

**DISTRICT BOARD**

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Michael Cortez,
District Engineer
Mel Liebmann,
Plant Manager
Greg Pease,
Collection System/Safety Manager
Vacant,
Administrative Services Manager

**CONTRACT DOCUMENTS
REQUEST FOR INFORMAL BIDS
(UNIFORM PUBLIC CONSTRUCTION COST ACCOUNTING ACT)**

Bid Item: Rafael Meadows Pump Station Standby Generator Installation (Job No. 12300-05)

Description: Installation of Owner-furnished standby generator and associated electrical work including installation of a fall protection railing system.

Bid Opening Time, Date & Location: 11:00 AM, July 30, 2020
101 Lucas Valley Rd, Suite 300, San Rafael, CA 94903

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Pursuant to UPCCAA procedures, interested bidders must be prequalified by the District prior to submitting an informal bid for projects under \$200,000 such as this Project. Failure to do so will disqualify the bidder. If you would like your company prequalified, please complete and sign a Contractor's Pre-Qualification Application available at <http://www.lgvsd.org> and submit to the District before the bid opening shown above.

Responses to this invitation from prequalified bidders must be received by District no later than the date and time and at the place shown above for consideration. Electronic copies are acceptable if followed by a phone call to the District at 415-472-1734 confirming receipt prior to the bid opening time. Email to: Michael P. Cortez at mcortez@lgvsd.org and cc: Irene Huang at ihuang@lgvsd.org.

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NOTICE INVITING INFORMAL BIDS

1. The Las Gallinas Valley Sanitary District hereby invites informal bids for the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION Project, in accordance with the Uniform Public Construction Cost Accounting Act (UPCCAA) Procedures and other applicable law, and the following:
2. All bids must be delivered to the **Las Gallinas Valley Sanitary District temporary office located at 101 Lucas Valley Rd, Suite 300, San Rafael, California 94903** on or before **11:00 AM, July 30, 2020**. Bids will be announced and read publicly at that time. Bids must be made on the bid forms included in the bid package. Bids that are submitted late according to the official time kept by the District Engineer or a designee will be rejected. Bids that are incomplete or that otherwise do not conform to the requirements specified in the bid package may be deemed non-responsive. Electronic copies are acceptable if followed by a phone call to the District at 415-472-1734 confirming receipt prior to the bid opening time. Email to: Michael P. Cortez at mcortez@lgsd.org and cc: Irene Huang at ihuang@lgsd.org no later than the date and time shown above for consideration.
3. Pursuant to UPCCAA procedures, interested bidders must be prequalified by the District prior to submitting an informal bid for projects under \$200,000 such as this Project. Failure to do so will disqualify the bidder. If you would like your company prequalified, please complete and sign a Contractor's Pre-Qualification Application available at <http://www.lgsd.org> and submit to the District before the bid opening shown above.
4. A pre-bid meeting via video teleconferencing is scheduled for **July 2, 2020 at 1:30PM**. The pre-bid meeting is **not mandatory**. Please contact Irene Huang at ihuang@lgsd.org for the meeting information. Special site visits to the job site may be scheduled 24 hours in advance a minimum of five (5) working days before bid opening.
5. Questions regarding the bid package should be directed in writing as soon as possible (but no later than five (5) working days prior to the opening of bids to: Irene Huang, PE at ihuang@lgsd.org or 415-472-1734. Where appropriate, the District may respond to such questions by addenda transmitted to all bid package recipients.
6. The Project Contractor shall furnish all tools, equipment, apparatus, facilities, labor and material necessary to perform and complete in a good and workmanlike manner the construction of the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION Project as shown in the Project Technical Specifications and Drawings and in accordance with the Contract Documents within **60 calendar days** of the Project commencement date specified in the Notice to Proceed for the Project. The Engineer's estimate is **\$200,000**.
7. **SCOPE OF WORK**. The Project work is generally described as:
 - a. Relocation of an Owner-furnished towable standby generator to a permanent location.
 - b. Installation of two light poles with LED lights as alternate bid item.
 - c. Installation of fall protection barriers as alternate bid item.
8. In accordance with California Business and Professions Code Section 7028.15, all Project work must be performed by properly licensed contractors and subcontractors with active licenses in good standing as of the date and time specified for bid opening.

9. In accordance with California Labor Code Section 1771, not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the project is to be performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed as provided in the California Labor Code shall be paid to all workers engaged in performing the project. In accordance with California Labor Code Section 1770 and following, the Director of Industrial Relations has determined the general prevailing wage per diem rates for work in the locality in which the project is to be performed. In accordance with California Labor Code Section 1773, the District has obtained the general prevailing rate of per diem wages and the general rate for holiday and overtime work in the locality in which the project is to be performed for each craft, classification or type of worker needed to perform the project. In accordance with California Labor Code Section 1773.2, copies of the prevailing rate of per diem wages are on file at the District Engineer's Office and will be made available on request. A copy of said wage rates is available online at www.dir.ca.gov/DLSR/PWD. In accordance with California Labor Code Section 1777.1, contractors and subcontractors that are found guilty of willfully violating Chapter 1 of Part 7 of Division 2 of the Labor Code (except for Section 1777.5), or that are found guilty of such violations with intent to defraud, and entities in which such contractors or subcontractors have any interest, may be ineligible to bid on, be awarded, or perform Project work as a subcontractor.
10. All bids will remain valid for sixty (60) calendar days after the bid opening. Except as permitted by law and subject to all applicable remedies, including forfeiture of bidder's security, bidders may not withdraw their bid during the sixty (60) day period after the bid opening.

Las Gallinas Valley Sanitary District

By: /s/ Michael P. Cortez
Michael P. Cortez, P.E., District Engineer

Date: June 26, 2020

INSTRUCTIONS TO BIDDERS

1. DEFINITIONS:

The following words, terms and phrases, when used in this document, shall have the following meaning:

Bidder means the individual, firm, partnership or corporation offering a bid in response to this Notice Inviting Informal Bids. The terms Contractor and seller are synonymous with Contractor or seller.

District means the Las Gallinas Valley Sanitary District and its authorized agents. The terms owner or buyer are synonymous with District.

Contractor means the individual, firm, partnership or corporation to whom a contract or purchase order is awarded as a result of this Notice Inviting Informal Bids.

Bid forms. The bid forms are the forms contained in the Contract Documents.

The **Project** is the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION as described in the Technical Specifications and Drawings.

The **Technical Specifications** provide detailed requirements concerning the Project and are contained in the Contract Documents.

2. BIDDER'S REPRESENTATIONS

Each bidder by submitting a bid represents that:

- 2.1 The bidder has read and understands the Contract Documents and the bid is in accordance with all of the requirements of the Contract Documents and applicable law.
- 2.2 Neither the bidder nor any subcontractor is ineligible to perform work on public works projects pursuant to California Labor Code Sections 1777.1 or 1777.7.

3. AWARD

- 3.1 In accordance with applicable law, the District reserves the right to reject any or all bids and to waive any informality in any bid. The District reserves the right to accept any portion of any bid, unless the Contract Documents expressly provides that the award will be made as a whole. If the District elects to award a contract for performance of the Project, the contract will be awarded in accordance with California Public Contract Code Section 20803 and other applicable law to the responsible bidder submitting a responsive bid with the lowest total bid price for the base bid and the additive or deductive alternate items listed in the Notice Inviting Informal Bids. In accordance with the Contract Documents and other applicable law, the District may add or deduct items of work from the Project after the lowest responsible bidder is determined.

- 3.2 The successful bidder must submit to the District complete, executed copies of all documents within seven (7) calendar days of receiving written Notice of Award of the Project. Bidder's security of any successful bidder that fails to do so will be forfeited to the District.
- 3.3 The successful bidder and any subcontractors and others engaged in performance of the Project must have a valid local business license(s), as applicable, before commencing work on the Project.

4. TAXES

The successful bidder shall pay the State of California sales tax to the California State Board of Equalization, if any, when due and payable.

5. ASSIGNMENT

Bidders may not assign, sublet, sell, transfer, or otherwise dispose of their bid or any right, title or interest in their bid, or their obligations under their bid, without the written consent of an authorized representative of the District. Any purported assignment, subletting, sale, transfer or other disposition of a bid or any interest in a bid, or of any obligations under a bid without such written consent will be void and of no effect.

6. PRICING

Prices must be submitted on a firm, fixed price basis. Unit prices are to be extended and a total price shown on all bids. If unit prices and extensions thereof do not coincide, the District will assume the price most favorable to the District to be the correct price. Bids not prepared properly may not be considered for evaluation. If Bidder wishes to quote lower unit prices for the award of groups of items, Bidder may do so as an alternate to Bidder's base bid. If applicable, Bidder is to include impact to pricing for quantity additions and/or deletions.

7. DELIVERY CHARGES

Delivery to be FOB San Rafael Freight Prepaid unless indicated differently. Contractor to show freight charges (if not included in price) on bid form as part of bid. Freight cannot be added after the bid is opened. Earliest delivery time that can be accomplished should be shown as delivery time may be a factor in awarding bid.

8. PRODUCTS

All products offered, unless otherwise specified, must be new and of the latest design and production. It must be complete, ready to use or operate with all the normal and usual features and capabilities. The District shall consider the Contractor to have not completed his obligations until all literature (operators manual, instructions, service manuals, parts manuals, owner manual) that is normally provided with the product or has been requested in the bid has been received.

9. INSURANCE (See GENERAL CONDITIONS OF THE CONTRACTOR AGREEMENT)

10. INSPECTION & TESTING

The District reserves the right to test or inspect proposed bid items in order to determine the lowest responsive bidder.

11. WARRANTIES

Guarantees and warranties (if any) should be attached as a part of the bid as they may be a consideration in determining the lowest responsible bidder and in awarding a bid or contract.

12. IDENTICAL BIDS

In the event of two or more identical low bids, the contract may be awarded arbitrarily or for any reason to any of such bidders or split in any proportion between the Bidders at the discretion of the District.

13. AMBIGUITY IN BID

Any ambiguity in any bid as the result of omission, error, lack of clarity or noncompliance by the Bidder with specifications, instructions and all conditions of bidding shall be construed in the light most favorable to the District.

14. ADDITIONAL INFORMATION

All Bidders must be prepared to, at the request of the District, furnish, within ten working days of the request, additional information as may be sought so that the District can determine responsiveness.

15. TERMS OF PAYMENT

Bidder shall clearly state the proposed terms of payment, if different from the District's preference. The District's preferred term of payment is Net 30 days. Progress payments will be considered if tied to specific milestones.

16. PUBLIC INFORMATION

All bids, documents, correspondence and material submitted to the District are considered public information and, as such, are subject to viewing and copying by the general public.

17. BIDDER TERMS

Other terms or conditions prepared by Bidder may or may not be considered by the District in awarding the bid. The District reserves the right to accept or reject any Bidder's proposed terms and conditions or any part thereof.

18. COLLUSION

Submission of a signed bid shall constitute certification by the Bidder that their bid is being submitted without collusion or agreement with any competitor.

19. THE DISTRICT'S RIGHTS

The District reserves the right to reject any or all bids, to waive minor irregularities and/or formalities as determined by the District, to award the bid by item or groups of items or in total, and/or to award

the bid in the manner most advantageous to the District. The District reserves the right to, at its discretion, purchase additional units, within a reasonable time, at the bid unit price, upon concurrence of the bidder.

BIDDER'S CHECKLIST

Name of Bidder:

(Contractor's Legal Name)

Did You:

_____ Send a properly completed Acknowledgement form immediately after receiving the Contract Documents and before bid opening.

_____ Include with your bid the following properly completed, accurate copies of the following documents in the following order using the forms included in the Contract Documents:

_____ Bidder's Check List

_____ Proposal and Bid Schedule

_____ Acknowledgement of each addendum issued by the District, if any, with signed and dated acknowledgement page.

_____ Executed Bid Bond

_____ Non-Collusion Affidavit

_____ Statement of Compliance

_____ Hazardous and Toxic Substances Disclosure Requirements

_____ Executed Bidder's Signature Page

_____ Arrange to have the bid delivered to the Las Gallinas Valley Sanitary District offices at 101 Lucas Valley Rd, Suite 300, California 94903, or emailed to: Michael P. Cortez at mcortez@lgsd.org and cc: Irene Huang at ihuang@lgsd.org, before the time and day specified on the Notice Inviting Informal Bids.

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PROPOSAL AND BID SCHEDULE

TO THE BOARD OF DIRECTORS OF THE LAS GALLINAS VALLEY SANITARY DISTRICT:

Pursuant to the Notice Inviting Informal Bids for the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION, the person signing the bidder's signature page contained in this proposal binds the entity listed on the bidder's signature page to submit complete, executed copy of the CONTRACTOR AGREEMENT within seven (7) calendar days of receiving written Notice of Award of the Project, and to fully perform the Project by the time for completion specified in the Contract Documents for the price specified in the bid schedule below in accordance with the terms of the Contract Documents and applicable law. This proposal cover page and bid schedule will be included as part of the CONTRACTOR AGREEMENT in accordance with the Contract Documents.

This bid includes properly completed, accurate copies of all of the documents listed in the Bidder's Check List included in the Contract Documents in the order listed in the Bidder's Check List and using the forms included in the Contract Documents. This bid includes copies of each of the following addenda issued by the District. Each addendum has been signed and dated to confirm receipt on behalf of the entity listed on the bidder's signature page.

| | |
|-------------------------------------|-------------------------------------|
| Addendum No. 1 dated _____ _____ | Addendum No. 2 dated _____ _____ |
| Addendum No. 3 dated _____ _____ | Addendum No. 4 dated _____ _____ |
| Addendum No. 5 dated _____ _____ | Addendum No. 6 dated _____ _____ |

BID SCHEDULE:

BASE BID: For the relocation of Owner-furnished, trailer-mounted portable generator to a permanent location, complete in-place, as shown and specified. Work shall include but not limited to:

- a. Construction of a concrete pad with 3'-wide AC paving all around; installation of seismic anchor bolts, permanent generator grounding consisting of 1/0 bare stranded copper cable and ground rod and box, and installation of a minimum of six (6) removable bollards.
- b. Furnishing and installation of a new manual transfer switch, automatic transfer switch, and NEMA 4x weather rated powder coated steel enclosures.
- c. Relocation of the existing generator receptacle, and all required conduits and wiring.
- d. Connection of alarm wiring to dialer and PLC; start up and testing; providing temporary back-up electrical power any time pump station or generator is out of service; and all other work and appurtenances necessary to the MCC.
- e. Replacement of the existing bubbler level system with an ultrasonic level controller, installation of emergency backup floats to permit automatic operation of the station in the event of level controller failure, replacement of old motor starters with new units, and miscellaneous additions to the alarming system.
- f. Mobilization, demobilization, and General Condition consisting of preparatory work, operations and establishment of other facilities necessary to work on the Project, labor compliance, prevailing wage compliance, permitting requirements, cleanup, and surface restoration to the satisfaction of the Owner at the completion of the Project.
- g. Compliance to the requirements of the Bay Area Air Quality Management District (BAAQMD) Permit to Construct and Permit to Operate to be obtained by the Owner. See Exhibit A.
- h. Salvage of portable generator trailer and offsite disposal of internal MCC parts, unused towable generator parts such as diesel belly tank, etc., to an acceptable landfill site including permitting and other disposal requirements.
- i. Sheeting, shoring, and bracing.

LUMP SUM BASE BID, BASIS OF AWARD:

\$ _____
(In figures)

BID ALTERNATES: The undersigned Bidder offers to make, at the following Bid Alternate prices, the change in the Work covered by the Total Base Bid that is specified in the Bid Alternate priced below. It is understood that:

- 1. A price must be filled in for each Bid Alternate item.
- 2. The acceptance or rejection of the Bid Alternate is at the option of the District.
- 3. Acceptance or rejection of the Bid Alternate will not necessarily be made on the basis of price alone.
- 4. The acceptance or rejection of the Bid Alternate will not affect the Total Base Bid or other conditions of the Base Bid items listed above except as specifically noted in the Alternate Bid Schedule.

5. The original Total Base Bid, without deduction or addition shown herein, shall be the basis of award.
6. The costs shown herein for Bid Alternate Items is the net adjustment that is to be applied to the Total Base Bid when calculating the Contract Price if the Bid Alternate is accepted by the District.
7. The final Contract Price shall be the net amount determined by applying the Total Base Bid and any adjustment made by the District regarding the approved and awarded Bid Alternate items.
8. The listed costs shall include changes to mobilization, taxes, permits, overhead and profit, as it relates to each individual alternate item.

- A. **Alternate Bid Item 1:** For the installation of two (2) Light Poles with LED Lights complete, in place, as shown and specified. Work shall include but not limited to, installation of concrete footing, required conduits, wiring, switches, and LED lights; connections to the MCC, and all other work and appurtenances necessary to install the LED light poles.

Lump Sum Price: \$ _____
(In figures)

- B. **Alternate Bid Item 2:** For the installation of Fall Protection Barriers complete, in place, as shown and specified. Work shall include but not limited to:
- a. Coring the concrete pump station decking slab with four (4) post mounting points around the wet well and eight (8) post mounting points around the valve pit opening, 6” deep, carefully avoiding any conduits in the slab.
 - b. Furnishing and installation of twelve (12) Type 316L stainless steel sleeves with grout or approved non-shrink epoxy, twelve (12) anodized aluminum posts with stainless steel chains and clasps suitable to provide fall protection, and all other work and appurtenances necessary to install fall protection barriers.

Lump Sum Price: \$ _____
(In figures)

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BID BOND

(NOTE: Bidders must use this form, or use of any other bid bond form may render a bid non-responsive)

KNOW ALL MEN BY THESE PRESENTS:

That we, as PRINCIPAL, and _____, a (sole proprietorship /corporation/partnership/joint venture) organized and existing under and by virtue of the laws of the State of _____ and an admitted surety insurer authorized to do business in the State of California, as SURETY, are held and firmly bound unto the Las Gallinas Valley Sanitary District, as OBLIGEE, in a penal sum equal to ten-percent (10%) the total bid price including the base bid and alternates specified in the proposal of the PRINCIPAL, to the OBLIGEE for the work described below, which penal sum is _____ (\$ _____) lawful money of the United States of America, for the payment of which sum well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the PRINCIPAL has submitted the accompanying proposal dated _____, _____ to the OBLIGEE, for the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION.

NOW THEREFORE, if the PRINCIPAL shall not withdraw said proposal within the ninety (90) day period following the opening of bids, and if the PRINCIPAL receives written notice that the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION, is awarded to the PRINCIPAL and shall, within seven (7) calendar days of receiving such notice: enter into a written contract with the OBLIGEE in the form prescribed in the Contract Documents issued by the OBLIGEE concerning the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION; and give insurance and bond with good and sufficient sureties guaranteeing the faithful performance and proper fulfillment of such contract and guaranteeing payment for labor and materials used for performance of the contract as required by law; and file with the OBLIGEE all required documents and do all other thing required in accordance with the Contract Documents issued by the OBLIGEE concerning the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION, for the contract between the PRINCIPAL and the OBLIGEE to become effective and for work to commence in accordance with the Contract Documents issued by the OBLIGEE concerning the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION, or, in the event of withdrawal of the accompanying proposal within the sixty (60) day period following the opening of bids; or failure by the PRINCIPAL to enter into such contract with the OBLIGEE or to give the OBLIGEE such bonds or to file any other documents or to do any other things required in the Contract Documents issued by the OBLIGEE for the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION, if the PRINCIPAL shall pay the OBLIGEE the difference between the total bid price in the accompanying proposal and the amount for which the OBLIGEE may procure the required performance, if the latter amount be in excess of the former, together with all costs incurred by the OBLIGEE in again attempting to let the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION and if the said PRINCIPAL shall fully reimburse and save harmless the OBLIGEE from any damage sustained by the OBLIGEE through failure of the PRINCIPAL to enter into the written contract or to file the required performance or labor and material bonds, or to file any other required documents or to do any other things required for the contract between the PRINCIPAL and the OBLIGEE to become effective and the work to commence in accordance with the Contract Documents issued by the OBLIGEE concerning the RAFAEL MEADOWS PUMP STATION STANDBY

GENERATOR INSTALLATION, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect.

SURETY, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the bid or contract for the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION, or to the specifications included in the same, or to the work to be performed there under, or to the notice to bidders, or to any other documents concerning the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION, shall in anywise affect SURETY's obligation under this bond, and SURETY hereby waives notice of any such change, extension of time, alteration or addition to such bid or contract.

In the event suit is brought upon this bond by the OBLIGEE and judgment is recovered, the SURETY shall pay all costs incurred by the OBLIGEE in such suit, including a reasonable attorney's fee to be fixed by the Court.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals this _____ day of _____, _____, the name and corporate seals of each corporate party being hereto affixed and these presents duly signed by their undersigned representatives, pursuant to authority of their governing bodies.

(Corporate Seal) PRINCIPAL _____

By _____

(Acknowledgement) Title _____

(Corporate Seal) SURETY _____

By _____

(Attorney-in-fact)

(Acknowledgement) Title _____

(NOTE TO SURETY COMPANY: A certified copy of unrevoked resolution of authority for the attorney-in-fact must be submitted with and attached to the executed bid bond.)

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STATEMENT OF COMPLIANCE

Bidder shall read all attachments and instructions carefully. Failure to completely become familiar with all attachments and notes will not be deemed just cause for claims or errors.

Any EXCEPTIONS to specifications, individual data sheets, drawings, terms and conditions or any other documents forming part of this Notice Inviting Informal Bids must be clearly defined and set forth in Bidder's response on this form. To be considered for an award, the Bidder must certify to either A or B below and explain exceptions, if any, on this form (and attachments, if needed).

A. This bid is in exact accordance with the specifications, drawings, terms and conditions and other requirements of this Invitation to Bid with NO EXCEPTIONS."

*** OR ***

B. "This bid is in exact accordance with the specifications, drawings terms and conditions and other requirements of this Notice Inviting Informal Bids with the EXCEPTIONS listed below:" (List the number of the specification excepted and in detail explain the exception. Add additional pages if necessary.)

Paragraph/Specification Section and details of exception:

1. _____
2. _____
3. _____

Bidder's Signature

Bidder's Trade Name (Company, Individual, etc.)

Date Signed

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HAZARDOUS AND TOXIC SUBSTANCES DISCLOSURE REQUIREMENTS

The Occupational Safety and Health Act (OSHA) of 1970, and OSHA regulation 29 CFR 1910.1200 contain hazardous and toxic substances reporting requirements. CONTRACTOR shall be required to provide the following documents, as applicable, to DISTRICT at the time of the purchase order award, if possible, but not later than ten (30) days thereafter. A copy of the Material Safety Data Sheet, Form OSHA-20 or equivalent, must accompany each shipment of hazardous or toxic substances to the DISTRICT. The following documents may be required for more than one item within the purchase order.

Material Safety Data Sheet, Form OSHA-20

The Material Safety Data Sheet, Form OSHA-20 or equivalent, is required for each material containing a chemical substance which: (i) is regulated by any Federal law or rule, (ii) is listed in the latest edition of the National Institute for Occupational Safety and Health Registry of Toxic Effects of Chemical Substances, (iii) testing has yielded positive evidence of an acute or chronic health hazard, or (iv) has a Material Safety Data Sheet available to the CONTRACTOR indicating that the material may pose a hazard to human health.

CONTRACTOR may alternatively submit a disclaimer statement set forth below:

HAZARDOUS AND TOXIC SUBSTANCES DISCLAIMER

The CONTRACTOR hereby swears or affirms that the material furnished on this purchase order does not, to its best knowledge, contain any toxic substances or harmful physical agents as defined under 29 CFR 1910-1200. In the event CONTRACTOR discovers that such hazardous and toxic substances or agents are to be supplied, an appropriate Material Safety Data Sheet, Form OSHA-20 or equivalent, shall be immediately supplied to the DISTRICT.

Bidder's Signature

Date Signed

Bidder's Trade Name (Company, Individual, etc.)

Non-compliance

CONTRACTOR assumes all responsibility for its failure to supply DISTRICT a completed Material Safety Data Sheet, Form OSHA-20 or equivalent, or a CONTRACTOR Disclaimer Statement, as applicable.

Change Orders

Change orders which increase or decrease quantities or cancel items do not require the CONTRACTOR to submit additional Material Safety Sheets, Form OSHA-20 or equivalent or Disclaimer Statements. However, CONTRACTOR shall submit a new Material Safety Data Sheet, Form OSHA-20 or equivalent, or a new Disclaimer Statement for all items which are revised or added by a change order within ten (10) days after receipt of the change order unless waived in writing by the DISTRICT.

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BIDDER’S SIGNATURE PAGE

By my signature on this proposal I certify, under penalty of perjury under the laws of the State of California, that the information submitted with this proposal for the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION, which information includes, but is not limited to, the Bidder’s Check List, Proposal and Bid Schedule, Acknowledgement of Bid Addenda, Bid Bond, Non-Collusion Affidavit, Statement of Compliance, and Hazardous and Toxic Substances Disclosure Requirements are accurate, true and correct, and are submitted in accordance with the requirements of the Contract Documents issued by the Las Gallinas Valley Sanitary District concerning the RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION, and applicable law. By my signature on this proposal I further certify that I am legally authorized to bind the bidder in accordance with the requirements of the Contract Documents.

Date: _____

Typed or Printed Name: _____

Signature: _____

Bidder: _____

Bidder Business Address (Street, City, State and Zip Code)

Bidder Business Phone No.: _____

Bidder Business Fax No.: _____

Bidder Email Address: _____

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CONTRACTOR AGREEMENT

(THE ATTACHED FORM MUST BE SIGNED BY AN AUTHORIZED OFFICIAL AFTER THE AWARD OF A CONTRACT BY THE DISTRICT.)

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CONTRACTOR AGREEMENT

PROJECT NAME

(JOB NO. _____)

THIS AGREEMENT made this _____ day of _____ 20____, by and between the **LAS GALLINAS VALLEY SANITARY DISTRICT** (hereinafter referred to as "DISTRICT"), and _____, whose address is _____, (hereinafter referred to as "CONTRACTOR").

WITNESSETH:

IN CONSIDERATION of the mutual covenants and conditions herein contained, the parties do hereby agree as follows:

1. **General**

DISTRICT engages CONTRACTOR to furnish the services hereinafter mentioned upon the covenants and conditions of this Agreement, at the compensation herein stipulated, and CONTRACTOR accepts said engagement upon said terms.

2. **Duties of Contractor: Services to be Performed by Contractor**

CONTRACTOR shall perform such duties and services as are listed on Exhibit A attached hereto, signed by the parties hereby referred to and made part hereof by reference. Said services shall be completed according to the time schedule contained in Exhibit A.

3. **Services or Materials to be Performed or Furnished by District**

DISTRICT shall perform such services or furnish such materials to CONTRACTOR in connection with this Agreement as are set forth on Exhibit B. If there are no entries on said Exhibit B, DISTRICT shall not be required to provide any services or furnish any materials to CONTRACTOR. Unless otherwise provided on Exhibit B, all said services and materials to be furnished by DISTRICT will be without cost to CONTRACTOR.

4. **Payment by District: Time and Manner of Payment**

DISTRICT shall pay CONTRACTOR, for all services to be rendered and all materials to be furnished under this Agreement, the amount specifically set forth and in the manner specifically set forth on Exhibit A. CONTRACTOR agrees to accept said sum as full compensation for all services under this Agreement.

5. **Additional Work**

CONTRACTOR shall only be entitled to extra compensation for services or materials not otherwise required under this Agreement, if DISTRICT shall first have identified the services or

materials as extra and requested such extra services or materials in writing; but, in no event shall DISTRICT be liable for payment unless the amount of such extra compensation shall first have been agreed to in writing by DISTRICT.

6. Professional Skill

CONTRACTOR represents that CONTRACTOR is skilled and licensed by the State of California in the professional calling necessary to perform the work agreed to be done under this Agreement. DISTRICT relies upon the skill of CONTRACTOR to do and perform its work in a skillful manner, and CONTRACTOR agrees to thus perform its work, and the DISTRICT'S acceptance of CONTRACTOR'S work shall not operate as a release of CONTRACTOR from this Agreement. For purposes of this Agreement, "skillful manner" shall mean the prevailing industry standard during the term of this Agreement.

7. Equal Employment Opportunity

CONTRACTOR shall not discriminate against any employee or applicant for employment because of race, religion, creed, national origin, amnesia, physical handicap, medical condition, marital status or sex of such person except as provided in Section 12940 of the Government Code.

8. Compliance with Laws

CONTRACTOR shall comply with all applicable federal, state, and local laws, statutes, ordinances, rules and regulations and the orders and decrees of any courts or administrative bodies or tribunals in any manner affecting the performance of the Agreement. Compliance with this section shall include, but not limited to, the following:

- a. CONTRACTOR shall set forth:
 - 1. The name and the location of the place of business of each subcontractor who will perform work or labor or render service to the CONTRACTOR pursuant to Public Contract Code § 4104.
 - 2. The name and location of the place of each subcontractor certified as a minority, women, or disabled veteran business enterprise who will perform work or labor or render service to the CONTRACTOR to fulfill minority, women, and disabled veteran business enterprise goals pursuant to Public Contract Code § 2001.
- b. CONTRACTOR and its subcontractors shall pay "prevailing wages" in compliance with Labor Code § 1773.

9. Independent Contractor

CONTRACTOR is acting as an independent contractor in furnishing the services or materials and performing the work required by this Agreement and is not an agent, servant or employee of DISTRICT.

10. **Indemnity**

CONTRACTOR agrees to indemnify, save harmless and defend DISTRICT, its officers and employees from all costs, expenses, claims, liabilities or damages to persons or property arising out of or in any way connected with the performance of the CONTRACTOR'S work by the CONTRACTOR, its officers, employees, agents, contractors, subcontractors or any officer, agent or employee thereof. However, this indemnity will not extend to any loss, damage, or expense arising out of the active negligence of the DISTRICT or the DISTRICT'S.

11. **Insurance: Public Liability, Worker's Compensation**

CONTRACTOR shall maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the CONTRACTOR, and their agents, representatives, or employees.

See Exhibit C for DISTRICT Insurance Requirements

12. **Work Safety**

CONTRACTOR shall provide adequate employee supervision and comply with all safety regulations while performing activities in connection with this Agreement. CONTRACTOR acknowledges that he has been provided and understands the DISTRICT'S safe work requirements listed as Exhibit D.

13. **Notices**

Unless otherwise provided herein, all notices required hereunder shall be given by certified mail, postage prepaid and addressed to the party at the address indicated in the opening paragraph of this Agreement provided however, that in lieu thereof, notice may be given by personal delivery to the party at said address.

14. **Title to Documents**

All original calculations, photographs, maps, drawings, plans, design notes and other material or documents developed or used in connection with the performance of this Agreement shall be the property of DISTRICT provided, however, that CONTRACTOR may provide DISTRICT with legible photostatic copies thereof in lieu of the originals upon approval by DISTRICT representative. Any plans and specifications shall bear the name of the CONTRACTOR.

15. **Assignment**

Neither party shall assign or sublet any portion of this Agreement without the written consent of the other party in writing.

16. Termination

Without limitation to such rights or remedies as DISTRICT shall otherwise have by law, DISTRICT shall also have the right to terminate this Agreement for any reason upon seven (7) days' written notice to CONTRACTOR. This Agreement may also be terminated by either party upon seven (7) days' written notice should the other party fail substantially to perform in accordance with this Agreement through no fault of the other or if the project is stopped by conditions beyond the control of the DISTRICT.

17. Venue

Venue for any action of any nature regarding this Agreement shall be in Superior Court in the County of Marin.

18. Miscellaneous

Failure on the part of either party to enforce any provisions of this Agreement shall not be construed as a waiver or the right to compel enforcement of such provisions or any other provision.

19. Additional Provisions, Exhibits

Additional provisions of this Agreement are set forth on Exhibit F. All Exhibits shall be attached to, signed by the parties, and are hereby referred to and made a part hereof by reference.

20. Attorneys' Fees

If any party to this contract resorts to an action or arbitration to enforce or interpret any provision of this contract, the prevailing party shall be entitled to recover reasonable attorneys' fees in addition to any other relief to which that party may be entitled.

21. Severability

If a court of competent jurisdiction finds or rules that any provision of this Agreement is invalid, void, or unenforceable, the provisions of this Agreement not so adjudged shall remain in full force and effect. The invalidity in whole or in part of any provision of this Agreement shall not void or affect the validity of any other provision of this Agreement.

22. Entire Agreement: Amendment

This contract supersedes any and all other agreements, whether oral or in writing, between the parties with respect to the subject of this contract. Except as to those documents specifically incorporated by reference into this contract, this contract contains all of the covenants and agreements between the parties with respect to the subject of this contract, and each party acknowledges that no representations, inducements, promises, or agreements have been made by or on behalf of any party except the covenants and agreements embodied in this

contract. No agreement, statement, or promise not contained in this contract shall be valid or binding on the parties with respect to the subject of this contract. No modifications hereof shall be effective unless such modification is in writing signed by all parties to this Agreement.

IN WITNESS WHEREOF, the parties have hereunto set their hands the day and year first above written.

LAS GALLINAS VALLEY SANITARY DISTRICT

By _____
General Manager Date

CONTRACTOR COMPANY NAME

By _____
Signature Date

Print Name & Title

NOTE: The following exhibits are hereby incorporated into this Agreement by this reference:

- Exhibit A: Scope of Work (Not Used)
- Exhibit B: Services or Materials to be Performed or Furnished by District (Not Used)
- Exhibit C: General Conditions
- Exhibit D: District Safe Work Requirements
 - 1. Contractor/Consultant Safe Work Requirements
 - 2. Confined Space Entry Program
- Exhibit E: Contractor's License & Workers' Compensation Insurance Info
- Exhibit F: Performance Bond
 - Payment/Labor and Materials Bond
 - 3-Year Maintenance Bond

Exhibit A
Scope of Work
(Not Used)

Exhibit B

Services or Materials to be Performed or Furnished by District

(Not Used)

Exhibit C - General Conditions

LAS GALLINAS VALLEY SANITARY DISTRICT
300 Smith Ranch Road
San Rafael, California 94903

GENERAL CONDITIONS

1. DEFINITIONS:

The following terms as used in any agreement of which these General Conditions are a part are defined as follows:

- 1.1 Agreement: The agreement between the District and Contractor concerning the Project, as evidenced by and comprised of the Contract Documents.
- 1.2 Architect or Engineer: The person or persons so specified on the title sheet of the Technical Specifications and/or Drawings.
- 1.3 Bid Package: All of the documents listed as comprising the entire Bid Package as specified in the Notice Inviting Informal Bids and representing the full set of documents made available to bidders on the Project.
- 1.4 District: Las Gallinas Valley Sanitary District
- 1.5 Documents/Contract Documents: All those documents listed in the Project agreement as comprising the entire agreement between the District and the Contractor.
- 1.6 Construction Manager – The person, firm, designated in writing by the District to act as its representative at the construction site and to perform construction observation services and administrative functions relating to this Contract. All contact by the Contractor with the District shall be through the Construction Manager.
- 1.7 Contractor: The successful bidder for the Project and party to the Project agreement with the District as specified in the Project agreement.
- 1.8 Days: Unless otherwise specified in the Contract Documents, days mean working days. Where necessary for clarity, calendar days and working days are appropriately specified as such in the Contract Documents.
- 1.9 Project: The project as described in the Notice Inviting Informal Bids and the Technical Specifications and Drawings.
- 1.10 District Engineer: The District's authorized representative for administration and overall management of the Project agreement and Work. The District Engineer is the official point of contact between the District, the Architect and/or Engineer, and the Contractor.
- 1.11 Owner: Las Gallinas Valley Sanitary District
- 1.12 Drawings: The primarily graphic detailed requirements concerning the Project issued prior to bid opening, Equal Product Proposals accepted by the District and signed by authorized District representatives prior to bid opening, and change orders and other

amendment to the Drawings signed by authorized representatives of the District and the Contractor in accordance with the requirements of the Contract Documents.

- 1.13 Project Inspector: The party or parties charged by the District with inspecting the Work for compliance with the requirements of the Contract Documents and applicable laws and regulations. The Project Inspector acts under the direction of the District and shall coordinate with the District Engineer and Architect as directed by the District in accordance with the Contract Documents.
- 1.14 Subcontractor: A person, firm or corporation that is obligated as a party to a contract with the Contractor to perform part of the Project work. For purposes of these General Conditions Subcontractors include, but are not limited to, those that are obligated as parties to a contract with the Contractor to specially fabricate and install a portion of the Project Work according to the Technical Specifications and/or Drawings.
- 1.15 Technical Specifications: The detailed Project requirements contained in the Bid Package and any addenda to the Technical Specifications signed by authorized District representatives and issued prior to bid opening, Equal Product Proposals accepted by the District and signed by authorized District representatives prior to bid opening, and change orders and other amendments to the Technical Specifications signed by authorized representatives of the District and the Contractor in accordance with the requirements of the Contract Documents.
- 1.16 Work: The furnishing of all equipment, tools, apparatus, facilities, material, labor and skill necessary to perform and complete in a good and workmanlike manner the Project as shown in the Technical Specifications and Drawings in accordance with the Contract Documents and applicable law.
- 1.16 Written Notice: Will be deemed to have been duly served for purposes of these General Conditions and any agreement of which they are a part if delivered in person to the individual or to a member of the firm or to any office of the corporation for whom the notice is intended, or if sent by registered or certified mail to the last known business address known to the party giving notice. Unless otherwise specified in the Contract Documents, the last known address of the Contractor shall be that listed in the Contractor's Pre-Qualification Application.

2. SCOPE OF WORK

- 2.1 Documents Furnished by District. The District will furnish to the Contractor, free of charge, five (5) sets of half-size prints of the Drawings and Technical Specifications for execution of the Work. Throughout the performance of the Work the Contractor must keep one copy of the Drawings and Technical Specifications in good order and available for review by the District Engineer, the Engineer, the Architect, and any other District contractors or representatives.
- 2.2 Ownership of Documents Furnished by District. All documents furnished by the District, including, but not limited to, the Technical Specifications, Drawings, and any copies, are the property of the District. Documents furnished by the District may not be used on any other work. All documents furnished by the District must be returned to District upon completion of the Work.

2.3 Technical Specifications and Drawings.

- 2.3.1 The Technical Specifications and Drawings are complementary and intended to mutually describe the Work necessary to complete the Project in accordance with the Contract Documents.
- 2.3.2 In general, the Drawings indicate dimensions, position and kind of construction, and the Technical Specifications indicate qualities and methods. Any Work indicated on the Drawings and not mentioned in the Technical Specifications or vice versa must be furnished as though fully set forth in both. Work that is not particularly detailed, marked or specified shall be the same as similar Work that is detailed, marked or specified. The Contractor must furnish items necessary for the operation of equipment depicted in the Drawings or specified in the Technical Specifications that are suitable to allow such equipment to function properly at no extra charge.
- 2.3.3 The Contractor must notify the District Engineer and the Architect as soon as possible of any apparent errors or inconsistencies, including, but not limited to, typographical or notational errors in the Drawings, Technical Specifications, and/or in work done by others affecting the Work. The District Engineer will issue instructions concerning any such apparent errors or inconsistencies. If the Contractor proceeds with Work impacted by apparent errors or inconsistencies without instructions from the District Engineer, the Contractor shall do so at its sole risk and shall have all of the obligations and the District shall have all of the rights and remedies specified in Section 11 concerning any resulting damage or defect.
- 2.3.4 The General Conditions apply with equal force to all of the Work, including extra work authorized by the District Engineer in accordance with the Contract Documents. The Contractor must submit any required shop diagrams and/or drawings by the times and in the quantities indicated in the Technical Specifications. Any such shop diagrams and/or drawings must show completely the Work to be done, expanding on the Drawings concerning details not previously shown, field conditions and the condition of the Work. Architect or Engineer review of such shop diagrams and/or drawings will concern conformance with the requirements of the Contract Documents only. The Architect or Engineer assumes no responsibility for the correctness or accuracy of the dimensions or any other contents of any shop diagrams and/or drawings submitted by the Contractor. The Contractor must check all dimensions at the Work site. Shop diagrams and/or drawings must be clearly marked with the name of the Project and the name of the Contractor, subcontractor or supplier making the submittal, and must be stamped and signed by the Contractor and submitted under a signed transmittal letter from the Contractor certifying that all dimensions have been checked at the Work site. These requirements are mandatory. The Architect or Engineer will not review shop diagrams and/or drawings that do not satisfy these requirements. The Contractor will be responsible for any and all discrepancies between dimensions of the actual Project site and/or Work and those shown on shop diagram and/or drawings submitted by the Contractor, and for any other errors contained in or resulting from such shop diagrams and/or drawings, including, but not limited to, errors in

material and/or equipment quantities and any resulting errors, delays or additional cost in the performance of the Work. The Contractor will have all of the obligations and the District will have all of the rights and remedies that are specified in Section 11 concerning any discrepancies or errors in shop diagrams and/or drawings submitted by the Contractor, and concerning any resulting errors, delays or additional costs in the performance of the Work.

3. CONTROL OF WORK AND MATERIAL

- 3.1 District Engineer's Status. The District Engineer will administer the Project in accordance with the Contract Documents. After execution of the agreement and issuance of the Notice to Proceed, all correspondence and/or instructions concerning the Project between the Contractor and/or District shall be forwarded through the District Engineer. Except as otherwise provided in the Contract Documents, the District Engineer will not be responsible for and will not have control or charge of construction means, methods, techniques, or procedures or for safety precautions in connection with the Work. The District Engineer, however, will have authority to reject materials and/or workmanship that do not conform to the requirements of the Contract Documents. The District Engineer will also have the authority to require inspection or testing of the Work.
- 3.2 Architect or Engineer's Status. The Architect or Engineer will advise the District Engineer concerning decisions on all claims of the Contractor and all other matters relating to the execution and progress of the Work or the interpretation of the Contract Documents. The Architect or Engineer will also advise the Construction Manger concerning Work that does not conform to the Contract Documents. Whenever, in the Architect's or Engineer's opinion, it is necessary or advisable in accordance with the Contract Documents, the Architect or Engineer may recommend to the District Engineer inspection or testing of the Work, whether or not such Work is then fabricated, installed or completed.
- 3.3 Inspection and Testing of Work and Material.
 - 3.3.1 The District, the District Engineer, the Architect or Engineer and their representatives will have access to the Work at all times wherever it is in preparation or progress. The Contractor must provide proper facilities for such access and for inspection.
 - 3.3.2 The Contractor must inspect all materials as delivered and promptly return all defective materials without waiting for their rejection by the District Engineer or Architect or Engineer.
 - 3.3.3 If the District Engineer, the Technical Specifications, or any laws, ordinances, or any public authority require any Work to be tested or approved, the Contractor must give the District Engineer timely notice of the Contractor's readiness for inspection. Inspections will be promptly made, and where practicable, at the source of supply. Any work subject to such testing that is covered up without timely notice to the District Engineer or without the approval or consent of the District Engineer must, if required by the District Engineer, be uncovered for examination at the Contractor's expense. The Contractor will have all of the obligations and the District will have all of the rights and remedies that are

specified in Section 11 concerning any work subject to testing that is covered up without timely notice to the District Engineer and that is not uncovered for examination at the Contractor's Expense if required by the District Engineer.

3.3.4 Tests of materials or qualification tests required by the Contract Documents must be made in accordance with the Technical Specifications and the requirements of the California Building Standards Code as adopted by the District and other applicable law. Copies of all testing reports shall be distributed as required in the Technical Specifications.

3.3.5 The District or its representatives may order re-examination of questioned Work. If ordered to do so, the Contractor must uncover such Work. If such Work is found to be according to the Contract Documents, the District shall pay the cost of uncovering and restoring the Work, unless such Work was subject to testing and covered up without timely notice to or approval of the District Engineer. If re-examined Work is found not in accordance with the Contract Documents, the Contractor must pay the cost of uncovering and restoring the Work. The Contractor will have all of the obligations and the District will have all of the rights and remedies that are specified in Section 11 concerning any re-examined Work not in accordance with the Contract Documents that the Contractor fails to uncover and restore at the Contractor's expense.

3.3.6 The Contractor must replace or correct without charge any material or workmanship found not to conform to the requirements of the Contract Documents, unless the District consents to accept such material or workmanship with an appropriate adjustment in the Contract Price. The Contractor must promptly segregate and remove non-conforming material from the Work site. The Contractor will have all of the obligations and the District will have all of the rights and remedies that are specified in Section 11 concerning any failure by the Contractor to replace or correct without charge any material or workmanship that does not conform to the requirements of the Contract Documents and that the District has not consented to accept.

3.4 Samples Furnished by the Contractor. The Contractor must furnish all samples for approval as directed in sufficient time to permit the Architect or Engineer to examine, approve and select samples before they are required by the progress of the Work. Portions of the Work for which samples are required and for which the Architect or Engineer has selected samples must be in accordance with such approved samples. Samples must be sent prepaid to the office of the District Engineer or to such place as the District Engineer may direct.

3.5 Materials and Substitutions.

3.5.1 Materials used for the Work must be new and of the quality specified. When not particularly specified, materials must be the best of their class or kind. The Contractor must, if required, submit satisfactory evidence as to the kind and quality of materials.

3.5.2 If the Contractor submitted complete information to the District Engineer for products proposed as equals in accordance with the Bid Package, and the District approved such products proposed as equals in writing, the Contractor may either furnish such products approved as equals, or furnish the products

listed by manufacturer name, brand or model number in the Technical Specifications or Drawings. The District retains the right, in its sole discretion, to accept or reject any other proposed substitution. To be considered, proposals concerning products proposed as equals must include sufficient information to permit the District to determine whether the products proposed as equals will satisfy the same performance requirements as products listed by manufacturer's name, brand or model number. Such performance requirements may include, but are not limited to, size, strength, function, appearance, ease of maintenance and repair, and useful life requirements. If the District does not accept a proposed substitution, the Contractor must furnish the product specified in the Technical Specifications or Drawings for the Contract Price, regardless of whether the product is specified by manufacturer's name, brand or model number, or otherwise.

3.5.3. During the performance of the Work, all materials must be neatly stacked, properly protected from the weather and other adverse impacts, and placed so as to avoid interference with efficient progress of the Work, with other activities of the District, or with the use of existing District facilities by the public. All materials must be delivered so as to ensure efficient and uninterrupted progress of the Work. Materials must be stored so as to cause no obstruction and so as to prevent overloading of any portion of the Work. The Contractor will be responsible for damage or loss of materials delivered to and/or stored at the Work site due to weather or other causes. The Contractor must promptly remove from the Work site all materials rejected by the District or its representatives as failing to conform to the requirements of the Contract Documents, whether such non-conforming materials have been incorporated in the Work or not. If the District or its representatives so direct, the Contractor must promptly replace and re-execute Work performed by the Contractor and order the replacement and re-execution of Work performed by subcontractors using non-conforming materials with materials that satisfy the requirements of the Contract Documents without expense to the District. The Contractor will bear the expense of making good all Work destroyed or damaged by such removal. The Contractor will have all of the obligations and the District will have all of the rights and remedies that are specified in Section 11 concerning any failure by the Contractor to replace or re-execute Work using non-conforming materials, and/or to make good all work destroyed or damaged by such removal and/or execution.

3.6 Audits and Examination of Records. The District may examine and audit at no additional cost to the District all books, estimates, records, contracts, documents, bid documents, bid cost data, subcontract job cost reports and other Project related data of the Contractor, subcontractors engaged in performance of the Work, and suppliers providing supplies, equipment and other materials required for the Work, including computations and projections related to bidding, negotiating, pricing or performing the Work or contract modifications and other materials concerning the Work, including, but not limited to, Contractor daily logs, in order to evaluate the accuracy, completeness, and currency of cost, pricing, scheduling and any other project related data. The Contractor will make available all such Project related data at all reasonable times for examination, audit, or reproduction at the Contractor's business office at or near the Work site, and at any other location where such Project related data may be kept until three years after final payment under the Agreement. Pursuant to California

Government Code Section 8546.7, if the amount of public funds to be expended is in excess of \$10,000, this Agreement shall be subject to the examination and audit of the State Auditor, at the request of the District, or as part of any audit of the District, for a period of three (3) years after final payment under the Agreement.

- 3.7 Advertising. No advertising signs of any kind may be displayed on the Work site, or on fences, offices or elsewhere adjacent to the Work site.
- 3.8 Project Schedule (**As Needed**). Within seven (7) calendar days of the Notice to Proceed, the Contractor shall submit a schedule showing each task of Work, the sequence of each task, the number of days required to complete each task, and the critical path controlling the completion of the entire Work. The schedule shall allow for the completion of the entire Work within the Time for Completion.
- 3.8.1 District Review of Schedule. The District may review the Contractor's submitted schedule and may note any exceptions. The Contractor shall correct any exceptions noted by the District within five (5) working days of being notified of the exceptions.
- 3.8.2 Update of Schedule. After submission of a schedule to which the District has taken no exceptions, the Contractor shall submit an updated schedule on a biweekly basis until completion of the Work. The updated schedule shall show the progress of Work as of the date specified in the updated schedule.
- 3.8.3 Float. The schedule shall show early and late completion dates for each task. The number of working days between these dates shall be designated as "float". The Float shall be designated to the Project and shall be available to both the District and the Contractor as needed.
- 3.8.4 Failure to Submit Schedule. If the Contractor fails to submit the schedule within the time period specified in Section 3.8, or the updated schedule as specified in Section 3.8.2, or submit a schedule to which the District has taken uncorrected exceptions, **the District shall be entitled to withhold payment for the next application for payment submitted after the schedule or updated schedule becomes late.**
- 3.8.5 Responsibility for Schedule. The Contractor shall have sole and exclusive responsibility for creating the schedule and properly updating it. The District has no authority to approve the schedule. The District may note exceptions to any schedule submitted by the Contractor. However, it shall be the Contractor's sole responsibility to determine the proper method to address exceptions and the District's review of the schedule shall not serve to place any such obligation on the District.

4. CHANGES IN WORK

- 4.1 District Directed Change Orders. The District may at any time during the progress of the Work direct any amendments to the Work or any of the Contract Documents, including, but not limited to the Technical Specifications, or Drawings. Such amendments will in no way void the agreement, but will be applied to amend the Contract Price, if such amendments affect the Contract Price, the Project schedule, if

such amendments affect the Project schedule, or any other provision of the Contract Documents based on a fair and reasonable valuation of the amendment in accordance with this Section 4.

- 4.2 Writing Requirement. Change orders and other amendments to the Technical Specifications, the Drawings, or other Contract Documents may be made only by a writing executed by authorized representatives of the District and the Contractor.
- 4.3 Contractor Proposed Change Orders. Unless the District Engineer otherwise authorizes or the District and the Contractor otherwise agree, change order proposals submitted by the Contractor must be submitted to the District Engineer no later than the time of the proposed change.
- 4.4 All Change Orders. All change order proposals must be submitted on completed Change Order forms provided in the Contract Documents. All such change order proposals must itemize all cost impacts of the proposed change order and include a total price for that change order and the amended Contract Price that would become effective upon execution of the change order. All change order proposals must specify any change in the Project schedule, or in any project milestone including, but not limited to, the Time for Completion, under the change order. It is understood that change orders that do not specify a change in any milestone, including, but not limited to, the Time for Completion, may be accomplished by the Time for Completion then in effect.
- 4.5 Change Order Pricing. Change order pricing will be governed by the following:
 - 4.5.1 Unit prices specified in the Contract Documents will apply to cost impacts involving items for which the Contract Documents specify unit prices.
 - 4.5.2 Cost impacts involving items for which no unit prices are specified will be calculated by adding the itemized actual direct cost that would be added or reduced under the change order and an allowance for indirect costs in accordance with this Section. Itemization for direct costs for required labor must include the classifications of labor required, the total hours required for each classification, the hourly rate for each classification and other labor related costs such as liability and workers compensation insurance, social security, retirement and unemployment insurance. All other cost impacts for which no unit prices are specified must be itemized as appropriate, including the cost of tools, vehicles, phones and other equipment, and the cost of all required materials or supplies. Indirect costs added under a change order may not exceed an allowance of seven (7) percent of the total of combined Contractor and subcontractor direct costs added under the change order. Such allowance covers Contractor overhead and profit under the change order and includes the cost of insurance in addition to that required pursuant to Section 8.8, bond premiums, superintendent labor, clerical labor, home office expenses, worksite office expenses, and utility costs under the change order. Such costs may not be itemized as direct costs under a change order. Indirect costs deducted under a change order will be calculated in exactly the same way as indirect costs added under a change order, except indirect costs deducted under a change order may not exceed an allowance of seven and a half (7.5) percent of

the total of combined Contractor and subcontractor direct costs deducted under the change order.

- 4.6 Liability Under Unapproved Change Orders. The Contractor shall be solely responsible for any and all losses, costs, or liabilities of any kind incurred by the Contractor, any subcontractor engaged in the performance of the Work, any party supplying material or equipment for the Work or any third party that are incurred pursuant to Contractor-proposed change orders prior to issuance of an approved change order executed in accordance with this Section 4. The Contractor will have all of the obligations and the District will have all of the rights and remedies that are specified in Section 11 concerning any work or resulting losses, costs, or liabilities pursuant to a Contractor proposed change order before issuance of an approved change order executed in accordance with this Section 4.
- 1.7 Changes Subject to Contract Documents. Any changes in the Work and/or the Contract Documents pursuant to change orders and any other amendments issued in accordance with the Contract Documents, including this Section 4, will in all respects be subject to all provisions of the Contract Documents, including, but not limited to, the Technical Specifications and the Drawings, except as modified by such change orders or amendments.
- 4.8 Change Order Disputes.
- 4.8.1 Disputed District Directed Change Orders. If the Contractor disputes a District directed change order following a reasonable effort by the District and the Contractor to resolve the dispute including, at a minimum, a meeting between appropriate representatives of the Contractor and the District, the Contractor must commence performing the Work consistent with the disputed change order within five (5) working days of the last meeting between representatives of the Contractor and the District to resolve the dispute, or within the time specified in the disputed District directed change order, whichever is later. In performing Work consistent with a disputed District-directed change order pursuant to this provision the Contractor will have all of the Contractor's rights concerning claims pursuant to the Contract Documents and applicable law.
- 4.8.2 Disputed Contractor Proposed Change Orders. If the District disputes a Contractor proposed change order, the District and the Contractor will use reasonable efforts to resolve the dispute including, at a minimum, holding a meeting between appropriate representatives of the Contractor and the District. Regardless of and throughout any such efforts to resolve the dispute the Contractor must continue performing the Work irrespective of and unmodified by the disputed change order. In continuing to perform the Work, the Contractor will retain all of the Contractor's rights under contract or law pertaining to resolution of disputes and protests between contracting parties. Disputes between the District and the Contractor concerning any Contractor-proposed change order or other amendment do not excuse the Contractor's obligation to perform the Work in accordance with the Contract Documents excluding such Contractor-proposed change order or other amendment by the Time for Completion or waive any other Project milestone or other requirement of the Contract Documents.

5. TRENCHING AND UTILITIES

- 5.1 Excavation More Than Four Feet Deep. In accordance with California Public Contract Code Section 7104, if the Work involves excavation more than four feet deep the Contractor must promptly notify the District in writing before disturbing: any material that the Contractor believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II or Class III disposal site in accordance with provisions of existing law; any subsurface or latent physical conditions at the Work site differing from those indicated; or any unknown physical conditions at the Work site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents. The District will promptly investigate any such conditions for which notice is given. If the District finds that the conditions do materially differ, or involve hazardous waste, and would cause a decrease or increase in the cost or time of performance of the Work, the District will issue a change order pursuant to Section 4 of these General Conditions. If a dispute arises between the District and the Contractor concerning whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the cost or time of performance, the Contractor will not be excused from any completion date provided in the Contract Documents, but shall proceed with all Work to be performed. The Contractor will retain all rights under contract or law pertaining to resolution of disputes and protests between contracting parties.
- 5.2 Excavation of Five Feet or More. In accordance with California Labor Code Section 6705, contractors performing contracts exceeding \$25,000 in cost and involving excavation five or more feet deep must submit for the District's acceptance, prior to excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during excavation. If the plan varies from the shoring system standards, it must be prepared by a registered civil or structural engineer.
- 5.3 Existing Utilities.
- 5.3.1 General – The location of known existing utilities and pipelines are shown on the Plans in their approximate locations. However, nothing herein shall be deemed to require the District to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the site of the project can be inferred from the presence of other visible facilities, such as buildings, cleanouts, meter and junction boxes, on or adjacent to the site of the Project.
- The District will assume the responsibility for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Project site if such utilities are not identified by the District in the Contract Documents or which cannot reasonably be inferred from the presence of other visible facilities.
- 5.3.2 Utility Location – It shall be the Contractor's responsibility to determine the exact location and depth of all utilities, including service connections, which have been marked by the respective utility owners and which the Contractor believes may affect or be affected by the Contractor's operations. The Contractor shall not be entitled to additional compensation nor time extensions

for work necessary to avoid interferences nor for repair to damaged utilities if the Contractor does not expose all such existing utilities as required by this section.

The locating of utilities shall be in conformance with Government Code Section 4216 et seq. except for the District's utilities located on the District's property and not on public right-of-way.

A "High Priority Subsurface Installation" is defined in Section 4216 (e) as "high-pressure natural gas pipelines with normal operating pressures greater than 415kPA gauge (60psig) or greater than six inches nominal pipe diameter, petroleum pipelines, pressurized sewage pipelines, high-voltage electric supply lines, conductors, or cables that have a potential to ground of greater than or equal to 60kv, or hazardous materials pipelines that are potentially hazardous to workers or the public if damaged."

A "Subsurface Installation" is defined in Section 4216 (l) as "any underground pipeline, conduit, duct, wire, or other structure, except non-pressurized sewer lines, non-pressurized storm drains, or other non-pressurized drain lines."

Pursuant to Government Code Section 4216.2 the Contractor shall contact the appropriate regional notification center at least two (2) working days but not more than fourteen (14) calendar days before performing any excavation. The Contractor shall request that the utility owners conduct a utility survey and mark or otherwise indicate the location of their service. The Contractor shall furnish to the Construction Manager written documentation of its contact(s) with the regional notification center prior to commencing excavation at such locations.

After the utility survey is completed, the Contractor shall commence "potholing" or hand digging to determine the actual location of the pipe, duct, or conduit. The Construction Manager and District Engineer shall be given notice prior to commencing potholing operations. The Contractor shall uncover all piping and conduits, to a point one (1) foot below the pipe, where crossings, interferences, or connections are shown on the Drawings, prior to trenching or excavating for any pipe or structures, to determine actual elevations. New pipelines shall be laid to such grade as to clear all existing facilities, which are to remain in service for any period subsequent to the construction of the run of pipe involved.

The Contractor's attention is directed to the requirements of Government Code Section 4216.2 (a)(2) which provides: "When the excavation is proposed within 10 feet of a high priority subsurface installation, the operator of the high priority subsurface installation shall notify the excavator of the existence of the high priority subsurface installation prior to the legal excavation start date and time, as such date and time are authorized pursuant to paragraph (1) of subdivision (a) of 4216.2. The excavator and the operator or its representative shall conduct an onsite meeting at a mutually-agreed-on time to determine actions or activities required to verify the location of the high priority subsurface installation prior to start time." The Contractor shall notify the Construction Manager and District Engineer in advance of this meeting.

- 5.3.4. Utility Relocation and Repair – If interferences occur at locations other than those indicated in the Contract Documents with reasonable accuracy, the Contractor shall notify the Construction Manager and District Engineer in writing. The Construction Manager will supply a method for correcting said interferences in accordance with the responsibilities of this section and Government Code Section 4215.

Care shall be exercised by the Contractor to prevent damage to adjacent existing facilities and public or private works; where equipment will pass over these obstructions, suitable planking shall be placed. If high priority subsurface installations are damaged and the operator cannot be contacted, the Contractor shall call 911 emergency services.

The District will compensate the Contractor for the costs of locating and repairing damage not due to the failure of the Contractor to exercise reasonable care, and for removing or relocating such main or trunk line utility facilities not indicated in the Contract Documents with reasonable accuracy, and for the cost of equipment on the Project necessarily idled during such work. The payment for such costs will be made as provided in Section 4, Change Orders. The Contractor shall not be assessed liquidated damages for delay in completion of the Project, when such delay is caused by the failure of the District or utility company to provide for removal or relocation of such utility facilities.

The public utility, where they are the owner of the effected utility, shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price. The right is reserved to the District and the owners of utilities or their authorized agents to enter upon the Work area for the purpose of making such changes as are necessary for the rearrangement of their facilities or for making necessary connections or repairs to their properties. The Contractor shall cooperate with forces engaged in such work and shall conduct its operations in such a manner as to avoid any unnecessary delay or hindrance to the work being performed by such forces and shall allow the respective utilities time to relocate their facility.

When the Contract Documents indicate that a utility is to be relocated, altered or constructed by others, the District will conduct all negotiations with the utility company and the work will be done at no cost to the Contractor, unless otherwise stipulated in the Agreement.

Temporary or permanent relocation or alteration of utilities desired by the Contractor for its own convenience shall be the Contractor's responsibility and it shall make arrangements and bear all costs for such work.

6. PROJECT FACILITIES

- 6.1 Work Site Offices. Any Work site office facilities used by the Contractor and/or its privities must conform to all applicable codes, ordinances and regulations. The cost of such Work site office facilities shall be paid from the included in the Contract Price.

6.2 District Rights of Access and Ownership. The District and its authorized representatives will at all reasonable times while such office facilities are located at the Work site (including, at a minimum, all times during which the Work is performed), have access to any such Work site office facilities used by the Contractor and/or its privities. With respect to the right of access of the District and its authorized representatives, neither the Contractor nor its privities shall have a reasonable expectation of privacy pursuant to the Fourth Amendment to the Unites States Constitution or other applicable law concerning such Work site office facilities used by the Contractor and/or its privities. Without exception, any and all Project related materials located at such Work site facilities will be deemed at all times to be District property subject to inspection and copying by the District and its authorized representatives at all reasonable times while such facilities are located at the Work site (including, at a minimum, all times during which the Work is performed). Any interference by the Contractor or its privities with the District's rights of access and/or ownership pursuant to this Section 6 will constitute a material breach of the Agreement subject to any and all remedies available pursuant to the Contract Documents and at law and equity.

7. PROSECUTION AND PROGRESS OF THE WORK

7.1 Liquidated Damages (**As Needed**). Time is of the essence in the Agreement. The District and the Contractor agree that it will be difficult and/or impossible to determine the actual damage which the District will sustain in the event of the Contractor's failure to fully perform the Work or to fully perform all of the Contractor's obligations that have accrued pursuant to the Agreement by the Time for Completion. Accordingly, the District and the Contractor agree in accordance with California Government Code Section 53069.85 that the Contractor will forfeit and pay to the District liquidated damages in the sum of \$1,000 per day for each and every calendar day completion of the Work and/or performance of all of the Contractor's obligations that have accrued pursuant to the Agreement is delayed beyond the Time for Completion. The District and the Contractor further agree in accordance with California Government Code Section 53069.85 that the liquidated damages sum specified in this provision is not manifestly unreasonable under the circumstances existing at the time the Agreement was made, and that the District may deduct liquidated damages sums in accordance with this provision from any payments due or that may become due the Contractor under the Agreement.

