEAM - backup software
- Kepware - communications driver
- Automatic scheduled NAS backups
- Field testing & verification
- Next-Generation network equipment
- NIST 800.82 - security design
- ISA 62443- cybersecurity standards
- Active Project Management
- System assessment & gap analysis
- Field startup & Commissioning
- System Wireless modeling and field validation

AIC Team:

- AJ Cottengim - I&C and Automation Engineering Manager

- Tim Burkett - Field Activities Manager

- Josh Choe - Technical Services Manager

- Kevin Ford - Project Manager



Summary:

The Water Operations Division is responsible for the production and delivery of the City's drinking water supply. State certified/licensed treatment and distribution operators monitor and maintain the City's water storage tanks, reservoirs and delivery system and ensure the safety of the drinking water supply. The Water Operations Division also provides programs and information about water quality and supply, water conservation, non-potable water, water pressure, meter reading and leak detection.

The City of Brentwood is undertaking SCADA and PLC upgrades for both its water and wastewater systems. The water system requires modernization, including replacing legacy GE iFix SCADA and Modicon PLCs. The project scope includes upgrading radio/telemetry networks, PLC hardware, and integrating all remote sites into the City's new Ignition SCADA system. Additionally, support will be provided for final wastewater improvements, including Pond 6 upgrades and on-site interface enhancements.

The City is was also looking for on-call support services to assist their team with ongoing and upcoming initiatives, or emergency support.

Project Highlights:

- Performed on-site system evaluation of 17 remote water sites
- Conducted wireless communication modeling and field surveys to determine appropriate radio selection, antenna heights, and radio configurations
- Implemented NIST 800-82 and ISA 62443 guidelines to align with industry best practices
- Developed standardized programming templates to promote consistency and ease of troubleshooting across the system
- Built all water sites into a unified Ignition SCADA application for both Water and Wastewater systems, incorporating role-based access permissions
- Performed internal QA/QC of fully developed hardware and software
- Executed on-site system installation and commissioning
- Provided as-needed, on-call support services including remote access configuration and SCADA communications troubleshooting

Testamonial:

"We had an exceptional experience with AIC. Their attention to detail, professionalism, and dedication to customer satisfaction exceeded our expectations. We highly recommend their services to anyone seeking top-notch quality and reliability" Casey Witchert



Project Team:

- AIC

AIC Role:

- System Integrator

Project Type:

- Bid, Direct to Owner

Contact

Kelly Pennington

Water Control Systems Superintendent

707.257.9615

kpennington@cityofnapa.org

270 Kirkland Ranch Rd.

American Canyon, CA 94503

Key Project Elements:

- Rockwell Factory Talk View, SCADA
- Allen-Bradley PLCs
- Microsoft HyperV, virtualization
- Active Project Management
- Task based scheduling and coordination
- Field troubleshooting
- Single SCADA system across three (3) treatment facilities
- Forty (40) + PLCs throughout the system

AIC Team:

Zach Meitz - Field Activities Engineer

Daniel Tam - Automation Engineer

Josh Choe - Technical Services Manager

Kevin Ford - Project Manager

Summary:

The City of Napa's Water Division, part of the Utilities Department, is responsible for the operation, maintenance, and ongoing improvement of the municipal drinking water system, which serves more than 85,000 residents in Napa and surrounding areas. The system includes three water treatment plants and fifteen remote sites—primarily pump stations and reservoirs—all of which rely heavily on the City's control system to ensure continuous, 24/7 water delivery.

To support this critical infrastructure, the City contracts with a systems integrator to provide emergency backup services in the event City staff are unavailable. This includes troubleshooting and repair of SCADA hardware and software during unscheduled outages or system issues.

The integrator is required to meet the following response times:

- Phone/Remote Support (During Business Hours): Response within 2 hours of notification.
- Onsite Support (During Business Hours): Response to site within 6 hours of notification.
- Onsite Support (After Hours, Holidays, Weekends): Response to site within 24 hours of notification.

Project Highlights:

- Conducted onsite system assessments to strengthen team collaboration with the District and provide actionable recommendations.
- Replaced legacy ControlNet PLC modules with Ethernet modules to modernize communication protocols.
- Upgraded ten (10) Allen-Bradley ControlLogix PLC processors at one of the District's water treatment facilities.
- Provided secure remote access support to assist the District during events, offering our expertise as needed.

SCADA & Field Site RTU Programming

Project Team:

- AIC, Big Bear Electric

AIC Role:

- System Integrator

Project Type:

- Bid, Direct to Owner



Contact

David Youngblood, P.E.

General Manager

📞 714.538.5815

✉️ dyoungblood@eocwd.com

📍 185 N. McPherson Rd.

Orange, CA 92869

Key Project Elements:

- Inductive Automation, Ignition SCADA
- Inductive Automation, Edge OITs
- Modicon M340 PLCs
- VMWare, virtualization
- MDS Orbit Radios
- Cisco Cellular Radios
- Collaborative Workshops
- Active Project Management
- Task based scheduling and coordination

AIC Team:

Zach Meitz - Field Activities Engineer

Jesus Lopez - Field Services Technician

Josh Choe - Technical Services Manager

Kevin Ford - Project Manager

David Estelle - Automation Engineer

Nathan Vasquez - Automation Engineer

Quinn LaPoint - Field Activities Engineer



Summary:

Established in 1961, East Orange County Water District (EOCWD) serves the East Orange and North Tustin areas. With all five board members residing locally, the District is deeply rooted in the community it serves. EOCWD is committed to providing high-quality, reliable water service at a fair and reasonable price.

EOCWD's aging controls system has been going through a recent overhaul and the next phase was to upgrade the control panels & radio network. Faced with a hard deadline due to the scheduled shutdown of its aging analog phonelines, EOCWD needed to replace nine (9) remote site control panels and upgrade its communication infrastructure. The scope included wireless communications, PLCs, and full integration into the District's SCADA system—presenting a significant scheduling challenge.

AIC successfully developed, deployed, and commissioned all nine (9) sites—completing the project within just four (4) months of receiving the purchase order. This included full SCADA integration and establishing a new radio communication network. The timely cutover avoided any disruptions to EOCWD's ability to monitor and control its remote sites during the phoneline shutdown.

Project Highlights:

- Telemetry and Field Survey: Conducted telemetry modeling and field surveys to design a robust wireless communication architecture, incorporating both RF and cellular technologies to accommodate the area's complex terrain.
- Cybersecurity Assessment: Performed a cybersecurity evaluation to ensure compliance with AWIA guidelines and provided actionable recommendations.
- Workshops: Conducted extensive workshops with EOCWD and Big Bear Electric. This allowed the project to stay ahead of schedule, meet design and functional expectations, and reduce operational impacts.
- Migration Planning: Developed and implemented a comprehensive migration plan to maintain uninterrupted operations throughout the transition from analog to digital communications.
- Startup & Commissioning: Developed strategic cut-over plan to mitigate operational impact for each remote site.

Testimonial:

"We at EOCWD were faced with an unexpected phoneline shutdown by AT&T, with all communication lines scheduled to be disconnected by the end of 2024. We anticipated this would disrupt our ability to monitor and control remote sites. AIC responded quickly—deploying a new radio system and installing all new control panels before the year's end, ensuring a seamless transition."

— David Youngblood



7



SERVICE PRICING & RATE SCHEDULE

2025 Professional Service Rate Sheet for Trabuco Canyon Water District

Employee Classification	Standard Hourly Rate	Overtime Hourly Rate	Double-Time Hourly Rate
Initial 200 Hours	\$195.00	N/A	N/A
Project Management	\$225.00	N/A	N/A
I&C Engineering	\$225.00	\$350.00	\$550.00
Automation Engineering	\$250.00	\$375.00	\$600.00
Production (In-House)	\$200.00	\$275.00	\$450.00
Field Services	\$225.00	\$350.00	\$550.00


Terms & Conditions

1. Not to Exceed On-Call, and task-based service contracts are available.
2. **Hourly Rate Breakdown**
 - A. **Standard Rates: 7:00 AM to 4:00 PM**
 - B. **Overtime Rates: 4:00 PM to 7:00 AM**
 1. Must be pre-authorized by AIC Division Manager
 - C. **Double-Time Rates: Hours 12+**
 1. Must be pre-authorized by AIC Division Manager
3. **Saturday Working Hours**
 - A. **Billed at Double-Time Rates defined above.** A maximum of 8-hours of On-Site time is allowed on Saturday's – not Including drive time.
4. **Sunday & Holiday Working Hours**
 - A. **Billed at three-(3) times the Standard Rate defined above.** A maximum of 8-hours On-Site time is allowed on Sunday's & holidays – not Including drive time.
5. **Airfare, rental equipment, lodging and meals (travel expenses) are billed at cost plus 25%**
6. **On-Site requests include a 4-hour minimum charge**
7. **Travel time**
 - A. \$150.00 per hour for employee travel to site
 - B. Milage rate is \$1.00 per mile
8. **Customer Service Report**
 - A. Will be provided after completion of any On-Site visit or Remote Support
9. **Hardware & Material Requests**
 - A. Lump sum quotations Include professional services, tax and freight – if applicable
10. Scheduling of work is subject to an approved timeline between the owner, general contractor, electrical contractor, and Advanced Integration & Controls (AIC)
11. Interest will be applied on all past due invoices
12. Final retention to be paid within 10-days of project completion
13. Terms are Net 30 days on approved credit accounts

Advanced Integration & Controls (AIC)



Tim Fassio
Sales Manager
Phone: 916-644-9500



Advanced Integration & Controls was founded with a commitment to providing cutting-edge solutions in infrastructure development. Specializing in the design and implementation of control systems, PLC programming, instrumentation and control, network and communication systems, system integration and testing, and cybersecurity, we aim to deliver seamless, efficient, and innovative solutions for complex projects.

Our in-house expertise allows us to self-perform critical aspects of infrastructure projects, ensuring precision, control, and exceptional quality at every stage. By leveraging our advanced technologies and deep technical knowledge, we offer unparalleled service and ensure that every project meets the highest standards of safety, efficiency, and excellence.

Advanced Integration & Controls continues to set new benchmarks in the industry, consistently exceeding expectations and delivering results that prioritize both performance and reliability.

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | JULY 2, 2025**

ENGINEERING MATTERS

ITEM 3: DIMENSION WATER TREATMENT PLANT IMPROVEMENTS

Trabuco Canyon Water District (District) operates the Dimension Water Treatment Plant (DWTP) in the City of Lake Forest. DWTP is one of the only local drinking water treatment facilities of its kind in Orange County and the District's only independent source of water with the capacity to serve all District customers. DWTP can process up to six cubic feet per second (cfs) of untreated water from Metropolitan Water District (MWD). On August 12, 2024, a magnitude 4.4 earthquake occurred and Operations at DWTP observed that the inlet side of Filter Tank 4 lifted off the concrete foundation approximately 1 to 2 inches during operations. On August 15, 2024, District Staff contracted with Hazen to conduct a site visit to assess the situation. Hazen determined that the uplift could be caused by the filter media pushing up on the screen and the tank during influent flow condition and that the pressure pushing up against the media created an upward force on the tank. Hazen recommended draining and cleaning the tank, designing and implementing an anchorage system for the tank and connected piping.

Staff has been working with their consulting Engineers, Arcon Structural, to prepare structural calculations and plans for the seismic retrofit to the DWTP Filter 4 Tank. Staff prepared a scope of work and structural plans and invited contractors to bid on the repair work, and the results are as follows:

DWUP Filter 4 Seismic Repairs	
Contractor	Cost
SS Mechanical	\$48,910
Pacific Hydrotech	\$51,600

FUNDING SOURCE:

Capital Improvement Program

FISCAL IMPACT:

\$65,000 (Design & Construction)

ENVIRONMENTAL COMPLIANCE:

Notice of Exemption

RECOMMENDED ACTION:

Recommend the Board of Directors award a construction contract for the DWTP Filter 4 Repair Project to SS Mechanical Construction Corp. in the amount of \$48,910 plus a 10% contingency of \$4,890, for a not-to-exceed amount of \$53,800 (Action Calendar).

EXHIBIT(S):

1. Bid Plans

CONTACTS (staff responsible): PALUDI/LAUSTEN

GENERAL:

1. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB SITE AND REPORT ANY ERRORS, OMISSIONS, OR POSSIBLE DISCREPANCIES BETWEEN FIELD CONDITIONS AND DRAWINGS TO THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. SPECIAL CARE SHALL BE GIVEN TO SITE AND BUILDING LAYOUT THEREON.
2. NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES.
3. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE 2022 CALIFORNIA BUILDING CODE AND THE LOCAL BUILDING OFFICIAL.
4. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD CLIENT AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF CLIENT OR THE ENGINEER.
5. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS AND PEDESTRIANS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, TEMPORARY STRUCTURES, AND PARTIALLY COMPLETED WORK, ETC. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT/ENGINEER SHALL NOT INCLUDE INSPECTION OF SUCH ITEMS.
6. THE DESIGN, ADEQUACY AND SAFETY OF ERECTION, BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND HAS NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING PIPING WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH PROSECUTION OF THIS WORK.
8. ALL DETAIL CALLOUTS AS SHOWN ON THE DRAWINGS, SECTIONS AND ELEVATIONS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER REFERENCED OR NOT. TYPICAL DETAILS AND NOTES SHALL APPLY UNLESS SHOWN OTHERWISE IN DRAWINGS.
9. DESIGN LOADS:
 FILTER TANK 33,000 LBS
 OPERATING WEIGHT 407,000 LBS
 RISK CATEGORY: IV
EARTHQUAKE
 SEISMIC IMPORTANCE FACTOR I = 1.5
 $S_g = 1.267 g$
 $S_1 = 0.452 g$
 SITE CLASS : D (DEFAULT)
 $S_{ps} = 1.01 g$
 $S_{p1} = 0.56 g$
10. NO CHANGES SHALL BE MADE TO THESE DRAWINGS WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.

11. A REGISTERED DEPUTY INSPECTOR LISTED, APPROVED BY, AND RESPONSIBLE TO THE TRABUCO CANYON WATER DISTRICT AND THE ENGINEER SHALL BE EMPLOYED BY THE DISTRICT DURING THE CONSTRUCTION OF THE FOLLOWING TASKS OF WORK:

VERIFICATION AND INSPECTION TASK	SPECIAL INSPECTION
EPOXY ANCHORS TO FOOTINGS	PERIODIC INSPECTION

12. OPTIONS, IF PROVIDED HEREIN, ARE FOR THE CONTRACTOR'S CONVENIENCE. HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY, SHALL COORDINATE ALL DETAILS, SHALL OBTAIN ALL REQUIRED APPROVALS, AND PAY ALL COSTS INCIDENT THERETO.

REINFORCED CONCRETE:

1. EPOXY ANCHORS SHALL BE INSTALLED W/ SPECIAL INSPECTION W/ HILTI HIT-HY 200 ADHESIVE, IN ACCORDANCE W/ ICC-ES REPORT No. ESR-4868, OR APPROVED EQUAL (ANCHORS EXPOSED TO WEATHER SHALL BE GALVANIZED OR STAINLESS STEEL 316).

STRUCTURAL STEEL:

1. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 OR UNLESS OTHERWISE NOTED.
2. ANCHOR BOLTS SHALL CONFORM TO F1554 GRADE 55 UNLESS NOTED OTHERWISE.
3. HIGH STRENGTH FASTENERS SHALL CONFORM TO ASTM A325N UNLESS NOTED OTHERWISE.
4. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE "AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
5. ALL STRUCTURAL STEEL MUST BE SUPPLIED BY A CITY OF LAKE FOREST APPROVED FABRICATOR SHOP AND ALL WELDING PERFORMED ON SITE SHALL BE DONE IN THE PRESENCE OF A CITY OF LAKE FOREST APPROVED SPECIAL INSPECTOR (CBC SECTIONS 1704.2 & 1704.3) A CERTIFICATE OF COMPLIANCE FROM THE SHOP PERFORMING THE FABRICATION SHALL BE SUBMITTED BY THE CONTRACTOR TO THE BUILDING INSPECTOR PRIOR THE ERECTION OF THE STRUCTURAL STEEL.



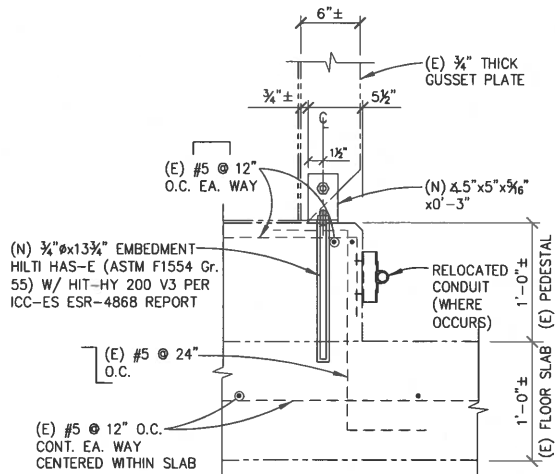
TRABUCO CANYON WATER DISTRICT
 CANADA FILTER UNIT No. 4 EVALUATION
 20904 DIMENSION DR. LAKE FOREST, CA

STRUCTURAL NOTES

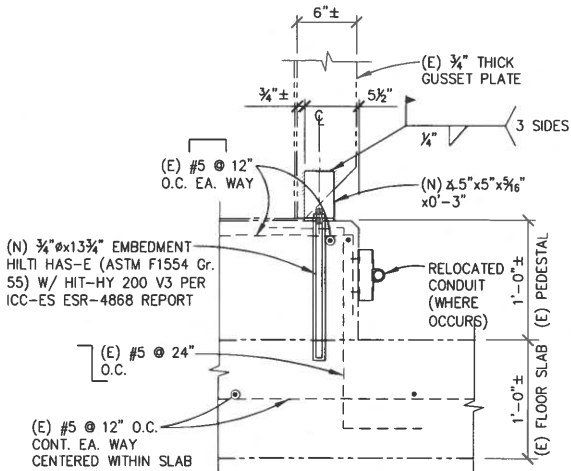
EXHIBIT NO.

1

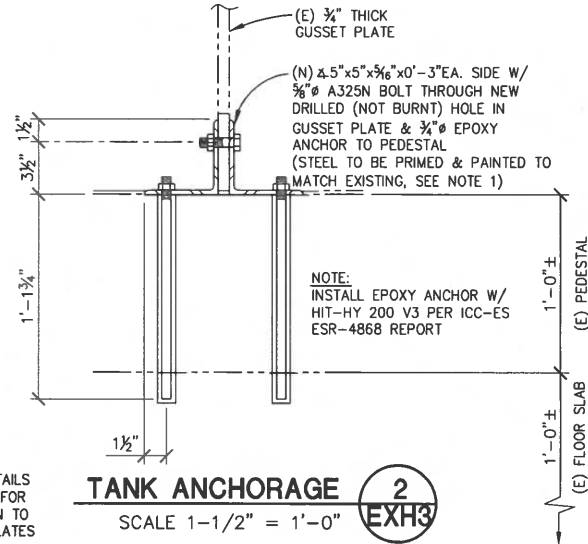
JN 202500.03



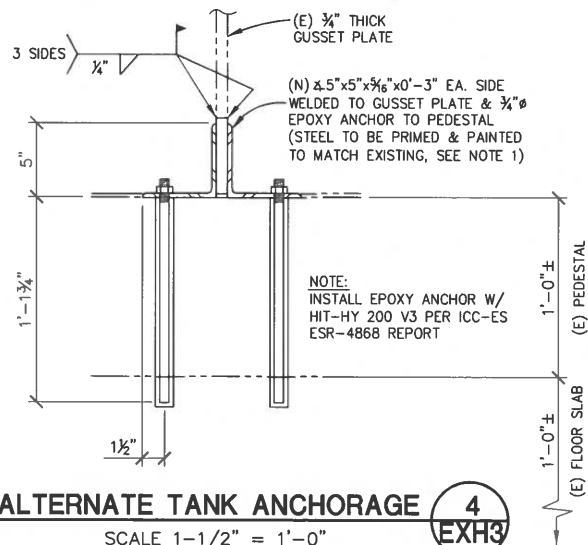
TANK ANCHORAGE 1
SCALE 1" = 1'-0"
EXH3



ALTERNATE TANK ANCHORAGE 3
SCALE 1" = 1'-0"
EXH3



TANK ANCHORAGE 2
SCALE 1-1/2" = 1'-0"
EXH3



ALTERNATE TANK ANCHORAGE 4
SCALE 1-1/2" = 1'-0"
EXH3

LEGEND:

- (E) --- INDICATES EXISTING CONSTRUCTION
- (N) --- INDICATES NEW CONSTRUCTION

NOTES:

1. FOR PAINTING AND COATING REFER TO TRABUCO CANYON WATER DISTRICT SPECIFICATION 09900, PART 2, SECTION E, SUBSECTION 1, SYSTEM No. C-1 - "EXPOSED METAL."

NOTE:
SEE ALTERNATE DETAILS 3/EXH3 & 4/EXH3 FOR WELDED CONNECTION TO EXISTING GUSSET PLATES

NOTE:
INSTALL EPOXY ANCHOR W/ HIT-HY 200 V3 PER ICC-ES ESR-4868 REPORT

NOTE:
INSTALL EPOXY ANCHOR W/ HIT-HY 200 V3 PER ICC-ES ESR-4868 REPORT



JN 202500.03



TRABUCO CANYON WATER DISTRICT
CANADA FILTER UNIT No. 4 EVALUATION
20904 DIMENSION DR. LAKE FOREST, CA

EXHIBIT NO.

3

STRUCTURAL DETAILS

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | JULY 2, 2025**

ENGINEERING MATTERS

ITEM 4: QUARTERLY CAPITAL IMPROVEMENT PROGRAM UPDATE

This report summarizes the status of Trabuco Canyon Water District’s (District’s) twenty-six projects included in the Fiscal Year 2024-25 Capital Improvement Program (CIP), as summarized below. Project specific information will be presented to the Committee at the time of the meeting.

Status of the CIP Projects	
No.	Status
10	Completed
5	Design/Planning
1	Out to Bid
7	Ongoing
3	In Construction

FUNDING SOURCE:

Capital Improvement Program

FISCAL IMPACT (PROJECT BUDGET):

Original Budget: \$5,918,453

Revised Budget (with carryover): \$4,315,141

ENVIRONMENTAL COMPLIANCE:

Not Applicable

RECOMMENDED ACTION:

Receive information at the time of the meeting. No action required at this time.

EXHIBIT(S):

1. CIP FY24-25 Budget Update

CONTACTS (staff responsible): PALUDI/LAUSTEN

**TRABUCO CANYON WATER DISTRICT
CAPITAL IMPROVEMENT PLAN BUDGET
FY 2024/2025 UPDATE**

Item	Name	Status	Project Basis	FY24/25 Budget	FY24/25 Revised Budget	Multi-Year Budget
WATER PROJECTS						
1	<i>Live Oak Canyon Pipeline Replacement - Ridgeline to Harris Grade (4)</i>	Design/Planning	Reliability	\$375,000	<i>\$250,000</i>	\$3,488,871
2	Manual Transfer Switch Upgrade-Water	Completed	Reliability	\$60,000	\$60,000	-
3	Pump Replacement	Ongoing	End of Service Life	\$99,671	\$99,671	-
4	PRV Maintenance	Ongoing	General Maintenance	\$26,579	\$26,579	-
5	Valve Replacement	Ongoing	General Maintenance	\$39,868	\$39,868	-
6	<i>Saddlecrest Reservoir Outlet Pipe (NEW) (4)</i>	Design/Planning	Reliability	\$300,000	<i>\$20,000</i>	\$300,000
Sub-Total				\$901,118	\$496,118	
SEWER PROJECTS						
7	Golf Club SLS Improvement	Completed	End of Service Life	\$1,412,000	\$1,412,000	\$3,302,920
8	<i>WWTP Blower Bldg Rehab-Blowers and MCC (4)</i>	In Construction	Reliability	\$1,009,994	<i>\$325,000</i>	\$1,995,216
9	Chiquita Capital Reim. (SMWD)	Ongoing	Contract Agreement	\$178,000	\$178,000	-
10	Heritage SLS Pump Replacement	Completed	End of Service Life	\$265,788	\$218,576	-
11	Manual Transfer Switch Upgrade-Sewer	Completed	Reliability	\$60,000	\$60,000	-
12	WWTP SCADA/Fiber Optic Upgrade	Completed	End of Service Life	\$330,000	\$330,000	-
13	<i>Heritage SLS Rehabilitation (Site, Electrical & Mechanical) (4)</i>	Out to Bid	End of Service Life	\$132,900	<i>\$100,000</i>	\$1,506,359
14	WWTP Reservoir Outlet Gate Improvements	Completed	End of Service Life	\$199,341	\$151,000	-
15	WWTP Handrail Replacement - Segment B&C (NEW) (1)	Completed	Safety	\$108,000	\$20,000	-
16	Pump Replacement (NEW)	Ongoing	End of Service Life	\$66,447	\$66,447	-
17	Wetwell Recoating	Ongoing	End of Service Life	\$39,868	\$0	-
18	Manhole Recoating	Ongoing	End of Service Life	\$26,579	\$0	-
19	<i>WWTP Headworks Rehabilitation (4)</i>	In Construction	End of Service Life	\$130,000	<i>\$5,000</i>	\$380,000
20	Dam V-Ditch and Culvert Repairs (NEW)	Completed	End of Service Life	\$0	\$178,000	-
Sub-Total				\$3,958,917	\$3,044,023	
NON-DOMESTIC WATER PROJECTS						
21	<i>Dove/Robinson Ranch Recycled BPS Improvements (4)</i>	Design/Planning	End of Service Life	\$132,894	<i>\$50,000</i>	\$1,431,129
22	Dove Lake Dam Improvements (MOVED UP)	Design/Planning	End of Service Life	\$0	\$30,000	\$3,475,000
23	<i>Recycled PRV Improvements (2) (4)</i>	Completed/Design	End of Service Life	\$265,788	<i>\$105,000</i>	\$265,788
24	<i>Dove & Tick Creek Pump Station Improvements (3) (4)</i>	Design/Planning	Reliability	\$79,736	<i>\$10,000</i>	\$1,119,340
Sub-Total				\$478,418	\$195,000	
Shared Projects						
25	SCADA System Upgrades	Completed	Reliability/End of Service Life	\$280,000	\$280,000	-
26	New Server Upgrades	In Constructon	End of Service Life	\$300,000	\$300,000	-
Sub-Total				\$580,000	\$580,000	
Total				\$5,918,453	\$4,315,141	

(1) Staff completed project in house

(2) Dove Golf Course Vault Rehab. is completed; Dove HOA Vault Rehab. is in planning.

(3) Dove & Tick Creek PS Improvements have been awarded an IRWM grant for \$389,500 and a USBR grant for \$577,584=\$967,084. The budget does not reflect these funds.

