



**ENGINEERING/OPERATIONAL COMMITTEE MEETING AGENDA
TRABUCO CANYON WATER DISTRICT
ADMINISTRATION FACILITY
32003 DOVE CANYON DRIVE, TRABUCO CANYON, CA
APRIL 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 by email to the Committee at mperea@tcwd.ca.gov. The Committee Chair will call on the visitor following the Committee's discussion about the matter. Committees do not constitute a quorum of the Board of Directors and Committee Members cannot make decisions on matters. The Committee makes recommendations only to the Board of Directors. Members of the public will be given the opportunity to speak to the Committee prior to making a recommendation on the matter. For persons desiring to make verbal comments and utilizing a translator to present their comments into English reasonable time accommodations, consistent with State law, shall be provided. Please limit comments to three minutes.

ORAL COMMUNICATION

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

COMMITTEE MEMBER COMMENTS

REPORT FROM THE GENERAL MANAGER

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

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. *March 5, 2025 Committee Meeting*

ITEM 2: ROBINSON RANCH WASTEWATER TREATMENT PLANT BLOWER MODIFICATION PROJECT UPDATE

RECOMMENDED ACTION:

Committee to receive project status update at the time of the meeting.

ITEM 3: RECYCLED WATER RESERVOIR DAM V-DITCH AND STORM DRAIN CULVERT REPAIR

RECOMMENDED ACTION:

Recommend the Board of Directors award a construction contract for the Recycled Water Reservoir Dam V-Ditch and Culvert Repairs to JES Engineering in the amount of \$162,365.35, plus a 10% contingency of \$16,000, for a not to exceed amount of \$178,365.35. (Action Calendar).

ITEM 4: QUARTERLY CAPITAL IMPROVEMENT PLAN UPDATE

RECOMMENDED ACTION:

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

ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Update on 16" Transmission Pipeline Rehabilitation Project
2. Orange County Public Works (OCPW) Trabuco Creek Bridge Project Update
3. Planet Bids; Online District Procurement Tool
4. SCADA Project Update
5. State Water Board Cross Connection Control Plan Handbook (CCCPH) Requirements & Plan Adoption 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 | APRIL 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 | APRIL 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. *March 5, 2025 Committee Meeting*

CONTACTS (staff responsible): PALUDI/PEREA



**TRABUCO CANYON WATER DISTRICT
ENGINEERING/OPERATIONAL COMMITTEE MEETING RECAP | MARCH 5, 2025**

DIRECTORS PRESENT

Glenn Acosta, Committee Chair
Mark Anderson, Committee Member

STAFF PRESENT

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

STAFF ABSENT

None

DISTRICT CONSULTANTS

None

PUBLIC PRESENT

None

CALL MEETING TO ORDER

Director Acosta called the March 5, 2025 Engineering/Operational Committee Meeting to order at 8:00 a.m. and he reminded staff that Director Anderson would become Committee Chair starting next month.

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.

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

ITEM 2: DISCUSSION REGARDING MOBILE BACKUP GENERATOR POWER SUPPLY AUGMENTATION

Mr. Paludi presented this matter for Committee consideration. Mr. Perea reported that he has been working with Operations staff to perform an internal analysis of all backup generator power equipment and energy demands at all District operated facilities to identify vulnerabilities and areas for improvement. Mr. Perea stated that he has updated the summary sheet to identify facilities with critical backup generator needs, as requested by the Committee. Mr. Perea provided a summary of two proposals for mobile generators for discussion purposes. Mr. Stroud reported that staff is in the process of disposing of equipment that is no longer South Coast Air Quality Management District (AQMD) compliant. Discussion occurred regarding potential improvements at the Canyon Creek site to allow for better flexibility and access to the site for generator power.

RECOMMENDATION: None – Informational item only.

ITEM 3: UPDATE ON STATE WATER BOARD CROSS CONNECTION CONTROL PLAN HANDBOOK (CCCPH) REQUIREMENTS AND PLAN ADOPTION

Mr. Paludi presented this matter for Committee consideration, and he noted that these new requirements may impact the District’s Meter Downsizing Program. Mr. Perea reported that the State Water Board has adopted a Cross-Connection Control Policy Handbook (CCCPH), and he stated that the District is participating in an inter-agency joint effort with other Orange County water agencies and cities to develop a CCCP tailored to each agency’s needs. Mr. Perea reported that as a part of the meter downsizing review, staff is completing a hazard assessment on properties to evaluate the potential requirement for installation of a backflow device. Mr. Perea noted that properties with an Advanced Metering Infrastructure (AMI) meter installed may allow for an exception if other conditions are met. Mr. Perea added that CCCPH is linked in the staff report for the Committee’s review.

RECOMMENDATION: None – Informational item only.

ITEM 4: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Orange County Public Works (OCPW) Trabuco Creek Bridge Project Status

Ms. Lausten reported that OCPW will start construction at the end of 2026. Discussion occurred regarding protection or relocation of the District’s pipeline, and possible encroachment into District property. Ms. Lausten stated that she will set up a meeting to discuss all potential impacts to the District. Discussion occurred regarding the County’s cost for this project. Ms. Lausten stated that she will research and provide those numbers.

2. 16” Transmission Main Line Repair

Mr. Paludi reported that staff has received preliminary cost estimates and that staff will schedule a Source of Supply Ad Hoc Committee meeting for discussion and direction on this project. Ms. Lausten stated that she will have better project cost numbers next week.

RECOMMENDATION: None – Informational item only.

ITEM 5: 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:

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1. Repaired leak that flooded Admin.
2. Serviced 64 valves in the Rancho Cielo and Walden Homes area.
3. Flushed 21 dead end hydrants in Dove Canyon.
4. Replaced all copper tubing on pumps and flow control valve at the Field Office.
5. Worked with the Meter Dept. to replace 1" angle stop on Pennington in Robinson Ranch.

Mr. Kessler presented the Water System Summary for Committee review.

RECOMMENDATION: None – Informational item only.

ITEM 6: WASTEWATER SYSTEM UPDATES

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

1. Assisted in the replacement and programming of two VFD's at Dove Recycle Pump Station.
2. Assisted in the fiber optic work at the WWTP.
3. Assisted in the cutover to the new SCADA system at Dove Recycle Pump Station.
4. Installed a new emergency dialer at Barneburg Lift Station.
5. Completed annual maintenance on Recycle System Cla-Val's.

Mr. Ulloa presented the Recycled Water System Summary for Committee review. A brief discussion occurred regarding the increase in production due to rain, as well as a discussion regarding the Dove/Tick Creek Improvement project. Mr. Paludi reported that the District has received approximately \$1 million in grant funding, and that a design RFP would be going out in the near future.

RECOMMENDATION: None – Informational item only.

ITEM 7: 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. Job walk with Engineering at Canyon Creek for mobile diesel parking/setup.
2. Job walk with Engineering and JES at Res one for culvert repair.
3. EOC meeting to talk about mud/debris flow in Holy Jim/Trabuco Creek.
4. New Dimension job walk at Field Office

Wastewater Operations

1. Maint/Electrical room clean up and organization.
2. Beavans Systems at WWTP for fiber optic install.
3. VFD swap out at Dove Canyon Recycle station.
4. Reclaim res/dam V-Ditch job walk with JES.
5. Aluminum platform built inside WWTP SBR dry pit for PLC control box.

**TRABUCO CANYON WATER DISTRICT
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District Fleet Upgrades & Other Projects

1. New 800-gallon water trailer delivered.
2. Haaker meetup at WWTP to look over Vactor truck.
3. Dropped off Ford Explorer for body repair and paint.
4. Water Dept. service truck #4 sent to Specialty Equipment for HD lock upgrade.
5. New tires on service truck #29.

Director Acosta suggested that staff prepare a document with a list of projects that have been completed by staff along with cost comparisons of actual in-house costs versus projected contractor costs.

RECOMMENDATION: None – Informational item only.

ITEM 8: OTHER MATTERS/REPORTS

Director Anderson stated that a large mound of sandy material is available for free in San Juan Capistrano if the District has any applications for it, and he mentioned that it can be delivered if needed.

RECOMMENDATION: None

ADJOURNMENT

Director Acosta adjourned the March 5, 2025 Engineering/Operational Committee Meeting at 8:48 a.m.

DRAFT

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

ENGINEERING MATTERS

ITEM 2: ROBINSON RANCH WASTEWATER TREATMENT PLANT BLOWER MODIFICATION PROJECT UPDATE

The District's Robinson Ranch Wastewater Treatment Plant (RRWWTP) operates a blower-aeration system consisting of four (4) blower-motor configurations. The existing Sutorbilt positive displacement blowers lack the needed capacity to effectively overcome pressure changes as a result of varying elevation within the sequencing batch reactors (SBR). Staff will be transitioning to multistage centrifugal air blowers, matching the existing Hoffman configuration, which will provide increased efficiency and redundancy. The four blowers are to be relocated outside of the existing Blower Building at the RRWWTP due to issues with heat from the blowers damaging the Motor Control Center (MCC), along with easier maintenance of the blowers. The remaining building space will be dedicated to an electrical room with the upgraded MCC currently in the design phase.

Since the blowers are being relocated outside, staff along with its Design Engineer, retained DHK Engineers, who specialize in performing noise studies at wastewater treatment plants and pump stations. The study concluded that the noise level for the existing residence was measured at 32 dB. With all four blowers relocated outside, directly adjacent to the existing Blower Building with no sound panels, the noise level will be 35 db.

To mitigate the sound increase, the best scenario in the study is with the canopy and sound panels which would produce a maximum of 26 dB. The design plans were updated to include the sound panels

As an alternative, if staff receive noise complaints, the sound panels could be added later a later time. This would reduce the construction costs by approximately \$60,000. The Engineer's Estimate including the sound panels is \$1,150,000.

The Bid Package is 95% and Staff will be going out for construction bids in April 2025.

FUNDING SOURCE:

Capital Improvement Program

FISCAL IMPACT (PROJECT BUDGET):

\$1,100,000 for Blower Design/Construction & MCC Design – FY 2024-25 CIP Budget

\$945,000 for Blower Design/Construction & MCC Design – FY 2025-26 CIP Budget

ENVIRONMENTAL COMPLIANCE:

Notice of Exemption

RECOMMENDED ACTION:

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

EXHIBIT(S):

1. 95% Construction Plans
2. Engineer's Estimate

CONTACTS (staff responsible): PALUDI/LAUSTEN/ULLOA

TRABUCO CANYON WATER DISTRICT

ROBINSON RANCH WASTEWATER TREATMENT PLANT BLOWER EQUIPMENT STATION AND BLOWER RELOCATION PROJECT NO. 2223-105



MARCH 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) 714-859-0277 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 PNEUMATIC AIR TESTED IN ACCORDANCE WITH ASME B31.3.
- 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 POT-HOLE AND LOCATE EXISTING CROSSING UNDERGROUND UTILITIES AND POINTS OF CONNECTION TWO WEEKS, IN ADVANCE OF THE PILELINE CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY ADDITIONAL COST REQUIRED IN THE EVENT THAT HE HAS NOT CORRECTLY LOCATED THE EXISTING UTILITIES.
- THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES INCLUDING SIGNING 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 BURED 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 CENTRIQUE MONUMENTS OR TIES LOST OR DESTROYED BY THIS WORK SHALL BE REPLACED AND NEW TIES 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, CURBS, 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 CONTRACTORS NEGLIGENCE OR FAILURE TO PROVIDE PROPER PROTECTION, SHALL BE REPLACED AT THE CONTRACTORS 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.
- FRENCH 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 CONTRACTORS EXPENSE - COST OF WHICH WILL BE DEDUCTED FROM THE CONTRACTORS 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 "REMARKS" 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: SOIL OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINES, SEALANTS, GLUES, LINES, PESTICIDES, HERBICIDES, WOOD PRESERVATIVES AND SOLVENTS; ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC FLUIDS; BATTERY FLUIDS; FERTILIZERS; VEHICLE/EQUIPMENT WASH WATER AND CONCRETE WASH WATER; CONCRETE DETERGENT OR FLUIDABLE WASTES; WASTES FROM ANY ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGRASSING; 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 8:00 AM TO 4:30 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 AS CONSULTANTS) THEIR PARENT AND SUBSIDIARY COMPANIES, AGENTS, EMPLOYEES, CONSULTANTS AND REPRESENTATIVES FOR ANY AND ALL DAMAGE TO PERSONS OR PROPERTY OR WHOLSAF 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 AND SUBSIDIARY COMPANIES, AS WELL AS THEIR AGENTS AND EMPLOYEES, EXCEPTING ONLY THE SOLE NEGLIGENCE OF OWNER, ENGINEER 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.

CONSTRUCTION NOTES:

- INSTALL OWNER SUPPLIED PREPACKAGED BLOWER ASSEMBLY ON SKID (LONGSTAR M20-10), SECURE SKID WITH ANCHORS ON CONCRETE PAD PER MANUFACTURER'S RECOMMENDATIONS
- INSTALL SALVAGED HOFFMAN BLOWER ASSEMBLY, SECURE SKID WITH ANCHORS ON CONCRETE PAD
- INSTALL OWNER SUPPLIED VARIABLE FREQUENCY DRIVE (SCHNEIDER ATV80 SERIES), SECURE TO CONCRETE HOUSEKEEPING PAD USING ANCHORS PER MANUFACTURER'S RECOMMENDATIONS
- CONSTRUCT 8" THICK CONCRETE SLAB AND FOOTING PER DETAIL (1) (1) (1) (1)
- CONSTRUCT 8" THICK CONCRETE BLOWER PADS PER DETAIL (1) (1) (1) (1)
- CONSTRUCT 6" THICK HOUSEKEEPING PAD PER DETAIL (1) (1) (1) (1)
- CONSTRUCT SOUND PANELS (STC-21), PER STRUCTURAL SHEETS
- INSTALL OVERHEAD METAL CANOPY AS DESIGNED AND MANUFACTURED BY COSTEEL. SEE STRUCTURAL SHEETS FOR FRAMING, METAL CANOPY, ROOF PANELS, GUTTERS, DOWNSPOUTS, AND FASTENERS
- CONSTRUCT FIBERGLASS MOLDED GRATE WITH 55 ANGLES AND HARDWARE MOUNTED BETWEEN SLABS PER DETAIL (1) (1) (1) (1)
- POST TO CONCRETE FOOTING PER DETAIL (1) (1) (1) (1)
- CONSTRUCT 8" WAFER BUTTERFLY VALVE WITH HAND OPERATOR (GRAY SERIES 30, OR APPROVED EQUAL)
- INSTALL OWNER SUPPLIED 8" WAFER BUTTERFLY VALVE WITH HAND OPERATOR (GRAY SERIES 30)
- CONSTRUCT 8" WAFER CHECK VALVE (US VALVE MODEL 6-00-20-SSP, OR APPROVED EQUAL)
- INSTALL OWNER SUPPLIED 8" WAFER CHECK VALVE (US VALVE MODEL 6-00-20-SSP)
- CONSTRUCT 8" EXPANSION JOINT (GENERAL RUBBER STYLE 1101CR, OR APPROVED EQUAL)
- INSTALL OWNER SUPPLIED 8" EXPANSION JOINT (GENERAL RUBBER STYLE 1101CR)
- CONSTRUCT FILTER/SILENCER FOR HOFFMAN BLOWER
- INSTALL OWNER SUPPLIED FILTER/SILENCER
- CONSTRUCT PRESSURE GAUGE ASSEMBLY PER DETAIL (1) (1) (1) (1)
- CONSTRUCT INSERTION TYPE FLOW METER ASSEMBLY WITH WITH DIGITAL DISPLAY PER DETAIL (1) (1) (1) (1)
- CONSTRUCT PIPE SUPPORT PER DETAIL (1) (1) (1) (1)
- CONSTRUCT PIPE HANGER PER DETAIL (1) (1) (1) (1)
- CONSTRUCT 6" DI FLANGED PIPE 90° BEND
- CONSTRUCT 6" DI FLANGED PIPE TEE
- CONSTRUCT 6" DI PIPE (LENGTH AS REQUIRED)
- CONSTRUCT CUT-IN TEE INTO EXISTING DUCTILE IRON PIPE
- CONSTRUCT 10" DUCTILE IRON BLIND FLANGE
- CONSTRUCT 6" MECHANICAL COUPLING (ROMAC 501 OR APPROVED EQUAL)
- CONSTRUCT 6" CAP ON EXISTING DUCTILE IRON PIPE (ROMAC EC501 OR APPROVED EQUAL)
- CONSTRUCT 6" SCH 80 GRAY PVC PIPE (LENGTH AS REQUIRED)
- CONSTRUCT 6" SCH 80 GRAY PVC TEE
- CONSTRUCT 6" SCH 80 GRAY PVC SOCKET FLANGE
- JOIN EXISTING 8" AIR PIPING FOR ACTIVATED SLUDGE BATCH REACTOR WEST PER (1) (1) (1) (1)
- JOIN EXISTING 8" AIR PIPING FOR ACTIVATED SLUDGE BATCH REACTOR EAST PER (1) (1) (1) (1)
- CONSTRUCT PRECAST CONCRETE SPLASH PAD
- CONSTRUCT ASPHALT CONCRETE PAVEMENT AND RESTORE TO PRE-CONSTRUCTION CONDITIONS. CONTRACTOR SHALL MATCH AC PAVEMENT SECTION AND FINISH GRADE ELEVATION
- CONSTRUCT PULL BOX PER ELECTRICAL SHEETS

SHEET INDEX

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D-02	4	BLOWER BUILDING MECHANICAL DEMOLITION PLAN AND DETAILS
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S-08	21	ROOF SHEETING
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S-12	25	SIDEWALL FRAMING
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S-15	28	STRUCTURAL DETAILS

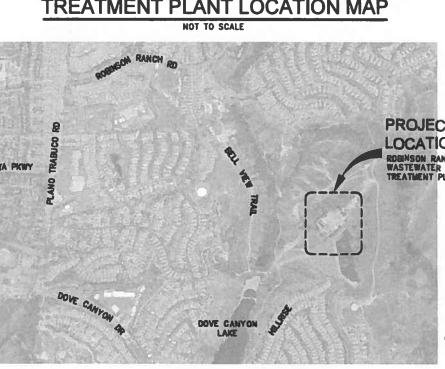
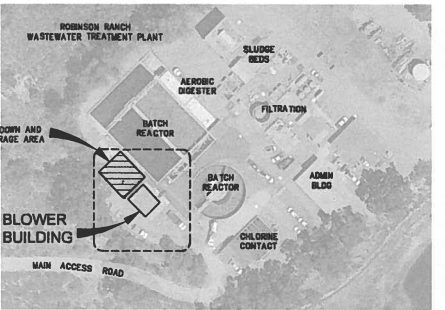
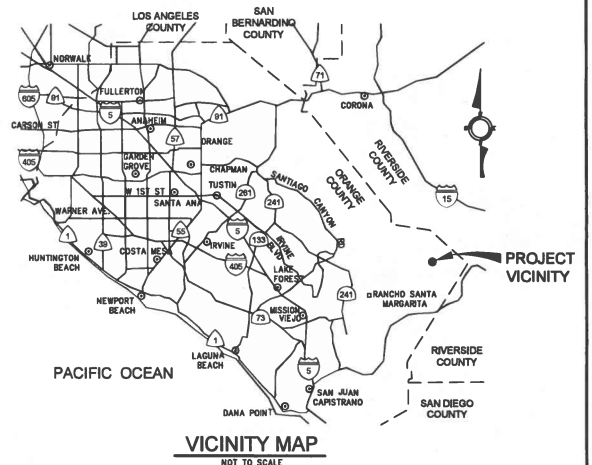
DEMOLITION NOTES

- (P) PROTECT IN PLACE
- (R) REMOVE AND RETURN EXISTING SUTORBILT BLOWER ASSEMBLY TO DISTRICT OPERATIONS STAFF
- (S) SALVAGE AND RELOCATE EXISTING HOFFMAN BLOWER ASSEMBLY
- (D1) DEMOLISH AND DISPOSE OF EXISTING BLOWER PIPING, VALVES, AND APPURTENANCES PER (1) (1) (1) (1)
- (D2) DEMOLISH AND DISPOSE OF ELECTRICAL AND SIGNAL CONDUITS
- (D3) REPAIR MASONRY WALL PER (1) (1) (1) (1)
- (D4) REPAIR MASONRY WALL OPENING PER (1) (1) (1) (1)
- (D5) REPAIR CONCRETE SLAB PER (1) (1) (1) (1)
- (D6) REPAIR CONCRETE SLAB OPENING PER (1) (1) (1) (1)
- (D7) DEMOLISH AND DISPOSE OF EXISTING PIPE STUB OUTS, PAVING CURBS, LIGHTED FIXTURES, AND CONCRETE PER (1) (1) (1) (1)
- (D8) DEMOLISH AND DISPOSE OF EXISTING SUTORBILT INTAKE/DISCHARGE PIPING PER (1) (1) (1) (1)
- (D9) DEMOLISH AND DISPOSE OF EXISTING HOFFMAN INTAKE/DISCHARGE PIPING PER (1) (1) (1) (1)
- (D10) DEMOLISH AND DISPOSE OF EXISTING PAVEMENT
- (D11) DEMOLISH AND DISPOSE OF EXISTING PAVEMENT
- (D12) DEMOLISH AND DISPOSE OF CONCRETE PAD