7.2 No Damage for Delay Beyond District and Contractor Control. The Contractor will not be held responsible for delays in performance of the Work caused by delay beyond the control of both District and Contractor, such as by strikes, lockouts, or labor disturbances that are not within the control of the contractor to resolve, lack or failure of transportation, or acts of other government entities. This provision will not apply where the delay would not have occurred but for a previous contractor caused delay in the prosecution of the Work. The District will not be liable to the Contractor, any subcontractor or other entity engaged in the performance of the Work, any supplier, or any other person or organization, or to any surety or employee or agent of any of them, for damages arising out of or resulting from (i) delays beyond the control of the District and the Contractor including but not limited to fires, floods, epidemics, abnormal weather conditions, earthquakes and acts of God or acts or neglect by utility owners or other contractors performing other work, or (ii) delays caused by the District,

its officials, officers, employees, agents, or volunteers, or delays caused by the District Engineer or the Architect or Engineer, which delays are reasonable under the circumstances involved and/or are within the contemplation of the District and the Contractor. An extension of the Time for Performance in an amount equal to the time loss due to such delay(s) will be the Contractor's sole and exclusive remedy for such delay(s).

- 7.3 No Damage for Contractor Caused Delay. Contractor shall not be entitled to additional compensation for extended field or home office overhead, field supervision, costs of capital, interest, escalation charges, acceleration costs or other impacts for any delays to the extent such delays are caused by the failure of the Contractor or any subcontractor or other entity engaged in performance of the Work to perform the Work in accordance with the Contract Documents. Contractor may be eligible for additional compensation in excess of the Contract Price for delays caused by the District and/or its privities.
- 7.4 No Damage for Other Delay. Contractor will not be entitled to damages for delay to the Work caused by the following, which the District and Contractor agree will be deemed for purposes of California Public Contract Code Section 7102 either not caused by the District, and/or within the contemplation of the District and the Contractor, and/or reasonable under the circumstances:
- 7.4.1 Exercise of the District's right to sequence the Work in a manner that would avoid disruption to the District and other contractors based on: the failure of the Contractor or any subcontractor or other entity engaged in the performance of the Work to perform the Work in accordance with the Contract Documents, enforcement by the District or any other governmental agency of competent jurisdiction of any government act or regulation, or enforcement by the District of any provisions of the Agreement.
- 7.4.2 Requests for clarification or information concerning the Contract Documents or proposed change orders or modifications to the Contract Documents, including extensive and/or numerous such requests for clarification or information or proposed change orders or modifications, provided such clarifications or information or proposed change orders or modifications are processed by the District or its representatives in a reasonable time in accordance with the Contract Documents.
- 7.5 Delays Caused by the District and/or Its Privities. Either the District or the Contractor may propose a change in the Time for Completion for delays that are purported to be caused by the District and/or its privities and that are not reasonable under the circumstances involved and/or that are not within the contemplation of the District and the Contractor. Such proposed changes in the Time for Completion will constitute change order proposals subject to Section 4. In accordance with Section 4, the District and the Contractor may agree upon pricing for the cost impacts, if any, resulting from such delays. If such pricing is in anticipation of cost impacts that may, but have not yet occurred, the District will be obligated to pay the Contractor for such anticipated impacts in accordance with the Agreement and any applicable, approved change orders only to the extent the Contractor actually incurs the anticipated cost impacts. Notwithstanding anything to the contrary in Section 4.5.2, the District and the Contractor may agree to a daily rate or cap or lump sum that will apply to the cost impacts, if any, resulting from delay purportedly caused by the District and/or its

privities subject to this provision. However, if such daily rate or cap or lump sum is in anticipation of cost impacts that have not yet occurred, the District will be obligated to pay such daily rate or cap or lump sum only to the extent the Contractor actually incurs such cost impacts.

7.5.1 Weather Delays. Extensions of the Time for Completion will not be allowed for weather conditions that are consistent with the following list of anticipated rain days based on historical weather data of the National Oceanographic and Atmospheric Administration of the U.S. Department of Commerce for the record station that is nearest or most applicable to the Work site. Extensions of the Time for Completion for delays due to adverse weather will be allowed only if the number of rain days exceeds those listed in the following table and the Contractor can verify to the District's reasonable satisfaction that such adverse weather caused actual delay in the timely completion of the Work. No extensions of the Time for Completion will be granted for rain days in addition to those listed in the following table that merely result in delays that do not or would not, themselves, result in failure to complete the Work by the Time for Completion. Anticipated weather delays, which may include rain, strong wind, or other types of inclement weather conditions, are as follows:

| | |
|-------------------------|---------|
| August through October: | 4 days |
| November through April: | 40 days |
| May through July | 4 days |

7.6 Delay Claims. Whenever the Contractor claims a delay for which the Time for Completion may be extended, the Contractor must request an extension of time within five (5) working days of the start of the delay. The request must be in writing and describe in detail the cause for the delay, and, if possible, the foreseeable extent of the delay.

7.7 Contractor Coordination of the Work.

7.7.1 The District reserves the right to do other work in connection with or in the vicinity of the Project by contract or otherwise, and Contractor shall at all times conduct the Work so as to impose no hardship on the District, others engaged in the Work or other contractors working at the Work site. The Contractor will adjust, correct and coordinate the Work with the work of others so that no delays result in the Work or other work at or near the Work site.

7.7.2 If any part of the Work depends for proper execution or results upon the work of the District or any other contractor, the Contractor will, before proceeding with such Work, promptly report to the District any apparent discrepancies or defects in such other Work. Failure of the Contractor to promptly report any apparent discrepancy or defect will be deemed an acceptance of the District's or other contractor's Work as fit and proper.

7.7.3 The Contractor will anticipate the relations of the various trades to the progress of the Work and will ensure that required anchorage or blocking is furnished and set at proper times. Anchorage and blocking necessary for each trade shall be part of the Work except where stated otherwise.

7.7.4 The Contractor will provide proper facilities at all times for access of the District, the District Engineer, Architect or Engineer, and other authorized District representatives to conveniently examine and inspect the Work.

7.8 Suspension of Work

7.8.1 If the Contractor fails to correct defective work, or fails to carry out the Work in accordance with the Contract Documents or any other applicable rules and regulations, the District, by a written order of the District 's representative or signed personally by an agent specifically so empowered by the District, in writing, may order the Contractor to stop the work, in its entirety or any portion thereof. In the event of a suspension of only a portion of the work, the Contractor is obligated to perform the portion of the work not suspended. The Suspension of Work shall remain in effect until the condition or cause for such order has been eliminated. The District's concurrence that the condition or cause has been eliminated will be provided to the Contractor in writing. This right of the District to stop and suspend the Work shall not give rise to any duty on the part of the District to exercise this right for the benefit of the Contractor or any other person or entity. All delays in the Work occasioned by such stoppage shall not relieve the Contractor of any duty to perform the Work or serve to extend the time for its completion. Any and all necessary corrective work done in order to comply with the Contract Documents shall be performed at no cost to the District.

7.8.2 In the event that a suspension of Work is ordered, as provided in this paragraph, the Contractor, at its expense, shall perform all work necessary to provide a safe, smooth, and unobstructed passageway through construction for use by public, pedestrian, and vehicular traffic, during the period of such use by suspension. Should the Contractor fail to perform the Work as specified, the District may perform such work and the cost thereof may be deducted from partial payments and/or final payment due the Contractor under the Contract.

7.8.3 The District shall also have authority to suspend the Work wholly or in part, for such period as the District may deem necessary, due to unsuitable weather, or to such other conditions as are considered unfavorable for the suitable prosecution of the Work. Such temporary suspension of the Work will be considered justification for time extensions to the Contract in an amount equal to the period of such suspension if such suspended work includes the current critical activity on the latest favorably reviewed progress schedule. The Contractor as directed by the District shall comply with the provisions in Section 7.8.2 above. Such additional work shall be compensated as provided for in Section 4, Changes in Work.

8. CONTRACTOR RESPONSIBILITIES

8.1. Eligibility. By executing the Agreement, the Contractor certifies that the Contractor is not ineligible to perform work on public works projects pursuant to California Labor Code Sections 1777.1 or 1777.7. In accordance with California Public Contract Code Section 6109(a), contractors who are ineligible to perform work on public works projects pursuant to California Labor Code Sections 1777.1 or 1777.7 may neither bid on, be awarded or perform the Work. The Contractor shall hold harmless and

indemnify the District from and against any and all damages, costs, and liability arising from or as a consequence of any violation of Public Contract Code Section 6109.

- 8.2 Supervision of the Work. The Contractor will be solely responsible for the performance of the Work, including portions of the Work to be performed by subcontractors. The Contractor is charged with ensuring that all orders or instructions from the District, District Engineer or Architect are disseminated to and followed by all subcontractors engaged in performance of the Work. The Contractor will supervise the Work using the Contractor's best skill and attention. At any time during the progress of the Work, the District, the District Engineer, or the Architect may require the Contractor and/or subcontractors engaged in performance of the Work to attend a project meeting and the Contractor will attend, and ensure the attendance of any subcontractors whose attendance is required by the District and/or advisable in light of the matters to be addressed at the meeting.
- 8.3 Contractor's Superintendent. The Contractor will keep on the Work, throughout its progress, a competent superintendent and any necessary assistants, all satisfactory to the District. The superintendent may not be changed without the consent of the District. The superintendent will represent the Contractor and all directions given by the District to the superintendent will bind the Contractor in accordance with the Agreement. Superintendent time included in Contractor's completed Bid Schedule and/or in approved change orders, if any, must be included in Contractor's approved overhead rate and may not be charged as a direct cost.
- 8.4 Competent Employees. The Contractor must at all times enforce strict discipline and good order among the Contractor's employees and may not employ on the Work any unfit person or anyone not skilled in the Work assigned, or anyone incompetent or unfit for the duties of that person. When the District determines that a Contractor employee does not satisfy the requirements of this provision, upon notice from the District, the Contractor must ensure that employee performs no further Work and is no longer present at the Work site. Any such Contractor employee may not again be employed on the Work without District approval.
- 8.5 Items Necessary for Proper Completion of the Work. Except as otherwise noted in the Contract Documents, the Contractor will provide and pay for all labor, materials, equipment, permits, fees, licenses, facilities and services necessary for the proper execution and timely completion of the Work in accordance with the Contract Documents.
- 8.6 Construction Reports. The Contractor must submit daily construction reports detailing the daily progress of the Work to the District Engineer on a weekly basis.
- 8.7 Subcontracting.
- 8.7.1 By executing the Agreement, the Contractor certifies that no subcontractor included on the list of proposed subcontractors submitted with the Contractor's bid is ineligible to perform work on public works projects pursuant to California Labor Code Sections 1777.1 or 1777.7. In accordance with California Public Contract Code Section 6109(a), subcontractors who are ineligible to perform work on public works projects pursuant to California Labor Code Sections 1777.1 or 1777.7 may neither bid on, be awarded or perform as a subcontractor

on the Work. In accordance with California Public Contract Code Section 6109(b), any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. The Contractor will ensure that no debarred subcontractor receives any public money for performing the Work, and any public money that may have been paid to a debarred subcontractor for the Work is returned to the District. The Contractor will be responsible for payment of wages to workers of a debarred subcontractor who has been allowed to perform the Work.

8.7.2 The Agreement and the performance of the Work are subject to the requirements of the Subletting and Subcontracting Fair Practices Act codified at California Public Contract Code Section 4100 and following. If the Contractor fails to specify a subcontractor or specifies more than one subcontractor for the same portion of the Work in excess of one-half of 1 percent of the Contractor's total bid, the Contractor agrees that the Contractor is fully qualified to perform that portion of the Work with the Contractor's own forces, and that the Contractor will perform that portion of the Work with the Contractor's own forces. If after award of the Agreement the Contractor subcontracts, except as provided for in California Public Contract Code Sections 4107 or 4109, any such portion of the Work, the Contractor will be subject to the penalties set forth in California Public Contract Code Sections 4110 and 4111, including cancellation of the Agreement, assessment of a penalty of up to 10 percent of the amount of the subcontract, and disciplinary action by the Contractors State License Board.

8.7.3. No contractual relationship exists between the District and any subcontractor engaged in performance of the Work.

8.7.4 Incorporation of Contract Documents. The Contractor must incorporate the Contract Documents in each contract with a subcontractor engaged in the performance of the Work. The Contractor shall be solely responsible for any delay or additional costs incurred as a result of its failure to provide adequate or accurate project information to a subcontractor that results in improper submittals and/or work, or time or other impacts is the sole responsibility of the Contractor. The Contractor will have all of the obligations and the District will have all of the remedies that are specified in Section 11.

8.7.5 Coordination of Subcontract Work: The Contractor is responsible for scheduling the Work of subcontractors so as to avoid delay or injury to either Work or materials.

8.8 Insurance.

8.8.1 All required insurance shall be provided in the form of "occurrence"-type policies underwritten by admitted insurers in the State of California with a rating of A or better from the current year Best Rating Guide. All policies must be issued at the expense of the Contractor and must be maintained at the Contractor's expense throughout the performance of the Work. Coverage should be maintained for a minimum of five (5) years after contract completion.

8.8.2 The Contractor and any subcontractors engaged in performance of the Work must secure payment of workers compensation in accordance with California

Labor Code Section 3700 and other applicable law. The Contractor must verify that all Subcontractors comply with this requirement.

8.8.3 Within seven (7) calendar days following Notice of Award the Contractor must submit to the District along with executed copies of all other documents specified in the Contract Check List certificates of insurance and endorsements evidencing that the Contractor has in effect and will maintain throughout the performance of the Work the following kinds and amounts of insurance:

8.8.3.1 Worker's Compensation Insurance. In accordance with the provisions of Article 5, Chapter 1, Part 7, Division 2 (commencing with Section 1860) and Chapter 4, Part 1, Division 4 (commencing with Section 3700) of the Labor Code of the State of California, the Contractor is required to secure the payment of compensation to its employees and for that purpose obtain and keep in effect adequate Workers' Compensation Insurance. If the Contractor, in the sole discretion of the District, satisfies the District of the responsibility and capacity under the applicable Workers' Compensation Laws, if any, to act as self-insurer, the Contractor may so act, and in such case, the insurance required by this paragraph need not be provided. The Contractor is advised of the provisions of Section 3700 of the Labor Code, which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that code, and shall comply with such provisions and have Employers' Liability limits of **\$1,000,000** per accident and per employee, and in the aggregate for injury by disease, before commencing the performance of the work of this Contract. Before the Notice to Proceed with the Work under this Contract is issued, the Contractor shall submit written evidence that the Contractor has obtained for the period of the Contract Workers' Compensation and Employer's Liability Insurance as required for all persons whom it employs or may employ in carrying out the work under this Contract. Such evidence of coverage shall be accompanied by an endorsement from the insurer agreeing to waive all rights of subrogation against the District, its officers, officials, employees, agents and volunteers, the Design Consultants, the Construction Manager and their agents, consultants and employees which might arise by reason of any payment under the policy. This insurance shall be in accordance with the requirements of the most current and applicable State Workers' Compensation Insurance Laws.

8.8.3.2 Commercial General Liability and Automobile Liability Insurance - This insurance shall protect the Contractor from claims for bodily injury, personal injury and property damage which may arise because of the nature of the work or from operations under this Contract. The Commercial General Liability Insurance shall be maintained for five (5) years after final completion and shall provide coverage on an occurrence basis.

a. Additional Insureds - The Commercial General Liability and Automobile Policies of insurance shall include as additional insureds or be endorsed to contain the following provisions the "entities" listed

below and each of their partners, officers, officials, employees, agents and volunteers are to be covered as insureds as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, occupied or used by the Contractor and or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the "entities" and each of their partners, officers, officials, employees, agents and volunteers and coverage provided to such additional insured. This policy shall provide coverage to each of the said insureds with respect to said work. Said policy shall provide primary coverage to the full limit of liability stated in the declarations.

Las Gallinas Valley Sanitary District
300 Smith Ranch Road
San Rafael, CA 94903

Design Engineer: TBD
Construction Manager: TBD
District Consultants: TBD
Other Public Agencies Having Jurisdiction

- b. (1) Amount of Coverage (General Contractor) - The bodily injury, personal injury and property damage liability of the Commercial General Liability insurance shall provide coverage in the following limits of liability: **\$3,000,000** on account of anyone occurrence for bodily injury and property damage, **\$3,000,000** personal and advertising injury limit with an annual general aggregate limit of not less than **\$3,000,000**, and **\$3,000,000** products and completed operations aggregate, combined single limit. The Automobile Liability insurance policy shall provide minimum limits of **\$3,000,000** per accident for bodily injury and property damage and **\$3,000,000** policy aggregate arising out of the ownership, maintenance, or use of any owned or non-owned vehicles.
- (2) Amount of Coverage for Subcontractors - The bodily injury, personal injury and property damage liability of the Commercial General Liability insurance shall provide coverage in the following limits of liability: **\$1,000,000** on account of anyone occurrence for bodily injury and property damage **\$1,000,000** personal and advertising injury limit with an annual general aggregate limit of not less than **\$1,000,000**, and **\$1,000,000** products and completed operations aggregate, combined single limit. The Automobile Liability insurance policy shall provide minimum limits of **\$1,000,000** per accident and **\$1,000,000** policy aggregate arising out of the ownership, maintenance, or use of any owned or non-owned vehicles.
- c. Subcontractors - The bodily injury and property damage liability insurance shall not be deemed to require the Contractor to have its subcontractors named as insureds in the Contractor's policy, but the

policy shall protect the Contractor from contingent liability which may arise from operations of its subcontractors.

d. Included Coverage - The above Commercial General Liability insurance shall also include the following coverage:

- Premises – Operations
- Independent Contractors
- Products - Completed Operations
- Personal Injury - (False Arrest, Libel, Wrongful Eviction, etc.)
- Advertising Injury
- Broad Form Property Damage, Including, Completed Operations
- Separation of Insureds/Cross-Liability Provision
- Duty to Defend all Insureds
- Deletion of any Limitation on Coverage for Bodily Injury or Property Damage Arising out of Subsidence or Soil or Earth Movement
- Separate Aggregate - A provision that the annual general aggregate and the products and completed operations annual aggregate shall apply separately to each project for which Contractor provides services away from premises owned by or rented to Contractor.
- XCU - (Explosion, Collapse, and Underground Damage) is applicable to operations performed by the Contractor or its subcontractors.
- Blanket Contractual Liability

8.8.3.3 Commercial Umbrella Policy. The Commercial policy is to insure losses above General liability, Employers liability, Auto liability, and Contractor's Pollution Legal liability limits. The Contractor may use an umbrella policy to meet the limit requirements of Section 8.8.3.2.b(1). However, any such umbrella/excess policy must be approved by the District and maintain an A.M. Best Rating of no less than A:VII.

8.8.3.4 Builders Risk. (Not Required)

8.8.3.5 Contractor's Pollution Legal Liability. Coverage for liability because of third-party claims for bodily injury and/or property damage, including insurance for remediation costs stemming from pollution incidents resulting from the contractor's operations.

8.8.4 The insurance furnished by the Contractor must be primary in the amount of any loss.

8.8.5 Any deductibles or self-insured retentions must be declared to and approved by the District.

8.8.6 Submit required insurance endorsement forms and other requirements.

8.8.7 For each insurance policy required under the Agreement except for the required workers compensation insurance policy, the Contractor must provide

endorsements that add the District, its officers, officials, employees, and volunteers, as an additional insured. Such endorsements must: provide that the insurance required to be furnished by the Contractor will be primary as regards the District, its officers, officials, employees, and volunteers, and that the District's insurance will be excess of and not contribute to the insurance required to be furnished by the Contractor; that the District will receive 30-calendar day written notice of any reduction or cancellation of such insurance required to be furnished by the Contractor; and include a severability of interest clause acceptable to the District. Said endorsement shall be at least as broad as Insurance Services Office form number CG20 10 11 85 (Modified).

- 8.8.8 Contractor hereby grants to District a waiver of subrogation which any insurer may acquire against District, its officers, officials, employees, and volunteers, from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation but this provision applies regardless of whether or not the District has received a waiver of subrogation endorsement from the insurer.
- 8.8.9 The Contractor shall not allow any subcontractor to commence work on its subcontract until all similar insurance required of the subcontractor, except Builder's Risk Insurance, has been obtained and verified by the Contractor and submitted to the Construction Manager for the District's review and records. Subcontractors shall furnish original certificates and required endorsements as verification of insurance coverage. The insurance liability limits specified in Sections 8.8.3.2.a(2), shall also apply for all subcontractors. The Contractor shall designate the required insurance liability limits for all other subcontractors.
- 8.8.10 Proof of Coverage - Before the Notice to Proceed with the Work under this Contract is issued, the Contractor shall furnish the District with certificate(s) evidencing issuance of all insurance mentioned herein, copies of the policy declaration or information page(s) and additional insured endorsements. The certificate(s) and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The endorsements are to be on forms or equivalent endorsement forms acceptable to the District. The certificate(s), policy declaration or information page(s), and endorsements are to be received and approved by the District before work commences. Except for the waiver of subrogation rights endorsements, no other endorsements are required for Workers Compensation or Builder's Risk Insurance. Such certificates of Insurance shall provide that the insurance policy shall be endorsed to state that coverage shall not be suspended, voided, cancelled by either party, reduced in coverage or limits except after thirty (30) calendar days prior written notice by certified mail, return receipt requested, has been given to the District. Contractor shall also provide certificate(s) evidencing renewals of all insurance required herein, at least thirty (30) calendar days prior to the expiration date of any such insurance.

Any deductibles or self-insured retentions must be declared to and approved by the District. At the option of the District, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the District, the Design Consultants and the Construction Manager and their officers, officials, employees, agents and volunteers; or the Contractor shall procure a

bond guaranteeing payment of losses and related investigations, claim administration and defense expenses. In the event of the breach of any provision of this paragraph, or in the event of any notices received which indicates any required insurance coverage will be diminished or canceled, District, at its option, may, notwithstanding any other provisions of this Agreement to the contrary, immediately declare a material breach of this Agreement and suspend all further work pursuant to this Agreement.

8.8.11 Insurance During Guarantee Period

For all work the Contractor or its subcontractors perform during the guarantee period, workers compensation, and commercial general liability insurance in the amounts and format required herein, shall remain in force and shall be maintained for five (5) years after final completion.

8.9 Indemnities.

- 8.9.1 The Contractor will take all responsibility for the Work, and will bear all losses and damages directly or indirectly resulting to the Contractor, any subcontractors engaged in performance of the Work, the District, its officials, officers, employees, agents, volunteers and consultants, and to third parties on account of the performance or character of the Work, unforeseen difficulties, accidents, or occurrences of other causes predicated on active or passive negligence of the Contractor or of any subcontractor engaged in performance of the Work. To the fullest extent permitted by law the Contractor will indemnify, defend and hold harmless the District, its officials, officers, employees, agents, volunteers and consultants from and against any or all loss, liability, expense, claims, costs (including costs of defense), suits, and damages of every kind, nature and description (including, but not limited to, penalties resulting from exposure to hazards in violation of the California Labor Code) directly or indirectly arising from the performance of the Work ("Claims").
- 8.9.2 The Contractor will indemnify, defend and hold harmless the District, the District's officials, officers, employees, volunteers, agents and the District Engineer and Architect for all liability on account of any patent rights, copyrights, trade names or other intellectual property rights that may apply to the Contractor's performance of the Work. The Contractor will pay all royalties or other charges as a result of intellectual property rights that may apply to methods, types of construction, processes, materials, or equipment used in the performance of the Work, and will furnish written assurance satisfactory to the District that any such charges have been paid.
- 8.9.3 The Contractor assumes all liability for any accident or accidents resulting to any person or property as a result of inadequate protective devices for the prevention of accidents in connection with the performance of the Work. The Contractor will indemnify, defend, and hold harmless the District and its officials, officers, employees, agents, volunteers and consultants from such liability.
- 8.9.4 Approval of the Contractor's certificates of insurance and/or endorsements does not relieve the Contractor of liability under this Section 8.9. The Contractor will defend, with legal counsel reasonably acceptable to the District,

any action or actions filed in connection with any Claims and will pay all related costs and expenses, including attorney's fees incurred. The Contractor will promptly pay any judgment rendered against the District, its officials, officers, employees, agents, volunteers or consultants for any Claims. In the event the District, its officials, officers, employees, agents, volunteers or consultants is made a party to any action or proceeding filed or prosecuted against Contractor for any Claims, Contractor agrees to pay the District, its officials, officers, employees, agents, volunteers and consultants any and all costs and expenses incurred in such action or proceeding, including but not limited to, reasonable attorneys' fees.

8.9.5 In accordance with California Civil Code Section 2782(a), nothing in the Agreement will be construed to indemnify the District for its sole negligence, willful misconduct, or for defects in design furnished by District. In accordance with California Civil Code Section 2782(b), nothing in the Agreement will be construed to impose on the Contractor or to relieve the District from liability for the District's active negligence. By execution of the Contract Documents the Contractor acknowledges and agrees that the Contractor has read and understands the insurance and other requirements of Agreement, and this Section 8.9, which is a material element of consideration.

8.10 Licenses/Permits. The Contractor must, without additional expense to the District, obtain all licenses, permits and other approvals required for the performance of the Work.

8.11 California Labor Code Requirements.

8.11.1 In accordance with California Labor Code Section 1810, eight (8) hours of labor in performance of the Work shall constitute a legal day's work under the Agreement.

8.11.2 In accordance with California Labor Code Section 1811, the time of service of any worker employed in performance of the Work is limited to eight hours during any one calendar day, and forty hours during any one calendar week, except in accordance with California Labor Code Section 1815, which provides that work in excess of eight hours during any one calendar day and forty hours during any one calendar week is permitted upon compensation for all hours worked in excess of eight hours during any one calendar day and forty hours during any one calendar week at not less than one-and-one-half times the basic rate of pay. However, if the prevailing wage determination requires a higher rate of pay for overtime than is required under Section 1815, then the overtime rate must be paid, as specified in California Code of Regulation Title 8, Group 3, Section 16200(a)(3)(F).

8.11.3 In accordance with California Labor Code Section 1813, the Contractor and its subcontractors will forfeit as a penalty to the District \$25 for each worker employed in the performance of the Work for each calendar day during which the worker is required or permitted to work more than eight (8) hours in any one calendar day, or more than forty (40) hours in any one calendar week, in violation of the provisions of California Labor Code Section 1810 et seq.

- 8.11.4 In accordance with California Labor Code Section 1773.2, the District has determined the general prevailing wages in the locality in which the Work is to be performed for each craft or type of work needed to be as published by the State of California Department of Industrial Relations, Division of Labor Statistics and Research, a copy of which is on file in the office of the District Engineer and shall be made available on request. The Contractor and subcontractors engaged in the performance of the Work shall pay no less than these rates to all persons engaged in performance of the Work.
- 8.11.5 In accordance with California Labor Code Section 1775, the Contractor and any subcontractors engaged in performance of the Work must comply with Labor Code Section 1775 which establishes a penalty of up to \$200 per day for each worker engaged in the performance of the Work that the Contractor or any subcontractor pays less than the specified prevailing wage. The amount of such penalty shall be determined by the Labor Commissioner. The Contractor or subcontractor shall pay the difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate. If a subcontractor worker engaged in performance of the Work is not paid the general prevailing per diem wages by the subcontractor, the Contractor is not liable for any penalties therefore unless the Contractor had knowledge of that failure or unless the Contractor fails to comply with all of the following requirements:
- 8.11.5.1 The contract executed between the Contractor and the subcontractor for the performance of part of the Work must include a copy of the provisions of California Labor Code Sections 1771, 1775, 1776, 1777.5, 1813, and 1815.
- 8.11.5.2 The Contractor must monitor payment of the specified general prevailing rate of per diem wages by the subcontractor by periodic review of the subcontractor's certified payroll records.
- 8.11.5.3 Upon becoming aware of a subcontractor's failure to pay the specified prevailing rate of wages, the Contractor must diligently take corrective action to halt or rectify the failure, including, but not limited to, retaining sufficient funds due the subcontractor for performance of the Work.
- 8.11.5.4 Prior to making final payment to the subcontractor, the Contractor must obtain an affidavit signed under penalty of perjury from the subcontractor that the subcontractor has paid the specified general prevailing rate of per diem wages employees engaged in the performance of the Work and any amounts due pursuant to California Labor Code Section 1813.
- 8.11.6 In accordance with California Labor Code Section 1776, the Contractor and each subcontractor engaged in performance of the Work, must keep accurate payroll records showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in performance of the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty

of perjury, stating that the information contained in the payroll record is true and correct and that the employer has complied with the requirements of Sections 1771, 1811, and 1815 for any work performed by the employer's employees on the public works project. The payroll records required pursuant to California Labor Code Section 1776 must be certified and must be available for inspection by the District and its authorized representatives, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations and must otherwise be available for inspection in accordance with California Labor Code Section 1776.

- 8.11.7 In accordance with California Labor Code Section 1777.5, the Contractor, on behalf of the Contractor and any subcontractors engaged in performance of the Work, will be responsible for ensuring compliance with California Labor Code Section 1777.5 governing employment and payment of apprentices on public works contracts.

Apprentices - Prior to commencing the Work, Contractor shall comply with the provisions of Labor Code 1777.5, including but not limited to the submission of contract award information to an applicable apprenticeship program that can supply apprentices to the site of the Work. Such information shall include an estimate of journeyman hours to be performed under this Contract, the number of apprentices proposed to be employed, and the approximate dates the apprentices would be employed. A copy of this information shall be submitted to the District if requested by the District.

A determination by the Chief of the Division of Apprenticeship Standards that Contractor or its subcontractors have knowingly violated Labor Code 1777.5 shall forfeit as a civil penalty an amount not exceeding one hundred dollars (\$100) for each full calendar day of noncompliance. Contractor or its subcontractor, who knowingly commits a second or subsequent violation of Labor Code 1777.5 within a three-year period, where the noncompliance results in apprenticeship training not being provided as required, shall forfeit as a civil penalty the sum of not more than three hundred dollars (\$300) for each full calendar day of noncompliance. Upon the receipt of a determination that a civil penalty has been imposed by the Chief of the Division of Apprenticeship Standards, the District shall withhold the amount of the civil penalty from the next progress payment then due or to become due Contractor.

- 8.11.8 In case it becomes necessary for the Contractor or any subcontractor engaged in performance of the Work to employ on the Work any person in a trade or occupation (except executive, supervisory, administrative, clerical, or other non-manual workers as such) for which no minimum wage rate has been determined by the Director of the Department of Industrial Relations, the Contractor must pay the minimum rate of wages specified therein for the classification which most nearly corresponds to Work to be performed by that person. The minimum rate thus furnished will be applicable as a minimum for such trade or occupation from the time of the initial employment of the person affected and during the continuance of such employment.

- 8.11.9 Labor Discrimination. Attention is directed to Section 1735 of the Labor Code, which reads as follows:

"No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age or sexual orientation of such persons, except as provided in Section 12940 of the Government Code, and every contractor for public works violating this section is subject to all the penalties imposed for violation of this chapter."

8.11.10 Receipt of Workers' Wages, Fee for Registering or Placing Persons In Public Works - Attention is directed to the provisions of sections 1778 and 1779 of the California Labor Code, which read as follows:

"Section 1778. Every person, who individually or as a representative of an awarding or public body or officer, or as a contractor or subcontractor doing public work, or agent or officer thereof, who takes, receives or conspires with another to take or receive, for its own use or the use of any other person any portion of the wages of any workman or working subcontractor, in connection with services rendered upon any public work is guilty of a felony."

"Section 1779. Any person or agent or officer thereof who charges, collects, or attempts to charge or collect, directly or indirectly, a fee or valuable consideration for registering any person for public work, or for giving information as to where such employment may be procured, or for placing, assisting in placing, or attempting to place, any person in public work, whether the person is to work directly for the state, or any political subdivision or for a contractor or subcontractor doing public work is guilty of a misdemeanor."

8.12 Laws and Ordinances. The Contractor and all subcontractors engaged in the performance of the Work must conform to the following specific rules and regulations as well as all other laws, ordinances, rules and regulations that apply to the Work. Nothing in the Technical Specifications or Drawings is to be construed to permit Work not conforming to these codes:

National Electrical Safety Code, U. S. Department of Commerce
National Board of Fire Underwriters' Regulations
California Building Standards Code as adopted by the District
Manual of Accident Prevention in Construction, latest edition, published by A.G.C. of America
Industrial Accident Commission's Safety Orders, State of California
Regulations of the State Fire Marshall (Title 19, California Code of Regulation) and Applicable Local Fire Safety Codes
Labor Code of the State of California - Division 2, Part 7, Public Works and Public Agencies.

8.13 Guaranty. The Contractor guarantees all of the Work for one year from the date the District accepts the Work. Upon receiving written notice of a need for repairs which are directly attributable to defective materials or workmanship the Contractor must make good any defects arising or discovered in any part of the Work by diligently commencing the necessary repairs within seven (7) calendar days from the date of notice from the District. If the Contractor fails to make good any defects in the Work in accordance with this provision, in addition to any other available remedy under the contract or at law or equity, the District may make good or have made good such

defects in the Work and deduct the cost from amounts that may be due or become due the Contractor, and for the cost of making good such defects and for the District's reasonable legal costs, if any, of recovering against the bond. The Contractor shall remain responsible for repairing any Work found to be defective regardless of when such defect is discovered by the District. See Drawings for other Guaranty/Warranty requirements for the project.

8.14 Safety.

8.14.1 Contractor's Safety Responsibility - The Contractor shall be solely and completely responsible for conditions of the jobsite, including safety of all persons and property during performance of the Work. This requirement shall apply continuously and not be limited to normal working hours. Safety provisions shall conform to U.S. Department of Labor (OSHA), the California Occupational Safety and Health Act (CalOSHA), and all other applicable Federal, State, County, and local laws, ordinances, codes, including but not limited to the requirements set forth below, and any regulations that may be detailed in other parts of these Contract Documents. In the event of conflicting requirements, the most stringent requirement as it pertains to the Contractor's safety responsibility, shall be followed by the Contractor.

No provision of the Contract Documents shall act to make the District, the Construction Manager, Design Consultant or any other party than the Contractor responsible for safety. The Contractor agrees that for purposes of California Labor Code Section 6400 and related provisions of law the Contractor, the Contractor's privities and any other entities acting pursuant to this contract will be "employers" responsible for furnishing employment and a place of employment that is safe and healthful for the employees, if any, of such entities acting pursuant to this contract and that neither the District nor the Construction Manager, Design Consultant or their respective officers, officials, employees, agents or volunteers or other authorized representatives will be responsible for having hazards corrected and /or removed at the location(s) where the work is to be performed. The Contractor agrees that neither the District nor the Construction Manager, Design Consultant or their respective officers, officials, employees, agents or volunteers or other authorized representatives will be responsible for taking steps to protect the Contractor's employees from such hazards, or for instructing the Contractor's employees to recognize such hazards or to avoid the associated dangers. The Contractor agrees that with respect to the work to be performed under this contract and the location(s) where such work is to be performed, the Contractor will be responsible for not creating hazards, and for having hazards corrected and/or removed. The Contractor agrees that through the safety obligations contained in this contract and the Contractor's own inspection of the site(s) where the contract work is to be performed, the Contractor is aware and has been notified of the hazards to which the Contractor's employees may be exposed in the performance of contract work. The Contractor has taken and/or will take appropriate, feasible steps to protect the Contractor's employees from such hazards, and has instructed and/or will instruct its employees to recognize such hazards and how to avoid the associated dangers. The Contractor agrees that neither the District nor the Construction Manager, Design Consultant or their respective officers, officials, employees, agents or volunteers or other

authorized representatives will be “employers” pursuant to California Labor Code Section 6400 and related provisions of law with respect to the Contractor, the Contractor's privities or other entities acting pursuant to this contract.

- 8.14.2 Review and inspection by the District, the District Engineer, the Architect or Engineer, and/or other representatives of the District of the Contractor's performance of the Work will not constitute review of the adequacy of the Contractor's safety measures in, on, or near the Work site. Such reviews and inspections do not relieve the Contractor of any of the Contractor's obligations under the Contract Documents and applicable law to ensure that the Work site is maintained and the Work is performed in a safe manner.
- 8.14.3 The Contractor will be solely responsible for the implementation and maintenance of safety programs to ensure that the Work site is maintained and the Work is performed in a safe manner in accordance with the Contract Documents and applicable law.
- 8.14.4 Safety Plan - Within seven (7) calendar days following Notice of Award the Contractor must submit to the District a copy of the Contractor's Safety Plan.

The Contractor shall establish, implement, and maintain a written injury prevention program as required by Labor Code Section 6401.7. Before beginning the Work, the Contractor shall prepare and file with the Construction Manager a written Contractor Safety Plan that provides for the implementation of all of the Contractor's safety responsibilities in connection with the Work at the Project site. The coordination of that program and its associated procedures and precautions with safety plans, precautions and procedures of each of its subcontractors and other Contractors performing work at the Project site. The Contractor shall be solely responsible for initiating, maintaining, monitoring, coordinating, and supervising all safety plans, precautions, and procedures in connection with the Work and for coordinating its programs, precautions, and procedures of the other contractors and subcontractors performing the Work at the Project site. The Safety Plan should contain all the necessary elements for the Contractor to administer its program on the Project site. At a minimum, this written Safety Plan shall address the elements required by Labor Code Section 6401.7.

The Contractor's compliance with requirements for safety and/or the Construction Manager's review of the Contractor's Safety Plan shall not relieve or decrease the liability of the Contractor for safety. The Construction Manager's review of the Contractor's Safety Plan is only to determine if the above listed elements are included in the program.

- 8.14.5 The Contractor must furnish and place proper guards and systems for the prevention of accidents, including, but not limited to, those systems required pursuant to Title 8, Section 1670 and following of the California Code of Regulations concerning safety belts and nets. The Contractor must provide and maintain any other necessary systems or devices required to secure safety of life or property at the Work site in accordance with accepted standards of the industry and applicable law. The Contractor must maintain during all night hours sufficient lights to prevent accident or damage to life or property.

8.14.6 The Contractor must comply with the District's Confined Space Entry Program shown in the Contract Documents.

8.14.7 The Contractor shall indemnify, defend and hold District and Construction Manager, Design Consultant and their respective officers, officials, employees, agents and volunteers or other authorized representatives harmless to the full extent permitted by law concerning liability related to the Contractor's safety obligations in accordance with the indemnification section of the Contract Documents.

If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Construction Manager and the District. In addition, the Contractor shall furnish the Construction Manager with a copy of the Employer's Report of Injury immediately following any incident requiring the filing of said report during the prosecution of the Work under this Contract. The Contractor shall also furnish the Construction Manager with a copy of the Employer's Report of Injury involving any subcontractors on this Project. The Contractor shall make all reports as are, or may be, required by any authority having jurisdiction, and permit all safety inspections of the Work being performed under this Contract.

If a claim is made by anyone against the Contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Construction Manager, giving full details of the claim.

8.14.8 Safety Supervisor - The Contractor shall appoint an employee as safety supervisor who is qualified and authorized to supervise and enforce compliance with the Safety Program. The Contractor shall notify the Construction Manager in writing prior to the commencement of work of the name of the person who will act as the Contractor's Safety Supervisor and furnish the safety supervisor's resume to the Construction Manager.

Contractor will, through and with its Safety Supervisor, ensure that all of its employees, and its subcontractors of any tier, fully comply with the Project Safety Policies. The Safety Supervisor shall be a full-time employee of the Contractor whose responsibility shall be for supervising compliance with applicable safety requirements on the Project site and for developing and implementing safety training classes for all job personnel. The District shall have the authority to require removal of the Contractor's Safety Supervisor if the representative is judged to be improperly or inadequately performing the duties; however, this authority shall not in any way affect the Contractor's sole responsibility for performing this work safely, nor shall it impose any obligation upon the District to ensure the Contractor performs its work safely.

8.14.9 Safety and Protection - The Contractor shall take all necessary precautions to prevent damage, injury, and loss to:

- All employees on the Project, employees of all subcontractors, and other persons and organizations who may be affected thereby;

- All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
- Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, wetlands, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction, even if not shown on the Contract Drawings.

The Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify owners of adjacent property and of underground facilities and utility districts when prosecution of the Work may affect them and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any subcontractor, supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by the Contractor, and the Contractor shall be responsible for any direct or indirect costs resulting from such damage, injury or loss.

- 8.14.10 Excavation Safety - In accordance with the provisions of Section 6705 of the Labor Code, the Contractor shall submit, in advance of excavation of any trench or trenches five feet or more in depth, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plans vary from the shoring system standards set forth in the Construction Safety Orders of the Division of Industrial Safety in Title 8, Subchapter 4, Article 6, California Code of Regulations, the plans shall be prepared and signed by a registered civil or structural engineer employed by the Contractor, and all costs therefor shall be included in the price named in the Contract for completion of the work as set forth in the Contract Documents. Nothing in this section shall be deemed to allow the use of a shoring, bracing, sloping, or other protective system less effective than that required by the Construction Safety Orders. Nothing in this section shall be construed to impose a tort liability on the District, the Design Consultant, the Construction Manager, nor any of their officers, officials, employees, agents, consultants or volunteers. The District's review of the Contractor's excavation plan is only for general conformance to the Construction Safety Orders.

Prior to commencing any excavation, the Contractor shall designate in writing to the Construction Manager the "competent person(s)" with the authority and responsibilities designated in the Construction Safety Orders.

- 8.14.11 Safety Emergencies - In emergencies affecting the safety or protection of persons or the Work or property at the Project site or adjacent thereto, the Contractor, without special instruction or authorization from the Construction Manager, is obligated to act to prevent threatened damage, injury or loss. The Contractor shall give the Construction Manager prompt written notice if the

Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby.

- 8.14.12 Safety Violations - Should the Contractor fail to correct an unsafe condition, the District shall have the right to notify the Contractor through the Construction Manager that an unsafe condition may exist and must be corrected or the work in question can be stopped in accordance with Section 7.8, Suspension of Work until the condition is corrected to the satisfaction of the District. No extension of time or additional compensation will be granted as a result of any stop order so issued. The notification and suspension of such work or the failure to provide such notification and suspension by the District shall not relieve the Contractor of its sole responsibility and liability for safety and the correction of any unsafe conditions.

The District shall have the authority to require the removal from the project of any worker and the foreman and/or superintendent in responsible charge of the work where safety violations occur.

- 8.14.13 Equipment Safety Provisions - The completed Work shall include all necessary permanent safety devices, such as machinery guards and similar safety items, required by the State and Federal (OSHA) industrial authorities and applicable local and national codes. Further, any features of the Work, including District -selected equipment, subject to such safety regulations shall be fabricated, furnished, and installed in compliance with these requirements. All equipment furnished shall be grounded and provided guards and protection as required by safety codes. Where vapor-tight or explosion-proof electrical installation is required by safety codes, this shall be provided. Contractors and manufacturers of equipment shall be held responsible for compliance with the requirements included herein. The Contractor shall notify all equipment suppliers and subcontractors of the provisions of this paragraph.

- 8.14.14 Confined Spaces – The Project requires work in confined spaces and requires compliance with CAL/OSHA and Federal OSHA requirements. Confined spaces for the purposes of this section shall be as defined by the Division of Industrial Safety. Notwithstanding any classifications relative to the Tunnel Safety Orders, work within confined spaces of this project is subject to the definitions and applicable provisions of Section 5156 et. seq., Title 8, Division 1, Chapter 4, Subchapter 7, Group 16, Article 108 of California Code of Regulations.

Entry into existing “permit” confined spaces as defined by OSHA shall be allowed only in compliance with a confined space entry permit program by the Contractor that meets the requirements of CAL/OSHA Section 5157. While the District has identified certain existing facilities as confined spaces other confined spaces may exist on the Project. It shall be the responsibility of the Contractor to identify and classify these confined spaces.

Sources of ignition, including smoking, shall be prohibited in any confined space.

It is anticipated that the Contractor may encounter hazardous conditions within these confined spaces which include, but are not limited to the following:

- A. Exposure to hydrogen sulfide, methane, carbon dioxide and other gases and vapors commonly found in municipal sewers which could have or has the potential of having Immediate Danger to Life or Health Conditions (IDLH).
- B. Exposure to atmosphere containing insufficient oxygen to support human life.
- C. Exposure to combustible, flammable and/or explosive atmosphere.
- D. Exposure to sewage which may contain bacteriological, chemical and other constituents harmful to humans.
- E. Work in conditions where engulfment or entrapment may occur.
- F. Work in environments which may be slippery and/or have uneven work surfaces.
- G. Work in structures which have limited and/or restricted access and egress.
- H. Work in structures where workers may trip, slip and/or fall several feet.
- I. See Appendices "Contractor Safe Work Requirements" and "Confined Space Entry Program" for additional requirements. Copies of confined space permits shall be submitted to the District weekly.

8.14.15 Construction Activity Permits - The Contractor must submit a copy of its respective current DOSH permit before beginning work on any the following construction activities:

- A. Construction of trenches or excavations which are five feet or deeper and into which a person is required to descend.
- B. Construction of any building, structure, scaffolding or falsework more than three stories high or the equivalent height (36 feet).
- C. Demolition of any building or structure, or dismantling of scaffolding or falsework more than three stories high or the equivalent height (36 feet).
- D. Erection or dismantling of vertical shoring systems more than three stories high, or the equivalent height (36 feet).

8.14.16 Public Safety and Convenience – In accordance with the provisions of Section 6500 of the Labor Code the Contractor shall conduct his work so as to ensure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the Work and to ensure the protection of persons and property. No road or street shall be closed to the public except

with the permission of the Construction Manager and the proper governmental authority. Fire hydrants on or adjacent to the Work shall be accessible to firefighting equipment. Temporary provisions shall be made by the Contractor to ensure the use of sidewalks, private and public driveways and proper functioning of gutters, sewer inlets, drainage ditches and culverts, irrigation ditches and natural water courses. To the maximum extent permitted by law, Contractor shall indemnify, hold harmless and defend District from any and all liability, including attorneys' fees and costs of litigation, arising from any failure to comply with this section by Contractor or its privities.

- 8.15 Assignment of Unfair Business Practice Claims. In accordance with California Public Contract Code Section 7103.5, the Contractor and any subcontractors offer and agree to assign to the District all rights, title, and interest in and to all causes of action the Contractor or any subcontractors may have under Section 4 of the Clayton Act (15 U.S.C. § 15) or under the Cartwright Act (Chapter 2 (commencing with § 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or materials pursuant to this contract. This assignment shall be made and become effective at the time the District tenders final payment to the Contractor, without further acknowledgement by the parties.

9. MEASUREMENT AND PAYMENT

- 9.1 F.O.B. All shipments must be F.O.B. destination to the Work site and/or other sites indicated in the Contract Documents. The Contract Price is all-inclusive (including sales tax). There shall be no additional compensation paid for containers, packing, unpacking, drayage or insurance.

9.2 Payment

- 9.2.1 On or about the first day of each calendar month the Contractor will submit to the District Engineer a verified application for payment and schedule of values supported by a statement showing all materials actually installed during the preceding month and the cost of labor actually expended in the performance of the Work. Unless otherwise provided in the Contract Documents, no allowances or payments will be made for material or equipment not placed at the Work site.
- 9.2.2 To be eligible for payment the Contractor's applications for payment must include certified payroll reports prepared in accordance with California Labor Code Section 1776 and the Agreement for each employee of the Contractor and any subcontractors engaged in the performance of the Work during the preceding months, applications for payment will not be processed without certified payroll reports.
- 9.2.3 In accordance with California Public Contract Code Section 20104.50, the District will review applications for payment as soon as practicable after receipt. Any application or part of an application that is determined to be improper will be returned to the Contractor as soon as practicable, but no later than seven (7) calendar days after receipt by the District, along with a written description of the reasons why the application is improper. The Contractor's failure to submit a schedule in the time specified in Section 3.8, or its submission of a schedule to

which the District has taken any uncorrected exception, shall serve as a basis for returning an application for payment in its entirety.

- 9.2.4 Unless the Contractor has elected to post securities in lieu of retention in accordance with California Public Contract Code Section 22300 and the Agreement, and the Contractor and the District have executed an escrow agreement in accordance with the Public Contract Code and the Agreement, the District will make progress payments to the Contractor in accordance with applicable law in the amount of 95 percent of the value of the labor actually performed and the material incorporated in the Work as specified in Contractor's verified application for payment upon approval by the District's authorized representative(s). Payment of progress payments will not be construed as acceptance of the Work performed. If the Contractor has elected to post securities in lieu of retention in accordance with Public Contract Code Section 22300 and the Agreement and the Contractor and the District have executed an escrow agreement in accordance with the Public Contract Code and the Agreement, the District will make payments to the Contractor or the Contractor's escrow agent in accordance with such escrow agreement.
- 9.2.5 The District will pay the Contractor's final invoice in accordance with applicable law and this Section 9 following acceptance of the Work provided that:
- 9.2.5.1 The Contractor has furnished evidence satisfactory to the District that all claims for labor and material have been paid, or the time for filing valid stop notices has passed and no stop notices have been filed, or all stop notices filed have been released by valid release or release bond acceptable to the District.
- 9.2.5.2 No claim has been presented to the District by any person based upon any acts or omissions of the Contractor or any subcontractor engaged in the performance of the Work.
- 9.2.5.3 No other claim or dispute exists under the Agreement or applicable law concerning payment of the Contractor's final invoice and/or release of the Agreement retention.
- 9.2.5.5 The Contractor's application for final payment contains a written waiver of all claims against the District of which the Contractor may not yet asserted at the time of the submission of the application for final payment.
- 9.2.5.6 In accordance with California Public Contract Code Section 7107, the final payment or release of retention shall not be due and payable until the expiration of 35 days from the date of recording the Notice of Completion by the District.
- 9.2.6 In accordance with California Public Contract Code Section 20104.50, if the District fails to make a progress payment within 30 calendar days of receipt of an undisputed, properly submitted application for payment, the District will pay the Contractor interest equivalent to the legal rate set forth in subdivision (a) of California Code of Civil Procedure Section 685.010. The number of calendar days available to the District to make a payment without incurring an interest

obligation pursuant to this provision and California Public Contract Code Section 20104.50 will be reduced by the number of calendar days, if any, by which the District has delayed return of an application for payment beyond the seven day return requirement set forth in Section 9.2.5.

- 9.3 Non-Allowable Direct Charges. The following costs are not allowable direct charges under the Agreement. The following costs may only be paid under the Agreement, if at all, as part of any allowance for contractor overhead and/or profit established under the Agreement.
- 9.3.1 Labor costs in excess of applicable prevailing wages pursuant to the Agreement and applicable law, liability and workers compensation insurance, social security, retirement and unemployment insurance and other employee compensation and benefits pursuant to bona fide compensation plans in effect at the time specified for the opening of Project bids for contractor and subcontractor employees engaged in the performance of the Work. However, in no event will allowable direct labor charges under the agreement include employee bonuses, employee vehicles or vehicle allowances, employee telephones or telephone allowances, or employee housing or housing allowances, whether or not such benefits are part of a bona fide compensation plan in effect at the time specified for the opening of Project bids.
 - 9.3.2 Superintendent labor and clerical labor.
 - 9.3.3 Bond premiums
 - 9.3.4 Insurance in excess of that required under Section 8.8
 - 9.3.5 Utility costs
 - 9.3.6 Work Site office expenses
 - 9.3.7 Home office expenses.
- 9.4 Withhold. The District or its agent may, in accordance with the Contract Documents and applicable law, withhold any payment of monies due or that may become due the Contractor because of:
- 9.4.1 Defective work not remedied or uncompleted work.
 - 9.4.2 Claims filed or reasonable evidence indicating probable filing of claims.
 - 9.4.3 Failure to properly pay subcontractors or to pay for material or labor.
 - 9.4.4 Reasonable doubt that the Work can be completed for the balance then unpaid.
 - 9.4.5 Damage to another contractor.
 - 9.4.6 Damage to the District.
 - 9.4.7 Damage to a third party.

- 9.4.8 Delay in the progress of the Work, which, in the District's judgment, is due to the failure of the Contractor to properly expedite the Work.
- 9.4.9 Liquidated damages or other charges that apply to the Contractor under the Agreement.
- 9.4.10 Any other lawful basis for withholding payment under the contract.
- 9.4.11 Failure of the Contractor to maintain record documents and as-built drawings (as-needed).
- 9.4.12 Cost of insurance arranged by the District due to cancellation or reduction of the Contractor's insurance.
- 9.4.13 Failure to submit, revise, resubmit or otherwise conform to the requirements herein for preparing and maintaining a construction schedule.
- 9.4.14 Failure to make proper submissions, as specified herein.
- 9.4.15 Stop Notice claims filed by Contractor's subcontractors, of any tier, or its material suppliers.
- 9.4.16 Provisions of law that enable or require the District to withhold such payments in whole or in part.
- 9.4.17 Failure to comply with environmental or other regulatory requirements.
- 9.4.18 Failure of Contractor to submit Operation and Maintenance Manuals.
- 9.5 Securities in Lieu of Retention.
 - 9.5.1 In accordance with Public Contract Code Section 22300, except where federal regulations or polices do not permit substitution of securities, the Contractor may substitute securities for any moneys withheld by the District to ensure performance of the Work. At the Contractor's request and expense, securities equivalent to the amount withheld will be deposited with the District, or with a state or federally chartered bank in California as the escrow agent, who will then pay those moneys to the Contractor under the terms of an Escrow for Security Deposit agreement. The Escrow for Security Deposit agreement is provided in the Contract Documents. Upon satisfactory completion of the Work, the securities will be returned to the Contractor.
 - 9.5.2 Alternatively, at the Contractor's request and expense, the District will pay retentions earned directly to the escrow agent. At the Contractor's expense, the Contractor may direct investment of the payments into securities. Upon satisfactory completion of the Work, the Contractor will receive from the escrow agent all securities, interest, and payments received by the escrow agent from the District pursuant to this provision and the terms of the Escrow for Security Deposit agreement. The Contractor will, within twenty (20) working days of receipt of payment, pay to each subcontractor the respective amount of interest earned, less costs of retention withheld from each Subcontractor, on monies withheld to ensure the Contractor's performance of the Work.

- 9.5.3 Securities eligible for investment in accordance with this provision include those listed in Government Code Section 16430, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the Contractor and the District.
- 9.5.4 The Contractor will be the beneficial owner of any securities substituted for moneys withheld and will receive any interest thereon.

10. PROJECT ACCEPTANCE AND CLOSEOUT

10.1 Occupancy. The District reserves the right to occupy or use any part or parts or the entire of the Work before the Work is fully performed. Subject to applicable law, exercising this right will in no way constitute acceptance of any part of the Work so occupied or used or acceptance of the entire Work, nor will such occupancy or use in any way affect the times when payments will become due the Contractor, nor will such occupancy or use in any way prejudice the District's rights under the Agreement, any Agreement bonds, or at law or equity. Occupancy or use shall not waive the District's rights to assess liquidated damages in accordance with Section 7 after the date of such occupancy or use.

10.2 Work Completion and Final Inspection.

10.2.1 Certificate of Completion. When the Contractor considers the Work is completed, the Contractor will submit written certification to the District Engineer specifying that: the Contract Documents have been reviewed; the Work has been inspected for compliance with the Contract Documents; the Work has been completed in accordance with the Contract Documents; and that equipment and systems have been tested in the presence of the District's representative and are operational. The District and/or the District's authorized representatives will make an inspection to verify that the Work is complete and will notify the Contractor in writing of any incomplete or deficient Work. The Contractor will take immediate steps to remedy the stated deficiencies and give notice of correction to the District Engineer. Upon receiving a notice of correction, the District or the District's authorized representatives will re-inspect the Work. The Contractor must correct all punch list items within 15 working days after the issuance of the punch list.

10.2.2 Project Record Drawings/As-Builts (**As Needed**). Before acceptance of the Work the Contractor must submit:

1. One set of Project Record Drawings, based on the Conformed Set, in 24 x 36 and 11 x 17 sheets.
2. Project Record Drawings, based on the Conformed Set, in AutoCad (.DWG) and portable document file (.PDF) formats.
3. Equipment operating and maintenance instructions and data: one set of hard copy, and one scanned set in portable document file (.PDF) format.
4. Miscellaneous construction-related documents, studies, reports, etc., obtained or developed by the contractor during construction of the project in portable document file (.PDF) format.
5. Warranties, etc.

10.3 Work Acceptance.

- 10.3.1 All finished Work will be subject to inspection and acceptance or rejection by the District, the District Engineer, and the Architect or Engineer and other government agencies having jurisdiction over the Work. Final acceptance of the Work will be at the discretion of the District.
- 10.3.2 The District will accept the Work in writing only when the Work has been completed to the District's reasonable satisfaction. Progress payments will in no way be construed as acceptance of any part of the Work.
- 10.3.3 In evaluating the Work, no allowance will be made for deviations from the Technical Specifications, Drawings or other Contract Documents unless already approved in writing in accordance with the requirements of Section 4, above.
- 10.3.4 The fact that the Work and materials have been inspected from time to time and that progress payments have been made does not relieve the Contractor of the responsibility of replacing and making good any defective or omitted work or materials in accordance with the requirements of the Contract Documents.

11. REMEDIES AND DISPUTES

- 11.1 Failure to Correct Work. Within ten (10) working days of receiving written notice from the District describing Work that is defective or that is otherwise not in accordance with the requirements of the Agreement and/or applicable law and directing that such Work be corrected, the Contractor and/or the Contractor's sureties must give the District written notice of the intent of the Contractor and/or the Contractor's sureties to correct such Work and commence correction of such Work in accordance with the District's notice and the Agreement. If the Contractor and/or the Contractor's sureties do not give the District written notice of intent to correct such Work and commence correction of such Work within ten (10) working days of receipt of the District's notice, then the District may correct such work and/or have such work corrected for the account and at the expense of the Contractor and/or its sureties, and the Contractor and/or its sureties will be liable to the District for any resulting excess cost. The District may, in addition to all other remedies that the District may have under the Agreement and at law or equity, deduct any such excess cost of completing the Work from amounts that are due or that may become due the contractor.

11.2 Termination.

- 11.2.1 In accordance with California Public Contract Code Section 7105, in addition to all other available remedies that the District may have under the Agreement, and at law or equity, the District may terminate the Contractor's control of the Work:
 - 11.2.1.1 If the Contractor or any of its subcontractors engaged in the performance of the Work fails to timely perform the Work and/or any of the Contractor's material obligations under the Contract Documents, including but not limited to submission of an acceptable schedule, that have accrued except for due to reasons beyond the control of the Contractor pursuant to the Contract Documents.
 - 11.2.1.2 If the Contractor is adjudged bankrupt, or if it should make a general assignment for the benefit of creditors, or if a receiver should be appointed on account of its creditors.

- 11.2.1.3 If the Contractor or any of the subcontractors engaged in the performance of the Work persistently or repeatedly refuses or fails to supply enough properly skilled workmen or proper materials for the timely completion of the Work.
- 11.2.1.4 If the Contractor fails to make prompt payment to subcontractors engaged in the performance of the Work or for material or labor used in the performance of the Work in accordance with the Contract Documents and applicable law.
- 11.2.1.5 If the Contractor or any subcontractors engaged in the performance of the Work persistently disregards laws or ordinances applicable to the performance of the Work, or the instructions of the District, the District Engineer, the Architect, or other authorized representatives of the District.
- 11.2.1.6 For any reason or for no reason, at the District's sole discretion.
- 11.2.2 If the District intends to terminate the Contractor's control of the Work for any of the reasons specified in Sections 11.2.1.1 through 11.2.1.5, above, the District will immediately serve written notice to the Contractor and its sureties in accordance with the Contract Documents. Notice of the District's intent to terminate the Contractor's control of the Work will be given by registered or certified mail and specify the grounds for termination, the required cure and the time by which the cure must be effected. Upon receipt of notice of the District's intent to terminate the Contractor's control of the Work for any of the reasons specified in provisions 11.2.1.1 through 11.2.1.5, above, the Contractor will have ten (10) working days from receipt of the notice or a longer time specified in the notice to cure its default. If the Contractor does not affect the required cure by the time specified in the notice, the District will issue a written notice of termination to the Contractor and its sureties by registered or certified mail. The notice of termination will specify: that upon receipt of the notice the Contractor's right to perform or complete the Work, including on behalf of the Contractor's sureties, is terminated; that the Contractor's sureties will have the right to take over and complete the Work and perform all of the Contractor's remaining obligations that have accrued under the Agreement; and that if the Contractor's sureties do not both give the District written notice of their intention to take over and perform the Agreement and commence completion of the Work and performance of all of the Contractor's remaining obligations that have accrued under the Agreement within ten (10) working days after receipt of notice of termination that the District may declare the Contractor's sureties in default and take over the completion of the Work or have the Work completed for the account and at the expense of the Contractor and its sureties, and the Contractor and its sureties will be liable to the District for any resulting excess cost. The District may, in addition to all other available remedies that the District may have under the Contract Documents and at law or equity, deduct any such excess cost of completing the Work from amounts that are due or that may become due the Contractor.

- 11.2.3 Upon termination of the Contractor's control of the Work for any of the reasons specified in Sections 11.2.1.1 - 11.2.1.5, the Contractor will, if so directed by the District, immediately remove from the Work site any and all materials and personal property belonging to the Contractor which have not been incorporated in the Work and the Contractor and its sureties will be liable upon their bond for all damages caused the District by reason of the Contractor's failure to complete the Work.
- 11.2.4 Upon termination of the Contractor's control of the Work for any of the reasons specified in provisions 11.2.1.1 through 11.2.1.5, above, the District reserves the right to refuse tender of the Contractor by any surety to complete the Work.
- 11.2.5 If the District completes or has completed any portion of, or the whole of the Work, following termination of the Contractor's control of the Work for any of the reasons specified in Sections 11.2.1.1 through 11.2.1.5, above, the District will neither be liable for nor account to the Contractor or the Contractor's sureties in any way for the time within which, or the manner in which such Work is performed, or for any changes made in such Work or for the money expended in satisfying claims and/or suits and/or other obligations in connection with completing the Work. If, following termination of the Contractor's control of the Work for any of the reasons specified in Sections 11.2.1.1 through 11.2.1.5, above, the unpaid balance of the Contract Price exceeds the expense of completing the Work, including compensation for additional legal, managerial and administrative services and all other amounts due for the completion of the Work and/or satisfaction of claims of the District and/or others arising out of the Agreement and any other charges that apply to the Contractor under the Agreement, the difference will be paid to the Contractor. If such expenses of completing the Work exceed the unpaid balance of the Contract Price, the Contractor or its sureties will pay the difference to the District.
- 11.2.6 If the Agreement or Contractor's control of the Work is terminated for any reason, no allowances or compensation will be granted for the loss of any anticipated profit by the Contractor.
- 11.2.7 In accordance with California Government Code Section 4410, in the event a national emergency occurs, and public work being performed by contract is stopped, directly or indirectly, because of the freezing or diversion of materials, equipment or labor, as the result of an order or a proclamation of the President of the United States, or of an order of any federal authority, and the circumstances or conditions are such that it is impracticable within a reasonable time to proceed with a substantial portion of the work, then the District and the Contractor may, by written agreement, terminate the Agreement. In accordance with California Government Code Section 4411, such an agreement will include the terms and conditions of the termination of the contract and provision for the payment of compensation or money, if any, which either party will pay to the other or any other person, under the facts and circumstances in the case. Compensation to the Contractor will be determined on the basis of the reasonable value of the work done, including preparatory work. As an exception to the foregoing, in the case of any fully completed separate item or portion of the Work for which there is a separate contract price, the contract price shall control. The parties may in any other case adopt

the contract price as the reasonable value of the work or any portion of the work done.

11.3 Disputes.

11.3.1 In accordance with California Public Contract Code Section 20104.2, the following procedures apply to claims of \$375,000 or less between the Contractor and the District:

11.3.1.1 The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.

11.3.1.2 For claims of less than fifty thousand dollars (\$50,000), the District shall respond in writing to any written claim within forty five (45) calendar days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the District may have against the Contractor.

11.3.1.2.1 If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the District and the Contractor.

11.3.1.2.2 The District's written response to the claim, as further documented, shall be submitted to the Contractor within fifteen (15) calendar days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

11.3.1.3 For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the District shall respond in writing to all written claims within sixty (60) calendar days of receipt of the claim, or may request, in writing, within thirty (30) calendar days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the District may have against the Contractor.