(4) Project will carryover to FY25/26

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | JULY 2, 2025**

ENGINEERING MATTERS

ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Recycled Water Reservoir Dam V-Ditch and Storm Drain Culvert Repair Project Update
2. Heritage SLS Update
3. Saddle Crest Development Update
4. Oaks at Trabuco Development Update
5. Saddleback Meadows Development Update
6. Other Projects

RECOMMENDED ACTION:

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

EXHIBIT(S):

1. V-Ditch Progress Photos
2. Heritage SLS Plans

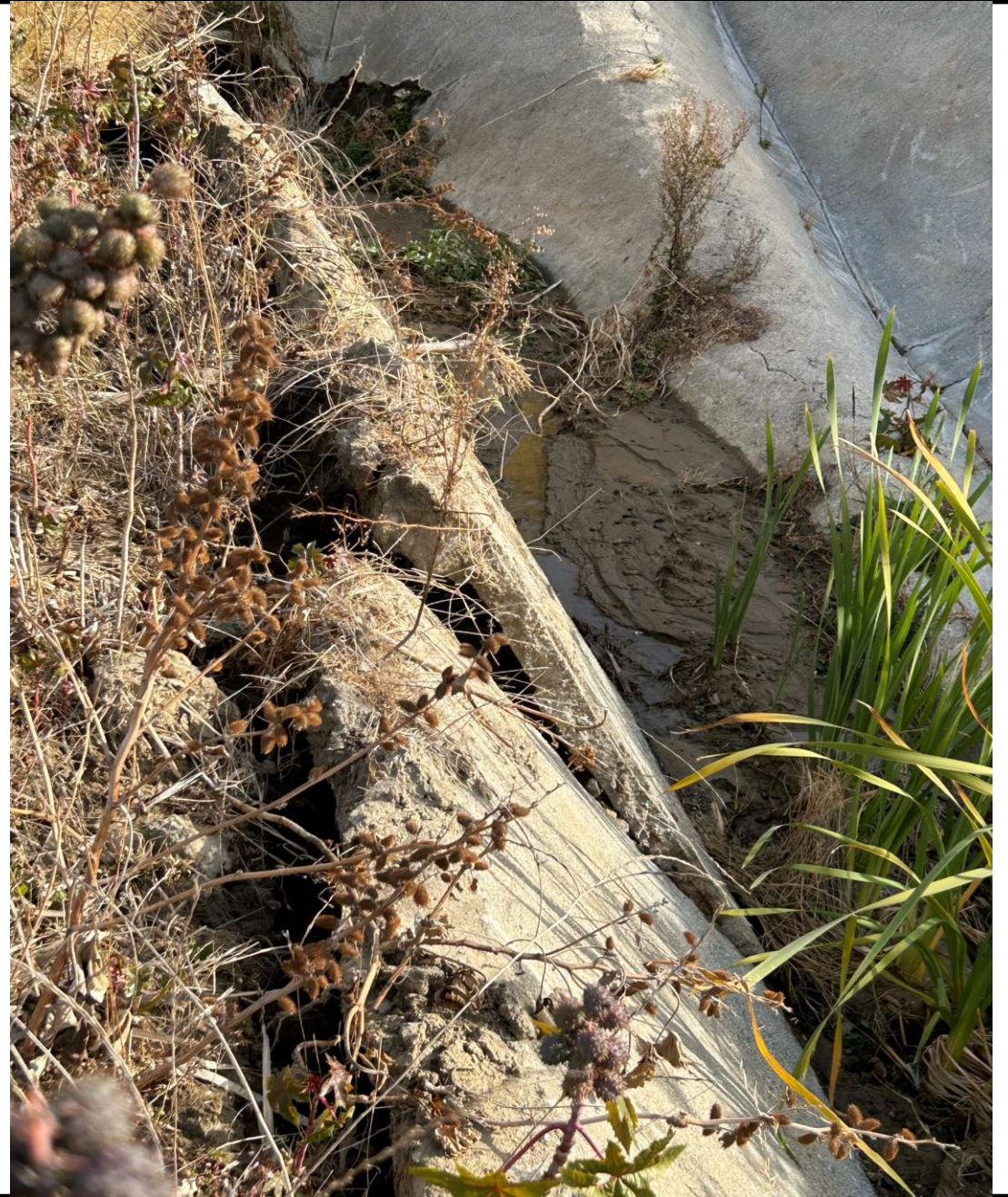
CONTACTS (staff responsible): PALUDI/LAUSTEN

V-Ditch and Culvert Replacement Project

Trabuco Canyon Water District
July 2, 2025 Engineering/Operational Committee Meeting



V-DITCH



V-DITCH



CULVERT PIPE ENTRANCE



New Culvert Pipe Repairs & New Headwall



New Trapezoidal Drainage Channel



New Trapezoidal Drainage Channel



New Trapezoidal Drainage Channel



TRABUCO CANYON WATER DISTRICT

HERITAGE SEWER LIFT STATION IMPROVEMENTS PROJECT

PROJECT NO. 2122-011



JUNE 2025

APPROVED: TRABUCO CANYON WATER DISTRICT	
_____ LORRAINE S. LAUSTEN R.C.E. 67027 DISTRICT ENGINEER	_____ DATE



318 W KATELLA AVE, SUITE A
ORANGE, CA 92667
(714) 978-4407
www.jigconsultants.com



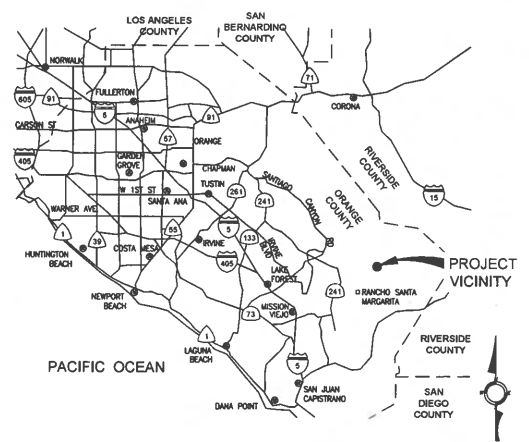
GENERAL NOTES

- NOTIFY TRABUCO CANYON WATER DISTRICT (DISTRICT) 714-856-0277 AT LEAST 48 HOURS BUT NOT MORE THAN 72 HOURS BEFORE STARTING WORK, OR AFTER ANY DELAY, BEFORE RESUMING WORK.
- THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (U.S.A.) AT 811 AT LEAST 48 HOURS PRIOR TO STARTING WORK.
- ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (GREEN BOOK) LATEST EDITION, AND THE DISTRICT'S STANDARD SPECIFICATIONS AND DRAWINGS. THE CONTRACTOR SHALL HAVE A COPY OF THESE PLANS AND THE SPECIFICATIONS AND THE STANDARD SPECIFICATIONS ON THE JOB AT ALL TIMES.
- CONCRETE WORK SHALL BE PER PLANS AND SPECIFICATIONS UNLESS OTHERWISE INDICATED.
- PIPELINES SHALL BE PRESSURE TESTED TO 150 PSIG IN ACCORDANCE WITH SECTION 33 OR 11.
- CONTRACTOR SHALL MAINTAIN THE WORK AREA IN A NEAT, SAFE, CLEAN AND SANITARY CONDITION AT ALL TIMES. STREETS SHALL BE KEPT CLEAN OF DEBRIS, WITH DUST AND NUISANCE BEING CONTROLLED AT ALL TIMES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY CLEANUP OF ADJACENT STREETS AFFECTED BY HIS CONSTRUCTION. CONTRACTOR TO CLEAN STREET WITH SWEEPER OR EQUAL PRIOR TO END OF EACH WORK DAY AS A MINIMUM.
- ALL SURPLUS MATERIAL REMOVED, INCLUDING EXCAVATED MATERIALS WHICH ARE NOT SUITABLE FOR USE IN THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF AWAY FROM THE JOB SITE IN A MANNER AND AT LOCATION ACCEPTABLE TO ALL AFFECTED AGENCIES.
- THE CONTRACTOR SHALL POTHOLE AND LOCATE EXISTING CROSSING UNDERGROUND UTILITIES AND POINTS OF CONNECTION TWO WEEKS, IN ADVANCE OF THE PIPELINE CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY ADDITIONAL COST INCURRED IN THE EVENT THAT HE HAS NOT CORRECTLY LOCATED THE EXISTING UTILITIES.
- THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES INCLUDING SHORING AND BE RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS, AND REGULATIONS. NEITHER THE DISTRICT NOR THE DISTRICT'S ENGINEER SHALL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY.
- ALL BOLTS AND NUTS SHALL BE 316 STAINLESS STEEL. AFTER INSTALLATION ALL BURNED BOLTS, NUTS, ETC., SHALL BE COATED WITH DEV WRAP OR AN APPROVED EQUAL.
- THE SURROUNDING AREA SHALL BE RETURNED TO THE CONDITION ENCOUNTERED AT THE START OF CONSTRUCTION.
- CONTRACTOR SHALL CONTACT THE DISTRICT A MINIMUM OF 48 HOURS IN ADVANCE FOR SCHEDULING OF ACCESS TO THE PROJECT SITE. CONTRACTOR SHALL ADHERE TO ALL DISTRICT REQUIREMENTS FOR SITE ACCESS AND MAINTAIN CONTINUAL COORDINATION WITH DISTRICT FOR THE DURATION OF CONSTRUCTION.
- PRIOR TO COMMENCEMENT OF WORK, ALL SURVEY MONUMENTS IN THE PROJECT AREA SHALL BE LOCATED AND TIED OUT BY THE CONTRACTOR. ALL CENTERLINE MONUMENTS OR TIES LOST OR DESTROYED BY THIS WORK SHALL BE REPLACED AND NEW TIES SHEETS PROVIDED. METHOD OF ESTABLISHMENT SHALL BE STATED ON THE TIE SHEET. THE SHEETS SHALL BE PREPARED AND STAMPED BY A LICENSED ENGINEER OR SURVEYOR AND SHALL BE DELIVERED TO THE COUNTY OF ORANGE PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL PROTECT IN PLACE EXISTING SEWER, GAS, WATER LATERALS AND OTHER UTILITIES OR REPLACE IN KIND. LOCATIONS OF EXISTING UTILITIES AND SUBSTRUCTURES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATIONS, ELEVATIONS AND DIMENSIONS IN THE FIELD PRIOR TO CONSTRUCTION IN THE AREA OF THE SPECIFIC SUB-STRUCTURE.
- CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POINTS OF CONNECTION PRIOR TO COMMENCING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL EXISTING UTILITIES, PAVEMENT, CURB, STRUCTURE, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS AS A RESULT OF HIS OPERATIONS, AND WILL BE REQUIRED TO REPAIR OR REPLACE SAME TO THE SATISFACTORY OF, AND AS DIRECTED BY, THE DISTRICT REPRESENTATIVE OR IMPACTED UTILITY COMPANY.
- CONSTRUCTION SURVEYS FOR THIS PROJECT SHALL BE PROVIDED BY THE DISTRICT. SURVEY POINTS DESTROYED AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR FAILURE TO PROVIDE PROPER PROTECTION, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL MAINTAIN AND PROVIDE THE DISTRICT WITH A "RECORD" SET OF AS BUILT DRAWINGS AT THE COMPLETION OF ALL WORK PER THE PLANS AND SPECIFICATIONS.
- TRENCH COMPACTION AND SUBGRADE COMPACTIONS TESTS SHALL BE PERFORMED BY A LABORATORY DESIGNATED BY THE DISTRICT, UTILIZING CALIFORNIA TEST METHOD NO. 216 AND 231. THE DISTRICT WILL FURNISH FIRST TESTS, WHEN REQUESTED, AT NO COST TO THE CONTRACTOR. ANY RE-TESTING REQUIRED DUE TO FIRST TEST FAILURES SHALL BE MADE AT LOCATIONS ORDERED BY THE ENGINEER, AND SHALL BE AT THE CONTRACTOR'S EXPENSE - COST OF WHICH WILL BE DEDUCTED FROM THE CONTRACTOR'S FINAL PAYMENT.
- LOOSE EXCAVATED MATERIAL SHALL NOT BE PLACED OR STORED IN WATERWAYS OR STORM DRAIN CHANNELS. ALL EXCESS EXCAVATED SOIL AND MATERIALS SHALL BE REMOVED AND DISPOSED OF IN A PROPER AND LEGAL MANNER BY THE CONTRACTOR. ALL DISTURBED SURFACE AREAS SHALL BE SHAPED TO FACILITATE DRAINAGE AND AVOID PONDING AND SHALL BE RESTORED TO NEAR NATURAL OR PRE-CONSTRUCTION CONDITIONS.
- THE CONTRACTOR SHALL CONDUCT HIS CONSTRUCTION OPERATIONS IN SUCH A MANNER THAT STORM OR OTHER WATERS MAY PROCEED UNINTERRUPTED ALONG THE STREET OR DRAINAGE COURSES.

- CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT AN UNANTICIPATED STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE. SUCH "DISCHARGES" OF MATERIAL OTHER THAN STORM WATER ARE ALLOWED ONLY WHEN NECESSARY FOR PERFORMANCE AND COMPLETION OF CONSTRUCTION PRACTICES AND WHERE THEY DO NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY WATER QUALITY STANDARD, CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE, OR CONTAIN A HAZARDOUS SUBSTANCE IN A QUANTITY REPORTABLE UNDER FEDERAL REGULATIONS 40 CFR PARTS 117 AND 302. MATERIALS WHICH MAY HAVE EFFECTS OF POLLUTION INCLUDE BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, GLUES, LINES, PESTICIDES, HERBICIDES, WOOD PRESERVATIVES AND SOLVENTS; ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADATOR OR BATTERY FLUIDS; FERTILIZERS, VEHICLE/EQUIPMENT WASH WATER AND CONCRETE WASH WATER; CONCRETE DETERGENT OR FLOATABLE WASTES; WASTES FROM ANY ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING, AND SUPER CHLORINATED WATER LINE FLUSHINGS. DURING CONSTRUCTION, DISPOSAL OF SUCH MATERIALS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON SITE PHYSICALLY SEPARATED FROM POTENTIAL STORM WATER RUN-OFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.
- CONTRACTOR SHALL DEMONSTRATE EXTREME CAUTION WHEN TRENCHING IN CLOSE PROXIMITY TO OTHER UTILITIES. ANY SIGN OF DEGRADATION OF THE TRENCH WALL OR STRUCTURE INTEGRITY WILL NOT BE TOLERATED AND WILL FORCE THE STOPPAGE OF WORK UNTIL THE TRENCH OR STRUCTURE INTEGRITY IS ADEQUATELY RESTORED.
- CONSTRUCTION WORK HOURS SHALL BE 7:30 AM TO 4:00 PM EXCLUSIVE OF SATURDAYS, SUNDAYS, OR HOLIDAYS, UNLESS OTHERWISE NOTED.
- BY ACCEPTING THIS CONTRACT, CONTRACTOR HEREBY RELEASES AND AGREES TO INDEMNIFY, DEFEND, HOLD HARMLESS THE OWNER, TRABUCO CANYON WATER DISTRICT AND ITS REPRESENTATIVES, ENGINEER (HEREINAFTER JIG CONSULTANTS) THEIR PARENT AND SUBSIDIARY COMPANIES, AGENTS, EMPLOYEES, CONSULTANTS AND REPRESENTATIVES FOR ANY AND ALL DAMAGE TO PERSONS OR PROPERTY OR WRONGFUL DEATH REGARDLESS OF WHETHER OR NOT SUCH CLAIM, DAMAGE LOSS OR EXPENSE IS CAUSED IN WHOLE OR IN PART BY THE NEGLIGENCE, ACTIVE OR PASSIVE, OF OWNER, ENGINEER, THEIR PARENT OR SUBSIDIARY COMPANIES, AS WELL AS THEIR AGENTS AND EMPLOYEES, EXCEPTING ONLY THE SOLE NEGLIGENCE OF OWNER, ENGINEER OR THEIR PARENT OR SUBSIDIARY COMPANIES AND THEIR AGENTS AND EMPLOYEES TO THE FULLEST EXTENT PERMITTED BY LAW. SUCH INDEMNIFICATION SHALL EXTEND TO ALL CLAIMS, DEMANDS, ACTIONS, OR LIABILITY FOR INJURIES, DEATH OR DAMAGES OCCURRING AFTER COMPLETION OF THE PROJECT, AS WELL AS DURING THE WORK'S PROGRESS. CONTRACTOR FURTHER AGREES THAT IT SHALL ACCOMPLISH THE ABOVE AT ITS OWN COST, EXPENSE AND RISK EXCLUSIVE OF AND REGARDLESS OF ANY APPLICABLE INSURANCE COMPANY REGARDING COVERAGE.
- TRENCH BACKFILL FOR PIPELINES SHALL BE PER $\frac{1}{2}$ "
- THE CONTRACTOR SHALL SUBMIT A SHORING PLAN PREPARED BY A REGISTERED CIVIL OR STRUCTURAL ENGINEER AS REQUIRED PER SECTION 7-6 OF THE GENERAL PROVISIONS.

SHEET INDEX

DWG. NO.	SHT. NO.	SHEET TITLE
G-01	1	TITLE SHEET
G-02	2	GENERAL NOTES, SHEET INDEX, VICINITY AND LOCATION MAPS
D-01	3	SITE DEMOLITION PLAN
D-02	4	SEWER MAIN DEMOLITION PLAN
D-03	5	MECHANICAL DEMOLITION PLAN
C-01	6	HERITAGE SEWER LIFT STATION CONCEPTUAL SEWER BYPASS PLAN
C-02	7	SITE PLAN AND 8-INCH INFLUENT SEWER - PLAN AND PROFILE
C-03	8	BYPASS WET WELL - PLAN AND SECTIONS
C-04	9	MISCELLANEOUS CIVIL DETAILS
C-05	10	SITE GRADING AND UTILITY PLAN
C-06	11	RETAINING WALL PLAN
C-07	12	WALL DETAILS AND SECTIONS
C-08	13	WALL DETAILS AND SECTIONS
M-01	14	MECHANICAL PLAN & SECTIONS
M-02	15	FLOW METER MECHANICAL - PLAN AND SECTIONS
M-03	16	MISCELLANEOUS MECHANICAL DETAILS
M-04	17	MISCELLANEOUS MECHANICAL DETAILS
E-01	18	STANDARD ELECTRICAL SYMBOLS AND ABBREVIATIONS
E-02	19	SINGLE LINE DIAGRAM
E-03	20	ELECTRICAL SCHEDULES AND EQUIPMENT ELEVATIONS
E-04	21	ELECTRICAL DEMOLITION PLANS
E-05	22	LIGHTING AND RECEPTACLE PLANS
E-06	23	POWER AND CONTROLS PLAN
E-07	24	DETAILS
E-08	25	SCADA CONTROL PANEL POWER DISTRIBUTION
E-09	26	SCADA CONTROL PANEL DIGITAL INPUT MODULE SLOT 1
E-10	27	SCADA CONTROL PANEL DIGITAL INPUT MODULE SLOT 2
E-11	28	SCADA CONTROL PANEL DIGITAL OUTPUT MODULE SLOT 3
E-12	29	SCADA CONTROL PANEL ANALOG INPUT MODULE SLOT 4
E-13	30	SCADA CONTROL PANEL ANALOG OUTPUT MODULE SLOT 5



VICINITY MAP
NOT TO SCALE



PROJECT LOCATION MAP
NOT TO SCALE

DIALER
CALL TOLL FREE 811
TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert

CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

JIG CONSULTANTS
318 W KATELLA AVE, SUITE A
ORANGE, CA 92667
(714) 978-4407
www.jigconsultants.com



NO.	DATE	REVISIONS

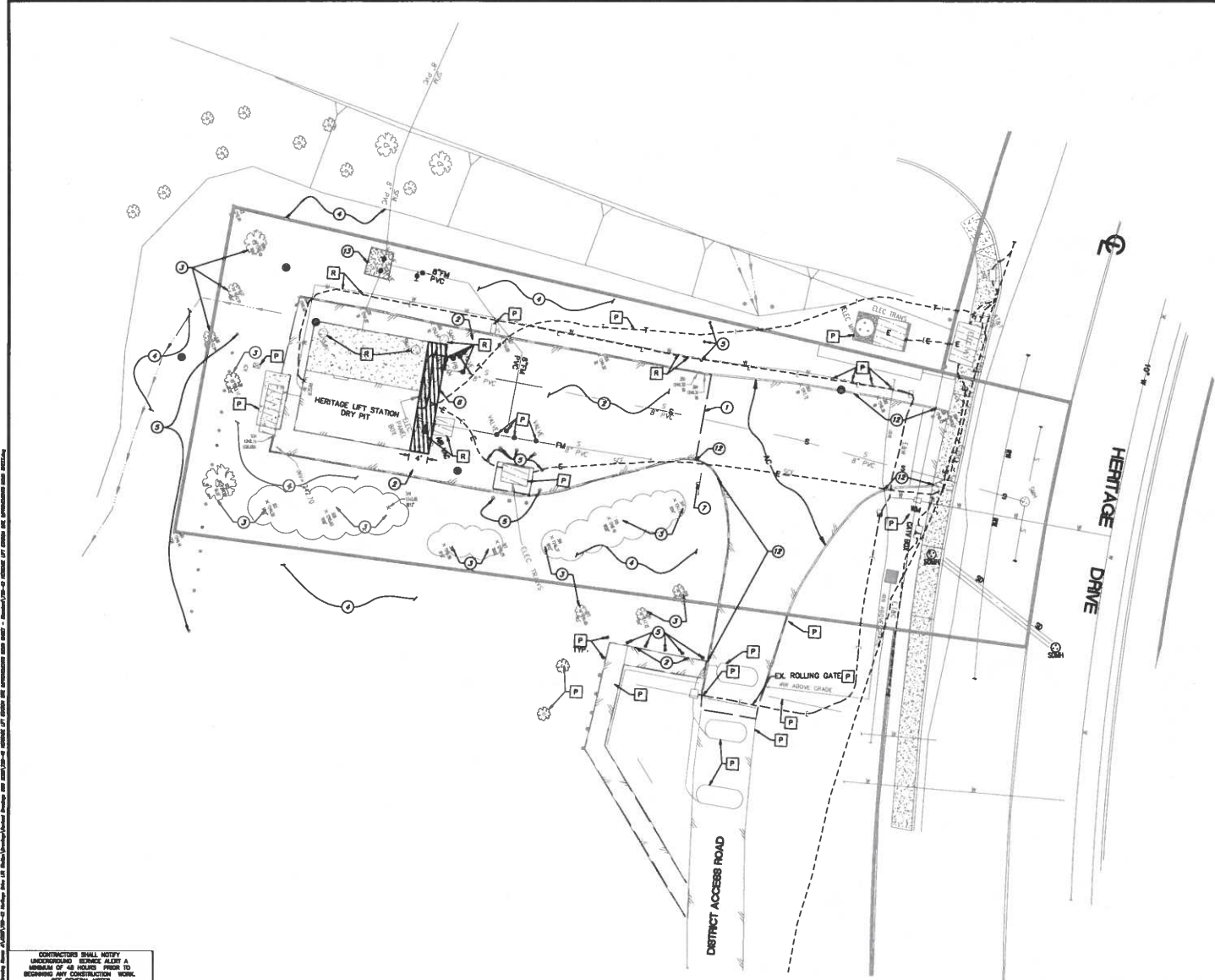
DESIGN: MM	DATE:
DRAWN: KS	
CHECKED: JG	



JOSEPH GUTIERREZ REG 55004 ENGINEER
LORENE LAUSTEN REG 67027 DISTRICT ENGINEER

TRABUCO CANYON WATER DISTRICT
HERITAGE SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

GENERAL NOTES, SHEET INDEX, VICINITY AND LOCATION MAPS

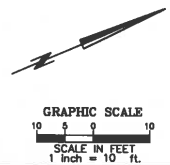


SITE DEMOLITION NOTES

- ① SAW CUT EXISTING AC PAVEMENT
- ② REMOVE EXISTING AC PAVEMENT, SUBGRADE TO ACCOMMODATE PROPOSED SITE IMPROVEMENTS
- ③ REMOVE EXISTING TREE AND GRIND DOWN STUMP
- ④ CLEAR AND GRUB
- ⑤ REMOVE EXISTING BOLLARD AND FOUNDATION
- ⑥ OVEREXCAVATE AND/OR REMOVE AND RECOMPACT SITE AS REQUIRED BY THE DISTRICT'S GEOTECHNICAL ENGINEER
- ⑦ REMOVE EXISTING SIGN AND FOUNDATION
- ⑧ REMOVE EXISTING FENCE, FENCE POST AND FENCE POST FOUNDATIONS
- ⑨
- ⑩
- ⑪
- ⑫ REMOVE EXISTING A.C. BERM & SAWCUT EDGE OF PAVEMENT TO JOIN
- ⑬ REMOVE EXISTING CONCRETE PAD MINIMUM 18" BELOW FINISH GRADE
- P PROJECT IN PLACE
- R REMOVE PER SHEET D-02

NOTES

- 1. SEE SHEET D-02 FOR ADDITIONAL DEMOLITION AND REMOVAL.
- 2. CONTRACTOR TO PROVIDE CONSTRUCTION FENCE TO SECURE AREA OF WORK. FENCE LOCATION REQUIRES DISTRICT APPROVAL.
- 3. CONTRACTOR TO PROVIDE CONTINUOUS ACCESS TO EXISTING DISTRICT ACCESS ROAD THROUGHOUT PROJECT AND THAT INTERDICTS.
- 4. ACCESS WILL BE REQUIRED ON THE WEEDEND.
- 5. CONTRACTOR TO ACCOMMODATE PERIODIC DISTRICT ACCESS TO EXISTING BUILDING.



CONTRACTORS SHALL NOTIFY UNDERGROUND SERVICE AGENCIES A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SET GENERAL NOTES FOR FURTHER INFORMATION.

DIG ALERT

CALL BEFORE YOU DIG

1-800-277-2629

A PUBLIC SERVICE BY UNDERGROUND SERVICE AGENCY

REV.	DATE	BY	DESCRIPTION	APPROVED BY DATE

DESIGN BY:
D.L.K.

REVIEWED BY:
D.L.K.