BENCHMARK

- (30) CONSTRUCT 6" SCH 80 GRAY PVC TEE
- (31) CONSTRUCT 6" SCH 80 GRAY PVC SOCKET FLANGE
- (32) JOIN EXISTING 8" AIR PIPING FOR ACTIVATED SLUDGE BATCH REACTOR WEST PER (1) (1) (1) (1)
- (33) JOIN EXISTING 8" AIR PIPING FOR ACTIVATED SLUDGE BATCH REACTOR EAST PER (1) (1) (1) (1)
- (34) CONSTRUCT PRECAST CONCRETE SPLASH PAD
- (35) CONSTRUCT ASPHALT CONCRETE PAVEMENT AND RESTORE TO PRE-CONSTRUCTION CONDITIONS. CONTRACTOR SHALL MATCH AC PAVEMENT SECTION AND FINISH GRADE ELEVATION
- (36) CONSTRUCT PULL BOX PER ELECTRICAL SHEETS

BASE OF BEARING



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

DATE: DISTRICT ENGINEER
CORNADE S. LAUSTEN RCE 07027
ENGINEER
JOSEPH L. GUTIERREZ RCE 50604

TRABUCO CANYON WATER DISTRICT
ROBINSON RANCH WASTEWATER TREATMENT PLANT
BLOWER EQUIPMENT STATION AND BLOWER RELOCATION
PROJECT NO. 2223-105

GENERAL NOTES, SHEET INDEX, AGENCY INDEX, VICINITY AND LOCATION MAPS

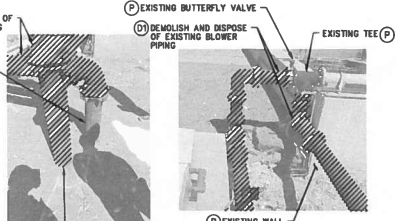
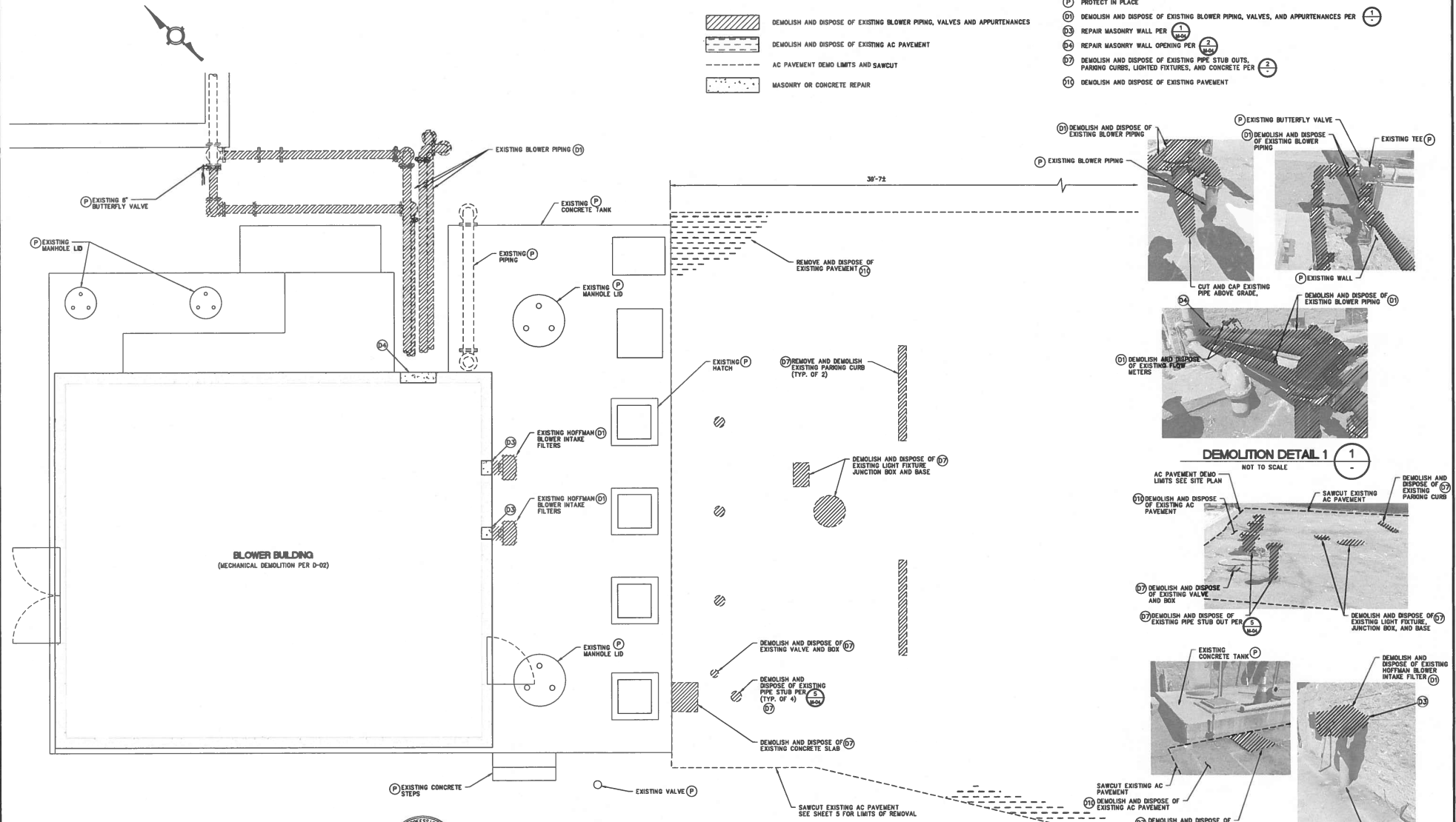
G-02
SHEET 2 OF 28

LEGEND

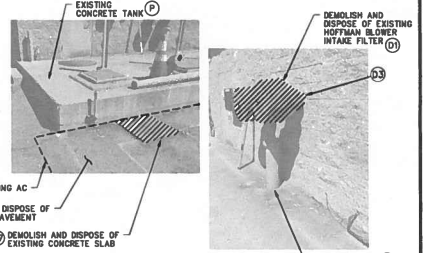
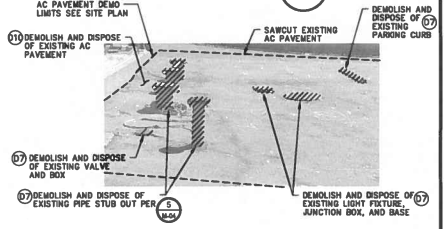
-  DEMOLISH AND DISPOSE OF EXISTING BLOWER PIPING, VALVES AND APPURTENANCES
-  DEMOLISH AND DISPOSE OF EXISTING AC PAVEMENT
-  AC PAVEMENT DEMO LIMITS AND SAWCUT
-  MASONRY OR CONCRETE REPAIR

DEMOLITION NOTES

- (P) PROTECT IN PLACE
- (D1) DEMOLISH AND DISPOSE OF EXISTING BLOWER PIPING, VALVES, AND APPURTENANCES PER 1
- (D3) REPAIR MASONRY WALL PER 1
- (D4) REPAIR MASONRY WALL OPENING PER 2
- (D7) DEMOLISH AND DISPOSE OF EXISTING PIPE STUB OUTS, PARKING CURBS, LIGHTED FIXTURES, AND CONCRETE PER 2
- (D11) DEMOLISH AND DISPOSE OF EXISTING PAVEMENT



DEMOLITION DETAIL 1
NOT TO SCALE



DEMOLITION DETAIL 2
NOT TO SCALE

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

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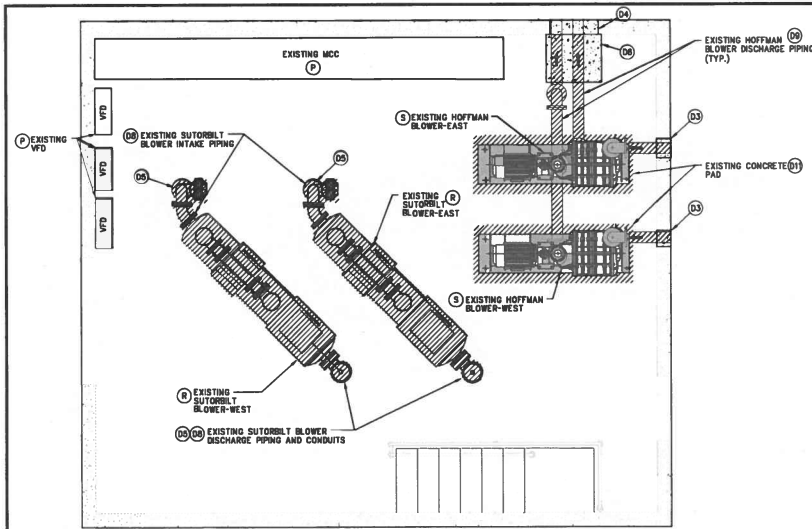
DESIGN: RO	DATE
DRAWN: RO	DISTRICT ENGINEER
CHECKED: JG	ENGINEER

ERRIKANE S. LAUSTEN RCE 07027	DISTRICT ENGINEER
JOSEPH T. GUTIERREZ RCE 55804	ENGINEER

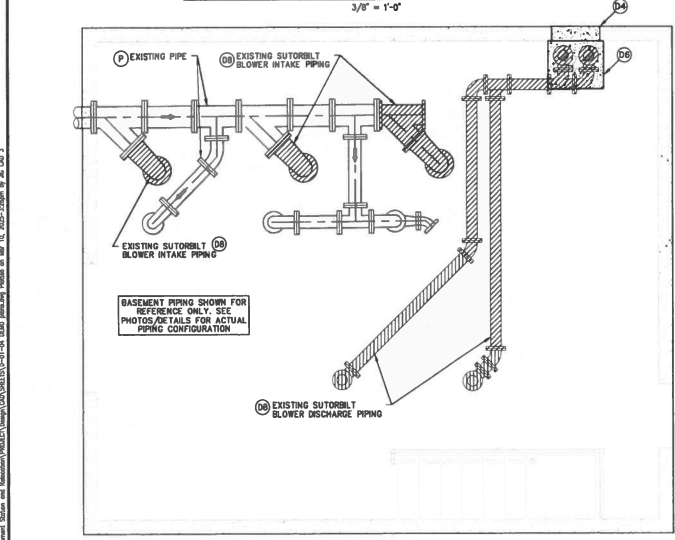
TRABUCO CANYON WATER DISTRICT
ROBINSON RANCH WASTEWATER TREATMENT PLANT
BLOWER EQUIPMENT STATION AND BLOWER RELOCATION
PROJECT NO. 2223-105

SITE DEMOLITION PLAN AND DETAILS

D-01
SHEET 3
OF 28



GROUND FLOOR MECHANICAL DEMOLITION PLAN
3/8" = 1'-0"



BASEMENT CEILING MECHANICAL DEMOLITION PLAN
3/8" = 1'-0"

NOTES

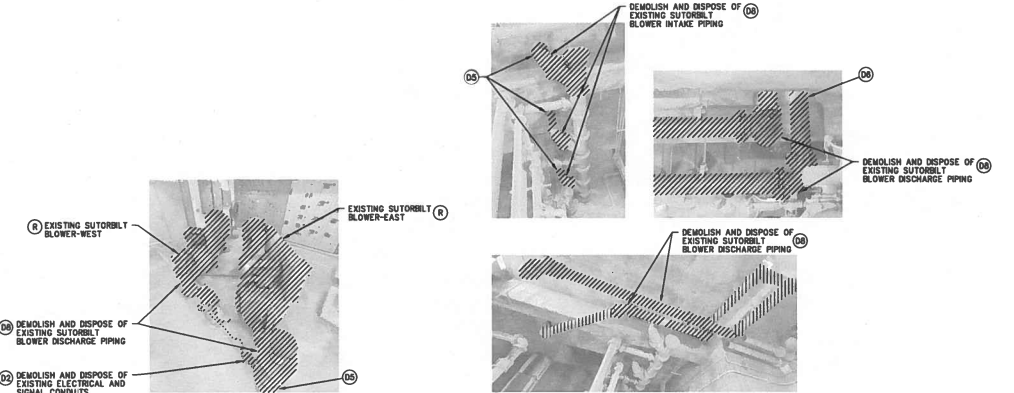
- UNLESS NOTED TO BE REMOVED OR RELOCATED, CONTRACTOR TO PROTECT IN PLACE ALL EXISTING MECHANICAL, ELECTRICAL, AND STRUCTURAL ITEMS INSIDE BLOWER ROOM.
- CONTRACTOR TO EMPLOY DUST CONTROL MEASURES TO PROTECT ALL EXISTING ELECTRICAL EQUIPMENT, MCC PANELS, CONTROL PANELS, DURING DEMOLITION AND CONSTRUCTION WORK INSIDE BLOWER BUILDING.

LEGEND

- DEMOLISH AND DISPOSE OF EXISTING BLOWER PIPING, VALVES, CONCRETE PADS, AND APPURTENANCES
- SALVAGE AND RELOCATE EXISTING BLOWERS
- MASONRY OR CONCRETE REPAIR

DEMOLITION NOTES

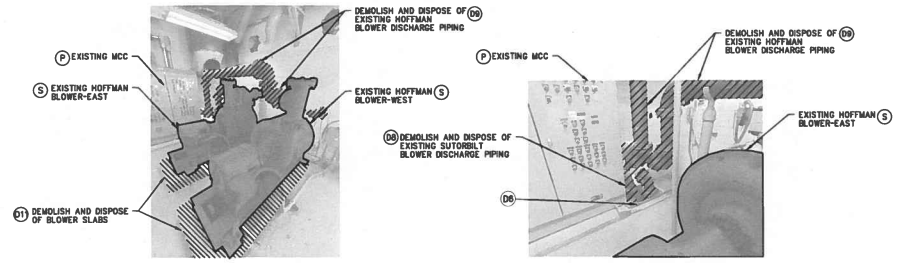
- PROTECT IN PLACE
- REMOVE AND RETURN EXISTING SUTORBIT BLOWER ASSEMBLY TO DISTRICT OPERATIONS STAFF
- SALVAGE AND RELOCATE EXISTING HOFFMAN BLOWER ASSEMBLY
- DEMOLISH AND DISPOSE OF ELECTRICAL AND SIGNAL CONDUITS
- REPAIR MASONRY WALL PER (1) (2)
- REPAIR CONCRETE SLAB PER (3) (4)
- REPAIR CONCRETE SLAB OPENING PER (5) (6)
- DEMOLISH AND DISPOSE OF EXISTING SUTORBIT INTAKE/DISCHARGE PIPING PER (7) (8)
- DEMOLISH AND DISPOSE OF EXISTING HOFFMAN INTAKE/DISCHARGE PIPING PER (9) (10)
- DEMOLISH AND DISPOSE OF CONCRETE PAD



GROUND FLOOR SUTORBIT BLOWER REMOVAL **BASEMENT CEILING SUTORBIT DISCHARGE PIPING REMOVAL**

SUTORBIT BLOWERS DEMOLITION DETAIL

1



GROUND FLOOR HOFFMAN BLOWERS REMOVAL **GROUND FLOOR HOFFMAN/SUTORBIT PIPING REMOVAL**

HOFFMAN BLOWERS DEMOLITION DETAIL

2

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DRAWN: RO	CORBAINE S. LAUSTEN RCE 87627 DISTRICT ENGINEER
CHECKED: JG	JOSEPH T. GUTIERREZ RCE 55604 ENGINEER

TRABUCO CANYON WATER DISTRICT
ROBINSON RANCH WASTEWATER TREATMENT PLANT
BLOWER EQUIPMENT STATION AND BLOWER RELOCATION
PROJECT NO. 2223-105

BLOWER BUILDING
MECHANICAL DEMOLITION PLAN
AND DETAILS

D-02
SHEET
4
OF
28

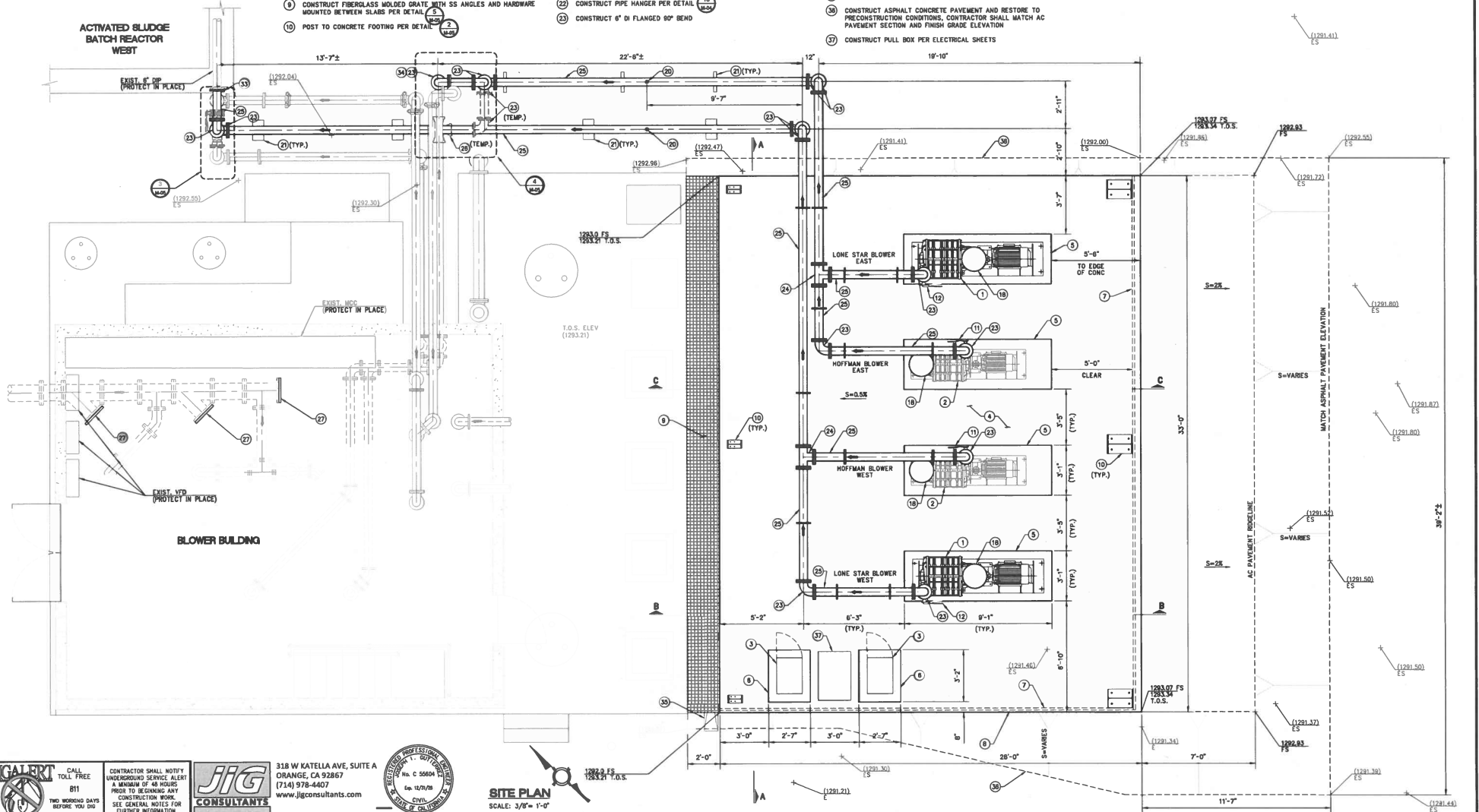
CONSTRUCTION NOTES:

- 1 INSTALL OWNER SUPPLIED PREPACKAGED BLOWER ASSEMBLY ON SKID (LONESTAR MCS-10). SECURE SKID WITH ANCHORS ON CONCRETE PAD PER MANUFACTURER'S RECOMMENDATIONS
- 2 INSTALL SALVAGED HOFFMAN BLOWER ASSEMBLY. SECURE SKID WITH ANCHORS ON CONCRETE PAD
- 3 INSTALL OWNER SUPPLIED VARIABLE FREQUENCY DRIVE (SCHNEIDER ATV800 SERIES). SECURE TO CONCRETE HOUSEKEEPING PAD USING ANCHORS PER MANUFACTURER'S RECOMMENDATIONS