11.3.1.3.1 If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the District and the Contractor.

11.3.1.3.2 The District's written response to the claim, as further documented, shall be submitted to the Contractor within thirty (30) calendar days after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.

- 11.3.1.4 If the Contractor disputes the District's written response, or the District fails to respond within the time prescribed, the Contractor may so notify the District, in writing, either within fifteen (15) calendar days of receipt of the District's response or within fifteen (15) calendar days of the District's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the District shall schedule a meet and confer conference within thirty (30) calendar days for settlement of the dispute.
- 11.3.1.5 Following the meet and confer conference, if the claim or any portion remains in dispute, the Contractor may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.
- 11.3.1.6 This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.
- 11.3.2 In accordance with California Public Contract Code Section 20104.4, the following procedures apply to civil actions to resolve claims greater than \$375,000 between the District and the Contractor:
- 11.3.2.1 Within sixty (60) calendar days, but no earlier than thirty (30) calendar days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within fifteen (15) calendar days by both parties of a disinterested third person as mediator, shall be commenced within thirty (30) calendar days of the submittal, and shall be concluded within fifteen (15) calendar days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.
- 11.3.2.2 If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

11.3.2.2.1 Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

11.3.2.2.2 In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

11.3.2.3 The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

11.3.3 In accordance with California Public Contract Code Section 20104.6:

11.3.3.1 The District shall not fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.

11.3.3.2 In any suit filed under Public Contract Code Section 20104.4 concerning this contract, the District shall pay interest at the legal rate on any arbitration award or judgment. Such interest shall accrue from date the suit was filed.

11.3.4 Dispute Resolution in accordance with California Public Contract Code Section 9204:

11.3.4.1 Claims. This Section applies to and provides the exclusive procedures for any Claim arising from or related to the Contract or performance of the Work.

(A) *Definition.* "Claim" means a separate demand by Contractor, submitted in writing by registered or certified mail with return receipt requested, for change in the Contract Time, including a time extension or relief from liquidated damages, or a change in the Contract Price, that has previously been submitted to District as a Change Order in accordance with the requirements of the Contract Documents, and which has been rejected or disputed by District, in whole or in part.

(B) *Limitations.* A Claim may only include the portion of a previously rejected demand that remains in dispute between Contractor and District. With the exception of any dispute regarding the amount of money actually paid to Contractor as Final Payment, Contractor is not

entitled to submit a Claim demanding a change in the Contract Time or the Contract Price, which has not previously been submitted to District in full compliance with this Section, and subsequently rejected in whole or in part by District.

- (C) *Scope of Section.* This Section is intended to provide the exclusive procedures for submission and resolution of Claims of any amount, and applies in addition to the provisions of Public Contract Code Section 9204 and Sections 20104 et seq., which are incorporated by reference herein.
- (D) *No Work Delay.* Notwithstanding the submission of a Claim or any other dispute between the parties related to the Project or the Contract Documents, Contractor must perform the Work and may not delay or cease Work pending resolution of the Claim or other dispute, but must continue to diligently prosecute the performance and timely completion of the Work, including the Work pertaining to the Claim or other dispute.

11.3.4.2 Claims Submission. The following requirements apply to any Claim subject to this Section:

- (A) *Substantiation.* The Claim must be submitted to District in writing, clearly identified as a "Claim" submitted pursuant to this Section 11.3.4, and must include all of the documents necessary to substantiate the Claim including the Change Order request that was rejected in whole or in part, and a copy of District's written rejection that is in dispute. The Claim must clearly identify and describe the dispute, including relevant references to applicable portions of the Contract Documents, and a chronology of relevant events. Any Claim for additional payment must include a complete, itemized breakdown of all labor, materials, taxes, insurance, and subcontract, or other costs. Substantiating documentation such as payroll records, receipts, invoices, or the like, must be submitted in support of each claimed cost. Any Claim for an extension of time or delay costs must be substantiated with schedule analysis and narrative depicting and explaining claimed time impacts.
- (B) *Claim Format.* A Claim must be submitted in the following format:
 - (1) General introduction, specifically identifying the submission as a "Claim" submitted under this Section 11.3.4.
 - (2) Relevant background information, including identification of the specific demand at issue, and the date of District's rejection of that demand.
 - (3) Detailed explanation of the issue(s) in dispute. For multiple issues, separately number and identify each issue and include the following for each separate issue:

- (a) The background of the issue, including references to relevant provisions of the Contract Documents;
 - (b) A succinct statement of the matter in dispute, including Contractor's position and the basis for that position;
 - (c) A chronology of relevant events;
 - (d) The identification and attachment of all supporting documents (see subsection (A), above, on Substantiation); and
 - (e) Use of a separate page for each issue.
- (4) Summary of issues and damage.
- (5) The following certification, executed by Contractor's authorized representative:

"The undersigned Contractor certifies under penalty of perjury that its statements and representations in this Claim are true and correct. Contractor warrants that this Claim is comprehensive and complete as to the matters in dispute, and agrees that any costs, expenses, or delay claim not included herein are deemed waived. Contractor understands that submission of a Claim which has no basis in fact or which Contractor knows to be false may violate the False Claims Act (Government Code Section 12650 et seq.)."

(C) *Submission Deadlines.*

- (1) A Claim must be submitted within 15 days of the date that District notified Contractor in writing that a request for a change in the Contract Time or Contract Price has been rejected in whole or in part.
- (2) With the exception of any dispute regarding the amount of Final Payment, any Claim must be filed on or before the date of Final Payment, or will be deemed waived.
- (3) A Claim disputing the amount of Final Payment must be submitted within 15 days of the effective date of Final Payment.
- (4) Strict compliance with these Claim submission deadlines is necessary to ensure that any dispute may be mitigated as soon as possible, and to facilitate cost-efficient administration of the Project. *Any Claim that is not submitted within the specified deadlines will be deemed waived by Contractor.*

11.3.4.3 District's Response. District will respond within 45 days of receipt of the Claim with a written statement identifying which portion(s) of the Claim are disputed, unless the 45- day period is extended by mutual agreement of District and Contractor or as otherwise allowed under Public Contract Code section 9204. However, if District determines that the Claim is not adequately documented, District may first request in writing,

within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to defenses to the Claim that District may have against the Claim. If Contractor fails to submit the additional documentation to District within 15 days of receipt of District's request, the Claim will be deemed waived.

- (A) *Additional Information.* If additional information is thereafter required, it may be requested and provided upon mutual agreement of District and Contractor.
- (B) *Non-Waiver.* Any failure by District to respond within the times specified above may not be construed as acceptance of the Claim in whole or in part, or as a waiver of any provision of these Contract Documents.

11.3.4.4 Meet and Confer. If Contractor disputes District's written response, or District fails to respond within 45 days of receipt of the Claim with, Contractor may notify District of the dispute in writing of the sent by registered or certified mail, return receipt requested, and demand an informal conference to meet and confer for settlement of the issues in dispute. If Contractor fails to dispute District's response in writing within the specified time, Contractor's Claim will be deemed waived.

- (A) *Schedule Meet and Confer.* Upon receipt of the demand to meet and confer, District will schedule the meet and confer conference to be held within 30 days, or later if needed to ensure the mutual availability of each of the individuals that each party requires to represent its interests at the meet and confer conference.
- (B) *Location for Meet and Confer.* The meet and confer conference will be scheduled at a location at or near District's principal office.
- (C) *Written Statement After Meet and Confer.* Within ten working days after the meet and confer has concluded, District will issue a written statement identifying which portion(s) of the Claim remain in dispute, if any.
- (D) *Submission to Mediation.* If the Claim or any portion remains in dispute following the meet and confer conference, within ten working days after the District issues the written statement identifying any portion(s) of the Claim remaining in dispute, the disputed portion(s) will be submitted for mediation, as set forth below.

11.3.4.5 Mediation and Government Code Claims.

- (A) *Mediation.* Within ten working days after the District issues the written statement identifying any portion(s) of the Claim remaining in dispute following the meet and confer, District and Contractor will mutually agree to a mediator, as provided under Public Contract Code section 9204. Mediation will be scheduled to ensure the mutual availability of the selected mediator and all of the individuals that each party requires to represent its interests. The parties will share the costs of mediation

equally, except costs incurred by each party for its representation by legal counsel or any other consultants.

(B) *Government Code Claims.*

- (1) Timely presentment of a Government Code Claim is a condition precedent to filing any legal action based on or arising from the Contract.
- (2) The time for filing a Government Code Claim will be tolled from the time Contractor submits its written Claim until the time that Claim is denied in whole or in part at the conclusion of the meet and confer process, including any period of time used by the meet and confer process. However, if the Claim is submitted to mediation, the time for filing a Government Code Claim will be tolled until conclusion of the mediation, including any continuations, if the Claim is not fully resolved by mutual agreement of the parties during the mediation or any continuation of the mediation.

11.3.4.6 Tort Claims. This Section does not apply to tort claims and nothing in this Section is intended nor will be construed to change the time periods for filing tort-based Government Code Claims.

11.3.4.7 Arbitration. It is expressly agreed, under California Code of Civil Procedure Section 1296, that in any arbitration to resolve a dispute relating to this Contract, the arbitrator's award must be supported by law and substantial evidence.

11.3.4.8 Damages. Contractor bears the burden of proving entitlement to and the amount of any claimed damages. Contractor is not entitled to damages calculated on a total cost basis, but must prove actual damages. Contractor is not entitled to recovery of any alleged home office overhead. The Eichleay Formula or similar formula may not be used for any recovery under the Contract. Contractor is not entitled to consequential damages, including home office overhead or any form of overhead not directly incurred at the Worksite; lost profits; loss of productivity; lost opportunity to work on other projects; diminished bonding capacity; increased cost of financing for the Project; extended capital costs; non-availability of labor, material or equipment due to delays; or any other indirect loss arising from the Contract.

11.3.4.9 Multiple Claims. In the interest of efficiency, District, acting in its sole discretion, may elect to process multiple Claims concurrently, in which case the applicable procedures above will be based on the total amount of such Claims rather than the amount of each individual Claim. Any such election will not operate to change or waive any other requirements of this Section.

11.3.4.10 Other Disputes. The procedures in this Section 11.3.4 will apply to any and all disputes or legal actions, in addition to Claims,

arising from or related to this Contract, unless and only to the extent that compliance with a procedural requirement is expressly and specifically waived by District.

Exhibit D
1. Safe Work Requirements

LAS GALLINAS VALLEY SANITARY DISTRICT

CONTRACTOR SAFE WORK REQUIREMENTS

Revised June 8, 2017

SAFETY POLICY

Contractors and their subcontractors working for the Las Gallinas Valley Sanitary District shall comply with all applicable federal, state, and local safety orders in the performance of any work on District projects. In addition, Contractors and their subcontractors shall comply with all safety regulations and procedures listed in this Safe Work Requirements. Contractors shall take any additional precautions necessary to prevent injury or damage to persons, property, or interference with District operations.

Contractors shall be responsible for notifying employees, subcontractors, and invitees of these District Safe Work Requirements. No work within District facilities or on District contract work sites shall begin prior to such notification. Contractor shall not allow a new employee or new subcontractor to begin work on District projects without having conducted a full and proper safety orientation.

Contractors doing work at the Treatment Plant facility, lift stations or sewage conveyance systems shall schedule a safety orientation session for their site Superintendent and other Contractor-designated personnel with the Authorized District Representative prior to commencing work. The orientation session shall include emergency procedures, an explanation of applicable District safety policies, and any unique and inherent hazards of District facilities. It is then the responsibility of the Contractor's Superintendent or designated personnel to orient and so inform all personnel under the Contractor's supervision.

The District may, in its sole discretion, either temporarily or permanently remove a Contractor's employee from District work and/or terminate the Contractor's right to proceed for any violation of applicable Cal/OSHA Construction Safety Orders or these District Safe Work Requirements.

DEFINITIONS

As used in this Safe Work Requirement, the following definitions are applicable:

A. PARTS AND MATERIALS:

All products, materials, devices, systems, or installations installed by Contractor shall have been approved, listed, labeled, or certified as conforming to applicable governmental or other nationally recognized standards, or applicable scientific principles. The listing, labeling, or certification of conformity shall be based upon an evaluation performed by a person, firm, or entity with appropriate registered engineering

competence; or by a person, firm, or entity, independent of the manufacturer or supplier of the product, with demonstrated competence in the field of such evaluation.

- B. CONTRACTOR**
Designates “Contractor”, “Contractors”, “Sub-Contractors”, “Suppliers”, and all employees of each.
- C. AUTHORIZED DISTRICT REPRESENTATIVE**
The District’s Authorized Representatives shall be the employee(s) designated by the District to be responsible for communicating with the Contractor.
- D. DISTRICT JURISDICTION**
For the purposes of these regulations, “District” Shall mean the Las Gallinas Valley Sanitary District.
- E. TREATMENT PLANT AND FACILITIES**
For the purposes of these regulations, “Treatment Plant & Facilities” shall include the District's Wastewater Treatment Plant, lift stations and sewage conveyance systems located within the boundaries of the District.

EMERGENCY PROCEDURES

- A. FIRST AID**
Contractors shall be responsible for providing first aid and medical treatment for their employees and for compliance with the first aid requirements of all applicable Cal/OSHA Construction Safety Orders.
- Contractors shall be responsible for making prior arrangements for emergency medical care and for transportation of injured Contractor personnel.
- B. FIRE**
When work is being performed which generates sparks or open flames, the Contractor will provide a fire watch, a person trained in the use of appropriate fire fighting equipment, whose only task is to observe and extinguish fires. A District “Hot Works” permit must be filled out and turned into the Collection System / Safety Manager, or General Manager when the Safety Manager is not available, when work is completed. Contractor shall ensure that appropriate fire extinguisher(s) are available at the specific work site for use in case of a fire. All Contractor’s employees shall be properly trained to use them.
- In the event of a fire, Contractor shall immediately notify the nearest District employee and if possible, call emergency (911) and give the location of the plant, which is 300 Smith Ranch Rd. San Rafael. A map of the wastewater plant is included in this policy. Refer to Attachment A.

BASIC SAFETY RESPONSIBILITIES AT DISTRICT FACILITIES

A. COMMUNICATION

Contractor shall maintain close communication with the Authorized District Representative. Contractors should sign-in at the office at the beginning and end of each day along with a headcount of crew members.

B. RESPONSIBILITY

Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss, to:

1. All employees on the work site and other persons and organizations who may be affected thereby.
2. All the work, materials, and equipment to be incorporated therein, whether in storage or off the site.
3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation, or replacement in the course of construction.

Contractor shall comply with all applicable laws and regulations (whether referred to herein or not) of any public agency having jurisdiction over the safety of persons or property, or the protection of persons from damage, injury, or loss, and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and facilities when performance of the work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property and facilities.

Contractor shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's Superintendent unless otherwise designated in writing by the Contractor to the District.

C. GENERAL SAFETY REGULATIONS

Basic Rules:

- Work shall not begin until the Contractor's personnel have been informed of the District's Safe Work Requirements and potential hazards. The District employee responsible for the project is responsible for advising the Contractor of the District's Safe Work Requirements and potential hazards.
- All safety procedures applicable to the job being performed, including use of appropriate protection equipment, shall be followed.
- The Contractor's personnel shall **never** operate, use, adjust, modify or relocate any District equipment, switches, valves, or other controls. The Authorized

District Representative must be contacted should operation, adjustment, modification, or relocation of District equipment be necessary.

- Contractor's use of District instruments, tools, ladders, scaffolding or other equipment is not permitted except in cases of emergency as determined by a District supervisor or by permission from a senior Manager of the District.
- Drinking water shall be supplied by Contractor. **Do Not Drink Water from Hose Connections at any District Facility.**
 1. Hose bib connections are located throughout the treatment plant. Most of these supply treated wastewater and may or may not be posted with signs reading "Do Not Drink." In any case, **never** drink water from hose bibs or hoses.
 2. Water lines throughout the treatment plant are color coded (when not stainless steel) and labeled as follows:

| | |
|---------------------------------------|--------|
| Recycle Water Piping | Purple |
| Domestic Water Piping | Blue |
| Service Water Piping (Plant Effluent) | Gray |
 3. Hose connections may be used to wash down equipment. Never hose down electrical or heated equipment of any kind. If an employee has used a gray or purple water hose for wash down, he/she should immediately wash their hands in domestic water with soap.
- NEVER make any connection to any water line without first verifying with the Authorized District Representative that contamination of the water lines will not occur.
- Use of alcoholic beverages and/or illegal drugs by Contractor or any employee is strictly prohibited. Smoking within the plant is prohibited. Use of prescription or non-prescription drugs which interfere with the individual's ability to work safely is also prohibited.
- Contractor shall advise the Authorized District Representative of any employee with any medical conditions that could put the employee in danger.

Personal Protection Equipment:

- Contractor shall be responsible for providing and assuring use by employees of all OSHA required protective equipment.
- Approved respiratory equipment shall be worn when the possibility of exposure to hazardous dusts, vapors, fumes, mists, or gases exists. In addition to all other safety regulations, pipes or conduit should be mechanically BLOCKED off when being worked on. District safety procedures shall be followed when working on, but not limited to, the following systems:
 - 1) Natural gas and sludge gas (Methane)

- 2) Ferrous Chloride
- 3) Polymer
- 4) Hypochlorite
- 5) Compressed Air
- 6) Sodium Bisulfite

- Contractor shall be responsible for determining the existence and location of such systems prior to commencement of work.

Power Tools and Welding Equipment:

- Gasoline and electrical powered hand tools shall be protected by approved ground fault circuit interrupters, or shall be double insulated. Cords shall be inspected daily prior to use. Damaged cords shall not be used on District work.
- Pneumatic driven power tools shall be disconnected from air lines when not in use. Hoses shall be inspected daily prior to use. Damaged hoses shall not be used on District work.
- Power tools shall be used only by trained personnel who have a valid license (when applicable, i.e, welding) in their possession. Proper warning signs shall be posted when these tools are in use.
- Electric and gas welding and cutting tools, including cords and gas hoses, shall be inspected daily prior to use. Damaged cords and gas hoses shall not be used on District work.
- Contractor and Contractor employees' tools and equipment used on District work sites shall be in safe operating condition and shall conform to the requirements of Cal/OSHA regulations. All personnel using such tools shall be properly trained.

D. BARRICADES AND SIGNS FOR TRAFFIC CONTROL

All Contractors, permittees, or agencies doing work for District which requires traffic control shall:

- 1) Install and maintain required traffic devices.
- 2) Provide appropriately equipped flag persons when required.
- 3) Provide adequate safeguards for workers and District personnel.
- 4) Maintain access for District personnel to all District facilities.

All work on streets, roadways, or similar thoroughfares shall comply with the Federal Highway Administration's "Manual on Uniform Traffic Control Devices for Streets and Highways" and any local ordinances. District Plant speed is *maximum* 10 mph.

SPECIAL PROCEDURES AND UNIQUE HAZARDS

A. CONFINED SPACE ENTRY

Confined spaces of all types exist throughout the District and throughout the plant and range from open trenches and manholes, to tanks, clarifiers and digesters. Contractors are required to meet Cal/OSHA safety standards for CONFINED SPACE ENTRY OPERATIONS, Title 8 Article 108 (Sections 5156-5159), or the most current CAL/OSHA applicable standards, and to provide a safe working environment for their employees. All Contractors directing or working in confined spaces are required to notify the Authorized District Representative. Contractors are responsible for all operations, testing, equipment calibration, ventilation, and entry per the Cal/OSHA standards. Contractors are responsible for all confined space permits and all appropriate equipment. Completed confined space permits are to be turned in to the District's safety manager.

B. ELECTRICAL SUPPLY SYSTEMS

The treatment plant's Electrical Supply System consists of two 65kW Gas Microturbine Generators, one 500kW diesel oil engine driven standby generator and one 380 KW trailer mounted standby generator, and solar power. All electrical power generated in the plant and PG&E power (beyond their transformer) is 480 volt, 3 phase, 60 Hz electricity and is delivered to one 480 volt switchgear panel. This panel is interconnected by cables and protected by breakers, relays and monitoring devices.

Electricity is dispersed from the switchgear through breakers and cables to motor control centers (MCC's), to power panels, to transformers (voltage reducers), to lighting panels and to motor driven pumps and equipment. Lockable control stations are located at each piece of equipment. 480 volt, 208 volt and 120 volt electricity is used in the plant. Contact the duty operator prior to working on any piece of electrical equipment. Electricity is hazardous and can burn or kill people.

All work on electrical systems shall be done in accordance with the State of California, CAL/OSHA, Article 33, Electrical Requirements for construction work, Low Voltage Electrical Safety Orders.

C. FERROUS CHLORIDE SYSTEMS -

The Ferrous Chloride System consists of a positive displacement pump with feed rate adjustment. Shut-off valves are located before and after the pump. Before working on this system, close all valves and disconnect the pump from electricity.

Ferrous Chloride is a dangerous chemical which will attack the skin, eyes and the mucous membranes of the mouth, throat and lungs. Contact the plant duty operator prior to working on this system.

D. DIGESTER GAS SYSTEM

The Digester Gas System consists of one steel tank, associated piping, compressors, flare, etc. Sludge is bacterially reduced in the tanks creating principally methane (CH₄) and other combustible hazardous gases, including hydrogen sulfide (H₂S). Hydrogen sulfide is toxic at very low concentrations. These gases are contained by the tank covers and piping which is located on overhead racks, in pipe trenches and buried throughout the plant. The gases are burned in large engines driving generators to make electricity for the plant. Heat from the engines is captured and piped to the digesters to heat the sludge, speeding up the digestion process.

Digesters and the stored gases within them are hazardous. No smoking, cutting, or spark-generating equipment is allowed on or within ten feet of any digester. Contact the duty operator prior to working on digesters.

E. HYPOCHLORITE SYSTEM

Hypochlorite, or concentrated chlorine bleach (12.5%), is used to disinfect, or kill bacteria and virus in the final effluent (water) discharged from the plant. Two tanks, each 7,000 gallons are used to store hypochlorite. Piping, valves, pumps, strainers (filters) and flow measuring and control equipment make up the system. Hypochlorite will attack clothing, skin, eyes and mucous membranes of the nose, mouth, throat and lungs. Contact the duty operator prior to working on the hypochlorite system.

F. SODIUM BISULFITE

Sodium bisulfite is used when neutralizing sodium hypochlorite. Two tanks, each 4,000 gallons and one 2,500 gallons are used to store sodium bisulfite. Piping, valves, pumps, strainers (filters) and flow measuring and control equipment make up the system. Sodium bisulfite is an irritant to eyes, skin and mucous membranes. Inhalation of mist may cause irritation to respiratory tract. Contact the duty operator prior to working on the sodium bisulfite system.

G. GENERAL HAZARDS

Throughout District's treatment plant and facilities there are a number of extremely hazardous elements that are dangerous. They include, but are not limited, to:

- Flammable gas and petroleum.
- H₂S (hydrogen sulfite)
- Deep pools of liquid sewage which are rarely patrolled, and for which self-rescue is unlikely.
- Automatic start equipment.
- HBV (Hepatitis B Virus)

Exhibit D
2. Confined Space Entry Program

Las Gallinas Valley
Sanitary District

Confined Space
Entry
Program

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**LAS GALLINAS VALLEY SANITARY DISTRICT
Confined Space Entry Program**

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LGVS D CONFINED SPACE ENTRY PROGRAM

INTRODUCTION

The purpose of Las Gallinas Valley Sanitary District's confined space entry program is to protect employees who work in manholes, pump stations, tanks, or any other confined space that could expose employees to hazardous conditions or substances. The program establishes an entry permit system and procedures to ensure that potential hazards of each confined space are identified and evaluated and that appropriate safety precautions are taken before an employee enters the space.

Employees will be given an opportunity to participate in the development and implementation of LGVS D's confined space procedures. The program will be revised or procedures will be modified whenever suggestions or recommendations from employees would improve confined space safety.

The policies and procedures in this program are consistent with the requirements of Cal/OSHA General Industry Safety Orders, Title 8, Sections 5156 and 5157 and supersede previous confined space policies and procedures. The program applies to all employees who work in, or in connection with LGVS D confined spaces.

Confined spaces at LGVS D have been identified based on the definitions in Section 5157 as follows:

Confined Space is a space that:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work; and
2. Has limited or restricted means for entry or exit; and
3. Is not designed for continuous employee occupancy.

Permit-Required Confined Space is a space that has one or more of the following characteristics:

1. Contains or has a potential to contain a hazardous atmosphere;
2. Contains a material that has the potential for engulfing an entrant;
3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross section; or
4. Contains any other recognized serious safety or health hazard.

Non-Permit Confined Space is a space that does not contain (or with respect to atmospheric hazards, has no potential to contain) any hazard capable of causing death or serious physical harm.

Employees who work in or in connection with confined spaces are required to follow the procedures described in this program and to take all the appropriate precautions to ensure that the work is performed safely. At no time should an employee enter a confined space or perform work in the space unless it can be done safely.

PERMIT-REQUIRED CONFINED SPACES

The tables on pages 4 and 5 list confined spaces at LGVSD that require a permit to enter. Potential hazards associated with these spaces include engulfment, toxic gases, explosive or flammable gases, oxygen deficiency, electrical and mechanical hazards, and may under certain circumstances involve heat stress. Warning signs will be posted at wet wells and similar locations to inform employees that the space requires a permit to enter. To prevent unauthorized entry, each of these spaces will be secured.

Using the entry permit, a non-entry evaluation must be done so that potential hazards can be identified and the appropriate safety precautions taken. The types of hazards that may be encountered, pre-entry safety checks, and the types of safety equipment that will be used are entered on the permit. Only the person designated as the entry supervisor has the authority to authorize the entry permit. At least three employees are required for a permit-required confined space entry which would include an attendant and a standby rescuer.

The tables on pages 4 and 5 that list permit-required confined spaces at LGVSD are not all-inclusive. Other spaces may be determined to be permit-required after evaluating the conditions or circumstances of the entry. The type of work to be performed in the space could introduce hazards to an otherwise safe space. Working with flammable or toxic substances, welding or other hot work, or drifting vapors from outside sources would make a space hazardous or potentially hazardous and therefore require a permit to enter.

ALTERNATE ENTRY PROCEDURES

Alternate procedures are allowed in permit-required spaces where it can be demonstrated and documented that the only hazard or potential hazard is an atmospheric one, and that continuous forced air ventilation alone will maintain the space safe for entry. A trained, qualified employee may enter these confined spaces without an attendant or rescue preparations provided the following conditions are met.

1. All unsafe conditions are eliminated before the confined space cover is removed.
2. The entrance to the space is guarded with a railing or other type of barrier to prevent an accidental fall through the opening and to protect employee in the space.
3. The atmosphere is tested before entry in the following order: O₂, LEL/LFL, H₂S.
4. No entrance is made until hazardous atmosphere is eliminated.
5. There is no hazardous atmosphere when employees are in the space.
6. Continuous forced ventilation is used.
7. The air supply is clean and will not increase hazards.
8. The air supply is directed to area where employees are working.
9. The atmosphere is tested every 15 minutes to ensure a hazardous atmosphere is not developing.
10. Records of pre-entry and entry monitoring data and inspection data are maintained.
11. The entrant certifies, in writing, that the required pre-entry measures have been taken.
12. Monitoring and inspection data, and the certification information are made available to each employee entering the space.

If a hazardous atmosphere develops in the space, or other hazards arise, alternate procedures can no longer be used and the space must be reclassified as a fully permitted space.

SPECIAL ENTRY PROCEDURES

There are a few confined spaces at LGVSD that are not considered permit-required confined spaces. As far as can be determined, these spaces do not contain any known hazard. However, as a precautionary measure, employees are required to follow certain special procedures before entering these spaces.

1. Test the atmospheric conditions prior to entry.
2. If atmospheric conditions are acceptable, entry can be made.
3. If atmospheric conditions are not acceptable, use alternate procedures.
4. If any other hazardous condition exists, follow permit-required confined space procedures.

THE ENTRY PERMIT SYSTEM

Confined space entry permits are to be issued for a specific purpose, a specific work crew, and for a specified period of time. The entry permit is a written authorization of the location and type of work to be done. It also authorizes the personnel assigned to the job, and verifies that potential hazards have been evaluated and controlled or eliminated, that proper safety precautions have been taken, and it is safe for workers to enter. The permit must be kept at the work site (outside the space) for the duration of the work and cancelled after the work is completed.

HOT WORK PERMIT

A hot work permit must be issued for any work that produces heat, sparks or flame in a permit-required confined space. This includes but not limited to brazing, cutting, grinding, soldering, and welding.

Table 1: Main Plant Permit-Required Confined Spaces

| MAIN PLANT | Permit-Required | Alternate or Special Procedure | MAIN PLANT | Permit-Required | Alternate or Special Procedure |
|------------------------------------|-----------------|--------------------------------|--|-----------------|--------------------------------|
| Marinwood Pump Station | | | Deep Bed Filter | | |
| Pre Wet Well Structure | • | | Bypass Channel | • | |
| Wet Well | • | | Wet Well/Supply Pumps | • | |
| Valve Pit | | SP | Valve Pit | | SP |
| Flow Meter Pit (F1) | | SP | Tanks | • | |
| Primary Clarifier | | | Weir Overflow Pit | • | |
| Tank | • | | Underdrain | • | |
| Scum Pit | • | | Inlet Channel | • | |
| Weir Overflow Pit | • | | Center Column | • | |
| Chemical Tank | • | | F8 Flow Meter Manhole | • | |
| Sodium Hydroxide Tank | • | | Effluent Channel | • | |
| Methane Tank | • | | Backwash Return Wet Well | • | |
| Methane Scrubber Tank | • | | Hypochlorite Storage Tank | • | |
| Primary Digester | | | Digester Supernatant Pump Station | | |
| Tank | • | | Wet Well | • | |
| Valve Pit | | | Valve Pit | | SP |
| Secondary Digester | | | Secondary Clarifier | | |
| Tank | • | | Tank | • | |
| Valve Pit | | SP | Flow Meter (F4) | • | |
| Intermediate Flow Meter Pit (F3) | • | | Effluent Box | • | |
| Aerated Grit | | | Scum Pit | • | |
| Tank | • | | Fixed Film Reactor | | |
| Scum Pit | • | | Tank | • | |
| Outlet Channel | • | | Underdrain | • | |
| Inlet Channel | • | | Center Column | • | |
| Clarifier Return Pit | | | F4 Diversion Box | • | |
| Wet Well | • | | Influent and Effluent Wet well | • | |
| Influent Flow Meter Pit | | SP | Filter Water Storage Tank | • | |
| Grease Storage Tank | • | | Chlorine Sample Pump #2 | | |
| Intermediate Clarifier East | | | Wet Well | • | |
| Diversion Structure | • | | Valve Pit | • | |
| Tank | • | | Chlorine Contact Chamber/DBF Backwash | | |
| Scum Pit | • | | Tank | • | |
| Weir Overflow Pit (2) | • | | | | |
| Intermediate Clarifier West | | | Pipe Inspection Manhole | • | |
| Tank | • | | Plant Effluent Water Pump Wet Well | • | |
| | | | Bisulfite | | |
| Scum Pit | • | | Wet Well | • | |
| Weir Overflow Pit | • | | Tanks | • | |
| Sludge Thickener | | | White Shack Effluent Box | | |
| Influent Pit | • | | Wet Well | • | |
| Tank | • | | Flow Meter Pit (F5) | | SP |
| Scum Pit | • | | Effluent Pipe Inspection Manhole | • | |
| Primary Biofilter | | | Stormwater Pump Station | | |
| Valve Pit | | | Wet Well | • | |
| Pump Pit Dry Well | | SP | Flow Metet Pit (F9) | | SP |
| Underdrain | • | | Miller Creek Plant Effluent Box Wet Well | • | |
| Prim/Sec Biofilter Diversion Vault | • | | Storm Ponds Pump Pit Wet Wells | • | |
| Secondary Biofilter | | | Centrifuge Pit Tank | • | |
| Effluent Box | • | | Gardener's Building (ventilate before entry) | | |
| Underdrain | • | | F4 - DBF Effluent Box | • | |
| Pump Pit | • | | DBF Effluent Weir Box/Plant Water Pump | • | |
| | | | MMWD Backwash Return Wet Wells (2) | • | |

Table 2: Reclamation, Collection System, and Pump Stations Permit-Required Confined Spaces

| Location | Permit-Required | Alternate Procedure | Location | Permit-Required | Alternate Procedure |
|---|-----------------|---------------------|----------------------|-----------------|---------------------|
| RECLAMATION | | | PUMP STATIONS | | |
| Diversion box | | | McInnis Park | | |
| Wet Well | • | | Wet Well | • | |
| Valve Pit | • | | Valve Pit | | • |
| Underdrain | • | | Smith Ranch | | |
| Transfer Box | | | Wet Well | • | |
| Wet Well | • | | Valve Pit | | • |
| Valve Pit | • | | Flow Meter Pit | | • |
| Underdrain | • | | Industrial Park | | |
| Meter Pit (F7) | | • | Wet Well | • | |
| Reclamation Pump Station | | | Valve Pit | | • |
| Wet Well | • | | John Duckett | | |
| Flow Meter Pit (F6) | | | Wet Well | • | |
| Sludge Supernatant Pump Station | | | Valve Pit | | • |
| Wet Well | • | | Flow Meter Pit | | • |
| Dry Well | • | | Comminutor Deck | | • |
| Valve Pit | | • | Civic Center North | | |
| Pond Diversion Gate Boxes | • | | Wet Well | • | |
| Pond Inflow/Effluent Boxes | • | | Valve Pit | | • |
| Sludge Ponds (3) | • | | Marin Lagoon (9) | | |
| | | | Wet Well | • | |
| | | | Valve Pit | | • |
| COLLECTION SYSTEM | | | Mulligan | | |
| All Manholes | • | | Wet Well | • | |
| Air Release Valves | | • | Valve Pit | | • |
| Valve Boxes | • | | Venetia Harbor | | |
| | | | Wet Well | • | |
| | | | Valve Pit | | • |
| | | | Hawthorne | | |
| | | | Wet Well | • | |
| | | | Dry Well | | • |
| | | | Adrian Way | | |
| | | | Wet Well | • | |
| | | | Valve Pit | | • |
| | | | Descanso Way | | |
| | | | Wet Well | • | |
| | | | Valve Pit | | • |
| | | | McPhail | | |
| | | | Wet Well | • | |
| | | | Valve Pit | | • |
| | | | San Rafael Meadows | | |
| | | | Wet Well | • | |
| | | | Valve Pit | | • |
| SPECIAL ENTRY PROCEDURES (SP) | | | | | |
| 1. Test atmospheric conditions prior to entry. | | | | | |
| 2. If atmospheric conditions are acceptable, entry can be made. | | | | | |
| 3. If atmospheric conditions are not acceptable, use alternate procedures. | | | | | |
| 4. If any other hazardous condition exists, follow permit-required confined space procedures. | | | | | |

DUTIES OF ENTRY TEAM

A permit-required confined space entry team will include an entry supervisor, entrant(s), and at least one attendant. Before an employee begins confined space work, the work must be authorized by the District Manager or Plant Superintendent. In the absence of the District Manager and Plant Superintendent, the designated employee-in-charge may authorize the work.

As long as each individual can fully perform his/her duties, an entry supervisor may be the same person as the entrant or the attendant. The safety precautions that should be taken with a permit-required confined space entry will vary depending on the types of hazards or potential hazards involved. Regardless of the types of hazards, it is the District's policy that in addition to an attendant, a standby rescuer must be part of the entry team.

Duties of Entry Supervisor

1. Verifies that acceptable entry conditions exist.
2. Ensures acceptable entry conditions are maintained.
3. Verifies that the information and procedures on the entry permit are accurate and complete.
4. Verifies that the equipment specified on the permit is in place and in good condition.
5. Reviews permit conditions and procedures with entrants and attendants.
6. Ensures unauthorized persons do not enter the space.
7. Signs the permit to authorize entry.
8. Cancels and files permit.

Duties of Entrant

1. Properly uses the safety equipment and tools supplied.
2. Promptly notifies the attendant if any prohibited condition exists or any warning signs or symptoms appear.
3. Quickly evacuates space if an order is given by the attendant or entry supervisor, if any prohibited condition is detected, or if an alarm is activated.
4. Maintains communication with the attendant to enable attendant to monitor status of space conditions and the entrants.
5. Adheres to the procedures and precautions indicated on the permit and provided in training.

Duties of Attendant

1. Remains outside the permit space until relieved by another attendant.
2. Maintains communication with entrants.
3. Maintains accurate count and identification of entrants.
4. Monitors activities inside and outside the space.
5. Orders entrants to evacuate if a prohibited condition exists, or behavioral effects of hazardous exposure are detected, or activities outside space could endanger entrants, or attendant cannot effectively perform all required duties.
6. Ensures unauthorized persons stay away from the space.
7. Performs non-entry rescue procedures or initiates on-site rescue operations.
8. Summons additional rescue services, when needed.

ENTRY PROCEDURES

Pre-Entry

1. Notify other work groups or employees who may be affected by any interruption in service.
2. Determine (by entry supervisor or other qualified person) what hazards or potential hazards are within the confined space.
3. Check that all safety equipment is available and in good working condition.
4. Check that atmosphere monitoring equipment has been calibrated as recommended by manufacturer.
5. Without entering space:
 - a) Test atmosphere and record readings on permit.
Acceptable atmospheric conditions: Oxygen not less than 19.5% or more than 23.5%, LEL/LFL not more than 10%, H2S not more than 10 ppm, CO not more than 25 ppm.
 - b) Ventilate the space or check that ventilation system is operating properly.
6. Ensure that all affected employees observe pre-entry atmospheric testing.
7. Set up barrier around entrance to prevent accidental falls and to protect employees from vehicles, or falling objects.
8. Check for physical hazards such as poor footing, structures and equipment that hinder movement, and extreme temperatures or humidity that could affect worker safety.
9. Secure and lock out all energy sources (electrical, mechanical, hydraulic, pneumatic, chemical) that are potentially hazardous to confined space workers. Follow lockout/tagout procedures.
10. Disconnect, blind, or block lines to prevent development of hazardous conditions.
11. Use continuous forced air ventilation. Ensure that there is no recirculation of exhausted air from blowers or the introduction of contaminants from the outside, such as traffic exhaust, or vapors or toxic substances from other areas. Place blowers at least 10 feet away from opening of space.
12. Entry supervisor reviews and authorizes entry permit if the space is safe to enter, and all preparatory steps required for safe entry have been taken.

Entry

1. Only employees who have been trained on LGVSD's confined space entry and work procedures are allowed to work in or around confined spaces.
2. Only the work activity specified on the authorized permit is to be performed in the confined space.
3. At least one attendant is required for confined space work.
4. If at any time during the performance of confined space work, dangerous atmospheric conditions develop, work must stop and the space evacuate immediately.
5. An attendant must be stationed outside the space at all times during the confined space operations and remain in constant communication with workers in the space.
6. The attendant must order evacuation of the space whenever:
 - a) a condition not allowed on the permit is observed
 - b) unusual behavior is observed
 - c) an outside situation endangers the confined space workers
 - d) the attendant must leave the work station

7. The permit must be cancelled if the air becomes hazardous after entry.
8. Respiratory equipment must be worn whenever a safe atmosphere cannot be assured after implementing pre-entry procedures.

Post-Entry

The entry supervisor:

1. Cancels the permit by entering date and time of cancellation and signature.
2. On the reverse side of the permit, makes note of any problems encountered during entry operations.
3. Places the cancelled permit in the safety files.
4. Notifies the Plant Superintendent if any equipment, safety gear or tools need to be repaired or replaced.

RESCUE PROCEDURES

It is the District's policy that all employees who work in or in connection with confined spaces must be trained in rescue procedures. Members of a permit space entry team must be knowledgeable of the hazards or potential hazards, be able to recognize the signs and symptoms of exposure, be trained in the selection and use of personal protective equipment, and be certified in first-aid and cardiopulmonary resuscitation. Prior to each entry the team will plan and prepare for non-entry and entry rescues and ensure that at least one standby is immediately available to provide rescue services.

Self-Rescue

If possible, entrants should immediately leave the confined space:

1. When an alarm sounds.
2. At the first sign of any exposure symptoms.
3. When ordered to evacuate by attendant or entry supervisor.

Non-Entry Rescue

If entrants cannot immediately evacuate the space at the first sign of trouble, the attendant should attempt a non-entry rescue by retrieving the entrant using a harness and hoisting equipment. The attendant must not enter the space unless relieved by another attendant. Retrieval systems must be used in vertical permit spaces more than 5 feet deep.

Entry Rescue

Rescuers are to assume that a hazardous atmosphere exists if an entrant has slurred speech, appears dizzy, disoriented, confused, unconscious, or displays any unusual behavior, or if communication with the entrant is lost. A self-contained breathing apparatus must be worn for entry rescues if a hazardous atmosphere is suspected or if there is any chance that it can develop. Call 911 for assistance or if specialized equipment is needed to remove a worker.

Outside Rescue Services

Although outside rescue services may be present at the time of the entry or summoned to give assistance and support in an emergency, members of the entry team must be prepared to give immediate assistance to any of the entrants who may need it.

NON-PERMIT CONFINED SPACES

All confined spaces are considered permit-required until pre-entry procedures demonstrate otherwise. A confined space may be designated a non-permit space, or a permit-required confined space may be reclassified a

non-permit space if all hazards have been eliminated. Because atmospheric hazards are controlled with ventilation and not eliminated in spaces, these spaces cannot be classified as non-permit spaces.

CONTRACTORS

Contractors and subcontractors who plan to work in LGVSD confined spaces will be given all available information on LGVSD confined space hazards, the permit system, and entry procedures. Contractors are required to use a permit system for entry into LGVSD permit-required confined spaces. Contractors are also required to coordinate work and entry activities whenever LGVSD employees and contractor employees will be working in or near the permit spaces.

At the conclusion of the contractor's work, the LGVSD supervisor in charge will debrief the contractor to determine if any hazards were encountered or created during entry.

TRAINING

All employees who work in or around confined spaces must be trained before performing any confined space work. At a minimum, the training will include:

1. Hazards of confined spaces.
2. Signs and symptoms of hazard exposure.
3. Duties of entrant, attendant, and entry supervisor.
4. Pre-entry and entry procedures.
5. LGVSD confined space permit system.
6. Selection and use of personal protective equipment.
7. Atmosphere test equipment.
8. Rescue procedures and equipment.
9. CPR/First Aid.

In addition, employees involved in confined space work will participate in simulated rescue operations at least once per year. Review training will be provided whenever the need is indicated, such as changes in procedures, introduction of new equipment, the hiring of new employees or whenever deficiencies in implementing the program are observed.

Training records will be maintained which will include names and signatures of trainees and trainers, dates and content of training. These records will be made available for inspection to employees or their representatives

LGVSD CONFINED SPACE ENTRY PERMIT

| | |
|---|--|
| Date issued: _____ Permit Expiration Date/Time: _____ Location/Description of Space: _____ Street Address of Entry _____ Reason for Entry: _____ | Work Site Permit: Authorized entry permit and monitoring data must remain at the work site until the job is complete. |
| | Fire Dept. Notified 472-0911 Before entry _____ initials After exiting _____ initials |

Entry Supervisor: _____

| | |
|------------------------------------|----------------------------------|
| Authorized Attendants and Initials | Authorized Entrant and Initials: |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Note: Indicate which attendant is assigned standby rescue duties. Initial of attendants and entrants indicate they understand their assignments, responsibilities and duties.

| | | |
|--|---|---|
| Pre-Entry Checks (complete before obtaining work authorization): <input type="checkbox"/> Notified other work groups. N/A _____ <input type="checkbox"/> Notified office personnel. N/A _____ <input type="checkbox"/> Checked that entry team training is current. N/A _____ <input type="checkbox"/> Reviewed entry procedures with team. N/A _____ <input type="checkbox"/> Set up barrier at entrance to space. N/A _____ <input type="checkbox"/> Checked that gas detection equipment calibration is current. N/A _____ <input type="checkbox"/> Performed pre-entry atmosphere tests. N/A _____ <input type="checkbox"/> Checked ventilation system. N/A _____ <input type="checkbox"/> Checked for physical hazards. N/A _____ <input type="checkbox"/> Secured and locked out energy sources. N/A _____ <input type="checkbox"/> Blocked or disconnected lines. N/A _____ <input type="checkbox"/> Discussed potential hazards with team. N/A _____ <input type="checkbox"/> Reviewed emergency response procedures. N/A _____ <input type="checkbox"/> Checked condition of safety equipment. N/A _____ <input type="checkbox"/> Obtained work authorization signatures. N/A _____ | Potential Hazards: <input type="checkbox"/> Oxygen deficiency N/A _____ <input type="checkbox"/> Oxygen enrichment N/A _____ <input type="checkbox"/> Flammable gases or vapors N/A _____ <input type="checkbox"/> Toxic gases or vapors N/A _____ <input type="checkbox"/> Mechanical hazards N/A _____ <input type="checkbox"/> Electrical hazards N/A _____ <input type="checkbox"/> Engulfment/entrapment N/A _____ <input type="checkbox"/> Noise N/A _____ <input type="checkbox"/> Heat/Cold N/A _____ <input type="checkbox"/> Falls N/A _____ <input type="checkbox"/> Falling objects N/A _____ <input type="checkbox"/> Other N/A _____ Safety Equipment: <input type="checkbox"/> Gas detection equipment N/A _____ <input type="checkbox"/> Safety harness N/A _____ <input type="checkbox"/> Safety line N/A _____ <input type="checkbox"/> Wristlets N/A _____ <input type="checkbox"/> Hoisting equipment N/A _____ | <input type="checkbox"/> Manhole hook N/A _____ <input type="checkbox"/> Barricades, cones, tape N/A _____ <input type="checkbox"/> Portable blower and hose N/A _____ <input type="checkbox"/> Explosion-proof lighting N/A _____ <input type="checkbox"/> Non-sparking tools N/A _____ <input type="checkbox"/> Tool bucket and line N/A _____ <input type="checkbox"/> Ladder N/A _____ <input type="checkbox"/> First aid kit N/A _____ <input type="checkbox"/> Fire extinguisher N/A _____ <input type="checkbox"/> Radio communication equipment N/A _____ <input type="checkbox"/> Cell phone N/A _____ <input type="checkbox"/> SCBA N/A _____ <input type="checkbox"/> Hard hat N/A _____ <input type="checkbox"/> Goggles, face shield N/A _____ <input type="checkbox"/> Gloves N/A _____ <input type="checkbox"/> Rain suit N/A _____ <input type="checkbox"/> Rubber boots N/A _____ <input type="checkbox"/> Other _____ _____ |
|--|---|---|

Hot Work:
 Does the entry involve hot work? Yes No If Yes, complete and attach a hot work permit.

Special Instructions:

Monitoring Data: Record monitoring data at 15-minute intervals on the reverse side of this permit.
Acceptable Atmospheric Conditions: Oxygen not less than 19.5% or more than 23.5%, LEL/LFL/not more than 10%, H₂S not more than 10 ppm.

| | | |
|---|---|--|
| Work Authorization Signatures All confined space work must be authorized by the General Manager, Plant Manager or Collection Crew Manager Work authorized by: _____ Date/Time: _____ | Entry Authorization I certify that the confined space work authorized by this permit has been reviewed with the entry team and that acceptable entry conditions exist and the necessary equipment for safe entry has been provided. Entry supervisor signature: _____ | Permit Cancellation Date: _____ Time: _____ Entry supervisor signature: _____ |
|---|---|--|

LGVSD HOT WORK PERMIT

This form is to be filled out by employee before performing hot work.

Name: _____

Date: _____ Time: _____ Location of job: _____

Detailed description of job: _____

| | YES | NO |
|---|--------------------------|--------------------------|
| 1. If the job is planned to be done indoors, can it be done outdoors or in the welding shop? If yes, move to one of these locations. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Have all combustible materials (solids, liquids, gases) been removed from the work area? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Are there any gas lines or other lines carrying combustible/flammable materials? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. If yes, have all lines be disconnected, blanked or otherwise protected? | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Has atmospheric test data been collected in the work area? | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Is a fire watch needed for this job? | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Is a fire extinguisher or water hose available and ready to use at the job site? | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Can flame or sparks ignite materials in work area or on lower floors or levels? | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Are non-flammable tarps used to cover combustibles in the work area? | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Have affected employees reviewed or given specific safety instructions? | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Have screens been set up in the work area? | <input type="checkbox"/> | <input type="checkbox"/> |

Special precautions to be taken: _____

| | |
|--|---|
| I have reviewed and approved this permit: Date: _____ Time: _____ _____ Signature of District Manager | Please make note of any actions taken based on the above responses. |
|--|---|

Revision: February 2006
 P:\Safety\Hot Work Permit

LGVSD CONFINED SPACE ENTRY PROCEDURES SUMMARY

Pre-Entry

1. Obtain work authorization from the District Manager or District Superintendent.
1. Perform non-entry evaluation of the space to identify potential hazards.
2. Test atmosphere, check ventilation system and check for physical hazards in and around work area.
3. Ensure affected employees observe pre-entry testing.
4. Gather appropriate safety equipment and check that all of it is in good working condition.
5. Without entering the space, secure and lockout energy sources and disconnect or block lines.
6. Place barricade or railing around opening to space.
7. Make sure there are no ignition sources near the confined space.
8. Complete pre-entry checks.
9. Have the Entry Supervisor authorize the entry permit.
10. Test atmosphere of space again. If there is no air contamination or O₂ deficiency, entry may proceed provided permit conditions and appropriate safety procedures are in effect.
11. If there is contamination or O₂ deficiency, ventilate 10 minutes and test again. If contamination persists, do not enter. Notify the Entry Supervisor.
12. Prior to entry, ventilate manholes and other confined spaces known or suspected to be hazardous.
13. Maintain continuous ventilation. Existing ventilation must be augmented whenever there is a potential for hazardous atmosphere or initial tests indicate contamination.
14. Keep the entry permit and monitoring data at the work site until the job is complete. Entry permits are valid only for the duration indicated on the permit.

Entry

1. Do not work in or around confined spaces if you are not properly trained or experienced in safe entry and rescue procedures.
2. Wear respiratory equipment whenever a safe atmosphere cannot be ensured.
3. Attendant must be in constant communication and visual contact with entrant and must monitor activities inside and outside of space.
4. Attendant must order evacuation if he/she observes any activity not on the permit, unusual behavior, or an outside situation that endangers the entrant.
5. Perform only the work authorized on the permit.

Rescue

1. Attendant never performs entry rescue unless relieved by another attendant.
2. Perform rescue from outside the space whenever possible.
3. Use respiratory equipment if entry rescue is performed.
4. Call 911 for rescue assistance.

Post-Entry

1. Note on back of permit and notify the District Superintendent of any unsafe or unusual conditions encountered during the confined space work.
2. Have Entry Supervisor cancel and file the permit.
3. Submit the cancelled permit to the Safety chairperson for review and filing.
3. Notify the Plant Superintendent if any equipment, safety gear or tools need to be repaired or replaced.

Exhibit E

Contractor's License & Workers' Compensation Insurance Info

Exhibit F
Performance Bond
Payment/Labor and Materials Bond
3-Year Maintenance Bond

LAS GALLINAS VALLEY SANITARY DISTRICT
300 Smith Ranch Road
San Rafael, California 94903

PERFORMANCE BOND

BOND NO. _____

PREMIUM: _____

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, LAS GALLINAS VALLEY SANITARY DISTRICT, (hereinafter designated as "Obligee") and _____ (hereinafter designated as "Principal") have entered into an agreement whereby principal agrees to install and complete certain designated public IMPROVEMENT, which said agreement, dated _____, and identified as project _____, is hereby referred to and made a part hereof; and

WHEREAS, Said principal is required under the terms of said agreement to furnish a bond for the faithful performance of said agreement;

NOW, THEREFORE, We, the principal and _____ as surety, are held and firmly bound unto the hereinafter called "The Obligee," in the penal sum of _____ dollars (\$ _____) lawful money of the United States for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally firmly by these presents.

The condition of this obligation is such that if the above bound principal, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and provisions in the said agreement and any alteration thereof made as therein provided, on his or their part, to be kept and perform and at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Obligee, its officers, agents and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by county in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

The surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specification accompanying the same shall in any wise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the work or to the specifications.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their

several seals this _____ day of _____, _____, the name and corporate seals of each corporate party being hereto affixed and these presents duly signed by their undersigned representatives, pursuant to authority of their governing bodies.

(Corporate Seal)

PRINCIPAL

(Acknowledgement)

By: _____
Title: _____

(Corporate Seal)

SURETY

(Acknowledgement)

By: _____

(Attorney-in-fact)

Title: _____

(NOTE TO SURETY COMPANY: A certified copy of unrevoked resolution of authority for the attorney-in-fact must be submitted with and attached to the executed bid bond.)

LAS GALLINAS VALLEY SANITARY DISTRICT
300 Smith Ranch Road
San Rafael, California 94903

PAYMENT/LABOR AND MATERIALS BOND

BOND NO.: _____

KNOW ALL MEN BY THESE PRESENTS:

That we, _____ Principal, and _____, incorporated under the laws of the State of _____ and authorized to execute bonds and undertakings as sole surety, as Surety, are held and firmly bound unto any and all persons named in California Civil Code Section 1181 whose claim has not been paid by the contractor, company or corporation, in the aggregate total of _____ dollars (\$ _____), for the payment whereof, well and truly to be made, said Principal and Surety bind themselves, their heirs, administrators, successors and assigns, jointly and severally, firmly by these present.

The Condition of the foregoing obligation is such that; whereas the above bounden Principal has entered into a contract, dated _____, with the LAS GALLINAS VALLEY SANITARY DISTRICT to do the following work, to-wit: _____.

NOW, THEREFORE, if the above bounden Principal contractor, person, company or corporation, or his or its subcontractor, fails to pay any claimant named in Section 3181 of the Civil Code of the State of California, or amounts due under the Unemployment Insurance Code, with respect to work or labor performed by any such claimant, that, the Surety on this bond will pay the same, in an amount not exceeding the aggregate sum specified in this bond, and also in case suit is brought upon this bond, a reasonable attorney's fee, which shall be awarded by the court to the prevailing party in said suit, said attorney's fee to be taxes as costs in said suit. This bond shall inure to the benefit of any person named in Section 3181 of the Civil Code of the State of California so as to vie a right of action to them or their assignees in any suit brought upon this bond.

This bond is executed and filed to comply with the provisions of the act of Legislature of the State of California as designated in Civil Code Sections 3247-3252 inclusive, and all amendments thereto.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals this _____ day of _____, _____ the name and corporate seals of each corporate party being hereto affixed and these presents duly signed by their undersigned representatives, pursuant to authority of their governing bodies.

(Corporate Seal)

LGVSD CONTRACTOR'S AGREEMENT
PAYMENT/LABOR AND MATERIALS BOND

PRINCIPAL

(Acknowledgement)

By:
Title: _____

(Corporate Seal)

SURETY

By: _____

(Attorney-in-fact)

(Acknowledgement)

Title: _____

(NOTE TO SURETY COMPANY: A certified copy of unrevoked resolution of authority for the attorney-in-fact must be submitted with and attached to the executed bid bond.)

LAS GALLINAS VALLEY SANITARY DISTRICT
300 Smith Ranch Road
San Rafael, California 94903

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS the Board of the Las Gallinas Valley Sanitary District (designated as the "OBLIGEE"), has awarded to _____, (designated as the "PRINCIPAL") a contract for the SEWER MAIN REHABILITATION 2018 project, Job No. 19200-01, which contract and all of the Contract Documents as defined therein (designated as the "Contract") are hereby made a part hereof;

WHEREAS, the PRINCIPAL is required under the terms of the Contract to furnish a bond for the correction of any defects due to defective materials or workmanship in the work performed under the Contract, for a period of THREE (3) YEARS from the date of acceptance by the OBLIGEE of the contracted work.

NOW, THEREFORE, we the PRINCIPAL and the undersigned _____, as surety (designated as "SURETY"), an admitted surety insurer authorized to do business in the State of California, are held and firmly bound unto the Las Gallinas Valley Sanitary District, in the penal sum of _____ Dollars (\$_____), lawful money of the United States, being a sum not less than ten percent (10%) of the final Contract price, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that if, during a maintenance period of THREE (3) YEARS from the date of acceptance by the OBLIGEE of the contracted work, the PRINCIPAL upon receiving written notice of a need for repairs which are directly attributable to defective materials or workmanship, shall diligently take the necessary steps to correct said defects within seven (7) calendar days from the date of said notice, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

If any action shall be brought by the OBLIGEE upon this bond, a reasonable attorney's fee, to be fixed by the Court, shall be and become a part of OBLIGEE's judgment in any such action. No right of action shall accrue on this bond to, or for the use of, any person or corporation other than the OBLIGEE named herein or the heirs, executors, administrator or successor of the OBLIGEE.

IN WITNESS WHEREOF, the above bound parties have executed this instrument under their seals this _____ day of _____, _____, the name and corporate seals of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

LGVSD CONTRACTOR'S AGREEMENT
PAYMENT/LABOR AND MATERIALS BOND

(Corporate Seal)

PRINCIPAL

(Acknowledgement)

By: _____
Title: _____

(Corporate Seal)

SURETY

(Acknowledgement)

By: _____

(Attorney-in-fact)
Title: _____

(NOTE TO SURETY COMPANY: A certified copy of unrevoked resolution of authority for the attorney-in-fact must be submitted with and attached to the executed bid bond)

TECHNICAL SPECIFICATIONS

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SECTION 01100

SUMMARY OF WORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Contract description.
- B. Specification conventions.

1.02 CONTRACT DESCRIPTION

- A. BASE BID: Relocation of Owner-furnished, trailer-mounted portable generator to a permanent location. Work shall include but not limited to:
 - 1. Construction of a concrete pad with 3'-wide AC paving all around; installation of seismic anchor bolts, permanent generator grounding consisting of 1/0 bare stranded copper cable and ground rod and box, and installation of a minimum of six (6) removable bollards.
 - 2. Furnishing and installation of a new manual transfer switch, automatic transfer switch, and NEMA 4x weather rated powder coated steel enclosures.
 - 3. Relocation of the existing generator receptacle, and all required conduits and wiring.
 - 4. Connection of alarm wiring to dialer and PLC; start up and testing; providing temporary back-up electrical power any time pump station or generator is out of service; and all other work and appurtenances necessary to the MCC.
 - 5. Replacement of the existing bubbler level system with an ultrasonic level controller, installation of emergency backup floats to permit automatic operation of the station in the event of level controller failure, replacement of old motor starters with new units, and miscellaneous additions to the alarming system.
 - 6. Mobilization, Demobilization, and General Condition consisting of preparatory work, operations and establishment of other facilities necessary to work on the Project, labor compliance, prevailing wage compliance, permitting requirements, cleanup, and surface restoration to the satisfaction of the Owner at the completion of the Project.
 - 7. Compliance to the requirements of the Bay Area Air Quality Management District (BAAQMD) Permit to Construct and Permit to Operate to be obtained by the Owner.
 - 8. Salvage of portable generator trailer and offsite disposal of internal MCC parts, unused towable generator parts such as diesel belly tank, etc., to an acceptable landfill site including permitting and other disposal requirements.
 - 9. Sheeting, shoring, and bracing.
- B. Alternate Bid Item 1: Installation of two (2) Light Poles with LED Lights. Work shall include but not limited to:
 - 1. Installation of concrete footing, required conduits, wiring, switches, and LED lights;
 - 2. Connections to the MCC;
 - 3. All other work and appurtenances necessary to install the LED light poles.

C. Alternate Bid Item 2: Installation of Fall Protection Barriers. Work shall include but not limited to:

1. Coring the concrete pump station decking slab with four (4) post mounting points around the wet well and eight (8) post mounting points around the valve pit opening, 6” deep, carefully avoiding any conduits in the slab.
2. Furnishing and installation of twelve (12) Type 316L stainless steel sleeves with grout or approved non-shrink epoxy, twelve (12) anodized aluminum posts with stainless steel chains and clasps suitable to provide fall protection, and all other work and appurtenances necessary to install fall protection barriers.

D. Perform Work of Contract with Owner in accordance with Contract Documents.

1.03 SPECIFICATION CONVENTIONS

A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words “shall be” are included by inference where a colon (:) is used within sentences or phrases.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01140

COORDINATION AND SITE CONDITIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Requirements for coordinating and sequencing the work under the Contract, and requirements regarding existing site conditions.

1.02 SITE CONDITIONS

- A. Information On Site Conditions:
 - 1. General: Information obtained by the Owner from other sources regarding site conditions, topography, subsurface information, groundwater elevations, existing construction of site facilities as applicable, and similar data will be available for inspection at the office of the Owner upon request. The Owner assumes no responsibility for its accuracy or completeness or for the Contractor's interpretation of such information.
- B. Existing Utilities:
 - 1. Location:
 - a. Known utilities and facilities adjacent to or within the work area are shown on the Drawings. The locations shown are taken from existing records and the best information available from existing utility plans; however, it is expected that there may be some discrepancies and omissions in the locations and quantities shown. Contractor's request for additional compensation or Contract time resulting from encountering utilities not shown will be considered as set forth in the General Conditions.
 - b. Contractor shall exercise reasonable care to verify locations of utilities and facilities shown on the Drawings and to determine the presence of those not shown. Immediate and adjacent areas where excavations are to be made shall be thoroughly checked by visual examination for indications of underground facilities, and also checked with electronic metal and pipe detection equipment. Where there is reasonable cause to verify the presence or absence of an underground facility, make exploratory excavations prior to proceeding with major excavation in the area. Where information on buried facilities is required to verify their nature, shape, configuration, dimensions, materials, or other properties, make exploratory excavations as acceptable to the Owner.
 - 2. Contractor's Responsibilities:
 - a. Where Contractor's operations could cause damage or inconvenience to railway, telegraph, telephone, television, power, oil, gas, water, sewer, or irrigation systems, the Contractor shall make arrangements necessary for the protection of these utilities and services. Replace existing utilities removed or damaged during construction, unless otherwise provided for in these Contract Documents.