DMC ENGINEERING
 CIVIL • SURVEYING • PLANNING • CONSTRUCTION
 18 Technology Drive, Suite 100, Irvine, CA 92618
 E-mail: dmc@dmceng.com (949) 753-9393

APPROVED
 TRABUCO CANYON WATER DISTRICT

LORRAINE S. LAUSTEN, P.E. RCE #67027
 DISTRICT ENGINEER

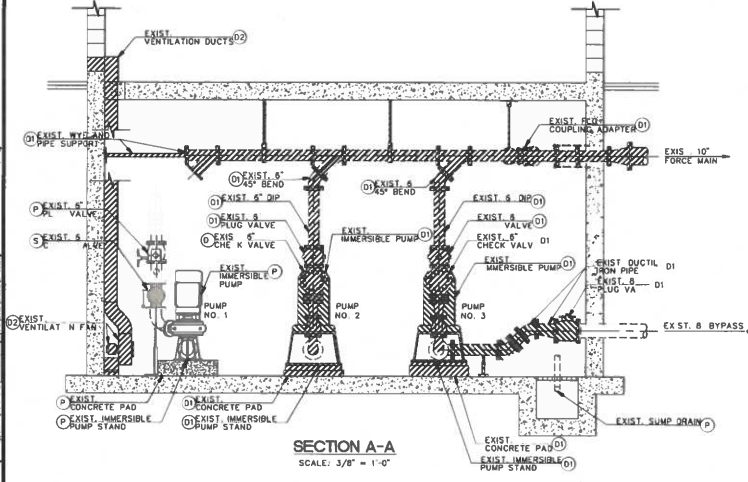
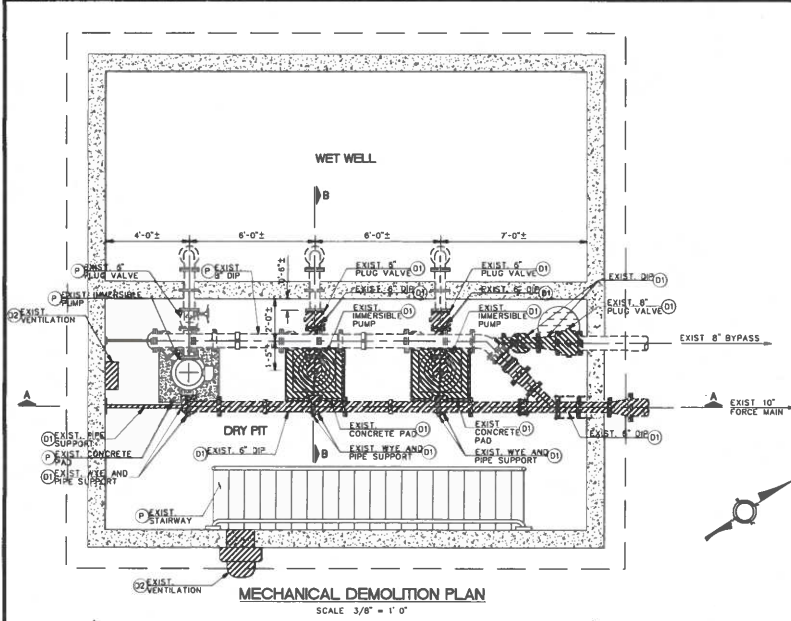


TRABUCO CANYON WATER DISTRICT
 HERITAGE SEWER LIFT STATION IMPROVEMENT PROJECT

SITE DEMOLITION PLAN

D-01
 SHEET

3

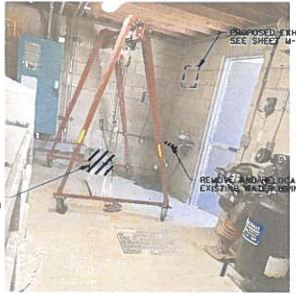


DEMOLITION NOTES

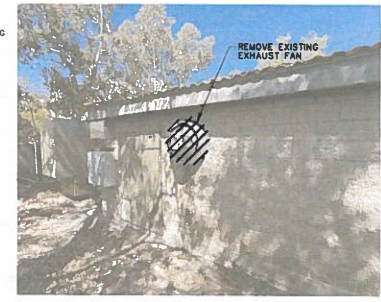
- (S) SALVAGE EXISTING VALVE
- (D1) DEMOLISH AND DISPOSE OF EXISTING PIPING, VALVES, PUMPS, AND APPURTENANCES PER
- (D2) DEMOLISH AND DISPOSE OF EXISTING VENTILATION, DUCTING, AND APPURTENANCES PER
- (P) PROTECT IN PLACE

LEGEND

- DEMOLISH AND DISPOSE OF EXISTING PIPING, VALVES, AND APPURTENANCES
- SALVAGE EXISTING VALVE

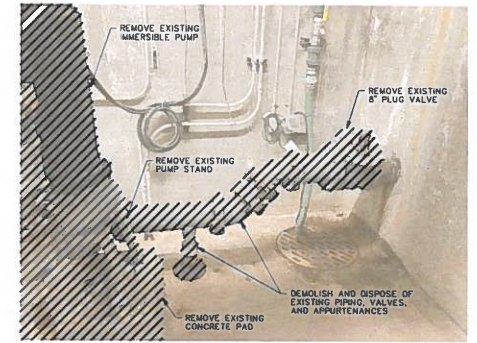


DEMOLISH AND DISPOSE OF EXISTING VENTILATION DUCT AND FAN

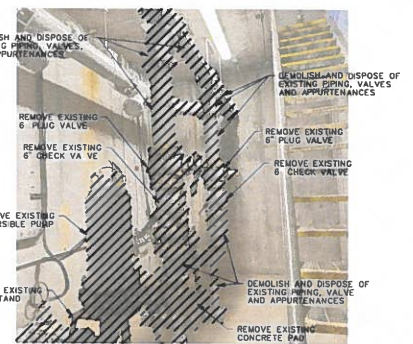


REMOVE EXISTING EXHAUST FAN

CONTROL ROOM DEMOLITION DETAILS 1
NOT TO SCALE



REMOVE EXISTING IMMERSIBLE PUMP
REMOVE EXISTING PUMP STAND
REMOVE EXISTING 6\"/>



DEMOLISH AND DISPOSE OF EXISTING PIPING, VALVES, AND APPURTENANCES
REMOVE EXISTING 6\"/>

DEMOLITION DETAILS 2

DIGALERT
CALL TOLL FREE 811
TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert

CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

jig CONSULTANTS
318 W KATELLA AVE, SUITE A
ORANGE, CA 92867
(714) 978-4407
www.jigconsultants.com



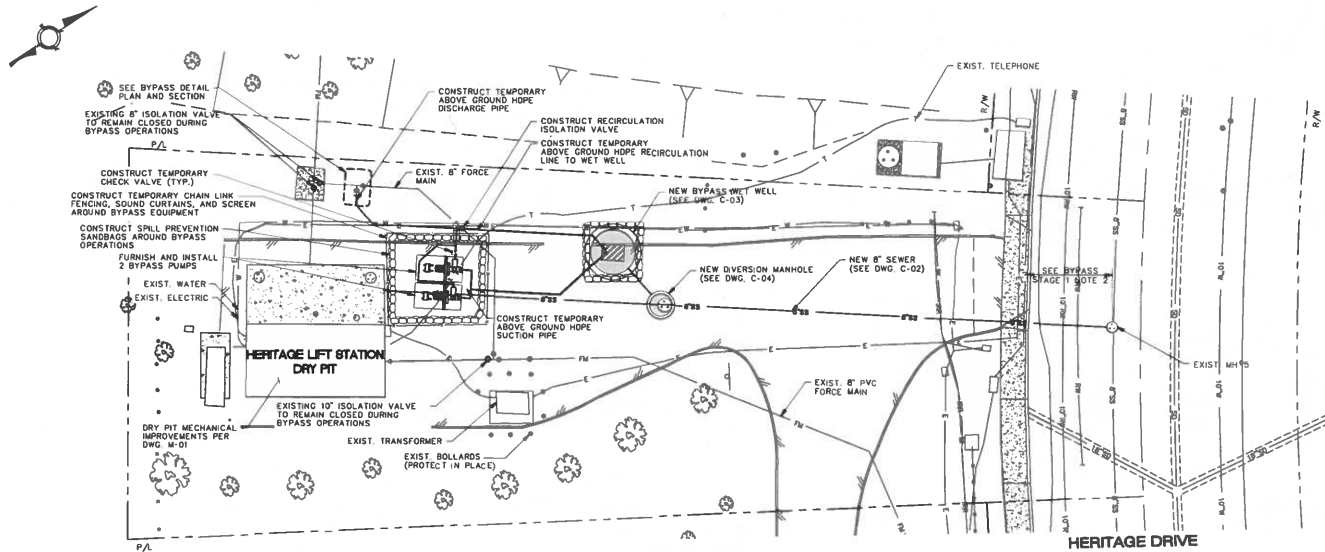
NO.	DATE	REVISIONS

DESIGN: MM	DATE:
DRAWN: KS	ENGINEER: JOSEPH M. GUTIERREZ RCE 55604
CHECKED: JG	DISTRICT ENGINEER: LORRIE LAUSTEN RCE 87037

TRABUCO CANYON WATER DISTRICT
HERITAGE SEWER LIFT PROJECT IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

MECHANICAL DEMOLITION PLAN

D-03
SHEET 5 OF 30

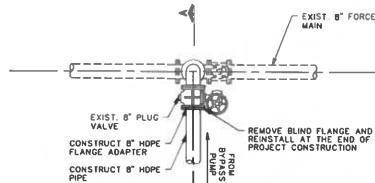


TEMPORARY BYPASS WORK SEQUENCE SUMMARY

- BYPASS STAGE 1**
- CONTRACTOR SHALL DESIGN, FURNISH, AND INSTALL TEMPORARY SEWAGE BYPASS BETWEEN EXISTING MH #5 AND THE EXISTING WET WELL. TEMPORARY SEWAGE BYPASS WILL BE MAINTAINED THROUGHOUT CONSTRUCTION OF IMPROVEMENTS SHOWN ON DWG. C-02. SEWER BYPASS SHALL INCLUDE AN EMERGENCY CALL OUT FLOAT INSIDE EXISTING MH #5. IMPROVEMENTS WILL INCLUDE REMOVAL AND REPLACEMENT OF EXISTING 8-INCH SEWER DIVERSION MANHOLE, AND PRECAST CONCRETE BYPASS WET WELL.
 - TEMPORARY BYPASS PIPING SHALL BE BURIED WHEN CROSSING HERITAGE DRIVE.
 - UPON COMPLETION OF AFOREMENTIONED IMPROVEMENTS, THE CONTRACTOR WILL PROCEED WITH THE SEWER BYPASS SYSTEM FOR THE HERITAGE SEWER LIFT STATION (STAGE 2).
- BYPASS STAGE 2**
- CONTRACTOR SHALL DESIGN, FURNISH, AND INSTALL TEMPORARY SEWAGE BYPASS FOR THE HERITAGE SEWER LIFT STATION.
 - CONTRACTOR SHALL MOBILIZE TEMPORARY BYPASS PUMPS AND FABRICATE AND INSTALL THE BYPASS PIPELINE, VALVES AND APPURTENANCES. THE LAYOUT OF THE SEWER BYPASS SYSTEM AS SHOWN ON THIS SHEET ARE CONCEPTUAL ONLY. THE CONTRACTOR SHALL DESIGN, FURNISH, AND INSTALL THEIR SEWER BYPASS SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION SECTION 33 01 30.
 - SEWER BYPASS SYSTEM SHALL INCLUDE LEVEL TRANSDUCERS AND BACKUP FLOATS TO CONTROL THE OPERATION OF THE TEMPORARY BYPASS PUMPS. SUCTION SHALL INCORPORATE AUTO DIALER ALARM AGENT TO NOTIFY THE CONTRACTOR'S RESPONSE PERSONNEL AND TOWD OPERATIONS STAFF IN THE EVENT OF EMERGENCIES.
 - CONTRACTOR SHALL ERECT TEMPORARY FENCING, SOUND ATTENUATION, AND SPILL PREVENTION MEASURES.
 - CONTRACTOR SHALL TEST THE FUNCTIONALITY OF THE TEMPORARY BYPASS SYSTEM AND SEEK APPROVAL FROM THE DISTRICT. WITH APPROVAL, THE HERITAGE SEWER LIFT STATION SHALL BE TENTATIVELY TAKEN OUT OF SERVICE AND THE TEMPORARY BYPASS SYSTEM OPERATED AND MONITORED CONTINUOUSLY FOR 48 HOURS. NO CONSTRUCTION WILL BE ALLOWED DURING THE 48-HOUR MONITORING PERIOD. MONITORING WILL INCLUDE 24-HOURS/DAY SITE PRESENCE FROM THE CONTRACTOR. CONTRACTOR TO MAKE ADJUSTMENTS AS NEEDED DURING THE 48-HOUR MONITORING PERIOD.
 - AFTER SUCCESSFUL COMPLETION OF THE 48-HOUR MONITORING PERIOD, THE CONTRACTOR WILL ADMINISTER A "GO-NO GO" MEETING WITH DISTRICT STAFF TO PRESENT THE TEMPORARY BYPASS SYSTEM.
 - AFTER RECEIVING A "GO" DIRECTIVE, THE CONTRACTOR CAN FORMALLY TAKE THE HERITAGE SEWER LIFT STATION OUT OF SERVICE AND COMMENCE WITH THE PROJECT IMPROVEMENTS.

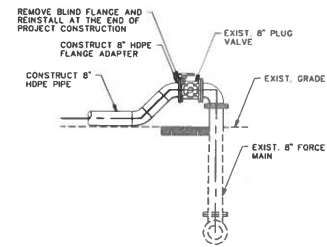
HERITAGE SEWER LIFT STATION CONCEPTUAL BYPASS SITE PLAN

SCALE: 1" = 10'



BYPASS CONNECTION PLAN

SCALE: 3/8" = 1'-0"



SECTION A-A

SCALE: 3/8" = 1'-0"



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.



318 W KATELLA AVE, SUITE A
ORANGE, CA 92667
(714) 978-4407
www.jigconsultants.com



NO.	DATE	REVISIONS

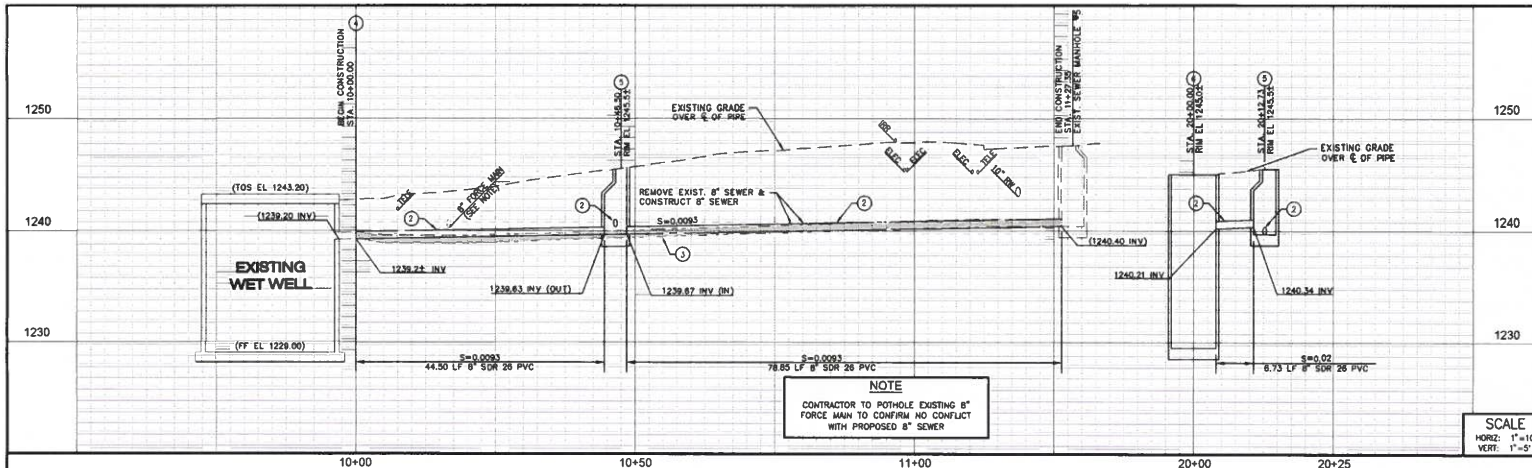
DESIGN:	MM
DRAWN:	KS
CHECKED:	JG

JOSEPH GUTIERREZ	REG 55604	ENGINEER
LORNE LAUSTEN	REG 67027	DISTRICT ENGINEER

TRABUCO CANYON WATER DISTRICT
HERITAGE SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

HERITAGE SEWER LIFT STATION CONCEPTUAL SEWER BYPASS PLAN

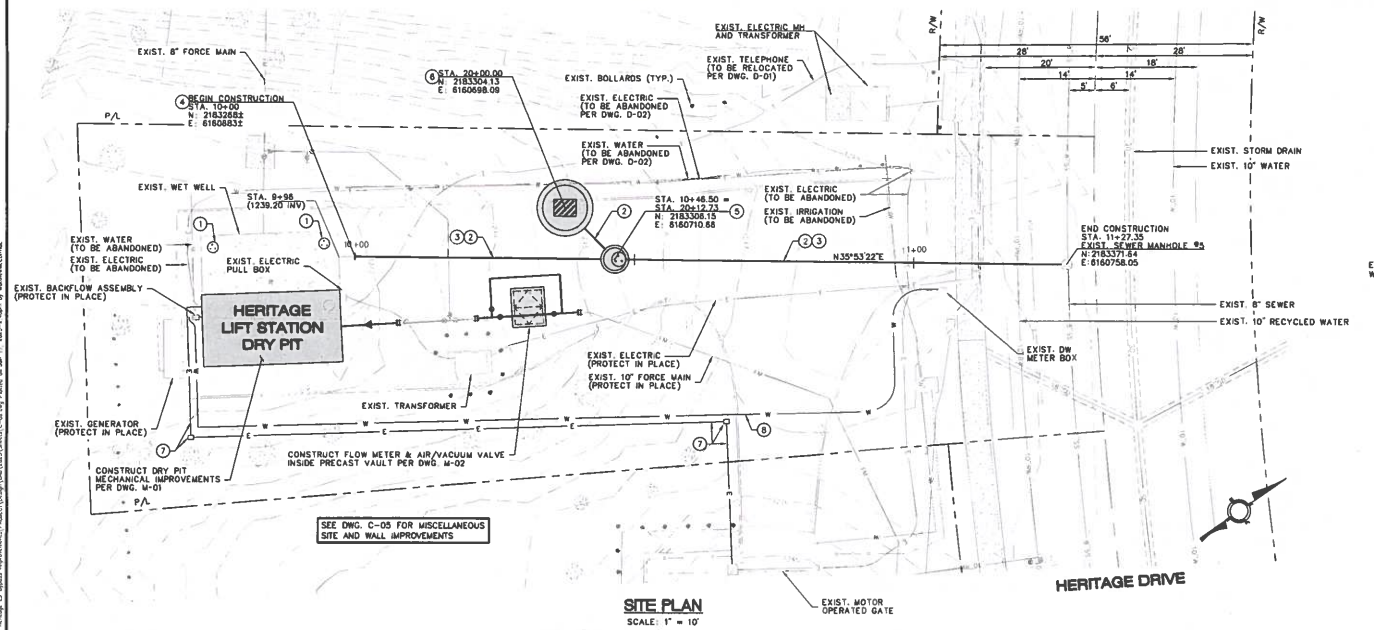
C-01
SHEET
6
OF
30



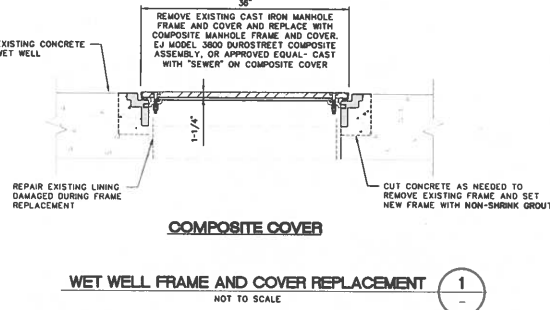
HYDRAULIC DATA					
FROM STA. TO STA.	DIAMETER (INCH)	DEPTH (FEET)	VELOCITY (FT/SEC)	4/D	SLOPE
0+00.00 TO 11+27.35					
Qpeak = 210 GPM	8"	0.29	3.74	0.44	0.0093
Qaverage = 126 GPM		0.22	3.28	0.33	

NOTE
 CONTRACTOR TO POTHOLE EXISTING 8" FORCE MAIN TO CONFIRM NO CONFLICT WITH PROPOSED 8" SEWER

SCALE
 HORIZ: 1"=10'
 VERT: 1"=5'



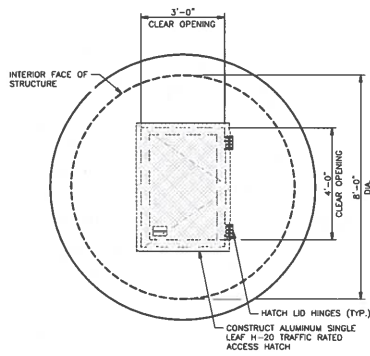
- CONSTRUCTION NOTES**
- REPLACE EXISTING WET WELL FRAME AND COVER PER 1
 - CONSTRUCT 8" SDR 26 PVC SEWER PER 2
 - REMOVE EXISTING 8" PVC SEWER
 - JOIN EXISTING 8" SEWER WITH RUBBER COUPLING WITH STAINLESS STEEL BANDS
 - CONSTRUCT DIVERSION MANHOLE PER 3
 - CONSTRUCT BYPASS WET WELL PER DWG. C-03
 - CONSTRUCT 1" ELECTRIC CONDUIT AND PULLBOXES PER ELECTRICAL SHEETS
 - CONSTRUCT 1" TYPE K COPPER TUBING FROM EXISTING METER BOX TO EXISTING BACKFLOW ASSEMBLY



DIGALERT CALL TOLL FREE 811
 CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.
JIG CONSULTANTS 318 W KATELLA AVE, SUITE A ORANGE, CA 92867 (714) 978-4407 www.jigconsultants.com
TRABUCO CANYON WATER DISTRICT No. C 55604 Exp. 9/29/18 STATE OF CALIFORNIA
 DESIGN: MM
 DRAWN: KS
 CHECKED: JG
 JOSEPH I. GUTIERREZ RCE 55604 ENGINEER
 LORRAE CAUSTEN RCE 67037 DISTRICT ENGINEER
 TRABUCO CANYON WATER DISTRICT
 HERITAGE SEWER LIFT STATION IMPROVEMENTS PROJECT
 PROJECT NO. 2122-011
 DATE

NO.	DATE	REVISIONS

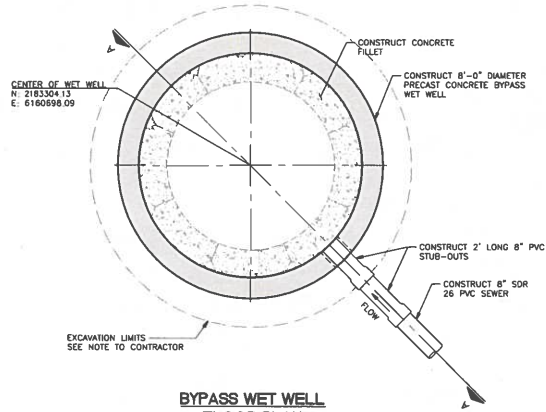
C-02
SHEET 7 OF 30



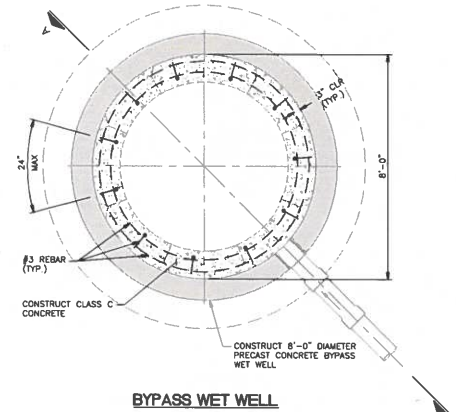
**BYPASS WET WELL
TOP SLAB PLAN**
SCALE: 1/2" = 1'-0"

NOTE TO CONTRACTOR

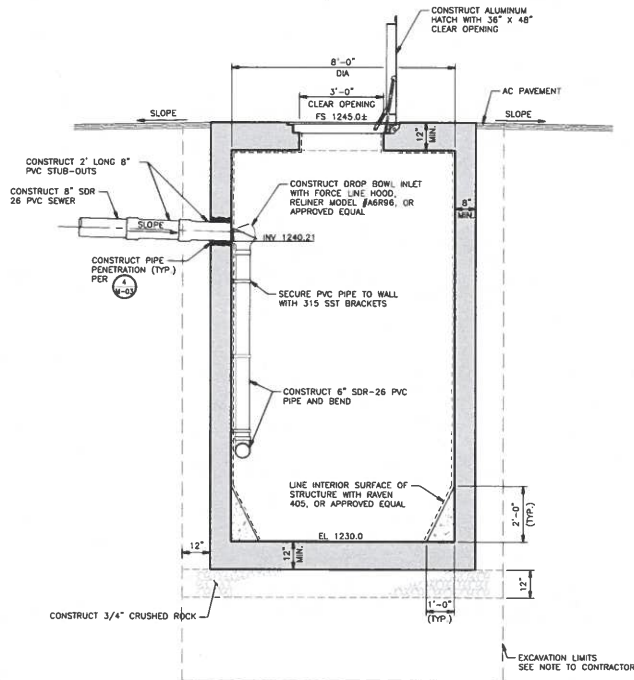
CONTRACTOR TO PREPARE SITE USING RECOMMENDATIONS FROM THE GEOTECHNICAL INVESTIGATION AND FOUNDATION DESIGN PARAMETERS PREPARED BY GMI. CONTRACTOR SHALL EXCAVATE TO A DEPTH OF AT LEAST 5 FEET BELOW THE BOTTOM OF THE STRUCTURE/FOOTING ACROSS THE ENTIRE FOOTPRINT OF THE BYPASS WET WELL AND EXTEND AT LEAST 1 FOOT BEYOND THE PERIMETER. THE BOTTOM OF THE EXCAVATION SHOULD THEN BE SCARIFIED TO A DEPTH OF AT LEAST 6" FILL MATERIAL SHALL BE PLACED IN 6" TO 8" THICK LIFTS, MOISTURE CONDITIONED TO 2% ABOVE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO ACHIEVE 90% RELATIVE COMPACTION. ON-SITE MATERIAL MAY BE USED AS FILL MATERIAL, OR CONTRACTOR'S ELECTION TO USE SLURRY IS ACCEPTABLE. NO ROCK OR BROKEN CONCRETE GREATER THAN 6" IN DIAMETER SHOULD BE UTILIZED FOR BACKFILL.



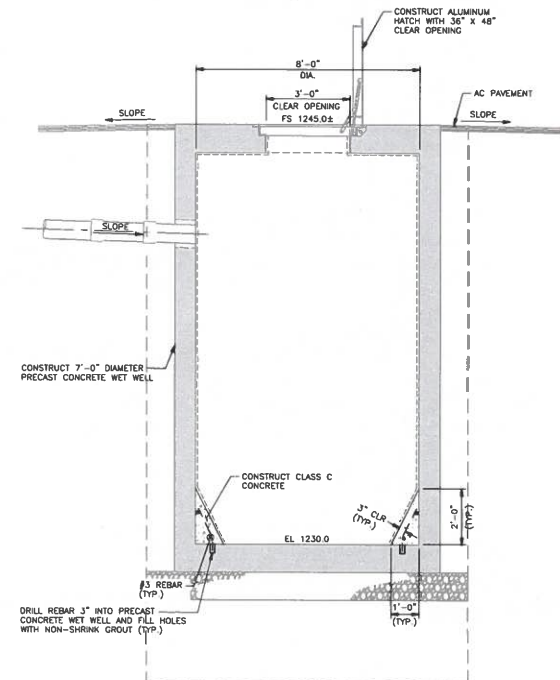
**BYPASS WET WELL
FLOOR PLAN**
SCALE: 1/2" = 1'-0"



**BYPASS WET WELL
REINFORCING LAYOUT PLAN**
SCALE: 1/2" = 1'-0"



**BYPASS WET WELL
SECTION A-A**
SCALE: 1/2" = 1'-0"



**REINFORCING LAYOUT PLAN
SECTION A-A**
SCALE: 1/2" = 1'-0"



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.