- 4 CONSTRUCT 6" THICK CONCRETE SLAB AND FOOTING PER DETAIL 1 (MCS)
- 5 CONSTRUCT 6" THICK CONCRETE BLOWER PADS PER DETAIL 1 (MCS)
- 6 CONSTRUCT 6" THICK HOUSEKEEPING PAD PER DETAIL 1 (MCS)
- 7 CONSTRUCT SOUND PANELS (STC-21). PER STRUCTURAL SHEETS
- 8 INSTALL OVERHEAD METAL CANOPY AS DESIGNED AND MANUFACTURED BY CROSTEEL. SEE STRUCTURAL SHEETS FOR FRAMING, METAL CANOPY, ROOF PANELS, GUTTERS, DOWNSPOUTS, AND FASTENERS
- 9 CONSTRUCT FIBERGLASS MOLDED GRATE WITH SS ANGLES AND HARDWARE MOUNTED BETWEEN SLABS PER DETAIL 5 (MCS)
- 10 POST TO CONCRETE FOOTING PER DETAIL 2 (MCS)

- 11 CONSTRUCT 6" WAFER BUTTERFLY VALVE WITH HAND OPERATOR (BRAY SERIES 30, OR APPROVED EQUAL)
- 12 INSTALL OWNER SUPPLIED 6" WAFER BUTTERFLY VALVE WITH HAND OPERATOR (BRAY SERIES 30)
- 13 INSTALL OWNER SUPPLIED FILTER/SILENCER
- 14 CONSTRUCT INSERTION TYPE FLOW METER ASSEMBLY WITH DIGITAL DISPLAY PER DETAIL
- 15 CONSTRUCT PIPE SUPPORT PER DETAIL
- 16 CONSTRUCT PIPE HANGER PER DETAIL
- 17 CONSTRUCT 6" DI FLANGED 90° BEND

- 18 CONSTRUCT 6" DI FLANGED PIPE TEE
- 19 CONSTRUCT 6" DI PIPE (LENGTH AS REQUIRED)
- 20 CONSTRUCT CUT-IN TEE INTO EXISTING DUCTILE IRON PIPE
- 21 CONSTRUCT 10" DUCTILE IRON BLIND FLANGE
- 22 JOIN EXISTING 6" AIR PIPING FOR ACTIVATED SLUDGE BATCH REACTOR WEST PER
- 23 JOIN EXISTING 6" AIR PIPING FOR ACTIVATED SLUDGE BATCH REACTOR EAST PER
- 24 CONSTRUCT PRECAST CONCRETE SPLASH PAD
- 25 CONSTRUCT ASPHALT CONCRETE PAVEMENT AND RESTORE TO PRECONSTRUCTION CONDITIONS. CONTRACTOR SHALL MATCH AC PAVEMENT SECTION AND FINISH GRADE ELEVATION
- 26 CONSTRUCT PULL BOX PER ELECTRICAL SHEETS



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

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

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LOURNAE S. LAUSTEN REC 67027 DISTRICT ENGINEER
JOSEPH L. GUTIERREZ REC 55804 ENGINEER

TRABUCO CANYON WATER DISTRICT
ROBINSON RANCH WASTEWATER TREATMENT PLANT
BLOWER EQUIPMENT STATION AND BLOWER RELOCATION
PROJECT NO. 2223-105




MECHANICAL PLAN

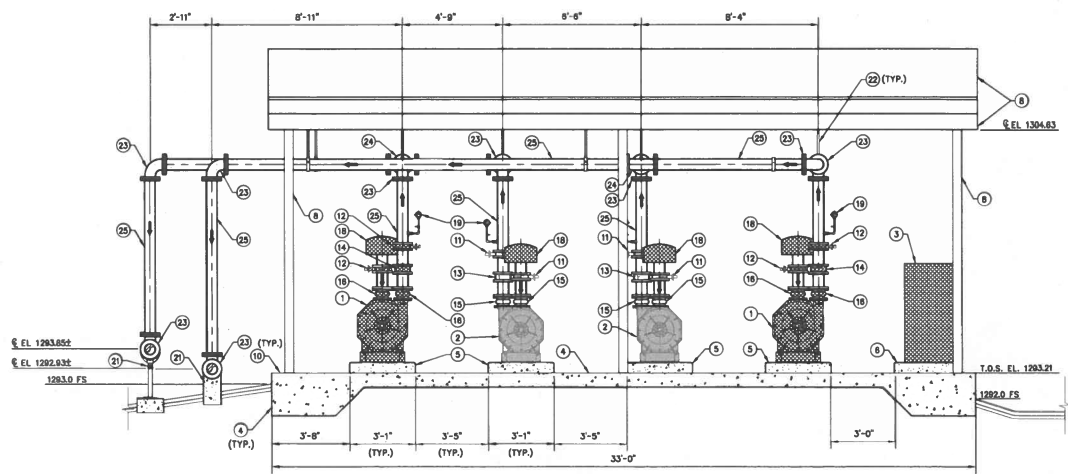
M-01
SHEET 6 OF 28

CONSTRUCTION NOTES:

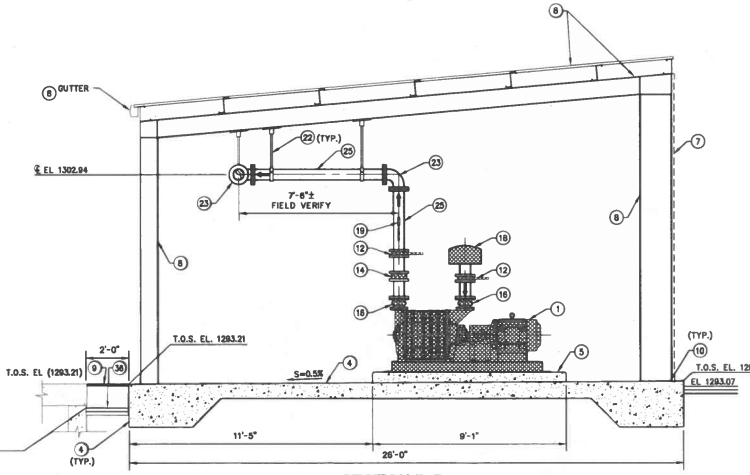
- 1 INSTALL OWNER SUPPLIED PREPACKAGED BLOWER ASSEMBLY ON SKID (LONGSTAR MCH-10). SECURE SKID WITH ANCHORS ON CONCRETE PAD PER MANUFACTURER'S RECOMMENDATIONS
- 2 INSTALL SALVAGED HOFFMAN BLOWER ASSEMBLY. SECURE SKID WITH ANCHORS ON CONCRETE PAD
- 3 INSTALL OWNER SUPPLIED VARIABLE FREQUENCY DRIVE (SCHNEIDER AT980 SERIES). SECURE TO CONCRETE HOUSEKEEPING PAD USING ANCHORS PER MANUFACTURER'S RECOMMENDATIONS
- 4 CONSTRUCT 6" THICK CONCRETE SLAB AND FOOTING PER DETAIL (1/24/04)
- 5 CONSTRUCT 6" THICK CONCRETE BLOWER PADS PER DETAIL (1/24/04)
- 6 CONSTRUCT 8" THICK HOUSEKEEPING PAD PER DETAIL (1/24/04)
- 7 CONSTRUCT SOUND PANELS (STC-21). PER STRUCTURAL SHEETS
- 8 INSTALL OVERHEAD METAL CANOPY AS DESIGNED AND MANUFACTURED BY ECOSTEEL. SEE STRUCTURAL SHEETS FOR FRAMING, METAL CANOPY, ROOF PANELS, GUTTERS, DOWNSPOUTS, AND FASTENERS
- 9 CONSTRUCT FIBERGLASS MOLDED GRATE WITH SS ANGLES AND HARDWARE MOUNTED BETWEEN SLABS PER DETAIL (1/24/04)
- 10 POST TO CONCRETE FOOTING PER DETAIL (1/24/04)
- 11 CONSTRUCT 6" WAFER BUTTERFLY VALVE WITH HAND OPERATOR (BRAY SERIES 30, OR APPROVED EQUAL)
- 12 INSTALL OWNER SUPPLIED 6" WAFER BUTTERFLY VALVE WITH HAND OPERATOR (BRAY SERIES 30)
- 13 CONSTRUCT 6" WAFER CHECK VALVE (US VALVE MODEL 6-09-20-SSP, OR APPROVED EQUAL)
- 14 INSTALL OWNER SUPPLIED 6" WAFER CHECK VALVE (US VALVE MODEL 6-09-20-SSP)
- 15 CONSTRUCT 6" EXPANSION JOINT (GENERAL RUBBER STYLE 1101CR, OR APPROVED EQUAL)
- 16 INSTALL OWNER SUPPLIED 5"Ø EXPANSION JOINT (GENERAL RUBBER STYLE 1101CR)
- 17 INSTALL OWNER SUPPLIED FILTER/SILENCER
- 18 CONSTRUCT PRESSURE GAUGE ASSEMBLY PER DETAIL (1/24/04)
- 19 CONSTRUCT PIPE SUPPORT PER DETAIL (1/24/04) OR (1/24/04)
- 20 CONSTRUCT PIPE HANGER PER DETAIL (1/24/04)
- 21 CONSTRUCT 6" DI FLANGED 90° BEND
- 22 CONSTRUCT 6" DI FLANGED PIPE TEE
- 23 CONSTRUCT 6" DI PIPE (LENGTH AS REQUIRED)
- 24 CONSTRUCT ASPHALT CONCRETE PAVEMENT AND RESTORE TO PRECONSTRUCTION CONDITIONS. CONTRACTOR SHALL MATCH AC PAVEMENT SECTION AND FINISH GRADE ELEVATION

LEGEND

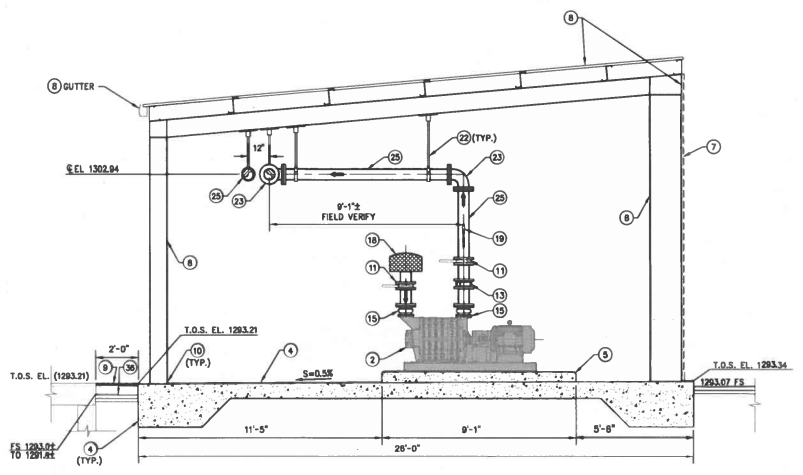
-  OWNER FURNISHED BLOWER, VALVES, VFD AND ACCESSORIES
-  RELOCATED EXISTING HOFFMAN BLOWER
-  CONCRETE SLAB OR PAD



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



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



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



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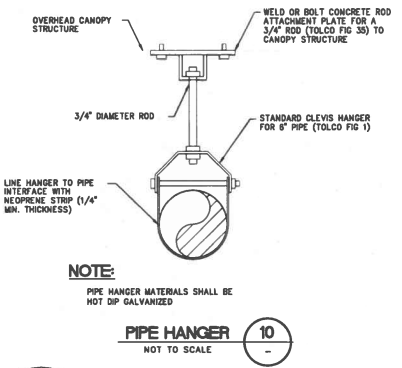
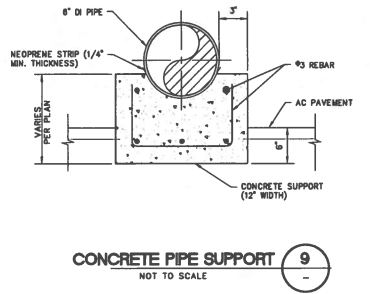
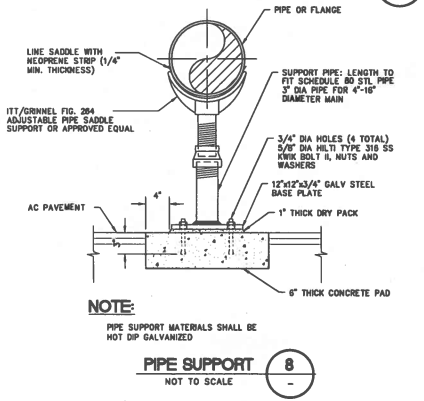
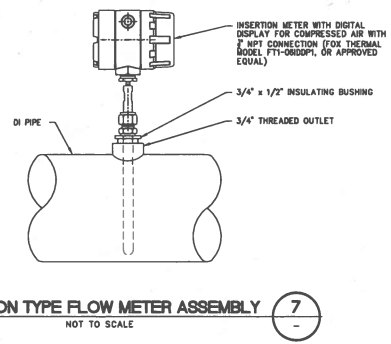
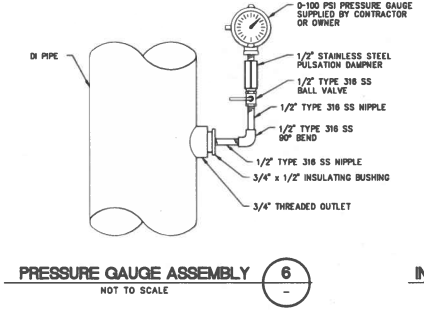
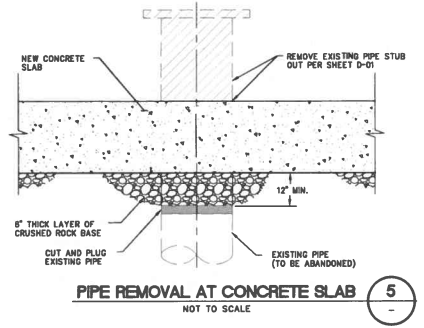
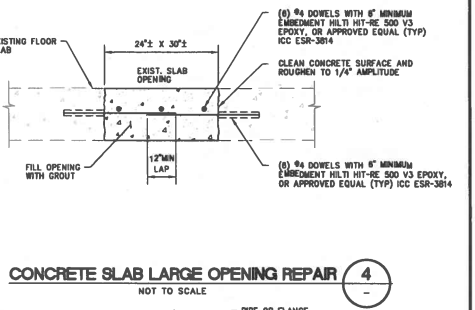
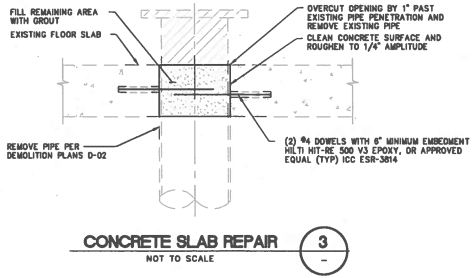
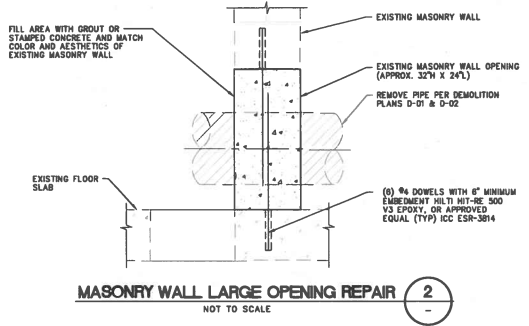
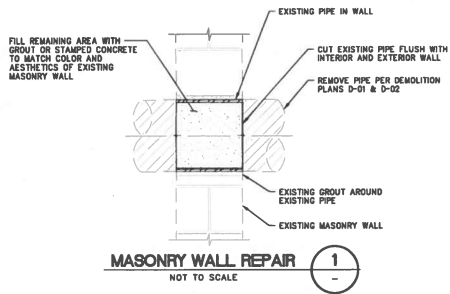
DESIGN: RO	DATE
DRAWN: RO	LORRAINE S. LAUSTEN REC 67027 DISTRICT ENGINEER
CHECKED: JG	JOSEPH L. GUTIERREZ REC 55804 ENGINEER

TRABUCO CANYON WATER DISTRICT
ROBINSON RANCH WASTEWATER TREATMENT PLANT
BLOWER EQUIPMENT STATION AND BLOWER RELOCATION
PROJECT NO. 2223-105

MECHANICAL SECTIONS

M-02
SHEET 6
OF 28

J:\Users\jg\Documents\Projects\2223-105\2223-105_Mechanical\MECH-02.dwg
 10/22/2024 10:28:26 AM by JG 003 3



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REGISTERED PROFESSIONAL ENGINEER
No. C 55604
Exp. 10/27/28
Civil
State of California

NO.	DATE	REVISIONS

DESIGN:	RO
DRAWN:	RO
CHECKED:	JG



DATE	
DISTRICT ENGINEER	LORRAINE S. LAUSTEN RCE 97927
ENGINEER	JOSEPH L. GUTIERREZ RCE 55604

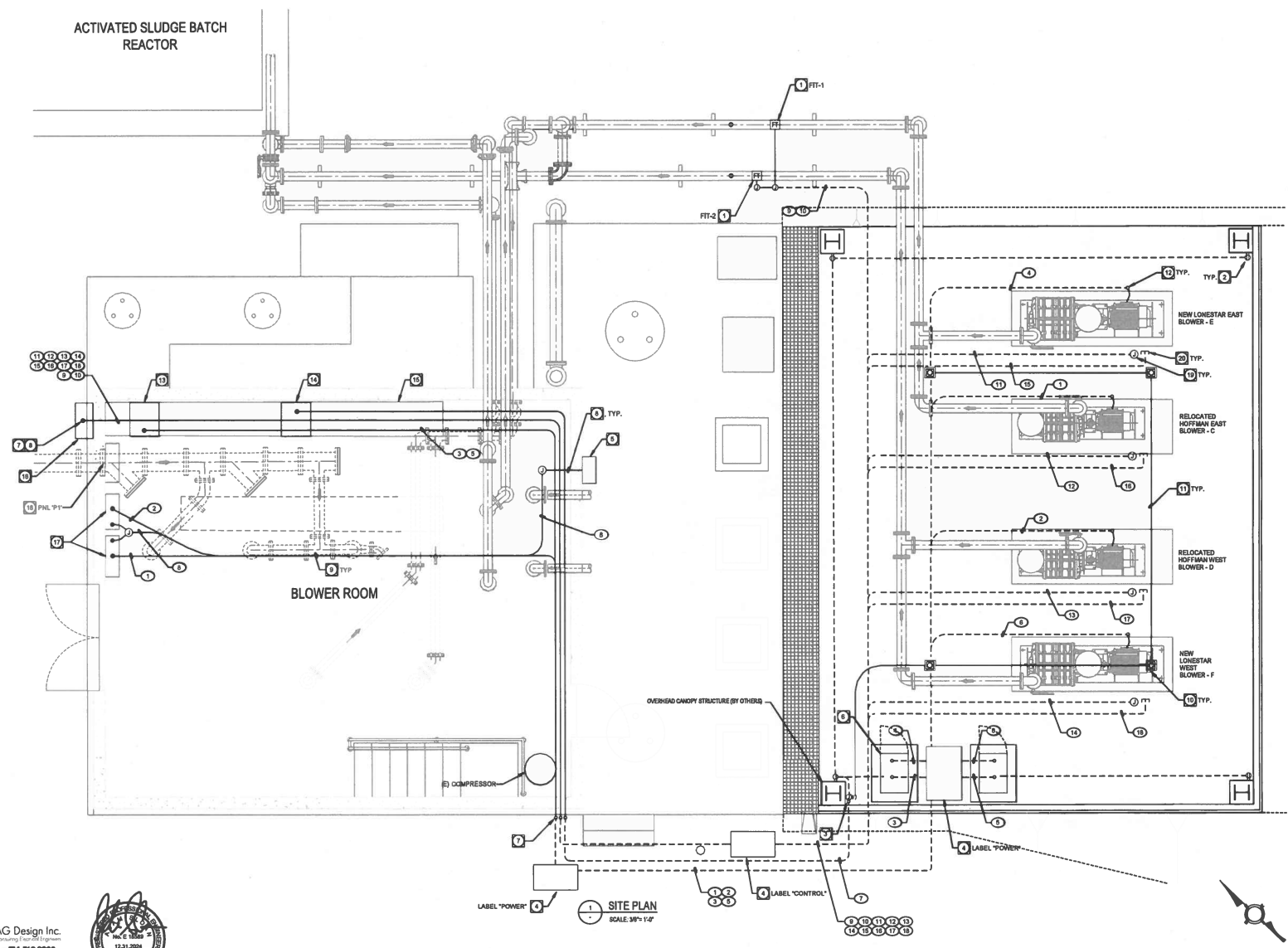
TRABUCO CANYON WATER DISTRICT
ROBINSON RANCH WASTEWATER TREATMENT PLANT
BLOWER EQUIPMENT STATION AND BLOWER RELOCATION
PROJECT NO. 2223-108