- 1) Rock traps shall be installed in all downstream outlets of manholes. No concrete, pipe, or any debris shall be left in the sewer lines after construction. It is the sole responsibility of the contractor to install and maintain rock traps. Rock trap design shall be approved by the Owner.
 - b. Notify utility offices that are affected by construction operations at least 48 hours in advance. Under no circumstances expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for the utilities. Contact Underground Services Alert (U.S.A.) at telephone number 1-800-227-2600 for marking prior to digging.
 - c. Protect all utility poles from damage. If interfering utility poles will be encountered, notify the Owner at least 5 days in advance of construction operations to permit necessary arrangements with the utility company for protection or relocation of the interfering poles.
 - d. Contractor shall be solely and directly responsible to Owner and operator of such properties for damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of injuries or damage which may result from construction operations under this Contract.
 - e. Neither Owner nor its officers or agents shall be responsible to Contractor for damages as a result of Contractor's failure to protect utilities encountered in the work.
 - f. In event of interruption to domestic water, sewer, storm drain, or other utility services as a result of accidental damage due to construction operations, promptly notify the proper authority. Cooperate with said authority in restoration as promptly as possible and pay for repair. Prevent interruption of utility service unless granted by the utility owner.
 - g. In the event Contractor encounters water service lines that interfere with trenching, obtain prior approval of the water utility, cut the service, dig through, and restore service to previous conditions using equal materials.
3. Names of known Utilities: Notify the following applicable utilities if conflicts or emergencies arise during the work:
- a. Gas Mains and Services:

| | |
|-------------------|--|
| PG&E Engineering: | Jason Conihar at (415) 257-3404 or Mindee Rayburn at (415) 257-3405 |
| Emergency: | (800) 743-5000 |
 - b. Electrical Utilities:

| | |
|-------------------|---|
| PG&E | |
| Service Planning: | (415) 257-3431 or Al Caballero at (415) 257-3174 |
| Emergency: | (800) 743-5000 |
 - c. Telephone Utilities:

| | |
|------------|--|
| SBC/AT&T | Debbie Barrios at (707) 575 2077 or (707)321 6207 |
| Emergency: | (800) 310-2355 |
 - c. Marin County Public Works Department:

| | |
|-------------|----------------|
| Front Desk: | (415) 499-6530 |
|-------------|----------------|
 - d. City of San Rafael:

| | |
|-------------|----------------|
| Front Desk: | (415) 485-3355 |
|-------------|----------------|

- B. Interfering Structures:
1. Take necessary precautions to prevent damage to existing structures whether on the surface, aboveground, or underground. An attempt has been made to show major structures on the Drawings. While the information has been compiled from the best available sources, its completeness and accuracy cannot be guaranteed.
 2. Protect existing structures from damage, whether or not they lie within limits of easements obtained by the Owner. Where existing fences, gates, barns, sheds, buildings, or other structure must be removed to properly carry out work, or are damaged during work, restore them to original condition and to the satisfaction of property owner.
 3. Contractor may remove and replace in equal or better than original condition, small structures such as fences, mailboxes, and signposts that interfere with Contractor's operations.
- C. Field Relocation:
1. During construction, it is expected that minor relocations of proposed facilities will be necessary. Make such relocations only by direction of the Owner. If existing structures are encountered that prevent construction as shown, notify the Owner before continuing with work so Owner may make necessary field revisions.
 2. Where shown or directed by and acceptable to the Owner provide relocation of existing facilities to include piping, utilities, equipment, structures, electrical conduit wiring, electrical duct bank, and other miscellaneous items. Use only new materials for relocation of existing facilities. Match materials of existing facilities, unless otherwise shown or specified. Perform relocations to minimize downtime of existing facilities. Install new portions of existing facilities in their relocated position prior to removing existing facilities, unless otherwise accepted by Owner. Comply with cutting and patching requirements in this section.
- D. Monuments and Markers:
1. Preserve and protect survey monuments and markers throughout construction. If damage occurs or removal becomes necessary, immediately notify Owner.
 2. All survey markers or monuments which are damaged or removed as a result of the Contractor's operations will be reset by the Owner at the Contractor's expense.
 3. In order to allow for properly referencing any existing survey monuments or markers which may be damaged or removed, the Contractor shall provide the Owner with a minimum of 3 working days' notice before proceeding with any work which might damage or remove any existing markers.
- E. Easements:
1. Where portions of work will be located on public or private property, easements and permits have been obtained by Owner. Easements will provide for use of property for construction purposes only to the extent indicated on easements. Copies of these easements and permits will be available from Owner for inspection. Contractor shall determine the adequacy of easements obtained and abide by easement provisions. Confine construction operations to within easement limits or make special arrangements with property owners or appropriate public agency for additional area required.

2. Before final payment will be authorized, Contractor shall furnish the Owner written releases from property owners or public agencies where side agreements or special easements have been made, or where Contractor's operations have not been kept within the Owner's construction right-of-way or property.
3. In the event Contractor is unable to secure written releases, inform the Owner of the reasons.
 - a. Owner or its representatives will examine the site, and Owner will direct Contractor to complete work that may be necessary to satisfy terms of the easement.
 - b. Should Contractor refuse to do this work, Owner reserves the right to have it done by separate contract and deduct the cost of same from the Contract amount, or require the Contractor to furnish a satisfactory bond in a sum to cover legal claims for damages.
 - c. When Owner is satisfied that work has been completed in agreement with the Contract Documents and terms of easements, the right is reserved to waive the requirement for written release if:
 - 1) Contractor's failure to obtain such statement is due to the grantor's refusal to sign, and this refusal is not based upon any legitimate claims that Contractor has failed to fulfill the terms of the easement, or
 - 2) Contractor is unable to contact or has had undue hardship in contacting the grantor.

1.03 SALVAGE OF MATERIALS

- A. Remove material to be salvaged with extreme care so as not to damage it for future use. Damage caused by the Contractor to equipment or material shall be replaced or repaired by the Contractor. Deliver salvaged material to Owner or at a site specified by the Owner. Hauling and disposal shall be at the expense of the Contractor.

1.04 CONNECTING TO EXISTING FACILITIES

- A. Unless otherwise shown or specified, determine methods of connecting new work to existing facilities, and obtain Owner's review and acceptance of connections.
 1. Determine location, elevation, nature, materials, dimensions, and configurations of existing facilities where necessary for connecting new work.
 2. Inspect existing record drawings and shop drawings, conduct exploratory excavations and field inspections, and conduct similar activities as needed.

1.05 PROGRESS MEETINGS

- A. Owner will schedule regular progress meetings at least monthly to review work progress, schedules, and other matters needing discussion and resolution.

1.06 SEQUENCE OF WORK

- A. Time of Work:
 1. Work hours are specified by governing agencies having jurisdiction through encroachment permits. See Appendix section for encroachment permits from Marin County and City of San Rafael, if applicable.

2. Work hours specified by other governing agencies through encroachment permits shall be the responsibility of the Contractor. At the sole discretion of the governing agencies, work may be limited anytime at no additional cost to the Owner.
 3. Unless noted otherwise, night work may be scheduled by Contractor only with the written permission of Owner. Such permission, however, may be revoked at any time if Contractor fails to properly execute and control nighttime work.
- B. Overtime Notice: If Contractor for convenience should desire to carry on work at night or outside regular hours, submit written notice to the Owner and allow ample time for satisfactory arrangements to be made for inspecting work in progress. The Owner will be the sole judge of whether on-site inspection is required.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

PART 4 PAYMENT

4.01 GENERAL

- A. Full compensation for the work specified herein shall be considered as included in the applicable lump sum or unit price items stated in the Contractor's proposal and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 01300

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preconstruction meeting.
- B. Cutting and patching.
- C. Special procedures.

1.02 PRECONSTRUCTION MEETING

- A. Architect/Engineer will schedule meeting after Notice of Award.
- B. Attendance Required: Architect/Engineer and Contractor.
- C. Agenda:
 - 1. Submission of executed bonds and insurance certificates.
 - 2. Distribution of Contract Documents.
 - 3. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
 - 4. Designation of personnel representing parties in Contract and Architect/Engineer.
 - 5. Procedures and processing of field decisions, submittals, substitution, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 6. Scheduling.
- D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect/Engineer, and those affected by decisions made.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install or correct ill-timed Work.

3. Remove and replace defective and non-conforming Work.
 4. Remove samples of installed Work for testing.
- C. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.
 - D. Cut masonry and concrete materials using masonry saw or core drill.
 - E. Restore Work with new products in accordance with requirements of Contract Documents.
 - F. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
 - G. Identify hazardous substances or conditions exposed during the Work to Architect/Engineer for decision or remedy.

3.02 SPECIAL PROCEDURES

- A. Materials: As specified in product sections; match existing with new products for patching and extending work.
- B. Employ skilled and experienced installer to perform alteration work.
- C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
- D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- E. Remove debris and abandoned items from area and from concealed spaces.
- F. Prepare surface and remove surface finishes to permit installation of new work and finishes.
- G. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.

PART 4 PAYMENT

4.01 GENERAL

- A. Full compensation for the work specified herein shall be considered as included in the applicable lump sum or unit price items stated in the Contactor's proposal and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 01330

SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Requirements and procedures necessary for scheduling, preparation, and submission of submittals.
- B. Requirements for preparation of progress schedules.

1.02 RELATED WORK SPECIFIED UNDER OTHER SECTIONS

- A. The individual Specification sections in these Contract Documents contain additional and special submittal requirements. Individual sections shall take precedence in the event of a conflict with this section.

1.03 SUBMITTAL PROCEDURES

- A. District reserves the right to modify the procedures and requirements for submittals, as necessary to accomplish the specific purpose of each submittal.
- B. Review, acceptance, or approval of substitutions, schedules, shop drawings, lists of materials, and procedures submitted or requested by Contractor shall not add to the Contract amount, and additional costs which may result therefrom shall be solely the obligation of Contractor.
- C. District is not precluded, by virtue of review, acceptance, or approval, from obtaining a credit for construction savings resulting from allowed concessions in the work or materials therefor.
- D. District is not responsible to provide engineering or other services to protect Contractor from additional costs accruing from submittals.
- E. Delays caused by the need for resubmittal shall not constitute basis for claim.
- F. After checking and verifying all field measurements, make submittals to Owner, in accordance with the schedule of submittals for review.
 - 1. Submittals shall bear a stamp or specific written indication that Contractor has satisfied its responsibilities under the Contract Documents with respect to the review of the submittal.
 - 2. Data shown shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to enable Owner to review the information.
- G. Check samples, and accompany with specific written indication that Contractor has satisfied requirements under the Contract Documents with respect to review of

submittals, and identify clearly as to material, supplier, pertinent data such as catalog numbers and the intended use.

- H. Before submission of each submittal, determine and verify quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto; review and coordinate each submittal with other submittals, requirements of the work, and the Contract Documents.
- I. At the time of each submission, give Owner specific written notice of each variation that the submittal may have from the requirements of the Contract Documents; in addition, make specific notation on each shop drawing submitted to Owner for review and approval of each such variation.

1.04 SCHEDULES

- A. General:
 - 1. Submit estimated progress schedule and preliminary schedule of submittals in duplicate to Owner.
 - 2. Schedules shall be submitted a minimum of 5 days prior to the time scheduled for the preconstruction meeting.
 - 3. Revise and resubmit as specified, and identify all changes made from previous schedule submittals.
 - 4. Failure to resubmit a revised schedule when requested may result in the withholding of monthly progress payments.
- B. Progress Schedule:
 - 1. The Contractor shall prepare and submit to the Owner, a progress schedule showing the dates on which each part or division of the work is expected to be started and finished.
 - 2. The schedule shall be in the form of a CPM or bar chart, and shall show the complete sequence of construction by activity or stages of work.
 - 3. The schedule shall reflect completion of all work within the specified time.
 - 4. Show product lead time for any item which exceeds 4 weeks.
 - 5. Show sufficient detail in breakdown so no activity exceeds 10 working days, excluding submittals and material lead time.
 - 6. Show the average feet per day anticipated for each condition, area, and/or size of pipe.
 - 7. Indicate the number of crews, the makeup of all crews, and the separate tasks to be preformatted by each crew.
 - 8. Information on the progress schedule shall be maintained current at all times. Submit updated schedule to Owner with each progress pay request.
 - 9. The updated schedule shall clearly show the date of the revision, and the revised performance periods. It shall also have an accurate history of the activities completed.
- C. Submittal Listing:
 - 1. Submit listing and schedule for all submittals required by the Specifications for review.

1.05 SHOP DRAWINGS

- A. General:
1. Shop drawings, as defined herein, consist of all drawings, diagrams, illustrations, schedules, and other data which are specifically prepared by or for Contractor to illustrate some portion of the work; and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams, and other information prepared by a manufacturer and submitted by Contractor to illustrate material or equipment for district portions of the work.
 2. Submittal of incomplete or unchecked shop drawings will not be acceptable. Shop drawing submittals which do not clearly show Contractor's review stamp or specific written indication of Contractor review will be returned to Contractor for resubmission.
 3. Submittal of shop drawings not required under these Contract Documents and not shown on the schedule of submittals will be returned to Contractor unreviewed and unstamped.
- B. Procedures:
1. Submit to Owner for review and approval in accordance with the accepted schedule of submittals, five copies of shop drawings.
 2. Transmit each submittal on District accepted form.
 3. Sequentially number the transmittal forms; resubmittals to have original number with an alphabetic suffix.
 4. Identify project, Contractor, Specification section number, pertinent drawing sheet and detail number(s), products, units and assemblies, and the system or equipment identification or tag number as shown.
 5. Apply Contractor's stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with requirements of the Contract Documents.
 6. Revise and resubmit submittals as required; identify all changes made since previous submittal.
 7. Submittals will be acted upon and transmitted to Contractor not later than 20 working days after receipt.
 8. When shop drawings have been reviewed by Owner, two copies will be returned to Contractor appropriately annotated.
 - a. If major changes or corrections are necessary, shop drawing may be rejected and one set will be returned to Contractor with such changes or corrections indicated.
 - b. Correct and resubmit the shop drawings in the same manner and quantity as specified for the original submittal.

1.06 SAMPLES AND TEST SPECIMENS

- A. Where required in the Specifications, and as determined necessary by Owner, submit test specimens or samples of materials, appliances, and fittings to be used or offered for use in connection with the work. Include information as to their sources, prepay cartage charges, and submit such quantities and sizes for proper examination and tests to establish the quality or equality thereof, as applicable.

- B. Submit samples and test specimens in ample time to enable Owner to make tests or examinations necessary, without delay to the work.
- C. Submit additional samples as required by Owner to ensure equality with the original approved sample and/or for determination of Specification compliance.
- D. Laboratory tests and examinations that District elects to make in its own laboratory will be made at District's cost except that, if a sample of any material or equipment proposed for use by Contractor fails to meet the Specifications, Contractor shall bear cost of testing subsequent samples.
- E. Tests required by the Specifications to be performed by an independent laboratory shall be made by a laboratory licensed or certified in accordance with state statutes. Submit certified test results of specified tests in duplicate to Owner.
- F. Samples and laboratory services shall be at the expense of Contractor and included in the prices bid for the associated work.

1.07 CONTRACT CLOSEOUT SUBMITTALS

- A. Record Drawings:
 - 1. Each month, or as otherwise agreed, submit to Owner a current listing and description of each change incorporated into the work since the preceding submittal. These changes shall be summarized on a full size set of Drawings in pencil or ink on an ongoing basis. Contractor will prepare a set of record drawings for the project which will include the changes made in materials, equipment, locations, and dimensions of the work. Final payment will not be made until a complete set of the annotated Drawings have been delivered to the Owner.

1.08 CONSTRUCTION PHOTOGRAPHS

- A. Provide photographs in JPEG showing the preconstruction site conditions, construction progress, and the post-construction site conditions. Each photograph shall be labeled in chronological order, formatted consistently, with easily apparent date and time, location taken, and general subject/title. Deliver to Engineer/Owner the photographs in electronic format saved in a CD, DVD, or USB flash drive.
- B. Take exposures of the preconstruction site and the property adjacent to the perimeter of the construction site. Particular emphasis shall be directed to structures both inside and outside the site, or as directed by Owner.
- C. Take exposures monthly showing the progress of construction. The location of these photographs shall be determined by Owner.
- D. Take exposures of the post-construction site and the property adjacent to the perimeter of the site. Particular emphasis shall be directed to structures both inside and outside the site, or as directed by Owner.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

PART 4 PAYMENT

4.01 GENERAL

- A. Full compensation for the work specified herein shall be considered as included in the applicable lump sum or unit price items stated in the Contactor's proposal and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 01400

QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Quality control and control of installation.
- B. Tolerances
- C. References.
- D. Testing and inspection services.
- E. Examination.
- F. Preparation.

1.02 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.03 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

- C. Adjust products to appropriate dimensions; position before securing products in place.

1.04 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. When specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- E. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Architect/Engineer shall be altered from Contract Documents by mention or inference otherwise in reference documents.

1.05 TESTING AND INSPECTION SERVICES

- A. Owner will employ and pay for specified services of an independent firm to perform testing and inspection.
- B. The independent firm will perform tests, inspections and other services specified in individual specification sections and as required by Architect/Engineer.
 - 1. Laboratory: Authorized to operate at Project location.
 - 2. Laboratory Staff: Maintain full time specialist on staff to review services.
 - 3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.
- C. Testing, inspections and source quality control may occur on or off project site. Perform off-site testing as required by Architect/Engineer or Owner.
- D. Reports will be submitted by independent firm to Architect/Engineer, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
 - 1. Notify Architect/Engineer and independent firm 24 hours prior to expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- F. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

- G. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same independent firm on instructions by Architect/Engineer. Payment for re-testing or re-inspection will be charged to Contractor by deducting testing charges from Contract Sum/Price.
- H. Agency Responsibilities:
 - 1. Test samples of mixes submitted by Contractor.
 - 2. Provide qualified personnel at site. Cooperate with Architect/Engineer and Contractor in performance of services.
 - 3. Perform specified sampling and testing of products in accordance with specified standards.
 - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 5. Promptly notify Architect/Engineer and Contractor of observed irregularities or non-conformance of Work or products.
 - 6. Perform additional tests required by Architect/Engineer.
- I. Agency Reports: After each test, promptly submit two copies of report to Architect/Engineer. When requested by Architect/Engineer, provide interpretation of test results. Include the following:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Name of inspector.
 - 4. Date and time of sampling or inspection.
 - 5. Identification of product and specifications section.
 - 6. Location in Project.
 - 7. Type of inspection or test.
 - 8. Date of test.
 - 9. Results of tests.
- J. Limits On Testing Authority:
 - 1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency or laboratory may not approve or accept any portion of the Work.
 - 3. Agency or laboratory may not assume duties of Contractor.
 - 4. Agency or laboratory has no authority to stop the Work.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

- B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify utility services are available, of correct characteristics, and in correct locations.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

PART 4 PAYMENT

GENERAL

- A. Full compensation for the work specified herein shall be considered as included in the applicable lump sum or unit price items stated in the Contactor's proposal and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary utilities required during construction.
- B. Requirements for security and protection of facilities and property.
- C. Requirements for traffic regulation and access to the work.
- D. Temporary controls for protection of environment.

1.02 TEMPORARY UTILITIES

- A. Electric Power:
 - 1. Electric power is available at the site. Make arrangements with District personnel to obtain electrical power.
 - 2. Temporary electric power installations shall meet construction safety requirements of OSHA, state, and other governing agencies.
- B. Water:
 - 1. No water is available at the project site. Make arrangements and bear all costs for obtaining and transporting water to the construction areas.
- C. Sewage:
 - 1. Provide and maintain sanitary facilities for Contractor's employees and subcontractor's employees that comply with regulations of local and state health departments.
 - 2. Provide chemical toilets of suitable types and maintain them in a sanitary condition at all times, conforming to code requirements and acceptable to the health authorities. They shall be of watertight construction so that no contamination of the area can result from their use. Make arrangements for frequent emptying of toilets.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 TEMPORARY CONSTRUCTION FACILITIES

- A. Storage Yards and Buildings:
 - 1. The Contractor shall maintain a suitable temporary office at or near the project site.
 - 2. The Contractor shall be responsible for providing the site for the temporary office

- and for a storage and staging area.
3. Store combustible materials (paints, solvents, fuels, etc.) in a well-ventilated building remote from other buildings.

3.02 SAFETY AND PROTECTION

A. Examination of Existing Facilities:

1. After the Contract is awarded and before the commencement of work, Contractor and Owner shall make a thorough examination of all existing buildings, structures, and other improvements in the vicinity of the work, as applicable, which might be damaged by construction operations.
2. Periodic examinations of existing buildings, structures, and other improvements in the vicinity of the work shall be made jointly by authorized representatives of the Contractor, Owner, and the affected property owners. The scope of the examination shall include cracks in structures, settlement, leakage, and similar conditions.
3. Records in triplicate of all observations shall be prepared by the Contractor and each copy of every document shall be signed by the authorized representative of the Owner and of the Contractor. Photographs, as requested by the Owner, shall be made by the Contractor and signed in the manner specified above. One signed copy of every document and photograph will be kept on file in the office of the Owner.
4. These records and photographs are intended for use as indisputable evidence in ascertaining whether and to what extent damage occurred as a result of the Contractor's operations, and are for the protection of the adjacent property owners, the Contractor, and the Owner.

B. Safety Requirements:

1. Contractor shall do whatever work is necessary for safety and be solely and completely responsible for conditions of the jobsite, including safety of all persons (including employees) and property during the Contract period. This requirement shall apply continuously and not be limited to normal working hours.
2. Safety provisions shall conform to Federal and State Departments of Labor Occupational Safety and Health Act (OSHA), and other applicable federal, state, county, and local laws, ordinances, codes, requirements set forth herein, and regulations that may be specified in other parts of these Contract Documents. Where these are in conflict, the more stringent requirement shall be followed. Contractor shall become thoroughly familiar with governing safety provisions and shall comply with the obligations set forth therein.
3. Contractor shall develop and maintain for the duration of the Contract, a safety program that will effectively incorporate and implement required safety provisions. Contractor shall appoint a qualified employee who is authorized to supervise and enforce compliance with the safety program.
4. Owner's duty to conduct construction review of the Contractor's performance is not intended to include a review or approval of the adequacy of Contractor's safety supervisor, safety program, or safety measures taken in, on, or near the construction site.
5. As part of safety program, Contractor shall maintain at his office or other well-

known place at the jobsite, safety equipment applicable to the work as prescribed by the governing safety authorities, and articles necessary for giving first-aid to the injured. Established procedures for the immediate removal to a hospital or a doctor's care of persons who may be injured on the jobsite.

6. Contractor shall do all work necessary to protect the general public from hazards, including, but not limited to, surface irregularities or unramped grade changes in pedestrian sidewalk or walkway, and trenches or excavations in roadway. Barricades, lanterns, and proper signs shall be furnished in sufficient amount to safeguard the public and the work.
7. Construct and maintain satisfactory and substantial temporary chain link fencing, solid fencing, railing, barricades or steel plates, as applicable, at all openings, obstructions, or other hazards in streets, sidewalks, floors, roofs, and walkways. Such barriers shall have adequate warning lights as necessary or required for safety.
8. Comply with District's safety rules while on District property.
9. If death or serious injuries or damages are caused, the accident shall be reported immediately by telephone or messenger to the Owner. In addition, Contractor shall promptly report in writing all accidents whatsoever arising out of, or in connection with, the performance of the work whether on or adjacent to the site, giving full details and statements of witnesses.
10. If claim is made by anyone against Contractor or any subcontractor on account of accident, Contractor shall promptly report the facts in writing, giving full details of the claim.

C. Protection of Work and Property:

1. General:
 - a. Contractor shall employ such means and methods necessary to adequately protect public property and property of the District against damage. In the event of damage to such property, immediately restore the property to a condition equal to its original condition and to the satisfaction of the Owner and the owner of said property, and bear all costs therefor.
 - b. Protect stored materials, trees and crops, and other items located adjacent to the proposed work. During construction operations, construct and maintain facilities to enable pedestrian access by all property owners to their property at all times. No person shall be cut off from vehicular access to residence or place of business, unless the Contractor has made special arrangement with the affected person.
 - c. Protect from damage all trees outside the limits of the work and trees within the limits of the work which are designated on the Drawings to remain undisturbed. No trees, except those specifically shown on the Drawings to be removed, shall be removed without approval of the Owner. Dispose of removed trees in a legal manner off the jobsite.
2. Finished Construction:
 - a. Contractor shall assume the responsibility for protection of finished construction and shall repair and restore any and all damage to finished work to its original or better condition.
 - b. At such time temporary facilities and utilities are no longer required for the work, notify Owner of intent and schedule for their removal.

Remove temporary facilities and utilities from the site as Contractor's property and leave the site in such condition as specified, as shown on the Drawings or as directed by the Engineer.

- c. In unfinished areas, leave the site evenly graded in a condition that will restore original drainage, and with an appearance equal to or better than original. Existing planted or landscaped areas shall be restored and be left ready for replanting.

3.03 ENVIRONMENTAL CONTROLS

A. General:

1. The Contractor is executing the work shall maintain affected areas within and outside project boundaries free from environmental pollution that would be in violation of federal, state, or local regulations.

B. Water Pollution Control:

1. Comply with laws, rules, and regulations of the State of California and agencies of the United States Government prohibiting the pollution of lakes, wetlands, streams, or river waters from the dumping of refuse, rubbish, or debris.
2. Divert sewage and waste flow, including storm water flow, interfering wastewater treatment plant. Do not cause or permit action to occur which would cause an overflow to an existing waterway. Prior to commencing excavation and construction, obtain Owner's agreement with detailed plans showing procedures intended to handle and dispose of sewage, groundwater, and storm water flow, including dewatering pump discharges.
3. Contractor shall comply with the procedures outlined in the U.S. Environmental Protection Agency manuals entitled "Guidelines for Erosion and Sedimentation Control Planning and Implementation", "Processes, Procedures and Methods to Control Pollution Resulting from All Construction Activity", and "Erosion and Sediment Control-Surface Mining in Eastern United States".
4. The California Regional Water Quality Control Board has the power, derived from the Porter-Cologne Water Quality Control Act, to impose on the District up to \$10,000 per day (or portion thereof) fine for bypassing of sewage flows to the San Francisco Bay. Contractors shall be responsible for violations of Regional Board requirements caused by their operations. If an overflow to the Bay occurs because of the Contractor's operations or neglect, and fines are levied against the District, the fines will be considered direct damages caused by the Contractor which the District may recover by retention.

C. Waste Material Disposal:

1. Cleaning and disposal shall comply with local ordinances and pollution control laws. Do not burn or bury rubbish or waste materials on the project site. Do not dispose of volatile wastes such as mineral spirits, oil, chemicals, or paint thinner in storm or sanitary drains. Disposal of wastes into streams or waterways is prohibited. Provide acceptable containers for collection and disposal of waste materials, debris, and rubbish.

D. Air Pollution Control:

1. Trash burning will not be permitted on the construction site.

2. Operations of dumping rock and of carrying waste or excess material away in trucks shall be conducted to cause a minimum of dust. Give unpaved streets, roads, detours, or haul roads used in the construction area a dust-preventive treatment, or periodically water to prevent dust. Strictly adhere to applicable environmental regulations for dust prevention.
 3. Sweep work area on daily basis, wet as required to control dust during sweeping operations.
- E. Noise Control:
1. Minimize noise by executing work using appropriate construction methods and equipment. Provide acoustical barriers so noise emanating from tools or equipment will not exceed legal noise levels.

PART 4 PAYMENT

4.01 GENERAL

- A. No separate measurement or payment will be made for work in this section. Payment shall be included as part of the appropriate lump sum or unit price bid items stated in the Proposal.
- B. Payment for furnishing and maintaining the Engineer's field office will be made as part of the lump sum bid amount for mobilization stated in the Proposal. Partial payments will be prorated based on the percent complete of the overall project costs.

END OF SECTION

SECTION 01600

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Product substitution procedures.

1.02 PRODUCTS

- A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.
- C. Furnish interchangeable components from same manufacturer for components being replaced.

1.03 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.04 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.

- E. Provide off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.05 PRODUCT OPTIONS

- A. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit request for substitution for any manufacturer not named in accordance with the following article.

1.06 PRODUCT SUBSTITUTION PROCEDURES

- A. Substitutions may be considered when a product becomes unavailable through no fault of Contractor.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- C. A request constitutes a representation that Contractor:
 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 2. Will provide same warranty for Substitution as for specified product.
 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 5. Will reimburse Owner for review or redesign services associated with re-approval by authorities having jurisdiction.
- D. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.
- E. Substitution Submittal Procedure:
 1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 2. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
 3. Architect/Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

PART 4 PAYMENT

4.01 GENERAL

- A. Full compensation for the work specified herein shall be considered as included in the applicable lump sum or unit price items stated in the Contactor's proposal and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures to be followed in closing out the Contract.

1.02 FINAL SUBMITTALS

- A. No Contract will be finalized until all of the following have been submitted as required in Section SUBMITTALS:
 1. Final shop drawings.
 2. Record drawings.
 3. Manufacturer's certification of proper installation.
 4. Video tapes, construction photographs, including completed project.
- B. No Contract will be finalized until all guarantees, bonds, certifications, licenses, and affidavits required for work or equipment as specified are satisfactorily filed with the Owner.

1.03 RELEASE OF LIENS OR CLAIMS

- A. No Contract will be finalized until satisfactory evidence of release of liens has been submitted to District as required by the General Conditions.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 FINAL CLEANING

- A. At completion of work and immediately prior to final inspection, clean entire project according to the following provisions:
 1. Leave the structures and site in a complete and finished condition to the satisfaction of the Owner.
 2. Remove debris including dirt, sand, and gravel from sewers.
- B. The Contractor shall:
 1. Repair, patch, and touch up marred surfaces to specified finish, and match adjacent surfaces.
 2. Broom clean paved surfaces; rake clean other surfaces.
 3. Remove temporary structures and materials, equipment, and appurtenances not required as part of, or appurtenant to, the completed work.
 4. Leave water courses, gutters, and ditches open and in condition satisfactory to Owner.

3.02 FINAL INSPECTION

- A. After final cleaning and upon written notice from the Contractor that the work is completed, Owner will make preliminary inspection with the Contractor present. Upon completion of preliminary inspection, Owner will notify Contractor in writing of particulars in which the completed work is defective or incomplete.
- B. Upon receiving written notice from Owner, Contractor shall immediately undertake work required to remedy defects and complete the work to the satisfaction of Owner.
- C. After the items as listed in Owner's written notice are corrected or completed, inform Owner in writing that required work has been completed. Upon receipt of this notice, Owner, in the presence the Contractor, will make final inspection of the project.
- D. Should the Owner find all work satisfactory at the time of final inspection, Contractor will be allowed to make application for final payment in accordance with provisions of the General Conditions. Should Owner still find deficiencies in the work, Owner will notify Contractor in writing of deficiencies and will not approve Contractor's request for final payment until such time as Contractor has satisfactorily completed the required work.

PART 4 PAYMENT

4.01 GENERAL

- A. Full compensation for the work specified herein shall be considered as included in the applicable lump sum or unit price items stated in the Contactor's Proposal, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 01950

SAFETY AND HEALTH

PART 1.00 GENERAL

1.01 CONTRACTOR'S RESPONSIBILITY FOR SAFETY

- A. The Contractor certifies that he is experienced and qualified to anticipate and meet the safety and health requirements of this Project pursuant to California Administrative Code, Title 8, "Industrial Relations", and Code of Federal Regulations, Sections 1900 through 1910, "Occupational Safety and Health Standards", and Section 1926 "Construction". For information purposes only the Contractor shall submit to the Owner a copy of his Injury and Illness Prevention Program. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. This requirement will apply continuously twenty-four (24) hours a day every day until final acceptance of the Work and shall not be limited to normal working hours. The duties of the Owner, Engineer and Inspector do not include review of the adequacy of the Contractor's safety measures in, on, or about the site and vicinity.
1. Safety Officer. The Contractor shall designate a fully trained and responsible member of his organization at the site who is experienced in administering, enforcing and overseeing the safety standards contained in the California Administrative Code, Title 8 and 29, and the Code of Federal Regulations, Sections 1900 through 1910 and Section 1926, whose duty shall be the prevention of hazards and accidents and who shall have authority to direct work for the Contractor.
 2. Safety Supervisor. The Contractor shall designate Safety Supervisors for each work site. One Safety Supervisor may be the Safety Officer. The other Safety Supervisors shall work for the Safety Officer. Each shall be fully trained for the type of work being performed and shall have authority to direct the Contractor's work.
 3. Accident Reporting. Any accident occurring within the premise of the Regional Treatment Plant is to be reported to the Owner.

1.02 SAFETY MEASURES

- A. The Contractor shall comply with all laws, ordinances, codes, rules, regulations and lawful orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. The Contractor shall maintain copies of all documents mentioned or referenced in this Section readily available at the site until the Work is completed. In the event the Contractor fails to observe any of the necessary safety provisions, the Owner may stop the work and direct the Contractor to comply with the applicable provisions, or may order the necessary work done by others. All impacts, both monetary and time-related, associated with stoppage of the work in order to comply with the Owner's directives pertaining to safety requirements, and all costs of having the necessary work done by others shall be borne by and be the obligation of the Contractor.

1.03 CONFINED SPACE SAFETY

- A. The Owner employs a "Permit Required" safety standard for all confined space entries per California General Industrial Safety Orders, Section 5157. Work performed in or about wastewater (sewage) facilities, including but not limited to manholes, pipes, tanks,

basins, and structures, carries with it the high potential for exposure of workers and other persons to hazardous conditions. The Contractor is required to be especially alert to these conditions and employ a "permit required" system for all confined space entries as specified in California General Industrial Safety Orders, Section 5157. These conditions may include, but are not limited to, exposure to hydrogen sulfide, carbon dioxide, methane, carbon monoxide and other gases; exposure to atmospheres containing insufficient oxygen to support human life; exposure to wastewater (sewage) which may contain bacteriological, chemical, and other constituents harmful to humans; working in conditions where engulfment or entrapment of personnel may occur (such as in trench excavations); and working in structures with uneven and slippery surfaces and with difficult and limited access. Many of these environments are classified as "confined spaces" in the Code of Federal Regulations, Sections 1900 through 1910 and Section 1926, the California Administrative Code, Title 8, and the State of California's General Industry Safety Orders. The Contractor shall be fully familiar with, and shall strictly adhere to and comply with, the applicable sections of these documents pertaining to confined spaces. In the event of a conflict between applicable requirements, the more restrictive shall apply.

- B. See Appendix Section of the Contract Documents for District Safe Work Requirements and Confined Space Entry Program.

1.04 PERSONAL HYGIENE

- A. Persons involved in the work may be exposed to disease-producing organisms in wastewater (sewage). The Contractor shall require his personnel to observe proper hygienic precautions, including washing of hands and other exposed portions of the body with disinfecting soap and water before eating or smoking.

1.05 PUBLIC SAFETY AND CONVENIENCE

- A. The Contractor shall conduct his work so as to insure the least possible obstruction to traffic and inconvenience to the general public in the vicinity of the work and to insure the protection of persons and property. No road or street shall be closed to the public except with the permission of the Owner and the proper governmental authority. Fire hydrants on or adjacent to the work shall be accessible to fire-fighting equipment. Temporary provisions shall be made by the Contractor to insure the use of sidewalks, private and public driveways and proper functioning of gutters, sewer inlets, drainage ditches and culverts, irrigation ditches and natural water courses.

1.06 WARNINGS AND BARRICADES

- A. The Contractor shall provide and maintain barricades, guards, temporary bridges and walkways, watchmen, night lights and danger signals illuminated from sunset to sunrise, and all other necessary appliances and safeguards to protect the Work, life, property, the public, excavations, equipment, and materials. Barricades shall be of substantial construction and shall be painted such as to increase their visibility at night. Suitable warning signs shall be so placed and illuminated at night as to show in advance where construction, barricades, or detours exist. Guard rails shall be provided for bridges and walkways over or adjoining excavations, shafts, and other openings and locations where injury may occur.

1.07 FIRE PREVENTION

- A. The Contractor's Safety Officer shall inspect the entire Work and site, including storage areas, at frequent intervals to verify that fire prevention measures are constantly enforced.
1. Fire Extinguishers and Hoses. The Contractor shall furnish and maintain fully charged fire extinguishers of the appropriate type, supplements with temporary fire hoses wherever an adequate water supply exists, at the places where burning, welding or other operations that may cause a fire are being performed.
 2. Flammable, Hazardous or Toxic Materials. Solvents, gasoline, and other hazardous materials may be in the wastewater (sewage), and therefore, the work site may be hazardous to open flame, sparks, or unventilated occupancy. The Contractor shall take measures to assure his personnel observe proper safety precautions when working in these areas. Only a working supply of flammable, hazardous or toxic materials shall be permitted in or on any of the permanent structures and improvements, and shall be removed there from at the end of each day's operations. The Contractor shall store flammable, hazardous or toxic materials and waste separate from the Work and stored materials for the Work in a manner that prevents spontaneous combustion or dispersion, provides the appropriate level of secondary spill containment, and none shall be placed in any sewer or drain piping nor buried on the Owner's property. It is the Contractor's responsibility to request permission 15 days in advance, in writing, to bring hazardous, toxic, or flammable materials to the Owner's work site. The request will specify the type and quantity of material proposed to be brought on site, where and how it will be stored, what type of secondary containment will be used, where and by whom the material will be used, and what health hazards are associated with the proposed material (Material Safety Data Sheet). The Owner will respond to the Contractor, in writing, within seven days of the receipt of the request as to whether or not the material can be brought on site and of any special requirements the OWNER may have that are not covered in the Contractor's request. The Contractor shall maintain a current and up-to-date copy of all laws, ordinances, codes, rules, regulations and lawful orders of any regulatory authority having jurisdiction or control over flammable, hazardous or toxic materials and, at his expense, shall comply with said laws, ordinances, codes, rules, regulations and lawful orders.

1.08 SAFETY HELMETS, CLOTHING, AND EQUIPMENT

- A. The Contractor shall not permit any person for whom he is responsible or liable to enter or remain on the site of the Work unless the person is equipped with and wearing a safety helmet and other protective clothing and safety equipment conforming to the requirements of California General Industrial Safety Orders, and shall discharge from the site all persons not so equipped. The Contractor shall post conspicuous signs at appropriate locations warning the public and persons engaged upon the Work of this requirement.

1.09 HAZARDOUS AREAS

- A. The Contractor shall not permit or allow any person or persons to enter any pipe or space containing hazardous or noxious substances or gases, or where there is an insufficient amount of oxygen to sustain life and consciousness, or any other hazardous area unless equipped with lawful and appropriate safety equipment and life supporting apparatus, and

unless those entering are continually monitored and guarded by and in communication with other persons outside the space or area who are equipped in the same way, can give an alarm to others for assistance, and initiate immediate rescue operations in the event of mishap.

1.10 EMERGENCIES

- A. Work During an Emergency. The Contractor shall perform any and all operations and shall furnish any materials and equipment necessary during an emergency endangering life or property and, in all cases, shall notify the Owner of the emergency as soon as practicable, but shall not wait for instruction before proceeding to properly protect both life and property. Any additional compensation or extension of Contract Time claimed by the Contractor on account of an emergency shall be applied for as provided in contract documents.
- B. Representatives for Emergencies. The Contractor shall file with the Owner a written list giving the names, addresses, and telephone numbers of at least two of his representatives who can be contacted at any time in case of emergency. The representatives shall be fully authorized and equipped to correct unsafe or inconvenient conditions on short notice. The Contractor shall promptly notify the Owner of all changes in the listing.

1.11 SUBMITTALS

- A. Prior to receiving Notice to Proceed, the Contractor shall submit to the District Project Manager the following: (1) a copy of his Injury and Illness Prevention Program Manual, (2) a list of safety equipment he will maintain on site, (3) the name of his Safety Officer and Safety Supervisor(s) who will be responsible for maintaining safety at each work site, and (4) a description of any job-specific measures he will be using which are not contained in his manual. The Owner shall not review these materials, but shall maintain these materials for record purposes.

1.12 IMPLEMENTATION

- A. It is the Contractor's responsibility to follow his own safety program and provide one or more designated Safety Supervisor(s) at each work site.

1.13 COMMUNICATION

- A. It is the Contractor's responsibility to communicate to the Owner all hazards which they plan to introduce to the work site, whether by procedure or material.

PART 3.00 EXECUTION (Not Used)

PART 4.00 PAYMENT

4.01 GENERAL

Full compensation for the work specified herein shall be considered as included in the applicable lump sum or unit price items stated in the Contractor's proposal and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 02050

DEMOLITION

PART 1 - GENERAL

1.01 DESCRIPTION

The Contractor shall remove equipment, piping, and concrete work as necessary for the construction of work as shown on the plans and as specified. All materials removed not claimed by the District shall be disposed of at a legal disposal site.

1.02 SAFETY

The Contractor shall take all necessary precautions with regard to safety in carrying out the demolition work. Suitable barriers shall be erected around the demolition area to protect workmen and the public, and the Contractor shall rigorously comply with applicable safety requirements.

1.03 PAYMENT

The cost of all demolition, salvage, abandonment and disposal of materials and debris shall be included in the bid price for the construction work and no additional compensation will be allowed.

PART 2 – Not Used

PART 3 - EXECUTION

3.01 REMOVAL AND DISPOSAL OF EQUIPMENT AND MATERIALS

The Contractor shall remove and dispose of materials and debris resulting from the demolition work. All removed materials shall become the sole property of the Contractor and shall be disposed of by the Contractor at a legal disposal site. The Contractor shall take care to deliver all salvaged equipment to the District in good condition.

3.02 SPECIFIC ITEMS TO BE SALVAGED

The following items shall be salvaged and delivered to the District's storage yard.

1. One Portable Generator Trailer.
2. Internal MCC Parts Removed.

3.03 METHODS AND EQUIPMENT

Before starting work, the Contractor shall inform the District fully as to the method of demolition he proposes to follow, and the amount and character of equipment he proposes to use, which shall be subject to the approval of the District. The approval of the District shall not be considered as relieving the Contractor of the responsibility for the safety of his method or equipment or from carrying out the work in full accordance with the plans and specifications.

3.04 REMOVAL OF OLD CONCRETE

The Contractor shall carefully remove old concrete work structures so as to minimize damage to adjacent concrete work and improvements to remain. All old concrete shall be removed from the site and disposed of at a legal disposal site.

3.05 DISPOSAL OF MATERIALS AND DEBRIS

All materials and debris resulting from the demolition work other than the materials to be retained by the District shall become the sole property of the Contractor and shall be disposed of by the Contractor at a legal disposal site.

END OF SECTION

SECTION 02200

EXCAVATION AND BACKFILL

PART 1 - GENERAL

1.01 DESCRIPTION

A. SCOPE OF WORK

The Contractor shall perform all operations necessary to excavate whatever substance encountered, including earth, sand, gravel, rock, buried structures, pipes or debris, to the depth shown on the plans and required for the installation, to remove unsuitable material and replace with suitable material for bedding and backfill, and to restore the ground surface or pavement to conditions satisfactory to the Engineer.

B. RELATED WORK SPECIFIED IN OTHER TECHNICAL SECTIONS

1. Section 02050: Demolition
2. Section 02500: Surface Restoration
3. Section 16100: Electrical Work

1.02 DEFINITIONS

A. PIPE BEDDING

Pipe bedding shall be composed of that portion of the backfill material placed in the bottom of the trench for the pipe barrel to rest on.

B. PIPE ZONE BACKFILL

Pipe zone backfill shall comprise that portion of the backfill surrounding the installed pipe, extending after compaction from the foundation to a level twelve (12) inches above the top of the pipe.

C. INTERMEDIATE BACKFILL

Intermediate backfill shall comprise the portion of the backfill from twelve (12) inches above the top of the pipe to the surface.

D. SOUND EARTH

Sound earth shall mean most native soils, with the exception of highly organic spongy soils and fat, highly plastic expansive clays.

E. SOUND GRANULAR SOIL

Sand with a maximum particle size of 3-inch, or gravel with a minimum grain size of 3-inch, or pea gravel, or crushed rock mixed with sand shall comprise sound granular soil.

F. RELATIVE COMPACTION

Relative compaction shall be evaluated by performing field density tests using a nuclear gauge (ASTM D-2922 and D-3017, latest editions) values expressed as a percentage of the laboratory maximum density, as determined by ASTM test method D-1557 (latest edition).

1.03 QUALITY ASSURANCE

The District will retain a Soils Engineer who will conduct compaction tests to determine compliance with soil compaction requirements as described herein above.

1.04 SUBMITTALS

- A. The Contractor shall submit to the Engineer copies of his/her proposed methods of sheeting, shoring and bracing as approved by the Division of Industrial Safety per these specifications.
- B. The Contractor shall submit to the Engineer samples of all materials proposed for use as pipe bedding and backfill. When requested by the Engineer, the Contractor shall submit a sieve analysis of the materials proposed to be used at no cost to the District.

1.05 BRACING AND SHEATHING

- A. The Contractor shall do and be solely responsible for all bracing, sheathing and shoring necessary to perform and protect all excavations as required for reasons of safety and to conform to governing laws. Where required by the Division of Industrial Safety, shoring shall be designed by a registered Civil Engineer. Excavations shall be supported so that the ground alongside the excavations will not slide, and all existing improvements, either on public or private property, will be fully protected from damage. Additional supports requested by the Engineer shall in no way relieve the Contractor of his/her responsibility for the sufficiency of his/her precautions.
- B. All shoring, bracing and sheathing above the top of the pipe shall be removed from the trench or excavation. Sheathing which has been driven below the invert of the pipe must not be removed. Under wet soil conditions, sheathing shall be left in the trench up to the top of the pipe.
- C. The cost of such bracing, shoring and sheathing shall be included in the price for shoring and no additional allowance will be made therefor.

1.06 CONTROL OF WATER

- A. The Contractor shall remove all water which may accumulate in the excavation during the progress of the work by pumping or other suitable methods so that all work can be done in the dry. Trenches and other excavations shall be kept free of water while the pipe or structures are being installed, while concrete is setting, and until backfill has progressed to a sufficient height to anchor the work against possible flotation or leakage. Water shall be disposed of in such a manner as to cause no injury to public or private property or be a menace to the public health.
- B. Where water is encountered, the trench excavation shall be carried twelve inches (12") below the pipe invert in which case the pipe bedding material shall be one and one-half inch (1½") crushed rock.

- C. The cost of such removal of water and additional excavation and pipe bedding material shall be included in the unit bid price per lineal foot of pipeline and no additional allowance will be made therefor.

1.07 REMOVAL OF UNSTABLE MATERIAL

- A. Where unstable soil is encountered or where the bearing capacity is unsatisfactory to the Engineer, the soil shall be removed to a depth of twelve inches (12") below the pipe barrel and replaced with one and one-half inch (1½") crushed rock over Mirafi 600X, or equal, geofabric.
- B. The Contractor shall not be relieved thereby of his/her responsibility otherwise to employ procedures necessary to keep the trench bottom in a workable condition and provide a firm and adequate bedding for the pipe.

1.08 PAYMENT

The cost of all excavation, backfilling, and watering, compacting, imported material, slope protection, and concrete slab protection shall be included in the bid price for the construction work and no additional compensation will be allowed.

PART 2 - PRODUCTS

2.01 MATERIALS

A. GENERAL

The Contractor shall provide and install all materials as shown on the drawings and/or as specified herein.

B. CRUSHED ROCK

1. Crushed rock shall be hard, sound and durable and shall not slake or disintegrate in water.
2. One and one-half inch (1½") crushed rock shall be uniformly graded with one hundred percent (100%) passing a one and one-half inch (1½") sieve and not more than five percent (5%) passing a three-eighths inch (3/8") sieve.
3. Three-quarter inch (3/4") crushed rock shall be uniformly graded with one hundred percent (100%) passing a three-quarter inch (3/4") sieve and not more than five percent (5%) passing a one-quarter inch (¼") sieve.

C. CLASS 2 AGGREGATE BASE

Class 2 aggregate base shall conform to Section 26, AGGREGATE BASES, of the Standard Specifications, Paragraph 26-1.02B. The grading shall be 3/4" maximum.

D. UNSUITABLE MATERIAL

Unsuitable material is debris, roots, wood, vegetable matter, scrap metal, plastic and rocks over 6" in greatest dimension.

E. CEMENT SLURRY MIX

Cement slurry backfill shall be a cement slurry mix consisting of the following per cubic yard:

| | |
|------------|----------------------------|
| 25 lbs. | Cement |
| 250 lbs. | Pozzolan |
| 1,618 lbs. | C-33 Sand |
| 1,121 lbs. | 3/8 x No. 8 per Pea Gravel |
| 8 – 12% | Air Entrainment |

After placement, the slurry mix shall not be disturbed.

F. TOPSOIL

Topsoil shall be imported fertile, friable, natural, product soil containing a normal amount of humus and capable of sustaining healthy plant life. Topsoil shall be free of subsoil, heavy or stiff clay, rocks, gravel, brush, roots, weeds, noxious seeds, sticks, trash and other deleterious substances. Soil shall not be infested with nematodes or with other noxious animal life or toxic substances. Soil shall be obtained from well-drained, arable land and shall be of an even texture. Soil shall not be taken from areas on which are growing any noxious weeds, such as Morning Glory, sorrel or Bermuda Grass.

G. WATER

Water used for dust control and moisture conditions for compaction shall be reasonably free of objectionable quantities of silt, oil, organic matter, alkali, salts and other impurities as determined by the Engineer. Bay water or water from drainage ditches on the project site shall not be used. Treated and disinfected effluent from the MMWD water reclamation plant may be obtained from MMWD for these purposes providing all water trucks or pipelines are clearly marked with signs stating, "WASTEWATER - DO NOT DRINK." All use of reclaimed wastewater must conform to Health Department Requirements.

Water for slurry mix must be potable water.

PART 3 - EXECUTION

3.01 EXCAVATION

- A. The excavation shall be made to enable the pipe to be laid to the grades and alignment shown on the plans. Excavated materials not required for fill or backfill shall be removed from the site of the work.
- B. Trenches shall be excavated either by hand or by machine beginning at the outlet structure and proceeding upgrade, except as may otherwise be permitted by the Engineer. Hand excavation, tunneling, jacking or boring will be required when use of a machine will cause unnecessary destruction of trees, shrubs, lawns and existing structures above or below ground.
- C. The narrowest practicable trench width which will allow proper densification of pipe zone backfill materials shall be maintained with vertical sidewalls from the foundation to at least the top of the pipe. Trench width at the top of the pipe shall not exceed the maximum trench width shown in the County Specifications. Where general conditions make this impractical, means must be provided, with the approval of the Engineer, for adequately supporting the increased load on the pipe which such widening will cause.

- D. Where sheathing is required, the width of trench shall be increased sufficiently to accommodate the sheathing and timbers.
- E. Excavation for manholes and other structures shall have twelve (12) inch minimum and twenty four (24) inch maximum clearance on all sides. Bell holes shall be excavated accurately to size by hand.
- F. Excavation shall not be carried below the required level. Excess excavation below the required level shall be backfilled at the Contractor's expense with gravel, crushed rock or concrete, as directed by the Engineer, and thoroughly tamped.
- G. In rock, excavation shall be carried six (6) inches below the bottom of the pipe and replaced with an approved material thoroughly tamped to provide a uniform support for the pipe.
- H. The bottom of all trenches shall be excavated accurately to the required grade with a firm bed to fit the barrel of the pipe. Minor adjustments in elevation required to produce the required invert slope shall be made by adequately bedding the pipe with sound granular pipe bedding materials, as hereinbefore defined, thoroughly compacted along the length of the pipe, underneath, and on both sides. It is essential that a uniform solid bearing be provided under the entire section of pipe.
- I. For flexible pipe (PVC and polyethylene pipe), the pipe bedding (bottom of trench) shall be firm, but not hard, and shall consist of pipe zone backfill, free from stones or lumps exceeding one (1) inch in greatest dimension which might bear against the pipe. Suitable foundations shall be prepared by providing a one (1) inch minimum leveling course with loose bedding material graded uniformly in one plane for the full length of the pipe. Foundations shall provide uniform support under the haunches of the pipe up to the spring line along the full length of each pipe section.

3.02 ROCK EXCAVATION

Where rock is encountered and cannot be dug with a Caterpillar 235 excavator or equivalent as agreed to by the District such excavation and disposal of rock shall be paid for per the unit prices in the bid item for rock excavation. The quantity of rock shall be measured in place prior to excavation.

3.03 BACKFILL

A. GENERAL

- 1. After the pipelines and their appurtenances have been properly constructed and inspected and after joints, plaster and concrete have set sufficiently to prevent damage, backfilling shall be done with approved material free from large clods or stones.
- 2. Where imported materials will be required, the cost of furnishing and placing such materials shall be included in his/her bid price for pipeline construction and no additional allowance will be made therefor.

B. PIPE ZONE BACKFILL

- 1. Backfill materials shall be so placed that the pipe will not be displaced, excessively deflected, or damaged. Materials placed as pipe zone backfill shall be free of stones or lumps exceeding one (1) inch in greatest dimension and shall be so placed as to prevent the formation of voids.

2. Pipe zone backfill preparation shall be placed and compacted determined on the basis of local native soil conditions and such that vertical ring deflection of flexible pipe will be limited to five percent (5%) of the nominal pipe diameter.
3. In general, pipe zone backfill shall be placed immediately after laying the pipe, provided the pipe is true to line and grade.

C. INTERMEDIATE BACKFILL

1. The backfill shall be blended sufficiently to secure the best practicable degree of compaction and stability.
2. Compaction may be performed by mechanical or hand tamping methods or by hydraulic methods as is necessary to achieve the required relative compaction.
3. Care shall be taken during compaction to prevent displacement of the pipe due to floating or shifting and to prevent hydrostatic or impact damage to the pipe and foundation. Heavy mechanical tamping or rolling equipment directly over the top of the pipe, such as might result in excessive reduction of the vertical diameter of the installed pipe, shall be avoided.
4. Intermediate backfill above the pipe zone backfill shall not be placed until conformance with specified relative compaction of pipe zone backfill material has been confirmed.

3.04 PRECAUTION AGAINST FLOTATION

The Contractor shall take every precaution against the flotation of the pipe due to water entering the trench or while pouring concrete encasement. In case of flotation, the Contractor shall replace the pipeline or portions thereof at his/her own expense and make good any injury or damage that may have resulted.

3.05 BACKFILL DEFECTS

Within one (1) year after acceptance of the project, the Contractor shall promptly refill and repair all trenches which settle or otherwise show defects. All shrubs, trees, lawns, patios, structures and other property disturbed during the course of the work shall be restored to their original condition to the satisfaction of the Engineer.

END OF SECTION

SECTION 02500

SURFACE RESTORATION

PART I – GENERAL

1.01 DESCRIPTION

A. SCOPE OF WORK

Work included in this section shall consist of furnishing all labor, material, equipment, tools and services required for the performance of paving and surfacing operations, including repair of curbs, gutters, sidewalks, etc., as specified herein and/or as shown on the Drawings, or as necessary to complete the project. Any concrete curbs, gutters or sidewalks damaged by the work shall be repaired or replaced in kind.

B. RELATED WORK SPECIFIED IN OTHER TECHNICAL SECTIONS

1. Section 02050: Demolition
2. Section 02200: Excavation and Backfill
3. Section 16100: Electrical Work

1.02 SUBMITTALS

The Contractor shall submit to the Engineer data describing the surface restoration materials he/she proposes to use, per these specifications.

1.03 PAYMENT

- A. Payment for restoration of all surfaces and surface improvements damaged as a part of the work, including asphalt pavement, paths, sidewalks, curbs, gutters, landscaping, etc., shall be included in the bid price for the construction work and no additional compensation will be allowed.
- B. The Contractor shall be responsible for any off-site improvements damaged as a result of the Contractor's operation or by the travel of trucks on roads to and from the work area. Any such off-site damage shall be replaced at the Contractor's expense.

PART 2 – PRODUCTS

2.01 GENERAL

- A. Materials for paving and surfacing shall conform to the applicable provisions of the State Standard Specifications and the County Specifications.
- B. Pavement restoration for public roads shall conform to the requirements of the agency having jurisdiction over the roadway right-of-way.

2.02 PAVING AND SURFACING MATERIALS

A. AGGREGATE BASE

Aggregate base shall be Class 2, conforming to Section 26 of the State Standard Specifications. Minimum relative compaction shall be 95%. If pavement having a structural section greater than 15" is cut, additional base material may be required by the Engineer. Base shall be placed and compacted prior to placing of temporary paving.

B. ASPHALT CONCRETE

1. Asphalt concrete shall conform to the applicable requirements of Section 39 of the current State Standard Specifications for Type B aggregate. Paragraph 39-8 is not applicable. Surface courses shall be constructed using 3/8-inch maximum graded aggregate. Lower courses shall be constructed using 3/4-inch maximum graded aggregate.
2. Paving asphalt shall be Grade PG 64-10, conforming to the requirements of Section 92 of the State Standard Specifications. Six (6) percent bituminous binder shall be provided.
3. Liquid asphalt prime coat shall be slow curing.

C. CONCRETE

Concrete for replacement of curbs, gutters, sidewalks, etc. shall be six (6) sack mix.

D. PERVIOUS CONCRETE (NOT USED)

PART 3 - EXECUTION

3.01 PLACEMENT OF ASPHALT CONCRETE

A. DELIVERY AND SPREADING

Bituminous mixtures shall be delivered to the roadbed at temperatures specified in Section 39 of the current State Standard Specifications. Spreading of the mixture shall be in accordance with Section 39 of the State Standard Specifications. All loads shall be covered with tarpaulin or other material during transportation.

B. COMPACTION

Initial or breakdown rolling and the final rolling of the uppermost layer of the asphalt concrete shall be compacted in accordance with Section 39 of the current State Standard Specifications. Compaction by vehicular traffic shall not be permitted.

C. PAVEMENT THICKNESS

Pavement shall match the existing adjoining pavement in thickness, or as indicated on the Drawings, or as specified, whichever is greater.

D. JOINING PAVEMENT

The joints between old and new pavements or between successive days' work shall be carefully made in such manner as to insure a continuous bond between old and new sections of the course. Edges of existing pavement shall be exposed and cleaned and edges cut to straight, vertical surfaces. All joints shall be painted with a uniform coat of tack coat before the fresh mixture is placed.

E. PAVEMENT CUTTING

Trenches and other excavations in asphalt paved areas shall be sawcut to the full depth of the pavement. Pavement cuts shall be laid out by a chalk line and care shall be taken to ensure neat, straight edges.

After the Engineer has approved a section of trench for final paving, the Contractor shall strip out all temporary pavement to the full depth of the new pavement section as specified. Spalled or cracked sections of pavement beyond the excavation limits which, in the opinion of the Engineer, show signs of having separated from the adjoining pavement or are moveable, shall be removed and replaced with new pavement. Broken edges of pavement shall be trimmed along lines parallel to the trench edges. Exposed subgrade materials shall be compacted to the same standards as the adjoining trench backfill.

F. CONFORMANCE TO EXISTING IMPROVEMENTS

Asphalt concrete overlays shall be tapered to conform to existing paving, gutters, catch basins, etc. as directed by the Engineer.

G. SAND SEAL

Provide a sand seal over all new asphalt.

3.02 RESTORING OTHER AREAS

- A. Other surfaced areas other than pavement shall be restored by replacement of identical surface and base when practicable. In no case shall the thickness and method of placement of curbs, sidewalks, etc., be less than that specified in the County Specifications.
- B. All concrete curbs, gutters, aprons, patios, driveways and sidewalks which are broken, crushed or damaged by the installation of the improvements shall be reconstructed by and at the expense of the Contractor, of the same kind of material and of the same dimensions as the original work, with the minimum requirement that concrete shall be Class A (6-sack), and the minimum thickness for concrete slabs, etc., shall be four (4) inches. The repairs shall be made by removing or replacing the entire portions between joints by removing the damage portions by concrete saw and not by merely refinishing the damaged part. All work shall match the appearance of the existing improvements as nearly as practicable.
- C. All trenches in landscaped or cultivated areas shall have the top twelve (12) inches backfilled with topsoil. After installation, the topsoil and any adjacent unimproved land which has been compacted by the operation of the Contractor shall be thoroughly scarified and the surface cleaned of all large clods, stones or debris.

- D. In lawn areas, the Contractor shall replace any grass removed for excavations, or which is damaged by his operations, with sod. Ground cover materials other than lawn shall be replaced in kind to the satisfaction of the Engineer.
- E. Replace any landscape irrigation piping and control wires which are damaged by the work.
- F. The Contractor shall maintain all restored lawn and landscaped areas for a minimum of thirty (30) days after acceptance of the project by the District.
- G. All restoration work shall be included in the unit bid price for the construction work and no additional compensation will be allowed.

END OF SECTION

SECTION 03310

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 SCOPE OF WORK

The work included under this section consists of furnishing all labor, tools, equipment and materials necessary for the installation of all concrete, reinforced concrete, reinforcing steel, grout and mortar, as shown on the plans and specified herein. Concrete for concrete pavement shall conform to these specifications.

1.02 QUALITY ASSURANCE, MATERIALS AND CONSTRUCTION

A. GENERAL

All concrete materials and construction shall comply with the requirements, and be in accordance with the American Concrete Institute Standard 301-89, "Specifications for Structural Concrete for Buildings," except as supplemented and modified as follows (all references to "Architect/Engineer" in the ACI Standard shall be interpreted as referring to the Engineer).

Additional workmanship and materials requirements shall conform to ACI 350R-89, "Environmental Engineering Concrete Structures." The Engineer shall interpret the applicability and intent of this section.

B. STRENGTH

1. The concrete for all structures shall have a minimum compressive strength of four thousand five hundred (4,500) pounds per square inch twenty-eight (28) days after placement.
2. All concrete shall contain a minimum of five hundred sixty-four pounds (six sacks) of Portland cement per cubic yard.

1.03 SUBMITTALS

Per these specifications, the Contractor shall submit to the Engineer for favorable review the following, even though items proposed to be furnished conform to the exact description stated in this section or as shown on the Contract Drawings:

1. A notarized statement stating that the cement conforms to ASTM C-150.
2. Shop Drawings of all reinforcing details and layout.
3. Concrete mix design and strength data.

1.04 PAYMENT

The cost of all cast-in-place concrete, including all materials, reinforcing, form work, finishing grout and epoxies shall be included in the bid price for the construction work and no additional compensation will be allowed.

PART 2 - PRODUCTS

2.01 GENERAL

All materials shall be furnished by an established and experienced manufacturer or supplier. All materials shall be new, shall be of first-class ingredients, and shall be guaranteed to perform the service required.

2.02 CONCRETE MATERIALS

A. CEMENT

All cement for all structures shall be Type II or Type V, ASTM C-150.

B. ADMIXTURES

1. An approved water-reducing admixture conforming to ASTM C-494 shall be added.
2. An approved air-entraining admixture conforming to ASTM C-260 shall be added. Total air content shall be between 4½ and 6½% as measured by ASTM C-173.
3. Other admixtures designed and manufactured for the express purpose of (1) preventing segregation of the mix and/or (2) improving the workability of the concrete will be permitted subject to written approval by the Engineer both for quality and proportions. Admixtures shall not be used to replace cement.
4. Unless specifically provided for in these Specifications, no other admixtures will be permitted.

C. AGGREGATES

1. All aggregates shall conform to "Specifications for Concrete Aggregates" (ASTM C-33). All aggregates shall have a minimum C.V. (cleanliness value) and S.E. (sand equivalent) of not less than 75. Three (3) samples shall be tested in each case and shall be taken from the weight hopper. The average of the results of the individual tests will be the accepted value in each case. These values shall be maintained throughout the course of the work, and any indicated deviation therefrom will be cause for rejection of such material, pending additional tests. Tests shall conform to Test Method No. Calif. 227 for Cleanliness Value for Coarse Aggregate and Test Method No. Calif. 217 for Sand Equivalent (California Transportation Laboratory, California Test Methods).
2. The nominal maximum size of aggregates shall be 1½"; gradation shall be based on a 1½" nominal maximum size aggregate. In thin section (6" or less in thickness), a ¾" nominal maximum size aggregate may be used if expressly approved in writing by the Engineer.

D. SELECTION OF PROPORTIONS

The Contractor shall have his/her mix designed and shall submit the proposed proportions to the Engineer for review and approval prior to the preparation of the trial batch. The cement content shall be not less than six (6) sacks of cement (94 lbs per sack) per cubic yard of concrete, and the water-cement ratio shall not exceed 0.45 or a total of 5.0 gallons of water per 94-lb sack of cement.

E. CHLORIDE LIMITATION

The maximum water soluble chloride ion content expressed as a percent of the cement contributed from all ingredients of the concrete mix, including water aggregates, cementitious material and admixtures, shall not exceed 0.10%.

2.03 REINFORCING STEEL

Reinforcing steel shall conform to ASTM A-615, Grade 60.

2.04 GROUT

Grout shall have a minimum cement content of 7 sacks per cubic yard, plus a water reducing agent, and shall have a compressive strength as required to exceed $f_c = 1500$ psi.

PART 3 - EXECUTION

3.01 FORMWORK

Lumber and plywood shall conform to the dimensions of the concrete surfaces shown on the Plans, shall be sufficiently tight to prevent leakage, and shall be sufficiently strong and braced to maintain their proper shape and alignment.

Earth cuts shall not be used as forms for vertical surfaces other than foundations below grade. Where permitted, the cut shall be neat, straight and must stand vertical.