318 W KATELLA AVE, SUITE A
ORANGE, CA 92867
(714) 978-4407
www.jigconsultants.com



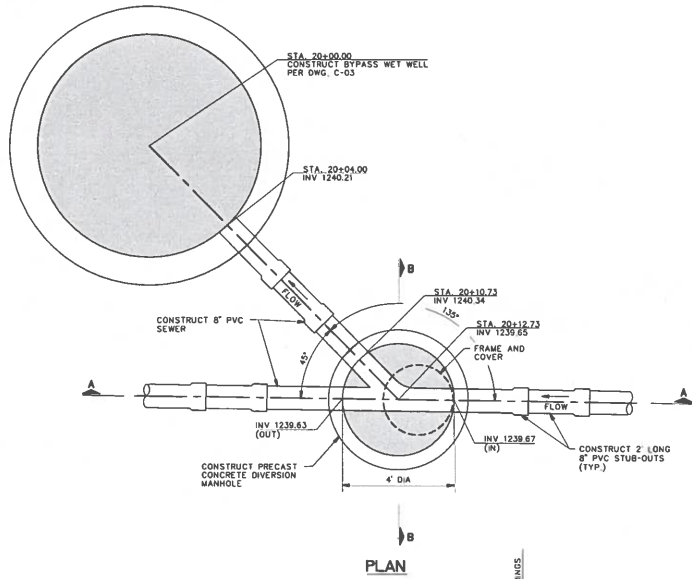
NO.	DATE	REVISIONS

DESIGN: MM	DATE: _____
DRAWN: KS	ENGINEER: JOSEPH T. GUTIERREZ REC 55604
CHECKED: JG	DISTRICT ENGINEER: CORNEE LAUSTEN REC 67027

TRABUCO CANYON WATER DISTRICT
HERITAGE SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

BYPASS WET WELL
PLAN AND SECTIONS

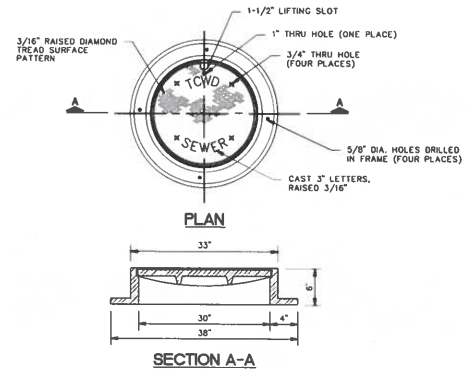
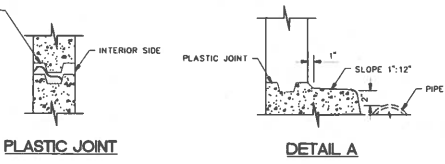
C-03
SHEET 8
OF 30



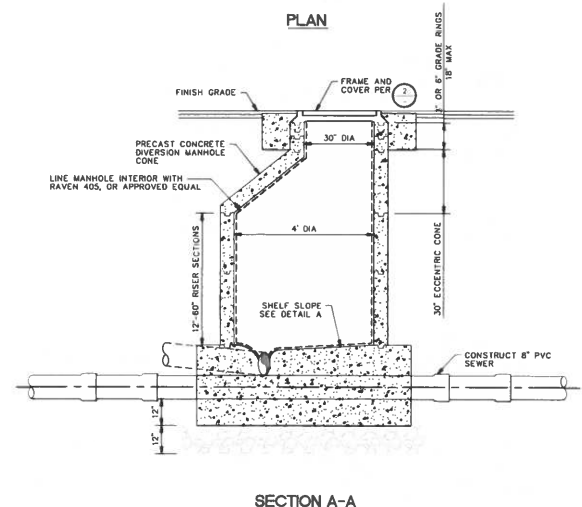
NOTES

1. THE PCC COLLAR SHALL BE 1 1/2 INCHES FROM FINISH GRADE AND 3 INCHES BELOW THE RING AND CONE JOINT. THE CONCRETE MIX DESIGN SHALL BE CLASS B CONCRETE.
2. JOINTS MAY BE KEY TYPE OR TONGUE AND GROOVE AND SHALL CONFORM WITH ASTM C-478, SECTION 14.
3. **PLASTIC JOINTS:** PREFORMED GROUT APPLIED READY TO USE PLASTIC JOINT SEALING COMPOUND SHALL BE CON-SEAL SEALANT, OR APPROVED EQUAL.
4. **WATERPROOFING:** ALL EXTERIOR JOINTS OF THE MANHOLE STRUCTURE, INCLUDING BUT NOT LIMITED TO RING AND SHAFT JOINTS, PIPE PENETRATION JOINTS, AND ALL COMPONENT INTERFACE JOINTS, SHALL BE FLEED AND/OR APPLIED WITH A PASTE GRADE BITUMINOUS ASPHALT SEALANT. THE REMAINING EXTERIOR CONCRETE SURFACE OF THE MANHOLE STRUCTURE SHALL THEN BE COATED WITH A POURABLE GRADE OF BITUMINOUS ASPHALT SEALANT. FINISHED THICKNESS SHALL BE A MINIMUM OF 50 MILS.
5. THE CONCRETE BASE SHALL BE CLASS A CONCRETE. ALL PRECAST CONCRETE RISERS AND CONES SHALL BE CLASS A 4000 PSI CONCRETE.
6. EXCEPT AS NOTED HEREON, PRECAST UNIT SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH ASTM C-478.
7. SUBGRADE SHALL BE OVER EXCAVATED 2 FEET BELOW BOTTOM OF MANHOLE BASE AND REPLACED WITH CRUSHED ROCK.
8. ALL MANHOLES SHALL BE DESIGNED FOR AASHTO H-25 LOADING.

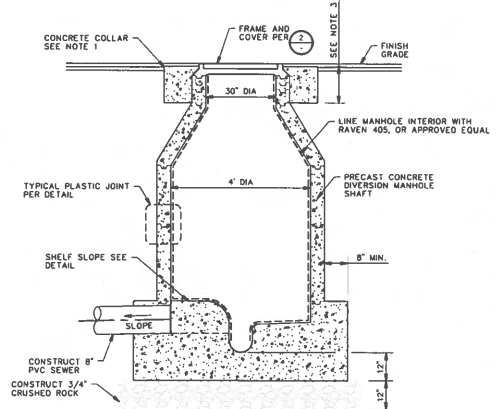
SHAFT JOINT WITH JOINT SEALANT COMPOUND SEE NOTE 3



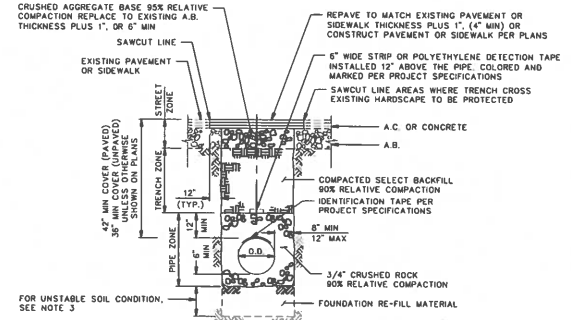
MANHOLE FRAME AND COVER 2
NOT TO SCALE



SECTION A-A



SECTION B-B



NOTES

1. CONTRACTOR SHALL REPLACE AC OR PCC TO THE LIMITS SHOWN ON THE TYPICAL TRENCH SECTION SHOWN ABOVE TO THE THICKNESS PLUS 1" OF THE EXISTING AC OR PCC UNLESS OTHERWISE DIRECTED ON THE PLANS. FOR TURF OR LANDSCAPED AREAS, CONTRACTOR SHALL RESTORE TO THE ORIGINAL CONDITION, TO OWNER'S SATISFACTION.
2. ALL PAVEMENT AND SIDEWALK REMOVAL NECESSARY FOR THE CONSTRUCTION OF THIS PROJECT SHALL BE SAWCUT PRIOR TO REMOVAL. THE OWNER SHALL BE REQUESTED BY CONTRACTOR TO APPROVE EXTENT OF PAVEMENT AND SIDEWALK REMOVAL PRIOR TO STARTING WORK. DISPOSAL OF REMOVED A.C. PAVEMENT AND CONCRETE SHALL BE AT AN APPROVED OFF-SITE DUMP SITE.
3. IF UNSTABLE SOIL IS ENCOUNTERED, THE DISTRICT REPRESENTATIVE SHALL DETERMINE OVEREXCAVATION DEPTH AND FOUNDATION RE-FILL MATERIAL PER SPECIFICATION SECTION 31 23 00.

TYPICAL TRENCH SECTION 3
NOT TO SCALE

DIVERSION MANHOLE 1
NOT TO SCALE



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.



318 W KATELLA AVE, SUITE A
ORANGE, CA 92867
(714) 978-4407
www.jigconsultants.com



NO	DATE	REVISIONS

DESIGN:	MM
DRAWN:	KS
CHECKED:	JG

JOSEPH I. GUTIERREZ	RCE 55604	ENGINEER
LOREN LAUSTEN	RCE 67027	DISTRICT ENGINEER

TRABUCO CANYON WATER DISTRICT
HERITAGE SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

MISCELLANEOUS CIVIL DETAILS

C-04
SHEET 9
OF 30

SITE CONSTRUCTION NOTES

- 20 GRADE SITE AS REQUIRED TO ACCOMMODATE PROPOSED SITE IMPROVEMENTS
- 21 OVEREXCAVATE AND/OR REMOVE AND RECOMPACT SITE AS REQUIRED BY THE DISTRICT'S GEOTECHNICAL ENGINEER
- 22 CONSTRUCT 4" AC OVER 8" AB
- 23 CONSTRUCT REDWOOD HEADER PER DETAIL ON SHEET 12
- 24 CONSTRUCT CONCRETE PER DETAIL ON SHEET 12
- 25 CONSTRUCT CONCRETE RIBBON GUTTER PER DETAIL ON SHEET 12
- 26
- 27
- 28 CONSTRUCT NEW TRACK FOR MANUAL ROLLING ENTRY GATE
- 29 CONSTRUCT MANUAL ROLLING ENTRY GATE. PROVIDE TEND WITH SHOP DRAWING OF GATE FOR REVIEW AND APPROVAL IN ADVANCE OF PURCHASING GATE TO MATCH PREVIOUS GATE AND/OR OTHER TEND DISTRICT YARD GATES
- 30 CONNECT TO EXISTING V DITCH PER DETAIL SHEET 12
- 31
- 32 ADJUST VALVE CAN TO GRADE PER TEND STANDARDS

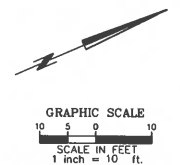
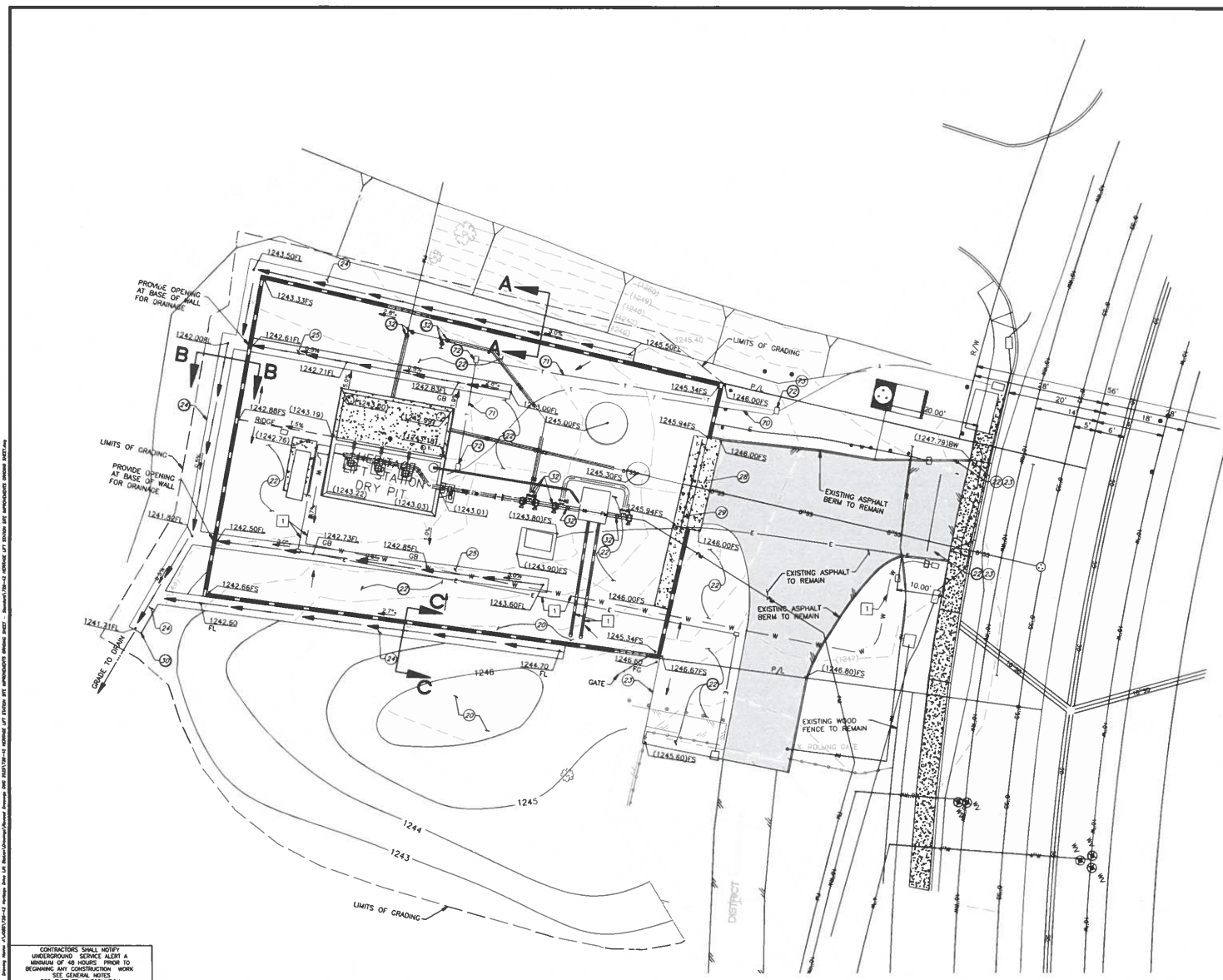
SITE UTILITIES CONSTRUCTION NOTES

- 20 REMOVE EXISTING 1" TELEPHONE CONDUIT AND WIRING, COORDINATE WITH A & T ON WARE REMOVAL
- 21 INSTALL 1" TELEPHONE CONDUIT WITH #3 WIRES
- 22 INSTALL TELEPHONE PULL BOX
- 23 RECONNECT TELEPHONE WIRING WITH EXISTING TELEPHONE WIRING

NOTE:

- 1 ELECTRIC CONDUIT/WATER LINE - SEE SHEET C-02

NEW AC TO BE CONSTRUCTED
 EXISTING AC TO REMAIN



CONTRACTORS SHALL NOTIFY UNDERGROUND SERVICE AGENCIES A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

DIG ALERT

CALL BEFORE YOU DIG

1-800-227-2600

A PUBLIC SERVICE BY UNDERGROUND SERVICE AGENCY

REV.	DATE	BY	DESCRIPTION	APPROVED BY DATE

DESIGN BY: D.L.K.

REVIEWED BY: D.J.K.

APPROVED BY: [Signature]

DMC ENGINEERING
 CIVIL & SURVEYING & PLANNING & CONSTRUCTION
 18 Technology Drive, Suite 100, Irvine, CA 92618
 E-mail: dmc@dmccong.com (949) 753-9393

APPROVED
TRABUCO CANYON WATER DISTRICT

LORRAINE S. LAUSTEN, P.E. RCE #67027 DATE: _____
 DISTRICT ENGINEER



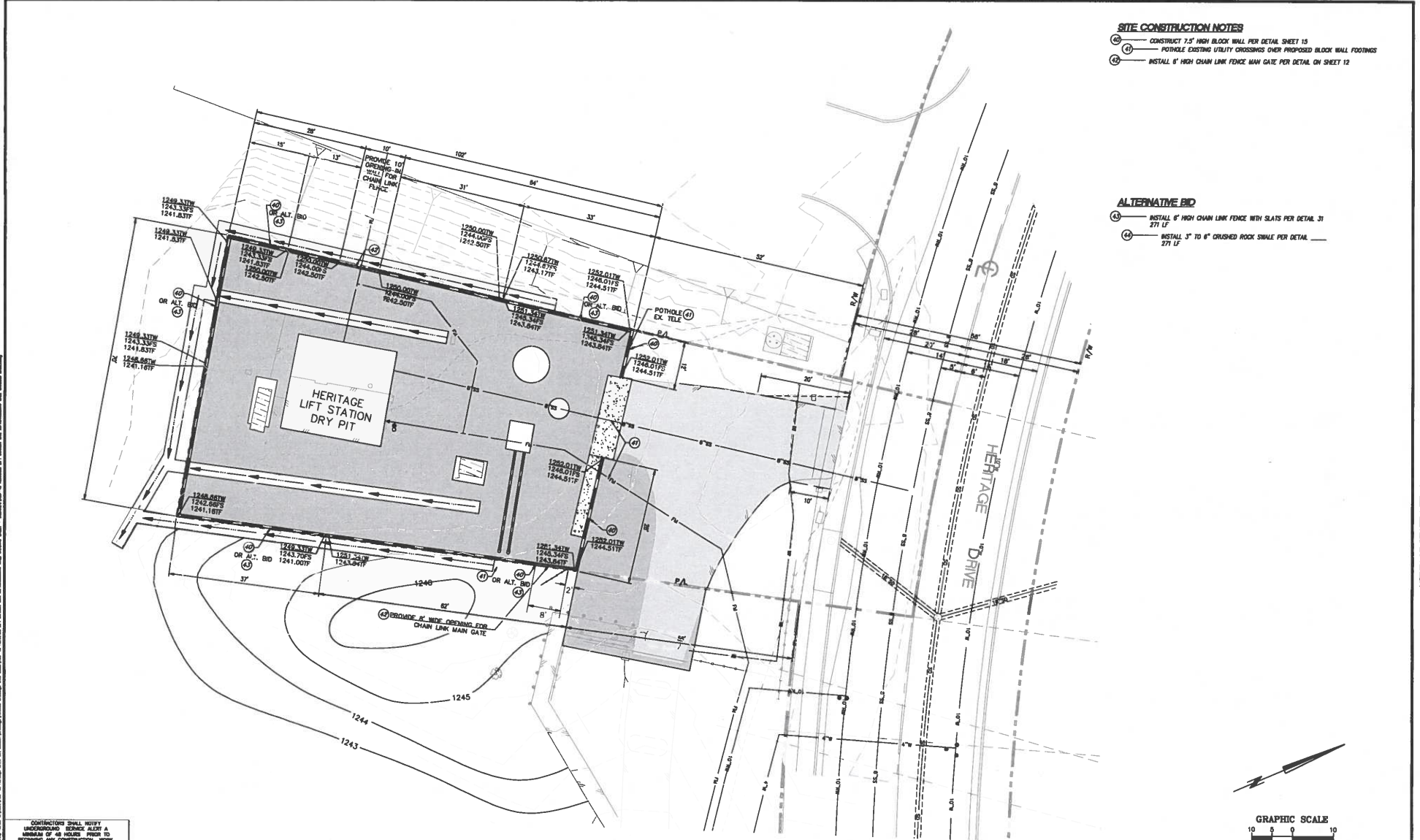
TRABUCO CANYON WATER DISTRICT
 HERITAGE SEWER LIFT STATION IMPROVEMENT PROJECT

SITE GRADING AND UTILITY PLAN

C-06 SHEET

10

OF 30 SHEETS
 DMC # 728-07



- SITE CONSTRUCTION NOTES**
- (A) CONSTRUCT 7.5' HIGH BLOCK WALL PER DETAIL SHEET 15
 - (B) POTHOLE EXISTING UTILITY CROSSINGS OVER PROPOSED BLOCK WALL FOOTINGS
 - (C) INSTALL 6" HIGH CHAIN LINK FENCE MAIN GATE PER DETAIL ON SHEET 12

- ALTERNATIVE BID**
- (A) INSTALL 6" HIGH CHAIN LINK FENCE WITH SLATS PER DETAIL 31
 - (B) INSTALL 3" TO 6" CRUSHED ROCK SHOULDER PER DETAIL 271 LF

CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

DIG ALERT

CALL BEFORE YOU DIG

1-800-277-3800

A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

REV.	DATE	BY	DESCRIPTION	APPROVED BY DATE

DESIGN BY: D.J.M.

REMOVED BY: D.J.M.

DMC ENGINEERING
 CIVIL • SURVEYING • PLANNING • CONSTRUCTION
 18 Technology Drive, Suite 100, Irvine, CA 92618
 E-Mail: dmc@dmccng.com (949) 753-9393

APPROVED
 TRABUCO CANYON WATER DISTRICT

LORRAINE S. LAUSTEN, P.E. RCE #67027
 DISTRICT ENGINEER



TRABUCO CANYON WATER DISTRICT
 HERITAGE SEWER LIFT STATION IMPROVEMENT PROJECT

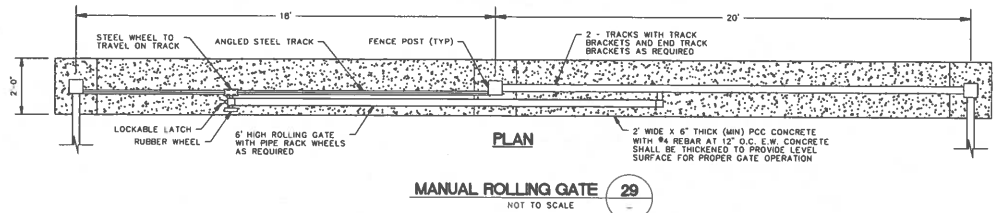
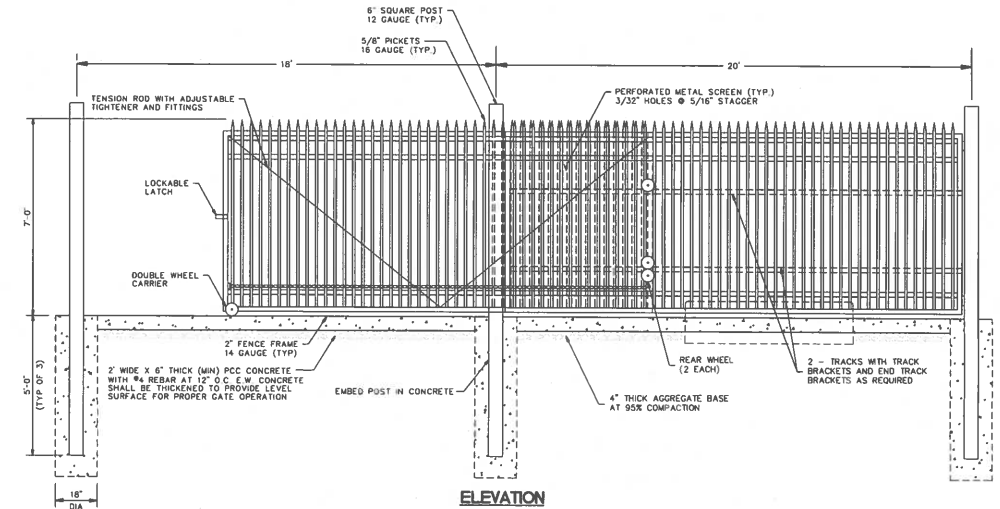
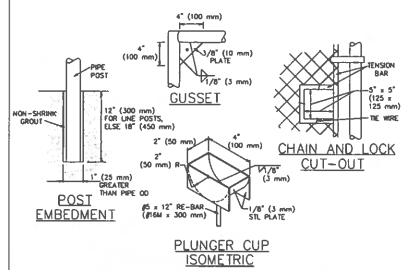
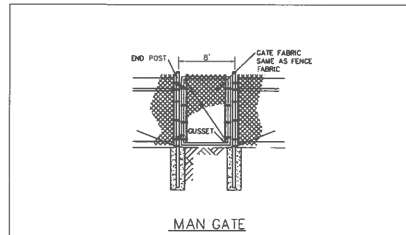
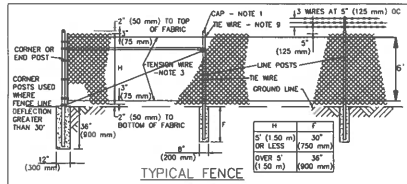
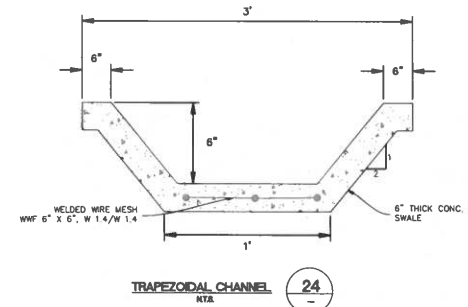
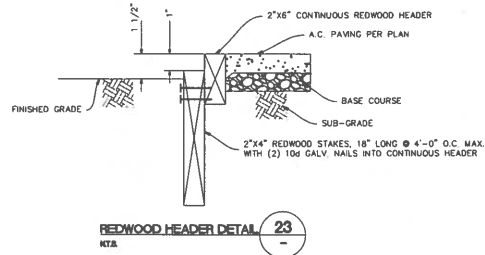
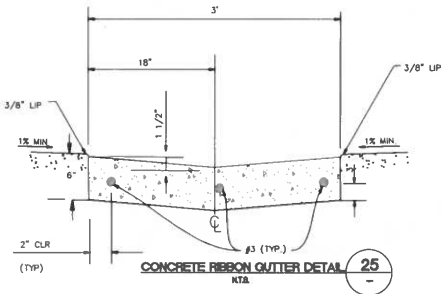
RETAINING WALL PLAN

C-07
 SHEET

11

OF 30 SHEETS
 DATE: 7-24-12

HERITAGE SEWER LIFT STATION IMPROVEMENT PROJECT



NOTES:

1. WALL FACE ON THE HERITAGE ROAD SIDE SHALL HAVE SLATE TO MATCH TOWD ROBINSON RANCH ROAD PUMP STATION.
2. ALL WORK SHALL CONFORM TO CALIFORNIA BUILDING CODES.
3. ALL CELLS CONTAINING REINFORCING STEEL SHALL BE CROUTED AND ALL RETAINING WALL CELLS SHALL BE FULLY CROUTED.
4. ALL REBAR TO BE PER ASTM A615 GRADE 40 MIN.
5. ALL REBAR LAP SPICES TO BE 24\"/>

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
CHAIN LINK FENCE AND GATES 600-3
 SHEET 1 OF 3

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION
CHAIN LINK FENCE AND GATES 600-3
 SHEET 2 OF 3

CHAIN LINK FENCE DETAILS 31
 NTA

CONTRACTORS SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

DIG ALERT

CALL BEFORE YOU DIG

1-800-227-2600

FOR PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

REV.	DATE	BY	DESCRIPTION	APPROVED BY DATE

DMC ENGINEERING
 CIVIL • SURVEYING • PLANNING • CONSTRUCTION
 18 Technology Drive, Suite 100, Irvine, CA 92618
 Tel: 949.451.4200 • Fax: 949.451.4201