MECHANICAL DETAILS

M-04
SHEET 8 OF 28

CONSTRUCTION NOTES:

- 1 CONSTRUCT (H) FLOWMETER.
- 2 CONSTRUCT (H) 20A, WP GFCI RECEPTACLES MOUNTED ON POST +18 AFF.
- 3 CONSTRUCT (H) 20A, WP SWITCH MTD ON POST +48 AFF.
- 4 CONSTRUCT (H) 17"x20" PULLBOX WITH TRAFFIC RATED LID
- 5 CONSTRUCT LOCK-OFF-STOP PANEL
- 6 INSTALL OWNER SUPPLIED VFD'S FOR BLOWERS E & F.
- 7 CONDUIT PENETRATION
- 8 CORE DRILL THRU (E) CMU WALL 1" LARGER THAN CONDUIT I.D., SEAL SPACE.
- 9 SUSPEND CONDUITS FROM CEILING WITH UNISTRUT.
- 10 CONSTRUCT (H) LED LIGHT FIXTURE TO UNDERSIDE OF CANOPY. LIGHT FIXTURE SHALL BE 150 WATT, 120V, SEASON RESIST-100-KIT OR APPROVED EQUAL.
- 11 FASTEN CONDUITS TO UNDERSIDE OF CANOPY.
- 12 CONSTRUCT (H) CONDUIT STUB UP & FLEXIBLE CONNECTION TO BLOWER.
- 13 BLOWER E & F MCC CIRCUIT BREAKERS.
- 14 (E) PANEL 10P
- 15 PROTECT IN PLACE (E) MCC
- 16 PROTECT IN PLACE (E) SCADA PANEL
- 17 PROTECT IN PLACE (E) VFD CAB
- 18 PROTECT IN PLACE (E) SUMP CTRL. PNL P1
- 19 CONNECT TO BLOWER RTDS
- 20 STUB UP & CAP CONDUIT



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.
 TWO WORKING DAYS BEFORE YOU DIG

AG Design Inc.
 714.769.9900
 2021 W. Chagrinwood Ave. Suite 101, Orange, CA 92668



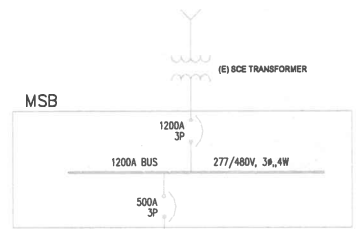
DESIGN: CC	DATE:
DRAWN: MS	EDRRAINE S. LAESTEN REG 87827 DISTRICT ENGINEER
CHECKED: AS	JOSEPH T. GOMEZ REG 55604 ENGINEER

TRABUCO CANYON WATER DISTRICT
ROBINSON RANCH WASTEWATER TREATMENT PLANT
BLOWER EQUIPMENT STATION AND BLOWER RELOCATION
PROJECT NO. 2223-105

ELECTRICAL PLAN

CONSTRUCTION NOTES

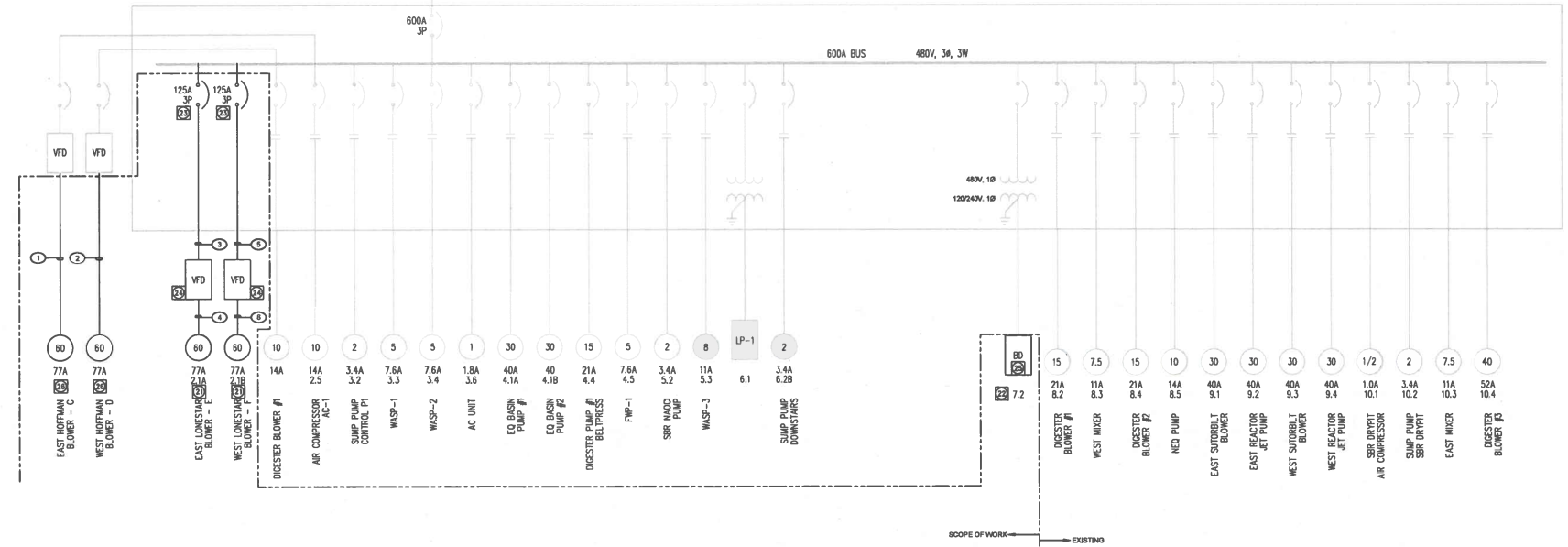
- 1) INSTALL DISTRICT FURNISHED 60HP LONESTAR BLOWER
- 2) MCC BUCKET I.D.
- 3) CONSTRUCT (N) 125A, 3P, THERMAL MAGNETIC CIRCUIT BREAKER TO MATCH EXISTING, REMOVE EXISTING STARTER COMPONENTS, BLANK OFF ALL UNUSED OPENINGS IN MCC BUCKET
- 4) INSTALL DISTRICT FURNISHED VARIABLE FREQUENCY DRIVE WITH CIRCUIT BREAKER
- 5) CONSTRUCT (N) 1-20A, 1P C.B. FOR CANOPY LTG. & 1-20A, 1P C.B. FOR CANOPY RECEPTACLES IN (E) PANEL BD.
- 6) INSTALL DISTRICT FURNISHED 60HP HOFFMAN BLOWER MOVED TO NEW LOCATION



MCC-A LOAD CALC:

EXISTING MOTOR LOAD	=	623A
EXISTING MISC. LOAD	=	20A
LDL + 25% OF 77A	=	19A
EXISTING TOTAL LOAD	=	662A
NEW INCREASED BLOWER LOAD	=	74A
NEW TOTAL LOAD	=	736A

MCC-A



1 SINGLE LINE DIAGRAM - MCC-A

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.

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 714.709.9900
 www.agdesigninc.com



NO.	DATE	REVISIONS

DESIGN: CC	DATE
DRAWN: MS	DISTRICT ENGINEER
CHECKED: AS	ENGINEER



CORRADE S. LAUTYEN	REF: 67027
JOSSEPH L. SUYERREZ	REF: 35804

TRABUCO CANYON WATER DISTRICT
 ROBINSON RANCH WASTEWATER TREATMENT PLANT
 BLOWER EQUIPMENT STATION AND BLOWER RELOCATION
 PROJECT NO. 2223-105

ELECTRICAL SINGLE LINE DIAGRAM

CONDUIT SCHEDULE					
PLAN SYMBOL	CONDUIT	WIRE	DESCRIPTION	LOCATION	
QTY	SIZE	QTY SIZE	USE	FROM	TO
1	1 1/2"	383, 1860	POWER	(E) BLOWER C VFD	BLOWER C
1	1 1/2"	383, 1860	P	(E) BLOWER D VFD	BLOWER D
1	1 1/2"	383, 1860	P	(E) MCC	BLOWER E VFD
1	1 1/2"	383, 1860	P	BLOWER E VFD	BLOWER E
1	1 1/2"	383, 1860	P	(E) MCC	BLOWER F VFD
1	1 1/2"	383, 1860	P	(E) BLOWER F VFD	BLOWER F
1	1"	4812, 18130	P	(E) MCC PANEL BD	RECEPTACLES, LTO
1	1"	4814	CONTROL	L.O.S. PANEL	(E) BLOWER C & D VFD'S
1	1"	2-DCP18SH	CONTROL	(E) SCADA PANEL	FIT-1, FIT-2
1	1"	4812, 18120	P	FIT-1, FIT-2	(E) SCADA PANEL POWER
1	1"	1-DCP18SH	CONTROL	(E) SCADA PANEL	BLOWER E RTD
1	1"	1-DCP18SH	CONTROL	(E) SCADA PANEL	BLOWER C RTD
1	1"	1-DCP18SH	CONTROL	(E) SCADA PANEL	BLOWER D RTD
1	1"	1-DCP18SH	CONTROL	(E) SCADA PANEL	BLOWER F RTD
1	1"	PULL ROPE	SPARE	(E) SCADA PANEL	BLOWER E CAP & MARK
1	1"	PULL ROPE	SPARE	(E) SCADA PANEL	BLOWER C CAP & MARK
1	1"	PULL ROPE	SPARE	(E) SCADA PANEL	BLOWER D CAP & MARK
1	1"	PULL ROPE	SPARE	(E) SCADA PANEL	BLOWER F CAP & MARK

1884 MCC					1888 MCC				
1.1	2.1A 2.1B 2.1C 2.1D 2.1E 2.1F 2.1G 2.1H 2.1I 2.1J 2.1K 2.1L 2.1M 2.1N 2.1O 2.1P 2.1Q 2.1R 2.1S 2.1T 2.1U 2.1V 2.1W 2.1X 2.1Y 2.1Z	3.1	4.1	5.1	6.1	7.1	8.1	9.1 10.1	10.1
1.2	2.3	3.2	4.2	5.2	6.2	7.2	8.2	9.2 10.2	
1.3	2.4	3.3	4.3	5.3	6.3	7.3	8.3	9.3 10.3	
	2.5	3.4	4.4	5.4	6.4	7.4	8.4	9.4 10.4	
	2.6	3.5	4.5	5.5	6.5	7.5	8.5	9.5 10.5	

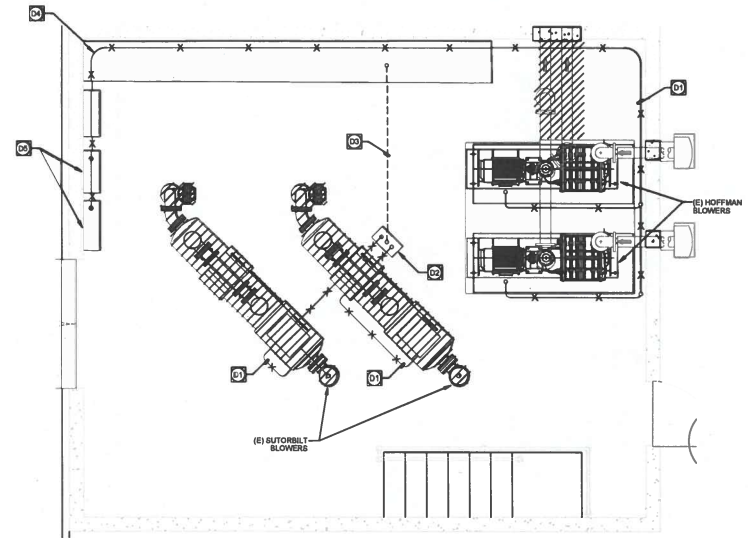
3 MCC ELEVATION
NYS

CONSTRUCTION NOTES:

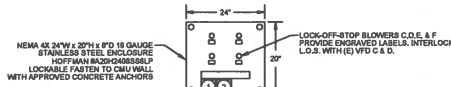
- 2 CONSTRUCT (N) 125A, 3P, THERMAL MAGNETIC CIRCUIT BREAKER TO MATCH EXISTING. REMOVE EXISTING STARTER COMPONENTS. BLANK OFF ALL UNUSED OPENINGS IN MCC BUCKET.

DEMOLITION NOTES:

- 01 DEMOLISH & DISPOSE OF ELECTRICAL & CONTROL CONDUIT & WIRES.
- 02 DEMO (E) PULL BOX. FLUSH CUT CONDUIT & PATCH FLOOR.
- 03 PULL OUT (E) WIRE. ABANDON CONDUIT.
- 04 PROTECT IN PLACE (E) MCC.
- 05 PROTECT IN PLACE (E) VFD'S.



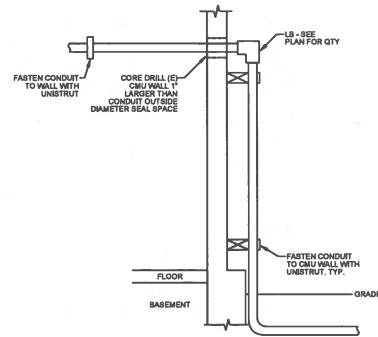
1 ELECTRICAL DEMOLITION PLAN
SCALE 1/4" = 1'-0"



DETAIL NOTES:

- 1 PROVIDE 3" OF SERVICE LOOP.
- 2 TERMINAL STRIPS

2 LOCK-OFF-STOP PANEL
NYS



1 CONDUIT PENETRATION SECTION
SEE PLAN FOR QUANTITY OF CONDUITS



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

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



AG Design Inc.
Consulting Engineers
714.769.9900
12330 20th
Irvine, CA 92618



NO.	DATE	REVISIONS

DESIGN: CC
DRAWN: MS
CHECKED: AS



DATE
DISTRICT ENGINEER
EDDRAE S. LAUSTEN RCE 01037
ENGINEER
JOSSEPH T. GUTIERREZ RCE 55604

TRABUCO CANYON WATER DISTRICT
ROBINSON RANCH WASTEWATER TREATMENT PLANT
BLOWER EQUIPMENT STATION AND BLOWER RELOCATION
PROJECT NO. 2223-105

ELECTRICAL DEMOLITION PLAN AND DETAILS

E-04
SHEET 13 OF 28



**28202 Cabot Road Suite #300
Laguna Niguel, CA 92677**

**Info@Ecosteel.com
800.587.6604**

BUILDING LOADS / DESCRIPTION:

WIDTH: 25 LENGTH: 33 HEIGHT: 15 / 12.92
(BUILDING DIMENSIONS ARE NOMINAL. REFER TO PLANS).

THIS STRUCTURE IS DESIGNED UTILIZING THE LOADS INDICATED AND APPLIED AS REQUIRED BY : IBC 21 (CBC 22)

THE CONTRACTOR IS TO CONFIRM THAT THESE LOADS COMPLY WITH THE REQUIREMENTS OF THE LOCAL BUILDING DEPARTMENT.

ROOF DEAD LOAD: 2.80 PSF (ROOF PANELS & PURLINS)

COLLATERAL LOAD: 5.00 PSF **SNOW EXPOSURE:** 1.0000

ROOF LIVE LOAD: 20.00 PSF **WIND EXPOSURE:** C

ROOF SNOW LOAD: 0.00 PSF **INTERNAL PRESSURE COEFF.:** -0.55

GROUND SNOW LOAD: 0 PSF 0.55 / -0.55

BASIC WIND SPEED: 96 MPH **SPECTRAL RESPONSE COEFF.** **MAPPED SPECTRAL RESPONSE ACC.**

SEISMIC ZONE: D Sds 1.10 Ss 1.38

THERMAL FACTOR: 1.20 Sd1 0.59 S1 0.49

IMPORTANCE FACTORS:		DESIGN BASE SHEAR, V:	
WIND LOAD	<u>1.00</u>	EXPANDED FORMULA	$0.667 * I_e * S_{ms} * W/R$
SNOW LOAD	<u>1.00</u>	LONGITUDINAL	8.36
SEISMIC LOAD	<u>1.00</u>	TRANSVERSE	3.74

GENERAL NOTES:

- MATERIALS :

HOT ROLLED BAR	Fy = 50.0000 ksi MIN.
STRUCTURAL STEEL SHEET	Fy = 50.0000 ksi MIN.
STRUCTURAL STEEL PLATE	Fy = 50.0000 ksi MIN.
COLD FORMED SHAPES	Fy = 57.0000 ksi MIN.
WALL SHEETING	Fy = 60.0000 ksi MIN.
ROOF SHEETING	Fy = 60.0000 ksi MIN.
BOLTS	A307 & A325

THE METAL BUILDING MANUFACTURER RESERVES THE RIGHT TO SUBSTITUTE THE ABOVE MATERIALS WITH EQUAL OR BETTER MATERIAL.

- BOLT TIGHTENING REQUIREMENTS:
ALL HIGH STRENGTH BOLTS ARE A325 UNLESS NOTED OTHERWISE.
HIGH STRENGTH BOLTS SHALL BE TIGHTENED BY THE SNUG TIGHT METHOD IN ACCORDANCE WITH THE LATEST EDITION AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS". A325 BOLTS SHALL BE INSTALLED WITH OUT WASHERS WHEN TIGHTENED BY THE "SNUG TIGHT" METHOD. ALL BOLTED CONNECTIONS, FOR SHEAR/BEARING CONNECTION TYPE WITH BOLT THREADS EXCLUDED FROM THE SHEAR PLANE SHALL BE SNUG TIGHT ONLY.

- ALL STRUCTURAL STEEL TO RECEIVE A RUST INHIBITIVE PRIMER. THIS PAINT IS NOT INTENDED FOR LONG TERM EXPOSURE TO THE ELEMENTS.

SITE CLASS: D
OCCUPANCY CATEGORY: II - Normal
SEISMIC DESIGN CATEGORY: D
ENCLOSURE CONDITION: PARTIALLY ENCLOSED

NOTE: HANGING LOADS CONSIDER FOR THE BLOWER PIPES

ROOF PANELS:
COLOR: TBD

WALL PANELS:
COLOR: TBD

TRIM COLORS:
GABLE: TBD
CORNER: TBD
EAVE: TBD
FRAMED OPENINGS: TBD

LINER PANELS:
COLOR: N/A

LINER TRIM:
COLOR: N/A

DEFLECTION LIMITS:

EW COL:	180
EW RAF LIVE:	180
EW RAF WIND:	180
WALL GIRT:	90
PURL LIVE:	180
PURL WIND:	150
WALL PANEL:	60
ROOF PANEL LIVE:	60
ROOF PANEL WIND:	60
RF HORIZONTAL:	60
RF VERTICAL:	180
WIND BENT:	60
RF CRANE:	100
RF SEIS:	65
WIND BENT SEIS:	65

BUILDER / CONTRACTOR RESPONSIBILITIES

IT IS THE RESPONSIBILITY OF THE BUILDER/CONTRACTOR TO INSURE THAT ALL PROJECT PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE REQUIREMENTS OF ANY GOVERNING BUILDING AUTHORITIES. THE SUPPLYING OF SEALED ENGINEERING DATA AND DRAWINGS FOR THE METAL BUILDING SYSTEM DOES NOT IMPLY OR CONSTITUTE AN AGREEMENT THAT THE METAL BUILDING SYSTEM MANUFACTURER OR ITS DESIGN ENGINEER IS ACTING AS THE ENGINEER OF RECORD OR DESIGN PROFESSIONAL FOR A CONSTRUCTION PROJECT.

THE CONTRACTOR MUST SECURE ALL REQUIRED APPROVALS AND PERMITS FROM THE APPROPRIATE AGENCY AS REQUIRED. APPROVAL OF THE METAL BUILDING SYSTEM MANUFACTURER'S DRAWINGS AND CALCULATIONS INDICATE THAT THE METAL BUILDING SYSTEM MANUFACTURER CORRECTLY INTERPRETED AND APPLIED THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. (SECT. 4.2.1 AISC CODE OF STANDARD PRACTICES, 9TH ED.) WHERE DISCREPANCIES EXIST BETWEEN THE METAL BUILDING SYSTEM MANUFACTURER'S STRUCTURAL STEEL PLANS AND THE PLANS FOR OTHER TRADES, THE STRUCTURAL STEEL PLANS SHALL GOVERN. (SECT. 3.3 AISC CODE OF STANDARD PRACTICE 9TH ED.)

DESIGN CONSIDERATIONS OF ANY MATERIALS IN THE STRUCTURE WHICH ARE NOT FURNISHED BY THE METAL BUILDING SYSTEM MANUFACTURER ARE THE RESPONSIBILITY OF THE CONTRACTORS AND ENGINEERS OTHER THAN THE METAL BUILDING SYSTEM MANUFACTURER'S ENGINEER UNLESS SPECIFICALLY INDICATED.