3.02 REINFORCING

Reinforcing bars shall be tied and supported so as to maintain their exact shape and alignment during concrete placement. Lap bars 50 diameters at splices where permitted and not otherwise noted on the plans. Standard hook dimensions shall conform to ACI 318 code for standard hooks.

3.03 CONCRETE PLACEMENT

The Contractor shall notify the Engineer at least seventy-two (72) hours before concrete is placed, No concrete shall be placed until all excavations, forms, reinforcing and inserts have been constructed and observed by the Engineer.

All concrete shall be thoroughly vibrated during the pouring operation by a mechanical vibrator.

3.04 FINISHES ON CONCRETE

All surfaces shall be finished to flat true planes or smooth surfaces. Edges shall be straight or uniformly curved. Flat surfaces shall be accurate to within c-inch in 10 feet. Unless otherwise designated on the plans, concrete finishes shall be as follows:

Walking surfaces - Light broom finish.

Exposed unpainted vertical surfaces - Smooth form finish plus sacking.

All tie holes and bug holes shall be filled with non-metallic, non-shrink grout per ACI 350R-89.

3.05 DRYPACK AND SPECIAL HIGH-STRENGTH NON-SHRINK MORTAR

Where "drypack" is called for on the Plans, a mixture containing one (1) part cement to three (3) parts clean sand shall be used. The moisture content shall be such that the mixture will ball when formed by hand, but will crumble when struck. The mixture shall be confined in the opening to be filled and driven home in small amounts, using a hammer and a stick or blunt metal tool in such a manner that a very dense mortar is obtained. Should the resulting joint leak, the material shall be chipped out and the opening refilled until a watertight joint is obtained.

Mortar used shall be non-shrinking, level-fill grout, water and oil resistant, developing a compressive strength of at least 7,500 psi in seven (7) days, non-metallic and bond to metal. Mortar shall be used in accordance with the recommendations of the manufacturer.

3.06 ALTERATIONS TO CONCRETE STRUCTURES

A. GENERAL

1. All alterations, chipping, drilling or cutting of concrete shall be approved by the Engineer.
2. Where the Contractor is required to cut openings through existing concrete or masonry walls, the hole shall be pre-cut with a proper masonry saw on both sides of the wall. After removal of the concrete, all rough surfaces of the wall shall be ground smooth and patched with cement mortar.
3. Openings for installation of pipes up to twelve (12) inches diameter shall be machine cored. For larger pipes, openings shall be made by drilling small holes around the periphery prior to chipping out the concrete. After the pipe has been installed, the opening shall be grouted and made completely watertight.

B. GROUT FOR ANCHOR BOLTS, MANHOLE STEPS AND OTHER EMBEDMENTS

Anchor bolts, manhole steps and other embedments shall be set in non-sag epoxy grout suitable for submerged service.

C. CONCRETE SURFACE REPAIRS

All honeycombed, spalled, cracked, pitted or crazed concrete surfaces shall be chipped out and repaired using Camp Latex Concrete Repair and Topping as manufactured by the Camp Company, Inc, Chicago, IL, or "Sikadur Lo-Mod Mortar" as manufactured by Sika Corp, Santa Fe Springs, CA, or equal. The repairs shall be made in strict conformance with the manufacturer's

recommendations. For smoothing or repairing large areas that require more than 3-inch thickness, special instructions on the use of the material shall be obtained from the manufacturer.

Where leaks occur in concrete walls, the concrete shall be chipped around the leak and sealed with cement grout above specified, in strict accordance with the manufacturer's instructions.

D. BONDING NEW CONCRETE TO OLD

Where it is required to apply new concrete over old surfaces or to bond precast concrete sections or other types of material to concrete, the Contractor shall first apply a brush-on epoxy resin concrete adhesive equivalent to Concrete #1 as manufactured by Adhesive Engineering, 1411 Industrial Road, San Carlos, CA, or "Sikadur Hi-Mod" as manufactured by Sika Corp, Santa Fe Springs, CA. The old surface shall be cleaned by sandblasting or chipping and the adhesive applied in strict accordance with the recommendations of the manufacturer.

3.07 TESTS OF CONCRETE

Slump tests shall be performed by the Contractor in the presence of the Inspector at the beginning of each day's pour and at such additional times as required by the Engineer or his/her representative. Slump tests shall be made in accordance with current ASTM Designation C-143. For each day's concrete pour, the contractor shall cast two concrete testing cylinders and deliver to the District.

The amount of water used in the mixture shall be the amount required to produce concrete with a 4" maximum slump. When the slump of the concrete is found to exceed the nominal slump, the mixture shall be adjusted as directed by the Engineer to reduce the slump to a value within the nominal range shown.

Where there are adverse or difficult conditions which affect the placing of concrete, the Contractor may request permission of the Engineer to increase the slump by increasing both the water and cement content. The cost of additional water and cement shall be at the Contractor's expense.

3.08 INSPECTION

The District shall inspect and approve formwork and reinforcing steel placement prior to concrete pours. The Contractor shall provide at least twenty-four (24) hours notice that inspections are required.

END OF SECTION

SECTION 05500

METAL FABRICATIONS

PART 1 - GENERAL

1.01 DESCRIPTION

A. SCOPE

Work shall include, but not necessarily be limited to, the following metal fabrications as shown on the drawings, as specified or required to complete the project:

1. Aluminum Handrails
2. Bolts, Nuts and Washers
3. Stainless Steel
4. Castings
5. Drop Inlet Grates

B. RELATED WORK SPECIFIED IN OTHER TECHNICAL SECTIONS

1.02 QUALITY ASSURANCE

A. All fabricated items shall be crafted in a substantial and competent manner.

B. The Contractor shall comply with the following reference standards:

1. "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings," of American Institute of Steel Construction, latest edition.
2. "Code for Arch and Gas Welding in Building Construction," of the American Welding Society, AWS C 1.1, latest edition.
3. "Architectural Metals," published by National Association of Architectural Metal Manufacturers (NAAMM).
4. "Welding Aluminum," published by the American Welding Society (AWS), latest edition.

C. The Contractor shall comply with the following regulatory standards:

1. Uniform Building Code (UBC), current edition, especially Chapters 17 and 33.
2. Stair and Guardrail design requirements of OSHA and Cal/OSHA.

1.03 SUBMITTALS

The Contractor shall submit to the Engineer detailed drawings of the items specified herein for review before fabrication per these specifications.

1.04 PAYMENT

The cost of all metal work including materials and installation shall be included in the bid prices for the construction work and no additional compensation will be allowed.

PART 2 - PRODUCTS

2.01 ALUMINUM ACCESS COVERS (NOT USED)

2.02 ALUMINUM GRATING (NOT USED)

2.03 ALUMINUM HANDRAILS

Aluminum hand rails and posts shall be one and one-half inch (1½") anodized aluminum. All posts shall be formed from extruded special anodizing quality aluminum pipe of 1 ½" Schedule 40 pipe size. All other aluminum parts shall be fabricated from 6063 or 6061 extruded aluminum. All fittings shall be a one-piece extrusion machined to final shape. All fasteners and chains shall be Type 316 stainless steel. **Aluminum posts embedded in concrete shall be coated with an approved isolation coating.**

2.04 BOLTS, NUTS AND WASHERS

All bolts, nuts washers and hardware shall be Type 316 stainless steel.

2.05 STAINLESS STEEL

All stainless steel shall be Type 316.

2.06 CASTINGS

Manhole frames and covers shall be furnished and installed when shown on the drawings or when specified herein. Castings shall be clean and free from blow or sand holes, or defects of any kind. Castings shall conform to type, shape, dimension and details shown on the drawings. The frame shall be set to conform to the requirements of the individual location. Covers and frame shall be so fabricated and installed that the covers fit neatly in, and bear firmly on, the frame without rocking. Covers shall be easily removable.

2.07 DROP INLET GRATES

Catch basins grates shall be furnished and installed when shown on the drawings or when specified herein. Grates and frames shall be structural grade steel and hot dipped galvanized after fabrication.

PART 3 - EXECUTION

3.01 GENERAL

- A. All metalwork specified herein shall be installed in a neat and competent manner and in true alignment.
- B. All galvanized metal railings, ladders and stairways shall be painted in accordance with the Section on "Painting." Aluminum products shall be left unpainted.

3.02 COATINGS

A. ALUMINUM ANODIZING

After fabrication, all aluminum railing posts shall be given a clear anodized (electro-chemical) finish conforming to NAAM NA-2A designation, to a thickness of 0.7 mils minimum anodized coating.

B. ISOLATION COATINGS

Aluminum pigmented asphalt paint shall be used for aluminum in contact with other metals.

END OF SECTION

SECTION 16100

ELECTRICAL REQUIREMENTS

PART 1.00 – GENERAL

1.01. SUMMARY

- A. Section Includes: Electrical and instrumentation requirements.
- B. Related Sections:
 - 1. Section 01010 – Summary of Work.
 - 2. Section 01330 – Submittals.
- C. Overview of Electrical Work:
 - 1. See Specification Section 01010 - Summary of Work for additional requirements.
 - 2. The existing Rafael Meadows pump station is served by a 240V/120V 3 phase delta (high-leg) utility service. See power circuit wire description and color coding elsewhere in these specifications.
 - 3. An Owner provided generator is to be installed as part of this project and incorporated into the power supply of this station. To accomplish this and to provide for redundancy, an automatic transfer switch will be added and connected through an existing manual transfer switch to allow for connection of a portable generator in the event the stationary generator fails. The project also includes modifications to the existing pump control panel to provide reliability. These include replacement of the existing bubbler level system with an ultrasonic level controller, installation of emergency backup floats to permit automatic operation of the station in the event of level controller failure, replacement of old motor starters with new and additions to the alarming system.
 - 4. Provide new vault fall protection system as indicated on the Drawings.
 - 5. Provide new area lighting as indicated on the Drawings.

1.02. GENERAL ELECTRICAL REQUIREMENTS

- A. Provide a tested and working electrical system as indicated in the Contract Documents. System includes all items not specifically mentioned in these Specifications or indicated on the Drawings or accepted Shop Drawings, but which are obviously necessary to make a complete and working installation, and shall be deemed to be included herein.
- B. Immediately notify District, in writing, of discrepancies within the Contract Documents and discrepancies between the Contract Documents and actual field conditions.
- C. The Contract Documents indicate or specify minimum sizes of equipment, electric devices,

and other components of the electrical system, but the Contract Documents do not indicate every offset and fitting, or every structural or mechanical difficulty that may be encountered during the execution of the Work.

- D. Install equipment at locations indicated on the Drawings as closely as field conditions permit. Obtain accepted equipment submittal dimensions prior to installing pads and conduit.
- E. Make minor variations to alignment of equipment and/or installation of raceway systems to avoid conflict with other portions of the Work.
- F. Temporary Power and Telephones:
 - 1. Provide and maintain temporary power systems and telephones as needed for construction, including power for temporary pumping provisions. The Contractor shall be responsible for providing any temporary power, temporary standby power and telephone provisions that may be required, including coordination with Pacific Gas and Electric Company and telephone utility for temporary power and telephone provisions.
 - 2. Install temporary wiring in accordance with NEC Article 590 with Type SO portable cable, watertight connections, and ground fault interrupting equipment. After construction is completed, remove all temporary systems.

1.03. PERFORMANCE REQUIREMENTS

- A. Operate electrical equipment successfully in all control modes at full-rated load, without failure, as required by the Contract Documents.

1.04. SUBMITTALS

- A. See Specification Section 01340 – Shop Drawings, Product Data and Samples for additional requirements.
- B. Product Data: Include catalog data for all electrical materials and equipment, PCP components and materials, instrumentation, control system equipment and lighting specified herein. Catalog data shall be “arrowed” to indicate exact proposed sizes, catalog numbers, etc. for each item.
- C. Cutting and Patching Requests: Notify District of cutting and patching work planned for existing equipment, roadways, sidewalks and structures prior to performing such work.
- D. Project Record Documents: The Contractor shall maintain a neat and orderly set of as-built record drawings, specifications and shop drawings which reflect any deviations from the Contract Documents, accepted shop drawings and submittal data. As-built documentation shall be periodically reviewed by the District to verify that any field changes to the Contract Documents, accepted shop drawings or submittal data have been accurately recorded. Progress payment for work shall be retained by the District in the event that as-built documentation is not kept up-to-date and in a neat and orderly condition. Upon and as a condition of Substantial Completion, the Contractor shall submit a complete set of hand-marked, as-built documents along with all available shop drawing CAD files to the District.

E. Field Acceptance Testing Information and Documents:

1. Pre-testing submittal: Provide a complete set of “blank” equipment and loop testing forms for all equipment instrumentation to be tested as specified in Part 3.00.
2. Post-testing submittals (for testing performed prior to equipment energization): Complete set of equipment and loop testing data sheets indicating test values, summary evaluation of equipment and repair recommendations. Forms shall be electronically completed upon completion of testing and submitted to the District for review.
3. Detailed on-site functional test plan narrative and “check-off” form: After substantial completion of all electrical system installations, a field functional testing script shall be developed by Others and submitted to the Contractor prior to the planned date of on-site functional witness testing. The testing script shall include a sequential “cause and effect” test plan with expected results listed to facilitate the on-site functional witness testing process. The Contractor shall notify the District no less than three (3) weeks prior to planned on-site functional testing. The District and Engineer shall witness all on-site functional testing. The Contractor shall assist with the on-site functional testing as required to simulate field device actions, alarm and indication conditions. The District-appointed Programmer shall assist the Contractor with the field functional testing.
4. Post-testing submittals (for testing performed after system energization and start-up): Complete set of functionality testing sheets with District representative’s initials to indicate that each functional test has been witnessed and is operating as required by the Contract Documents.
5. Post-testing submittals (for testing performed after system has been in operation for a minimum of one (1) week: Submit thermographic survey report as specified in Part 3.00.

1.05. RULES AND REGULATIONS

- A. All work and material shall be in full accordance with the latest rules of the UL, National Electric Code (NEC), all local and State ordinances, the State of California Administrative Code, Title 24, Electrical Safety Orders, Title 8, Regulations of the State Fire Marshall, and with any prevailing rules and regulations pertaining to adequate protection and/or guarding of any moving parts or otherwise hazardous locations.
- B. Nothing in these plans or specifications is to be constructed to permit work not conforming to the applicable codes, rules or, ordinances.

1.06. DRAWINGS AND SPECIFICATIONS

- A. The drawing sheets showing electrical layouts and details shall be considered as part of these specifications, and any work or material shown there but not mentioned in the specifications, or vice versa, shall be executed the same as if mentioned or shown on both.

- B. The work shall be installed as indicated on the plans. However, minor changes to accommodate the installation of this work with that of others shall be made without additional cost to District.
- C. Civil, structural and mechanical plans shall be coordinated with the electrical plans to eliminate errors and to facilitate construction.

1.07. FEES AND PERMITS

- A. The Contractor shall obtain all permits and pay all fees required for permits and inspection of this work

1.08. CLEANING AND PROTECTION

- A. During construction, all work embodied in these specifications shall be properly protected from damage by accident or otherwise; and upon completion, all broken, damaged, or otherwise defective parts shall be repaired or replaced by the Contractor at his expense, and the entire work shall be left in a condition satisfactory to the Engineer.
- B. All equipment, panels and other electrical equipment shall be painted/coated appropriately for marine environment. All proposed painting/coating systems shall be submitted to the Engineer for review and approval prior to the application of any paints/coatings.

1.09. QUALITY ASSURANCE

- A. Regulations and Codes: Perform electrical work, including connection to electrical equipment integral with mechanical equipment, in accordance with latest published requirements of the following codes and code/standard making organizations:
 - 1. American National Standards Institute (ANSI).
 - 2. American Society for Testing and Materials (ASTM).
 - 3. Institute of Electrical and Electronics Engineers (IEEE).
 - 4. Insulated Cable Engineers Association (ICEA).
 - 5. International Society of Automation (ISA).
 - 6. National Electrical Code (NEC).
 - 7. National Electrical Contractors Association (NECA).
 - 8. National Electrical Safety Code (NESC).
 - 9. National Electrical Manufacturers Association (NEMA).
 - 10. International Electrical Testing Association (NETA).
 - 11. National Fire Protection Association (NFPA).

12. State and local codes.
 13. Uniform Building Code (UBC).
- B. Materials and equipment used in performance of electrical work shall be listed or labeled by Underwriter's Laboratories (UL) for the class of service intended.

PART 2.00 – PRODUCTS

2.01. SUPPORT CHANNELS AND ASSOCIATED HARDWARE

- A. All locations: 316 stainless steel.
- B. Manufacturers:
 1. Unistrut.
 2. Thomas & Betts.

2.02. ANCHOR BOLTS AND HARDWARE

- A. 316 stainless steel.
- B. Epoxy-anchored. Use of wedge anchors is not acceptable.
- C. Sizes: As indicated on the Drawings, pending revision based on the Contractor's seismic calculations for the new PCP.

2.03. NAMEPLATES

- A. Black lamacoid with white letters.
- B. Fastened with 316 stainless steel screws.
- C. Submittals: Include comprehensive nameplate engraving legend for all nameplates provided.

2.04. GROUNDING

- A. Grounding conductor: Stranded, bare copper, size as indicated on the Drawings.
- B. Grounding rods: 10 feet minimum length, 3/4" diameter, copper-coated steel.
- C. Grounding connections: Welded connections. Mechanical connections shall not be acceptable.
- D. Grounding rod well: Precast concrete, round, open bottom, box and cover rated for HS-20, heavy traffic loading. The word "GROUND" shall be formed into top, removable concrete cover.

2.05. CONDUIT AND CONDUCTOR IDENTIFICATION

- A. Conduit tags: 316 stainless steel tags with conduit number stamped into tag, attached to conduit with 316 stainless steel wire.
- B. Conductor and cable markers:
 - 1. Machine printed, heat-shrink type.

2.06. 600 VOLT WIRES AND CABLE

- A. General:
 - 1. Conductors: ASTM B8, soft drawn copper, maximum 12 months old, minimum 97% conductivity, AWG sizes as indicated on the Drawings, Class B or C stranded.
 - 2. Insulation thickness: Minimum specified by article 310 of the National Electrical Code, latest edition.
- B. Power and control wire:
 - 1. All wire shall bear UL label and be stranded copper, Type THWN, 600 Volt. The minimum size permitted for any power circuit shall be No. 12 AWG, unless otherwise noted. Control panel internal control wiring may be the same color and the minimum size shall be No. 16 AWG. All conductors shall be tagged at each point of termination to provide a unique identification for each wire.
 - 2. All power circuit wire and cable shall be color coded as follows:

| | |
|-------------------|-------------------|
| Phase | 240V System |
| A | Black |
| B | Red |
| C | Orange (High Leg) |
| Ground | Green |
| Neutral | White |
| 240/120V-Hot Legs | Black |
 - 3. Cables No. 6 AWG and larger which are not made with colored jackets shall be painted or taped at terminations or junction points for identification in accordance with the above.
 - 4. No splicing of feeder cable shall be permitted. Splices in branch circuits shall be made only in junction boxes with proper terminal strips. All wires shall be terminated into tubular screw type terminations and/or compression type wire terminals used. A number with a tag shall identify all wire and terminal strips. Wire nuts shall not be used.
- C. Analog single-pair signal cable:
 - 1. Approved for cable tray installation in accordance with the National Electrical Code.

2. Voltage rating: 600 volts.
 3. Cable type: TC.
 4. Temperature rating: 90 degrees Celsius for dry locations, 75 degree Celsius for wet locations.
 5. Class B, 7-strand concentric in accordance with ASTM B8.
 6. Conductor insulation: Flame-retardant PVC, 15 mils nominal thickness, with nylon jacket 4 mils nominal thickness.
 7. Group shielding: Minimum 1.35 mil double-faced aluminum/synthetic polymer-backed tape overlapped to provide 100 percent coverage.
 8. Drain wire: 7-strand tinned copper, 2 sizes smaller than conductor.
 9. Conductor size: 16 AWG.
 10. Manufacturers: The following or equal:
 - a. Belden #9342.
 - b. The Okonite Company, Okoseal-N Type P-OS.
- D. Ethernet communication cable:
1. Category-6, rated for indoor and outdoor use.
 2. Cable shall be provided with end connectors which are compatible with PLC, radio, communication converter and annunciator equipment.
 3. Manufacturer: Belden or accepted equal.
- E. Telephone communication cable:
1. 6-pair minimum for installation between new telephone punch-down terminal blocks and new autodialer equipment..

2.07. CONDUIT

- A. PVC-coated galvanized rigid steel: 40 mils thick PVC coating, interior coated with nominal 2 mils thick corrosion-resistant urethane finish, bond between plastic coating and conduit stronger than tensile strength of plastic coating, threads factory coated with clear urethane finish.
- B. Stainless steel: Type 316, rigid, shall be manufactured in accordance with UL 6A.
- C. Schedule 40 PVC conduit: 90 degrees Celsius rating, heavy duty type.
- D. Schedule 40 PVC conduit: 90 degrees Celsius rating, heavy duty type.

- E. Liquid-tight flexible metal conduit: Grounding type, weather-proof, water-tight, PVC jacket, maximum 60-inch lengths, conforming to National Electrical Code Article 350, Type LFMC.
- F. Couplings, connectors, conduit bodies and fittings: Manufactured with the same materials, coatings and processes as corresponding conduit (e.g. provide PVC-coated galvanized rigid steel fittings for connections to PVC-coated rigid steel conduit).
- G. PVC-coated galvanized rigid steel conduit tools: Tools used for cutting, bending and threading PVC-coated galvanized rigid steel conduit shall be approved for use by the conduit manufacturer. Damaged conduit coating resulting from the use of tools not recommended by the conduit manufacturer is not acceptable and shall be replaced at no additional cost to the Owner.
- H. Submittals: Product data for each type of conduit used along with corresponding fittings.
- I. Conduit Sealant: Putty-type electrical duct sealant. Manufacturers: Gardner Bender DS-110N or accepted equal.

2.08. MESH CORD GRIPS

- A. Fabricated from 316 stainless steel.
- B. Single eye, closed mesh, double weave.
- C. Manufacturer: Amtec or accepted equal.

2.09. METALLIC PULL BOXES, JUNCTION BOXES AND TERMINAL BOXES

- A. Rated NEMA 4X.
- B. Enclosures and doors fabricated from 14-gauge 316 stainless steel.
- C. Hinged cover with 316 stainless steel hinges and cover bolts.
- D. Provided with a continuous O-ring inset door gasket.
- E. For terminal boxes, provide with internal mounting pan and 600 volt rated terminal blocks, terminal sizes and quantities as required. Mounting pan shall be provided with two (2) coats of epoxy paint, white.
- F. Manufacturers: The following or equal:
 - 1. Hoffman Enclosures.
- G. Submittals: Include dimensions for each box provided.

2.10. CONCRETE PULLBOXES

- A. Provide precast boxes at locations indicated on the Drawings.

- B. New concrete, below-grade pullboxes shall be provided with inside dimensions as indicated on the Drawings with box and cover rated for HS-20, heavy traffic loading. Provide pullboxes with spring-assisted covers with bolt-down provisions.
- C. Manufacturers: Jensen Precast, Oldcastle or accepted equal.

2.11. MANUAL TRANSFER SWITCH

- A. The manual transfer switch shall be Kraus & Naimer rotary C Series Switch, Type C125, rated 150A, 25HP @ 240V, 3-phase, Size S2, 60-Degree switching angle, black P type handle, or equivalent Electroschwitch or approved equal.

2.12. AUTOMATIC TRANSFER SWITCH

- A. Transfer switch, as indicated in the Contract Documents, shall be electrically operated contactor type that is mechanically held in both operating positions
 - 1. Transfer switch as specified herein shall be Service Equipment listed and labeled, Preferred and Alternate, dual source. Refer to Contract Documents.
 - 2. Transfer switch shall be suitable for use in accordance with NFPA 70 and shall be UL listed. Transfer switch shall be manufactured and tested in accordance with applicable requirements of IEEE C37.90.1, NEMA ICS 1, NEMA ICS 2, UL 1008 and NFPA 110. It shall be designed and manufactured to prevent stops in an intermediate or neutral position during transfer by the use of electrical actuators and stored-energy mechanisms. Each pole of the double throw switch shall have separate arcing contacts of a non-welding type. Transfer switch shall be rated for continuous duty at the continuous current rating specified. The switch shall be fully compatible, and adequately rated for the application indicated.
 - 3. Transfer switch shall permit in-phase automatic synchronous transfer to preferred power source upon regaining normal power after a programmed time delay adequate to ensure stability of Preferred source.
 - 4. Override Time Delay: Time delay to override monitored source deviation shall be adjustable from 0.5 to 6 seconds and factory set at a nominal 1 second. The device shall detect and respond to a sustained voltage drop of 10 percent of nominal voltage between any two of the preferred supply conductors and initiate a second time delay which is adjustable between 1 and 10 minutes, and factory set at a nominal 5 minutes. At the end of this second timer, transfer action to the alternate source and start the engine-driven generator set. The pickup voltage shall be adjustable between 90 and 100 percent of nominal and factory set at a nominal 95 percent. The dropout voltage shall be adjustable from 80 to 100 percent of the pickup value, and factory set at a nominal 90 percent.
 - 5. Transfer Time Delay: Time delay before transfer to the alternate power source shall be adjustable from 0 to 5 minutes and factory set at 1 minute. The device shall monitor the frequency and voltage of the alternate power source and transfer when frequency and voltage is stabilized at or above 90 percent of rated values. The pickup voltage shall be adjustable from 85 to 100 percent of nominal, and factory set at 90 percent.

The pickup frequency shall be adjustable from 90 to 100 percent of nominal and factory set at 95 percent.

6. Return Time Delay: Time delay before return transfer to the preferred power source shall be adjustable from 0 to 30 minutes and factory set at 30 minutes. Selectability shall be provided to permit override of automatic return transfer. The time delay shall be automatically defeated upon loss or sustained under voltage of the alternate power source, provided that the preferred supply has been restored.
 7. Auxiliary Contacts: Two Form-C auxiliary switches shall operate when the transfer switch is connected to the preferred power source, and two Form-C switches shall operate when the transfer switch is connected to the alternate power source.
 8. Supplemental Features: The Transfer Switch shall be furnished with the following:
 - a. Engine start contact.
 - b. Test switch.
 - c. Close differential protection.
 - d. Time delay bypass switch.
 - e. Automatic return-to-normal bypass switch.
 - f. Manual return-to-normal switch.
 - g. Programmed engine exercising
 9. Operator: A manual operator, conforming to the applicable provisions of UL 1008, shall be provided to permit manual operation of the Transfer Switch without opening the enclosure, and incorporate features to prevent operation by other than authorized and qualified personnel. The Transfer Switch shall be designed for use of the manual operator under no load conditions in the usual instances, but with the capability of operation under load conditions when necessary.
 10. Green Indicating Lights: A green indicating light shall supervise the preferred power source and shall have a nameplate engraved PREFERRED.
 11. Red Indicating Lights: A red indicating light shall supervise the alternate power source and shall have a nameplate engraved ALTERNATE.
- B. Molded Case Circuit Breakers, Motor Circuit Protectors, Motor Starters and Motor Overload Heaters: Provide quantities, ampere ratings and poles as indicated on the Drawings.
1. Main Circuit Breaker: Provide with electronic trip unit with long-time, short-time, instantaneous and ground fault protection features (i.e. LSIG electronic trip unit), 65,000 amperes interrupting rating at 480 volts, 3-phase. Circuit breaker shall be provided with an auxiliary dry contact for remote breaker position monitoring (i.e. contact “open” when motor circuit protector is “open” and vice-versa).
 2. 480 volts, 2 or 3-pole Circuit Breakers – Rated 600 volts, 65,000 amperes interrupting rating at 480 volts, 1 or 3-phase.
 3. 120 volts, 1-pole Circuit Breakers – Rated 600 volts, 22,000 amperes interrupting rating at 120 volts, 1-phase.

4. 480 volts, 3-pole Motor Circuit Protectors – Ampere rating as indicated on the Drawings, rated 600 volts, 65,000 amperes interrupting rating at 480 volts, 3-phase. Provide in conjunction with NEMA Size 4 motor starters and overload heaters as required by the pump Supplier for use with the provided pumps. Provide each motor circuit protector with an auxiliary dry contact for remote position monitoring (i.e. contact “open” when motor circuit protector is “open” and vice-versa). Motor starters shall be provided with integral mechanical and electrical interlocking as indicated on the Drawings.
 5. 120 volts, 1-pole Motor Starters and Overloads – Provide NEMA Size 1 motor starters indicated on the Drawings and overload heaters as required by the pump Supplier for use with the provided sump pumps.
 6. Circuit breakers and motor circuit protector operation shall be “up/down” or “side-to-side”. Rotational breaker operators are not acceptable.
 7. Provide interior compartment door circuit breaker and pump motor circuit protector rotary operating handles and associated interior door interlocking hardware as indicated on the Drawings.
 8. Provide feeder circuit breakers as part of a panelboard unit, mounted in PCP interior. Panelboard shall be accessible with the respective compartment exterior door open (i.e. opening of an interior door to access the panelboard circuit breakers shall not be required). Panelboard shall be rated 600 volts, 22,000 amperes interrupting rating with bus ampacity rating equal to or greater than panelboard main circuit breaker ampacity rating. Panelboard phase and ground bussing shall be tin-plated copper. Manufacturer: Eaton PRL1A or accepted equal.
 9. Manufacturers: Eaton Cutler-Hammer “HFD” Series (main and feeder circuit breakers), Eaton Cutler-Hammer “BAB” Series (panelboard circuit breakers), Eaton Cutler-Hammer “HMCP” (motor circuit protectors) or accepted equal.
- C. Lighting Switches and Receptacles: Rated minimum 20 amperes, commercial grade. Provide ground fault circuit interrupter (GFCI) type where indicated on the Drawings.
- D. Control and Timing Relays: Provide IDEC relays and sockets (no equal).
- E. Intrinsically-Safe Relays: Manufacturer: Warrick Model No. 27A1D0 (no equal).
- F. Provide plastic wireways within PCP interior sections for routing of interior wire and cable runs. Wireways shall be attached to each interior section backpan with 316 stainless steel screws. Analog signal and discrete control/power wiring shall be routed in separate interior wireways. Wireway dimensions shall be adequate for routing of all internal panel wiring and field wiring with minimum of 50% spare volume within each wireway after final installation of all wiring.
- G. All wiring routed in/out of PCP (i.e. field wiring) and all interior device-to-device wiring shall be terminated on terminal blocks. Each 4-20mA analog signal shall be individually fused.
1. Power Terminal Blocks: Manufacturers: Square D Company or accepted equal.

2. Feed-Through Terminal Blocks: Phoenix Contact, Cipline “UT 4” Series (no equal), double-bridge shaft for connection of adjacent terminal blocks via plug-in bussing, gray for signal conductors, green for grounding and shield conductors, DIN rail mounted.
 3. Fused Terminal Blocks: Phoenix Contact, Cipline “ST 4-HESI...(5 x 20) for use with ¼” x 1” glass fuse inserts (no equal). Spring-cage fused terminal block, black, LED blown fuse indicator, DIN rail mounted.
 4. Use of “double stacked” terminal blocks shall not be acceptable.
- H. Fuses: Provide sizes as required. Manufacturers: Buss or accepted equal. Provide two (2) spare fuses for each size/type provided for each motor control center provided.
- I. Pilot Lights, Pushbuttons and Selector Switches: NEMA 30.5mm devices with chrome-plated housing and mounting nut:
1. Pilot Lights: Lens colors as indicated on the Drawings, push-to-test, LED lamp, operating voltage as indicated on the Drawings.
 2. Pushbuttons: Silver contacts rated 10 amperes minimum.
 3. Provide with integral lamacoid nameplate, engraved with function as indicated on the Drawings.
 4. Manufacturers: Allen-Bradley “800” Series or accepted equal.
- J. Uninterruptible Power Supply:
1. Input Voltage: 120 volts, 60 Hz, single-phase.
 2. Output Voltage: 120 volts, 60 Hz, single-phase.
 3. Minimum Output Power Rating: 1000 volt-amperes (670 watts).
 4. Provided with two (2) auxiliary, normally-open dry contacts for external “On Battery” and “Low Battery” monitoring.
 5. Provide painted steel shelf at bottom of PCP “PLC” section interior for mounting of UPS. Provide “hold-down” strap, secured to UPS shelf.
 6. Contractor shall coordinate field conduit stub-up locations into the bottom of the new PCP with the PCP Integrator to ensure that the UPS mounting location does not interfere with bottom conduit entry locations.
 7. Manufacturer: APC Model No. SUA750XLX-558 with APC Model No. AP9610 relay card (no equal).

2.13. PORTABLE GENERATOR RECEPTACLE

- A. Portable Generator Receptacle with Angle Adapter: Integrated into the new “Portable Generator Interface Panel” as indicated on the Drawings, rated for 480 volts, 3-phase, 400

amperes. Manufacturer: Appleton Electric, Model AJA 40133. Contractor shall supply corresponding plug loose to the District.

2.14. ULTRASONIC LEVEL INDICATING TRANSMITTER AND TRANSDUCER

- A. Manufacturer: Siemens/Milltronics MultiRanger 200, Model No. 7ML5034-3AA01 (no equal). Transmitter unit shall be flush-mounted to PCP “PLC” section interior door.
- B. Provide transducer interconnecting cable of adequate length for conduit routing as indicated on the Drawings.
- C. Sensor Transducer Assembly: Milltronics Echomax XPS-15F Series, rated for use in a Class I, Division 1 Hazardous Location, provided with submergence shield (no equal).
- D. Submittals: Clearly indicate specific options and ranges.

2.15. LEVEL FLOAT SWITCHES

- A. Polypropylene body.
- B. 4- inch diameter.
- C. Single-pole, double-throw mechanical switch rated 250 volts, 10 amperes, minimum.
- D. Provided with integral CPE jacketed submersible cord, length as required.
- E. Mercury-free.
- F. Rated for use in a Class I, Division 1 Hazardous Location.
- G. Manufacturers: Flygt ENM-10 (no equal).

2.16. SITE LIGHTING FIXTURES AND POLES

- A. Lighting Fixtures: LED area floodlighting fixture, six (6) COB engines, 5000 Kelvin color temperature, “Wide Flood” distribution, 120V operating voltage, suitable for dual-fixture mounting on a single, square pole, dark bronze finish. Provide with required mounting brackets and hardware for dual-fixture mounting to the top of a 4” square pole as specified herein. Manufacturer: Lithonia Lighting, Series DSXF3 LED or accepted equal.
- B. Poles: 4”x4”x20’, 7 gauge square steel pole, dark bronze color. Provide pole with welded 4-bolt mounting base, wiring handhole and base cover. Manufacturer: Lithonia Lighting, Catalog No. SSS 20 4G or accepted equal.

PART 3.00 – EXECUTION

3.01 PREPARATION

- A. Cutting and Repairing: Where it becomes necessary to cut into existing work for the purpose of making electrical installations, use core drills for making circular holes. Other demolition methods for cutting or removing shall be reviewed by the District prior to starting the work.

3.02 GENERAL INSTALLATION REQUIREMENTS

- A. Corrosion Protection:
 - 1. Isolate dissimilar metals, except conduit and conduit fittings that may come into contact with neoprene washers, 9 mil polyethylene tape, or gaskets.
 - 2. Restore factory finishes which are damaged or rusted to their original new condition in accordance with manufacturer's surface preparation and coating instructions.
- B. Install embedded electrical work prior to placing equipment pads. Provide all sleeves and openings through floors and walls required for passage of all conduits and other raceways. Sleeves shall be rigidly supported and suitably packed or sealed to prevent ingress of wet concrete or water.
- C. Provide all insets and hangers required to support raceways and other electrical equipment.
- D. Field-verify dimensions indicated on the Drawings. Actual locations, distances and levels shall be governed by actual field conditions.
- E. Anchor electrical equipment to structure floors, walls and slabs utilizing epoxy-fastened bolts and anchor bolts as indicated on the Drawings. Sizes and quantities of fasteners shall be as indicated on the Drawings and minimum sizes required to meet UBC seismic Zone 4 requirements.
- F. After installing and before energizing electrical equipment, torque each bolted bus and cable connection in accordance with manufacturer's recommendations with calibrated torque wrenches.
- G. Use screw-type conductor fasteners in terminal boxes, at field equipment and control panels. Glue-on type conductor fasteners will not be accepted.
- H. Provide channels and associated hardware as required for support of raceways, device enclosures and other electrical equipment.
- I. Separate iron or steel supports from aluminum with ¼ inch neoprene or other non-metallic gasketing.
- J. Provide terminal blocks in terminal boxes and control panels for termination of all internally and externally routed wires and cable. Identify terminal blocks with numbering which is consistent with as-built documentation.

- K. Each PLC input/output point, including all spare points, shall be factory-wired to terminal blocks within the PCP.
- L. A minimum of 25 percent spare terminals shall be provided for each type of signal (i.e. analog signal, AC control, DC control).
- M. Provide lamacoid nameplates for each control panel, internally-mounted devices within control panels, terminal blocks, terminal and junction boxes, circuit breakers and disconnect switches.
- N. Provide grounding bushings at each end of metallic conduit runs. Grounding bushings shall be bonded to the grounding electrode system.
- O. Within four (4) hours of delivery at the site, the Pump Control Panel (PCP) shall be provided with temporary power connections for operation of space heating equipment. Upon energization of PCP equipment from the permanent utility source, temporary power shall be removed.
- P. Setup, configuration and start-up of ultrasonic level transmitters shall be performed by a certified field technician. Contractor shall include two (2) site visits on non-consecutive days for certified technician to set-up, configure and start up the ultrasonic level transmitters after transmitter and sensor transducer installation is complete.

3.03 CLEANING

- A. Clean each piece of electrical equipment, existing and new, both inside and outside, and retouch equipment to match existing paint.

3.04 ELECTRICAL IDENTIFICATION

- A. Wire colors: Match District's standard color schemes for all 120 and 480 volt AC power wiring, 120 volt AC control wiring and 24 volt DC power and control conductors.
- B. Provide unique wire tagging at each conductor termination endpoint. Conductor tags shall match at each conductor endpoint.
- C. Provide conduit tags at each conduit endpoint and at each grade or concrete stub-up location.
- D. Include the following minimum information for conduit and wire tagging:
 1. Conduit tagging: Conductor load/purpose (i.e. "PUMP 1").
 2. Wire tagging: Numbering consistent with accepted interconnection drawings.
 3. Tag spare conduits with the word "SPARE" along with endpoint destinations (e.g. "PCP").

3.05 CONDUCTORS

- A. Provide continuous circuit conductors from source to load without splices or terminations in

intermediate pullboxes or junction boxes unless otherwise indicated on the Drawings.

3.06 CONDUITS

- A. Install conduit runs in accordance with schematic representations indicated on the Drawings. Adjust routing of conduit runs as required to suit actual field conditions.
- B. Install straight and true conduit runs with uniform and symmetrical elbows, offsets, and bends. Make changes in direction with long radius bends or with conduit fittings.
- C. Provide flexible conduit connections for short lengths required to facilitate connections between rigid conduit and terminal boxes, junction boxes, vibrating equipment and instrumentation.
- D. Support conduits on walls and ceilings with minimum 1-5/8 inch 316 stainless steel channel.
- E. Install conduit runs between pullboxes, junction boxes, terminal boxes, panels and equipment with total bends equaling not more than 270 degrees.
- F. Provide pull string in spare conduits.
- G. Prior to installation of conductors, conduits 2 inches and larger shall be snaked with a cleaning mandrel.
- H. Provide 316 stainless steel rigid conduit for all portions of exterior, exposed conduit runs unless otherwise indicated on the Drawings.
- I. Provide direct-buried Schedule 40 PVC conduit for all conduit runs installed underground or in equipment pads. Installation requirements shall be as indicated on the Drawings.
- J. Provide 316 stainless steel rigid conduit minimum 12 inches above and below grade surface penetrations and minimum of 12 inches on either side of concrete wall penetrations or grade stub-up stub-out penetration locations.

3.07 BOXES

- A. Where not indicated on the Drawings, size junction boxes and pull boxes in accordance with National Electrical Code requirements.

3.08 EQUIPMENT CONFIGURATION AND INITIAL START-UP

- A. The following equipment shall be initially energized, configured and started-up at the project site by a field technician certified by the respective equipment manufacturer. The total number of days required is noted below next to each piece of listed equipment:
 - 1. Automatic Transfer Switch: One (1) full day. Initial energization and start-up shall only commence after the permanent utility (PG&E) source is connected to the PCP and ready for service (i.e. PG&E meter is installed), the existing standby generator is connected to the PCP and ready for operation and the portable generator interface panel is connected to the PCP and ready for connection to the District's portable generator source.

2. Milltronics Hydro-Ranger 200: Two (2) full days, occurring on non-consecutive days. Initial energization and start-up shall commence prior to the commencement of functional testing but after the pump station is completely ready for operation and functional testing. The first site visit shall be for initial energization and initial configuration of the Hydro-Ranger unit. After the pump station has been in operation for at least (14) consecutive days, the field technician shall return to the site to “tune” the level sensing configuration to provide improved level measurement.

3.09 ELECTRICAL FIELD TESTING

- A. Electrical field testing shall be performed in three (3) stages; i) Pre-Energization Testing, ii) Functional Testing and iii) Thermographic Surveying.
- B. Pre-Energization Testing: All pre-energization electrical field testing shall be performed by a third-party, NETA certified, independent testing firm. The first stage shall consist of electrical equipment testing and instrument loop calibration/testing prior to energization and operation of electrical equipment. Completed equipment testing data forms shall be submitted for District’s review prior to equipment start-up and energization. Unsatisfactory or equipment test results shall require that the equipment be repaired and re-tested until acceptable results are obtained at no additional cost to the District.
- C. Functional Testing: The second stage of testing shall involve the completion of functionality testing forms which include “cause and effect” tests for all control, alarm and indication functions for all possible operating scenarios. Contractor shall perform a “dry run” for all functionality tests to ensure that systems are working properly prior to scheduling on-site witness testing by the District. As part of the “dry run” testing, Contractor shall utilize functional test plan forms provided by Others as specified herein. During the Contractor’s “dry run” testing, each test “item” shall be initialed by the Contractor to confirm observed proper system operation. After the “dry run” is successfully completed, the District shall be required to witness functionality testing and shall initial all functionality testing forms upon witnessing successful operation of all systems. Facility start-up shall not commence until successful completion of all on-site functional testing.
- D. Thermographic Surveying: After a facility is started-up and has been in operation for a minimum of one week (i.e. 7 days), the Contractor shall retain the services of an independent, third-party, NETA certified testing firm to perform thermographic surveying of all interior locations within each motor control center and within each exterior terminal box. After completion of the survey, a Thermographic Survey Report shall be submitted to the District which indicates that all locations are free of “hot spots”. If, during the course of surveying, “hot spots” are found, the Contractor shall take action to make the appropriate repairs and repeat the thermographic survey until acceptable results are obtained. Additional thermographic surveying that is required due to repairs shall be performed at no additional cost to the District. The thermographic survey report shall include color photographs for each location surveyed.
- E. Pre-Energization Testing (other than loop calibration/testing) shall be performed by an independent, third-party, NETA certified testing firm and shall be performed in accordance with the latest NETA standards. Loop calibration/testing may be performed by the PCP Integrator.

- F. Independent third-party testing firm shall have “Full Member” NETA status. Acceptable testing firms: Pacific Power Testing, Apparatus Testing or accepted equal.
- G. Functional Testing shall be performed by the Contractor with assistance from the District and the District-appointed Programmer.
- H. Thermographic Surveying shall be performed by an independent testing firm.
- I. Equipment to be tested as part of Pre-Energization Testing:
 - 1. Grounding system per NETA 7.13.
 - 2. Pump feeder conductors – Tested to field terminal boxes (with submersible pump cables not connected) per NETA 7.3, 600 volt conductors.
 - 3. Molded case circuit breakers and motor circuit protectors rated 30 amperes and larger – Tested in accordance with NETA 7.6.
 - 4. Motor circuit protectors, motor overload heaters and starters – Tested in accordance with NETA 7.16.
 - 5. Ultrasonic level transmitter and transducer – Tested and calibrated to ensure that field measured levels correspond to milliampere values measured at the PLC I/O input. Testing shall include field levels corresponding to 0, 4, 8, 12, 16 and 20 milliamperes and shall be performed in accordance with ISA instrument testing recommendations.

END OF SECTION

EXHIBIT A - SAMPLE BAAQMD PERMIT



SAMPLE

RECEIVED

FEB 13 2015

L.G.V.S.D.

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

February 4, 2015

Las Gallinas Valley Sanitary District
300 Smith Ranch Road
San Rafael, CA 94903

Attention: Mel Leberman

Authority to Construct for Permit Application No. 26703, Plant No. 22739

Required Action

Your Authority to Construct is enclosed. This Authority to Construct is not a Permit to Operate. **To receive your Permit to Operate you must:**

1. Complete the Start-up Notification portion of the Authority to Construct.
2. Send the Start-up Notification to the assigned Permit Engineer via e-mail, fax or mail **at least seven days** prior to operating your equipment.

Note: Operation of equipment without sending the Start-up Notification to the District may result in enforcement action.

Authorization of Limited Use

The Authority to Construct authorizes operation during the start-up period from the date of initial operation indicated in your Start-up Notification until the Permit to Operate is issued, up to a maximum of 90 days. All conditions (specific or implied) included in this Authority to Construct will be in effect during the start-up period.

Contact Information

If you have any questions, please contact your assigned Permit Engineer:

Marc A Nash, Air Quality Specialist II

Tel: (415) 749-4677 **Fax:** (415) 749-4949 **Email:** mnash@baaqmd.gov



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Authority to Construct

(This is not a Permit to Operate)

Plant No. 22739
Application No. 26703

Las Gallinas Valley Sanitary District
Merrydale Rd, Meadow Pump Station, San Rafael, CA 94903

is hereby granted an *Authority to Construct* for the following equipment:

S-1 Emergency Standby Diesel Engine, Emergency standby, IC Engine, Cummins, 145 bhp

SAMPLE

Equipment above is subject to attached condition no. 22850.

Issue date: February 4, 2015
Expiration date: February 3, 2017

Approved by
for

JIM KARAS, P.E.
DIRECTOR OF ENGINEERING

Start-up Notification

Instructions: At least **seven days** before the scheduled initial operation contact your assigned Permit Engineer via email or complete and send this Start-up Notification to the District via fax or mail.

Engineer: Marc A Nash, Air Quality Specialist II
Tel: (415) 749-4677 **Fax:** (415) 749-4949
Email: mnash@baaqmd.gov

Plant No. 22739
Source No. S-1
Application No. 26703

The initial operation of this equipment is scheduled for _____ (month/day/year)

Print your first and last name _____

Telephone No. _____



Plant Name: Las Gallinas Valley Sanitary District

S-1 Emergency Standby Diesel Engine, Emergency standby, IC Engine, Cummins, 145 bhp

Condition No. 22850

Plant No. 22739

Application No. 26703

1. The owner/operator shall not exceed 50 hours per year per engine for reliability-related testing.
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3)]
2. The owner/operator shall operate each emergency standby engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, State or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating while mitigating emergency conditions or while emission testing to show compliance with District, State or Federal emission limits is not limited.
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3)]
3. The owner/operator shall operate each emergency standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained.
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection(e)(4)(G)(1)]
4. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Title V Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.
 - a. Hours of operation for reliability-related activities (maintenance and testing).
 - b. Hours of operation for emission testing to show compliance with emission limits.
 - c. Hours of operation (emergency).
 - d. For each emergency, the nature of the emergency condition.
 - e. Fuel usage for each engine(s).[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(I), (or, Regulation 2-6-501)]
5. At School and Near-School Operation:
If the emergency standby engine is located on school grounds or within 500 feet of any school grounds, the following requirements shall apply:

The owner/operator shall not operate each stationary emergency standby diesel-fueled engine for non-emergency use, including maintenance and testing, during the following periods:

- a. Whenever there is a school sponsored activity (if the engine is located on school grounds)
- b. Between 7:30 a.m. and 3:30 p.m. on days when school is in session.

"School" or "School Grounds" means any public or private school used for the purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in a private home(s). "School" or "School Grounds" includes any building or structure, playground, athletic field, or other areas of school property but does not include unimproved school property.

[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(1) or (e)(2)(B)(2)]

End of Conditions

SAMPLE

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EXHIBIT B - GENERATOR SPECIFICATIONS

EQUIPMENT SUBMITTAL

Detailing The

mpc | *MIKE CORTEZ*

Bill-of-Materials

MEL

For

MARK

**Portable Diesel Engine-Generators
Descanso + Rafael Meadows Pump Stations**

Submitted by:

*Jim Rose
Director of Sales – Power Equipment
October 31, 2014*



MULTIQUIP INC.
18910 Wilmington Avenue
Carson, CA 90746
(310) 400-1689 • FAX (800) 556-1986



Multiquip Inc. Company Resource List

Following is a list of Multiquip personnel to contact for information regarding service, warranty, parts or credit for the equipment provided for the trailer-mounted, mobile diesel generator sets for the Descano and Rafael Meadows Pump Station Projects:

James Bishop
Region Power Manager – Western Region
Tel: 707-373-8162
Email: jbishop@multiquip.com

Rich Sibrel
Dir. of Sales – N.W. Region
Tel: 310-427-1661
Email: rsibrel@multiquip.com

Lawrence Wu
Director – Product Service
Tel: 310-650-3743
Email: lwu@multiquip.com

Anthony Kurtz
Supervisor – Inside Parts Sales
Tel: 310-400-1372
Email: akurtz@multiquip.com

Jim Morse
Manager – Credit Department
Tel: 310-400-1328
Email: jmorse@multiquip.com

Jim Rose
Dir. of Sales – Power Equipment
Tel: 310-400-1689
Email: jrose@multiquip.com

To: Leete Generators
 Address: 3360 McMaude Place
 Santa Rosa, CA 95407
 Attn: Brian Perry
 E-Mail: 800-649- 0484
 Phone: b.perry@leeteegenerators.com



October 31, 2014

EQUIPMENT SUBMITTAL
Portable Generator Sets - Las Gallinas Valley Sanitary District
Descanso and Rafael Meadows Pump Stations

- | | | |
|-------------|------------|---|
| Item | Qty | MQ Power Model DCA45SSIU4F Portable Generator Set |
| 1 | 1 | Standby Power Rating - 40kW, 50kVA, 60 Hertz, 1800 RPM |
| 2 | | Prime Power Rating - 36kW, 45kVA, 60 Hertz, 1800 RPM |
| 3 | | Type Of Diesel Engine - Isuzu #4LE2C, 4-Cycle Type; Direct Injection; Turbocharged |
| 4 | | EPA Emissions Compliance - Tier 4 Final |
| 5 | 1 | MQ Power Model DCA125SSJU4i Portable Generator Set |
| 6 | | Standby Power Rating - 110kW, 137.5kVA, 60 Hertz, 1800 RPM |
| 7 | | Prime Power Rating - 100kW, 125kVA, 60 Hertz, 1800 RPM |
| 8 | | Type Of Diesel Engine - John Deere #4045HFG93, 4-Cycle Type; Direct Injection; Turbocharged |
| 9 | | EPA Emissions Compliance - Interim Tier 4 |
| 10 | 2 | Main Alternator - Brushless Design, 10-Lead Reconnectable, 85°C Temperature Rise |
| 11 | 2 | Output Voltage - User Selectable Voltages Including High Wye, Low Wye and Single Phase |
| 12 | 2 | Voltage Selection Type - Rotary Voltage Selector Switch |
| 13 | | Allows Voltage Selection For: 240Y/139V + 480Y/277V, 3Ø (Adjustable to 208Y/120V, 3Ø and 120/240V, 1Ø; Zig-Zag Winding Powers 120VAC GFCI Duplex Receptacle Full Time |
| 14 | | |
| 15 | 2 | Exciter/Regulator - Separately-Derived Excitation, Voltage Regulation ± 0.5% |
| 16 | 2 | Engine Speed Governor - Electronic Control; Frequency Regulation ± 0.25% |
| 17 | 2 | Engine Control - Microprocessor ECU; 2-Wire Remote Auto/Start Stop |
| 18 | 2 | Engine Cooling - Unit Mounted Radiator; 40°C (104°F) Rating |
| 19 | 2 | Enclosure - Outdoor Weather Protective & Sound Attenuated Housing w/Pad-Locking Doors |
| 20 | a. | Generator Sound Rating (DCA45SSIU4F) - 66dBA At 23-Feet At Rated Load |
| 21 | b. | Generator Sound Rating (DCA125SSJU4i) - 70dBA At 23-Feet At Rated Load |
| 22 | 2 | Engine Exhaust - Unit Mounted Critical Grade Muffler |
| 23 | 2 | Generator Main Line Circuit Breaker |
| 24 | a. | Main Line Circuit Breaker (DCA45SSIU4F) - 125A, 3-Pole, 480V Rated; UL489 |
| 25 | b. | Main Line Circuit Breaker (DCA125SSJU4i) - 300A, 3-Pole, 480V Rated; UL489 |
| 26 | 2 | Engine Starting Batteries - Lead Acid w/Battery Rack, Cables & Lugs, Connectors & Acid |
| 27 | 2 | Battery Charger - Unit Mounted SENS, 120VAC Input / 3A DC Output; UL1012 |
| 28 | 2 | Highway Legal Equipment Trailer - Compliant With All NHTSA & FMVSS Requirements |
| 29 | a. | TRLR45E - Tandem Axle Design, 7,000LBS GVWR; Electric Brakes, 3-In Pintle-Eye Coupler, Fenders, Tongue-Mount 3,000LBS Fulton Jack, D.O.T. Approved Incandescent Light Package w/7-Pin RV Plug Connector |
| 30 | | |
| 31 | b. | TRLR125USE - Tandem Axle Design, 10,000LBS GVWR; Electric Brakes, 3-In Pintle-Eye Coupler, Fenders, Tongue-Mount 3,000LBS Fulton Jack, D.O.T. Approved Incandescent Light Package w/7-Pin RV Plug Connector |
| 32 | | |
| 33 | | |
| 34 | | |
| 35 | 2 | Fire Extinguisher - 20lb. Capacity, UL Rated For Class A-B-C Fires; DOT Approved, Mounted On Front-Left Side Of Generator Facing Radiator-End, Placard Mounted Exterior Generator Housing Indicating Placement of Fire Extinguisher |
| 36 | | |
| 37 | | |
| 38 | 2 | Automatic Retractable Shore Power Cable Reel - 50-Foot, #14AWG, 120VAC, Single Phase, Hubbell Plugs; Connects To Panel Mount Receptacle Inlet To Provide Power For Battery Charger and Engine Block Heater |
| 39 | | |
| 40 | | |

- 41 2 Generator Work Lights - 4 x Each; 12VDC; Mount 1 Light In Each The Following Locations:
- 42 External Above Control Panel; External Above Distribution Bus; Interior On Each Side Of Unit,
- 43 Work Light Circuit Breaker - 12VDC, 10A; Control Switch Light Timer; Automatically Shuts
- 44 Off To Prevent Battery Drain
- 45 2 Flashing Amber Beacon - Rated 3.6A @ 12VDC Light - Mounted On Top Exterior Generator
- 46 Housing, Wired to Operate On Low Fuel Level Alarm
- 47 2 Trailer Cable Storage Box - Custom Tongue-Mount Cable Storage Box; Painted Steel
- 48 Construction w/Padlocking Lid; Designed To Contour-Mount Of Trailer A-Frame
- 49 a. Dimensions - TRLR45E: 36"H x 44"W x 22"D
- 50 b. Dimensions - TRLR125USE: 36"H x 55"W x 18.4"D
- 51 1 Engine Fluids - Unit Serviced w/Crankcase Lube Oil & Radiator Coolant
- 52 1 Literature - Three Sets O&M Manuals
- 53 1 Warranty - 1-Year/Unlimited Run Time (From In-Service Date)

TERMS AND CONDITIONS

Specifications: This submittal is based on the technical specifications, Sections 14300-06 and 12300-02, Pages 30 thru 38, dated July 28, 2014. Refer to the attached MQ Clarifications & Exceptions Sheet for list of exceptions.

If you should have any questions concerning this submittal please call on me personally.

Very truly yours,

Jim Rose
 Director Sales - Power Equipment
 Multiquip Inc.
 Tel: 310-400-1689
 Email: jrose@multiquip.com

Submittal Accepted By: _____
 Title: _____
 Company Name: _____
 Date: _____



Las Gallinas Valley Sanitary District Trailer Mounted 40kW & 100kW Generator Sets Descanso and Rafael Meadows Pump Stations

By: Jim Rose October 31, 2014

Clarifications & Exceptions

Multiquip Inc. quotation for the Portable Electric Generator sets for the Descanso (Job #12300-02) and Rafael Meadows (Job #14300-06) sites is based on engineering specifications provided dated July 28, 2014 with the following Clarifications & Exceptions:

1. Page 31, Paragraph 4.1.8: Exception: Do not meet all conditions of NFPA 99 – jobsite is not a Health Care Facility; not applicable.
2. Page 31, Paragraph 4.1.9: Exception: Do not meet all conditions of NFPA 110 – jobsites are not considered Level 1 installations (Emergency Health Care).
3. Page 31, Paragraph 4.1.10: Exception: Generator sets are not Listed to the UL2200 Standard. This standard pertains to standby generators that are stationary-installed. Does not apply to mobile power units on trailers.
4. Page 31, Paragraph 5.0: Exception: Majority of testing in this section pertains to meeting NFPA 99 & NFPA 110 Standards and Article 700/701 of National Electrical Code for stationary-installed generators for Level 1 installations (Emergency Health Care) or Level 2 installations (Life Safety). MQ generators meet most of the section items but not all. Information regarding voltage regulation, frequency regulation motor-starting, etc. will be provided during the submittal stage.
5. Page 34, Paragraph 7.5: Clarification: MQ generator sets meet transient voltage requirements however, unsure of exact recorder used by the factory (we are sure it will be digital for sure); and although the Denyo alternators are designed/built to the Japanese Industrial Standards (JIS), they closely follow the American IEEE Standards.
6. Page 35, Paragraph 8.5: Exception: Both MQ generator sets are fitted with engine cooling packages, meeting Federal EPA emissions guidelines, and are rated 40°C (104°F) running 100% load factor, Prime Power.
7. Page 35, Paragraph 9.1: Exception: MQ generator alternator-ends are 10-lead design.
8. Page 35, Paragraph 9.2: Exception: MQ generator alternator-ends use a serviceable rear bearing design.
9. Page 35, Paragraph 10: Exception: Standard battery charger that fits in compartment is a SENS brand, rated 3A.

Multiquip Inc.
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Jim Rose/Dir of Sales – Power Equipment

10. Page 36, Paragraph 10.7 ~ 10.8: Exception: The MQ alternator-end is 10-lead and is not reconnectable to 120/240VAC Delta output. The alternators are of a WYE design so the Low Wye voltage connection is 240Y/139V. There is a voltage adjusting potentiometer mounted on the front control panel allowing output voltage to be adjusted to 208Y/120VAC as necessary. Both generator sets are provided with a UL489 listed, solid state, thermal-magnetic trip, circuit breaker, (Rated 125A 3-pole for the 40kW machine and 300A 3-pole for the 100kW machine). Circuit breakers are located in the control panel (dead front behind removable cover). The circuit breakers are sized to operate at the highest rated ampacity (Low Wye voltage). A dedicated, UL listed, inverse time delay, over-current relay is provided to monitor and protect alternator output, at the lowest rated ampacity (High Wye voltage). In the event of an overload or short circuit, the over-current relay activates the circuit breaker shunt trip and opens the circuit breaker.
11. Page 36, Paragraph 10.16: Exception: Sound attenuated enclosures are steel construction.
12. Page 37, Paragraph 10.18: Exception: Cold weather operation rating is -20°C.
13. Page 37, Paragraph 10.21: Exception: Generator enclosures are not pitched or peaked.
14. Page 37, Paragraph 10.27: Exception: Service light timer provides for a 15-minute run time and is manually resettable. The switch does not have a "Hold" position to prevent the lights being left "On" and potentially depleting the engine starting battery.
15. Page 37, Paragraph 11.5: Clarification: The trailer for the 40kW generator, TRLR45E is fitted with tandem-axle, spring suspension axles. The trailer for the 100kW generator, TRLR125USE is fitted with tandem-axle, torsion axles. Tandem-axle, spring suspension packages must include an equalizer between the two axles. Tandem-axle, torsion axle suspension does not use an equalizer system by design.
16. Page 37, Paragraph 11.8: Exception: Both trailers are fitted with running lights that are not recessed into the trailer frame however, both trailers use a rear bumper channel design to protect the lights from damage.
17. Page 37, Paragraph 11.9: Exception/Clarification-?: The specification requirement is somewhat confusing. There is a reference to the trailer storage box being 47.75" T and there is also a reference to the box being 18.5"H. MQ is unsure of this reference. Standard engineering practice details these dimensions as: H=Height, W=Width, D=Depth. We're not sure if "T" is supposed to mean "Tall", in which case a storage box almost 48-inches tall on the small trailer is not practical. We're going to quote our optional storage boxes for both trailers.
 - a. Dimensions as follows:
 - i. TRLR45E: 36"H x 44"W x 22"D – Steel Construction
 - ii. TRLR125USE: 36"H x 55"W x 18.4"D – Steel Construction
18. Page 38, Paragraph 11.10: Clarification: Due to the design method of monitoring fuel level we cannot guarantee an exact 50% fuel level alarm. Both generator sets will be fitted with electronic fuel sensing alarms but using dedicated float switches is not possible. The alarm will include a control relaying allowing operation of a top-of-enclosure-mount, amber strobe light.
19. Page 38, Paragraph 12: Exception: MQ was advised the District will provide all cabling.

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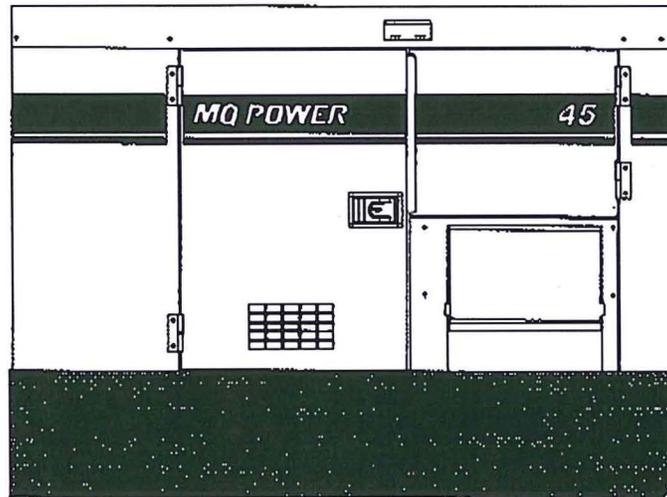
MQ POWER Series Generator

WhisperWatt™

Prime Rating — 36 kW (45 kVA)

Standby Rating — 40 kW (50 kVA)

Three-Phase, 60 Hertz, 0.8 PF



STANDARD FEATURES

- Heavy duty, 4-cycle, direct injection, turbocharged, charge air cooled diesel engine provides maximum reliability.
- Brushless alternator reduces service and maintenance requirements and meets temperature rise standards for Class H insulation systems.
 - Open delta excitation design provides virtually unlimited excitation for maximum motor starting capability.
 - Automatic voltage regulator (AVR) provides precise regulation.
- Electronic Governor Control — isochronous control, maintains frequency to within $\pm 0.25\%$ from no load to full load.
- Full load acceptance of standby nameplate rating in one step (NFPA 110, para 5-13.2.6).
- Sound attenuated, weather resistant, steel housing provides operation at 66 dB(A) at 23 feet. Fully lockable enclosure allows safe unattended operation.
- Internal fuel tank with direct reading of fuel gauge.
- E-coat and powder coat paint provides durability and weather protection.
- Fuel/water separator removes condensation from fuel for extended engine life. Panel mounted alarm light included.
- Complete engine analog instrumentation includes DC ammeter, oil pressure gauge, water temp. gauge, fuel level gauge, tachometer/hour meter, preheat indicator, and emergency shutdown monitors.
- ECU750 — automatic CANBUS engine control with LED status indicator lights.
- Automatic start/stop control — automatically starts the generator set during a commercial power failure when used in conjunction with a transfer switch.
- Complete generator analog instrumentation includes voltage regulator control, ammeter phase selector switch, voltmeter phase selector switch, AC voltmeter, AC ammeter, frequency meter, panel light, and circuit breaker.
- Automatic safety shutdown system monitors the water temperature, engine oil pressure, overspeed and overcrank. Warning lights indicate abnormal conditions.
- Complete power panel. Fully covered; three-phase terminals and single phase receptacles allow fast and convenient hookup for most applications including temporary power boxes, tools and lighting equipment. The GFCI receptacles are NEMA 5-20, and the auxiliary outputs use CS6369 twist-lock receptacles.
- Voltage selector switch offers the operator a wide range of voltages that are manually selectable. Fine tuning of the output voltage can be accomplished by adjusting the voltage regulator control knob to obtain the desired voltage.
- EPA emissions certified — Tier 4 final emissions compliant.
- Spill containment — Bunded design protects environment by capturing up to 119% of engine fluids.