APPROVED
 TRABUCO CANYON WATER DISTRICT

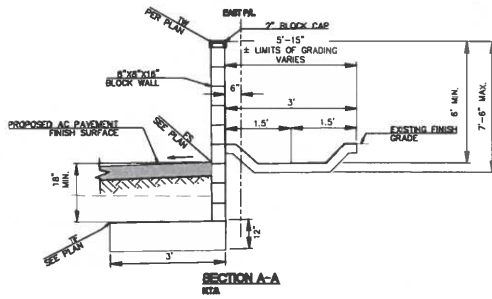
LORRAINE S. LAUSTEN P.E. RCE 607027 DATE
 DISTRICT ENGINEER

TRABUCO CANYON WATER DISTRICT
 HERITAGE SEWER LIFT STATION IMPROVEMENT PROJECT

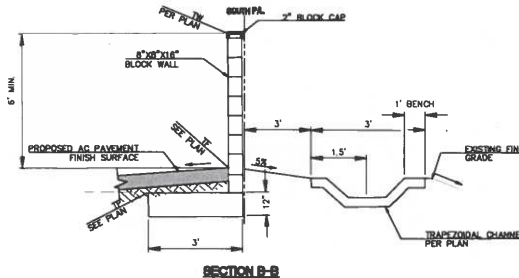
WALL DETAILS AND SECTIONS

C-08
 SHEET
12

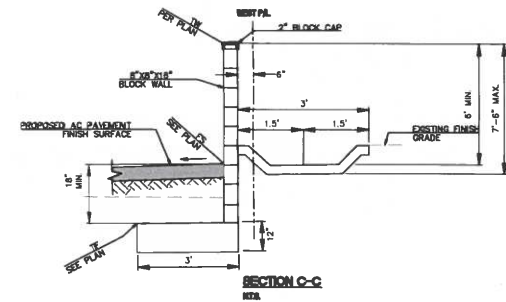
OF 30 SHEETS
 NO. 2 - 932-71



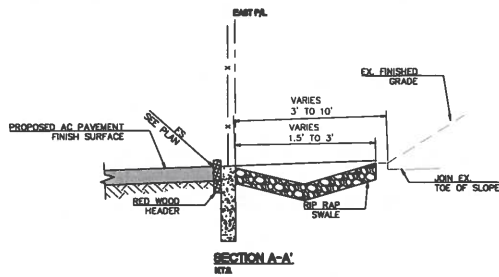
SECTION A-A
KTA



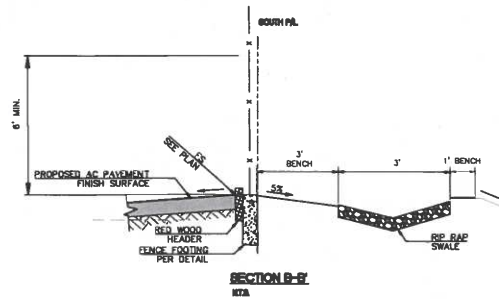
SECTION B-B
KTA



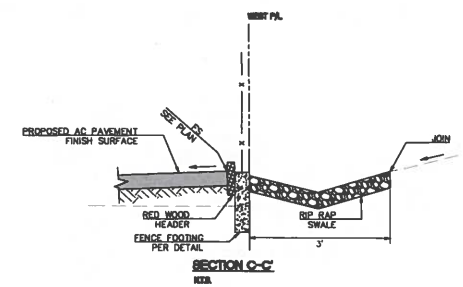
SECTION C-C
KTA



SECTION A-A'
KTA



SECTION B-B'
KTA



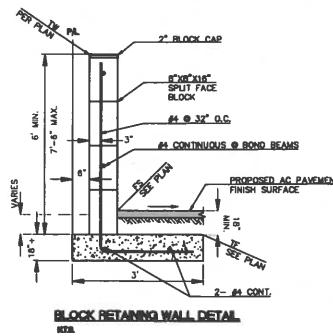
SECTION C-C'
KTA

NOTE

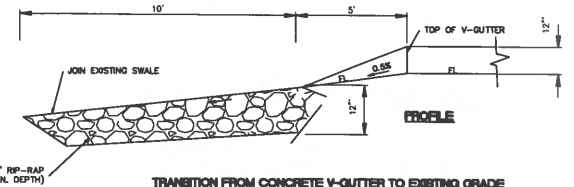
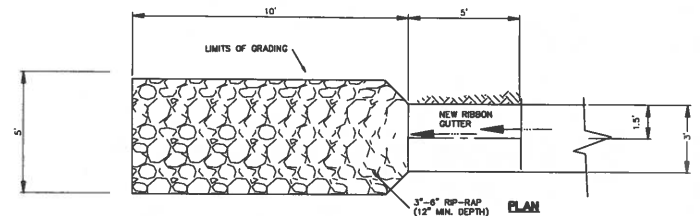
1. THESE SECTIONS FOR ALT. BID ITEM 34 ONLY.

NOTES

1. WALL FACE ON THE HERITAGE ROAD SIDE SHALL HAVE SLATE TO MATCH TOWD ROBINSON RANCH ROAD PUMP STATION.
2. ALL WORK SHALL CONFORM TO CALIFORNIA BUILDING CODES.
3. ALL CELLS CONTAINING REINFORCING STEEL SHALL BE GROUTED AND ALL RETAINING WALL CELLS SHALL BE FULLY GROUTED.
4. ALL REBAR TO BE PER ASTM A618 GRADE 40 MIN.
5. ALL REBAR LAP SPICES TO BE 24" MIN.
6. REBAR TO BE CENTERED IN MASONRY CELLS.
7. ALL MASONRY UNITS TO BE ASTM C-90, GRADE 'N'.
8. CONCRETE MIX FOR FOOTINGS COMPRESSIVE STRENGTH=2,500 PSI
9. MOTAR MIX SHALL CONFORM TO ASTM C370.
10. GROUT USED FOR FILLING CLOCK CELLS MUST MEET COMPRESSIVE STRENGTH=2,000 PSI.



BLOCK RETAINING WALL DETAIL
KTA



TRANSITION FROM CONCRETE V-CUTTER TO EXISTING GRADE
KTA

CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERTS A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

DIG ALERT

CALL BEFORE YOU DIG

1-800-327-2200

A PUBLIC SERVICE OF UNDERGROUND SERVICE ALERTS

REV.	DATE	BY	DESCRIPTION	APPROVED BY	DATE



DMC ENGINEERING
 CIVIL • SURVEYING • PLANNING • CONSTRUCTION
 18 Technology Drive, Suite 100, Irvine, CA 92618
 E-Mail: dmc@dmceing.com (949) 751-9393

APPROVED
 TRABUCO CANYON WATER DISTRICT

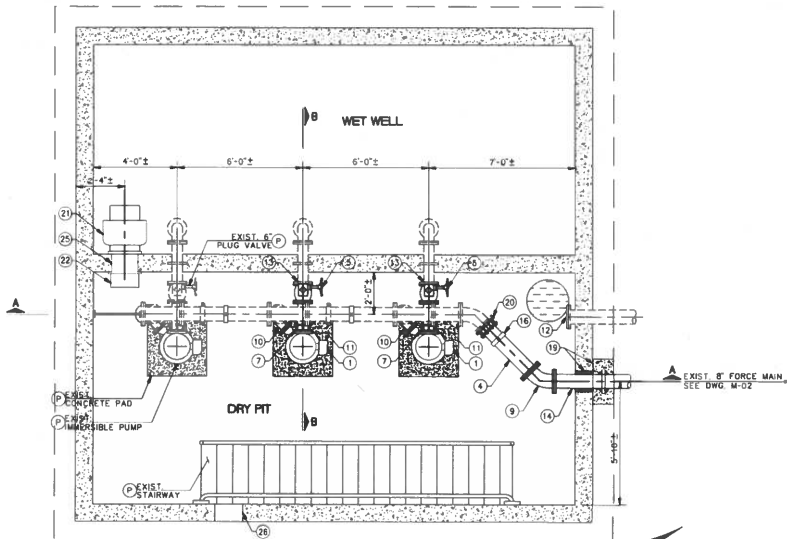
LORRAINE S. LAUSTEN, P.E. RCE #67027
 DISTRICT ENGINEER

TRABUCO CANYON WATER DISTRICT
 HERITAGE SEWER LIFT STATION IMPROVEMENT PROJECT

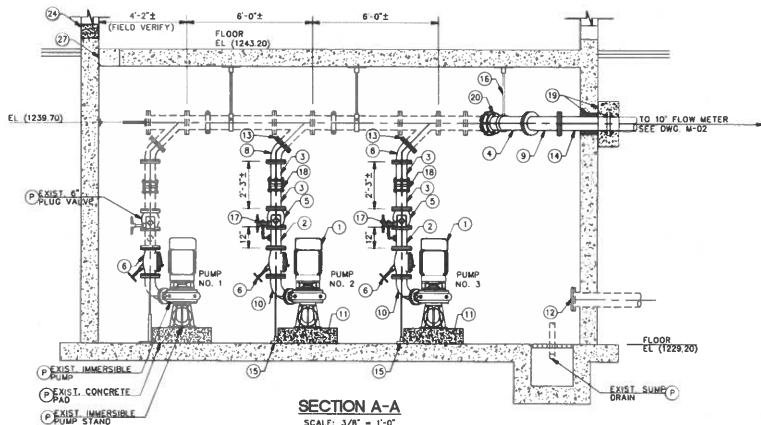
WALL DETAILS AND SECTION

C-09
 SHEET

13



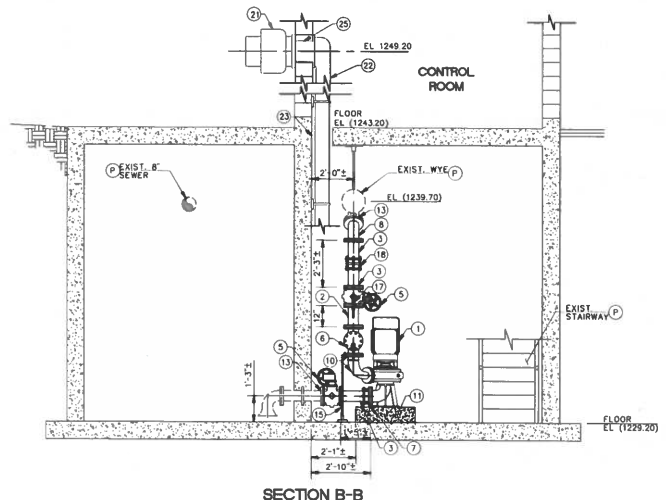
MECHANICAL PLAN
SCALE: 3/8" = 1'-0"



SECTION A-A
SCALE: 3/8" = 1'-0"

CONSTRUCTION NOTES

- 1 INSTALL OWNER SUPPLIED IMMERSIBLE PUMP (CORNELL 44147-VM-50-4 R-D 230/480/3/60 TEFC)
- 2 CONSTRUCT 6" FEWPE DUCTILE IRON SPOOL PIECE (LENGTH AS REQ'D)
- 3 CONSTRUCT 6" FEWPE DUCTILE IRON SPOOL PIECE (LENGTH AS REQ'D)
- 4 CONSTRUCT 6" FEWPE DUCTILE IRON SPOOL PIECE (LENGTH AS REQ'D)
- 5 CONSTRUCT 6" FLOD PLUG VALVE
- 6 CONSTRUCT 6" FLOD SWING FLEX CHECK VALVE WITH BACKFLOW ACTUATOR (VAL-MATIC VMC-502ABFM, OR APPROVED EQUAL)
- 7 CONSTRUCT 6" RESTRAINED FLANGE COUPLING ADAPTER (ROMAC, RFCA, OR APPROVED EQUAL)
- 8 CONSTRUCT 6" 45° LONG RADIUS FLOD DUCTILE IRON BEND
- 9 CONSTRUCT 6" 45° LONG RADIUS FLOD DUCTILE IRON BEND
- 10 CONSTRUCT 4"x6" 90° LONG RADIUS FLOD DUCTILE IRON REDUCING BEND
- 11 CONSTRUCT CONCRETE PAD PER $\frac{1}{4}$ "
- 12 CONSTRUCT 6" BLIND FLANGE
- 13 JOIN EXISTING 6" FLANGE
- 14 CONSTRUCT 6" DUCTILE IRON SPOOL WITH THRUST COLLAR (LENGTH AS REQ'D)
- 15 CONSTRUCT UNISTRUT PIPE SUPPORT PER $\frac{1}{4}$ "
- 16 CONSTRUCT PIPE HANGER PER $\frac{1}{4}$ "
- 17 CONSTRUCT PRESSURE GAUGE ASSEMBLY PER $\frac{2}{4}$ "
- 18 CONSTRUCT 6" RESTRAINED MECHANICAL COUPLING (ROMAC S01, OR APPROVED EQUAL)
- 19 CONSTRUCT DRY PIT WALL REPAIR AND PIPE PENETRATION PER $\frac{2}{4}$ "
- 20 JOIN EXISTING WITH 6" RESTRAINED FLANGE COUPLING ADAPTER (ROMAC RFCA, OR APPROVED EQUAL)
- 21 CONSTRUCT GREENHECK CUE-099-A EXHAUST FAN, OR APPROVED EQUAL WITH WALL MOUNTING BRACKET
- 22 CONSTRUCT EXHAUST FAN DUCTING TO DRY PIT PER $\frac{1}{4}$ "
- 23 CONSTRUCT 17"x9" FLOOR OPENING TO ACCOMMODATE PROPOSED AIR DUCT
- 24 REPAIR MASONRY WALL OPENING PER $\frac{2}{4}$ "
- 25 CUT 15"x 15" SQUARE OPENING IN EXISTING MASONRY WALL
- 26 RETROFIT REMAINING HOLE WITH LOUVER AND BRD SCREEN (L&L LOUVERS INC. MODEL FG-6004 OR APPROVED EQUAL)
- 27 REPAIR CONCRETE FLOOR OPENING PER $\frac{1}{4}$ "
- P PROTECT IN PLACE



SECTION B-B
SCALE: 3/8" = 1'-0"



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.



338 W KATELLA AVE, SUITE A
ORANGE, CA 92667
(714) 978-4407
www.jigconsultants.com



NO.	DATE	REVISIONS

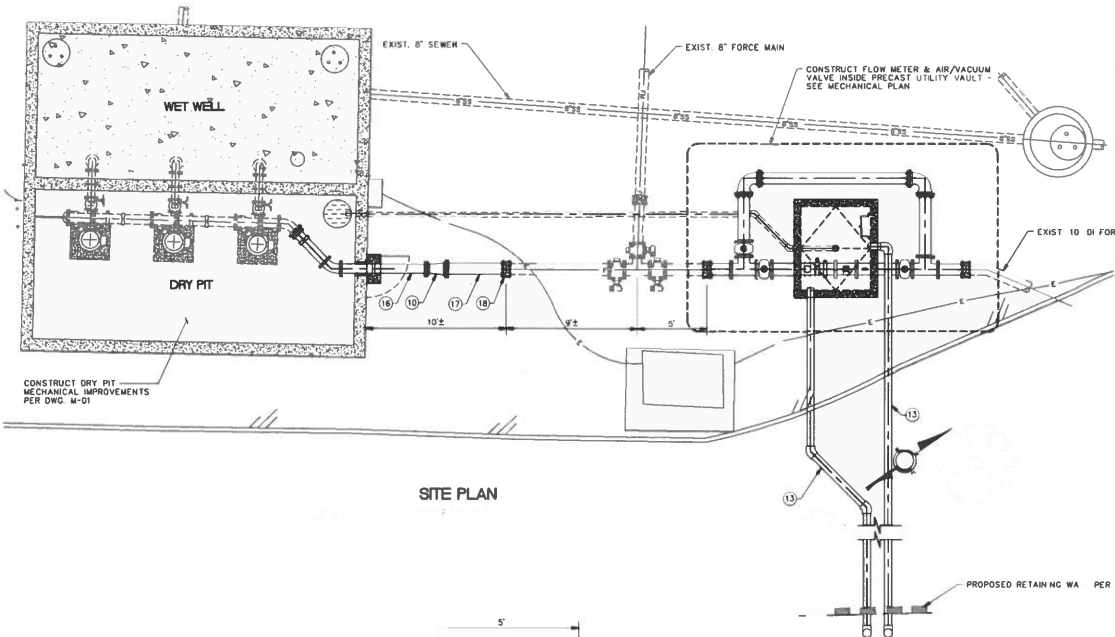
DESIGN: MM
DRAWN: KS
CHECKED: JG

DATE: _____
ENGINEER: JOSEPH GUTIERREZ REC 55604
DISTRICT ENGINEER: LORNE LAFSTEN REC 67027

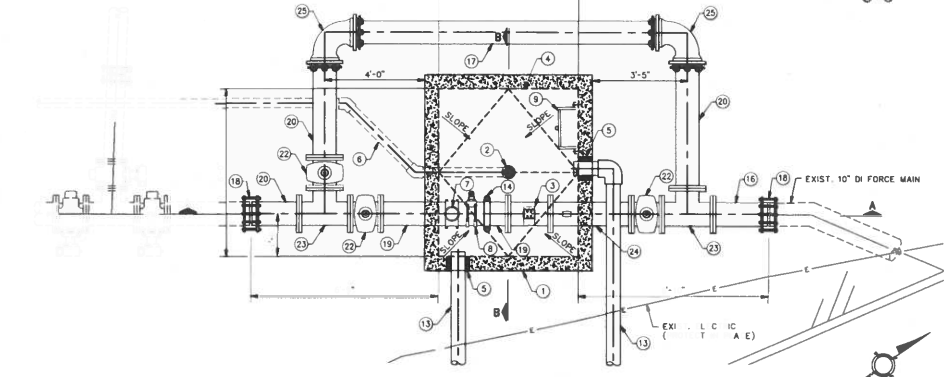
TRABUCO CANYON WATER DISTRICT
HERITAGE SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

MECHANICAL PLAN & SECTIONS

M-01
SHEET
14
OF
30



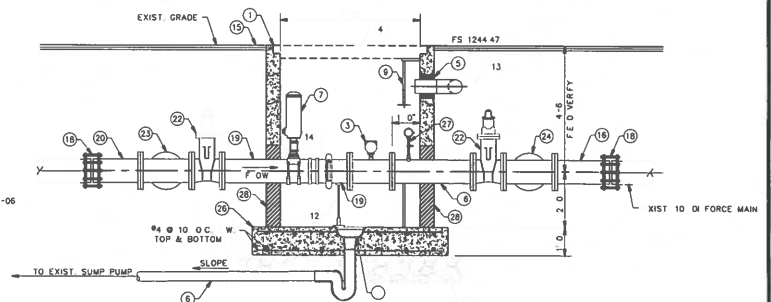
SITE PLAN



FLOW METER UTILITY VAULT MECHANICAL PLAN

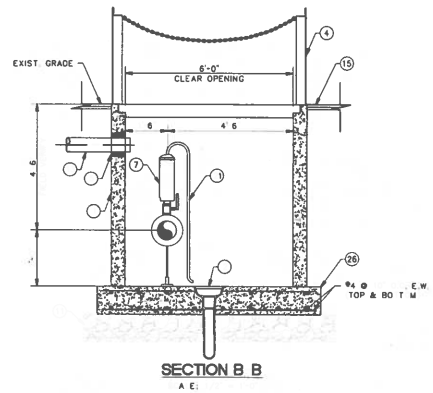
CONSTRUCTION NOTES

- 1 CONSTRUCT 6 FT. x 5 FT. OPEN BOTTOM PRECAST CONCRETE VAULT
- 2 CONSTRUCT 4" FLOOR DRAIN WITH STAINLESS STEEL GRATE AND P-TRAP
- 3 CONSTRUCT 10" FLO'D MAGNETIC FLOW METER
- 4 CONSTRUCT 6 FT. x 5 FT. ALUMINUM DOUBLE LEAF, SPRING ASSISTED H-20 TRAFFIC RATED ACCESS HATCH WITH SAFETY CHAIN
- 5 CONSTRUCT WALL PENETRATION PER 7/16" W-54
- 6 CONSTRUCT 4" SCH. 80 PVC DRAIN PIPE
- 7 CONSTRUCT 2" AIR/VACUUM VALVE ASSEMBLY PER 7/16" W-54
- 8 CONSTRUCT 2-1/2" THREADED OUTLET ON DI PIPE, 2-1/2" x 2" INSULATING BUSHING, 2" SST NIPPLE, AND 2" SST BALL VALVE
- 9 CONSTRUCT ALUMINUM ACCESS LADDER WITH WALL BRACKETS ANCHORED INTO VAULT WALL AND SAF-T-CLIMB ACCESSORY PER 1/2" W-54
- 10 CONSTRUCT 10" x 8" MJ DUCTILE IRON REDUCER WITH JOINT RESTRAINT (EBAA IRON MEGALUG SERIES 1100, OR APPROVED EQUAL)
- 11 CONSTRUCT 12" THICK LAYER OF 3/4" CRUSHED ROCK BASE
- 12 CONSTRUCT PIPE SUPPORT PER 5/16" W-54
- 13 CONSTRUCT 6" SCH 80 PVC AIR VENT PIPE AND FITTINGS PER 5/16" W-54
- 14 CONSTRUCT 10" VICTAULIC COUPLING, OR APPROVED EQ. A
- 15 REMOVE EXISTING AC PAVEMENT AND RESTORE IN KIND
- 16 CONSTRUCT 8" DUCTILE IRON SPOOL WITH THRUST COLLAR
- 17 CONSTRUCT 10" PE X PE DUCTILE IRON SPOOL (LENGTH AS REQUIRED)
- 18 CONSTRUCT 10" RESTRAINED MECHANICAL COUPLING (ROMAC 501, OR APPROVED EQUAL)
- 19 CONSTRUCT 10" FE X GE DUCTILE IRON SPOOL (LENGTH AS REQUIRED)
- 20 CONSTRUCT 10" FE X PE DUCTILE IRON SPOOL (LENGTH AS REQUIRED)
- 21 EXTEND 1/2" SCH 80 PVC TO DRAIN INLET
- 22 CONSTRUCT 10" FE X FE GATE VALVE WITH VALVE CAN PER 1/2" W-54
- 23 CONSTRUCT 10" FE X FE DUCTILE IRON TEE
- 24 CONSTRUCT 10" FE X FE DUCTILE IRON SPOOL (LENGTH AS REQUIRED)
- 25 CONSTRUCT 10" MJ X MJ 90° DUCTILE IRON ELBOW WITH JOINT RESTRAINT (EBAA IRON MEGALUG SERIES 1100, OR APPROVED EQUAL)
- 26 CONSTRUCT 12" THICK CAST-IN-PLACE REINFORCED CONCRETE BASE
- 27 CONSTRUCT PRESSURE GAUGE/TRANSMITTER ASSEMBLY PER 1/2" W-54
- 28 REMOVE CONCRETE KNOCKOUTS FROM PRECAST VAULT TO SET STRUCTURE OVER FORCE MAIN - REPAIR CONCRETE AROUND 10" PIPE AFTER COMPLETION PER 1/2" W-54



SECTION A-A

SCALE: 1/2" = 1'-0"



SECTION B-B



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.



318 W KATELA AVE, SUITE A
ORANGE, CA 92667
(714) 978-4407
www.jigconsultants.com



NO.	DATE	REVISIONS

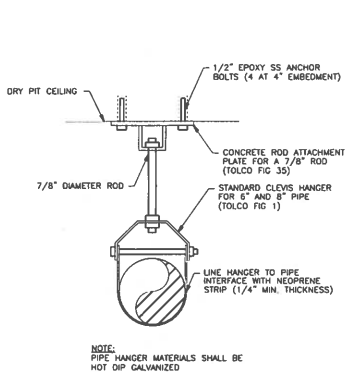
DESIGN:	MM
DRAWN:	KS
CHECKED:	JG

DESIGN:	DATE
DRAWN:	
CHECKED:	

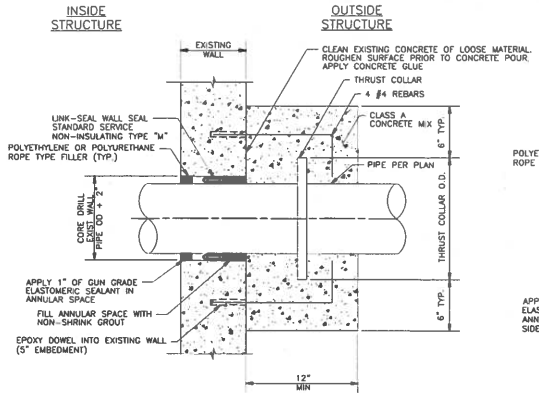
TRABUCO CANYON WATER DISTRICT
HERITAGE SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

FLOW METER
MECHANICAL PLAN & SECTIONS

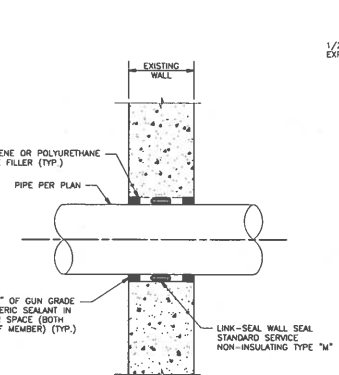
M-02
SHEET
15
OF
30



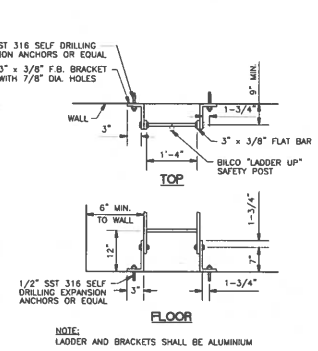
PIPE HANGER 1
NOT TO SCALE



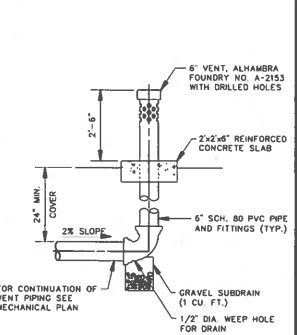
DRY PIT WALL REPAIR AND PIPE PENETRATION DETAIL 2
NOT TO SCALE



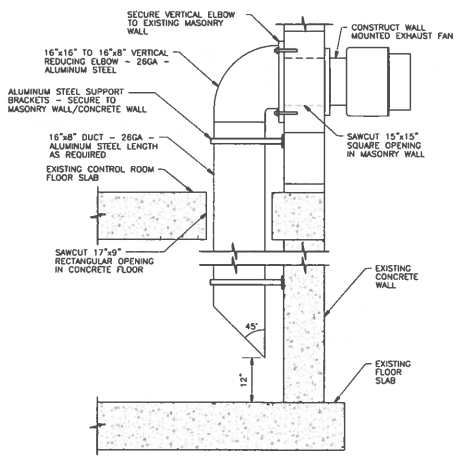
WALL PENETRATION DETAIL 3
NOT TO SCALE



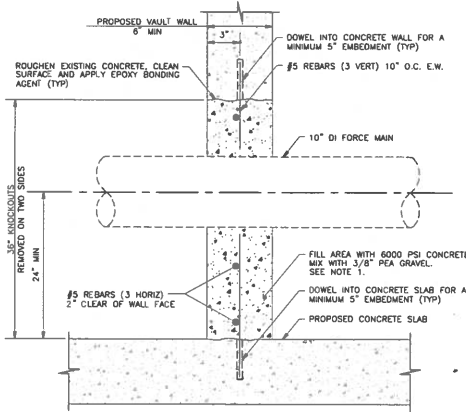
ACCESS LADDER 4
NOT TO SCALE



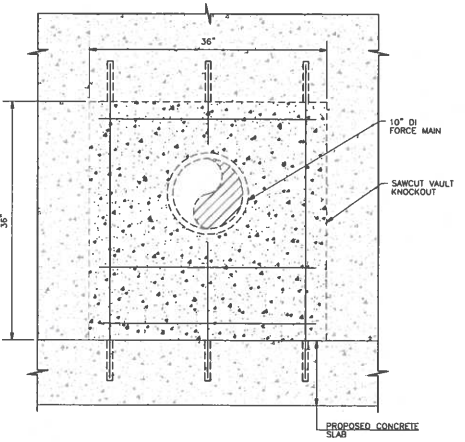
AIR VENT DETAIL 5
NOT TO SCALE



FAN DUCTING TO DRY PIT 6
NOT TO SCALE



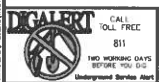
FLOW METER VAULT WALL REPAIR 7
NOT TO SCALE



VALVE AND VALVE BOX 8
NOT TO SCALE

NOTES:
1. CONTRACTOR TO USE ADMIXTURES TO REDUCE WATER CONTENT AND OBTAIN HIGH EARLY STRENGTH.
2. CONTRACTOR TO APPLY SIKATOP 123 PLUS TO CONCRETE VERTICAL SURFACES WHERE VOIDS ARE NOTED AFTER REMOVAL OF FORMS.