THE CONTRACTOR IS RESPONSIBLE FOR ALL ERECTION OF STEEL AND ASSOCIATED WORK IN COMPLIANCE WITH THE METAL BUILDING SYSTEM MANUFACTURER "FOR CONSTRUCTION" DRAWINGS.

ALL BRACING AS SHOWN AND PROVIDED BY THE METAL BUILDING SYSTEM MANUFACTURER FOR THIS BUILDING IS REQUIRED AND SHALL BE INSTALLED BY THE ERECTOR AS A PERMANENT PART OF THE STRUCTURE.

TEMPORARY SUPPORTS, SUCH AS TEMPORARY GUYS, BRACES, FALSE WORK, CRIBBING OR OTHER ELEMENTS REQUIRED FOR THE ERECTION OPERATION WILL BE DETERMINED AND FURNISHED AND INSTALLED BY THE ERECTOR. THESE TEMPORARY SUPPORTS WILL SECURE THE STEEL FRAMING, OR ANY PARTLY ASSEMBLED STEEL FRAMING, AGAINST LOADS COMPARABLE IN INTENSITY TO THOSE FOR WHICH THE STRUCTURE WAS DESIGNED, RESULTING FROM WIND, SEISMIC FORCES AND ERECTION OPERATIONS, BUT NOT THE LOADS RESULTING FROM THE PERFORMANCE OF WORK BY OR THE ACTS OF OTHERS, NOR SUCH UNPREDICTABLE LOADS AS THOSE DUE TO TORNADO, EXPLOSION, OR COLLISION. (SECT. 7.9.1 AISC CODE OF STANDARD PRACTICE, 9TH ED.)

WARNING: IN NO CASE SHOULD GALVALUME STEEL PANELS BE USED IN CONJUNCTION WITH LEAD OR COPPER. BOTH LEAD AND COPPER HAVE HARMFUL CORROSION EFFECTS ON THE ALUMINUM ZINC ALLOY COATING WHEN THEY ARE USED IN CONTACT WITH GALVALUME STEEL PANELS. EVEN RUN-OFF FROM COPPER FLASHING, WIRING, OR TUBING ONTO GALVALUME SHOULD BE AVOIDED.

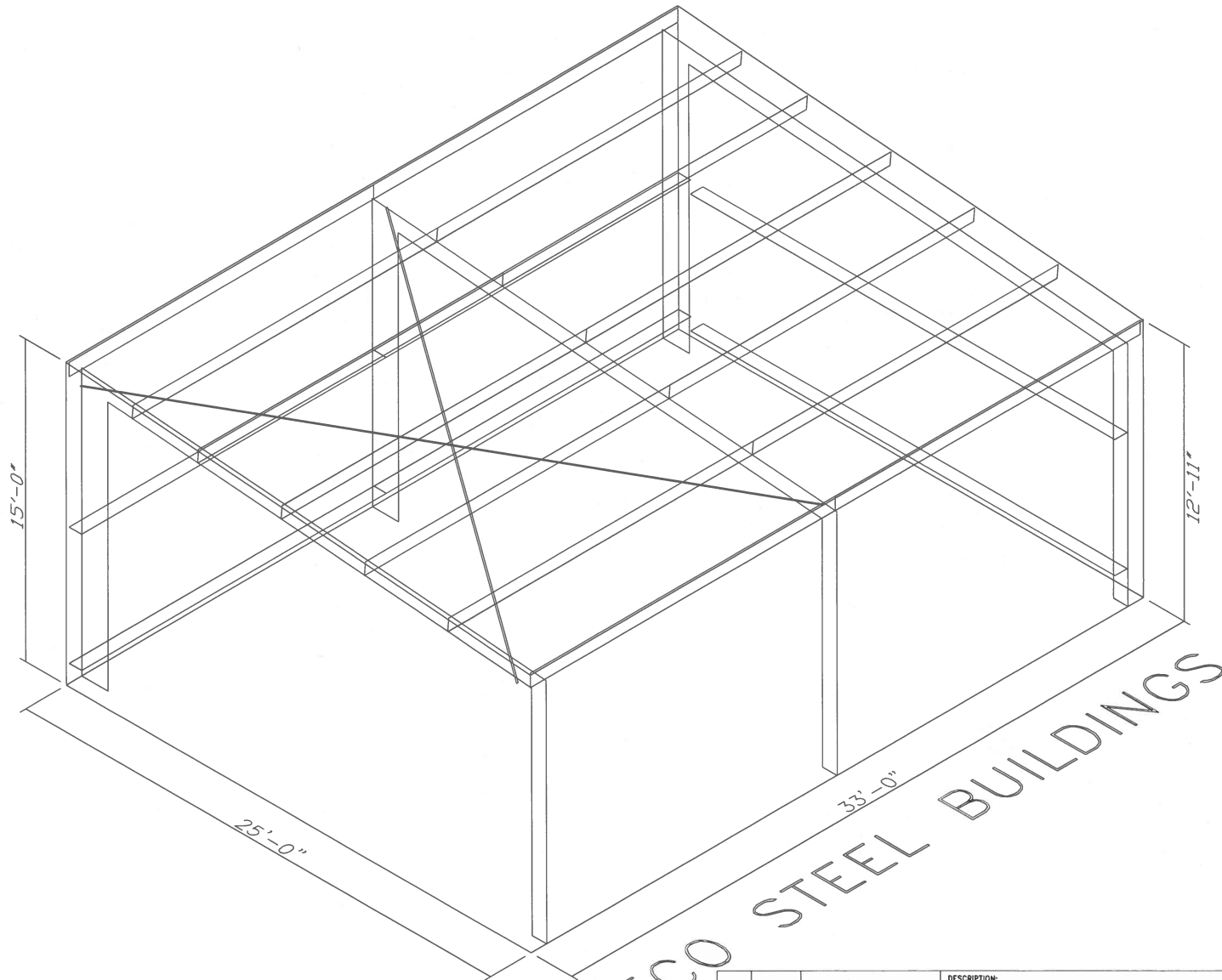
APPROVAL NOTES

THE FOLLOWING CONDITIONS APPLY IN THE EVENT THAT THESE DRAWINGS ARE USED AS APPROVAL DRAWINGS: IT IS IMPERATIVE THAT ANY CHANGES TO THESE DRAWINGS BE MADE IN CONTRASTING INK (PREFERABLY RED INK), HAVE ALL INSTANCES OF CHANGE CLEARLY INDICATED, AND BE LEGIBLE AND UNAMBIGUOUS. A SIGNATURE AND DATE IS REQUIRED ON ALL PAGES. MANUFACTURER RESERVES THE RIGHT TO RE-SUBMIT DRAWINGS WITH EXTENSIVE OR COMPLEX CHANGES REQUIRED TO AVOID MISFABRICATION. THIS MAY IMPACT THE DELIVERY SCHEDULE. APPROVAL OF THESE DRAWINGS INDICATES CONCLUSIVELY THAT THE METAL BUILDING SYSTEM MANUFACTURER HAS CORRECTLY INTERPRETED THE CONTRACT REQUIREMENTS, AND FURTHER CONSTITUTES AGREEMENT THAT THE BUILDING AS DRAWN WITH INDICATED CHANGES REPRESENTS THE TOTAL OF THE MATERIALS TO BE SUPPLIED BY MANUFACTURER. ANY CHANGES NOTED ON THE DRAWINGS NOT IN CONFORMANCE WITH THE TERMS AND REQUIREMENTS OF THE CONTRACT BETWEEN MANUFACTURER AND ITS CUSTOMER ARE NOT BINDING ON MANUFACTURER UNLESS SUBSEQUENTLY SPECIFICALLY ACKNOWLEDGED AND AGREED TO IN WRITING BY CHANGE ORDER OR SEPARATE DOCUMENTATION. MANUFACTURER RECOGNIZES THAT RUBBER STAMPS ARE ROUTINELY USED FOR INDICATING APPROVAL, DISAPPROVAL, REJECTION, OR MERE REVIEW OF THE DRAWINGS SUBMITTED. HOWEVER, MANUFACTURER DOES NOT ACCEPT CHANGES OR ADDITIONS TO CONTRACTUAL TERMS AND CONDITIONS THAT MAY APPEAR WITH USE OF A STAMP OR SIMILAR INDICATION OF APPROVAL, DISAPPROVAL, ETC., SUCH LANGUAGE APPLIED TO MANUFACTURER'S DRAWINGS BY THE CUSTOMER, ARCHITECT, ENGINEER, OR ANY OTHER PARTY WILL BE CONSIDERED AS UNACCEPTABLE ALTERNATIONS TO THESE DRAWING NOTES, AND WILL NOT ALTER THE CONTRACTUAL RIGHTS AND OBLIGATIONS EXISTING BETWEEN MANUFACTURER AND ITS CUSTOMER.

IMPORTANT NOTE: FINAL DETAILING, FABRICATION, AND DELIVERY DATE OF THIS PROJECT CANNOT BE COMPLETED UNTIL THE SIGNED APPROVALS ARE RETURNED TO THE METAL BUILDING MANUFACTURER.

REV.	DATE	REVISION	DESCRIPTION:	COVER PAGE
C	02/20/25	FOR APPROVAL	CUSTOMER:	PROJECT: Trabuco Canyon Water District
B	01/16/25	FOR APPROVAL	LOCATION: 21397 Heritage Dr. Dove Canyon, CA 92679	
A	01/10/25	FOR APPROVAL	SCALE	JOB NO.
			N.T.S.	OPTION-3
				SHEET NO.
				14 OF 28



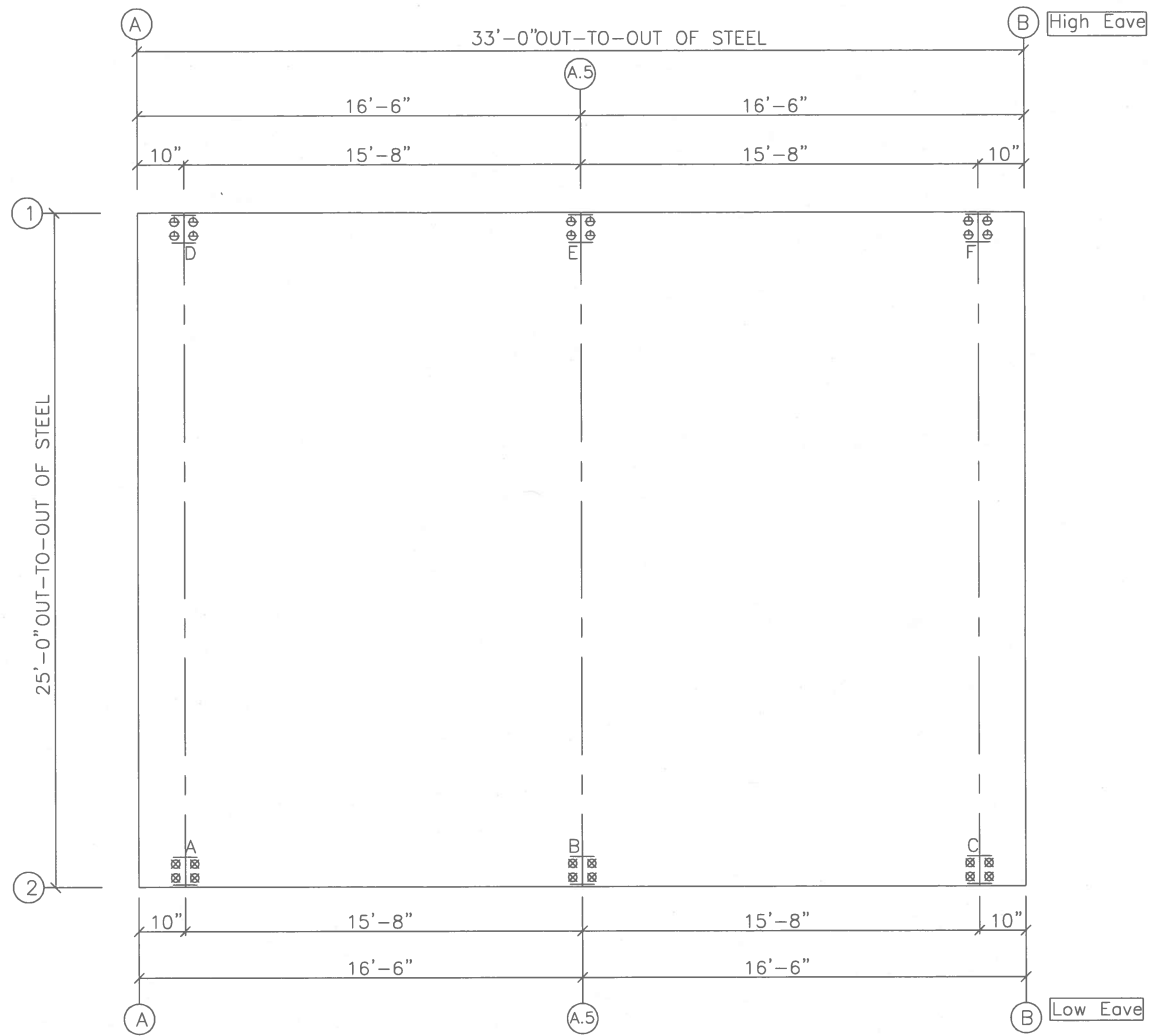


ECO STEEL BUILDINGS

8-02

REV.	DATE	REVISION	DESCRIPTION:	CUSTOMER:	PROJECT:	LOCATION:	SCALE	JOB NO.	SHEET NO.
C	02/20/25	FOR APPROVAL	ANCHOR BOLT PLAN		Trebuca Canyon Water District		N.T.S.		15 OF 28
B	01/16/25	FOR APPROVAL							
A	01/10/25	FOR APPROVAL							





ANCHOR BOLT PLAN

NOTE: All Base Plates @ 100'-0" (FINISH FLOOR)(UNO.)

8-03

REV.	DATE	REVISION	DESCRIPTION:	CUSTOMER:	PROJECT:	SCALE:	JOB NO.:	SHEET NO.:
C	02/20/25	FOR APPROVAL	ANCHOR BOLT PLAN	21397 Heritage Dr. Dove Canyon, CA 92679	Trebuco Canyon Water District	N.T.S.	OPTION-3	16 OF 28
B	01/16/25	FOR APPROVAL						
A	01/10/25	FOR APPROVAL						



NOTES FOR REACTIONS

- All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.
- Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.
- Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.
- Building reactions are based on the following building data:
 - Width (ft) = 25.0
 - Length (ft) = 33.0
 - Eave Height (ft) = 15.0 / 12.9
 - Roof Slope (rise/12) = 1.00
 - Roof Dead Load (psf) = 2.8
 - Wall Dead Load
 - Left Endwall (psf) = 2.0
 - Right Endwall (psf) = 6.0
 - Front Sidewall (psf) = 2.0
 - Back Sidewall (psf) = 6.0
 - Roof Live Load (psf) = 20.0
 - Frame Live Load
 - Min (psf) = 15.8
 - Max (psf) = 19.7
 - Collateral Load (psf) = 5.0
 - Wind Speed (mph) = 96.0
 - Wind Code = CBC 22 (IBC 21)
 - Exposure = C
 - Closure = Partially Enclosed
 - Internal Wind Coeff = -0.55, +0.55
 - Risk Category = II - Normal
 - Importance - Wind = 1.00
 - Importance - Seismic = 1.00
 - Seismic Design Category = D
 - Seismic Coeff (Sms) = 1.38
- Loading conditions are:
 - 1 Dead+Collateral+0.75Live+0.45Wind_Left1
 - 2 Dead+Collateral+0.75Live+0.45Wind_Right1
 - 3 0.6Dead+0.6Wind_Left1
 - 4 0.6Dead+0.6Wind_Right1
 - 5 0.6Dead+0.6Wind_Left2
 - 6 0.6Dead+0.6Wind_Right2
 - 7 0.6Dead+0.6Wind_Long2R
 - 8 1.09Dead+1.09Collateral+0.75Live+0.53Seismic_LongL
 - 9 1.09Dead+1.09Collateral+0.75Live+0.53Seismic_LongR
 - 10 0.47Dead+0.7Seismic_LongL
 - 11 0.47Dead+0.7Seismic_LongR

BUILDING BRACING REACTIONS

Loc	Line	Type	± Reactions(k)				Panel Shear (lb/ft)	
			Horz	Vert	Horz	Vert	Wind	Seis
L_EW	A							
F_SW	2	Torsional Bracing Used						
R_EW	B							
B_SW	1							

(h) Rigid frame at endwall
 (j) Weak axis bending is used

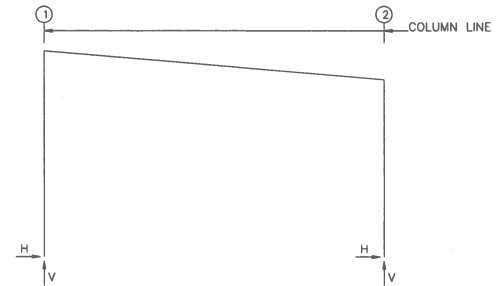
**RIGID FRAME REACTIONS:
WEAK AXIS BENDING**

Frame Line	Col Line	---Reactions(k , f-k)---			Load ID
		Horiz	AB_Vert	Moment	
A*	1	0.9	14.5	13.3	Wind
		3.6	56.4	51.7	Seismic
A.	1	0.9	14.5	13.3	Wind
		3.6	56.4	51.7	Seismic

A* Frame lines: A B

Reactions for seismic represent shear force, Eh
 Reaction values shown are unfactored

FRAME LINES: A A.5 B



RIGID FRAME: MAXIMUM REACTIONS, ANCHOR RODS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt Qty	Bolt Dia (in)	Base_Plate(in)			Grout (in)
		Load Id	Hmax	V	Load Id	Hmin	V			Width	Length	Thick	
A*	1	9	2.4	7.3	10	-0.8	0.3	4	1.250	14.00	19.00	1.250	0.0
A*	2	11	0.8	-0.3	8	-2.4	5.7	4	0.750	6.000	11.00	0.500	0.0
		8	-2.4	5.7	7	0.1	-0.9						

RIGID FRAME: MAXIMUM REACTIONS, ANCHOR RODS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt Qty	Bolt Dia (in)	Base_Plate(in)			Grout (in)
		Load Id	Hmax	V	Load Id	Hmin	V			Width	Length	Thick	
A.5	1	2	2.4	4.3	5	-2.0	0.7	4	1.250	14.00	19.00	1.250	0.0
		9	2.2	7.2	3	-1.0	-1.9						
A.5	2	6	2.4	-0.4	1	-2.5	4.0	4	0.750	6.000	11.00	0.500	0.0
		8	-2.2	6.1	4	1.0	-3.0						

RIGID FRAME: BASIC COLUMN REACTIONS (k)

Frame Line	Column Line	---Dead---		---Collateral---		---Live---		---Wind_Left1---		---Wind_Right1---		---Wind_Left2---	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
A*	1	0.6	3.0	0.2	0.6	1.0	3.5	-1.1	-2.4	0.8	-2.1	-1.5	-0.5
A*	2	-0.6	1.7	-0.2	0.5	-1.0	3.1	-0.8	-1.2	1.1	-3.1	-0.4	0.8
A.5	1	0.2	1.9	0.3	1.3	1.1	3.9	-1.9	-5.1	2.4	-3.6	-0.7	-0.7
A.5	2	-0.2	1.0	-0.3	1.2	-1.1	3.8	-2.4	-2.3	2.0	-6.1	-0.7	2.1