DCA45SSIU4F

MQ POWER Series Generator

SPECIFICATIONS

| Generator Specifications | | |
|---|---|---------|
| Design | Revolving field, self-ventilated Drip-proof, single bearing | |
| Armature Connection | Star with Neutral | Zig Zag |
| Phase | 3 | Single |
| Standby Output | 40 KW (50 KVA) | 28.8 KW |
| Prime Output | 36 KW (45 KVA) | 26 KW |
| 3Ø Voltage (L-L/L-N) Voltage Selector Switch at 3Ø 240/139 | 208Y/120, 220Y/127, 240Y/139 | N/A |
| 3Ø Voltage (L-L/L-N) Voltage Selector Switch at 3Ø 480/277 | 416Y/240, 440Y/254, 480Y/277 | N/A |
| 1Ø Voltage (L-L/L-N) (Voltage Selector Switch at 1Ø 240/120) | N/A | 240/120 |
| Power Factor | 0.8 | 1.0 |
| Voltage Regulation (No load to full load) | ±0.5% | |
| Generator RPM | 1800 | |
| Frequency | 60 Hz | |
| No. of Poles | 4 | |
| Excitation | Brushless with AVR | |
| Frequency Regulation: No Load to Full Load | Isynchronous under varying loads from no load to 100% rated load | |
| Frequency Regulation: Steady State | ±0.25% of mean value for constant loads from no load to full load. | |
| Insulation | Class H | |
| Sound Level dB(A) Full load at 23 feet | 66 | |

| Engine Specifications | |
|---------------------------|--|
| Make / Model | Isuzu / 4LE2X |
| Emissions | EPA Tier 4 Final Certified |
| Starting System | Electric |
| Design | 4-cycle, water cooled, direct injection, turbocharged, charge air cooled and EGR |
| Displacement | 133.0 in ³ (2179 cc) |
| No. cylinders | 4 |
| Bore x Stroke (mm) | 85 x 96 |
| Gross Engine Power Output | 65.7 hp (49 kW) |
| BMEP | 217 psi (1499 kPa) |
| Piston Speed | 1133.9 ft./min. (5.76 m/s) |
| Compression Ratio | 17.6:1 |
| Engine Speed | 1800 rpm |
| Overspeed Limit | 2070 rpm |
| Oil Capacity | 3.2 gallons (12.2 liters) |
| Battery | 12V 72Ah x 1 |

| Fuel System | | |
|--------------------------------|---------------------------|------|
| Recommended Fuel | ASTM-D975-No.1 & No.2-D | |
| Maximum Fuel Flow (per hour) | 3.4 gallons (13 liters) | |
| Maximum Inlet Restriction (Hg) | 11 in. (280 mm) | |
| Fuel Tank Capacity | 79.2 gallons (300 liters) | |
| Fuel Consumption | gph | lph |
| At full load | 2.93 | 11.1 |
| At 3/4 load | 2.20 | 8.31 |
| At 1/2 load | 1.60 | 6.04 |
| At 1/4 load | 1.04 | 3.92 |

| Cooling System | |
|--|----------------------------|
| Fan Load | 2.01 hp (1.5 kW) |
| Coolant Capacity (with radiator) | 4.44 gallons (16.8 liters) |
| Coolant Flow Rate (per minute) | 16.9 gallons (64.2 liters) |
| Heat Rejection to Coolant (per minute) | 1934 Btu (2.04 MJ) |
| Maximum Coolant Friction Head | 14.5 psi (100 kPa) |
| Maximum Coolant Static Head | 3.35 feet (1.04 meters) |
| Ambient Temperature Rating | 104°F (40°C) |

| Air | |
|---------------------------------|---|
| Combustion Air | 174 cfm (4.94 m ³ /min) |
| Maximum Air Cleaner Restriction | 25 in. H ₂ O (6.23 kPa) |
| Alternator Cooling Air | 526 cfm (14.9 m ³ /min) |
| Radiator Cooling Air | 1900 cfm (53.8 m ³ /min) |
| Minimum Air Opening to Room | 3.5 ft ² (0.33 m ²) |
| Minimum Discharge Opening | 2.27 ft ² (0.21 m ²) |

| Exhaust System | |
|-----------------------|-------------------------------------|
| Gas Flow (full load) | 237 cfm (6.7 m ³ /min) |
| Gas Temperature | 1078°F (581°C) |
| Maximum Back Pressure | 38.1 in. H ₂ O (9.5 kPa) |

| Amperage | |
|---|--------------------------------------|
| Rated Voltage | Maximum Amps |
| 1Ø 120 Volt | 100 Amps (4 wire), 108A x 2 (Zigzag) |
| 1Ø 240 Volt | 50 Amps (4 wire), 108A (Zigzag) |
| 3Ø 240 Volt | 108 Amps |
| 3Ø 480 Volt | 54 Amps |
| Main Line Circuit Breaker Rating | 125 Amps |
| Over Current Relay Trip Set Point 480V Mode Only | 54 Amps |

WARRANTY*

Isuzu Engine

12 months from date of purchase with unlimited hours or 24 months from date of purchase with 2000 hours (whichever comes first).

Generator

24 months from date of purchase or 2000 hours (whichever occurs first).

Trailer

12 months excluding normal wear items.

*Refer to the express written, one-year limited warranty sheet for additional information.

NOTICE

Generator is not intended for use in enclosed areas or where free flow of air is restricted.

Backfeed to a utility system can cause electrocution, shock and/or property damage. **DO NOT** connect to any building's electrical system except through an approved device.

Specifications are subject to change without notice.



DCA45SSIU4F

MQ POWER Series Generator

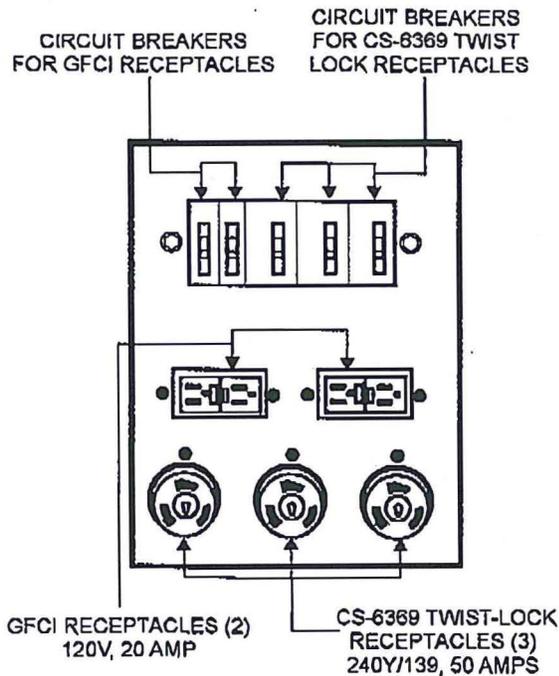
MQ POWER DECIBEL LEVELS

Our soundproof housing allows substantially lower operating noise levels than competitive designs. WhisperWatts are at home on construction sites, in residential neighborhoods, and at hospitals — just about anywhere.

- 90 — Subway / truck traffic
- 80 — Average city traffic
- 70 — Inside car at 60 mph
— WhisperWall at 23 feet
- 60 — Air conditioner at 20 feet
- 50 — Normal conversation



GENERATOR OUTPUT PANEL



OPTIONAL GENERATOR FEATURES

- **Battery Charger** — provides fully automatic and self-adjusting automatic online generator battery system
- **Jacket Water Heater** — for easy starting in cold weather climates
- **Special Batteries** — long life batteries provide extra engine cranking power.
- **Low Coolant Level Shutdown** — provides protection from critically low coolant levels. Includes control panel warning light.
- **Spring Isolators** — provides extra vibration protection for standby applications.
- **Trailer Mounted Package** — meets National Highway Traffic Safety Administration (NHTSA) regulations. Trailer is equipped with electronic surge brakes with double or triple axle configuration.

OPTIONAL CONTROL FEATURES

- **Emergency Stop Switch** — when manually activated shuts down generator in the event of an emergency.
- **Audible alarm** — alerts operator of abnormal conditions

OPTIONAL OUTPUT CONNECTIONS

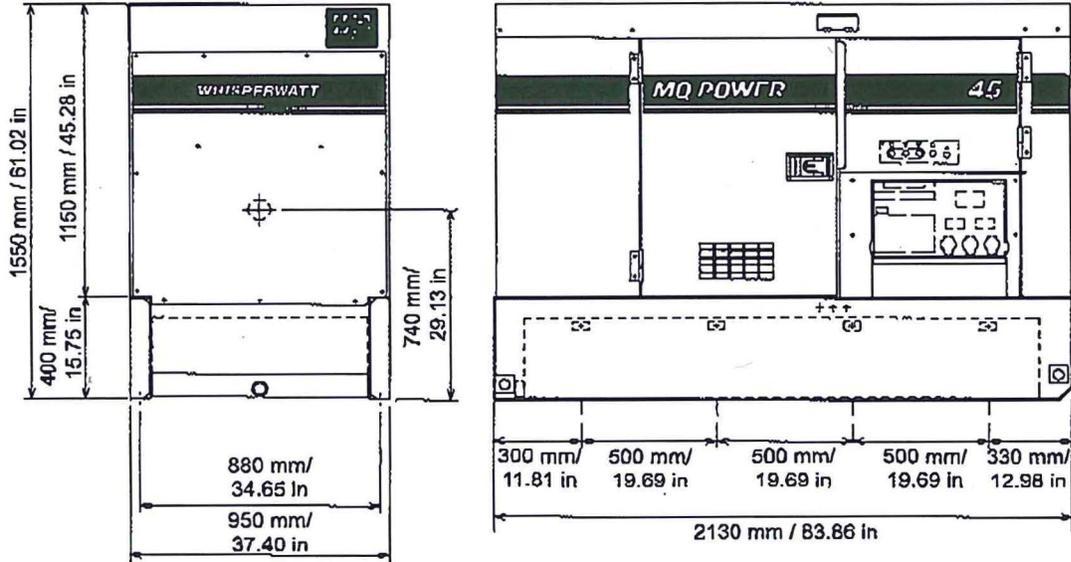
- **Cam-Lok Connectors** — provides quick disconnect alternative to bolt-on connectors.
- **Pin and Sleeve Connectors** — provides industry standard connectors for all voltage requirements.
- **Output Cable** — available in any custom length and size configuration.



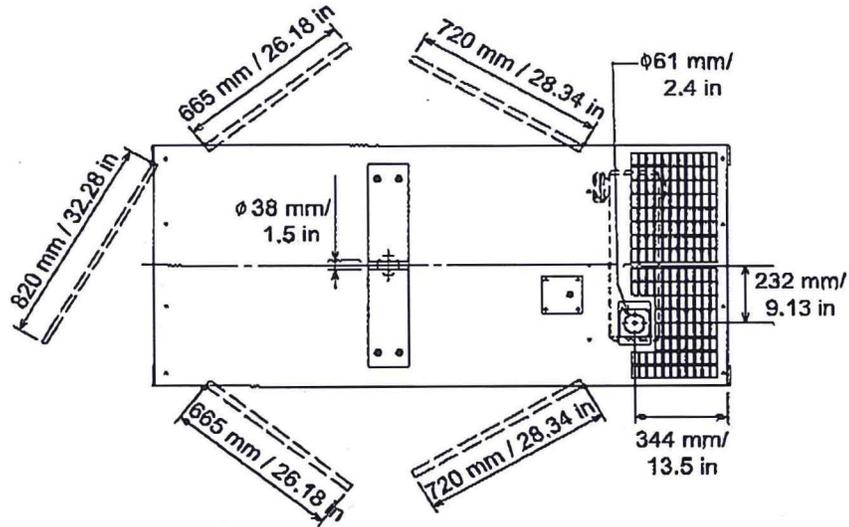
DCA45SSIU4F

MQ POWER Series Generator

DIMENSIONS



| Weight | |
|-----------------------------|-----------------------|
| Dry Weight | 2,337 lbs. (1,060 kg) |
| Wet Weight | 2,976 lbs. (1,350 kg) |
| Max. Lifting Point Capacity | 5,150 lbs. (2,335 kg) |



Generator can be placed on
MQ Power Model TRLR45
Trailer.

Manufactured by Denyo Co.

Your Multiquip dealer is:

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DCA45SSIU4F Rev. #2 (10/14/13)



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E-MAIL: sales@multiquip.com
WEBSITE: www.multiquip.com

EXHAUST EMISSION DATA SHEET

MQ POWER GENERATOR SET

Model: DCA-45SSIU4F



The engine used in this generator set is certified to comply with United States EPA Tier 4 and CARB Mobile Off-Highway emission regulations.

ENGINE DATA

| | |
|---|------------------------------------|
| Manufacturer: Isuzu | Bore: 3.35 in. (85 mm) |
| Model: 4LE2X | Stroke: 3.78 in. (96 mm) |
| Type: 4-Cycle, In-Line, 4-Cylinder, Diesel | Displacement: 133 cid (2.2 liters) |
| Aspiration: Turbocharger, ECM, EGR, DOC Electronic Direct Injection, Charge Air Cooler | Compression Ratio: 17.6:1 |

PERFORMANCE DATA

| | |
|---|------|
| SAE Gross HP @ 1800 RPM (60 Hz) | 65.7 |
| Rated Load Fuel Consumption (gal/Hr) | 2.93 |
| Rated Load Exhaust Gas Flow (cfm) | 237 |
| Rated Load Exhaust Gas Temperature (°F) | 1078 |

United States EPA - Mobile Off-Highway Tier 4 Limits - 25.5 ~ <75 BHP

| Criteria Pollutant | Emission Requirements | Certified Engine Emissions |
|----------------------------------|-----------------------|----------------------------|
| NOx (Oxides of Nitrogen as NO2) | N/A gr/bhp-hr | N/A gr/bhp-hr |
| HC (Total Unburned Hydrocarbons) | N/A gr/bhp-hr | N/A gr/bhp-hr |
| NOx + HC (Combined) | N/A gr/bhp-hr | N/A gr/bhp-hr |
| CO (Carbon Monoxide) | 3.72 gr/bhp-hr | 0.014 gr/bhp-hr |
| PM (Particulate Matter) | 0.022 gr/bhp-hr | 0.022 gr/bhp-hr |
| NMHC (Non-Methane Hydrocarbons) | N/A gr/bhp-hr | N/A gr/bhp-hr |
| NMHC + NOx | 3.50 gr/bhp-hr | 2.38 gr/bhp-hr |

| | |
|---------------------------------|------------------|
| EPA Engine Family: | ESZXL02.2PXB |
| EPA Certificate of Conformance: | ESZXL02.2PXB-002 |
| ARB Executive Order: | U-R-006-0385 |
| Effective Date: | Model Year 2014 |

Note: Engine operation with excessive air intake or exhaust restriction beyond factory published maximum limits, or with improper service maintenance, may result in higher emission levels.

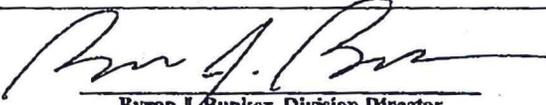


**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2014 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT OF 1990**

**OFFICE OF TRANSPORTATION
AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105**

Certificate Issued To: Isuzu Motors Limited
(U.S. Manufacturer or Importer)
Certificate Number: ESZXL02.2PXB-082

Effective Date:
05/23/2013
Expiration Date:
12/31/2014


Byron J. Bunker, Division Director
Compliance Division

Issue Date:
05/23/2013
Revision Date:
N/A

Model Year: 2014
Manufacturer Type: Original Engine Manufacturer
Engine Family: ESZXL02.2PXB

Mobile/Stationary Indicator: Mobile
Emissions Power Category: 37<=kW<56
Fuel Type: Diesel
After Treatment Devices: Diesel Oxidation Catalyst
Non-after Treatment Devices: Electronic/Electric EGR - Cooled, Electronic Control, Engine Design Modification

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 1039, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Part 1039 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 1039 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 1039.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 1039. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 1039.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

| | | |
|--|-----------------------------|---|
| California Environmental Protection Agency Air Resources Board | ISUZU MOTORS LIMITED | EXECUTIVE ORDER U-R-008-0386 New Off-Road Compression-Ignition Engines |
|--|-----------------------------|---|

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

| MODEL YEAR | ENGINE FAMILY | DISPLACEMENT (liters) | FUEL TYPE | USEFUL LIFE (hours) |
|---|---------------|-----------------------|-------------------------------|---------------------|
| 2014 | ESZXL02.2PXB | 2.2 | Diesel | 8000 |
| SPECIAL FEATURES & EMISSION CONTROL SYSTEMS | | | TYPICAL EQUIPMENT APPLICATION | |
| Electronic Control Module, Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Turbocharger, Charge Air Cooler, Electronic Direct Injection | | | Generator Set | |

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kW-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

| RATED POWER CLASS | EMISSION STANDARD CATEGORY | | EXHAUST (g/kW-hr) | | | | | OPACITY (%) | | |
|-------------------|----------------------------|--------------|-------------------|-----|----------|------|------|-------------|-----|------|
| | | | NMHC | NOx | NMHC+NOx | CO | PM | ACCEL | LUG | PEAK |
| 19 ≤ kW < 56 | Tier 4 Final | OPTIONAL STD | N/A | N/A | 4.7 | 5.0 | 0.03 | N/A | N/A | N/A |
| | | CERT | -- | -- | 3.2 | 0.02 | 0.03 | -- | -- | -- |

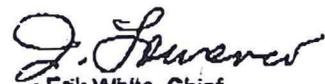
BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for 2008 and Later Tier 4 Off-Road Compression-Ignition Engines, Part I-C" adopted October 20, 2005.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

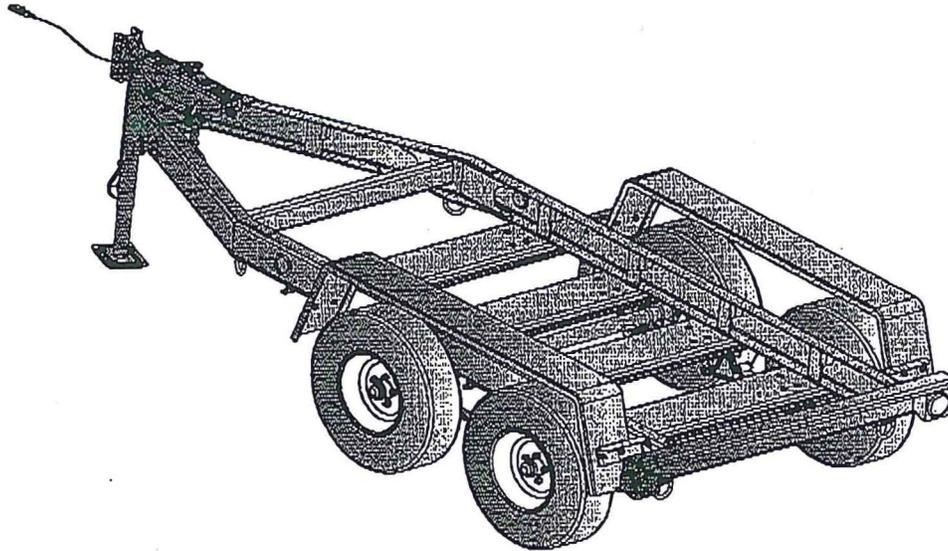
Executed at El Monte, California on this 26th day of April 2013.


 Erik White, Chief
 Mobile Source Operations Division



TRLR45

MQ POWER Tandem Axle Trailer



| TRLR45 Technical Data | |
|---|---|
| Gross Vehicle Weight Rating (GVWR) — 7,000 lbs (2,813 kg) | Tire Size — ST205/75D14 LR-C |
| Gross Axle Weight Rating (GAWR) — 3,500 lbs. (1,588 kg) | Wheel Bolt Pattern — 5 Lug |
| Coupler Rating — See coupler options on back page. | Tire Load Rating — 1,760 lbs/657 kg (ea.) |

STANDARD TRAILER EQUIPMENT

- Fits MQ Power Generator Model DCA25USIXF, DCA45USI, DCA45SSIU4F, DCA45USI3CAN
- Tandem-axle Design with Leaf Spring Suspension
- H.D. Welded Steel Frame Construction
- Form Channel for Generator Mounting and Support
- Replaceable, Bolt-on Hydraulic Brake Actuator
- Surge Hydraulic-actuated Drum Brakes (all axles)
- Hydraulic Uni-servo Drum Brakes with Free-backing Plates - 10-inch Cluster
- D.O.T. Steel Brake Lines, Brass Tees and Rubber Hydraulic Brake Hoses
- 4-hole Channel Allows 3-position, Adjustable Coupler Height; 4-inches O/A
- Tongue Mounted Swivel Jack with Flat Disc-foot (rated 3,000 pound lift)
- Replaceable, Bolt-on Steel Fenders
- Powder Coat Paint Process including: Frame, Channel, Actuator and Fenders
- D.O.T. Approved Tail Lamps, Stop Lamps, Turn Signal Lamps, Side Marker Lamps
- Weatherproof, Rubber Armored, 2-piece Trailer Light Wiring Harness

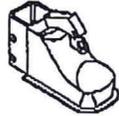


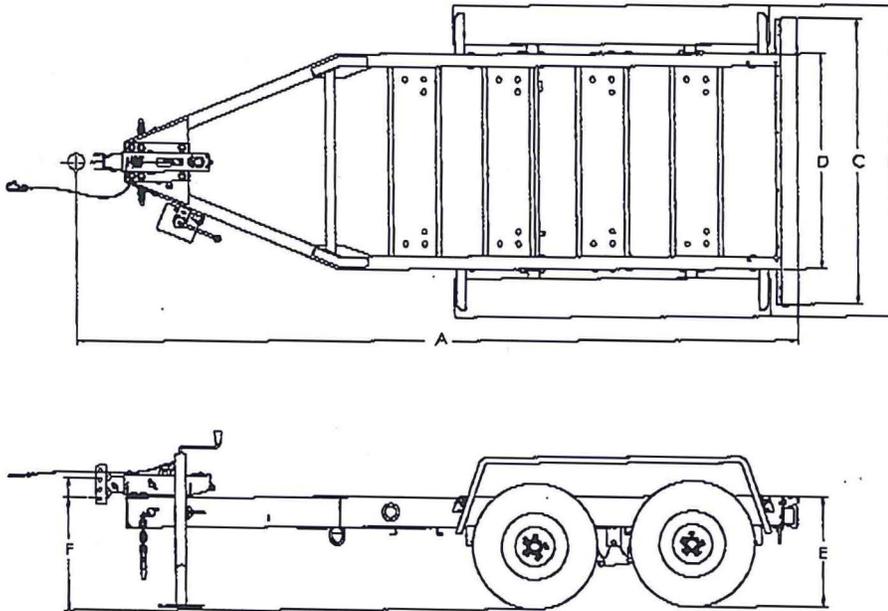
TRLR45

MQ POWER Tandem Axle Trailer

OPTIONAL TRAILER EQUIPMENT

- Ball or Electric Brake Coupler and Channel Plate with Electric-actuated Drum Brakes (all axes)
- Electric Breakaway Safety Device (electric-actuated brakes)
- Adjustable 2-inch Ball Coupler
- Adjustable 2 5/16-inch Ball Coupler
- Adjustable 3-inch Pintle-eye Coupler
- Rear Stabilizer Stands
- Tongue Mounted Utility Storage Box
- Spare Tire with Locking Mount
- Anti-Theft Wheel Lock

| Coupler Options | |
|---|---|
| 3" Pintle Eye 20,000 lbs. #EE36264 |  |
| 2" Ball Coupler 10,000 lbs. #EE43254 |  |
| 2-5/16" Ball Coupler 14,000 lbs. #EE43253 |  |



| Trailer Dimensions | | | | | | |
|----------------------|------------------------|---------------------|------------------------|----------------|-------------------|-------------------|
| A | B | C | D | E | F | |
| | | | | | MIN | MAX |
| 148 in (3,759 mm) | 65.25 in (1,657 mm) | 60 in (1,524 mm) | 45.25 in (1,149 mm) | 23 in (584) | 23 in (584 mm) | 27 in (686 mm) |
| Trailer Weight | | | | | | |
| 1056 lbs. (479 kg)* | | | | | | |

*Weight is approximate

Your Multiquip dealer is:

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TRLR45 Rev. #1 (11/01/13)



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202028

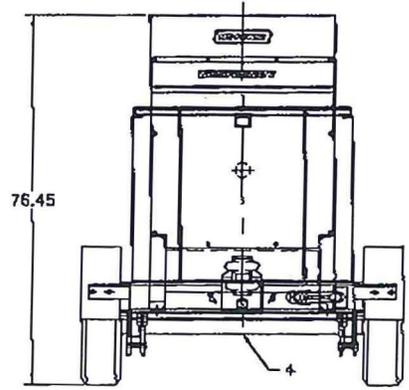
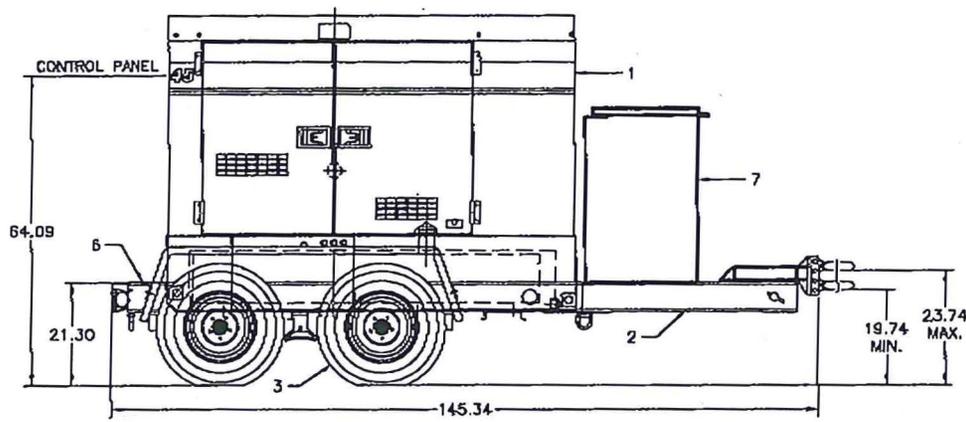
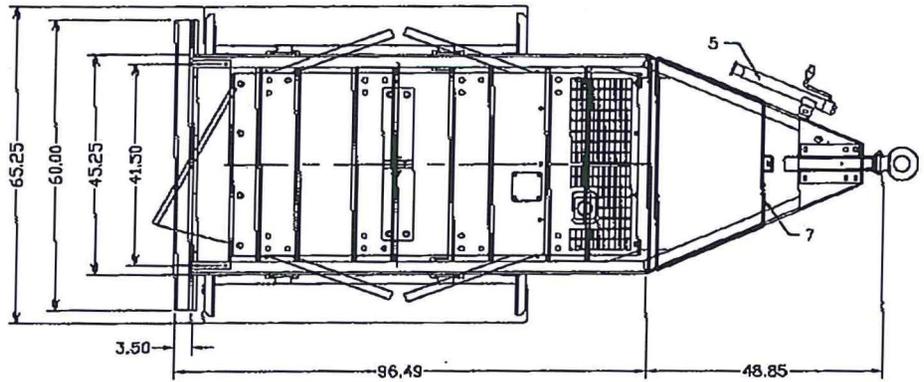
THIS DRAWING AND THE DATA DISCLOSED HEREIN OR HEREIN IS CONFIDENTIAL AND PROPRIETARY AND IS NOT TO BE REPRODUCED, USED, OR DISCLOSED IN WHOLE OR IN PART TO ANYONE WITHOUT THE EXPRESS WRITTEN PERMISSION OF MALCOLM COMPANY.

PART LISTS

| ITEM | PART NUMBER | QTY | DESCRIPTION | MANUFACTURE |
|------|--------------------------|-----|--|-------------|
| 1 | DCA455SIU4F (TRAILER 4F) | 1 | 455SIU4F GENSET WEIGHT (WE): 2,824lbs | MQ POWER |
| 2 | TRLR45E | 1 | TRAILER (MODEL: TRLR45E) TRAILER WT. ONLY: 1,043lbs G.V.W.R.: 2,000lbs TONGUE WT.: OVERALL DIMENSION: 145L X 64W X 77H | MQ POWER |
| 3 | DE4430H | 4 | TIRE ST205/75016 "C", 1,700# RATING WHEEL 14" X 6" | TASKMASTER |
| 4 | EE55903 | 2 | ELECTRIC AXLE, 3,500lbs RATING | DEXTER AXLE |
| 5 | EE43317 | 1 | 3K JACK COMPONENT | COMPONENT |
| 6 | EE57100 | 1 | COVER, 1/2" THK TREAD DIAMOND PLATE | MQ POWER |
| 7 | EE57368 | 1 | TOOL BOX, 36" X 23" | MQ POWER |
| 8 | | 1 | SEE HITCH OPTION TABLE | |

HITCH OPTIONS

| | |
|---|---|
| 3" ADJUSTABLE EYE 25,000lbs (EE57214 - PLATED) |  |
| 2" BALL COUPLER 10,000lbs (EE42254 - PLATED) |  |
| 2-5/16" BALL COUPLER 19,000lbs (EE42253 - PLATED) |  |



| | | | | | | | |
|---|--|-----------|--|----------|--|-------|--|
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: | | DRAWING | | DATE | | SCALE | |
| FRACTIONS DECIMALS ANGLES | | APPROVED | | DATE | | SCALE | |
| ± .001 ± .005 ± | | J. TRAN | | 11/04/16 | | 1/12 | |
| DO NOT SCALE DRAWING | | CHECKED | | DATE | | SCALE | |
| 202028 | | GALLAGHER | | 202028 | | 1/1 | |



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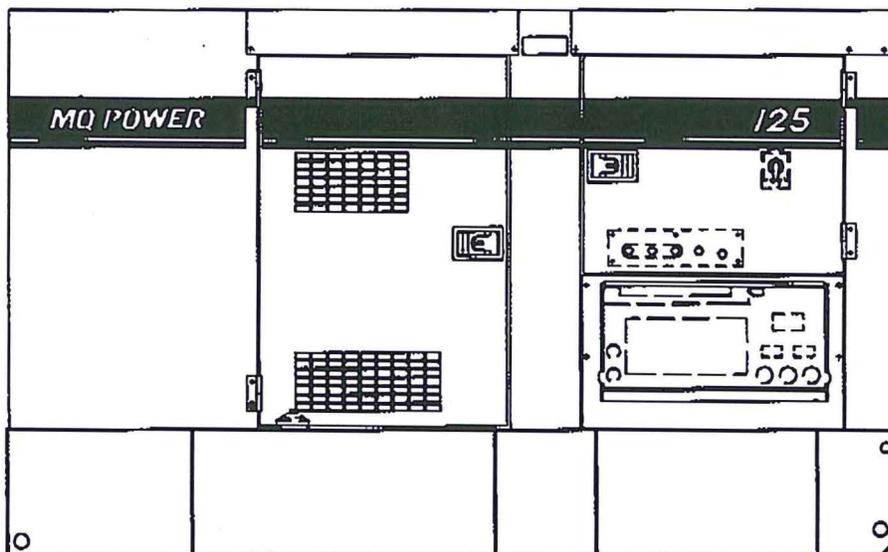
MQ POWER Series Generator

WhisperWatt™

Prime Rating — 100kW (125kVA)

Standby Rating — 110kW (137.5kVA)

3-Phase, 60 Hertz, 0.8 PF



STANDARD FEATURES

- Heavy duty, 4-cycle, direct injection, turbocharged, charge air cooled diesel engine provides maximum reliability.
- Brushless alternator reduces service and maintenance requirements and meets temperature rise standards for Class F insulation systems.
 - Open delta alternator design provides virtually unlimited excitation for maximum motor starting capability.
 - Automatic voltage regulator (AVR) provides precise regulation.
- Electronic governor system maintains frequency to $\pm 0.25\%$.
- Full load acceptance of standby nameplate rating in one step (NFPA 110, para 5.6.3.1.2).
- Sound attenuated, weather resistant, steel housing provides operation at 70 dB(A) at 23 feet. Fully lockable enclosure allows safe unattended operation.
- Internal fuel tank with direct reading fuel gauges are standard.
- E-coat and powder coat paint provides durability and weather protection.
- Digital engine gauges including oil pressure, water temperature, battery volts, engine speed, and fuel level.
- Analog generator instrumentation including AC ammeter, AC voltmeter, frequency meter, ammeter phase selector switch, voltmeter phase selector switch, and voltage regulator adjustment potentiometer.
- ECU830 microprocessor-based digital generator controller.
 - Remote 2-wire start/stop control.
 - Operational temperature range of -40° to 85° C.
 - High visibility LCD display with heated screen and alphanumeric readout.
 - Modbus interface for gauge panel and expansion options.
 - DPF cleaning cycle indication.
- Automatic safety shutdown system monitors the water temperature, engine oil pressure, low coolant, overspeed, and overcrank. Warning lights indicate abnormal conditions.
- Fully covered power panel. Three-phase terminals and single phase receptacles allow fast and convenient hookup for most applications including temporary power boxes, tools and lighting equipment. All are NEMA standard.
- Fuel/water separator. Removes condensation from fuel for extended engine life.
- Simultaneous single and three phase power.
- EPA emissions certified - Tier 4i emissions compliant.
 - Engine fitted with DOC and DPF.
- Spill Containment - Bunded design protects environment by capturing up to 123% of engine fluids.



DCA125SSJU4i

MQ POWER Series Generator

SPECIFICATIONS

| Generator Specifications | | |
|---|---|---------|
| Design | Revolving field, self-ventilated Drip-proof, single bearing | |
| Armature Connection | Star with Neutral | Zig Zag |
| Phase | 3 | Single |
| Standby Output | 110KW (137.5 KVA) | 79 KW |
| Prime Output | 100 KW (125 KVA) | 72 KW |
| 3Ø Voltage (L-L/L-N) Voltage Change-Over Bd. at 3Ø 240/139 | 208Y/120, 220Y/127, 240Y/139 | N/A |
| 3Ø Voltage (L-L/L-N) Voltage Change-Over Bd. at 3Ø 480/277 | 416Y/240, 440Y/254, 480Y/277 | N/A |
| 1Ø Voltage (L-L/L-N) (Voltage Change-Over Bd. at 1Ø 240/120) | N/A | 240/120 |
| Power Factor | 0.8 | 1.0 |
| Voltage Regulation (No load to full load) | ±0.5% | |
| Generator RPM | 1800 | |
| Frequency | 60 Hz | |
| No. of Poles | 4 | |
| Excitation | Brushless with AVR | |
| Frequency Regulation: No Load to Full Load | Isochronous under varying loads from no load to 100% rated load | |
| Frequency Regulation: Steady State | ±0.25% of mean value for constant loads from no load to full load. | |
| Insulation | Class F | |
| Sound Level dB(A) Full load at 23 feet | 70 | |

| Engine Specifications | |
|---------------------------|--|
| Make / Model | John Deere / 4045HFG9S |
| Emissions | EPA Interim Tier 4 Certified |
| Starting System | Electric |
| Design | 4-cycle, water cooled, direct injection, turbocharged. Charged Air Cooled and EGR. |
| Displacement | 275 in ³ (4500 cc) |
| No. cylinders | 4 |
| Bore x Stroke | 4.17 x 5.00 in. (106 x 127 mm) |
| Gross Engine Power Output | 166 hp (124 kW) |
| BMEP | 268 psi (1850 kPa) |
| Piston Speed | 1500 ft/min (7.62 m/s) |
| Compression Ratio | 16.5:1 |
| Engine Speed | 1800 rpm |
| Overspeed Limit | 2070 rpm |
| Oil Capacity | 5.42 gallons (20.5 liters) |
| Battery | 12V 75Ah x 1 |

| Fuel System | | |
|--------------------------------|----------------------------|------|
| Recommended Fuel | ASTM-D975-No. 1 & No.2-D* | |
| Maximum Fuel Flow (per hour) | 15.9 gallons (60.0 liters) | |
| Maximum Inlet Restriction (Hg) | 8.9 in (225 mm) | |
| Fuel Tank Capacity | 168 gallons (640 liters) | |
| Fuel Consumption | gph | lph |
| At full load | 7.3 | 27.5 |
| At 3/4 load | 6.6 | 21.2 |
| At 1/2 load | 4.0 | 15.1 |
| At 1/4 load | 2.5 | 9.6 |

* - Use ultra-low sulfur diesel fuel.

| Cooling System | |
|--|----------------------------|
| Fan Load | 5.9 hp (4.4 kW) |
| Coolant Capacity (with radiator) | 6.55 gallons (24.8 liters) |
| Coolant Flow Rate (per minute) | 58 gallons (218 liters) |
| Heat Rejection to Coolant (per minute) | 4269 Btu (4.5 MJ) |
| Maximum Coolant Friction Head | 14.9 psi (103 kPa) |
| Maximum Coolant Static Head | 78.7 feet (24.0 meters) |
| Ambient Temperature Rating | 104°F (40°C) |

| Air | |
|---------------------------------|--------------------------------------|
| Combustion Air | 268 cfm (7.6 m ³ /min) |
| Maximum Air Cleaner Restriction | 25 in. H ₂ O (6.25 kPa) |
| Alternator Cooling Air | 1352 cfm (38.3 m ³ /min) |
| Radiator Cooling Air | 5353 cfm (151.6 m ³ /min) |

| Exhaust System | |
|-----------------------|------------------------------------|
| Gas Flow (full load) | 593 cfm (16.8 m ³ /min) |
| Gas Temperature | 871°F (466°C) |
| Maximum Back Pressure | 52 in. H ₂ O (13 kPa) |

| Amperage | |
|---|--|
| Rated Voltage | Maximum Amps |
| 1Ø 120 Volt | 277.8 Amps (4 wire) 300A x 2 (Zigzag) |
| 1Ø 240 Volt | 138.9 Amps (4 wire) 300A (Zigzag) |
| 3Ø 240 Volt | 300 Amps |
| 3Ø 480 Volt | 150 Amps |
| Main Line Circuit Breaker Rating | 300 Amps |
| Over Current Relay Trip Set Point 480V Mode Only | 152 Amps |

WARRANTY*

John Deere Engine

12 months from date of purchase with unlimited hours or 24 months from date of purchase with 2000 hours (whichever comes first).

Generator

24 months from date of purchase or 2000 hours (whichever occurs first).

Trailer

12 months excluding normal wear items.

*Refer to the express written, one-year limited warranty sheet for additional information.

NOTICE

Generator is not intended for use in enclosed areas or where free flow of air is restricted.

Backfeed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device.

Specifications are subject to change without notice.



DCA125SSJU4i

MQ POWER Series Generator

MQ POWER DECIBEL LEVELS

Our soundproof housing allows substantially lower operating noise levels than competitive designs. WhisperWatts are at home on construction sites, in residential neighborhoods, and at hospitals — just about anywhere.

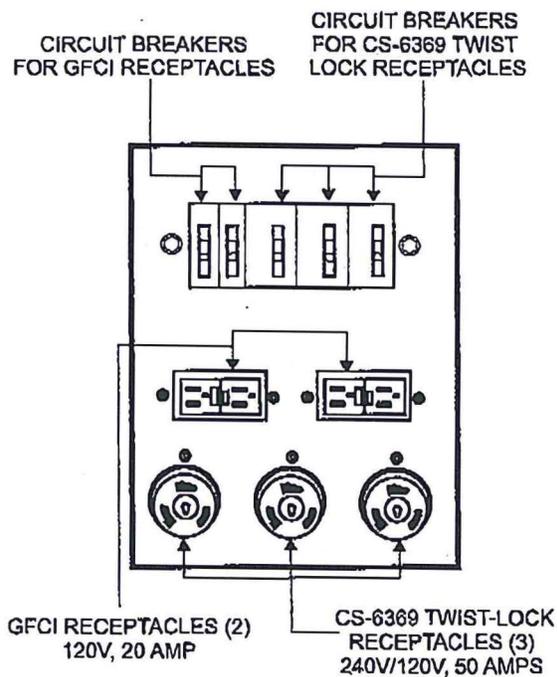
- 90 — Subway / truck traffic
- 80 — Average city traffic
- 70 — Inside car at 60 mph
WhisperWall at 23 feet
- 60 — Air conditioner at 20 feet
- 50 — Normal conversation



OPTIONAL GENERATOR FEATURES ←

- **Battery Charge** — provides fully automatic and self-adjusting charging to the generator's battery system.
- **Jacket Water Heater** — for easy starting in cold weather climates below 0°F (-300 Watts).
- **Special Batteries** — long life batteries provide extra engine cranking power.
- **Spring Isolators** — provides extra vibration protection for standby applications.
- **Trailer Mounted Package** — meets National Highway Traffic Safety Administration (NHTSA) regulations. Trailer is equipped with electronic or surge brakes with double or triple axle configuration.

GENERATOR OUTPUT PANEL



OPTIONAL CONTROL FEATURES

- **Audible Alarm** alerts operator of abnormal conditions.
- **Emergency Stop Switch** — when manually activated, shuts down generator in the event of an emergency.

OPTIONAL OUTPUT CONNECTIONS

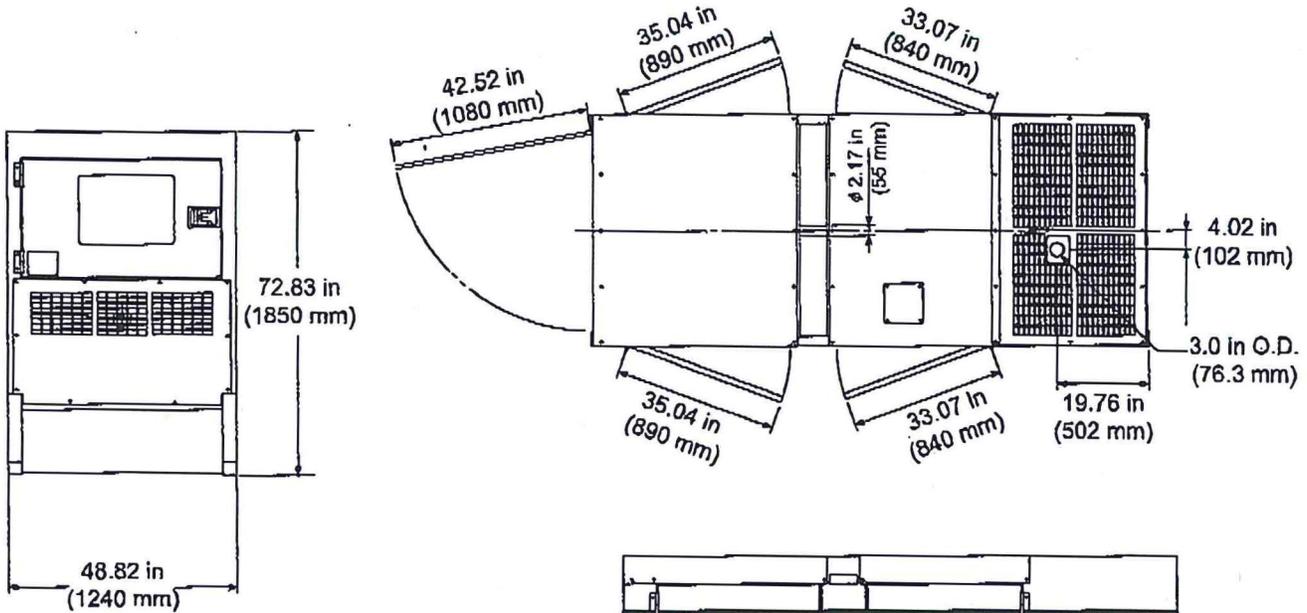
- **Cam-Lok Connectors** — provides quick disconnect alternative to bolt-on connectors.
- **Pin and Sleeve Connectors** — provides industry standard connectors for all voltage requirements.
- **Output Cable** — available in any custom length and size configuration.



DCA125SSJU4i

MQ POWER Series Generator

DIMENSIONS



| Weight | |
|-----------------------------|-----------------------|
| Dry Weight | 5,137 lbs. (2,330 kg) |
| Wet Weight | 6,460 lbs. (2,930 kg) |
| Max. Lifting Point Capacity | 14,050 lb. (6,370 kg) |

Generator can be placed on MQ Power Trailer TRLR150US.

Manufactured by Denyo Co.

Your Multiquip dealer is:

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DCA125SSJU4i Rev. #3 (03/29/13)



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E-MAIL: sales@multiquip.com
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EXHAUST EMISSION DATA SHEET

MQ POWER GENERATOR SET

Model: DCA-125SSJU4I



The engine used in this generator set is certified to comply with United States EPA Tier 4i and CARB Mobile Off-Highway emission regulations.

ENGINE DATA

| | | | |
|---------------|---|--------------------|----------------------|
| Manufacturer: | John Deere | Bore: | 4.17 in. (106 mm) |
| Model: | 4045HFG93 | Stroke: | 5.0 in. (127 mm) |
| Type: | 4- Cycle, in-line, 4 Cylinder, Diesel | Displacement: | 274 cjd (4.5 liters) |
| Aspiration: | Turbocharger Air Cooler ECM, EGR, DOC, PTO | Compression Ratio: | 16.5:1 |

PERFORMANCE DATA

| | |
|---|-----|
| SAE Gross HP @ 1800 RPM (60 Hz) | 166 |
| Rated Load Fuel Consumption (gal/Hr) | 7.3 |
| Rated Load Exhaust Gas Flow (cfm) | 539 |
| Rated Load Exhaust Gas Temperature (°F) | 871 |

United States EPA - Mobile Off-Highway Tier 4i Limits - 75 ≤ ~ <174 BHP

| Criteria Pollutant | Emission Requirements | Certified Engine Emissions |
|----------------------------------|-----------------------|----------------------------|
| NOx (Oxides of Nitrogen as NO2) | 2.53 gr/bhp-hr | 2.31 gr/bhp-hr |
| HC (Total Unburned Hydrocarbons) | N/A gr/bhp-hr | N/A gr/bhp-hr |
| NOx + HC (Combined) | N/A gr/bhp-hr | N/A gr/bhp-hr |
| CO (Carbon Monoxide) | 3.72 gr/bhp-hr | 0.07 gr/bhp-hr |
| PM (Particulate Matter) | 0.0149 gr/bhp-hr | 0.007 gr/bhp-hr |
| NMHC (Non-Methane Hydrocarbons) | 0.141 gr/bhp-hr | 0 gr/bhp-hr |
| NMHC + NOx | N/A gr/bhp-hr | N/A gr/bhp-hr |

| | |
|---------------------------------|------------------|
| EPA Engine Family: | EJDXL06.8210 |
| EPA Certificate of Conformance: | EJDXL06.8210-020 |
| ARB Executive Order: | U-R-004-0487 |
| Effective Date: | Model Year 2014 |

Note: Engine operation with excessive air intake or exhaust restriction beyond factory published maximum limits, or with improper service maintenance, may result in higher emission levels.



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2014 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT OF 1990**

**OFFICE OF TRANSPORTATION
AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105**

Certificate Issued To: Deere & Company
(U.S. Manufacturer or Importer)
Certificate Number: EJDXL06.8210-020

Effective Date:
09/30/2013
Expiration Date:
12/31/2014

Byron J. Bunker, Division Director
Compliance Division

Issue Date:
09/30/2013
Revision Date:
N/A

Model Year: 2014
Manufacturer Type: Original Engine Manufacturer
Engine Family: EJDXL06.8210

Mobile/Stationary Indicator: Both
Emissions Power Category: 75<=kW<130
Fuel Type: Diesel
After Treatment Devices: PTOX-DPF-Active, Diesel Oxidation Catalyst
Non-after Treatment Devices: Electronic/Electric EGR - Cooled, Non-standard Non-After Treatment Device Installed, Electronic Control, Smoke Puff Limiter, Engine Design Modification
PELs: PM 0.01 g/kW-hr, NOx 3.2 g/kW-hr

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Parts 60 and 1039, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Parts 60 and 1039 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Parts 60 and 1039 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 60 and 1039.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Parts 60 and 1039. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Parts 60 and 1039.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

This certificate of conformity is conditional upon compliance of said manufacturer with the averaging, banking and trading provisions of 40 CFR Part 1039, Subpart H. Failure to comply with these provisions may render this certificate void *ab initio*.

The actual engine power may lie outside the limits of the Emissions Power Category shown above. See the certificate application for details.

| | | |
|--|---------------------------------|---|
| California Environmental Protection Agency Air Resources Board | JOHN DEERE POWER SYSTEMS | EXECUTIVE ORDER U-R-004-0487 New Off-Road Compression-Ignition Engines |
|--|---------------------------------|---|

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

| MODEL YEAR | ENGINE FAMILY | DISPLACEMENT (liters) | FUEL TYPE | USEFUL LIFE (hours) |
|--|---------------|-----------------------|--|---------------------|
| 2014 | EJDXL06.8210 | 4.5, 6.8 | Diesel | 8000 |
| SPECIAL FEATURES & EMISSION CONTROL SYSTEMS | | | TYPICAL EQUIPMENT APPLICATION | |
| Charge Air Cooler, Oxidation Catalyst, Electronic Direct Injection, Electronic Control Module, Exhaust Gas Recirculation, Periodic Trap Oxidizer, Smoke Puff Limiter, Turbocharger | | | Loaders, Tractor, Dozer, Pump, Compressor, Generator Set, Other Industrial Equipment | |

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

| RATED POWER CLASS | EMISSION STANDARD CATEGORY | | EXHAUST (g/kw-hr) | | | | | OPACITY (%) | | |
|-------------------|----------------------------|------|-------------------|-----|----------|-----|------|-------------|-----|------|
| | | | NMHC | NOx | NMHC+NOx | CO | PM | ACCEL | LUG | PEAK |
| 56 ≤ kW < 130 | Interim Tier 4 / ALT NOx | STD | 0.19 | 3.4 | N/A | 5.0 | 0.02 | N/A | N/A | N/A |
| | | FEL | -- | 3.2 | -- | -- | 0.01 | -- | -- | -- |
| | | CERT | 0.000 | 3.1 | -- | 0.1 | 0.01 | -- | -- | -- |

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for 2008 and Later Tier 4 Off-Road Compression Ignition Engines, Part 1-C" adopted October 20, 2005 and last amended October 25, 2012.

BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

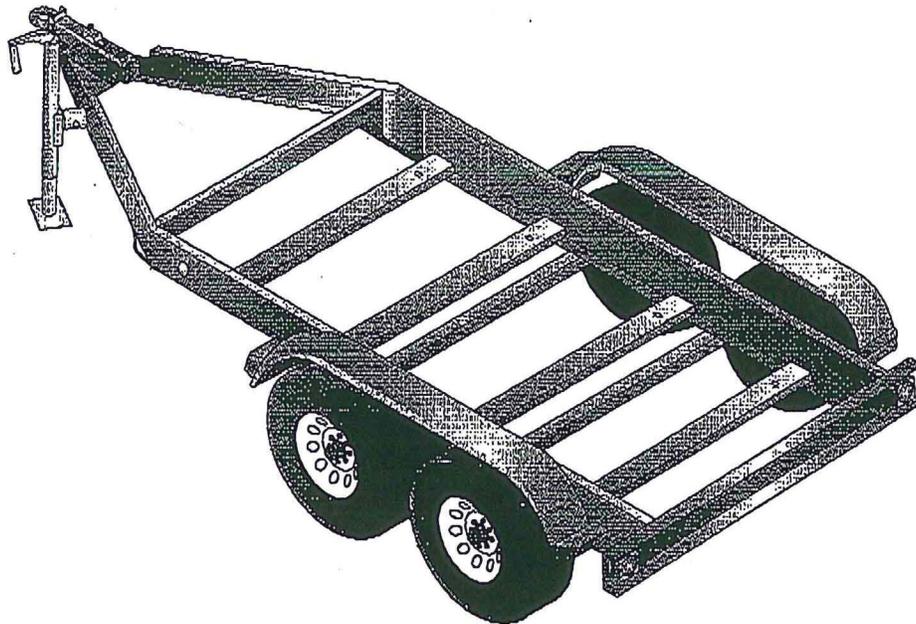
Executed at El Monte, California on this 3rd day of January 2014.


 Erik White, Chief
 Mobile Source Operations Division



TRLR125US

MQ POWER Tandem Axle Trailer



TRLR70US Technical Data

| | |
|---|---|
| Gross Vehicle Weight Rating (GVWR) — 10,000 lbs. (4,536 kg) | Tire Size — ST225/75R15 LR-D |
| Gross Axle Weight Rating (GAWR) — 5,000 lbs. (2,268 kg) (ea.) | Wheel Bolt Pattern — 6 Lug on 5.5 in |
| Actuator Rating — 12,500 lbs. (5,670 kg) | Tire Load Rating — 2,540 lbs (1,152 kg) (ea.) |
| Coupler Rating — See coupler options on back page. | Dimensions (LxWxH) — See Dimensions on back page. |

STANDARD TRAILER FEATURES

- Fits MQ Power Generator Models DCA125USI3CAN, DCA125SSJU4i
- Tandem-axle Design with Torsion Type Suspension
- Formed Steel Frame Construction
- Formed Channel for Generator Mounting and Support
- Replaceable, Bolt-on Hydraulic Brake Actuator
- Surge Hydraulic-actuated Drum Brakes (all axles)
- Hydraulic Uni-servo Drum Brakes with Free-backing Plates - 12-inch Cluster
- D.O.T. Steel Brake Lines, Brass Tees & Rubber Hydraulic Brake Hoses
- 4-hole Channel Allows 3-position, Adjustable Coupler Height; 4-inches O/A
- Tongue Mounted Swivel Jack with Flat Disc-foot (rated 5,000 pound lift)
- Replaceable, Bolt-on Steel Fenders and Brackets
- Torsion-axle Swing Arms
- Powder Coat Paint Process including: Frame, Channel, Actuator & Fenders
- D.O.T. Approved Tail Lamps, Stop Lamps, Turn Signal Lamps, Side Marker Lamps
- Weatherproof, Rubber Armored, 2-piece Trailer Light Wiring Harness



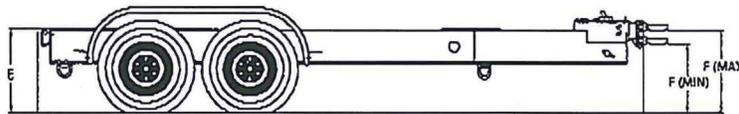
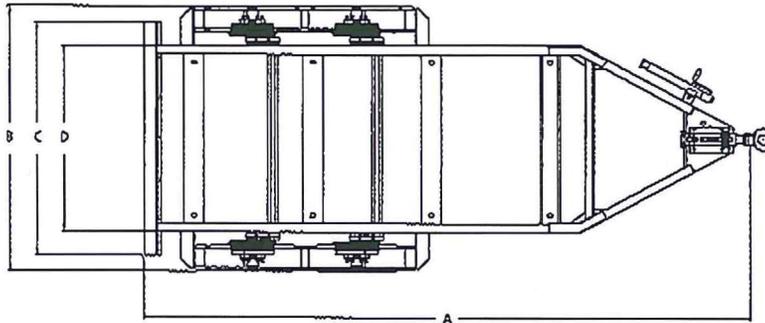
TRLR125US

MQ POWER Tandem Axle Trailer

OPTIONAL TRAILER EQUIPMENT

- Bolt-on Electric Brake Coupler Plate with Electric-actuated Drum Brakes (all axles)
- Electric Breakaway Safety Device (electric-actuated brakes)
- Adjustable 2 5/16-inch Ball Coupler
- Adjustable 3-inch Pintle Eye Coupler
- Rear Stabilizer Stands
- Tongue Mounted Utility Storage Box
- Anti-Theft Wheel Lock
- Spare Tire with Locking Mount

| Coupler Options | |
|---|---|
| 3" PINTLE EYE 20,000 lbs #EE36264 |  |
| 2-5/16" BALL COUPLER 14,000 lbs #EE43253 |  |



| Trailer Dimensions | | | | | | |
|----------------------|-----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| A | B | C | D | E | F | |
| | | | | | MIN | MAX |
| 181 in (4,597 mm) | 79.5 in (2,019 mm) | 70 in (1,778 mm) | 56 in (1,422 mm) | 24.7 in (627 mm) | 20.7 in (526 mm) | 24.7 in (610 mm) |
| Trailer Weight | | | | | | |
| 1,719 lbs. (780 kg)* | | | | | | |

*Weight is approximate

Your Multiquip dealer is:

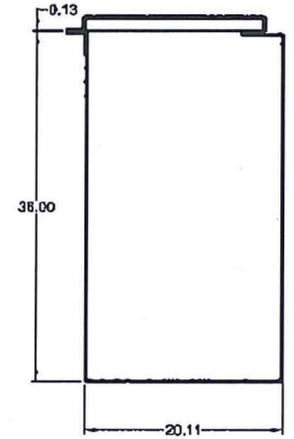
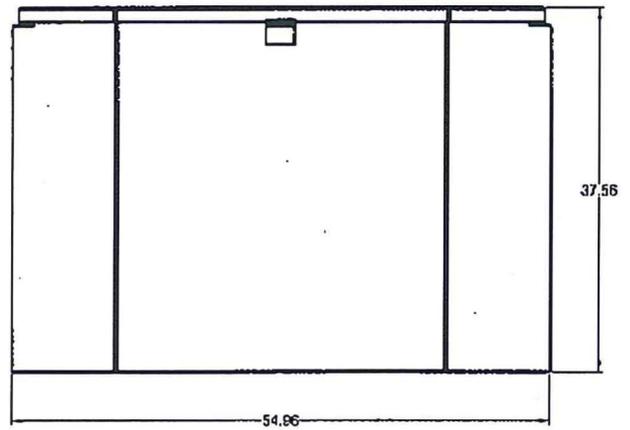
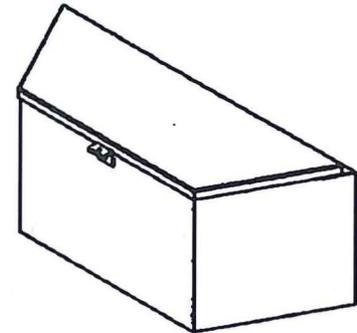
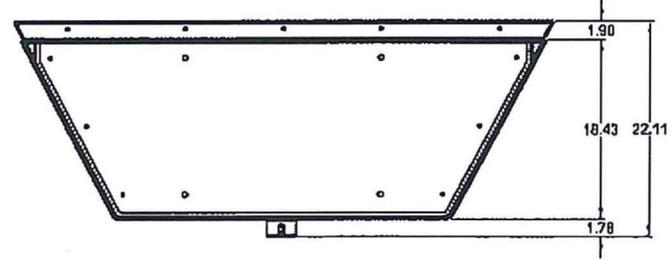
© COPYRIGHT 2013 MULTIQUIP INC.
 TRLR125US Rev. #0 (08/01/13)



MULTIQIP
 POST OFFICE BOX 6254
 CARSON, CA 90749
 310-537-3700 • 800-883-2551
 FAX: 310-604-3831
 E-MAIL: sales@multiquip.com
 WEBSITE: www.multiquip.com

| | | | |
|-------------|-------------|----------|----|
| NO. EE56437 | | REVISION | |
| DATE | BY | DATE | BY |
| | WTL RELEASE | 24/11/0 | IT |

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NOTE:
 1. EE NO.: EE56437.
 2. PAINT: POWDER COATED GLOSS BLACK.

| | | | | | |
|---|----------|----------|--|---|--|
| PLEASE OTHER USE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: | | DATE | | MO. POWER | |
| FRACTIONS | DECIMALS | JOB NO. | | TEL: (310) 537-3700 FAX: (310) 532-2558 | |
| ± | .XX | ADDRESS | | 18910 WILMINGTON AVENUE | |
| ± | .XXX | DATE | | CARSON, CA 90746 | |
| DRAWN | | DATE | | JOB NO. | |
| A. TRAM | | 08/11/12 | | TRLR125/150US TRAILER | |
| CHECKED | | DATE | | JOB NO. | |
| E. TRAM | | 08/11/12 | | EE56437 | |
| CVD CODE | | SCALE | | SHEET | |
| EE56437_02 | | 1/8 | | 1 OF 1 | |
| DO NOT SCALE DRAWING | | DATE | | JOB NO. | |
| | | 08/11/12 | | EE56437 | |

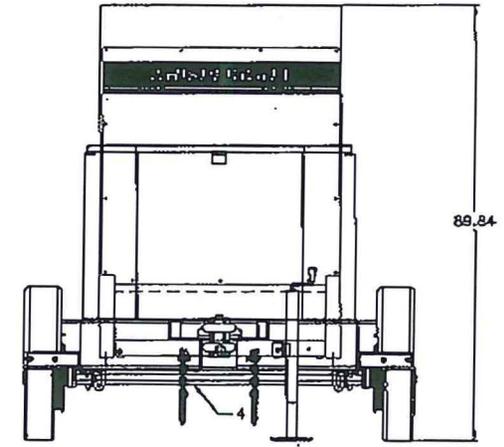
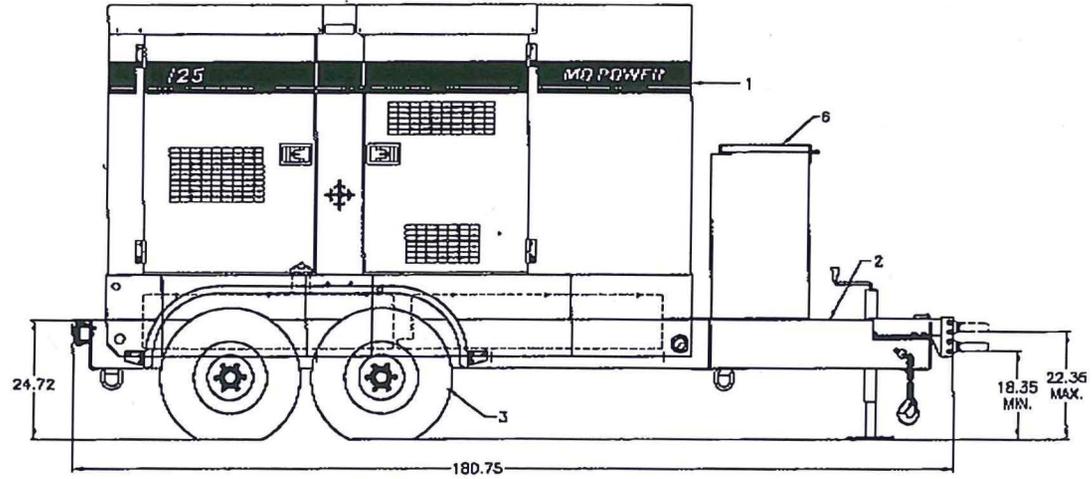
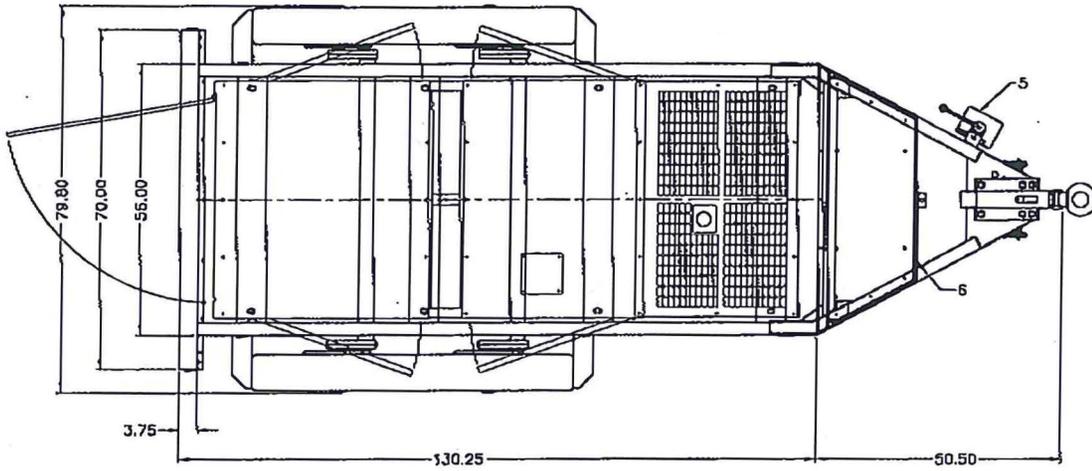
NO. EE56437

202029

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| PART LISTS | | | | |
|------------|-----------------------|-----|---|-------------|
| ITEM | PART NUMBER | QTY | DESCRIPTION | MANUFACTURE |
| 1 | DCM125SSAJ44 (TRER 4) | 1 | 1250W GENSET 125SSAJ44 GENSET WEIGHT (DRY): 5.1125u | MQ POWER |
| 2 | TRU125USE | 1 | TRAILER (MODEL: TRU125USE) TRAILER WT. ONLY (APPROX.): 1.8225u C.W.R.: 10,000u TONGUE WT.: OVERALL DIMENSION: 181.1 X 29.5W X 90H | MQ POWER |
| 3 | EED4774 | 4 | TIRE S1215/25015, LR-O, 25-100u RATING WHEEL 1.6 X 8 | TASKMASTER |
| 4 | EE56658 | 2 | ELECTRIC TORSION AXLE, 5,000u RATING | DEXTER AXLE |
| 5 | EE43518 | 1 | JACK, 5K | CEQUINT |
| 6 | EE96437 | 1 | TOOL BOX, 36" X 20" | BPC |
| 7 | 1 | 1 | SEE HITCH OPTION TABLE | |

| HITCH OPTIONS | |
|--|---|
| 3" ADJUSTABLE EYE 25,000u CEB3294-PRIVED |  |
| 2-5/16" INLL COUPLER 14,000u EE64293--PLATED |  |



| | | | | |
|---|----------------------|--------------------------|---------------------------------|--|
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: | | CUSTOMER LAS GALLINIS | | MQ POWER TEL: (510) 637-3761/240 (FAX) 637-2669 1893D WILMINGTON AVENUE CARSON, CA 90746 |
| FRACTIONS DECIMALS ANGLES 1/8 .125 30° 3/4 | | JOB NO. DATE | | |
| DERIVED FROM | APPROVAL | DATE | DCM125SSAJ44 GENSET W/ TOOL BOX | |
| REV | DATE | FRM | ADD ON TRU125USE ELEC. TRAILER | |
| CAD DATE 2/20/19 | DO NOT SCALE DRAWING | SALSHAW | SIZE D | DRAW. NO. 202029 |
| | | | SCALE 1/12 | SHEET 1 / 1 |

MULTIQUIP POWER EQUIPMENT STANDARD

PART SPECIFICATION

18910 WILMINGTON AVE
CARSON, CA 90746

REVISED: 07/03/12

| | | | | |
|-------------------------------|-------------------------------------|---|---------------------------------------|----------------------|
| PART NUMBER EE56974 | DOCUMENTATION NO. EE56974 | DESCRIPTION FIRE EXTINGUISHER, 20LBS ABC RATING | SHEET 1 of 1 | REVISION A |
| PREPARED BY J. TRAN | | DATE 02/19/13 | APPROVED BY DATE | |
| MANUFACTURER KIDDE | | MANUFACTURER'S PART NUMBER 468003 | | |

REVISION HISTORY

| LETTER | ECO | DESCRIPTION | BY | DATE |
|--------|--------|-----------------|----|----------|
| A | 13-026 | INITIAL RELEASE | JT | 02/19/13 |

Pro Plus 20 MP Fire Extinguisher

Part number 468003 Multipurpose use Rechargeable

UL Rated 20-A-120-B-C



Description

Suitable for use on Class A (trash, wood & paper), Class B (liquids & gases) and Class C fires (energized electrical equipment).