NOTE:
PROVIDE CAST IRON COVER WITH TOP MARK AS SHOWN TO THE RIGHT.



CALL TOLL FREE 811
TWO WORKING DAYS BEFORE YOU DIG
Underground Service Alert



318 W KATELLA AVE, SUITE A
ORANGE, CA 92667
(714) 978-4407
www.jigconsultants.com



NO.	DATE	REVISIONS

DESIGN: MM
DRAWN: KS
CHECKED: JG



DESIGNER: JOSEPH GUTIERREZ REC 55604
DISTRICT ENGINEER: LORNE LAUSTEN REC 67027

TRABUCO CANYON WATER DISTRICT
HERITAGE SEWER LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

MISCELLANEOUS MECHANICAL DETAILS

M-03
SHEET 16 OF 30

CONDUIT PLAN	SINGLE LINE DIAGRAM	SCHEMATIC DIAGRAM	DESCRIPTION
			CIRCUIT BREAKER. UPPER NUMBER IS TRIP RATING. LOWER NUMBER IS NUMBER OF POLES.
			THREE POSITION SWITCH. MAINTAINED CONTACT FUNCTION MAY VARY AS NOTED ON DIAGRAMS. CENTER POSITION IS OFF.
			TWO POSITION SWITCH. MAINTAINED CONTACT FUNCTION MAY VARY AS NOTED ON DIAGRAMS.
			MOMENTARY CONTACT PUSHBUTTON. FUNCTION MAY VARY AS NOTED ON DIAGRAMS.
			MOMENTARY CONTACT PUSHBUTTON WITH PROVISION FOR LOCKOUT.
			LOCKABLE DISCONNECT SWITCH. RATING AND DETAILS AS NOTED ON DRAWINGS.
			LIMIT SWITCH. NORMALLY OPEN.
			LIMIT SWITCH. NORMALLY CLOSED.
			TIME DELAY RELAY CONTACT. OFF DELAY. NORMALLY OPEN, TIME OPEN.
			TIME DELAY RELAY CONTACT. OFF DELAY. NORMALLY CLOSED, TIME CLOSED.
			TIME DELAY RELAY CONTACT. ON DELAY. NORMALLY OPEN, TIME OPEN.
			TIME DELAY RELAY CONTACT. ON DELAY. NORMALLY CLOSED, TIME CLOSED.
			SOLENOID OPERATED VALVE.
			MOTOR CONTROL CENTER BRANCH STABS.
			MOTOR STARTER WITH THERMAL OVERLOADS. NUMBER INDICATES NEMA SIZE.
			MOTOR OVERLOAD CONTACT.
			MOTOR. NUMBER INDICATES HORSEPOWER.
			INDICATING LIGHT. PUSH-TO-TEST. LETTER INDICATES COLOR. R=RED B=BLUE G=GREEN A=AMBER W=WHITE.
			CONTACTOR OR RELAY COIL. LETTER OR NUMBER IS DESIGNATION.
			NORMALLY CLOSED CONTACT. LETTER OR NUMBER IS DESIGNATION.
			NORMALLY OPEN CONTACT. LETTER OR NUMBER IS DESIGNATION.
			RUNNING TIME METER, NON-RESETTABLE.
			FUSE. NUMBER INDICATES RATING.
			CONTROL TRANSFORMER. RATING AS NOTED ON DRAWINGS OR AS REQUIRED BASED ON LOAD SERVED.
			KILOWATT METER.
			PRESSURE SWITCH. CONTACT ACTION AS NOTED ON DRAWINGS.

CONDUIT PLAN	SINGLE LINE DIAGRAM	SCHEMATIC DIAGRAM	DESCRIPTION
			POWER TRANSFORMER. RATINGS AS NOTED ON DRAWINGS.
			DUPLEX RECEPTACLE. 20A. SPEC GRADE GROUNDING TYPE. UNLESS OTHERWISE NOTED ON DRAWINGS.
			TELEPHONE OUTLET.
			JUNCTION BOX OR CONDUIT FITTING AS NOTED OR REQUIRED. (SHOWN WITH CONDUIT TURNING UP)
			LEVEL SWITCH. CONTACT ACTION AS NOTED ON DRAWINGS.
			CONTROL PANEL OR EQUIPMENT AS NOTED ON DRAWINGS.
			FLOW SWITCH. CONTACT ACTION AS NOTED ON DRAWINGS.
			FLUSH TOGGLE SWITCH. SINGLE POLE, SINGLE THROW.
			FLUSH TOGGLE SWITCH. THREE WAY.
			FLUORESCENT FIXTURE. SEE LIGHTING SCHEDULE.
			LIGHTING FIXTURE. WALL MOUNTED. SEE LIGHTING SCHEDULE.
			HH-HANDHOLE PB-FULLBOX HH-HANDHOLE OR AS NOTED ON DRAWINGS.
			TELEPHONE OUTLET. SIZE AS NOTED.
			GROUNDING GRID OR GROUNDING CONDUCTOR. SIZE AS REQUIRED OR AS NOTED ON DRAWINGS.
			GROUND PIT/STAB. SIZE AS NOTED ON DRAWINGS.
			EXOTHERMIC GROUND CONNECTION.
			BOLTED GROUND CONNECTION.
			CONDUIT BENDING UP.
			CONDUIT BENDING DOWN.
			UNDERGROUND OR CONCEALED CONDUIT, 1" MINIMUM.
			EXPOSED CONDUIT, 3/4" MINIMUM.
			HOMERUN CONDUIT WITH 3 CONDUCTORS, NEUTRAL AND GROUND, CIRCUITS 1, 3, 5. PANEL PBT. NO HAZARDOUS. INDICATE 2 CONDUCTORS AND GROUND.
			DRIVEN GROUND ROD/TEST WELL. 3/4" x 10' Cu CLAD STEEL.
			PANELBOARD OR AS NOTED ON DRAWING.
			LIQUIDTIGHT FLEXIBLE CONDUIT.
			CONDUIT NUMBER 'xxx', REFER TO CONDUIT SCHEDULE FOR DESCRIPTION.

CONDUIT PLAN	SINGLE LINE DIAGRAM	SCHEMATIC DIAGRAM	DESCRIPTION
			MANUAL MOTOR STARTER.
			GROUND.
			HEATER, RATING AS NOTED ON DRAWING.
			HORN OR AUDIBLE SIGNAL.
			PHASE.
			TERMINAL, INTERNAL WIRING.
			TERMINAL, FIELD WIRING.
			DOOR SWITCH.
			CONDUIT STUB OUT.
			DISCONNECT SWITCH, F = FUSED. HF = NON-FUSED. XX = AMP RATING.
			TELEMETRY INPUT POINT.
			PLC INPUT POINT AT RTU.
			SINGLE RECEPTACLE. TYPE AND RATING AS NOTED ON PLANS.

STANDARD ABBREVIATIONS

A	AMPERE	AMH	MANHOLE
AC	ALTERNATING CURRENT	MIN	MINUTE
AF	AMPERE FRAME	NLO	NON-LOGS ONLY
AFC	ABOVE FINISHED FLOOR	MOV	MOTOR OPERATED VALVE ACTUATOR
AFG	ABOVE FINISHED GRADE	MSB	MAIN SWITCHBOARD
AT	AMPERE TRIP	MTR	MOUNTING MOTOR
AUX	AUXILIARY	N	NEUTRAL
AUTO	AUTOMATIC	NA	NON-AUTOMATIC
AWG	AMERICAN WIRE GAUGE	NC	NORMALLY CLOSED
BC	BARE COPPER	NCO	NORMALLY CLOSED
BD	BOARD	NCTC	INSTANTANEOUS OPEN
BKR	BREAKER	NO	TIME CLOSE
C	CONDUIT	NOC	NORMALLY CLOSED, TIME OPEN
CAB	CABINET	NOTC	NORMALLY OPEN, TIME OPEN
CB	CIRCUIT BREAKER	NEC	NATIONAL ELECTRIC CODE
CCT	CIRCUIT ONLY	NE	NOT IN CONTACT
CLO	CEILING	No	NUMBER
C.O.	CONDUIT ONLY	NO	NORMALLY OPEN
COMP	COMPARTMENT	NOC	NORMALLY OPEN, INSTANTANEOUS CLOSE
COND	CONDUCTOR	NOTC	NORMALLY OPEN, TIME CLOSE
CONT	CONTROL	NO	NORMALLY OPEN, TIME OPEN
CONT	CONTROL	NP	NAMERLATE
CONT	CONTROL	NTS	NOT TO SCALE
CONT	CONTROL	OL	OVERLOAD SWITCH
CONT	CONTROL	OT	OVERTEMP SWITCH
CP	CONTROL PANEL	OT	OVERTEMP SWITCH
CT	CURRENT TRANSFORMER	PC	PUSHBUTTON
CU	COPPER	PC	PHOTOCELL
CR	CONTROL RELAY	PCV	PUMP CONTROL VALVE
DC	DIRECT CURRENT	PMR	POWER MONITOR RELAY
DISC	DISCONNECT	PML	PANEL POSITION
DISC SW	DISCONNECT SWITCH	POS	POSITION
DPT	DOUBLE POLE DOUBLE THROW	PRT	PART WIRING
DPT	DOUBLE POLE SINGLE THROW	PR	PRIMARY
DWC	DOOR SWITCH	PS	PRESSURE SWITCH
DS	ELEVATION	PT	POTENTIAL TRANSFORMER
ELEV	ELEVATION	PVC	POLYVINYL CHLORIDE
EML	ELECTRICAL METALLIC TUBING	PVC/RGS	PVC JACKETED ROOD
ED	ELECTRICALLY OPERATED	SG	GALVANIZED STEEL CONDUIT
EXIST	EXISTING	SP	SHAPE
FBO	FURNISHED BY OWNER	SP	SPECIFICATION
FOR	FEDDER	SPST	SINGLE POLE DOUBLE THROW
FN	FINISHED	SS	STAINLESS STEEL
FLA	FULL LOAD AMPS	SSRV	SOLID STATE REDUCED VOLTAGE STARTER
FLEX	FLEXIBLE	ST	SHUNT TRIP
FM	FLOW METER	STA	STATION
FS	FLOW SWITCH	STL	STEEL
FT	FEET OR FOOT	STR	SHIELDED TWISTED PAIR
FT	FEET OR FOOT	STT	SHIELDED TWISTED TRIPLET
FUT	FLOW TRANSMITTER	SV	SOLENOID VALVE
FVNR	FUTURE	SW	SWITCH
GALV	GALVANIZED	SWB	SWITCHBOARD
GD	GAS DETECTORS	TB	TERMINAL BOX
GFI	GROUND FAULT INTERRUPTER	TEL	TELEPHONE
GFP	GROUND FAULT PROTECTION	TEMP	TEMPERATURE
GND	GROUND	TERM	TERMINAL
HS	HANDHOLE	TRM	TELEMETRY
HDA	HAND/OFF/AUTO	TSW	TEMPERATURE SWITCH
HTR	HEATER	TSW	TWO SPEED TWO WINDING
IC	INTERLUPTING CURRENT	TVS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
IN	INCHES OR INCH	TVS/SH	TWO SPEED TWO WINDING TRANSIENT VOLTAGE SURGE SUPPRESSOR
IND	INDICATING	UC	UNDERGROUND
INST	INSTANTANEOUS	UN	UNLESS OTHERWISE NOTED
INTR	INSTRUMENT	V	VOLTS
INTL	INTERLOCK	W	WATTS
JB	JUNCTION BOX, CONDULET OR FITTING AS REQUIRED BY NEC. UNLESS OTHERWISE NOTED.	W/O	WITHOUT
KW	KILOWATTS	WP	WEATHERPROOF
LCL	LONG CONTINUOUS LOAD	WTR	WATER
LCP	LOCAL CONTROL PANEL	WTR	WATER
LEV	LEVEL	WTR	WATER
LIM	LIMIT	WTR	WATER
LR	LOCAL/REMOTE	WTR	WATER
LOS	LOCKOUT STOP STATION	WTR	WATER
LS	LEVEL OR LIMIT SWITCH	WTR	WATER
LSC	LONG TIME, SHORT TIME, INSTANTANEOUS AND GROUND FAULT ADJUSTMENTS	WTR	WATER
LT	LIGHT	WTR	WATER
LV	LOW VOLTAGE	WTR	WATER
MA	MAINTAINED	WTR	WATER
MAINT	MAINTAINED	WTR	WATER
MAN	MANUAL	WTR	WATER
MAX	MAXIMUM	WTR	WATER
MC	MAINTAINED CONTACT	WTR	WATER
MCC	MOTOR CONTROL CENTER	WTR	WATER
MCM	THOUSAND CIRCULAR MILS	WTR	WATER
MCP	MOTOR CIRCUIT PROTECTOR	WTR	WATER



CALL TOLL FREE 811
CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

GERRY GREEN INC. Consulting Electrical Engineers
2734 Laker Ave West Suite M, Carlsbad CA 92010 Tel: (619) 962-2356



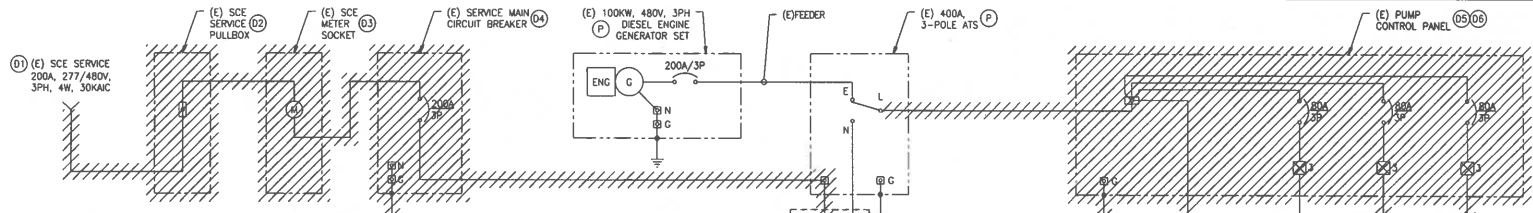
NO	DATE	REVISIONS	DESIGN
			MM
			KS
			JG



JOSPH J. GUTENBERG	REV 15/24	ENGINEER
CORIE LAUSTON	REV 6/27	DISTRICT ENGINEER

TRABUCO CANYON WATER DISTRICT
HERITAGE LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

STANDARD ELECTRICAL SYMBOLS AND ABBREVIATIONS



LEGEND

— EXISTING

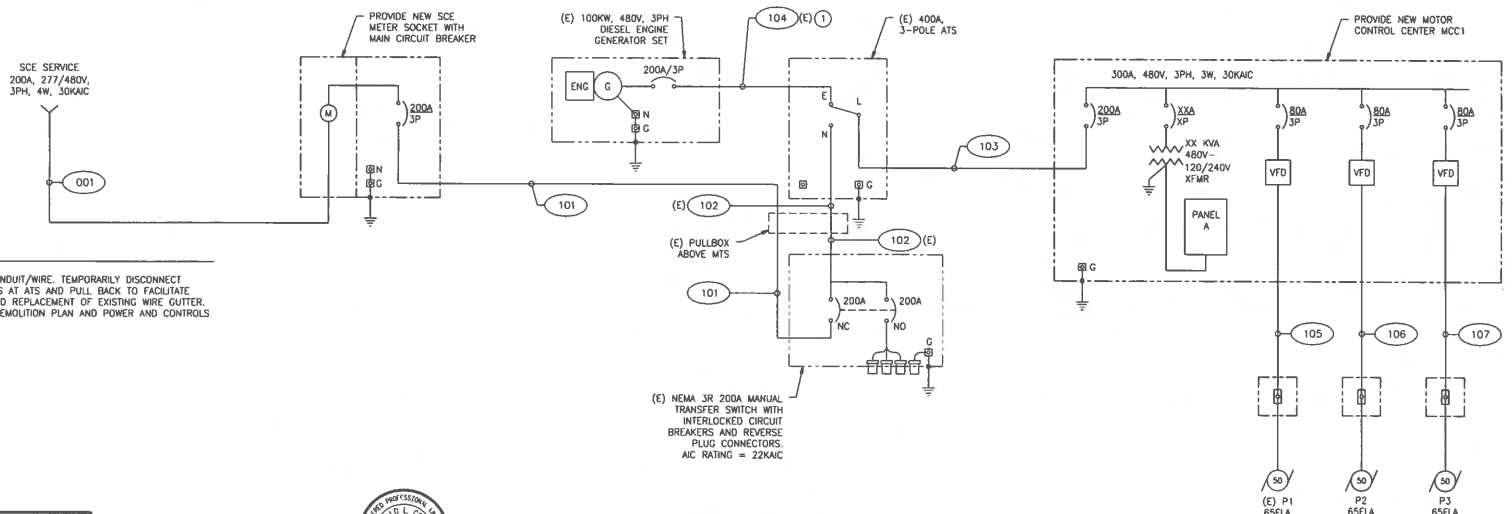
— NEW

▨ REMOVE

DEMOLITION NOTES

- 01 EXISTING SCE SERVICE TO BE TEMPORARILY DISCONNECTED AND REROUTED TO NEW METER SOCKET BY SCE. COORDINATE WORK WITH SCE.
- 02 REMOVE EXISTING SCE PULLBOX/TERMINAL CABINET. COORDINATE WORK WITH SCE.
- 03 REMOVE EXISTING SCE METER SOCKET. DISCONNECT AND REMOVE EXISTING LOAD-SIDE EXPOSED CONDUIT AND WIRE FROM EXISTING METER SOCKET TO EXISTING MAIN SERVICE DISCONNECT. COORDINATE DISCONNECTION AND REMOVAL OF LINE-SIDE SCE SERVICE CONDUCTORS (WORK BY SCE) WITH SCE.
- 04 REMOVE EXISTING ENCLOSED CIRCUIT BREAKER - MAIN SERVICE DISCONNECT. DISCONNECT AND REMOVE EXISTING LOAD-SIDE EXPOSED CONDUIT AND WIRE FROM EXISTING MAIN SERVICE DISCONNECT TO EXISTING ATS.
- 05 REMOVE EXISTING PUMP CONTROL PANEL. DISCONNECT AND REMOVE EXISTING LINE-SIDE EXPOSED CONDUIT AND WIRE FROM EXISTING ATS TO EXISTING PUMP CONTROL PANEL AND LOAD-SIDE EXPOSED CONDUIT AND WIRE TO TRANSFORMER PRIMARY CIRCUIT BREAKER.
- 06 DISCONNECT EXISTING POWER AND CONTROL CABLING FOR (3) EXISTING PUMPS. PUMP P1 IS TO REMAIN. EXISTING CABLING FOR PUMP P1 SHALL BE COILED AT PUMP LOCATION AND PROTECTED FOR RECONNECTION AS SHOWN ON POWER PLAN. PUMPS P2 AND P3 ARE BEING REMOVED AND REPLACED WITH NEW PUMPS PER MECHANICAL PLANS.
- 07 REMOVE EXISTING TRANSFORMER PRIMARY CIRCUIT BREAKER. DISCONNECT AND REMOVE EXISTING LOAD-SIDE EXPOSED CONDUIT AND WIRE FROM EXISTING TRANSFORMER TO EXISTING PANEL A.
- 08 REMOVE EXISTING 7.5KVA TRANSFORMER. DISCONNECT AND REMOVE EXISTING LOAD-SIDE EXPOSED CONDUIT AND WIRE FROM EXISTING TRANSFORMER TO EXISTING PANEL A.
- 09 REMOVE EXISTING PANEL A. DISCONNECT AND REMOVE EXISTING LOAD-SIDE EXPOSED CONDUIT AND WIRE SERVING ALL EXISTING BRANCH CIRCUITS UNLESS NOTED OTHERWISE ON PLANS.
- 10 REMOVE EXISTING ATS WIRE GUTTER. SEE DETAIL XX/E-XX FOR CONDUIT AND WIRE REMOVAL AND REPLACEMENT REQUIREMENTS.
- 11 REMOVE EXISTING EXHAUST FAN, DUCT, AND ASSOCIATED CONDUIT AND WIRE.
- P PROTECT IN PLACE.

SINGLE LINE DIAGRAM - DEMOLITION



LEGEND

— EXISTING

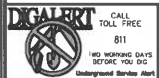
— NEW

▨ REMOVE

NOTES

- 1 EXISTING CONDUIT/WIRE. TEMPORARILY DISCONNECT CONDUCTORS AT ATS AND PULL BACK TO FACILITATE REMOVAL AND REPLACEMENT OF EXISTING WIRE GUTTER. REFER TO DEMOLITION PLAN AND POWER AND CONTROLS PLAN.

SINGLE LINE DIAGRAM



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO DIGGING ANY SEE GENERAL NOTES FOR FURTHER INFORMATION

GERRY GREEN INC.
Consulting Electrical Engineers
2734 Lakeview Ave. West, Suite M, Carlsbad, CA 92010 Tel: (818) 962-2334



NO	DATE	REVISIONS	DESIGN	DATE
			MM	
			KS	
			JG	



DESIGNED BY: GERRY GREEN	ENGINEER
DRAWN BY: KERRY GREEN	
CHECKED BY: JERRY GREEN	DISTRICT ENGINEER

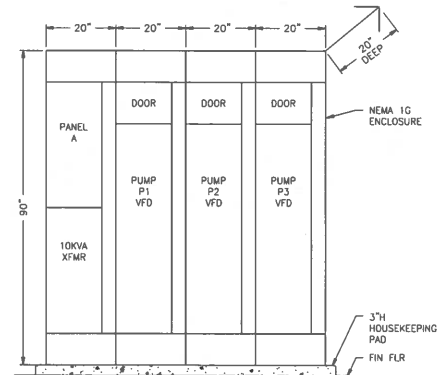
TRABUCO CANYON WATER DISTRICT
HERITAGE LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

SINGLE LINE DIAGRAM

E-02
SHEET 18 OF 29

CONDUIT/CABLE SCHEDULE								
TAG I.D.	CONDUIT QTY.	CONDUIT SIZE	CABLE (EA CONDUIT) QTY.	CABLE SIZE	GND	FROM	TO	REMARKS
001	1	3	-	-	-	SCE TRANSFORMER PAD	SCE METER/MAIN	EXTEND CONDUIT FROM STUBOUT AT PAD. CONDUCTORS BY SCE.
101	1	2	3	3/0	8	SCE METER/MAIN	MANUAL TRANSFER SWITCH	
102	1	2	3	3/0	8	MANUAL TRANSFER SWITCH	AUTO TRANSFER SWITCH	
103	1	2	3	3/0	8	AUTO TRANSFER SWITCH	MOTOR CONTROL CENTER MCC1	
104	1	2	3	3/0	8	GENERATOR SET	AUTO TRANSFER SWITCH	
105A	1	2	1	-	-	MCC1 - P1 SECTION	PUMP P1	
105B	1	1	1	-	-	MCC1 - P1 SECTION	PUMP P1	PUMP CABLE
106A	1	2	1	-	-	MCC1 - P2 SECTION	PUMP P2	PUMP CABLE
106B	1	1	1	-	-	MCC1 - P2 SECTION	PUMP P2	PUMP CABLE
107A	1	2	1	-	-	MCC1 - P3 SECTION	PUMP P3	PUMP CABLE
107B	1	1	1	-	-	MCC1 - P3 SECTION	PUMP P3	PUMP CABLE
108	1	1	4	10	10	PANEL A	GENERATOR SET	BATTERY CHARGER AND BLOCK HEATER
109	1	1	4	14	14	GENERATOR SET	AUTO TRANSFER SWITCH	GENERATOR START
110	1	1	12	14	14	SCADA RTU PANEL	MCC1 - P1 SECTION	
111	1	1	12	14	14	SCADA RTU PANEL	MCC1 - P2 SECTION	
112	1	1	12	14	14	SCADA RTU PANEL	MCC1 - P3 SECTION	
113A	1	3/4	2	12	12	PANEL A	EXH FAN STARTER	EXTEND TO MOTOR
113B	1	3/4	2	12	12	EXH FAN STARTER	VENTILATION MONITOR PANEL	
113C	1	3/4	2	14	14	VENTILATION MONITOR PANEL	SCADA RTU PANEL	
113D	1	3/4	4	14	14	VENTILATION MONITOR PANEL	SCADA RTU PANEL	
114	1	3/4	2	12	12	PANEL A	SCADA RTU PANEL	
115	1	3/4	-	-	-	SCADA RTU PANEL	RAS PANEL	
116	1	3/4	-	-	-	SCADA RTU PANEL	RAS PANEL	
117	1	3/4	-	-	-	SCADA RTU PANEL	RAS PANEL	
118	1	3/4	4	14	14	AUTO TRANSFER SWITCH	SCADA RTU PANEL	
119	1	1	1	TSP	-	SCADA RTU PANEL	MAG FLOW METER	
120	1	1	2	12	12	PANEL A	MAG FLOW METER	
121	1	1	2	12	12	PANEL A	AUTODIALER	
122								
123								
124								
125								
126								
127								
128								
129								

PANEL: A		MOUNTED IN MCC1										NEW	
VOLT: 120/240V 1 PHASE, 3 WIRE													
BUS: 125 AMP													
MAIN: 80A, 3P													
FED FROM: TRANSFORMER 10KVA, 480V-120/240V, 1 PHASE													
KEY: N - NON-COINCIDENT LOADS													
DESCRIPTION	C K	LOAD	Q	BREAKER	VOLTS	AMPERES	PER PHASE	BREAKER	Q	LOAD	C	DESCRIPTION	
SUMP PUMP RECEPTACLE	1	1000	M	20	1	1300		1	20	L	9	300	2
SCADA RTU PANEL	3	1000	L	20	1	1540		1	20	R	1	540	4
MAG FLOW METER	5	300	L	15	1	660		1	20	R	2	360	8
GENERATOR SET HEATER	7	2000		30	1	2300		1	20		1	300	8
GENERATOR SET BATTERY CHARGER	8	300		20	1	1300		1	20	M	1	1000	10
GATE CONTROLLER	11	1000		20	1	1000		1	20				12
GATE CONTROLLER	13	1000		20	1	1000		1	20				14
SPARE	15			20	1	0		0	1	20			16
SPARE	17			20	1	0		0	1	20			18
SPARE	19			20	1	0		0	1	20			20
SPARE	21			20	1	0		0	1	20			22
SPARE	23			20	1	0		0	1	20			24
THROUGH FEED OR DOUBLE LUG TOTAL VA PER PHASE: 0 0													
TOTAL VOLT AMPERES PER PHASE: 4260 4840													
TOTALS													
KEY													
L-GENERAL LIGHTING LOAD 128% 2000 VA 1600 VA 9 TOTAL CONNECTED KVA													
R-RECEPTACLES (NEC ART. 220-13) 900 VA 900 VA 10 TOTAL DESIGN KVA													
M-MOTOR LOADS 2000 VA 2000 VA 38 TOTAL CONNECTED AMPS													
K-KITCHEN RECEPTACLES 0 AT 100% = 0 VA 0 VA 2 2% OF LARGEST MOTOR AMPS													
ALL OTHER LOADS 4600 VA 4600 VA 42 TOTAL DESIGN AMPS													