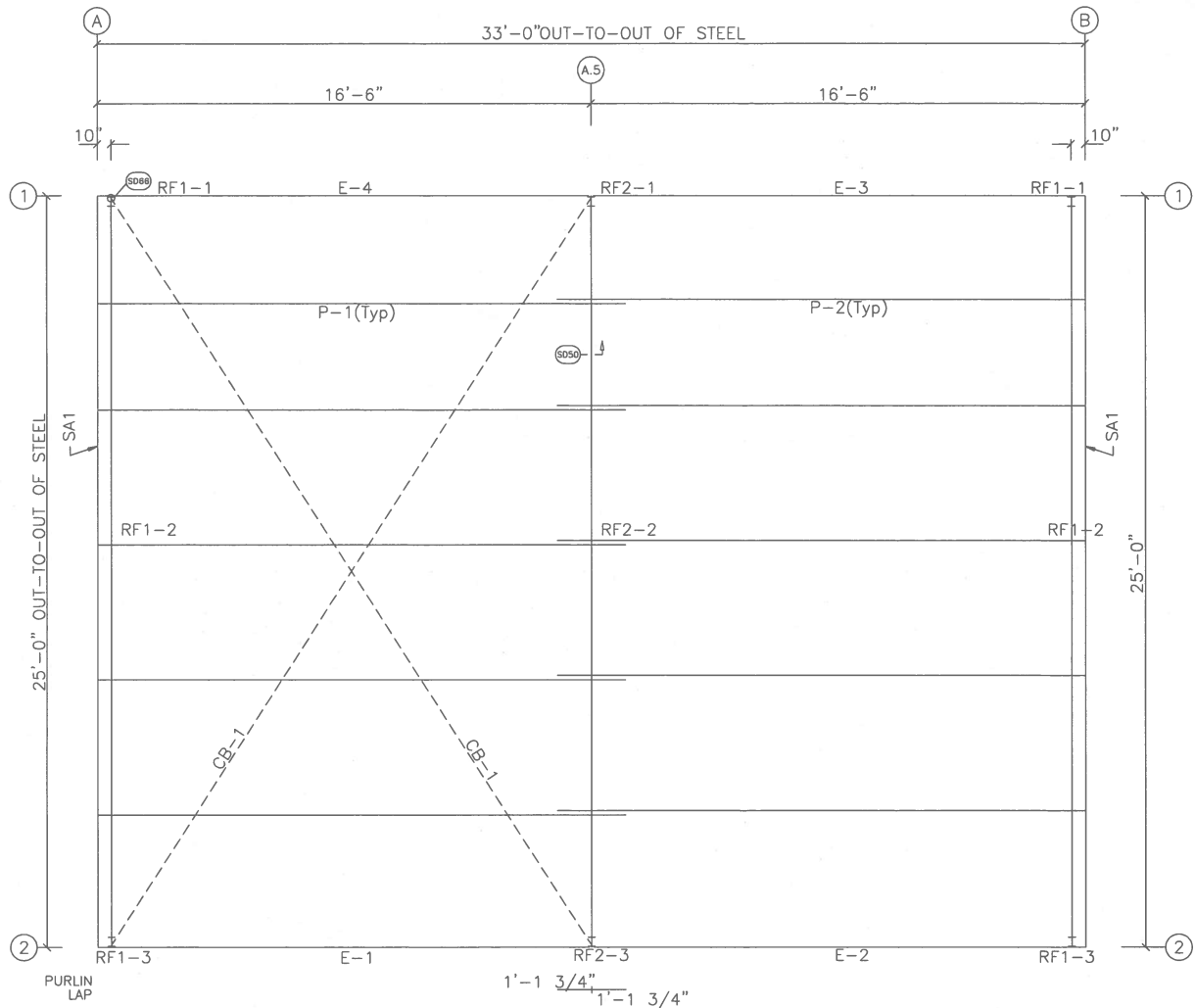
Frame Line	Column Line	---Wind_Right2---		---Wind_Long1---		---Wind_Long2---		---Seismic_Left		Seismic_Right		---Seismic_Long	
		Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert	Horz	Vert
A*	1	0.1	-0.2	-0.6	-2.8	1.3	-1.1	-0.7	-0.7	0.7	0.7	-1.5	-1.6
A*	2	1.8	-1.1	-1.5	-0.5	0.8	-3.3	-0.7	0.7	0.7	-0.7	-1.5	1.6
A.5	1	0.1	0.5	-0.1	-4.9	1.6	-4.0	-1.1	-1.2	1.1	1.2	-1.5	-1.6
A.5	2	4.3	-1.6	-2.0	-2.5	0.4	-5.9	-1.1	1.2	1.1	-1.2	-1.5	1.6

A* Frame lines: A B

ANCHOR BOLT SUMMARY

Qty	Locate	Dia (in)	Type	Proj (in)
12	Frame	1 1/4"	A307	4.00
12	Frame	3/4"	A307	3.00

DESCRIPTION: ANCHOR BOLT REACTIONS				
B	01/16/25	FOR APPROVAL	CUSTOMER:	PROJECT: Trabuco Canyon Water District
A	01/10/25	FOR APPROVAL	LOCATION: 21597 Heritage Dr.Dove Canyon,CA 92679	ECOSTEEL
REV.	DATE	REVISION	SCALE: N.T.S.	JOB NO. OPTION-3 SHEET NO. 18 OF 28



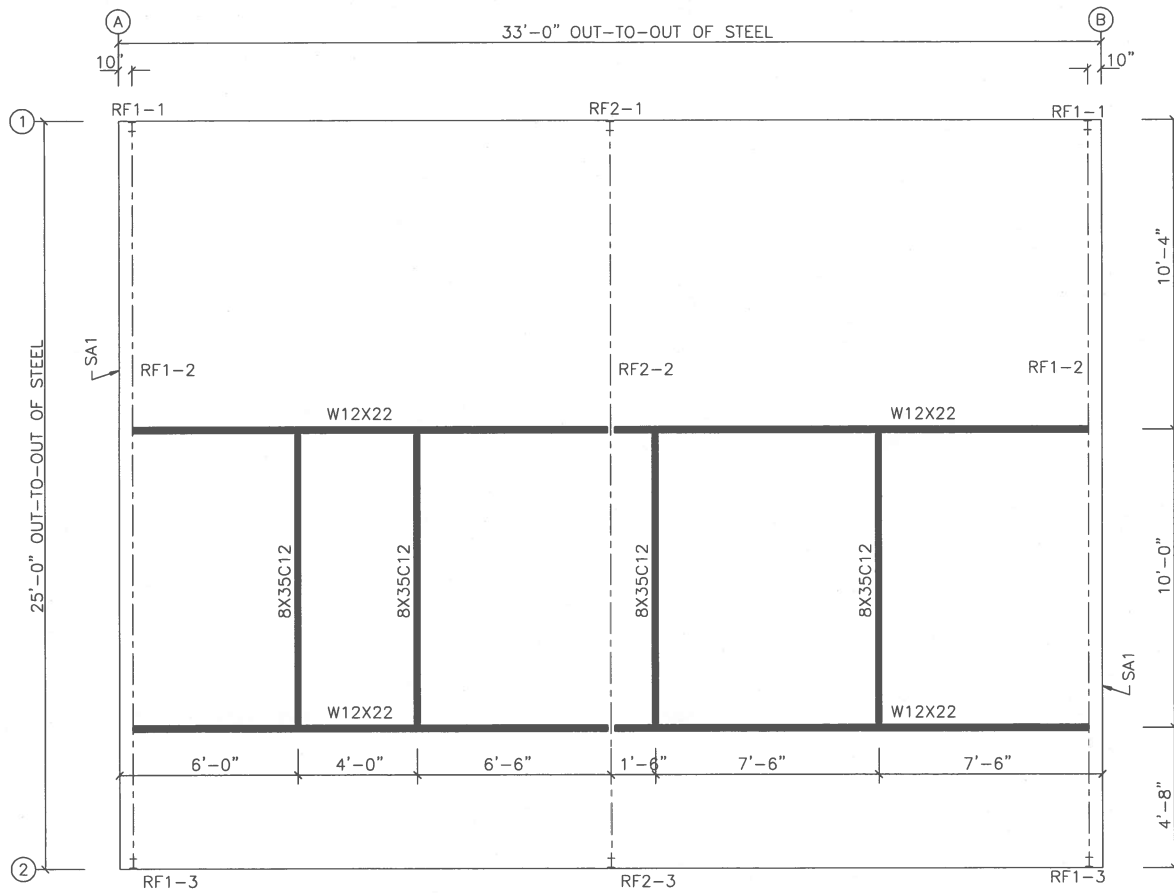
MEMBER TABLE		
ROOF PLAN		
MARK	PART	LENGTH
P-1	8X25Z16	17'-7 1/2"
P-2	8X25Z16	17'-7 1/2"
E-1	8E14	16'-5 1/2"
E-2	8E14	16'-5 1/2"
E-3	H8E14	16'-5 1/2"
E-4	H8E14	16'-5 1/2"
CB-1	CB0250	28'-4"

ROOF FRAMING PLAN

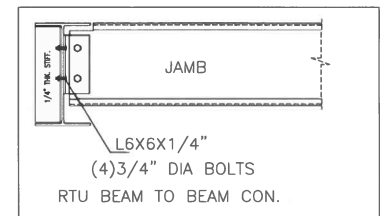
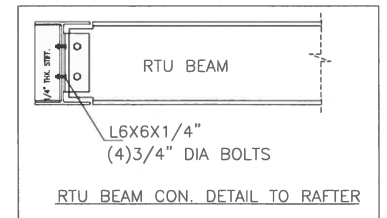
8-08

REV.	DATE	REVISION	DESCRIPTION:	CUSTOMER:	PROJECT:	SCALE:	JOB NO.:	SHEET NO.:
C	02/20/25	FOR APPROVAL	ROOF FRAMING		Trabuco Canyon Water District	N.T.S.	OPTION-3	19 OF 28
B	01/16/25	FOR APPROVAL						
A	01/10/25	FOR APPROVAL		21397 Heritage Dr. Dove Canyon, CA 92679				



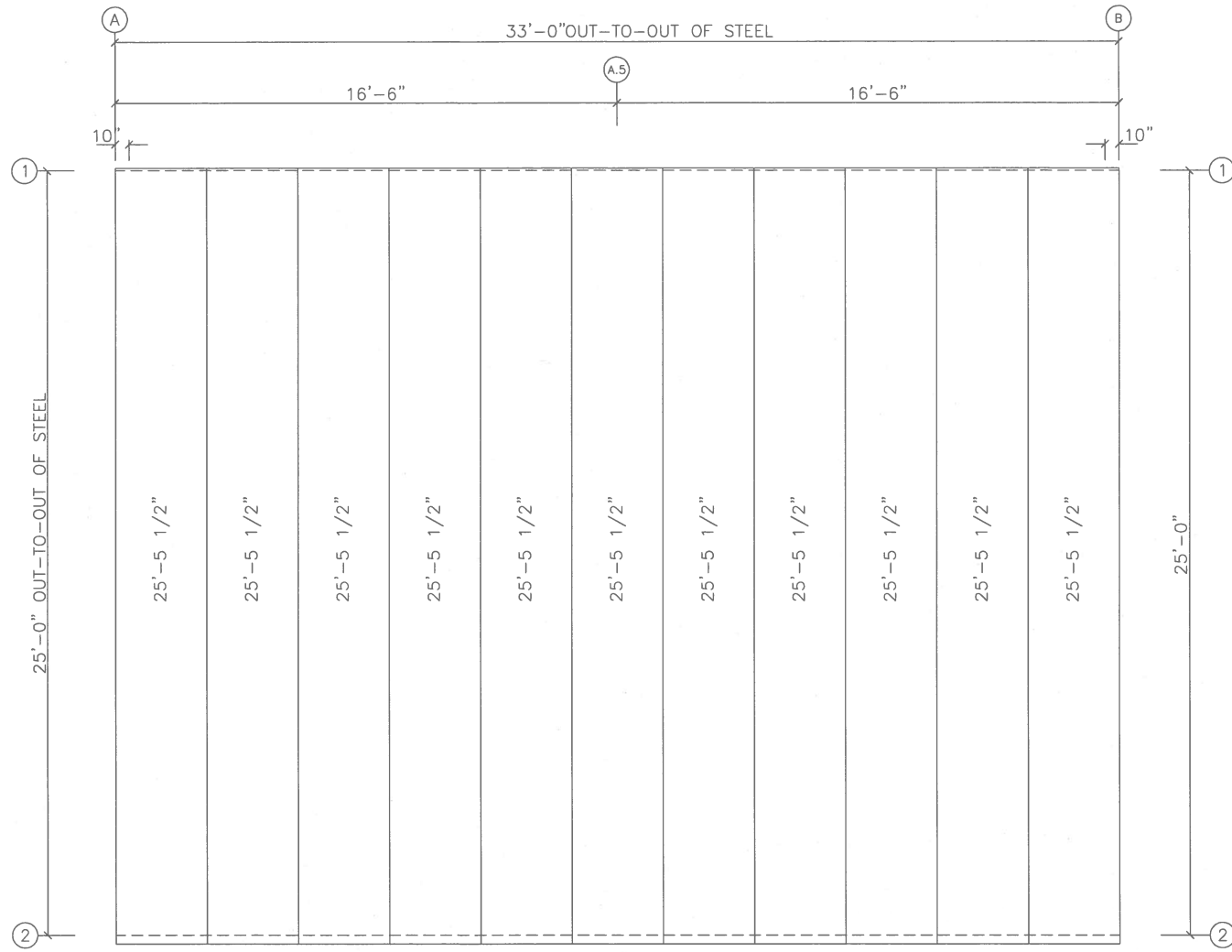


ROOF BEAMS PLAN



8-07

		DESCRIPTION: ROOF BEAMS PLAN			
		CUSTOMER:		PROJECT: Trabuco Canyon Water District	
		LOCATION: 21397 Heritage Dr. Dove Canyon, CA 92679		ECS STEEL	
A	01/10/25	FOR APPROVAL	SCALE	JOB NO.	SHEET NO.
REV.	DATE	REVISION	N.T.S.	OPTION-3	20 OF 28

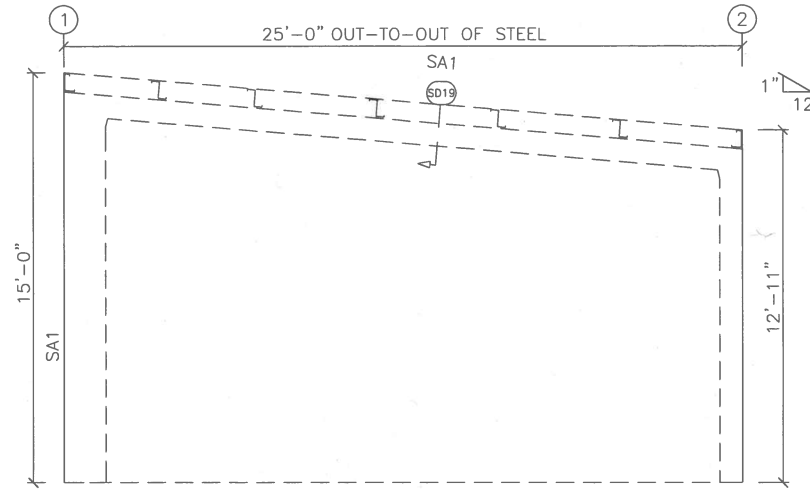


ROOF SHEETING PLAN
 PANELS: 26 Ga. PBR - Need Color

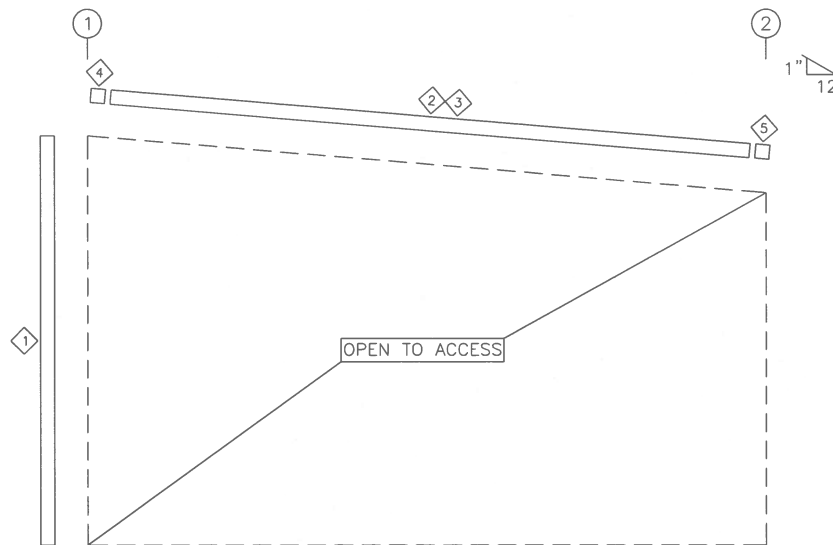
REV.	DATE	REVISION	DESCRIPTION:	CUSTOMER:	PROJECT:	SCALE:	JOB NO.:	SHEET NO.:
			ROOF SHEETING		Trebuco Canyon Water District	N.T.S.	OPTION-3	21 OF 28
C	02/20/25	FOR APPROVAL						
B	01/16/25	FOR APPROVAL						
A	01/10/25	FOR APPROVAL						

8-08





ENDWALL FRAMING: FRAME LINE A



ENDWALL SHEETING & TRIM: FRAME LINE A

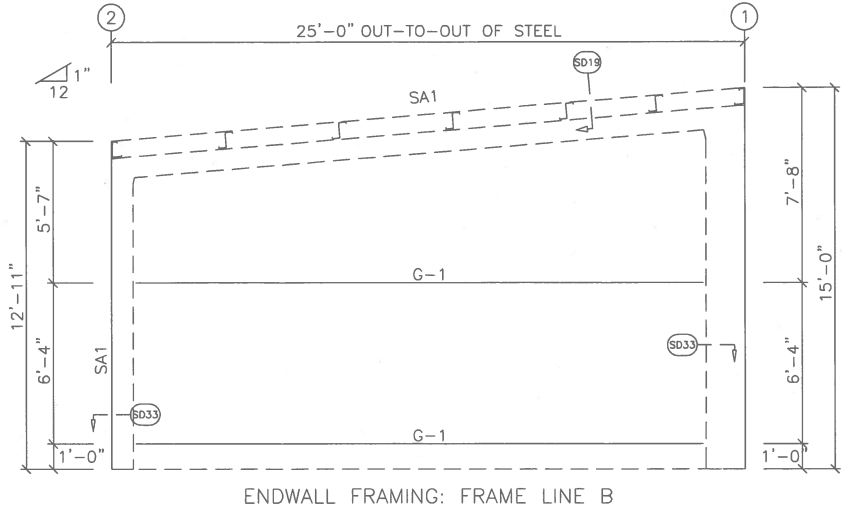
TRIM TABLE				
FRAME LINE A				
ID	QUAN	PART	LENGTH	DETAIL
1	1	SF-	15'-0"	TD106
2	2	FL-21	12'-8"	TD25
3	2	FL-78	12'-8"	
4	1	FL-328L	9 1/2"	
5	1	FL-328R	9 1/2"	

8-00

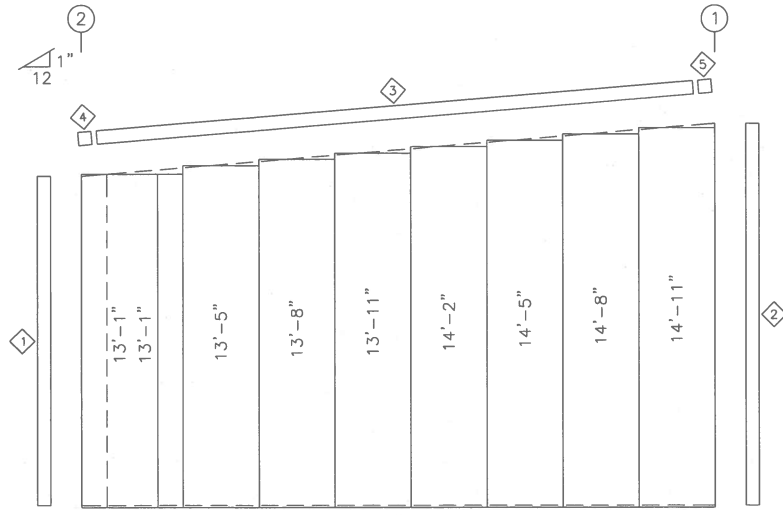
REV.	DATE	REVISION	DESCRIPTION	SCALE	JOB NO.	SHEET NO.
C	02/20/25	FOR APPROVAL	ENDWALL FRAMING	N.T.S.	OPTION-3	22 OF 28
B	01/16/25	FOR APPROVAL				
A	01/10/25	FOR APPROVAL				

ECOSTEEL
 83399 Grand Central Blvd. #100
 Laguna Hills, CA 92653
 (949) 261-6600
 www.ecosteel.com

DESCRIPTION: ENDWALL FRAMING
 CUSTOMER: PROJECT: Trabuco Canyon Water District
 LOCATION: 21397 Heritage Dr. Dove Canyon, CA 92879
 SCALE: N.T.S. JOB NO.: OPTION-3 SHEET NO.: 22 OF 28



ENDWALL FRAMING: FRAME LINE B



ENDWALL SHEETING & TRIM: FRAME LINE B


PANELS: INSULATED METAL PANELS-NEED COLOR

TRIM TABLE				
FRAME LINE B				
ID	QUAN	PART	LENGTH	DETAIL
1	1	FL-82	12'-11"	TD106
2	1	SF-	15'-0"	TD40
3	2	FL-21	12'-8"	TD35
4	1	FL-32BL	9 1/2"	
5	1	FL-32BR	9 1/2"	