The Pro Plus 20 MP unit is fitted with a pressure gauge that provides at-a-glance status, cylinder is manufactured from impact resistant steel and the valve assembly is all metal.



Features

- Easy-to-read gauge tells you fire extinguisher is charged and ready for use
- Clear instruction label using graphics to show steps required to operate extinguisher
- Easy-to-pull safety pin
- Tough, impact resistant metal valve, handle & lever
- 20 lb. of fire extinguishing agent (Average)
- 6 year limited warranty
- UL approved wall hanger
- Cover Guard (U.S.C.G. approved when fitted with mounting bracket not supplied)
- Powder coated cylinder for corrosion protection
- U.S.C.G. approved bracket part number 12117

At a Glance

- Model: Pro Plus 20 MP
- Multipurpose Dry Chemical
- UL listed
- UL rated 20-A-120-B-C
- Supplied with wall hanger
- Monoammonium Phosphate
- 6 year limited warranty
- Suitable for use on most common fires

For use on the following types of fire:



Product Specification

| | |
|------------------------------|-------------------|
| Net agent weight (Average) | 20 lb. |
| Net weight (Average) | 31 lb. |
| Diameter | 7.25 inches |
| Height | 21.6 inches |
| Discharge flow | 26-28 pounds |
| Discharge range | 16-20 feet |
| Operating pressure | 155 psi |
| Cylinder | Steel |
| Valve, handle, lever | Metal |
| Strap Bracket (not supplied) | U.S.C.G. approved |

Packaging Options



MASTER PACK



Kidde Residential and Commercial Division
1018 Corporate Park Drive, Mooresville, NC 27302
(800) 850-6788 www.Kidde.com

MULTIQUIP POWER EQUIPMENT STANDARD

PART SPECIFICATION

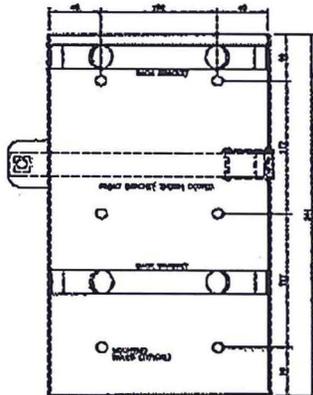
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CARSON, CA 90746

REVISED: 07/03/12

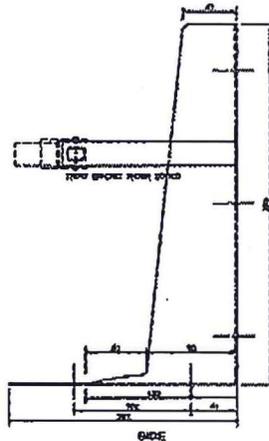
| | | | | | |
|--|-------------------------------------|---|--------------------|------------------------|----------------------|
| PART NUMBER EE56975 | DOCUMENTATION NO. EE56975 | DESCRIPTION BRACKET, 20LBS FIRE EXTINGUISHER MOUNTING | | SHEET 1 of 1 | REVISION A |
| PREPARED BY J. TRAN | | DATE 02/19/13 | APPROVED BY | DATE | |
| MANUFACTURER STRIKE FIRST CORP | | MANUFACTURER'S PART NUMBER HDVB-3 | | | |

REVISION HISTORY

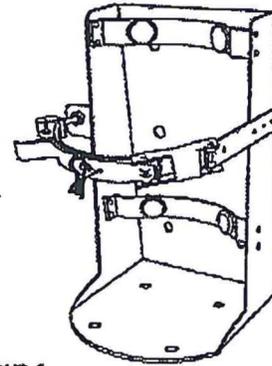
| LETTER | ECO | DESCRIPTION | BY | DATE |
|--------|--------|-----------------|----|----------|
| A | 13-026 | INITIAL RELEASE | JT | 02/19/13 |



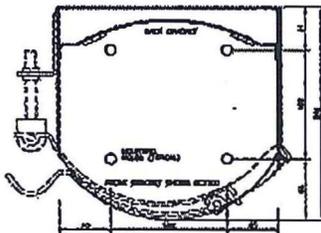
FRONT



SIDE



Part #: HDVB-3
Fits Diameter : 158.75mm - 180.97mm (6 1/4 - 7 1/8")
For Strike First Models : WBDL-20
SF-40C02



TOP

HEAVY DUTY VEHICLE BRACKETS

- Strong Uni-Body Construction
- Scandline™ reflective label for added safety
- Stainless Steel pull pin
- Rounded corners for added safety
- Super durable polyester powder coat finish
- Individually boxed for easy handling



Corporate Office:
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Scarborough, Ontario
M1X 1A2

Tel : 416-299-3763
Fax : 416-299-8039

Toll free tel: 1-888-375-1132
Toll free fax: 1-888-375-1134

Web Site : www.strike-first.com
E-Mail : info@strike-first.com

MULTIQUIP POWER EQUIPMENT SPECIFICATION

18910 WILMINGTON AVE
CARSON, CA 90746

REVISED: 07/03/12

| | | | | | |
|-------------------------------|-------------------------------------|--|--------------------|------------------------|----------------------|
| PART NUMBER EE57122 | DOCUMENTATION NO. EE57122 | DESCRIPTION PLACARD, FIRE EXTINGUISHER | | SHEET 1 of 1 | REVISION A |
| PREPARED BY J.TRAN | | DATE 05/22/13 | APPROVED BY | | DATE |
| MANUFACTURER EMODCO | | MANUFACTURER'S PART NUMBER 35305GFL | | | |

REVISION HISTORY

| LETTER | ECO | DESCRIPTION | BY | DATE |
|--------|--------|-----------------|----|----------|
| A | 13-102 | INITIAL RELEASE | JT | 05/22/13 |

SIZE: 10"H X 7"W
MATERIAL: HIGH PERFORMANCE PLASTIC

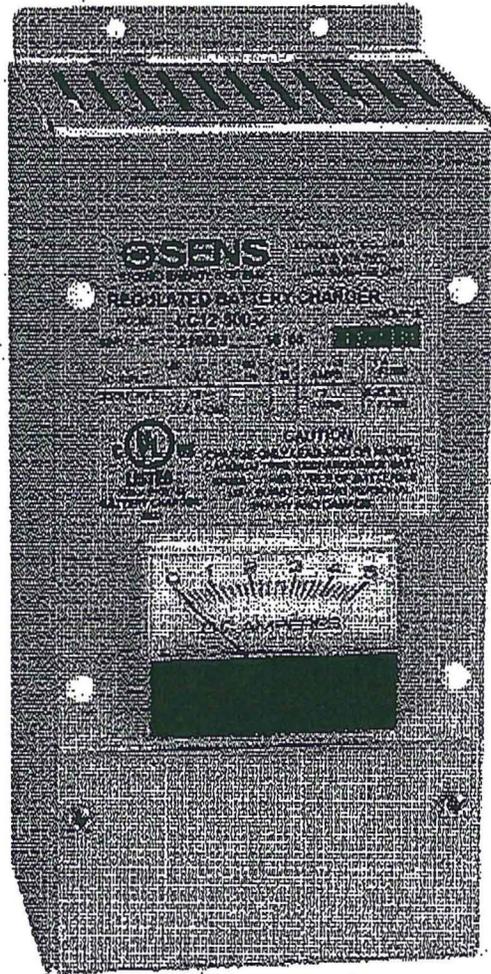


Fire Extinguisher with Arrow Down Signs

Interior decor fire extinguisher with arrow down signs combine quality and durability at an affordable price.

| SELECT PRODUCTS | RELATED ITEMS | REVIEWS |
|-----------------|--|-----------|
| SKU | Specification | ★ ★ ★ ★ ★ |
| 35305GFL | <p>Size 10" h x 7" w</p> <p>Material Ultra-Graf Plastic</p> <p>Reflectivity Non-Reflective</p> <p>Glow Non-Glow</p> <p>Height 10"</p> <p>Width 7"</p> <p>Wording FIRE EXTINGUISHER DOWN ARROW SYMBOL</p> <p>Language English</p> <p>Color Red / White</p> | |

LC – Premium Performance at a Low Cost Engine Start Battery Charger



- **Accurate charging** – delivers best battery performance and life in class
- **Automatic 2-rate charging** – offers fast charging and low water consumption
- **Temperature compensation** – eliminates the No. 1 cause of battery failure
- **Current limited** – protects charger from overloads
- **Anodized aluminum housing** – resists corrosion, runs cool



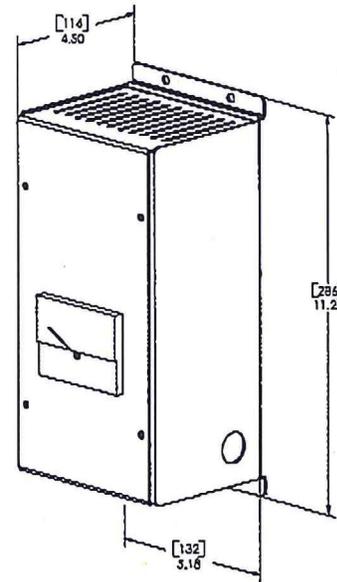
SENS[®]
Our energy means business[®]

LC Charger Specifications

| | |
|--------------------------|---|
| AC Input | 120 VAC, 60 Hz |
| Charger Output | 12 or 24 volts nominal. 3.5 amp electronic current limit. Dual-rate, temperature compensated charge characteristic. Line regulation $\pm 1\%$ of the correct temperature compensated value. Load regulation $\pm 1\%$ of the correct temperature compensated value. |
| Indication | Output ammeter, 2.5" scale 5% accuracy |
| Adjustment | Internal adjustment for float voltage. Equalize voltage is fixed approximately 5% above float |
| Protection | Electronic current limit (no crank disconnect required). AC input fuse, DC over current limiter |
| Environmental | -10C to +50C operating temperature. 5% to 95% humidity, non-condensing |
| Mechanical | Clear anodized aluminum, wall mounting |
| Agency compliance | C-UL-US listed to UL 1236 (required for UL 2200 gensets) |

| LC Charger Ordering Information | | | | | |
|---------------------------------|-------------|--------------|---------|-----------|-------------|
| Output Volts | Output Amps | Model Number | Net Lbs | Weight Kg | Power Cord* |
| 12 | 3.5 | LC12-500-2 | 7 | 3.1 | No |
| 24 | 3.5 | LC24-500-2 | 8 | 3.6 | No |
| 12 | 3.5 | LC12-501-2 | 7 | 3.1 | Yes |
| 24 | 3.5 | LC24-501-2 | 8 | 3.6 | Yes |

*Six-foot 15A three-pronged AC power cord for 120 VAC and six-foot DC power cord terminated with Anderson 1327 (red, positive) and Anderson 1327G6 (black, negative) connectors.



Additional Information

Contact SENS or your local sales representative for additional specification, engineering and installation information. Check the SENS web site for latest available data. Specification is subject to change without notice.



c UL US LISTED

Contact Information

For information and service on any SENS product, please contact us at:
 Sales 1.866.736.7872 • 303.678.7500 • Fax 303.678.7504
 www.sens-usa.com • Info@sens-usa.com
 1840 Industrial Circle, Longmont, CO 80501 USA



MULTIQUIP POWER EQUIPMENT STANDARD PART SPECIFICATION

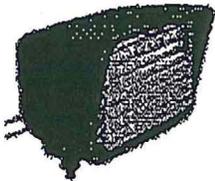
18910 WILMINGTON AVE
CARSON, CA 90746

REVISED: 07/03/12

| | | | | | |
|--------------------------------------|-------------------------------------|--|--------------------|------------------------|-----------------|
| <u>PART NUMBER</u> EE58405 | <u>DOCUMENTATION NO.</u> EE58405 | <u>DESCRIPTION</u> VEHICLE LIGHT RECTANGULAR, 12V | | <u>SHEET</u> 1 of 1 | <u>REVISION</u> |
| <u>PREPARED BY</u> J. TRAN | | <u>DATE</u> 10/31/14 | <u>APPROVED BY</u> | | <u>DATE</u> |
| <u>MANUFACTURER</u> MCMaster-CARR | | <u>MANUFACTURER'S PART NUMBER</u> 8404K11 | | | |
| REVISION HISTORY | | | | | |
| <u>LETTER</u> | <u>ECO</u> | <u>DESCRIPTION</u> | <u>BY</u> | <u>DATE</u> | |
| | | INITIAL RELEASE | JT | 10/31/14 | |

Vehicle Light Rectangular, 12 Volt

8404K11



| | |
|-----------------|------------------|
| Voltage | 12 VDC |
| Head Size | 5 3/8" x 3 3/8" |
| Lens Material | Polycarbonate |
| Lumens | 204 |
| Bulb Type | Incandescent |
| RoHS | Compliant |
| Related Product | Replacement Bulb |

Position the pedestal mount to shine light where you need it.

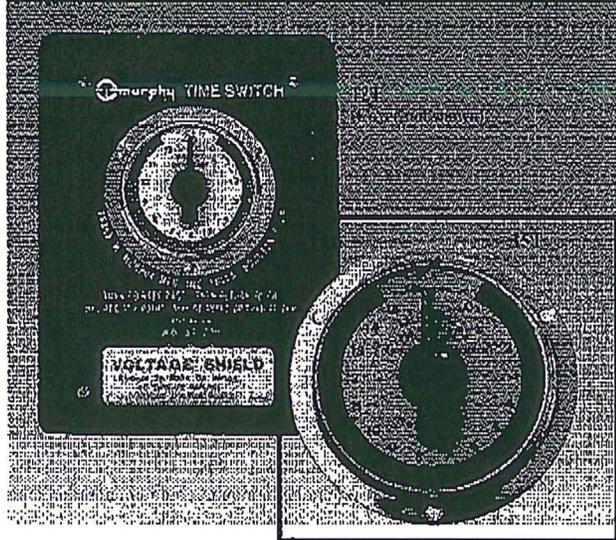
(A) Lights have a weather-resistant rubber housing. The head moves horizontally and vertically. Have two 12" 16-ga. wire leads and come with a 5/16" bolt and nut for mounting. Bulbs are included. UL recognized as components for lift trucks.

Optional mounting angle-bracket for Styles A-C enables you to mount a light to a truck mast or overhead guard. It has two 0.34" dia. holes (fasteners not included).

Time Switches



Models 5T, 15T, 12T and 24T 12 or 24 Hour and 5 or 15 Minute



- Two Versions Available:
 1. Hour Switch for Setting Run Time and Shutdown of Equipment
 2. Minute Switch for a Short Interruption of SWITCHGAGE® Circuits on Test or Start-up
- Spring Wound, No Electric Power Required
- Precision Movement Can Be Set to Zero at Any Time
- Built-in Stop Prevents Overwinding

Description

Murphy Time Switches can automatically start or stop engines or electrical motors after a pre-determined time. These time switches can be wired for a open or closed circuit when time expires. They require no electrical current to operate and have an SPDT contact arrangement. These switches feature a precision movement that gives years of reliable service. A built-in stop prevents overwinding.

The 12T (12 hour) and 24T (24 hour) time switches are enclosed in a NEMA 4 weather-proof enclosure. A hinged, gasketed cover and 1/2 NPT conduit connection allow for a dust-tight installation. The enclosure includes a clasp and eye for padlock to prevent unauthorized operation. Instructions for popular engine applications are secured inside of the lid.

The 5T (5 minute) and 15T (15 minute) timers mount directly in control panels for short range timing with manual reset. These switches are perfect for disconnecting shutdown circuits while equipment is being started.

Applications

Murphy Time Switches are designed for use in the oil field, irrigation systems or anywhere equipment must operate or be controlled for a predetermined time. Mounted on a post or in a panel away from vibration and shock, these time switches give accurate, long term service.

Specifications

Range

- 12T: 0-12 hours in 15 minute intervals.
- 24T: 0-24 hours in 30 minute intervals.
- 5T: 0-5 minutes.
- 15T: 0-15 minutes. ←

Contact (all models): SPDT, rated 5 A @ 480 VAC; 10 A @ 250 VAC; 15 A @ 48 VDC.

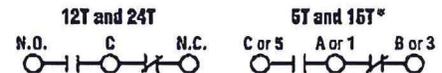
Shipping Weight

- 12T, 24T: 4 lbs. 12 oz. (2.15 kg).
- 5T and 15T: 6 oz. (11.66 g).

Shipping Dimensions

- 12T, 24T: 9-1/4 x 8-1/4 x 5-1/2 in. (235 x 210 x 140 mm).
- 5T and 15T: 3 x 2-3/4 x 2-3/4 in. (76 x 70 x 70 mm).

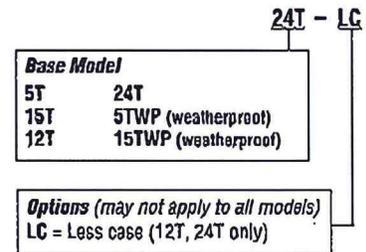
Electrical



*Wire terminals will vary. Models with screw terminals will have alpha letters. Models with 1/4 inch (6 mm) blade terminals will have numbers.

How to Order

To order time switches, specify as follows:



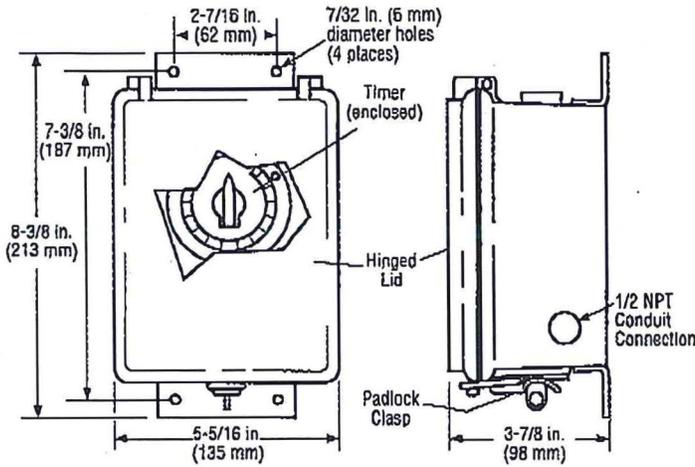
Warranty

A limited warranty on materials and workmanship is given with this FW Murphy product. A copy of the warranty may be viewed or printed by going to www.fwmurphy.com/support/warranty.htm

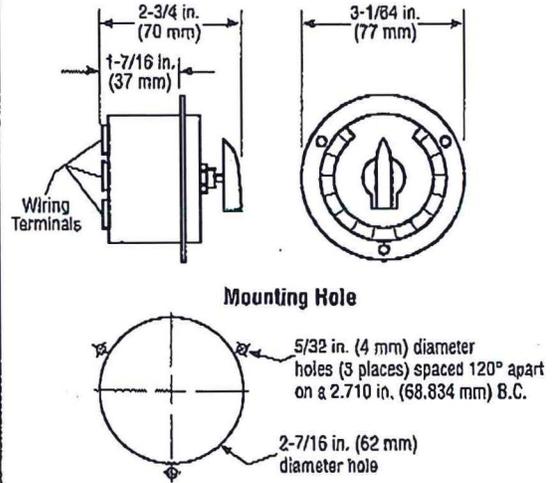


Dimensions

12T and 24T 5TWP and 15TWP



5T and 15T

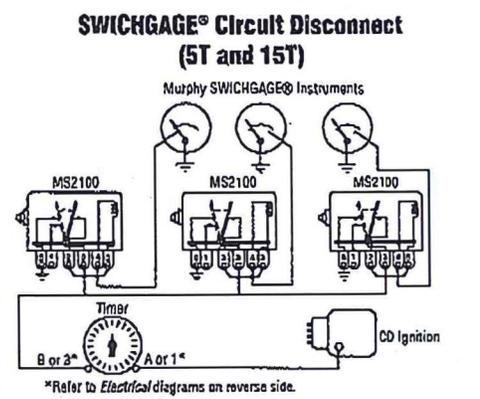
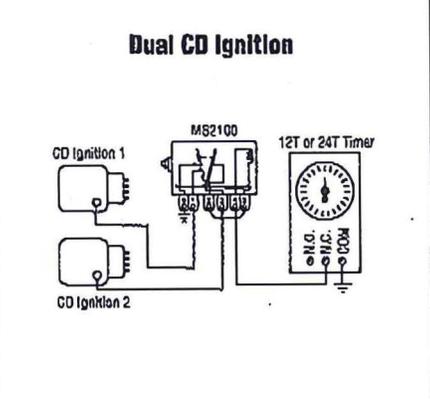
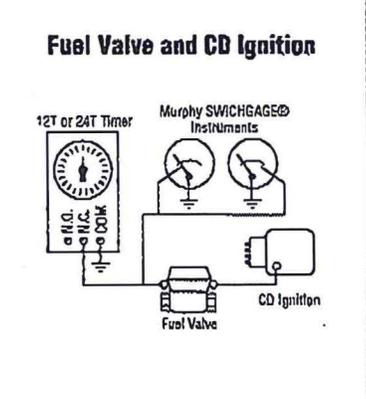
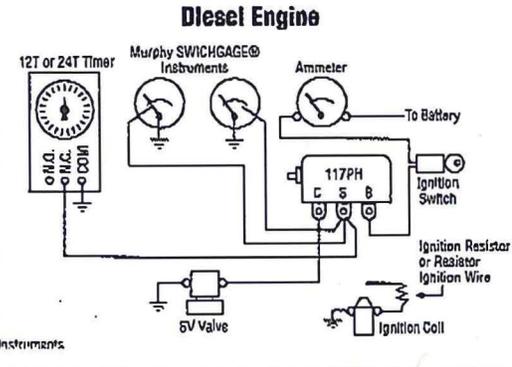
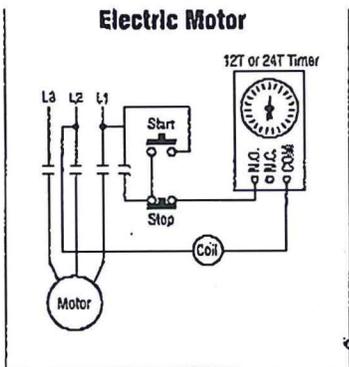


Typical Wiring Diagrams

WARNING

Before beginning installation of this Murphy product:

- ✓ Disconnect all electrical power to the machine.
- ✓ Make sure the machine cannot operate during installation.
- ✓ Follow all safety warnings of the machine manufacturer.
- ✓ Read and follow all installation instructions.



MURPHY

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www.fwmurphy.com

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MANUFACTURED

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In order to consistently bring you the highest quality, full featured products, we reserve the right to change our specifications and designs at any time. Printed in U.S.A.

MULTIQUIP POWER EQUIPMENT SPECIFICATION

18910 WILMINGTON AVE
CARSON, CA 90746

REVISED: 07/03/12

| | | | | |
|---|---|---|---------------------------------------|----------------------|
| PART NUMBER MQPSTROBELIGHTKIT | DOCUMENTATION NO. MQPSTROBELIGHTKIT | DESCRIPTION MQPSTROBELIGHTKIT | SHEET 1 of 1 | REVISION A |
| PREPARED BY J.TRAN | | DATE 07/18/14 | APPROVED BY DATE | |
| MANUFACTURER | | MANUFACTURER'S PART NUMBER | | |

REVISION HISTORY

| LETTER | ECO | DESCRIPTION | BY | DATE |
|--------|--------|-----------------|----|----------|
| A | 14-093 | INITIAL RELEASE | JT | 07/18/14 |

TABLE : PARTS LIST

| ITEM NO. | PART NO. | DESCRIPTION | QTY | REMARKS |
|----------|----------|---|-----|----------------------------|
| 1 | EE55934 | STROBE, HIGHLIGHTER VLB-012AP | 1 | P/N: VLB-012AP |
| 2 | 303110 | Fuse holder, In-line | 1 | |
| 3 | EE2588 | Swltch, Toggle, SPST, On/Off, Screw Termina | 1 | |
| 4 | EE58206 | Decal, Strobe Light | 1 | Roadrunner Graphics: MQ011 |
| 5 | EE2922 | Relay, 580 12V Bosch | 1 | |

MQPSTROBELIGHTKIT



Picture of Strobe Light Mounted On Top of MQ Generator Set

NOTES:

- 1. This is the identical strobe light package to be mounted on the Las Gallinas Valley Sanitary District portable diesel generator sets for the Descanso and Rafael Meadows Pump Stations.**
- 2. The strobe light will activate upon engine Low Fuel Level Alarm condition.**

Vehicular Light Bar

Model VLB



MINI LIGHTBAR

- Modular system
- 360 degree light distribution
- Quad flash, 9 joule output
- Magnet mount or permanent mount
- Low current draw
- Weather resistant housing
- Meets, SAE J1318 Class II

The Highlighter Strobe is designed for those who prefer the look of the traditional halogen light bar, but require strobe technology.

The Highlighter Strobe features 2 strobe heads and an integrated microprocessor controlled power supply that produces an alternating quad flash of 9-joules per head. The alternating flash tubes are positioned under onmi-directional Fresnel lens for maximum lens fill and off-axis visibility.

All Highlighter Strobe models meet SAE J1318 Class 2 requirements.

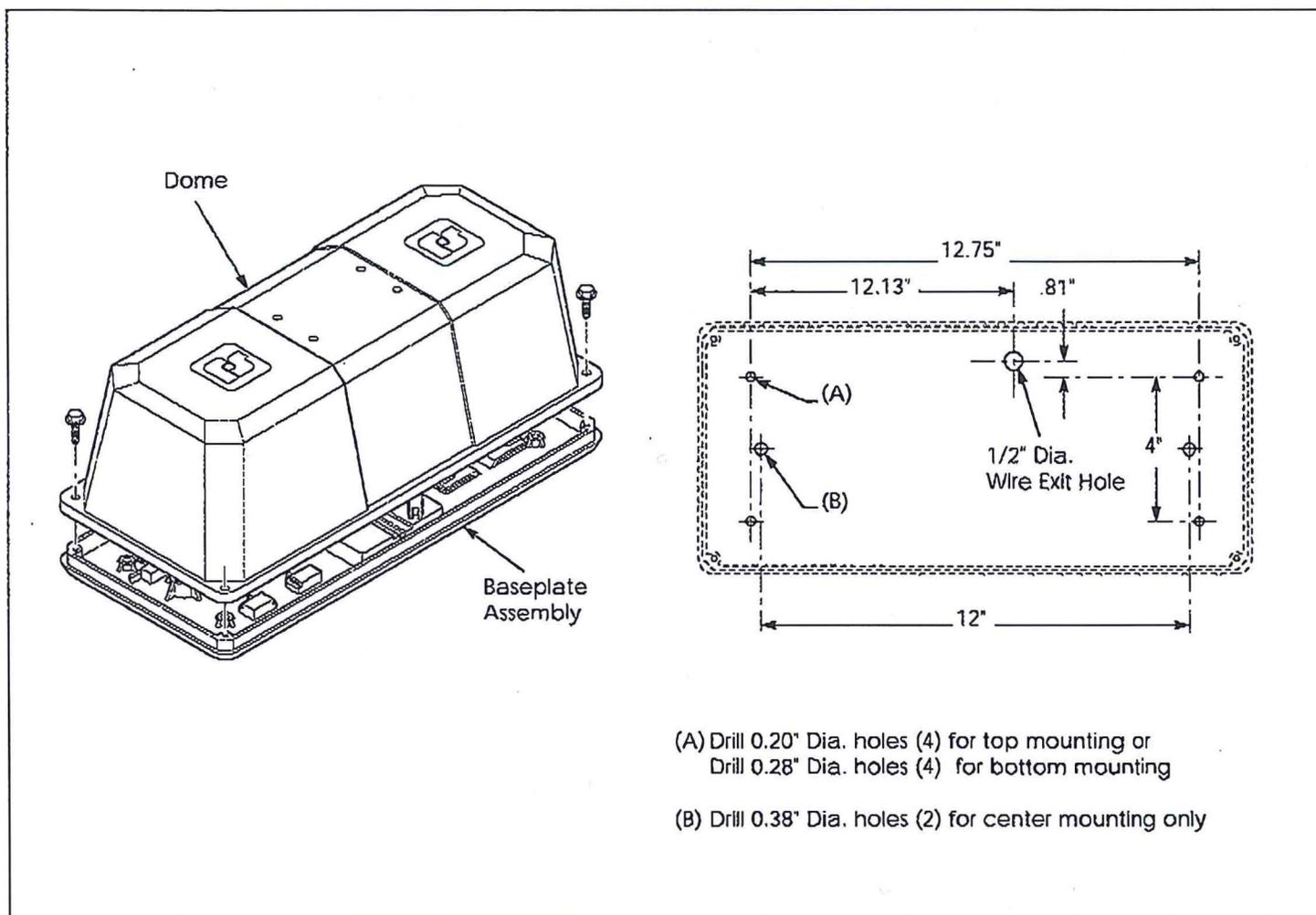
Mounting options include permanent mount or the flexibility of a suction cup/magnetic mounting. Magnetic mount unit come equipped with a cigarette lighter power plug with an integrated ON/OFF switch for easy operational control. Permanent mounting can be achieve with any of the available mounting kits¹; FMK – Flat Mounting Kit, RMK – Riser Mounting Kit.

¹ Permanent mounting requires one of the available mounting kits for installation

| Model | Operating Voltage | Operating Current | Mounting Configuration |
|-----------|-------------------|--------------------|------------------------|
| VLB-012AP | 12VDC | 3.6 amps @ 12.8VDC | Permanent |
| VLB-012AM | 12VDC | 3.6 amps @ 12.8VDC | Magnetic |



VEHICULAR LIGHT BAR (VLB)



SPECIFICATIONS

Shipping Weight:

| | | |
|-----------|----------|----------|
| Permanent | 5.0 lbs. | 2.3 kg |
| Magnetic | 5.0 lbs. | 2.3 kg |
| Height: | | |
| Permanent | 5.0" | 127.0 mm |
| Magnetic | 5.0" | 127.0 mm |
| Width: | 9.0" | 229.0 mm |
| Length: | 15.0" | 381.0 mm |

HOW TO ORDER

- Specify model, mounting, color and voltage
- Specify Mandatory Accessories for Permanent Mounting; Flat mount kit (FMK)
Riser mount kit (RMK)
- Please refer to Model Number Index VLB beginning on page 374

REPLACEMENT PARTS

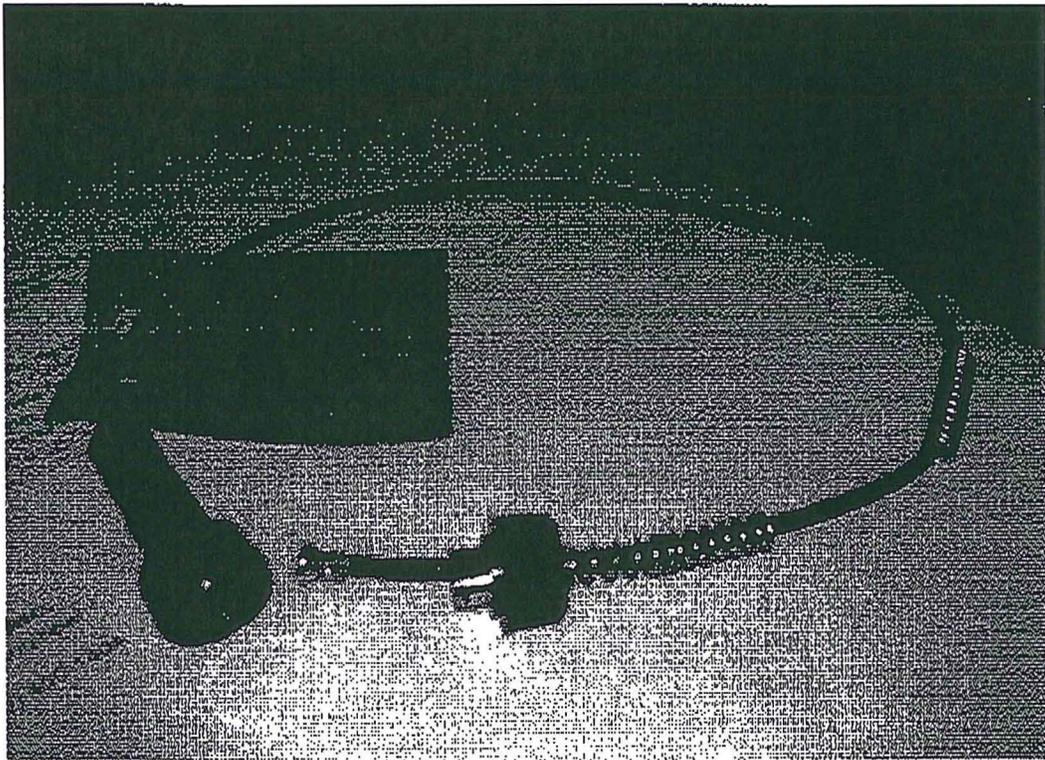
| Description | Part Number |
|-------------------------------------|-------------|
| Strobe tube assembly with connector | KZ8560082A |
| Power supply assembly | KZ8560081A |
| Clear internal lens | K208669 |
| Outer dome, Amber | K452510-02 |

MULTIQUIP POWER EQUIPMENT STANDARD PART SPECIFICATION

18910 WILMINGTON AVE
CARSON, CA 90746

REVISED: 07/03/12

| | | | | | | | |
|-----------------------------------|------------|------------------------------------|-------------------------|---|--|------------------------|----------------------|
| <u>PART NUMBER</u> 303110 | | <u>DOCUMENTATION NO.</u> 303110 | | <u>DESCRIPTION</u> HOLDER, FUSE | | <u>SHEET</u> 1 of 1 | <u>REVISION</u> A |
| <u>PREPARED BY</u> J. TRAN | | | <u>DATE</u> 08/23/12 | <u>APPROVED BY</u> | | <u>DATE</u> | |
| <u>MANUFACTURER</u> LITTLEFUSE | | | | <u>MANUFACTURER'S PART NUMBER</u> FHP1 | | | |
| REVISION HISTORY | | | | | | | |
| <u>LETTER</u> | <u>ECO</u> | <u>DESCRIPTION</u> | | | | <u>BY</u> | <u>DATE</u> |
| A | 12-132 | WAS EE56694 | | | | JT | 09/11/12 |
| | | | | | | | |
| | | | | | | | |



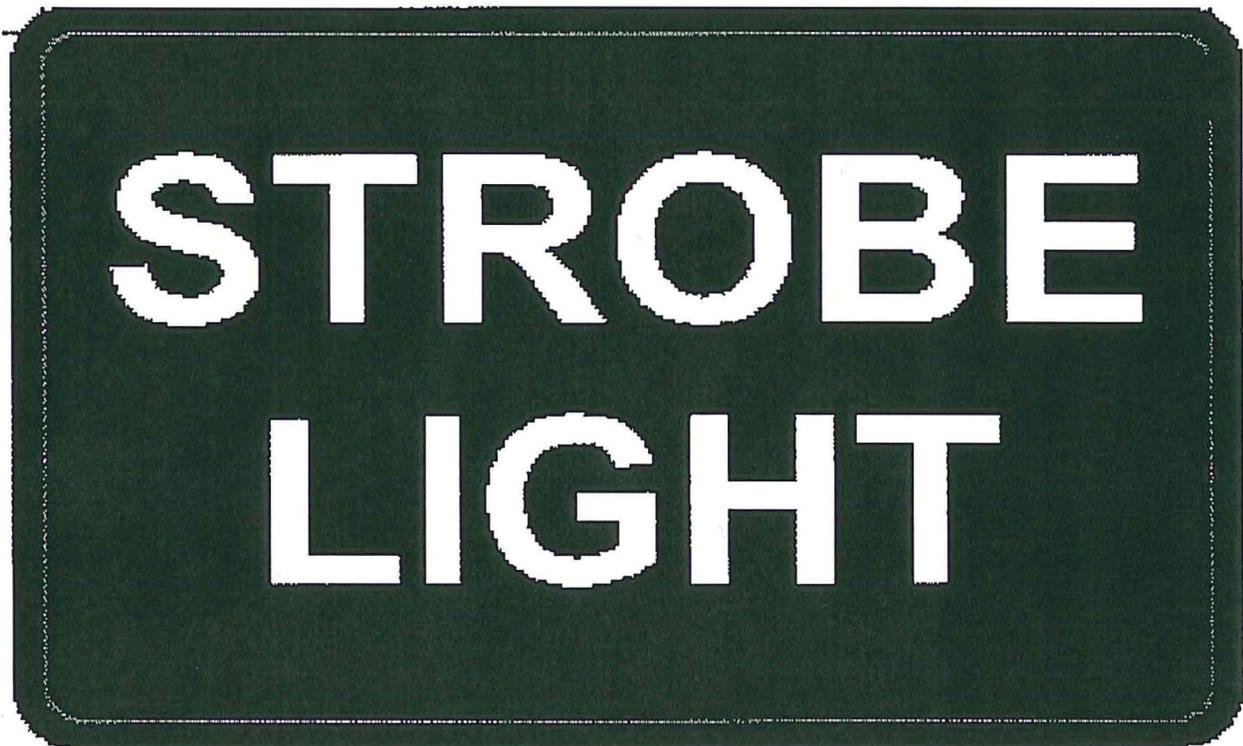
MULTIQUIP POWER EQUIPMENT STANDARD PART SPECIFICATION

18910 WILMINGTON AVE
CARSON, CA 90746

REVISED: 07/03/12

| | | | | | |
|--|-------------------------------------|--|--------------------|------------------------|-----------------|
| PART NUMBER EE58206 | DOCUMENTATION NO. EE58206 | DESCRIPTION DECAL, STROBE LIGHT, 0.97" X 1.54" | | SHEET 1 of 1 | REVISION |
| PREPARED BY J. TRAN | | DATE 07/18/14 | APPROVED BY | DATE | |
| MANUFACTURER ROADRUNNER GRAPHICS | | MANUFACTURER'S PART NUMBER MQ011 | | | |
| REVISION HISTORY | | | | | |
| LETTER | ECO | DESCRIPTION | BY | DATE | |
| A | | INITIAL RELEASE | JT | 07/18/14 | |

USED ON DCA15, DCA45 & DCA70



MULTIQUIP POWER EQUIPMENT STANDARD PART SPECIFICATION

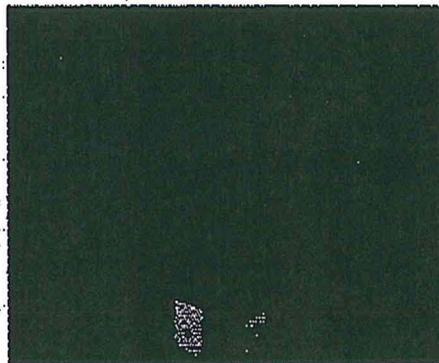
18910 WILMINGTON AVE
CARSON, CA 90746

REVISED: 07/03/12

| PART NUMBER EE2922 | DOCUMENTATION NO. EE2922 | DESCRIPTION MINI RELAY W/ MOUNTING BRACKET, SPDT 40 Amp | | SHEET 1 of 1 | REVISION A |
|-------------------------------|------------------------------------|---|--------------------|------------------------|----------------------|
| PREPARED BY J. TRAN | | DATE 08/23/12 | APPROVED BY | | DATE |
| MANUFACTURER TYCO | | MANUFACTURER'S PART NUMBER V23234-A1001-X036 | | | |
| BOSCH | | 332209150 | | | |
| REVISION HISTORY | | | | | |
| LETTER | ECO | DESCRIPTION | | BY | DATE |
| A | 12-112 | INITIAL RELEASE | | JT | 08/17/12 |
| | | | | | |
| | | | | | |

General Specifications

Tyco Part Number: V23234A1001X036
Group Type: Mini
Manufacturer: Tyco
Bosch Part Number: 0332209150
Voltage: 12 V
Current: 40 A
Form: SPDT
Enclosure: Standard cover w/bracket
Suppression: None
Contact Materials: Hard Silver
Mechanical Life: 1000000 cycles
Operating Temperature: -40 - 100 C
Duty Cycle: Continuous



Multiquip New Product Limited Warranty

Multiquip warrants new products manufactured by it to be free from defects in materials and workmanship, under normal use and servicing, for the periods specified on the accompanying table and commencing on the earliest of the date of sale to the first end-user or first assignment into a rental fleet (but not to exceed 36 months following delivery from Multiquip). Multiquip's sole obligation under this warranty is limited to the replacement or repair of the product or part(s) at no charge delivered F.O.B. from its designated facility, if determined by Multiquip upon inspection to have been defective in materials or workmanship.

A Warranty Claim Number referencing the model and serial number of the product, date of sale to original purchaser and date and description of the failure shall accompany all part(s), which must be received by Multiquip within 30 days from the date of failure. Upon request, part(s) must be returned to a designated Multiquip facility for evaluation. Return shipping costs are the responsibility of the claimant. Such requests by Multiquip will be made within 30 days of receiving the warranty claim. The warranty period for replacement part(s) is 30 days from the date of end-user's receipt of the part(s).

This warranty does not apply to any failures resulting from: (i) abuse or misuse or improper or unauthorized repair, alteration, maintenance or operation; (ii) accident, natural disaster or act of nature; or (iii) handling, shipping or storage.

Warranty with respect to products, parts, components and accessories not manufactured by Multiquip is strictly limited to the warranty extended by the manufacturer of those items. Engine manufacturers are solely responsible for engine warranties.

THE ABOVE WARRANTIES AND REMEDIES (I) ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND REMEDIES WHATSOEVER, EXPRESS OR IMPLIED, EACH OF WHICH ARE EXPRESSLY DISCLAIMED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USAGE OF TRADE AND NON-INFRINGEMENT AND (II) SET FORTH THE ENTIRE OBLIGATION OF MULTIQUIP.

MULTIQUIP SHALL NOT BE SUBJECT TO AND HEREBY DISCLAIMS (EVEN IF MULTIQUIP HAS BEEN ADVISED OF THE POSSIBILITY OF THE SAME); (I) ANY OBLIGATIONS OR LIABILITIES ARISING FROM BREACH OF THE ABOVE WARRANTIES, OTHER THAN THE EXCLUSIVE REMEDIES EXPRESSLY SET FORTH HEREIN; (II) ANY OBLIGATIONS OR LIABILITIES ARISING FROM TORT CLAIMS (INCLUDING, WITHOUT LIMITATION, NEGLIGENCE AND STRICT LIABILITY) OR ARISING UNDER OTHER THEORIES OF LAW WITH RESPECT TO PRODUCTS AND PARTS SOLD BY MULTIQUIP, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATING THERETO; AND (III) ANY AND ALL CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, PUNITIVE, CONTINGENT, SPECULATIVE AND SIMILAR DAMAGES.

To avoid misrepresentations with respect to products and parts sold hereunder, this warranty may not be modified or altered except in writing signed by a duly authorized officer of Multiquip.

April 2013

WARRANTY PERIODS

CONSTRUCTION EQUIPMENT

Compaction Equipment

| | |
|--|-------------------------|
| Rammers | 1 year parts and labor |
| Vibratory Plate Compactors | 1 year parts and labor |
| Asphalt Rollers, Ride-On and Walk-Behind | 1 year parts and labor |
| Rammax 1515 Series Rollers | |
| Drive Motor Assembly | 5 years parts and labor |
| Eccentric Housing Assembly and Bearings | 5 years parts and labor |
| Basic Machine | 2 years parts and labor |
| Rammax RX1510 Series Rollers | 1 year parts and labor |
| Rammax RX1575 Series Rollers | |
| Eccentric Bearings and Hydraulic Motors | 5 years parts and labor |
| Diesel Engine | 3 years parts and labor |
| Basic Machine | 2 years parts and labor |

Dewatering Pumps and Water Trailers

| | |
|--|-------------------------|
| Diaphragm Pumps | 2 years parts and labor |
| Electric Submersible Pumps (Except Yellow Submarine) | 1 year parts and labor |
| Yellow Submarine Electric Submersible Pump | 90 days parts and labor |
| Engine Driven Centrifugal Water Pumps | 2 years parts and labor |
| AcvPrime Pumps | 2 years parts and labor |
| Water Trailer (except pump) | 1 year parts and labor |
| Water Trailer (pump only) | 2 years parts and labor |

Lighting Solutions

| | |
|---------------------------|--|
| Light Towers - MLT Series | 2 years or 1000 hours parts and labor (whichever occurs first) |
| Light Towers - LT Series | 1 year parts and labor |
| GloBug Lighting Systems | 1 year parts and labor |

Concrete and Masonry Equipment

| | |
|--|--------------------------|
| Rebar Cutters and Benders | 1 year parts and labor |
| Concrete Vibrators | 1 year parts and labor |
| Micon Stator and Rotor | 2 years parts and labor |
| Power Buggies | 1 year parts and labor |
| Screeds | 1 year parts and labor |
| Power Trowels, Walk Behind | 1 year parts and labor |
| Power Trowels, Ride-On (Hydraulic and Mechanical Models) | 1 year parts and labor |
| Gearbox Only JTNSW (Worm Drive) | 1 year parts and labor |
| Gearbox Only JWN/HTN (Worm Drive) | 2 years parts and labor |
| Gearbox Only HHX/HHN (Helical Drive) | 3 years parts and labor |
| Street (Flat), Masonry and Tile Saws | 1 year parts and labor |
| Hand-held Core Drills | 6 months parts and labor |
| Core Drill Rigs | 1 year parts and labor |
| Diamond Tool Products | Performance guaranteed |

Concrete Pumps

| | |
|---|---|
| Mechanical Drive Models | 1 year parts and labor |
| Hydraulic Drive Models | 1 year or 2000 hours parts and labor (whichever occurs first) |
| Concrete and Mortar Mixers (excluding Mix-N-Go) | 1 year parts and labor |
| Polyethylene Drum Only (excluding Mix-N-Go) | 2 years parts and labor |
| Mix-N-Go Polyethylene and Steel Drum Models | 180 days parts and labor |

Mud Tub

| | |
|--|------------------------|
| | 1 year parts and labor |
|--|------------------------|

POWER EQUIPMENT

| | |
|-----------------------------|-------------------------|
| Gasoline Powered Generators | 2 years parts and labor |
|-----------------------------|-------------------------|

Welder/Generators

| | |
|-------------------|--|
| 180 amp and below | 2 years parts and labor |
| 225 amp and above | 2 years or 1000 hours parts and labor (whichever occurs first) |

Diesel Powered Generators

| | |
|---|--|
| DA7000-Series (Excludes light tower applications) | 1 year or 1000 hours parts and labor (whichever occurs first) |
| DCA "SS" models | 2 years or 2000 hours parts and labor (whichever occurs first) |
| DCA "US" models | 2 years or 2000 hours parts and labor (whichever occurs first) |
| MQ Power Industrial / Standby models | 2 years or 2000 hours parts and labor (whichever occurs first) |
| MQ Power Containerized models | 1 year with unlimited hours |
| Studio and Industrial units | 2 years or 2000 hours parts and labor (whichever occurs first) |
| All other generators | 1 year or 1000 hours parts and labor (whichever occurs first) |

Engines — current engine manufacturers' policy — please consult with engine manufacturer for updates.

| | |
|---------------------------------------|------------------------|
| Trailers (for all Multiquip products) | 1 year parts and labor |
|---------------------------------------|------------------------|

MULTIQUIP INC.
 POST OFFICE BOX 6254 • CARSON, CALIFORNIA 90749
 310-537-3700 • 800-421-1244 • FAX: 310-537-3927
 E-MAIL: mq@multiquip.com • www.multiquip.com

Rev. 101713



EMISSIONS WARRANTY RIGHTS AND OBLIGATIONS

For emissions control systems installed by Multiquip.

The U.S EPA, California Air Resources Board, and Multiquip, Inc., are pleased to explain the emission control system's warranty starting on your 2011 model year small off-road equipment. In California, new equipment that use small off-road engines must be designed, built, and equipped to meet the State's stringent anti-smog standards. Multiquip must warrant the emission control system on your small off-road equipment for the period listed below provided there has been no abuse, neglect or improper maintenance of your equipment.

Your emission control system may include parts such as: carburetors, fuel tanks, fuel lines, fuel caps, valves, canisters, filters, vapor hoses, clamps, connectors, and other associated components. For engines less than or equal to 80 cc, only the fuel tank is subject to the evaporative emission control warranty requirements of this section.

MANUFACTURER'S WARRANTY COVERAGE:

This emission control system is warranted for two years. If any emission-related part on your equipment is defective, the part will be repaired or replaced by Multiquip, Inc. *Applies to products with evaporative emissions control systems installed by Multiquip on ride-on trawels, power buggies, asphalt rollers and concrete saws.*

OWNER'S WARRANTY RESPONSIBILITIES:

- As the small off-road equipment owner, you are responsible for performance of the required maintenance listed in your owner's manual. Multiquip recommends that you retain all receipts covering maintenance on your equipment, but Multiquip cannot deny warranty solely for the lack of receipts.
- As the small off-road equipment owner, you should however be aware that Multiquip may deny you warranty coverage if your fuel tank has failed due to abuse, neglect, or improper maintenance or unapproved modifications.

You are responsible for presenting your equipment to a Multiquip distribution center or service center as soon as the problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. If you have a question regarding your warranty coverage, you should contact Multiquip at 1-800-421-1244.

DEFECTS WARRANTY REQUIREMENTS:

- (a) The warranty period begins on the date the engine or equipment is delivered to an ultimate purchaser.
- (b) General Emissions Warranty Coverage. The fuel tank must be warranted to the ultimate purchaser and any subsequent owner that the evaporative emission control system when installed was:
- (1) Designed, built, and equipped so as to conform with all applicable regulations; and
 - (2) Free from defects in materials and workmanship that causes the failure of a warranted part for a period of two years.
- (c) The warranty on emissions-related parts will be interpreted as follows:
- (1) Any warranted part that is not scheduled for replacement as required maintenance in the written instructions must be warranted for the warranty period defined in subsection (b)(2). If any such part fails during the period of warranty coverage, it must be repaired or replaced by Multiquip. Any such part repaired or replaced under the warranty must be warranted for a time not less than the remaining warranty period.
 - (2) Any warranted part that is scheduled only for regular inspection in the written instructions must be warranted for the warranty period defined in subsection (b)(2). A statement in such written instructions to the effect of "repair or replace as necessary" will not reduce the period of warranty coverage. Any such part repaired or replaced under warranty must be warranted for a time not less than the remaining warranty period.
 - (3) Any warranted part that is scheduled for replacement as required maintenance in the written instructions must be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part must be repaired or replaced by Multiquip. Any such part repaired or replaced under warranty must be warranted for a time not less than the remainder of the period prior to the first scheduled replacement point for the part.
 - (4) Repair or replacement of any warranted part under the warranty provisions of this article must be performed at no charge to the owner at a warranty station.
 - (5) Notwithstanding the provisions of subsection (4) above, warranty services or repairs must be provided at distribution centers that are franchised to service the subject engines or equipment.
 - (6) The owner must not be charged for diagnostic labor that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at a warranty station.
 - (7) Throughout the evaporative emission control system's warranty period set out in subsection (b)(2), Multiquip must maintain a supply of warranted parts sufficient to meet the expected demand for such parts.
 - (8) Manufacturer approved replacement parts must be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner. Such use will not reduce the warranty obligations of the manufacturer issuing the warranty.
 - (9) The use of any add-on or modified parts will be grounds for disallowing a warranty claim made in accordance with this article. The manufacturer issuing the warranty will not be liable under this Article to warrant failures of warranted parts caused by the use of an add-on or modified part.
 - (10) Multiquip shall provide any documents that describe the warranty procedures or policies within five working days of request by the Air Resources Board.

EMISSION WARRANTY PARTS LIST:

- 1) Tank
- 2) Fuel Lines
- 3) Fuel Caps
- 4) Charcoal Canister

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VOLUME 4: DRAWINGS

RAFAEL MEADOWS PUMP STATION STANDBY GENERATOR INSTALLATION

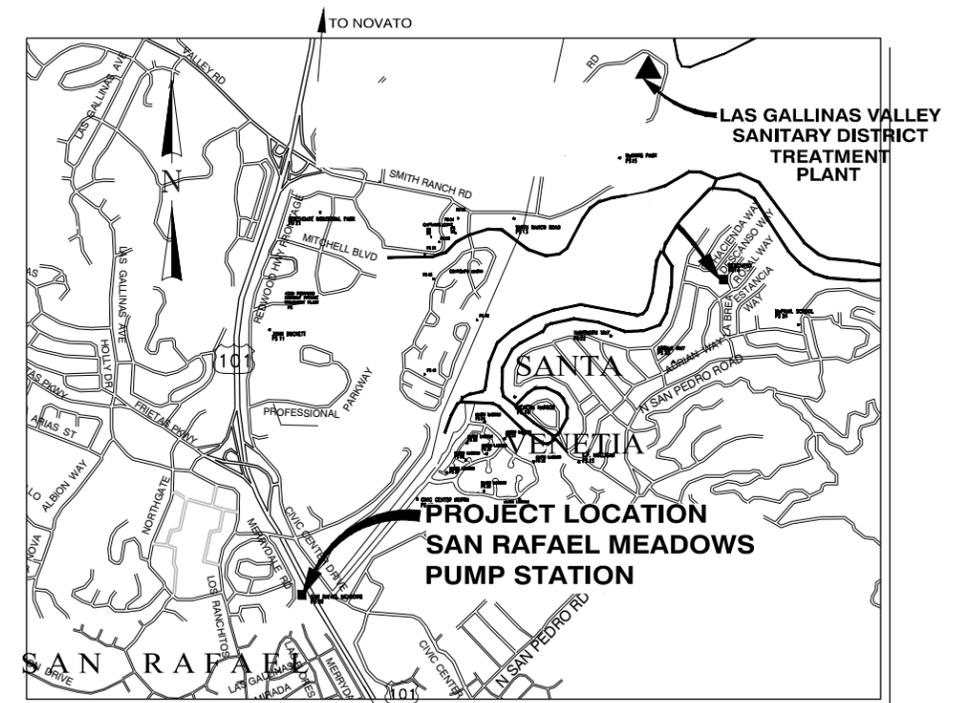
**JOB NO.
12300-02**

July 2020

DISTRICT BOARD:
 RABI ELIAS, PRESIDENT
 JUDY SCHRIEBMAN, VICE PRESIDENT
 MEGAN CLARK
 CRYSTAL YEZMAN
 CRAIG K. MURRAY



VICINITY MAP
SCALE: NOT TO SCALE



LOCATION MAP
SCALE: NOT TO SCALE

MIKE PRINZ, GENERAL MANAGER
 MICHAEL P. CORTEZ, PE, DISTRICT ENGINEER
 MEL LIEBMANN, PLANT MANAGER
 GREG PEASE, COLLECTIONS MANAGER

PLOT: EXTEND
 SCALE: 1:1
 BORDER:
 22,34
 COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

PROJECT NOTES:

- 1. OWNER: LAS GALLINAS VALLEY SANITARY DISTRICT (DISTRICT)
- 2. CITY & COUNTY: SAN RAFAEL, MARIN COUNTY
- 3. SANITARY SEWER: LAS GALLINAS VALLEY SANITARY DISTRICT
- 4. STORM DRAIN: CITY OF SAN RAFAEL
- 5. WATER: MARIN MUNICIPAL WATER DISTRICT
ENGINEERING: (415) 945-1560
CONSTRUCTION PROJECTS: (415) 945-1540
EMERGENCY: (415) 945-1500
- 6. GAS & ELECTRICAL: PG&E GAS
ENGINEERING: (415) 257-3404, (415) 257-3405
EMERGENCY: (800) 743-5000

PG&E ELECTRIC
SERVICE: (415) 257-3431
ENGINEERING: (415) 257-3174
EMERGENCY: (800) 743-5000
- 7. TELEPHONE: SBC/AT&T
SERVICE: (707) 575-2077, (707) 321-6207
ENGINEERING: (415) 499-4828
EMERGENCY: (800) 310-2355
- 8. CABLE & TELEVISION: COMCAST
SERVICE: (707) 477-0564
EMERGENCY: (800) 310-2355

(NOTE: THE CONTACT INFORMATION SHOWN ABOVE REPRESENTS A PARTIAL LIST OF THE UTILITY OWNERS CURRENTLY AVAILABLE TO THE DISTRICT DURING PREPARATION OF THESE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITIES AND CONFIRM EACH CONTACT INFORMATION BEFORE THE START OF WORK.)

- 9. ALL APPLICABLE IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF THE CURRENT DISTRICT ORDINANCE CODES, AND DISTRICT STANDARD PLANS. ALL IMPROVEMENTS ARE SUBJECT TO INSPECTION AND APPROVAL BY THE DISTRICT. CONTRACTOR SHALL CONTACT THE DISTRICT AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF ANY WORK TO ARRANGE FOR INSPECTION.
- 10. A CALIFORNIA DIVISION OF OCCUPATIONAL SAFETY AND HEALTH (CALOSHA) PERMIT SHALL BE OBTAINED FOR TRENCHES FIVE FEET OR GREATER IN DEPTH. A COPY OF THIS PERMIT SHALL BE SUPPLIED TO THE DISTRICT. AN ADDITIONAL COPY SHALL BE KEPT AT THE JOB SITE AT ALL TIMES.
- 11. THE CONTRACTOR SHALL NOT DESTROY ANY PERMANENT SURVEY POINTS WITHOUT THE CONSENT OF THE DISTRICT. ANY PERMANENT MONUMENTS OR POINTS DESTROYED SHALL BE REPLACED BY A LAND SURVEYOR LICENSED IN THE STATE OF CALIFORNIA AT THE CONTRACTOR'S EXPENSE.
- 12. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE DISTRICT. ALL REVISIONS TO THESE PLANS MUST BE REVIEWED BY THE DISTRICT PRIOR TO CONSTRUCTION AND SHALL BE ACCURATELY SHOWN ON REVISED PLANS SIGNED BY THE DISTRICT.
- 13. PRIOR TO MOVING ANY MATERIAL TO OR FROM THE SITE, THE CONTRACTOR SHALL OBTAIN APPROVAL FOR HAUL ROUTE FROM THE DISTRICT.
- 14. WHERE ABANDONED UNDERGROUND STRUCTURES ARE ENCOUNTERED, THE CONTRACTOR SHALL REMOVE THE ABANDONED STRUCTURES TO SUFFICIENT DEPTH TO ALLOW NEW UNDERGROUND LINES TO CROSS. THE DISTRICT MAY REQUIRE FURTHER WORK TO BE DONE AFTER A VISUAL INSPECTION.
- 15. ALL VALVE BOXES SHALL BE ADJUSTED TO NEW FINISHED GRADE AFTER FINAL PAVING, WHERE APPLICABLE.
- 16. CONSTRUCTION EQUIPMENT, INCLUDING COMPRESSORS, GENERATORS, AND MOBILE EQUIPMENT, SHALL BE FITTED WITH PROPERLY WORKING MUFFLERS.
- 17. ALL CONSTRUCTION ACTIVITIES ON THE PROJECT SITE SHALL BE LIMITED TO 7:00 A.M. TO 3:30 P.M., MONDAY THROUGH FRIDAY, UNLESS ALTERNATIVE HOURS ARE APPROVED BY THE DISTRICT. THE CONTRACTOR WILL REIMBURSE THE DISTRICT ALL COSTS ASSOCIATED WITH NON-APPROVED AFTER HOUR WORK, OR DIRECTED BY THE CITY OF SAN RAFAEL.
- 18. SEE SYSTEM OUTAGE REQUEST NOTES ON SHEET 3 FOR SHUTDOWN SCHEDULING REQUIREMENTS.
- 19. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL SOUND CONTROL AND NOISE LEVEL RULES, REGULATIONS AND ORDINANCES WHICH APPLY TO ANY WORK PERFORMED UNDER THE CONTRACT. EACH INTERNAL COMBUSTION ENGINE USED ON THE PROJECT SHALL BE EQUIPPED WITH A SPARK ARRESTING MUFFLER RECOMMENDED BY THE MANUFACTURER. NO INTERNAL COMBUSTION ENGINE SHALL BE OPERATED ON THE PROJECT WITHOUT SAID MUFFLER AND MUST BE CARB COMPLIANT. NOISE LEVELS SHALL BE KEPT TO THE SATISFACTION OF THE DISTRICT.
- 20. OVERHEAD ELECTRIC AND TELEPHONE DISTRIBUTION SYSTEMS AND INDIVIDUAL SERVICE LINES MAY EXIST IN THE VICINITY OF THE WORK AREA AND ARE NOT ALL SHOWN ON THE DRAWINGS. CONTRACTOR SHALL EXERCISE CAUTION WHILE WORKING NEAR OR UNDER ALL ELECTRIC LINES. CONTRACTOR SHALL IDENTIFY LOCATIONS OF HIGH VOLTAGE OVERHEAD ELECTRICAL LINES AND PLACE WARNING SIGNS PER CAL/OSHA REQUIREMENTS.