MOTOR CONTROL CENTER MCC1 ELEVATION 1
NOT TO SCALE

DIGALERT
CALL TOLL FREE 811
CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.
Underground Service Alert

GERRY GREEN INC.
Consulting Electrical Engineers
2734 Luther Ave West, Suite M, Carpinteria, CA 93015 Tel: (805) 962-2156



NO.	DATE	REVISIONS	DESIGN
			MM
			KS
			JG

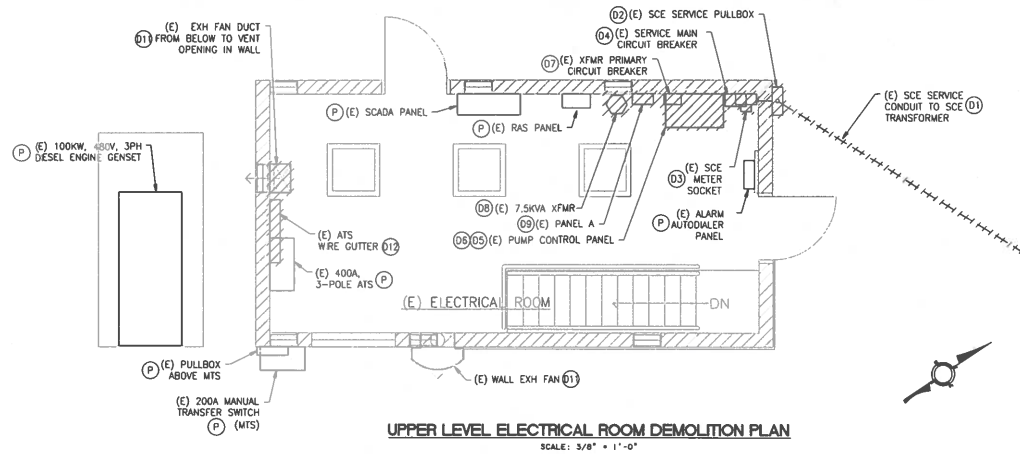


JOSHEP H. GUTIERREZ	REG 55604	ENGINEER
LORENTE LAUSTEV	REG 67027	DISTRICT ENGINEER

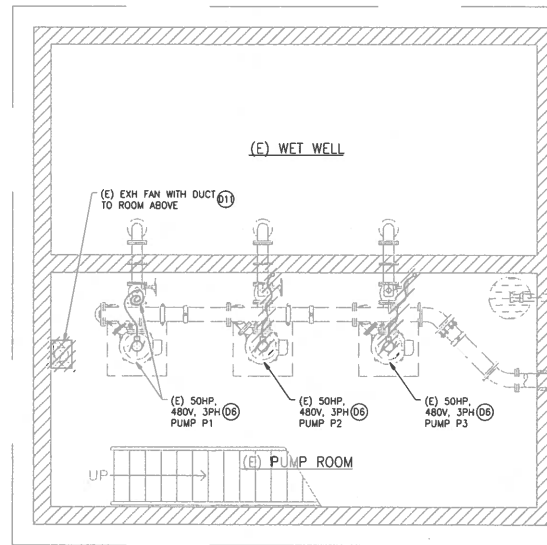
TRABUCO CANYON WATER DISTRICT
HERITAGE LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

ELECTRICAL SCHEDULES AND
EQUIPMENT ELEVATIONS

E-03
SHEET
19
OF
29



UPPER LEVEL ELECTRICAL ROOM DEMOLITION PLAN
SCALE: 3/8" = 1'-0"

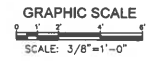


LOWER LEVEL PUMP ROOM DEMOLITION PLAN
SCALE: 3/8" = 1'-0"

DEMOLITION NOTES

- (D1) EXISTING SCE SERVICE TO BE TEMPORARILY DISCONNECTED AND REROUTED TO NEW METER SOCKET BY SCE. COORDINATE WORK WITH SCE.
- (D2) REMOVE EXISTING SCE PULLBOX/TERMINAL CABINET. COORDINATE WORK WITH SCE.
- (D3) REMOVE EXISTING SCE METER SOCKET. DISCONNECT AND REMOVE EXISTING LOAD-SIDE EXPOSED CONDUIT AND WIRE FROM EXISTING METER SOCKET TO EXISTING MAIN SERVICE DISCONNECT. COORDINATE DISCONNECTION AND REMOVAL OF LINE-SIDE SCE SERVICE CONDUCTORS (WORK BY SCE) WITH SCE.
- (D4) REMOVE EXISTING ENCLOSED CIRCUIT BREAKER - MAIN SERVICE DISCONNECT. DISCONNECT AND REMOVE EXISTING LOAD-SIDE EXPOSED CONDUIT AND WIRE FROM EXISTING MAIN SERVICE DISCONNECT TO EXISTING ATS.
- (D5) REMOVE EXISTING PUMP CONTROL PANEL. DISCONNECT AND REMOVE EXISTING LINE-SIDE EXPOSED CONDUIT AND WIRE FROM EXISTING ATS TO EXISTING PUMP CONTROL PANEL AND LOAD-SIDE EXPOSED CONDUIT AND WIRE TO TRANSFORMER PRIMARY CIRCUIT BREAKER.
- (D6) DISCONNECT EXISTING POWER AND CONTROL CABLING FOR (3) EXISTING PUMPS. PUMP P1 IS TO REMAIN. EXISTING CABLING FOR PUMP P1 SHALL BE COILED AT PUMP LOCATION AND PROTECTED FOR RECONNECTION AS SHOWN ON POWER PLAN. PUMPS P2 AND P3 ARE BEING REMOVED AND REPLACED WITH NEW PUMPS PER MECHANICAL PLANS.
- (D7) REMOVE EXISTING TRANSFORMER PRIMARY CIRCUIT BREAKER. DISCONNECT AND REMOVE EXISTING LOAD-SIDE EXPOSED CONDUIT AND WIRE FROM EXISTING CIRCUIT BREAKER TO EXISTING TRANSFORMER.
- (D8) REMOVE EXISTING 7.5KVA TRANSFORMER. DISCONNECT AND REMOVE EXISTING LOAD-SIDE EXPOSED CONDUIT AND WIRE FROM EXISTING TRANSFORMER TO EXISTING PANEL A.
- (D9) REMOVE EXISTING PANEL A. DISCONNECT AND REMOVE EXISTING LOAD-SIDE EXPOSED CONDUIT AND WIRE SERVING ALL EXISTING BRANCH CIRCUITS UNLESS NOTED OTHERWISE ON PLANS.
- (D10) REMOVE EXISTING ATS WIRE GUTTER. SEE DETAIL XX/E-XX FOR CONDUIT AND WIRE REMOVAL AND REPLACEMENT REQUIREMENTS.
- (D11) REMOVE EXISTING EXHAUST FAN, DUCT, AND ASSOCIATED CONDUIT AND WIRE.
- (P) PROTECT IN PLACE.

LEGEND



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT 8 BUSINESS DAYS BEFORE ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

GERRY GREEN INC.
Consulting Electrical Engineers
2734 LeRoy Ave West, Suite M, Carlsbad, CA 92010 Tel: (619) 962-2356

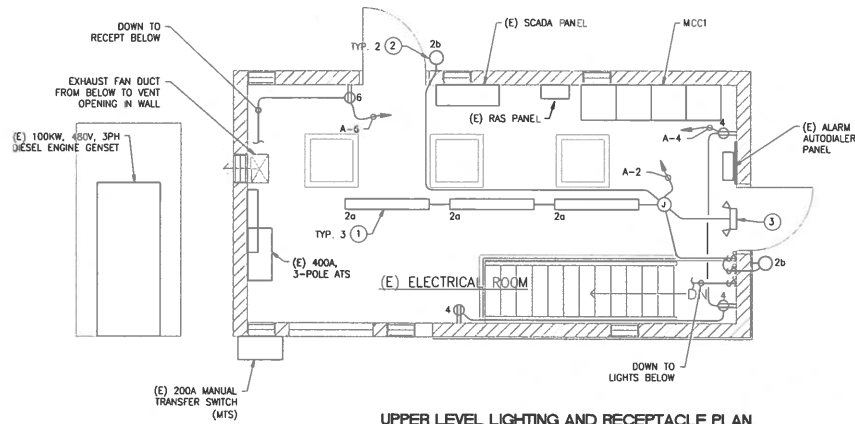


NO	DATE	REVISIONS	DESIGN	DATE
			MM	
			KS	
			JC	

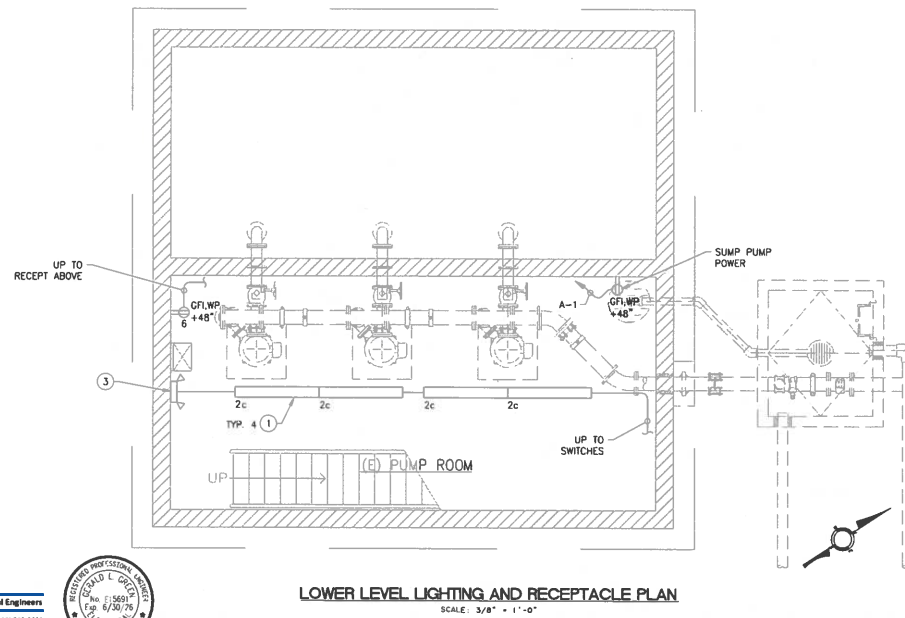
JOSEPH I. GUTIERREZ	REC 58424	ENGINEER
LOGANTE LAUSTEY	REC 67627	DISSIPATED ENGINEER

TRABUCO CANYON WATER DISTRICT
HERITAGE LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

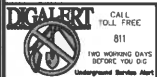
ELECTRICAL DEMOLITION PLANS



- NOTES
- 1 EXISTING WET LOCATION CEILING MOUNTED LINEAR LIGHT FIXTURE.
 - 2 EXISTING WALL MOUNTED EXTERIOR LIGHT.
 - 3 PROVIDE WALL MOUNTED EMERGENCY LIGHT TYPE A.



GRAPHIC SCALE
SCALE: 3/8" = 1'-0"



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

GERRY GREEN INC.
Consulting Electrical Engineers
2734 Lober Ave West, Suite M, Carlsbad, CA 92015 Tel: (855) 962-2358



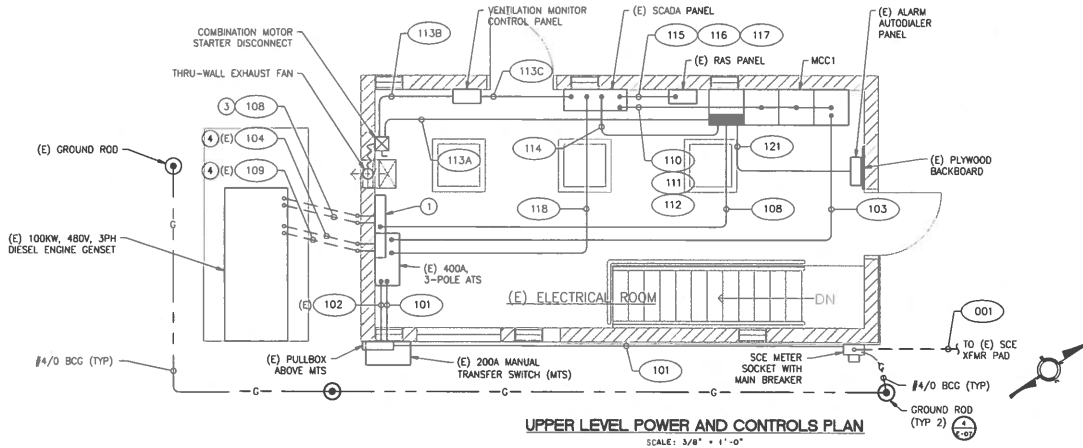
NO.	DATE	REVISIONS

DESIGN: MM	DATE:
DRAWN: KS	ENGINEER: JOSEPH Y. GUTIERREZ REC 53804
CHECKED: JC	PROJECT ENGINEER: CORNIE LAVIEN REC 67627

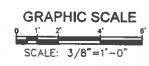
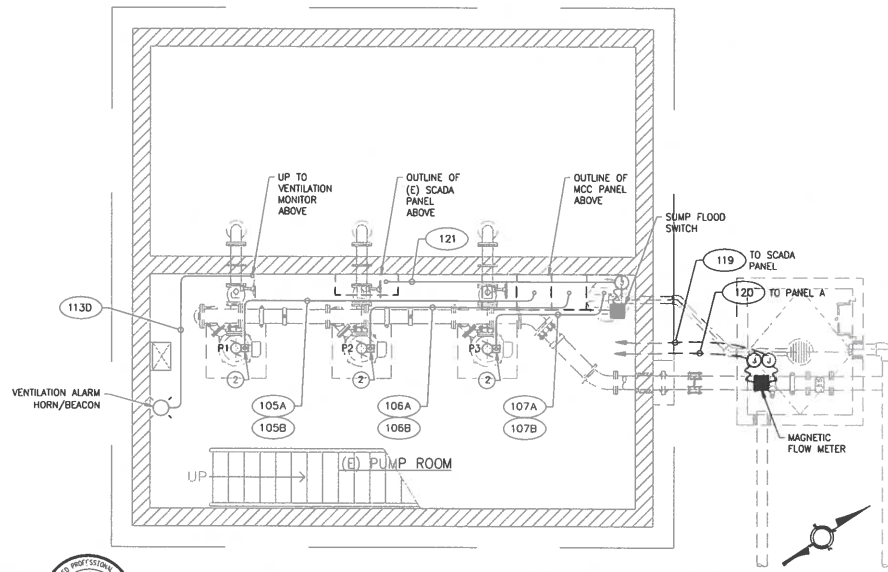
TRABUCO CANYON WATER DISTRICT
HERITAGE LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

LIGHTING AND RECEPTACLE PLANS

E-06
SHEET
21
OF
29



- NOTES**
- 1 PROVIDE NEW WIRE GUTTER TO REPLACE THE GUTTER REMOVED.
 - 2 PROVIDE CONDUIT/CABLE ADAPTER AT CEILING LEVEL AND DROP PUMP CABLES DOWN TO PUMP BELOW. PROVIDE SST KELLUM GRIP ANCHORED TO CEILING FOR CABLE DROP.
 - 3 CONDUIT 108 FROM WIRE GUTTER TO GENSET IS EXISTING CONDUIT. NEW CONDUCTORS SHALL BE CONTINUOUS FROM PANEL A TO GENSET.
 - 4 EXISTING CONDUIT/WIRE. TEMPORARILY DISCONNECT CONDUCTORS AT ATS AND PULL BACK TO FACILITATE REMOVAL AND REPLACEMENT OF EXISTING WIRE GUTTER. REFER TO DEMOLITION PLAN AND POWER AND CONTROLS PLAN.



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEG. ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

GERRY GREEN INC.
Consulting Electrical Engineers
2734 Lober Ave West, Suite M, Carlsbad, CA 92010 Tel: (619) 962-2156



LOWER LEVEL POWER AND CONTROLS PLAN
SCALE: 3/8" = 1'-0"

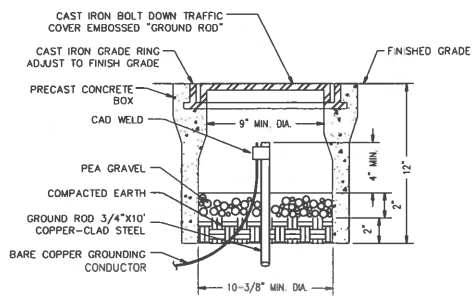
NO.	DATE	REVISIONS	DESIGN
			MM
			KS
			JG

DRAWN: KS	DESIGN: MM	DATE: 04/23/24
CHECKED: JG	ENGINEER: JOSEPH J. SUTHERLAND REC 55834	ENGINEER: CORNIE LAUSTEN REC 67027
	DISTRICT ENGINEER:	

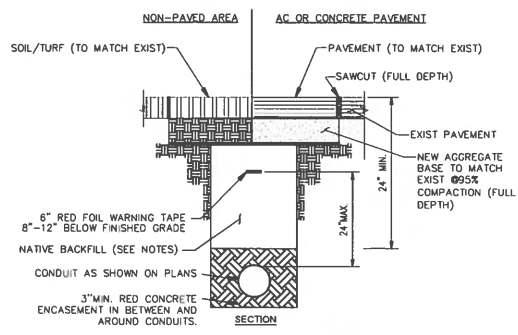
TRABUCO CANYON WATER DISTRICT
HERITAGE LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

POWER AND CONTROLS PLANS

E-06
SHEET **22**
OF **29**

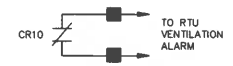
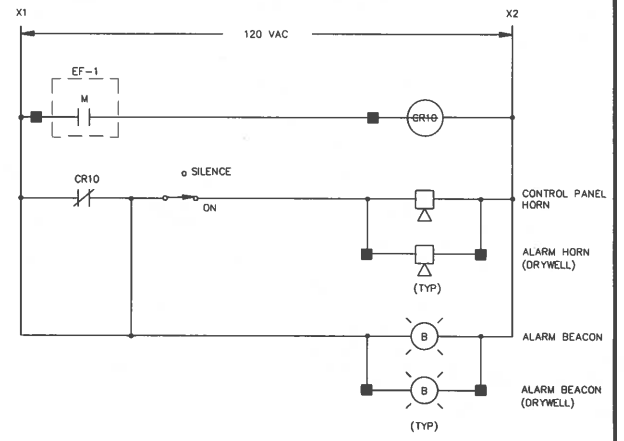


GROUND ROD AND BOX INSTALLATION 4
NOT TO SCALE

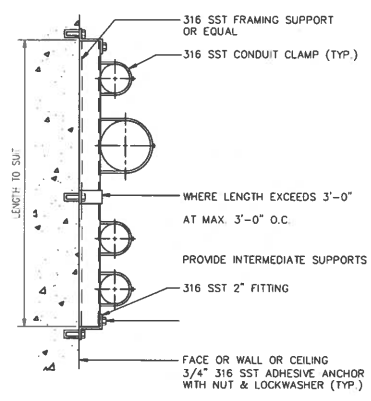


- NOTES:
1. NATIVE BACKFILL TO BE COMPACTED TO 95% RELATIVE COMPACTION.
 2. SEE ELECTRICAL SHEETS FOR QUANTITY AND SIZE OF ELEC. CONDUIT.
 3. 3000 PSI CONCRETE ENCASEMENT.
 4. PROVIDE 6" SEPARATION BETWEEN POWER AND CONTROL (SCADA) CONDUITS.

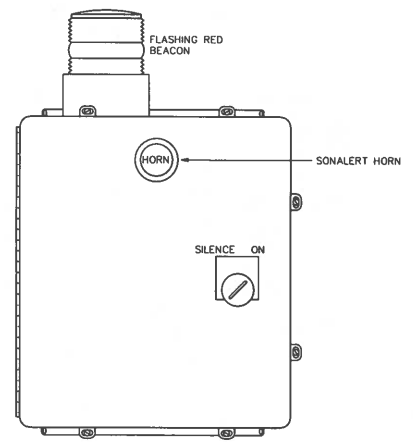
TYPICAL CONCRETE ENCASED CONDUIT 2
NOT TO SCALE



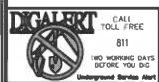
PUMP STATION VENTILATION MONITORING CONTROL PANEL 'VM'



TYPICAL WALL MOUNTED CONDUIT 3
NOT TO SCALE



VENTILATION MONITORING CP 'VM' 1
NOT TO SCALE



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEG. ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

GERRY GREEN INC.
Consulting Electrical Engineers
2734 LORRY AVE. WEST, SUITE M, CARLSBAD, CA 92015 TEL: (619) 943-2254



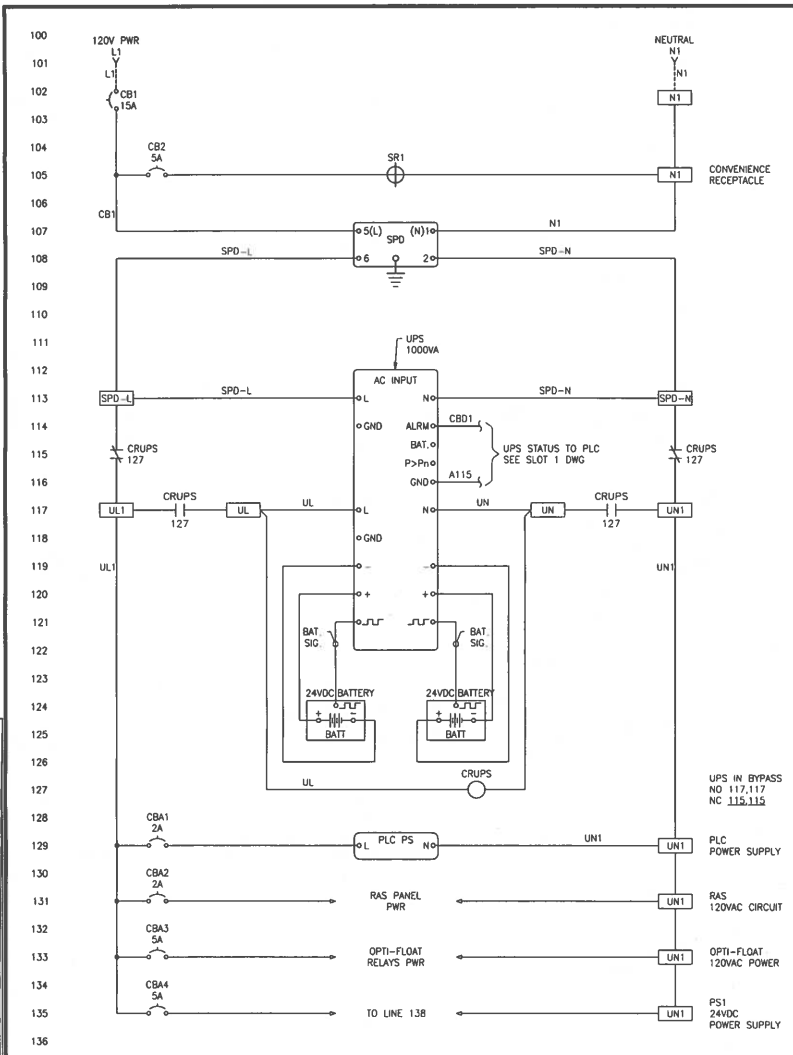
NO.	DATE	REVISIONS	DESIGN	DATE
			MM	
			KS	
			JG	

DRAWN: MM	DESIGN: KS	CHECKED: JG	DATE:
JOSEPH I. GUTIERREZ REC 6/20/24	ENGINEER		
LORRIE LAUSTEN REC 6/20/27	DISTRICT ENGINEER		

TRABUCO CANYON WATER DISTRICT
HERITAGE LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

DETAILS

E-07
SHEET 23
OF 29



120VAC POWER DISTRIBUTION



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

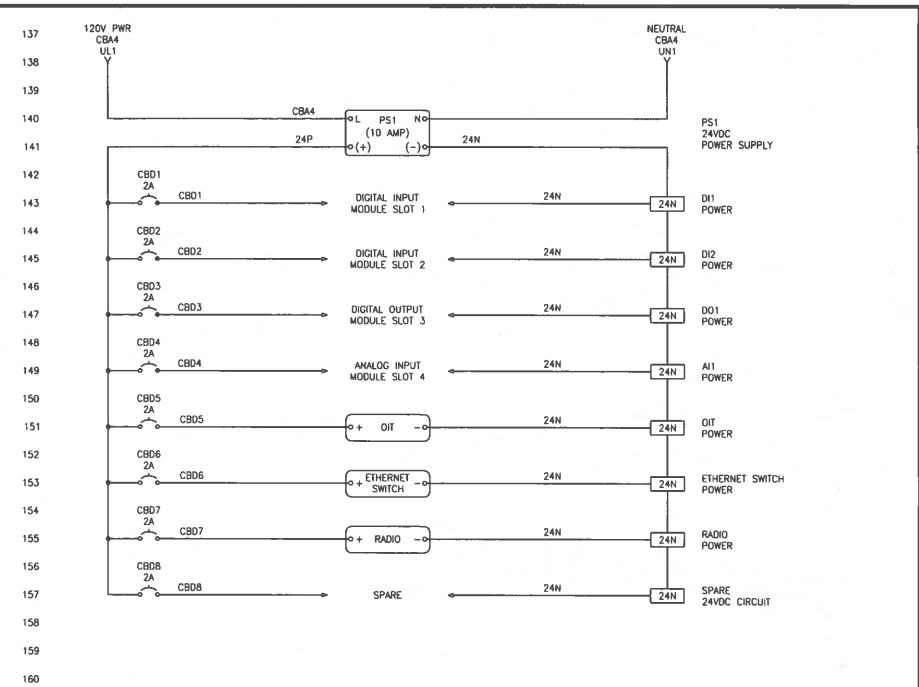
GERRY GREEN INC.
Consulting Electrical Engineers
2734 Leiber Ave West, Suite M, Carlsbad, CA 92010 Tel: (859) 962-3356