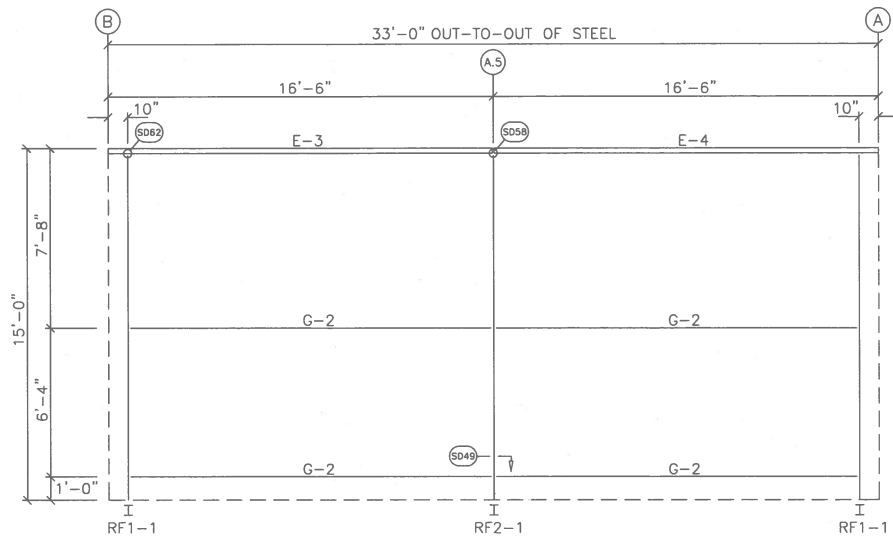
MEMBER TABLE		
FRAME LINE B		
MARK	PART	LENGTH
G-1	8X25Z12	22'-6 15/16"

REV.	DATE	REVISION	SCALE	JOB NO.	SHEET NO.
C	02/20/25	FOR APPROVAL	N.T.S.	OPTION-3	23 OF 28
B	01/16/25	FOR APPROVAL			
A	01/10/25	FOR APPROVAL			

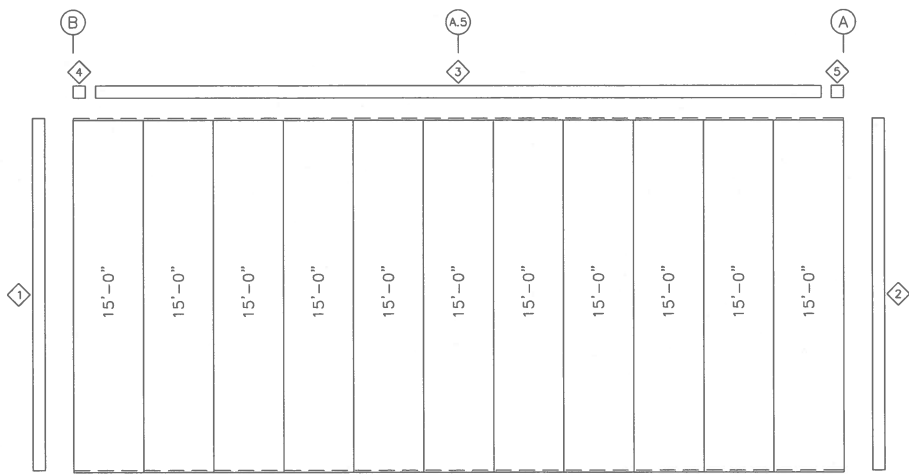
DESCRIPTION: ENDWALL FRAMING	
CUSTOMER:	PROJECT: Trabuco Canyon Water District
LOCATION: 21397 Heritage Dr. Dove Canyon, CA 92679	



62550 E. 1st Street, Suite 100, Aurora, CO 80017
 303.681.4200
 info@ecosteel.com



SIDEWALL FRAMING: FRAME LINE 1



SIDEWALL SHEETING & TRIM: FRAME LINE 1

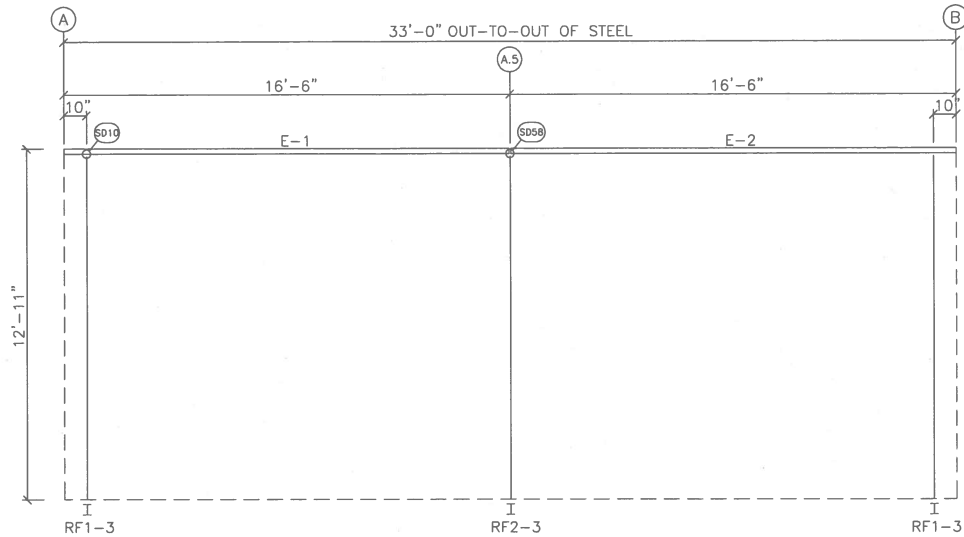
PANELS: INSULATED METAL PANELS-NEED COLOR

TRIM TABLE				
FRAME LINE 1				
ID	QUAN	PART	LENGTH	DETAIL
1	1	SF-	15'-0"	TD40
2	1	SF-	15'-0"	TD106
3	1	FL-27	13'-0"	TD18
4	1	FL-27L	11'-2"	TD85
5	1	FL-27R	11'-2"	

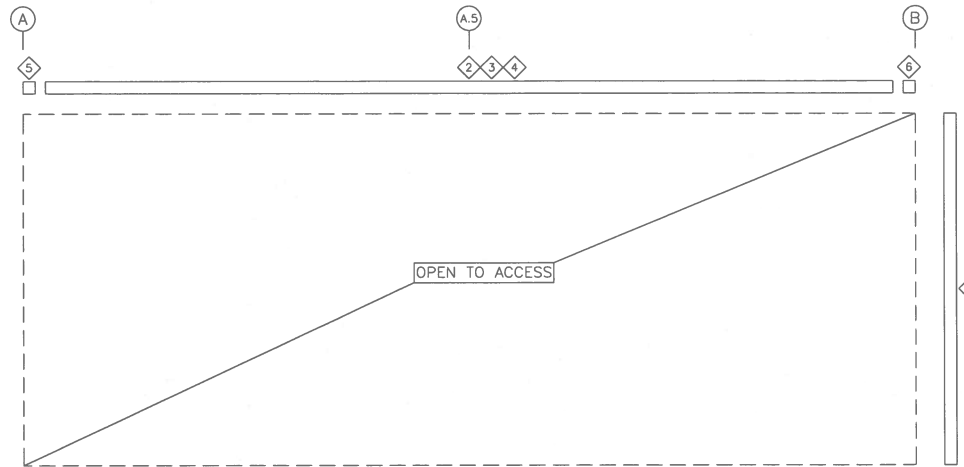
MEMBER TABLE			
FRAME LINE 1			
MARK	PART	LENGTH	
E-3	H8E14	16'-5	1/2"
E-4	H8E14	16'-5	1/2"
G-2	8X25Z16	14'-10	3/8"

C		02/20/25	FOR APPROVAL	DESCRIPTION: SIDEWALL FRAMING	
B		01/16/25	FOR APPROVAL	CUSTOMER:	PROJECT: Trabuco Canyon Water District
A		01/10/25	FOR APPROVAL	LOCATION: 21597 Herflaps Dr.Dove Canyon,CA 92679	
REV.	DATE	REVISION		SCALE	JOB NO.
				N.T.S.	OPTION-3
				SHEET NO.	24 OF 28





SIDEWALL FRAMING: FRAME LINE 2



SIDEWALL SHEETING & TRIM: FRAME LINE 2

TRIM TABLE				
FRAME LINE 2				
QID	QUAN	PART	LENGTH	DETAIL
1	1	FL-82	12'-11"	TD106
2	2	FL-31	16'-7"	TD21
3	2	FL-80	16'-7"	
4	2	FL-381	16'-7"	
5	1	FL-22	8"	TRIM_324
6	1	FL-22	8"	

MEMBER TABLE		
FRAME LINE 2		
MARK	PART	LENGTH
E-1	8E14	16'-5 1/2"
E-2	8E14	16'-5 1/2"

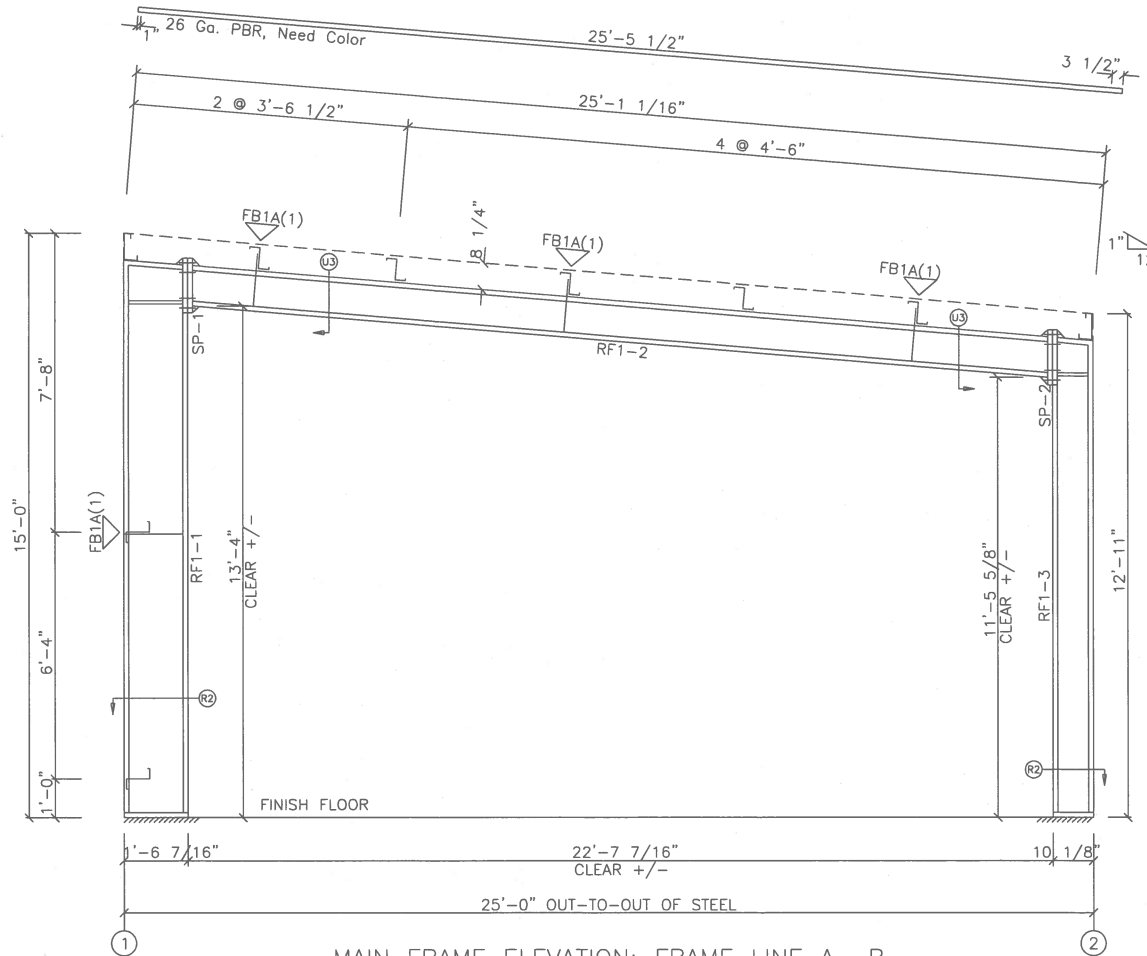
REV.	DATE	REVISION	DESCRIPTION:	SCALE	JOB NO.	SHEET NO.
			SIDEWALL FRAMING	N.T.S.	OPTION-3	25 OF 28
C	02/20/25	FOR APPROVAL				
B	01/16/25	FOR APPROVAL				
A	01/10/25	FOR APPROVAL				

ECOSTEEL
 PROJECT: Trabuco Canyon Water District
 LOCATION: 21597 Harflaga Dr. Dove Canyon, CA 92679
 SCALE: N.T.S. JOB NO.: OPTION-3 SHEET NO.: 25 OF 28

SPLICE PLATE & BOLT TABLE									
Mark	Qty		Int	Type	Dia	Length	Width	Thick	Length
	Top	Bot							
SP-1	4	4	0	A325	1"	4 1/4"	8"	1"	1'-5 1/4"
SP-2	4	4	0	A325	5/8"	2 1/4"	6"	1/2"	1'-4 11/16"

MEMBER SIZE TABLE		
MARK	MEMBER	LENGTH
RF1-1	W18X71	14'-3 3/4"
RF1-2	W10X12	22'-6 7/8"
RF1-3	W10X17	12'-2 11/16"

FLANGE BRACES: FBxx (1 or 2)
 xx=length(in)
 (1) One Side; (2) Two Sides
 A - 2X2X14Ga



MAIN FRAME ELEVATION: FRAME LINE A B

REV.	DATE	REVISION	DESCRIPTION:	SCALE	JOB NO.	SHEET NO.
C	02/20/25	FOR APPROVAL	MAIN FRAME ELEVATION	N.T.S.	OPTION-3	28 OF 28
B	01/16/25	FOR APPROVAL				
A	01/10/25	FOR APPROVAL				

CUSTOMER: Trebuco Canyon Water District

LOCATION: 21397 Heritage Dr. Dove Canyon, CA 92679

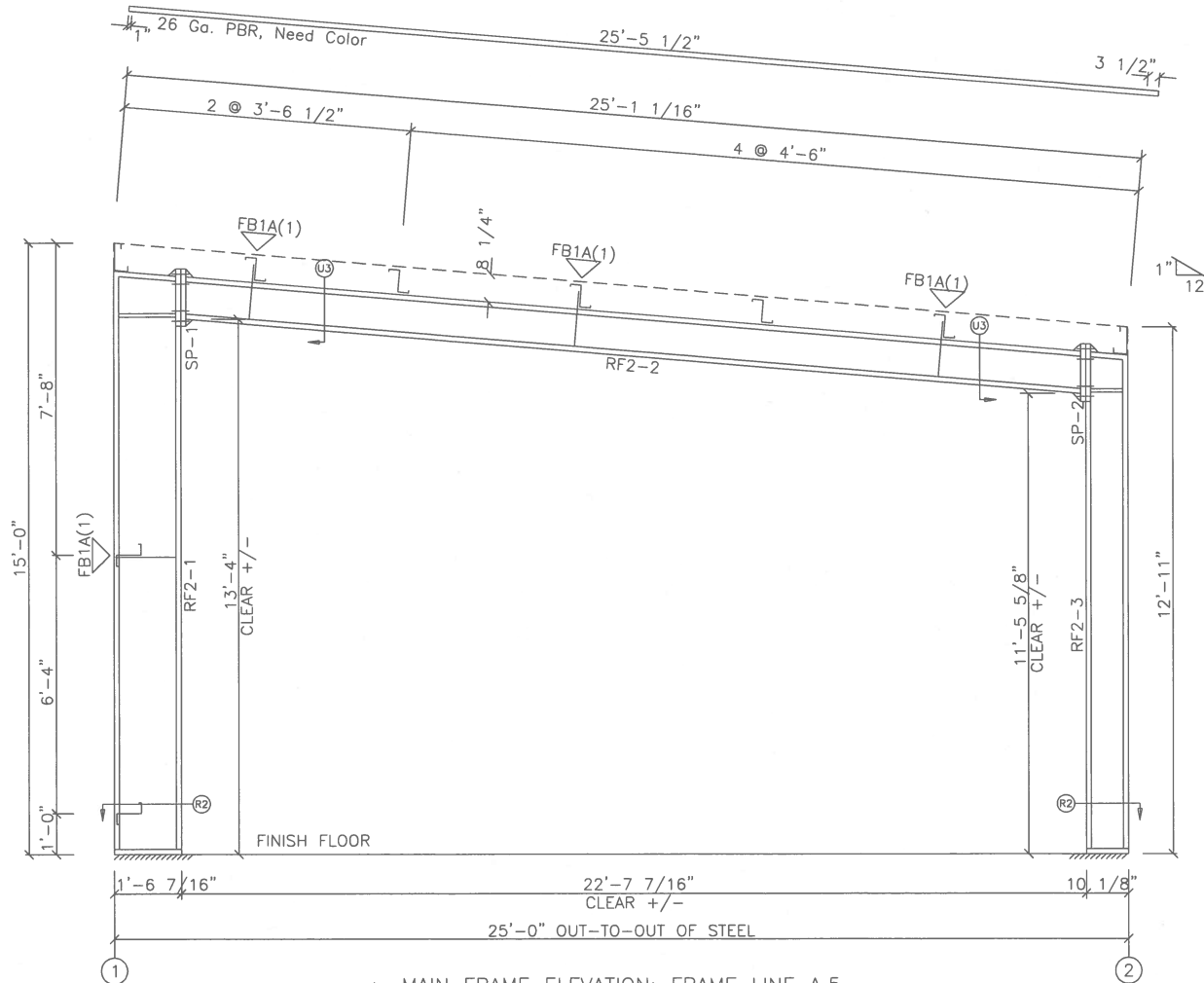


202501 Technical Services 10/11/2020
 10/11/2020
 10/11/2020

SPLICE PLATE & BOLT TABLE									
Mark	Qty		Int	Type	Dia	Length	Width	Thick	Length
	Top	Bot							
SP-1	4	4	0	A325	1"	4 1/4"	8"	1"	1'-5 1/4"
SP-2	4	4	0	A325	5/8"	2 1/4"	6"	1/2"	1'-4 11/16"

MEMBER SIZE TABLE		
MARK	MEMBER	LENGTH
RF2-1	W18X71	14'-3 3/4"
RF2-2	W10X12	22'-6 7/8"
RF2-3	W10X17	12'-2 11/16"

FLANGE BRACES: FBxx (1 or 2)
 xx=length(in)
 (1) One Side; (2) Two Sides
 A - 2X2X14Ga



MAIN FRAME ELEVATION: FRAME LINE A.5

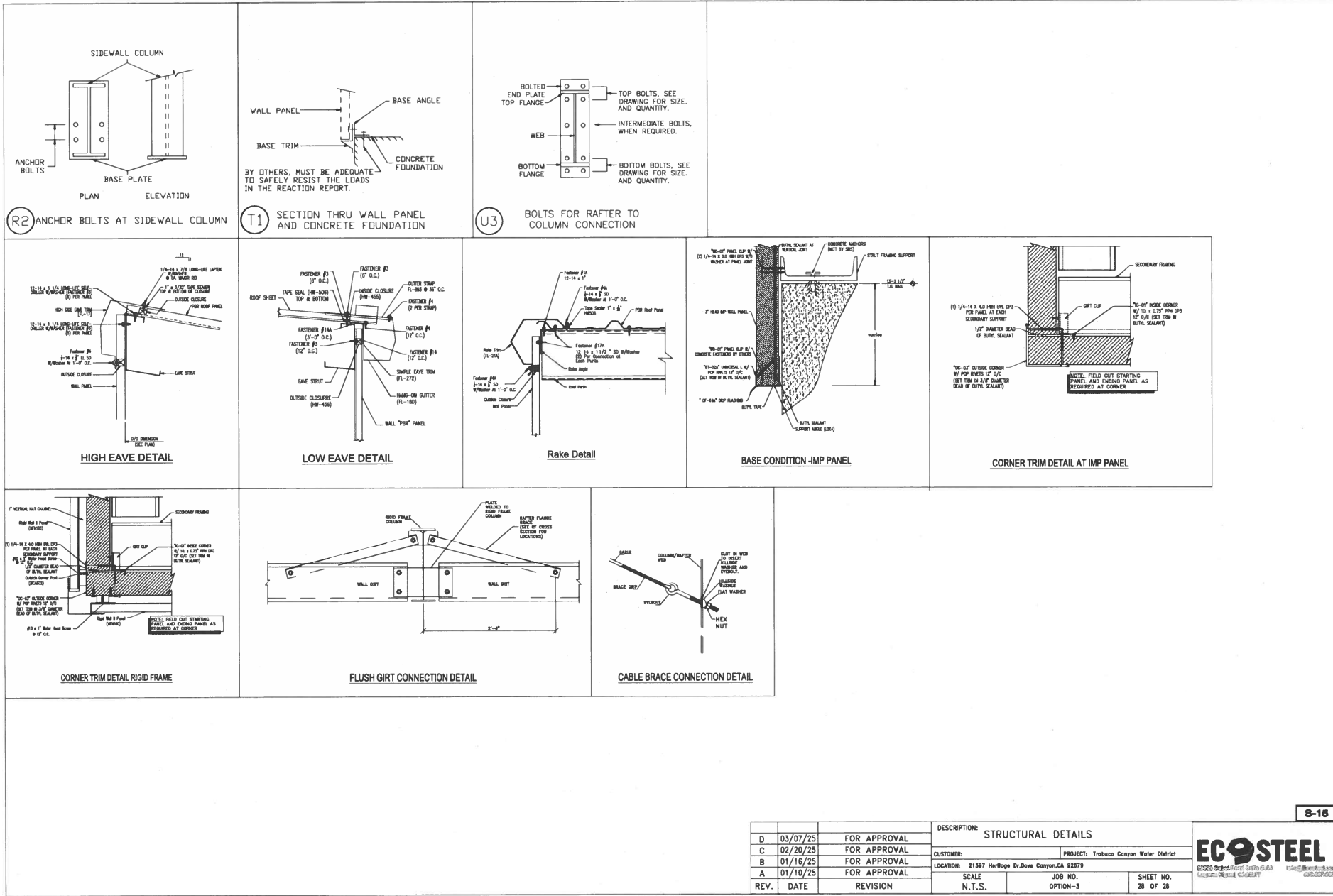
8-14

REV.	DATE	REVISION	DESCRIPTION:	SCALE	JOB NO.	SHEET NO.
C	02/20/25	FOR APPROVAL	MAIN FRAME ELEVATION	N.T.S.	OPTION-3	27 OF 28
B	01/16/25	FOR APPROVAL				
A	01/10/25	FOR APPROVAL				