NO	DATE	REVISIONS	DESIGN	DATE
			MM	
			KS	
			JG	

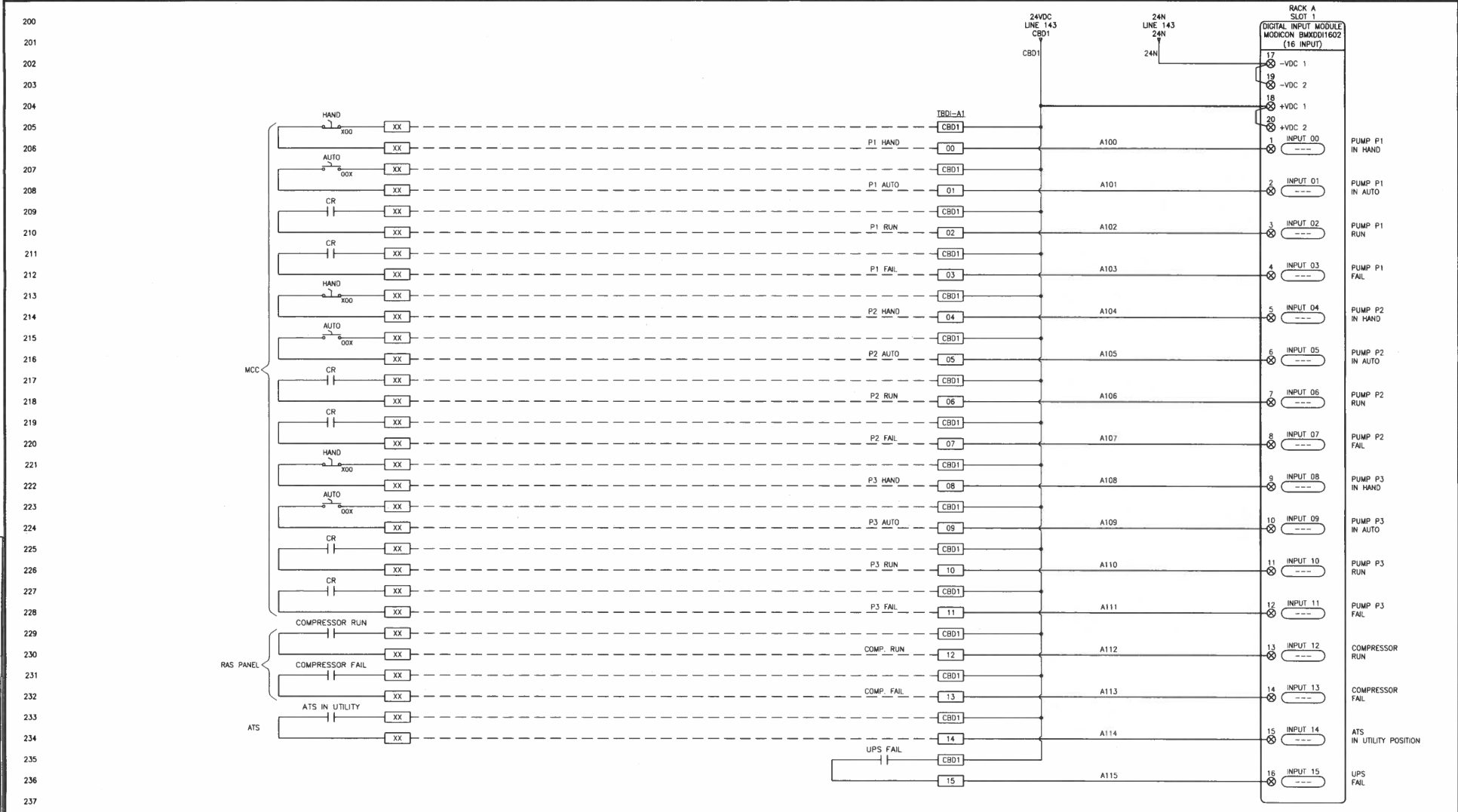


DESIGNER: JOSEPH J. SUTERREZ	REV: 05/04	ENGINEER: END/MSD
CHECKED: CAROL LAGREY	REV: 07/07	DISTRICT ENGINEER



24VDC POWER DISTRIBUTION

TRABUCO CANYON WATER DISTRICT HERITAGE LIFT STATION IMPROVEMENTS PROJECT PROJECT NO. 2122-011	SCADA CONTROL PANEL POWER DISTRIBUTION	E-08 SHEET 24 OF 29
--	---	--



DIGALERT
CALL TOLL FREE 811
NO WORKING DAYS BEFORE YOU DIG
Underground Service Alert

CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT & WAIT 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

GERRY GREEN INC.
Consulting Electrical Engineers
2734 Leroy Ave West, Suite M, Carlsbad, CA 92010 Tel: (619) 962-2356



NO.	DATE	REVISIONS

DESIGN: MM
DRAWN: KS
CHECKED: JG



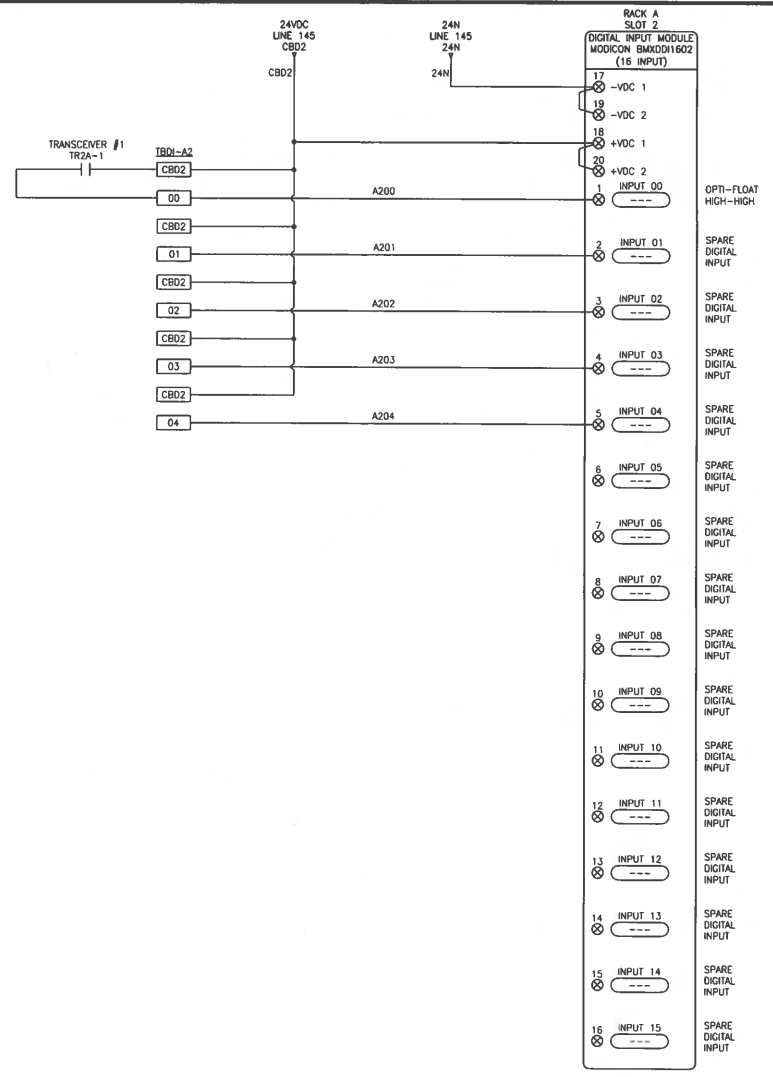
JOSEPH I. GUTIERREZ REC 55634 ENGINEER
LORRIE LANGSTEN REC 67027 DISTRICT ENGINEER

TRABUCO CANYON WATER DISTRICT
HERITAGE LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

SCADA CONTROL PANEL
DIGITAL INPUT MODULE SLOT 1

E-09
SHEET 25 OF 29

238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT AT MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

GERRY GREEN INC.
Consulting Electrical Engineers
2714 Liberty Ave West, Suite M, Carlsbad, CA 92010 Tel: (818) 992-2358



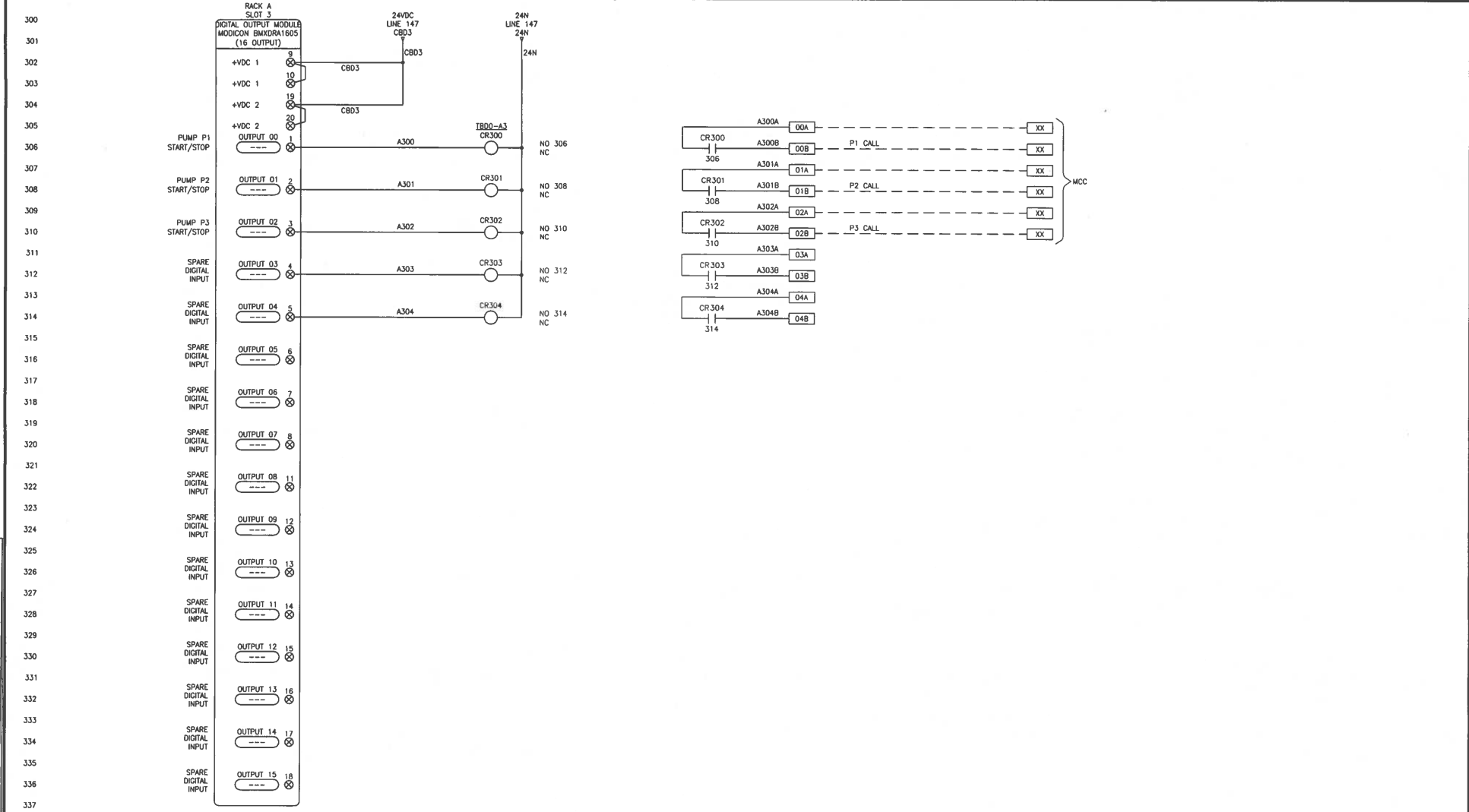
NO	DATE	REVISIONS	DESIGN	BY
			MM	
			KS	
			JG	



JOSEPH J. GUTTENBERG REG 55654 ENGINEER
CORRIE LAUSTEN REG 67027 DISEGNER

TRABUCO CANYON WATER DISTRICT
HERITAGE LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

SCADA CONTROL PANEL
DIGITAL INPUT MODULE SLOT 2



DIGALERT CALL TOLL FREE 811
 CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT 2 WEEKS PRIOR TO ANY WORKING DAYS BEFORE YOU DIG
 SEE GENERAL NOTES FOR FURTHER INFORMATION

GERRY GREEN INC. Consulting Electrical Engineers
 2734 Leiber Ave West Suite M, Carlsbad, CA 92010 Tel: (855) 962-2356



NO	DATE	REVISIONS

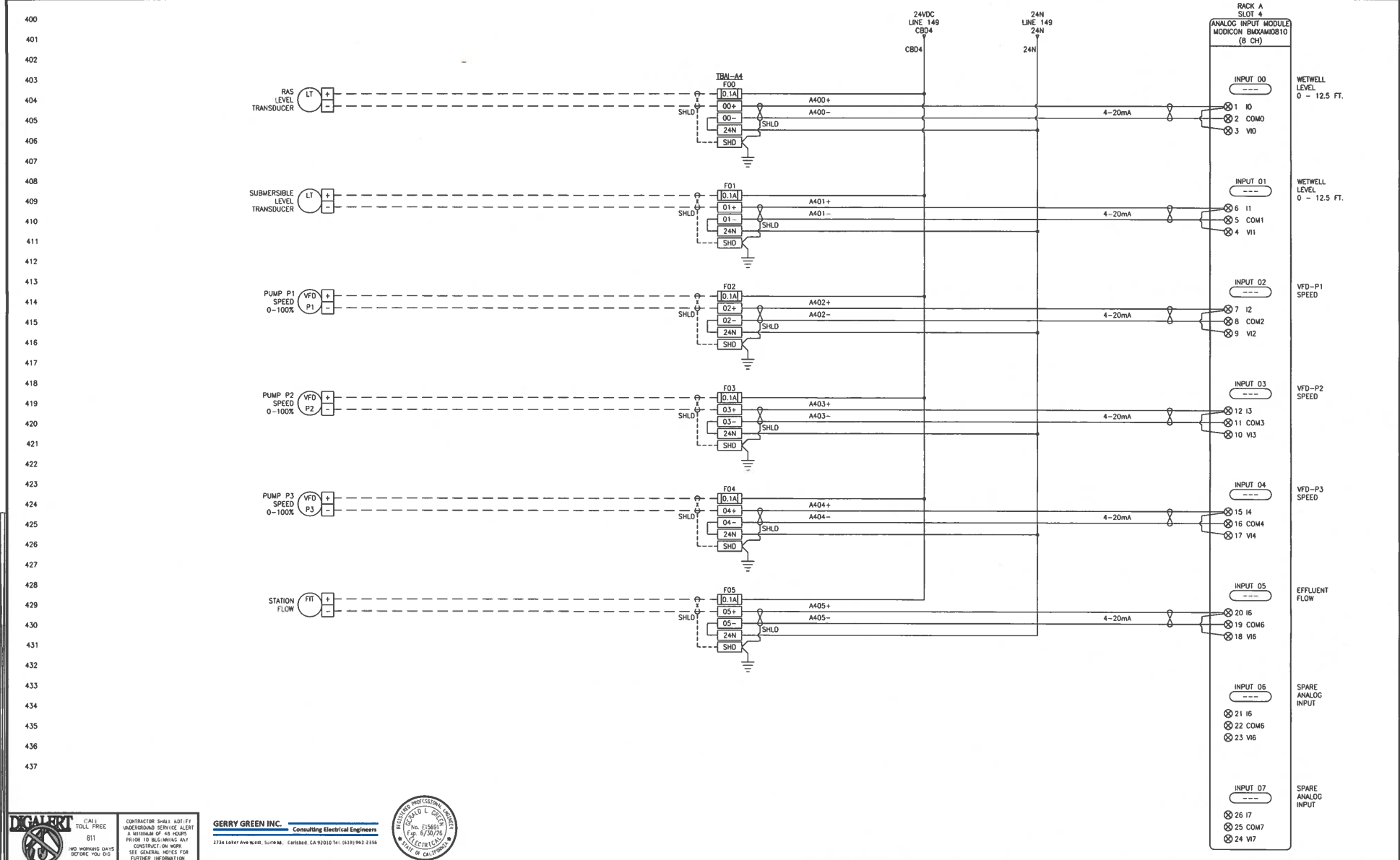
DESIGN: MM
 DRAWN: KS
 CHECKED: JG



JOSEPH T. COURTESER REC 55604 ENGINEER
 CORIE LAUSTEN REC 67027 DISTRICT ENGINEER

TRABUCO CANYON WATER DISTRICT
 HERITAGE LIFT STATION IMPROVEMENTS PROJECT
 PROJECT NO. 2122-011

SCADA CONTROL PANEL
 DIGITAL OUTPUT MODULE SLOT 3



DIGALERT CALL TOLL FREE 811
 CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (U.S.A.) PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.
 Undergroud Service Alert

GERRY GREEN INC. Consulting Electrical Engineers
 2334 Lakeview West, Suite M, Carlsbad CA 92015 Tel: (619) 942-3356



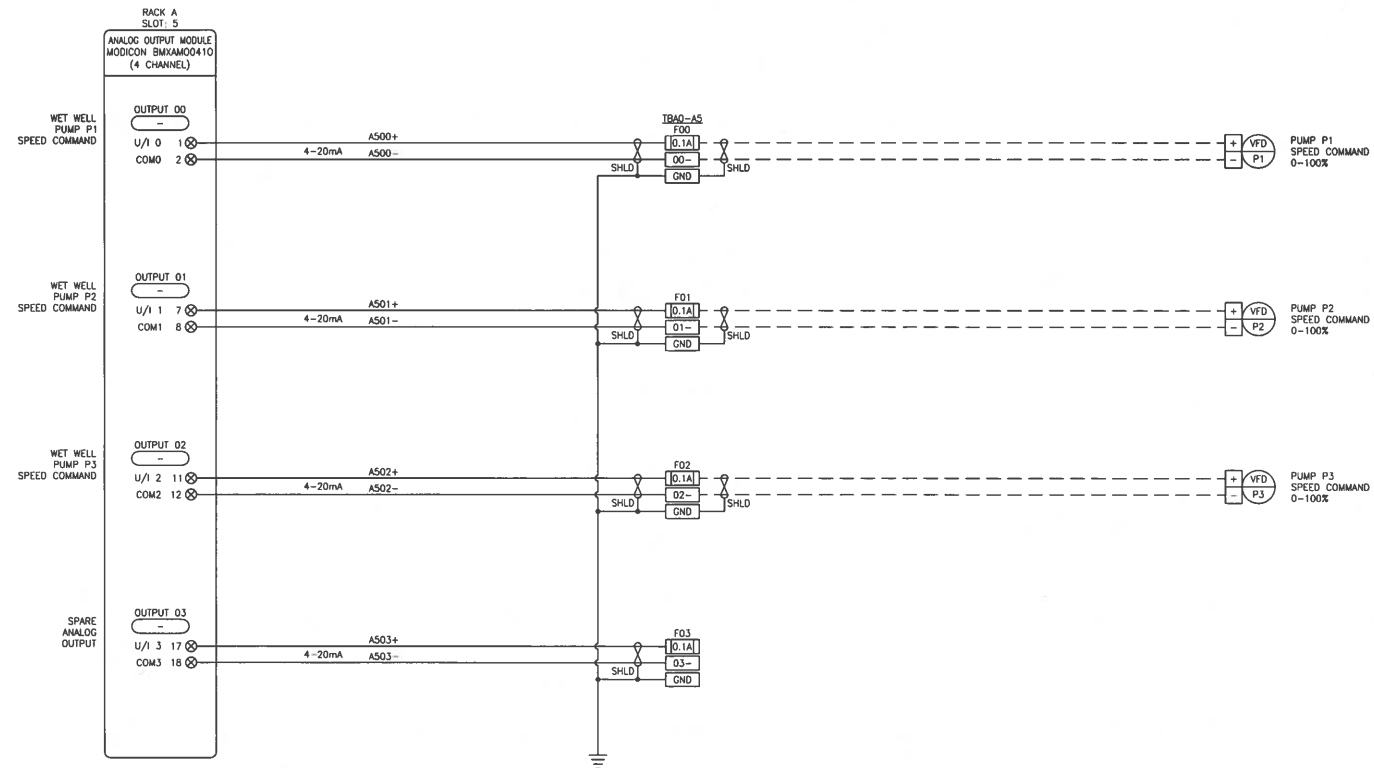
NO	DATE	REVISIONS

DESIGN: MM	DATE:
DRAWN: KS	ENGINEER: JOSEPH T. GUTTERREZ REC 52604
CHECKED: JC	DISTRICT ENGINEER: CORRIE LAUSTEN REC 67027

TRABUCO CANYON WATER DISTRICT
 HERITAGE LIFT STATION IMPROVEMENTS PROJECT
 PROJECT NO. 2122-011

SCADA CONTROL PANEL
 ANALOG INPUT MODULE SLOT 4

500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537



CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT & WAIT 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

GERRY GREEN INC.
Consulting Electrical Engineers
2734 Leroy Avenue, Suite M, Colton, CA 92710 Tel: (951) 962-2338



NO	DATE	REVISIONS	DESIGN	DATE
			MM	
			KS	
			JC	



JOSEPH J. GUTIERREZ	REC 55604	ENGINEER
LORRIE LAUSTEN	REC 67027	DISTRICT ENGINEER

TRABUCO CANYON WATER DISTRICT
HERITAGE LIFT STATION IMPROVEMENTS PROJECT
PROJECT NO. 2122-011

SCADA CONTROL PANEL
ANALOG OUTPUT MODULE SLOT 5

E-13
SHEET
29
OF
29

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | JULY 2, 2025**

OPERATIONAL MATTERS

ITEM 6: WATER SYSTEM UPDATES

The following is a brief report of the water system through **June 2025**.

Projects and Repairs

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

1. Repaired Live Oak line break at the Harris Grade entrance.
2. Assisted Meter Department with curb stop change out in Portola Hills.
3. Repaired service line leak on Trabuco Oaks.
4. Serviced and rebuilt high pressure blow off on Live Oak Canyon Road.
5. Serviced and repaired flow control valve at Plano Trabuco Lift Station.
6. Serviced 12 valves in Trabuco Canyon area.

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 - 2025

System Demands**														
AF/Day	3.9	3.3	3.4	3.7	4.2									3.7
Daily Average, CFS	2.0	1.6	1.7	1.9	2.1									1.9
Other Water Deliveries/Purchases														
Ridgeline (DWTP Delivery)	0.0	0.0	0.0	0.0	0.0									0.0
El Toro (Interconnection Purchase)	0.0	0.0	0.0	0.0	0.0									0.0
Baker WTP (CSC Delivery)	98.6	89.7	90.2	103.7	68.0									450.2
Portola Hills (Wholesale Purchase)	10.0	7.5	8.2	7.8	9.1									42.6
Skyridge (Wholesale Purchase)	1.8	1.6	1.6	1.4	1.6									8.0

* Usage estimated

** Excludes Operational use, losses, and supplement to Recycled Water Reservoir (RW)

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | JULY 2, 2025**

OPERATIONAL MATTERS

ITEM 7: WASTEWATER SYSTEM UPDATES

The following is a brief report of the wastewater system through **June 2025**.

Projects and Repairs

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

1. Installed and tested a new flow meter at Shadow Rock Dry Season Recovery pump station
2. Completed quarterly F.O.G. (Fats, Oil, and Grease) inspections throughout District
3. Replaced 6" check and isolation valves at Via Alegre Lift Station
4. Installed 2 new submersible pumps at Via Alegre Lift Station
5. Replaced two 6" check valves at Barneburg Lift Station

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	16,000
Total Sewer Line Cleaned (Ft) – Cleaning Cycle	129,340
Cleaning Cycle Period (Mos.) [Start date: 1/1/25]	6
Total Sewer Line Cleaned, %	60%
The Oaks at Trabuco – Pumping Frequency for the Month	13
O’Neill Park Sewer System Status	Ok
O’Neill Park Sewer System Repairs	None
SSMP Quarterly Report – <i>Next Quarterly Report</i>	2Q 2025
SSMP Program Audit – <i>Next Audit Report**</i>	February 2027

**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 - 2025

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	37.1	35.6	41.5	39.4	39.6								193.1	520.1
Reclaimed Reservoir Level, FT	1274.5	1,265.5	1,270.0	1,271.5	1,271.5	1,270.0								-	-
Reclaimed Reservoir Free Board, FT	25.5	9.0	4.5	3.0	3.0	4.5								-	-
Reclaimed Reservoir Storage, AF	145.5	94.6	118.8	127.7	127.7	118.8								-	-
Supplemental Domestic Water Added, AF	N/A	0.0	0.0	0.0	0.0	0.0								0.0	5.2

RECYCLED WATER SYSTEM DEMAND															
NON DOMESTIC WATER USER	ALLOC. AF	8% JAN	17% FEB	25% MAR	33% APR	42% MAY	50% JUN	58% JUL	67% AUG	75% SEP	83% OCT	92% NOV	100% DEC	TOTAL	ALLOC. %
Dahlia Court	8.2	0.04	0.02	0.0	0.0	0.2								0.21	2.6%
Dove Canyon Golf Course	106.7	12.49	5.1	4.8	25.1	28.9								76.37	71.6%
Dove Canyon Master Association	279.3	10.92	3.6	3.6	11.2	16.4								45.70	16.4%
Robinson Ranch	80.2	1.41	0.4	0.8	2.8	2.7								8.08	10.1%
Trabuco Highlands	159.7	3.26	27.4	0.2	5.3	6.6								42.69	26.7%
City of RSM	0.1	0.00	0.02	0.00	0.02	0.02								0.06	43.8%
Construction Water	N/A	0.00	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								0.00	0.0%
SMWD	N/A	0.00	0.0	0.0	0.0	4.4								4.44	N/A
TY Nursery	17.9	0.00	0.00	0.0	0.01	-								0.01	0.1%
TOTAL, AF	653.2	28.1	36.5	9.4	44.3	59.2								177.57	27.2%
PERCENTAGE OF NDW ALLOCATION/YEAR		4.3%	9.9%	11.3%	18.1%	27.2%									
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		0.00	10.19	8.18	0.00	0.00								18.37	1.6
Dove Tick Creek Production*	<i>Dry Season</i>	5.5	5.3	5.8	0.0	0.0								16.6	45.0
	TCWD Portion	5.5	5.3	5.8	0.0	0.0								16.6	-
	SMWD Portion	0.0	0.0	0.0	0.0	0.0								0.0	-
Dove Lake Water Pumped		0.0	0.0	0.0	0.0	0.0								0.0	190.1
Dove Lake Free Board, Ft		10.3	3.2	0.0	0.0	0.0								-	-
Dove Lake Storage, AF		131.2	309.0	331.0	331.0	331.0								-	-
Total Rainfall, In.		0.9	2.4	5.2	0.2	0.5								9.1	16.2

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

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

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | JULY 2, 2025**

OPERATIONAL MATTERS

ITEM 8: MAINTENANCE DEPARTMENT UPDATES

The following is a brief report of work completed by Maintenance staff through **June 2025**.

Projects and Repairs

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

Water Operations

1. Ridgeline BPS emergency gen alarm callout due to low coolant.
2. Saddle Crest emergency gen PM's scheduled: fuel sampling and polishing.

Wastewater Operations

1. Assist Wastewater with upgrades to Via LS dry pit valve replacement, bypass "T" on discharge of pump, two new submersibles installed. Hydrotech Electric onsite for wire landing and conduit repairs. Bypass pump disassembled and removed.
2. JES onsite below reclaim reservoir dam for V-Ditch project.
3. El Toro surge tank repairs underway.

District Fleet Upgrades & Other Projects

1. Started skip loader hydraulic ram rebuilds.
2. Received TCWD's mobile emergency diesel generator from repair shop (Duthie Power).
3. BIT program started.
4. Tony attended a VFD seminar at BBK Electric.
5. Tony attended Electric Fleet seminar at Anaheim Stadium.
6. Attended WEROC tabletop exercise.

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

EXHIBITS

None

CONTACTS (staff responsible): PEREA/STROUD

**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING | JULY 2, 2025**

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