ECO STEEL
 6330 North First Street, Suite 400
 Fresno, CA 93720
 (559) 435-8888
 www.ecosteel.com

CUSTOMER: PROJECT: Trebuca Canyon Water District

LOCATION: 21397 Heritage Dr. Dove Canyon, CA 92679



REV.	DATE	REVISION	DESCRIPTION:	STRUCTURAL DETAILS
D	03/07/25	FOR APPROVAL	CUSTOMER:	Trebuco Canyon Water District
C	02/20/25	FOR APPROVAL	LOCATION:	21397 Heritage Dr. Down Canyon, CA 92879
B	01/16/25	FOR APPROVAL	SCALE:	N.T.S.
A	01/10/25	FOR APPROVAL	JOB NO.:	OPTION-3
			SHEET NO.:	28 OF 28



**TRABUCO CANYON WATER DISTRICT
ROBINSON RANCH WASTEWATER TREATMENT PLANT
BLOWER EQUIPMENT STATION AND BLOWER RELOCATION**

ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Item	Description	Quantity	Unit	Unit Price	Total
1	Mobilization / Demobilization	1	LS	\$61,250.00	\$61,250.00
2	Survey Staking and Verification of Utility Locations, Field Dimensions, and Existing Electrical Work	1	LS	\$50,000.00	\$50,000.00
3	Clearing, Grubbing and Site Demolition	1	LS	\$20,000.00	\$20,000.00
4	Miscellaneous Structural, Electrical, and Mechanical Demolition	1	LS	\$16,100.00	\$16,100.00
5	Remove and Deliver Two Existing Sutorbilt Blower and Motor Assemblies	1	LS	\$30,000.00	\$30,000.00
6	Remove and Relocate Two Existing Hoffman Blower and Motor Assemblies	1	LS	\$250,000.00	\$250,000.00
7	Install Two Owner Furnished Lonestar Blower and Motor Assemblies	1	LS	\$200,000.00	\$200,000.00
8	Blower Suction and Discharge Piping and Manifolds	1	LS	\$143,500.00	\$143,500.00
9	Miscellaneous Electrical Work	1	LS	\$75,000.00	\$75,000.00
10	Miscellaneous Instrumentation Work	1	LS	\$37,500.00	\$37,500.00
11	Miscellaneous Structural Improvements	1	LS	\$62,000.00	\$62,000.00
12	Metal Canopy and Accessories	1	LS	\$140,000.00	\$140,000.00
13	Asphalt Concrete Pavement	600	SF	\$14.75	\$8,850.00
14	Record Documents, O&M Manuals, Warranties and Training	1	LS	\$25,800.00	\$25,800.00
15	Allowance for Field Orders	1	Allowance	\$30,000.00	\$30,000.00
TOTAL (1 THROUGH 15) :					\$1,150,000.00

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

ENGINEERING MATTERS

ITEM 3: RECYCLED WATER RESERVOIR DAM V-DITCH AND STORM DRAIN CULVERT REPAIR

The Robinson Ranch Wastewater Treatment Plant (RRWWTP) provides treated effluent to the Dove and Robinson Ranch Recycled Water Pump Stations (DCRRPS) via a 150 AF Reclaimed Water Reservoir. It is the District's responsibility to maintain the reservoir dam, outlet structures, V-ditches, appurtenances and landscape, per the Department of Safety of Dams (DSOD) annual inspection. During a pipeline break at the DCRRPS, there was damage to the V-ditch and culvert structure downstream. Staff prepared a scope of work and invited contractors to bid on the repair work, and the results are as follows:

V-Ditch and Culvert Repairs	
Contractor	Cost
JES Engineering	\$162,365.35
Champion Paving	\$191,760.00
Ferreira Construction	Declined to Bid

FUNDING SOURCE:

Capital Improvement Program

FISCAL IMPACT:

\$178,365.53

ENVIRONMENTAL COMPLIANCE:

Not Applicable

RECOMMENDED ACTION:

Recommend the Board of Directors award a construction contract for the Recycled Water Reservoir Dam V-Ditch and Culvert Repairs to JES Engineering in the amount of \$162,365.35, plus a 10% contingency of \$16,000, for a not to exceed amount of \$178,365.35.

EXHIBIT(S):

1. Repair Exhibit

CONTACTS (staff responsible): PALUDI/LAUSTEN

Trabuco Canyon Ditch


675 LF of Trap Channel

Approx 4' Wing Walls, 2' Flat Bottom, 1' Wings at Top

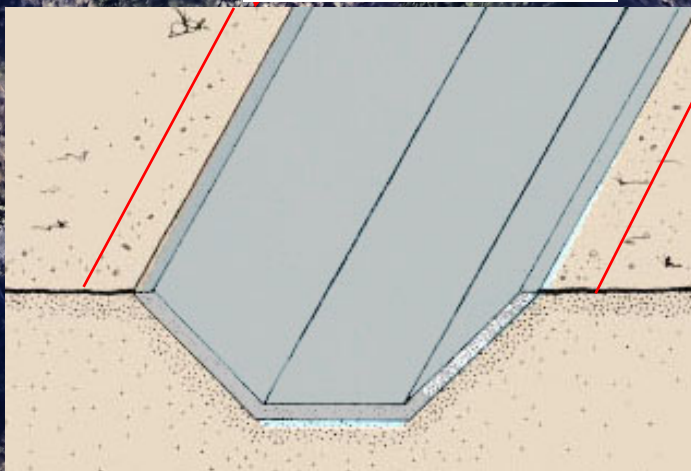
30 LF of 4 Block High Splash Wall

One Headwall

Legend

 Path Measure

Extend 1' at top of channel on both sides - except in sloping locations. Flat Bottom min 2'. - Wall varies, but figure 4'



- 1) During Demo Phase of V-Ditch Protect in Place two existing Weep Holes.
- 2) Replace In Kind Two Existing Weep Holes After Demo Phase.

Demo Splash Wall

Google Earth

Image © 2025 Airbus

200 ft



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

ENGINEERING MATTERS

ITEM 4: QUARTERLY CAPITAL IMPROVEMENT PLAN UPDATE

This report summarizes the status of Trabuco Canyon Water District’s (District’s) twenty-six Capital Improvement Program (CIP) Update 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
5	Completed
7	Design/Planning
2	Bids Received
7	Ongoing
5	In Construction

FUNDING SOURCE:

Capital Improvement Program

FISCAL IMPACT (PROJECT BUDGET):

\$5,918,453

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
WATER PROJECTS					
1	Live Oak Canyon Pipeline Replacement - Ridgeline to Harris Grade	Design/Planning	Reliability	\$375,000	\$375,000
2	Manual Transfer Switch Upgrade-Water	In Construction	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	Saddlecrest Reservoir Outlet Pipe (NEW)	Design/Planning	Reliability	\$300,000	\$300,000
Sub-Total				\$901,118	\$901,118
SEWER PROJECTS					
7	Golf Club SLS Improvement	Complete	End of Service Life	\$1,412,000	\$1,412,000
8	WWTP Blower Bldg Rehab-Blowers and MCC	Design/Planning	Reliability	\$1,009,994	\$1,009,994
9	Chiquita Capital Reim. (SMWD)	Ongoing	Contract Agreement	\$178,000	\$178,000
10	Heritage SLS Pump Replacement	Complete	End of Service Life	\$265,788	\$218,576
11	Manual Transfer Switch Upgrade-Sewer	In Construction	Reliability	\$60,000	\$60,000
12	WWTP SCADA/Fiber Optic Upgrade	Complete	End of Service Life	\$330,000	\$330,000
13	Heritage SLS Rehabilitation (Site, Electrical & Mechanical)	Design/Planning	End of Service Life	\$132,900	\$132,900
14	WWTP Reservoir Outlet Gate Improvements	Complete	End of Service Life	\$199,341	\$151,000
15	WWTP Handrail Replacement - Segment B&C (NEW) (1)	In Construction	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	WWTP Headworks Rehabilitation	Bids Received	End of Service Life	\$130,000	\$380,000
20	Dam V-Ditch and Culvert Repairs (NEW)	Bids Received	End of Service Life	\$0	\$178,000
Sub-Total				\$3,958,917	\$3,958,917
NON-DOMESTIC WATER PROJECTS					
21	Dove/Robinson Ranch Recycled BPS Improvements	Design/Planning	End of Service Life	\$132,894	\$132,894
22	Dove Lake Dam Improvements (MOVED UP)	Design/Planning	End of Service Life	\$0	\$30,000
23	Recycled PRV Improvements (2)	Complete	End of Service Life	\$265,788	\$235,788
24	Dove & Tick Creek Pump Station Improvements (3)	Design/Planning	Reliability	\$79,736	\$79,736
Sub-Total				\$478,418	\$478,418
Shared Projects					
25	SCADA System Upgrades	In Construction	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	\$5,918,453

(1) Staff will complete project in house

(2) 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.

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

RED indicates projects completed since December 2024 Update

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

ENGINEERING MATTERS

ITEM 5: OTHER ENGINEERING AND OPERATIONS PROJECT UPDATES

1. Update on 16" Transmission Pipeline Rehabilitation Project
2. Orange County Public Works (OCPW) Trabuco Creek Bridge Project Update
3. Planet Bids; Online District Procurement Tool
4. SCADA Project Update
5. State Water Board Cross Connection Control Plan Handbook (CCCPH) Requirements & Plan Adoption Update
6. Other Projects

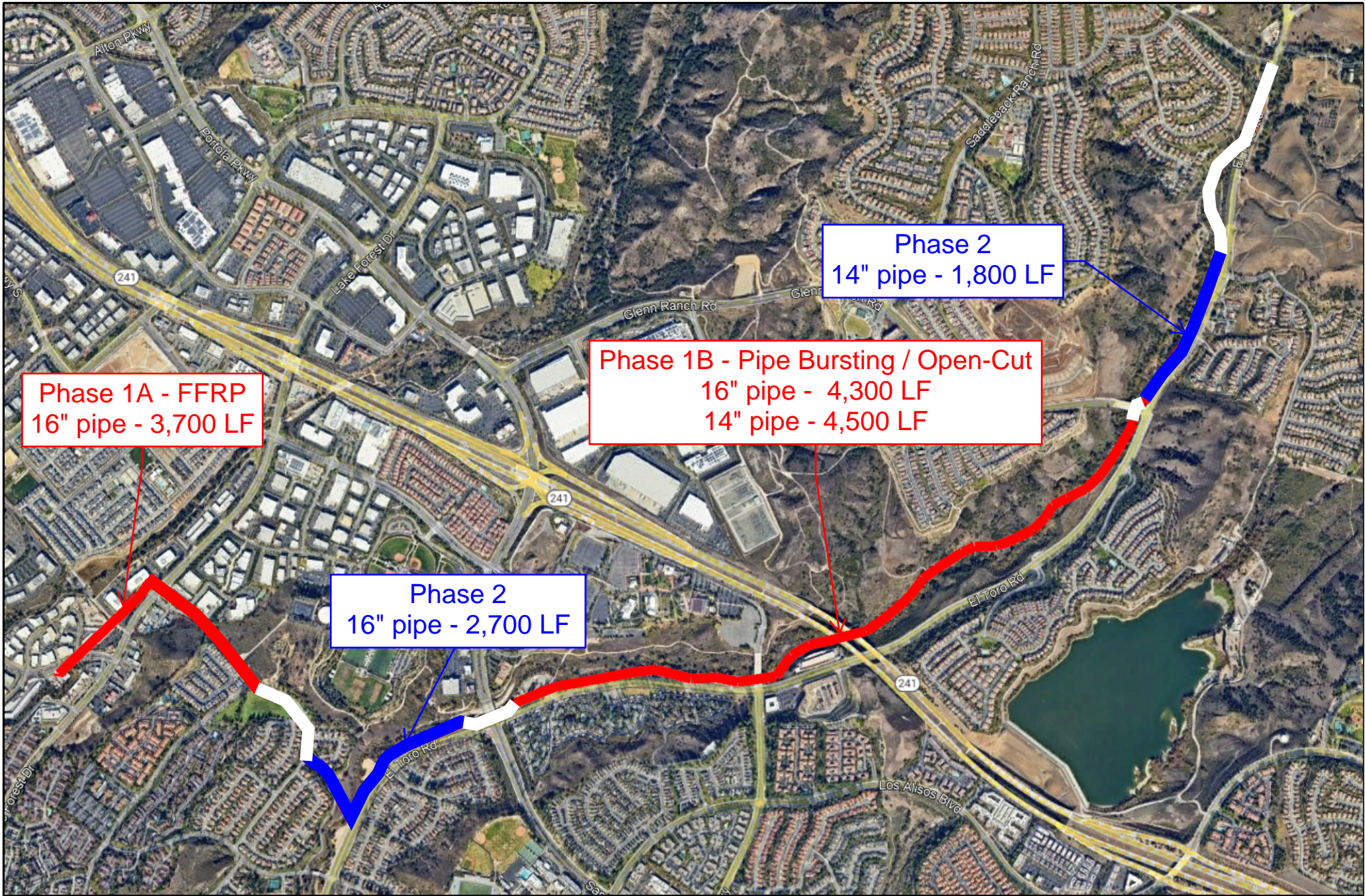
RECOMMENDED ACTION:

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

EXHIBIT(S):

1. 16" Pipeline Rehabilitation Phasing Plan

CONTACTS (staff responsible): PALUDI/PEREA/LAUSTEN



Hazen



Figure X-X: Project Phase 1 and Phase 2

March 2025

**TRABUCO CANYON WATER DISTRICT
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OPERATIONAL MATTERS

ITEM 6: WATER SYSTEM UPDATES

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

Projects and Repairs

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

1. Worked with WM Lyles on SCADA cut over at the Ground Water Treatment Facility (GWTF)
2. Flushed 11 dead-end hydrants and blowoffs
3. Serviced 73 valves in Walden Homes, Trabuco Market Place and lower portion of Robinson Ranch
4. Worked with Engineering to formulate a plan to repair/replace Main Transmission Line (MTL)
5. Replaced 8 drain valves on water filters at Dimension Water Treatment Plant (DWTP)

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											3.6
Daily Average, CFS	2.0	1.6											1.8
Other Water Deliveries/Purchases													
Ridgeline (DWTP Delivery)	0.0	0.0											0.0
El Toro (Interconnection Purchase)	0.0	0.0											0.0
Baker WTP (CSC Delivery)	98.6	89.7											188.3
Portola Hills (Wholesale Purchase)	10.0	7.5											17.5
Skyridge (Wholesale Purchase)	1.8	1.6											3.4
* Usage estimated													
** Excludes Operational use, losses, and supplement to Recycled Water Reservoir (RW)													

**TRABUCO CANYON WATER DISTRICT
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OPERATIONAL MATTERS

ITEM 7: WASTEWATER SYSTEM UPDATES

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

Projects and Repairs

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

1. Replaced 2” pipe train that feeds Recycle Water to Santa Margarita Water District (SMWD)
2. Assisted in the cutover to the new SCADA system Barneburg / Golf Club / Bell Canyon / Heritage / Santiago Lift Station
3. Assisted in the cutover to the refurbished SCADA system at the WWTP
4. Calibrate all flow meters at the WWTP
5. Working through Cartegraph to organize and locate assets as they apply to Wastewater Operations

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	2,340
Total Sewer Line Cleaned (Ft) – Cleaning Cycle	27,340
Cleaning Cycle Period (Mos.) [Start date: 1/1/25]	3
Total Sewer Line Cleaned, %	12%
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>	June 2025

**This amount includes the OC Parks-owned O’Neill Park sewer system the District is contracted to clean.*

***Periodic internal audits shall be conducted, at a minimum every two years, with reports kept on file. The audit shall focus on evaluating the effectiveness of the SSMP and TCWD’s compliance with the mandatory elements of TCWD’s SSMP:*

Monthly Recycled Water System Operations Summary

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

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

EXHIBITS

1. Monthly Recycled Water System Operations Summary

CONTACTS (staff responsible): PEREA/ULLOA

TRABUCO CANYON WATER DISTRICT | RECYCLED WATER SYSTEM SUMMARY - 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											72.7	520.1
Reclaimed Reservoir Level, FT	1274.5	1,265.5	1,270.0											-	-
Reclaimed Reservoir Free Board, FT	25.5	9.0	4.5											-	-
Reclaimed Reservoir Storage, AF	145.5	94.6	118.8											-	-
Supplemental Domestic Water Added, AF	N/A	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											0.06	0.7%
Dove Canyon Golf Course	106.7	12.49	5.1											17.63	16.5%
Dove Canyon Master Association	279.3	10.92	3.6											14.49	5.2%
Robinson Ranch	80.2	1.41	0.4											1.80	2.2%
Trabuco Highlands	159.7	3.26	27.4											30.64	19.2%
City of RSM	0.1	0.00	0.02											0.02	12.3%
Construction Water	N/A	0.00	0.0											0.00	N/A
Sakaida Nursery	1.1	0.00	0.0											0.00	0.0%
SMWD	N/A	0.00	0.0											0.00	N/A
TY Nursery	17.9	0.00	0.00											0.00	0.0%
TOTAL, AF	653.2	28.1	36.5											64.64	9.9%
PERCENTAGE OF NDW ALLOCATION/YEAR		4.3%	9.9%												
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											10.19	1.6
Dove Tick Creek Production*	<i>Dry Season</i>	5.5	5.3											10.8	45.0
	TCWD Portion	5.5	5.3											10.8	-
	SMWD Portion	0.0	0.0											0.0	-
Dove Lake Water Pumped		0.0	0.0											0.0	190.1
Dove Lake Free Board, Ft		10.3	3.2											-	-
Dove Lake Storage, AF		131.2	309.0											-	-
Total Rainfall, In.		0.9	2.4											3.3	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

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OPERATIONAL MATTERS

ITEM 8: MAINTENANCE DEPARTMENT UPDATES

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

Projects and Repairs

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

Water Operations

1. Hydrotech at Booster one/Field office to add “run lights” to pump panels
2. Hydrotech at DWTP to continue booster III soft start replacement/programming

Wastewater Operations

1. Assisted waste ops at WWTP shut down for fiber optic cut-over
2. Assisted with Barneburg Lift Station cut over
3. Replaced battery at Barneburg Lift Station emergency gen
4. Hydrotech emergency callout to Golf Club lift for soft start replacement and new cable pull
5. Repair/grade access road behind WWTP
6. V-Ditch repair work with JES at Res One
7. Hydrotech at WWTP continuing electrical wire ID’ing at blower room

District Fleet Upgrades & Other Projects

1. Met with Verizon rep for field inspection on cellular phones
2. Replaced batteries in Vactor
3. Replaced batteries in Pete slide rail
4. WEROC inspection at Trabuco Creek debris flow

RECOMMENDED ACTION:

Committee to receive system status updates. No action required.

EXHIBITS

None

CONTACTS (staff responsible): PEREA/STROUD

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REGULATORY AND OTHER MATTERS

ITEM 9: OTHER MATTERS/REPORTS

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

RECOMMENDED ACTION:

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

EXHIBITS

None

CONTACTS (staff responsible): PALUDI/PEREA