GENERAL CIVIL NOTES:

- 1. THE CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE DISTRICT AND DISTRICT REPRESENTATIVES HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXEMPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DISTRICT.
- 2. EXCAVATIONS SHALL BE ADEQUATELY SHORED, BRACED AND SHEETED SO THAT THE EARTH WILL NOT SLIDE OR SETTLE AND SO THAT ALL EXISTING IMPROVEMENTS OF ANY KIND WILL BE FULLY PROTECTED FROM DAMAGE. ANY DAMAGE RESULTING FROM A LACK OF ADEQUATE SHORING, BRACING AND SHEETING, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL EFFECT NECESSARY REPAIRS OR RECONSTRUCTION AT THE EXPENSE OF THE CONTRACTOR. WHERE THE EXCAVATION FOR A CONDUIT TRENCH, AND/OR STRUCTURE IS FIVE FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING, SHORING AND BRACING OR EQUIVALENT METHOD, FOR THE PROTECTION OF LIFE, OR LIMB, WHICH SHALL CONFORM TO THE APPLICABLE CONSTRUCTION SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY OF THE STATE OF CALIFORNIA, THE CONTRACTOR SHALL ALWAYS COMPLY WITH OSHA REQUIREMENTS.
- 3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PERMITS NECESSARY TO PERFORM THE WORK SHOWN IN THESE PLANS FROM THE APPROPRIATE AGENCIES, SEE SPECIFICATIONS.
- 4. THE CONTRACTOR SHALL PROVIDE FOR INGRESS AND EGRESS FOR PRIVATE PROPERTY ADJACENT TO WORK THROUGHOUT THE PERIOD OF CONSTRUCTION.
- 5. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGGERS OR OTHER DEVICES NECESSARY TO PROVIDE FOR SAFETY.
- 6. THE CONTRACTOR SHALL POST EMERGENCY TELEPHONE NUMBERS FOR POLICE, FIRE, AMBULANCE, AND THOSE AGENCIES RESPONSIBLE FOR MAINTENANCE OF UTILITIES IN THE VICINITY OF JOB SITE.
- 7. THE DISTRICT DOES NOT SPECIFY NOR APPROVE THE USE OR INSTALLATION OF ANY MATERIAL OR EQUIPMENT WHICH IS MADE FROM, OR WHICH CONTAINS ASBESTOS FOR USE IN THE CONSTRUCTION OF THESE IMPROVEMENTS. ANY PARTY INSTALLING OR USING SUCH MATERIALS OR EQUIPMENT SHALL BE SOLELY RESPONSIBLE FOR ALL INJURIES, DAMAGES, OR LIABILITIES OF ANY KIND, CAUSED BY THE USE OF SUCH MATERIALS OR EQUIPMENT. THE PROVISIONS OF THIS NOTE SHALL APPLY UNLESS THEY ARE EXPRESSLY WAIVED IN WRITING BY THE DISTRICT.
- 8. THE CONTRACTOR SHALL OBTAIN A COPY OF THE NPDES PERMIT FROM THE DISTRICT AND SHALL MEET AND FOLLOW ALL REQUIREMENTS IN EFFECT AT THE TIME OF CONSTRUCTION.
- 9. THE CONTRACTOR SHALL SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR REVIEW AND APPROVAL BY THE DISTRICT PRIOR TO START OF WORK. THE SWPPP SHALL BE IMPLEMENTED BY THE CONTRACTOR AND ALL SUBCONTRACTORS AND SUPPLIERS OF MATERIAL AND EQUIPMENT. CONSTRUCTION SITE CLEANUP AND CONTROL OF CONSTRUCTION DEBRIS SHALL ALSO BE ADDRESSED IN THE SWPPP. FAILURE TO COMPLY WITH THE APPROVED SWPPP WILL RESULT IN THE ISSUANCE OF CORRECTION NOTICES, CITATIONS OR A PROJECT STOP WORK ORDER.
- 10. THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR THE ENTIRE PROJECT AT ALL TIMES. THE SITE SHALL BE SPRINKLED AS NECESSARY TO PREVENT DUST NUISANCE. IN THE EVENT THE CONTRACTOR NEGLECTS TO USE ADEQUATE MEASURES TO CONTROL DUST, THE DISTRICT RESERVES THE RIGHT TO TAKE WHATEVER MEASURES ARE NECESSARY TO CONTROL DUST AND CHARGE THE COST TO THE CONTRACTOR.
- 11. DURING THE CONSTRUCTION, THE PUBLIC STREETS SHALL BE CLEANED DAILY TO REMOVE ANY ACCUMULATION OF MUD AND DEBRIS RESULTING FROM THIS CONSTRUCTION.
- 12. TRENCHES SHALL NOT BE LEFT OPEN OVERNIGHT IN PUBLIC STREET AREAS. CONTRACTOR SHALL BACKFILL TRENCHES, OR PLACE STEEL PLATING AND / OR HOT-MIX ASPHALT AS REQUIRED TO PROTECT OPEN TRENCHES AT THE END OF EVERY WORK DAY.
- 13. THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARD, LAWS AND REGULATIONS.
- 14. CONTRACTOR SHALL PROVIDE TO THE DISTRICT REPRESENTATIVE A REDLINED COPY OF "AS-BUILT" PLANS FOR PREPARATION OF RECORD DRAWINGS IN ACCORDANCE WITH THE SPECIFICATIONS. SEE SPECIFICATIONS FOR MORE AS-BUILT REQUIREMENTS.
- 15. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO IMMEDIATELY NOTIFY THE DISTRICT REPRESENTATIVE UPON DISCOVERY OF ANY FIELD CONFLICTS.
- 16. ANY DEVIATIONS OR CHANGES IN THESE PLANS WITHOUT OFFICIAL APPROVAL OF THE DISTRICT REPRESENTATIVE SHALL ABSOLVE THE DISTRICT OF ANY AND ALL RESPONSIBILITY OF SAID DEVIATION OR CHANGE.
- 17. SHOULD IT APPEAR THAT THE WORK TO BE DONE OR ANY MATTER RELATIVE THERETO IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THESE PLANS, THE CONTRACTOR SHALL NOT CONTACT DISTRICT DIRECTLY BUT THROUGH THE DISTRICT REPRESENTATIVE RESPONSIBLE FOR THIS CONTRACT IN THE FIELD.
- 18. DIMENSIONS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. NOTES AND DETAILS ON SPECIFIC DETAIL DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
- 19. WHERE THERE IS A DISCREPANCY BETWEEN THE WRITTEN DIMENSION AND SCALED DIMENSION, WRITTEN DIMENSIONS SHALL GOVERN.
- 20. ALL DISCREPANCIES BETWEEN THE INFORMATION SHOWN ON THE DRAWINGS AND THE ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DISTRICT REPRESENTATIVE.
- 21. CONTRACTOR SHALL SUPPLY ALL REQUIRED TOOLS, MATERIALS AND EQUIPMENT SUCH AS PUMPS, PLUGS, SCAFFOLDING, PLATFORM, ETC., AND DEVELOP A WORK PLAN NECESSARY TO COMPLETE ALL WORK SHOWN IN THESE PLANS.

GENERAL CIVIL NOTES (CONT'D):

- 22. THE LOCATION AND GENERAL ARRANGEMENT OF UNDERGROUND UTILITIES, UNDERGROUND STRUCTURES, PIPES WITH FITTINGS, VALVES, AND APPURTENANCES OWNED BY OTHER AGENCIES ARE NOT SHOWN IN THE DRAWINGS AND ARE SUBJECT TO FIELD VERIFICATION BY THE CONTRACTOR.
- 23. PROVIDE A SITE SAFETY PLAN FOR REVIEW BY THE DISTRICT PRIOR TO MOBILIZATION. THIS SAFETY PLAN MUST BE USED FOR THE ENTIRE DURATION OF THIS WORK BY THE CONTRACTOR AND ALL HIS SUBCONTRACTORS.
- 24. WHILE WORKING ON THE PROJECT, THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL LOCAL, STATE, AND FEDERAL CONFINED SPACE ENTRY PROCEDURES AND REQUIREMENTS FOR ALL PERMIT SPACE ENTRIES. THE FOLLOWING SPACES ARE HEREBY DESIGNATED PERMIT SPACES: MANHOLES, PUMP PITS, VALVE PITS, UNDERGROUND PITS.

EXISTING UTILITIES:

- 1. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS MAY OR MAY NOT HAVE BEEN SHOWN BASED UPON RECORD INFORMATION AVAILABLE TO THE DISTRICT AT THE TIME OF PREPARATION OF THESE PLANS. WHERE SHOWN, LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. CALL UNDERGROUND SERVICE ALERT (U.S.A.), AT 800-227-2600. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES.
- 2. ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED AND MERGED IN THE CONTRACT UNIT PRICE.
- 3. ALL EXISTING UTILITIES AND IMPROVEMENTS THAT BECOME DAMAGED DURING CONSTRUCTION SHALL BE COMPLETELY RESTORED TO THE SATISFACTION OF THE DISTRICT, AT THE CONTRACTOR'S SOLE EXPENSE.
- 4. ALL CONTRACTOR WORK AROUND EXISTING UTILITIES SHALL BE IN CONFORMANCE WITH CALIFORNIA GOVERNMENT CODE 4216.

FIRE DEPARTMENT REQUIREMENTS:

- 1. EXISTING OR NEW ACCESS ROADS, INCLUDING ANY TURNOUTS AND TURNAROUNDS, ARE FIRE LANES AND SHALL NOT BE OBSTRUCTED IN ANY MANNER, INCLUDING PARKING. PARKING IS ONLY PERMITTED OUTSIDE OF FIRE ACCESS AREAS AND WHEN CLEARLY DESIGNATED AND APPROVED ON THE PLANS.
- 2. THE VERTICAL CLEARANCE OVER ANY PORTION OF A FIRE ACCESS ROAD, TURNAROUND, OR TURNOUT SHALL NOT BE LESS THAN 13' 6".
- 3. FIRE LANE POSTING SHALL BE FIELD COORDINATED WITH THE FIRE DEPARTMENT.
- 4. GATES AND OTHER OBSTRUCTIONS ACROSS ACCESS ROADS SHALL BE APPROVED BY THE FIRE DEPARTMENT.
- 5. A MINIMUM 18-INCH VERTICAL CLEARANCE SHALL BE MAINTAINED FROM THE HYDRANT STEMS TO THE TOP OF SIDEWALK, TOP OF CURB AND GRADE.
- 6. A MINIMUM 3- FEET CLEARANCE SHALL BE PROVIDED AROUND THE SIDE AND REAR OF FIRE HYDRANTS. NO PARKING OR OTHER OBSTRUCTIONS SHALL BE PERMITTED ALONG THE ACCESS ROAD FRONTING THE HYDRANT, FOR A DISTANCE OF 15- FEET IN EACH DIRECTION.
- 7. CONTRACTOR SHALL COMPLY WITH THE FOLLOWING FIRE REQUIREMENTS PRIOR TO AND DURING CONSTRUCTION:
 - a. ARTICLE 87 OF THE CALIFORNIA FIRE CODE CONCERNING FIRE SAFETY DURING CONSTRUCTION SHALL BE ABIDED BY. A COPY OF SUCH, ALONG WITH ANY REQUIRED SAFETY PLANS, SHALL BE MAINTAINED AT THE JOB SITE.
 - b. ACCESS ROADS ARE REQUIRED FOR FIRE LANES AND SHALL BE PASSABLE BY FIRE EQUIPMENT AT ALL TIMES. BLOCKAGE OF ENTRANCES BY OTHER THAN APPROVED GATES IS PROHIBITED.
 - c. AN APPROVED MEANS FOR REPORTING EMERGENCIES SHALL BE PROVIDED AT THE JOB SITE.
 - d. A MINIMUM OF ONE 2A 20BC FIRE EXTINGUISHER SHALL BE MAINTAINED WITHIN 75- FEET OF TRAVEL DISTANCE FROM ANY PORTION OF EACH STRUCTURE BEING CONSTRUCTED. FIRE EXTINGUISHERS SHALL BE ON THE SAME LEVEL AND WITHIN 30- FEET OF HAZARDOUS OPERATIONS.
 - e. SEE FIRE CODE FOR ADDITIONAL REQUIREMENTS.
- 8. THE LOCAL FIRE DEPARTMENT SHALL BE NOTIFIED OF ANY TIME THERE IS TRAFFIC CONTROL OR CONFINED SPACE ENTRIES.

PLOT: EXTEND
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22,34
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MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

LEGEND

| | |
|------------|-----------------------------------|
| —W— | WATER LINE AND WATER VALVE |
| —G—OR—GAS— | GAS LINE |
| —JT— | JOINT TRENCH |
| —E— | UNDERGROUND ELECTRIC |
| —OH— | OVERHEAD ELECTRIC |
| —T—OR—TEL— | UNDERGROUND TELEPHONE/FIBER OPTIC |
| —C— | UNDERGROUND CABLE |
| —TS— | TRAFFIC SIGNAL CONDUIT |
| —RW— | RECLAIMED WATER |
| —SS— | EXIST SEWER LINE |
| —SSFM— | EXIST FORCE MAIN |
| — | NEW SEWER MAIN |
| — | STORM DRAIN |
| /// | ABANDONED LINE |
| ⊕ AND ⊕ | JOINT POLE |
| ⊕ AND ⊕+ | FIRE HYDRANT |
| ⊕ | NEW LATERAL WITH CLEANOUT |
| ⊕ | CATCH BASIN |
| ⊕ | WATER METER |
| ⊕ | MONUMENT |
| ⊕ | STREET LIGHT |
| ⊕ | SEWER CLEANOUT |
| ⊕ | NEW MANHOLE |
| ⊕ | EXISTING SEWER MANHOLE |
| ⊕ | STORM DRAIN MANHOLE |
| ⊕ | TELEPHONE MANHOLE |
| ⊕ | ELECTRIC MANHOLE |

ABBREVIATIONS:

| | | | |
|----------|--|-------|---------------------------|
| AB | AGGREGATE BASE | OC | ON CENTER |
| AC | ASPHALT CONCRETE | OD | OUTSIDE DIAMETER |
| ACI | AMERICAN CONCRETE INSTITUTE | OH | OVERHEAD |
| APPROX | APPROXIMATELY | PS | PUMP STATION |
| ASTM | AMERICAN SOCIETY FOR TESTING & MATERIALS | PSI | POUNDS PER SQUARE INCH |
| AVE | AVENUE | PVC | POLYVINYL CHLORIDE |
| BC | BACK OF CURB | R | RADIUS |
| BLVD | BOULEVARD | RCP | REINFORCED CONCRETE PIPE |
| BM | BENCHMARK | REINF | REINFORCEMENT |
| BMP | BEST MANAGEMENT PRACTICE | ROW | RIGHT-OF-WAY |
| BOT | BOTTOM | R/R | RAILROAD |
| CAL/OSHA | CALIFORNIA OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION | RT | RIGHT |
| CB | CATCH BASIN | S | SLOPE, OR SOUTH |
| CDF | CONTROLLED DENSITY FILL | SCH | SCHEDULE |
| CIPP | CURED-IN-PLACE PIPE | SD | STORM DRAIN |
| CIR | CIRCLE | SDMH | STORM DRAIN MANHOLE |
| CL | CENTERLINE | SHT | SHEET |
| CLR | CLEAR | SHTS | SHEETS |
| CONC | CONCRETE | SPEC | SPECIFICATIONS |
| CONT | CONTINUED | SS | SANITARY SEWER |
| CY | CUBIC YARD | SS | STAINLESS STEEL |
| D | DIAMETER | SST | STAINLESS STEEL |
| DEG | DEGREE | ST | STREET |
| DET | DETAIL | STA | STATION |
| DI | DROP INLET | T&B | TOP & BOTTOM |
| DIA | DIAMETER | TC | TOP OF CURB |
| DWG | DRAWING | TEL | TELEPHONE |
| DWGS | DRAWINGS | TEMP | TEMPORARY |
| E | EAST | TYP | TYPICAL |
| EF | EACH FACE | UNO | UNLESS NOTED OTHERWISE |
| EL | ELEVATION | USA | UNDERGROUND SERVICE ALERT |
| ELECT | ELECTRICAL | VAR | VARIES |
| ELEV | ELEVATION | VCP | VITRIFIED CLAY PIPE |
| EW | EACH WAY | VERT | VERTICAL |
| EX | EXISTING | W | WATER |
| EXIST | EXISTING | W/ | WITH |
| (E) | EXISTING | W/O | WITHOUT |
| FC | FACE OF CURB | ⊕ | AT |
| FL | FLOW LINE | ⊕ | CENTERLINE |
| FM | FORCE MAIN | Δ | DELTA |
| FT | FEET | ∅ | DIAMETER |
| G | GAS | FL | FLOW LINE |
| GR | GRADE, GRATE | ± | PLUS MINUS |
| HDPE | HIGH-DENSITY POLYETHYLENE | ' | DEGREE |
| HORIZ | HORIZONTAL | " | FEET, OR MINUTES |
| ID | INSIDE DIAMETER | X | BY |
| IE | INVERT ELEVATION | % | PERCENT |
| INC | INCORPORATED | & | AND |
| INV | INVERT | + | PLUS |
| JT | JOINT | - | MINUS |
| LF | LINEAL, OR LINEAL FEET | = | EQUALS |
| LIP | LIP OF GUTTER | # | NUMBER, OR POUNDS |
| LT | LEFT | | |
| MAX | MAXIMUM | | |
| MH | MANHOLE | | |
| MIN | MINIMUM | | |
| MON | MONUMENT | | |
| N | NORTH | | |
| NGVD | NATIONAL GEODETIC VERTICAL DATUM | | |
| NO | NUMBER | | |
| (N) | NEW | | |

FAILURE TO SUBMIT PROJECT SCHEDULE: IF THE CONTRACTOR FAILS TO SUBMIT A PROJECT SCHEDULE WITHIN THE TIME PERIOD SPECIFIED IN SECTION 3.8 OF THE GENERAL CONDITIONS, OR THE UPDATED SCHEDULE TO WHICH THE DISTRICT HAS TAKEN UNCORRECTED EXCEPTIONS, THE DISTRICT SHALL BE ENTITLED TO WITHHOLD THE PAYMENT FOR THE NEXT APPLICATION FOR PAYMENT SUBMITTED AFTER THE SCHEDULE OR UPDATED SCHEDULE BECOMES LATE. SEE CONTRACT DOCUMENTS FOR DETAILED REQUIREMENTS.

FAILURE TO SUBMIT AS-BUILT PLANS: CONTRACTOR SHALL PROVIDE TO THE DISTRICT REPRESENTATIVE A REDLINED COPY OF "AS-BUILT" PLANS FOR REVIEW AND PREPARATION OF RECORD DRAWINGS A MINIMUM OF THREE DAYS AFTER APPLICATION FOR FINAL PAYMENT. IF THE CONTRACTOR FAILS TO SUBMIT THE REDLINED COPY WITHIN THE TIME PERIOD SPECIFIED, THE DISTRICT SHALL BE ENTITLED TO WITHHOLD THE FINAL PAYMENT UNTIL CONTRACTOR SUBMITS A REDLINED COPY ACCEPTABLE TO THE DISTRICT REPRESENTATIVE. SEE CONTRACT DOCUMENTS FOR DETAILED REQUIREMENTS.

SYSTEM OUTAGE REQUESTS (SOR'S):

1. THE CONTRACTOR SHALL COORDINATE WITH DISTRICT PERSONNEL FOR SHUTDOWN OF ANY OPERATING PROCESS AND/OR UTILITIES WHICH SERVE THE PROCESS FACILITY. SHUTDOWNS (e.g. SYSTEM OUTAGE REQUESTS - SOR'S) SHALL BE APPROVED AND SCHEDULED AND ARE AT THE DISTRICT'S SOLE DISCRETION.
2. ALL SOR'S MUST BE REQUESTED IN WRITING ON THE DISTRICT FORMS. SOR'S MUST BE MADE A MINIMUM OF 3 DAYS IN ADVANCE OF DAYTIME SHUTDOWNS AND A MINIMUM OF 7 DAYS IN ADVANCE OF NIGHTTIME SHUTDOWNS.
3. DURING WET WEATHER EVENTS FACILITIES MUST BE FULLY OPERABLE AND NO SHUT DOWNS ARE ALLOWED.
4. ALL SHUTDOWNS MUST HAPPEN BETWEEN 7:00 A.M. AND 2:00 P.M., WEEKDAYS, UNLESS PRE-APPROVED BY DISTRICT.

ABBREVIATION NOTE:
LISTING OF ABBREVIATIONS DOES NOT IMPLY ALL ABBREVIATIONS ARE USED IN THE CONTRACT DOCUMENTS.

PLOT: EXTEND
SCALE: 1:1
BORDER:
22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

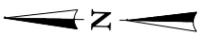
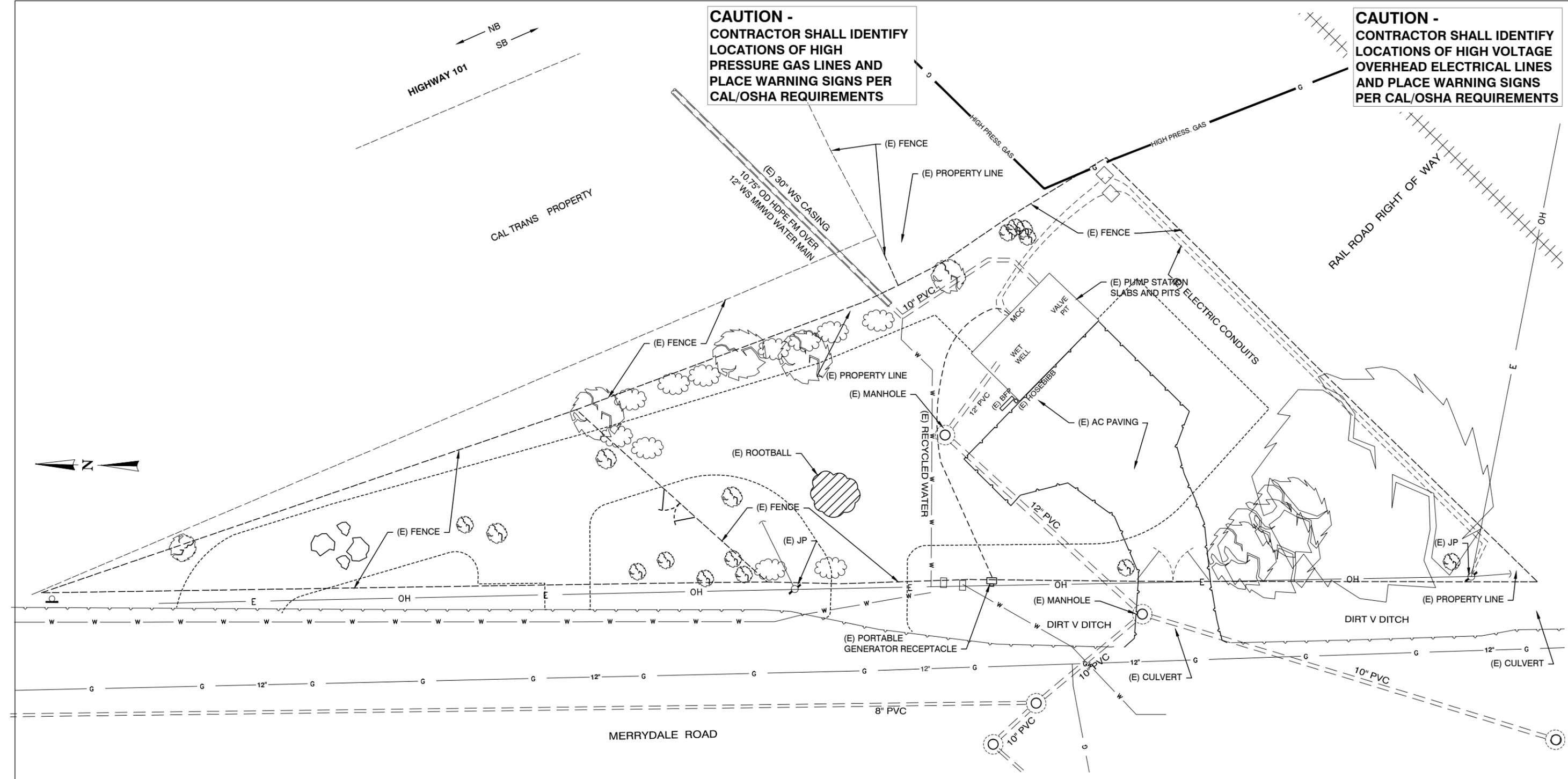
HIGHWAY 101
 NB
 SB

**CAUTION -
 CONTRACTOR SHALL IDENTIFY
 LOCATIONS OF HIGH
 PRESSURE GAS LINES AND
 PLACE WARNING SIGNS PER
 CAL/OSHA REQUIREMENTS**

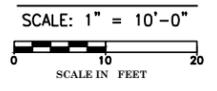
**CAUTION -
 CONTRACTOR SHALL IDENTIFY
 LOCATIONS OF HIGH VOLTAGE
 OVERHEAD ELECTRICAL LINES
 AND PLACE WARNING SIGNS
 PER CAL/OSHA REQUIREMENTS**

CAL TRANS PROPERTY

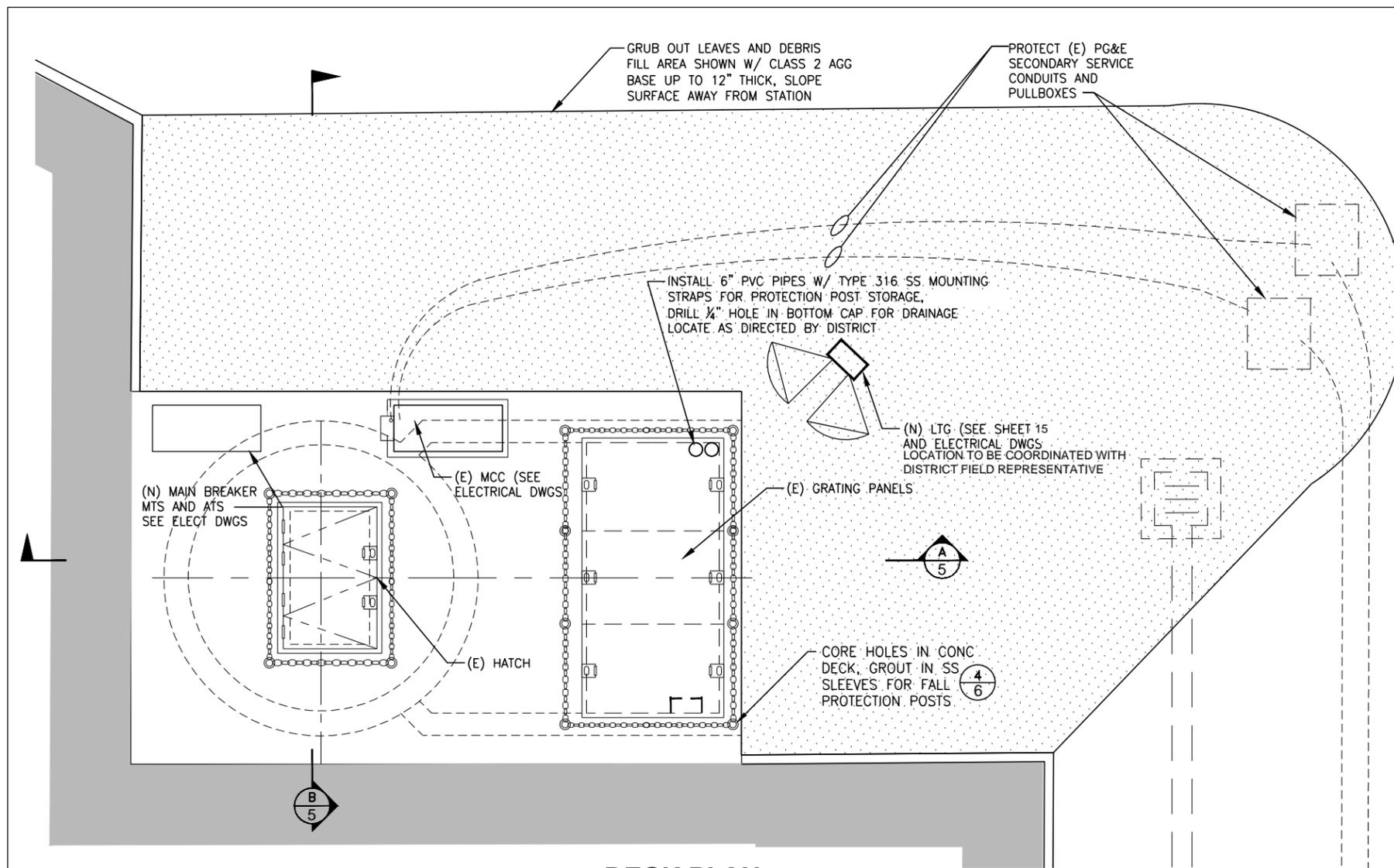
RAIL ROAD RIGHT OF WAY



**EXISTING CONDITION
 SITE PLAN**

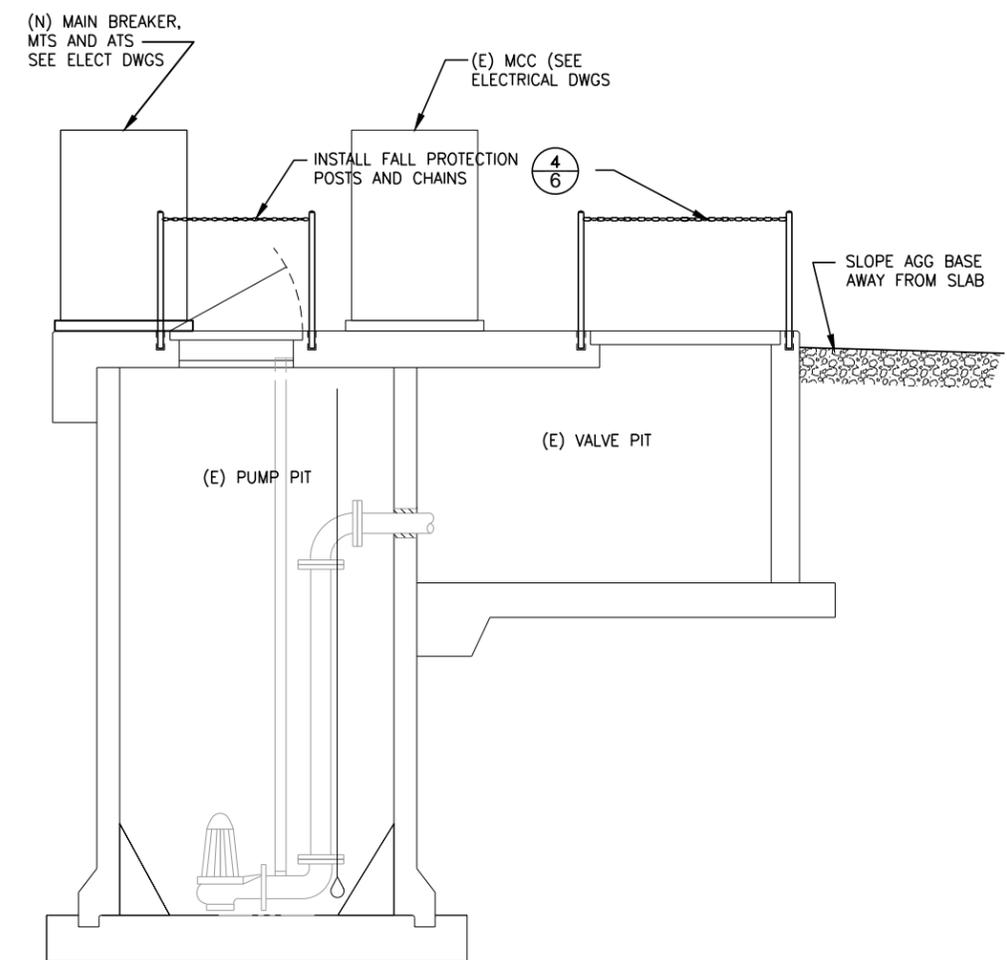


PLOT: EXTEND
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 210 0.60MM



DECK PLAN

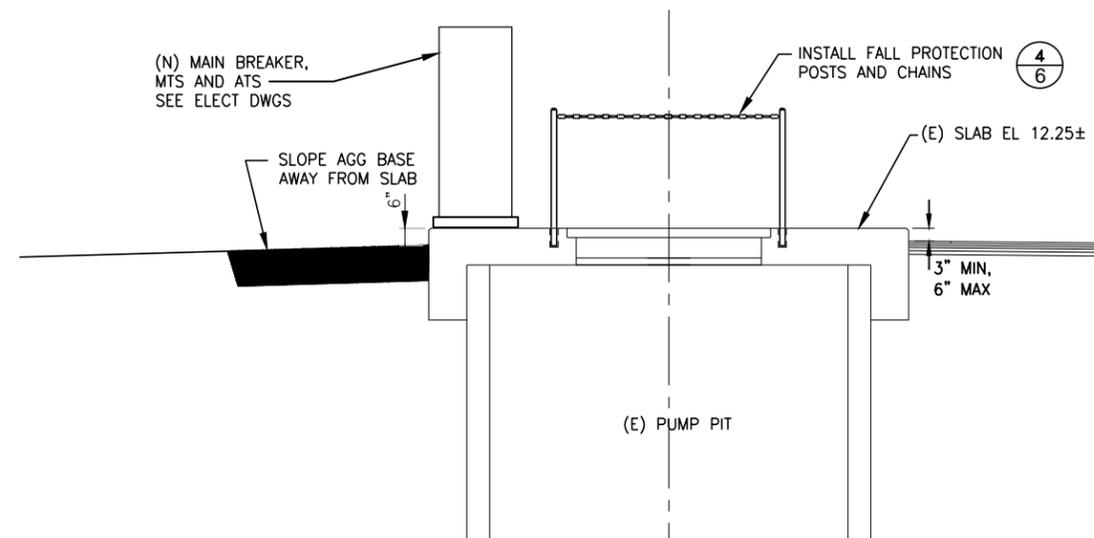
SCALE: 3/8" = 1'-0"



SECTION A

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

SECTION A
5

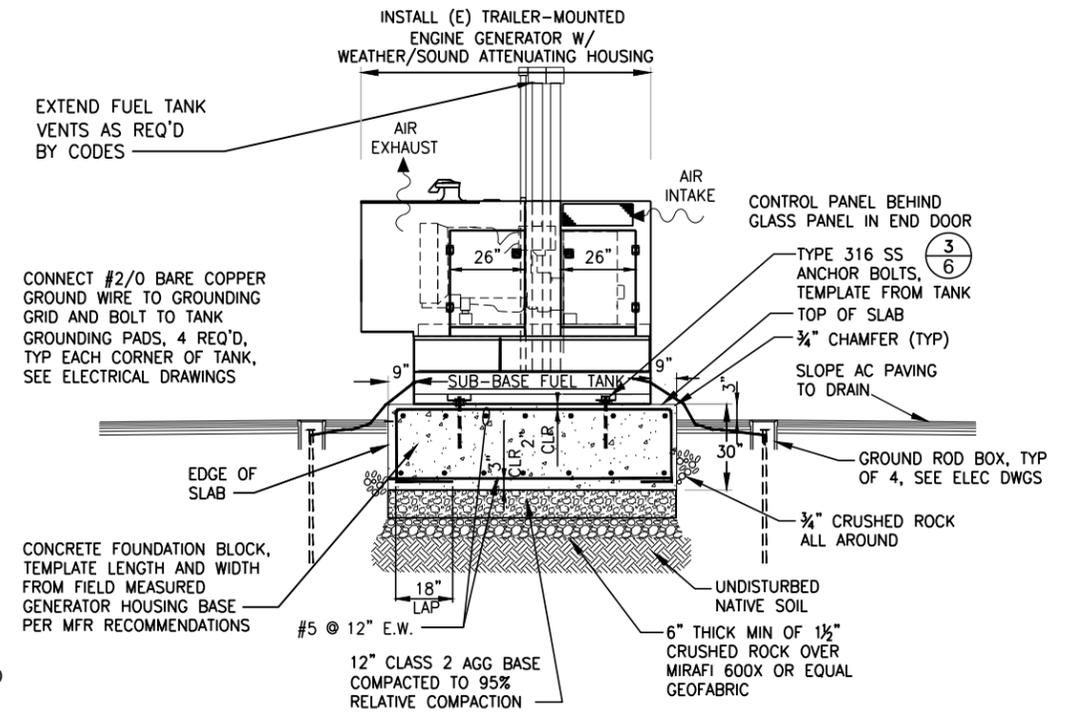


SECTION B

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

SECTION B
5

PLOT: EXTEND
SCALE: 1:1
BORDER:
22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

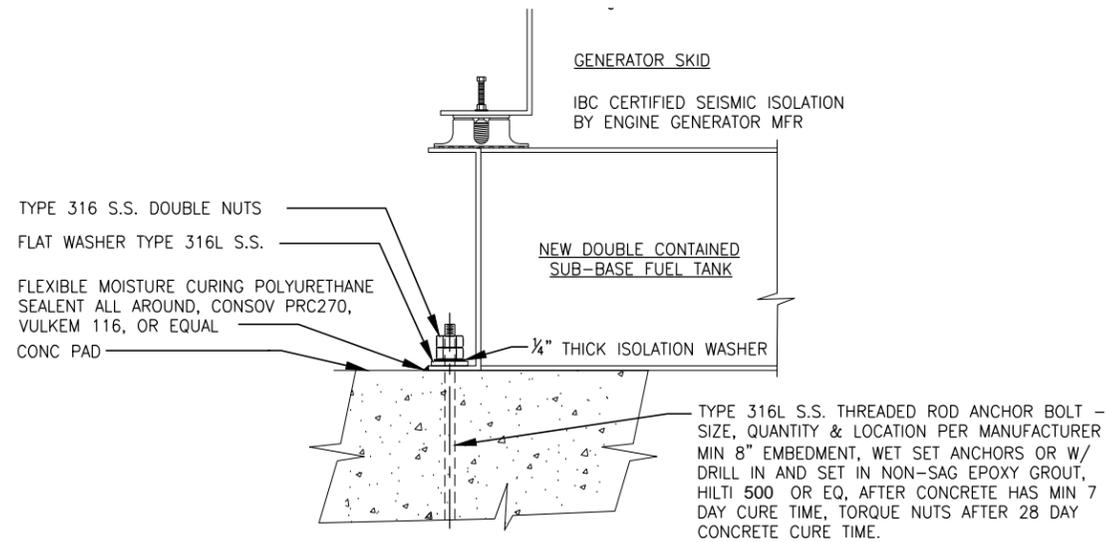


ENGINE GENERATOR INSTALLATION NOTES:

1. REMOVE (E) SINGLE WALL SUB-BASE FUEL TANK FROM THE GENERATOR, AND INSTALL NEW DOUBLE CONTAINED SUB-BASE FUEL TANK WITH SPILL CONTAINMENT, OVERFILL PROTECTION, LEAK DETECTION AND VENTING IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS AND TO MATCH CUMMINS ORIGINAL EQUIPMENT MANUFACTURER'S STANDARDS, (CUMMINS OR APPROVED EQUAL)
2. SEE EXHIBIT B FOR SPECIFICATIONS OF THE EXISTING GENERATOR.
3. CONTRACTOR SHALL VERIFY NEW TANK SPECIFICATIONS WITH THE MANUFACTURER FOR COMPATIBILITY PRIOR TO PLACING AN ORDER.

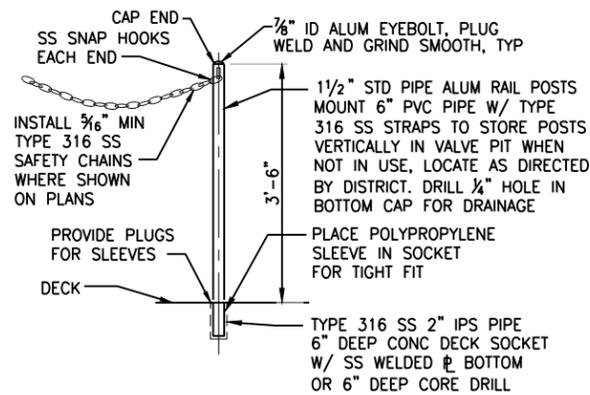
ENGINE GENERATOR AT RAFAEL MEADOWS PS 2/6

N.T.S.



ENGINE GENERATOR MOUNTING 3/6

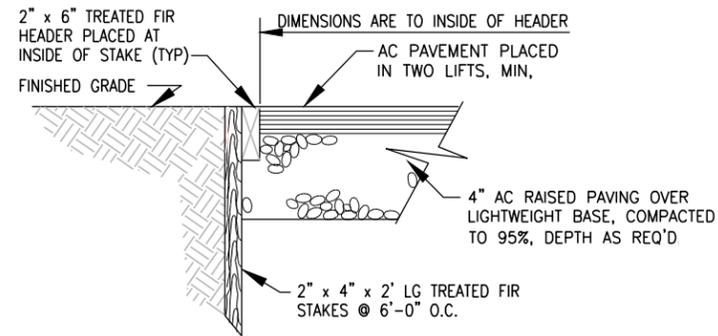
N.T.S.



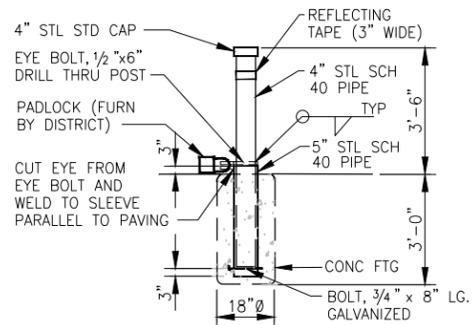
FALL PROTECTION POSTS 4/6

N.T.S.

PLOT: EXTEND
SCALE: 1:1
BORDER:
22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM



FIR HEADER 1
7
N.T.S.

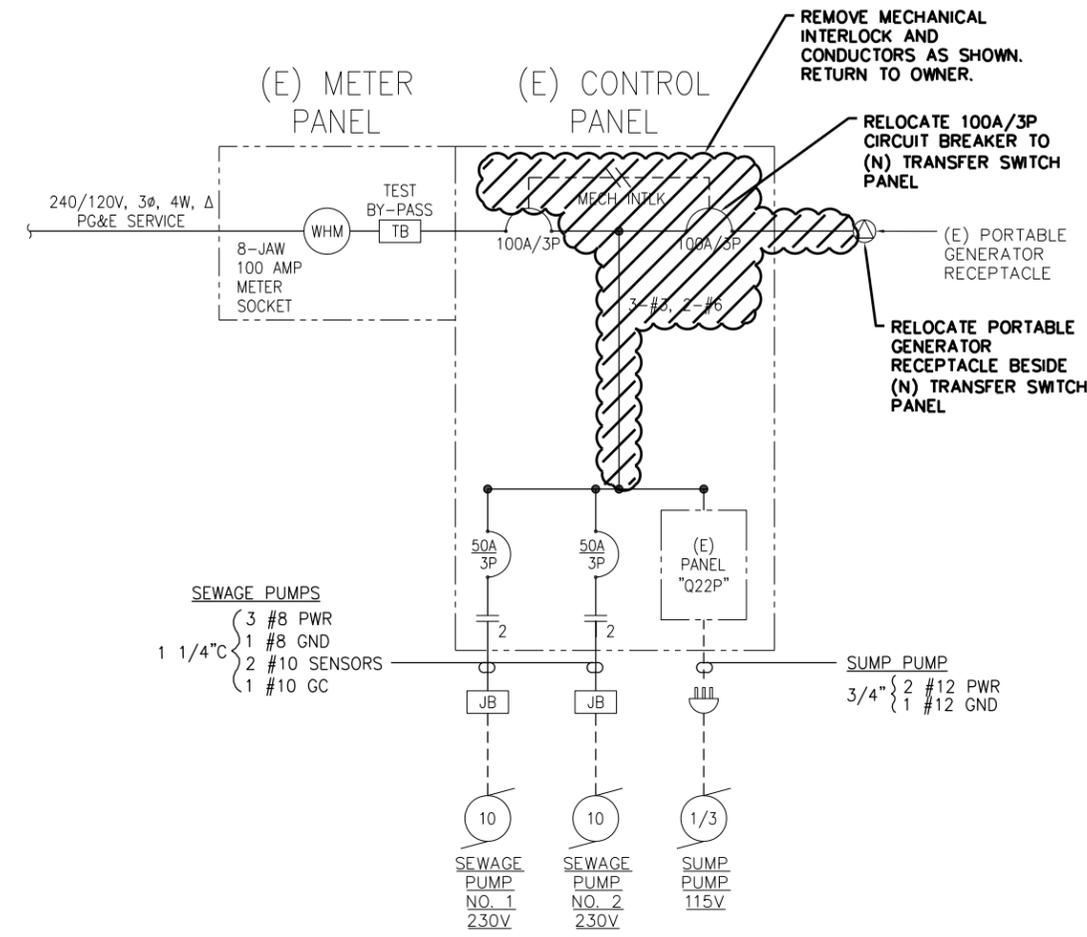


NOTE: ALL STEEL SHALL BE HOT DIP GALVANIZED.
FIELD PATCH GALVANIZING OVER WELDS

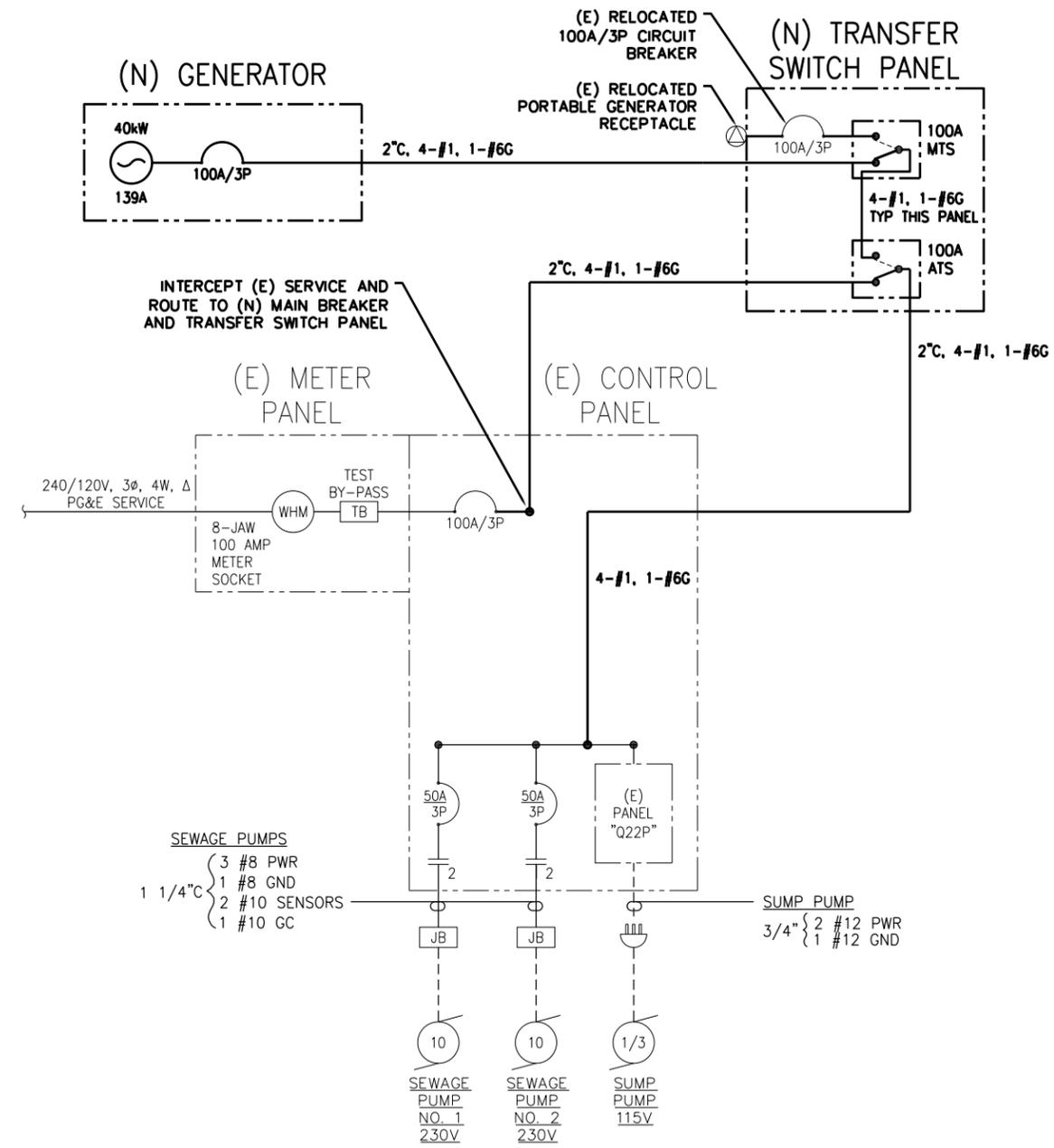
PIPE BOLLARD - REMOVABLE 6
7
N.T.S.

PLOT: EXTEND
SCALE: 1:1
BORDER:
22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

- NOTES:
1. NEW WORK SHOWN BOLDED. **EXAMPLE**
 2. CONTRACTOR TO DEMO EQUIPMENT DESIGNATED WITH HATCHING AND RETURN TO OWNER.
 3. AMPACITY OF ALL NEW POWER CABLES HAVE BEEN SIZED ACCORDING TO THE 2008 NEC USING 75°C WIRE, UNLESS NOTED OTHERWISE.



SINGLE LINE DIAGRAM (DEMO)



SINGLE LINE DIAGRAM (REVISED)

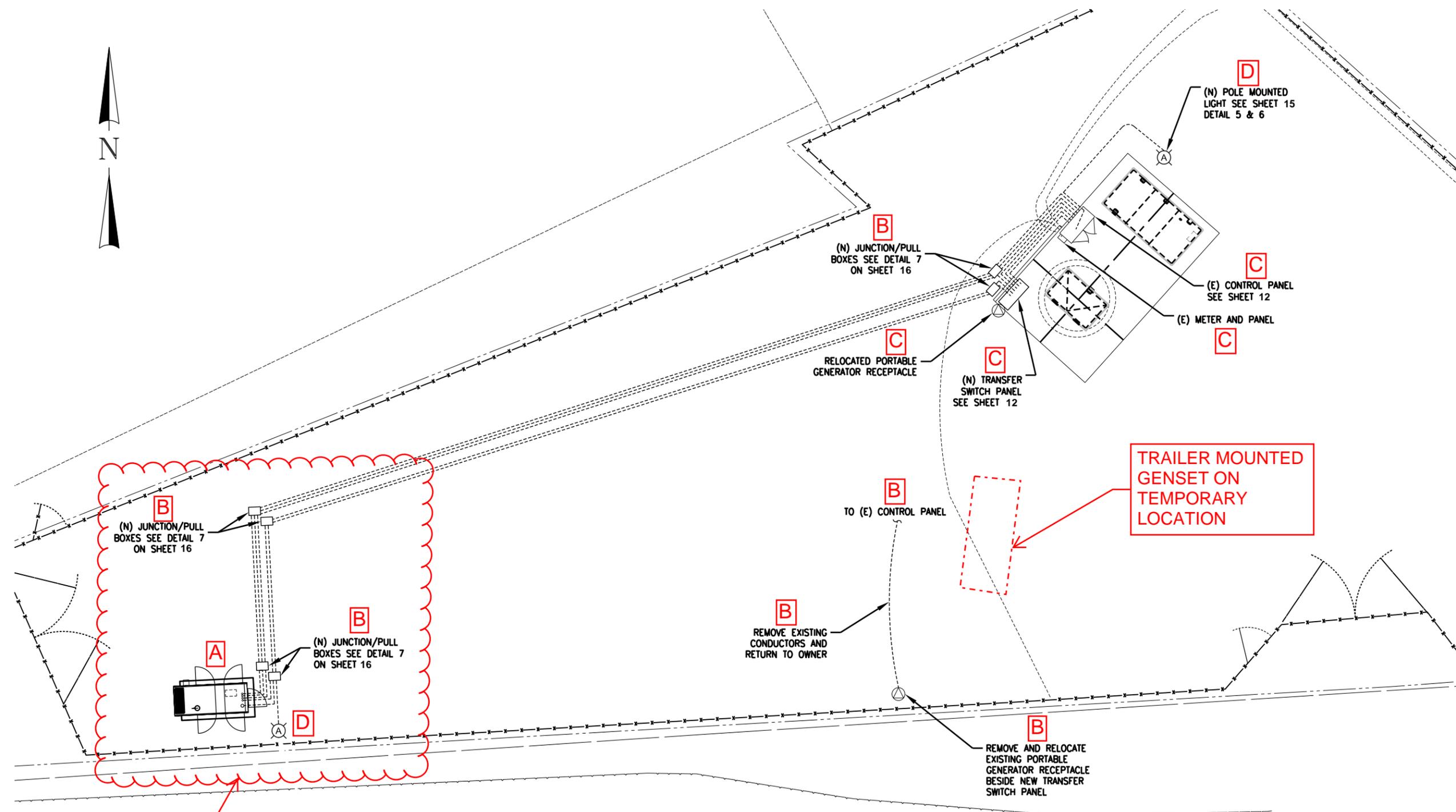
PANELBOARD "Q22P" - 240/120V, 1φ, 3W, 50A MAIN

| CKT NO | SERVING | BRKR. TRIP | | BRKR. TRIP | SERVING | CKT NO |
|--------|---------------------------|------------|--|------------|--|----------------|
| | MAIN | 70 | | | SPACE | |
| | | 1 | | | SPACE | |
| 1 | TRANSFER SWITCH PANEL HTR | 15/1 | | 15/1 | ALARMS & LEVEL CONTROLLER | 2 |
| 3 | PANEL LIGHTS | | | 20/1 | VALVE PIT LIGHT | 4 ** |
| 5 | PANEL HEATERS | | | 15/1 | VENT FAN | 6 |
| 7 | SUMP PUMP | | | 20/1 | STATOR HTR/CTL PNL HTR/BATTERY CHARGER | 8 * |
| 9 | PANEL RECEPTACLE | | | 20/1 | ENGINE BLOCK HTR | 10 * |
| 11 | SPACE | | | 15/1 | GENERATOR LIGHT | 12 [(E) SPARE] |

- * REPLACE (E) 15A/1P BREAKER W/(N) 20A/1P BREAKER
- ** ASSUMED ABANDONED - CONTRACTOR TO VERIFY AND DEMO CONDUCTORS

REVISED PANELBOARD SCHEDULE

PLOT: EXTEND
SCALE: 1:1
BORDER:
22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM



**PERMANENT
GENSET AND
CONCRETE PAD,
LOCATION PER
DISTRICT FIELD
REPRESENTATIVE**

NOTES:

1. THE FOLLOWING WORK ITEMS SHALL BE INCLUDED IN BASE BID:

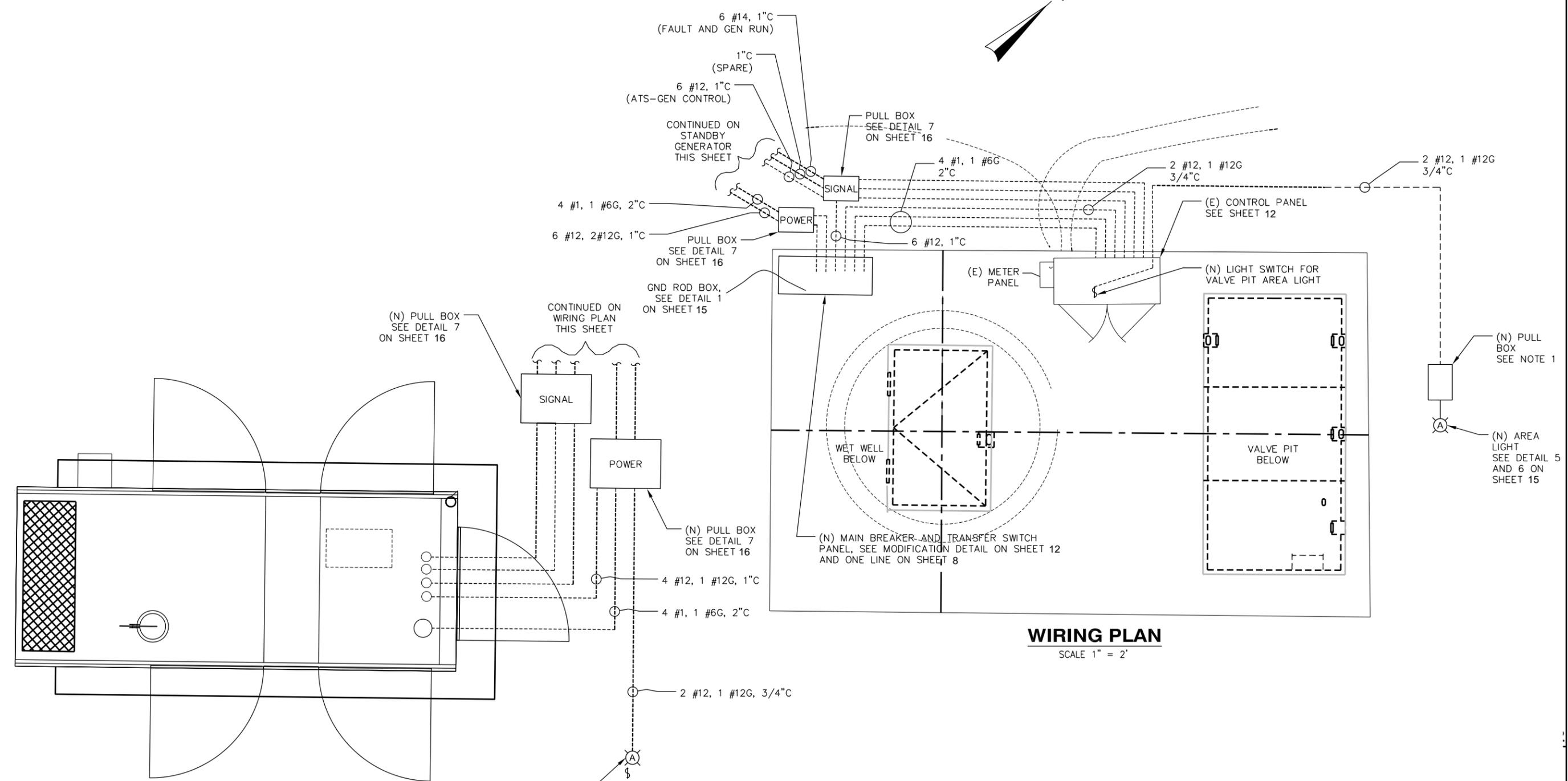
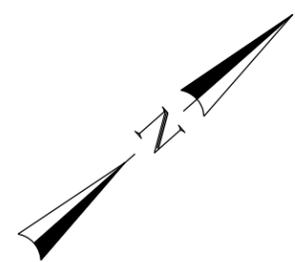
- A. RELOCATE OWNER-FURNISHED TRAILER-MOUNTED PORTABLE GENERATOR TO A PERMANENT LOCATION AS SHOWN.
- B. INSTALL JUNCTION/PULL BOXES TO MATCH WIRING PLAN ON SHEET 10.
- C. INSTALL OR KEEP AS NOTED.

2. THE FOLLOWING WORK ITEMS SHALL BE INCLUDED IN ALTERNATE BID ITEM 1:

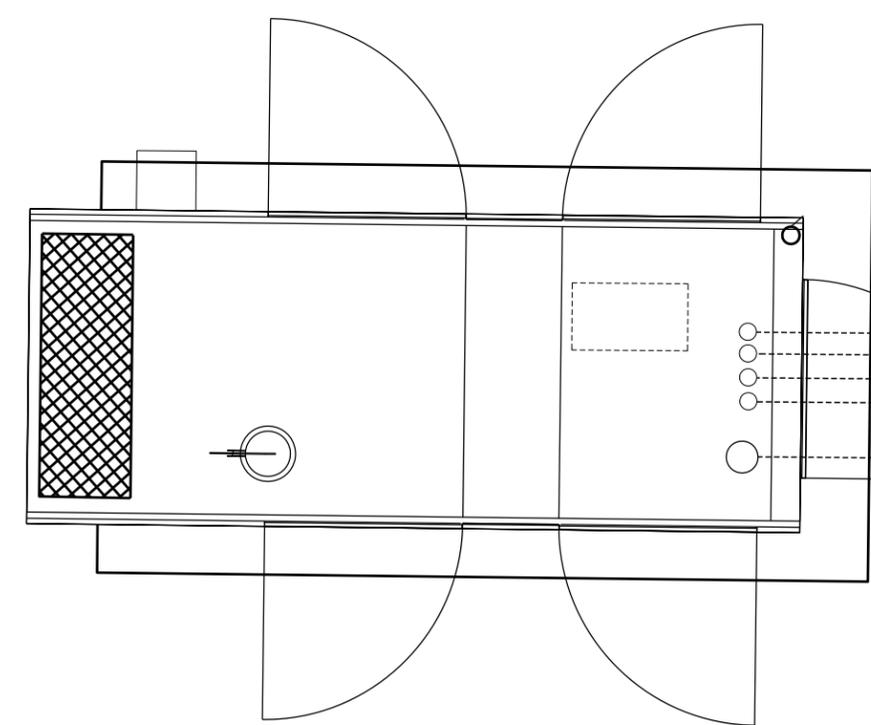
- D. INSTALL LIGHT POLES WITH LED LIGHTS.

PLOT: EXTEND
SCALE: 1:1
BORDER:
22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

- NOTES:
- PULL BOX SHALL BE CHRISTY CONCRETE PRODUCTS ELECTRICAL BOX N9, 10" X 17", WITH FIBRELYTE LID, BOLT DOWN, FL9T LABELED "SITE LIGHTING", PROVIDE EXTENSIONS AS REQ'D.
 - CONTRACTOR TO VERIFY STUB-UP LOCATIONS.



WIRING PLAN
SCALE 1" = 2'

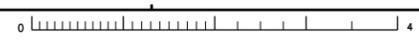


STANDBY GENERATOR
SCALE 1" = 1'

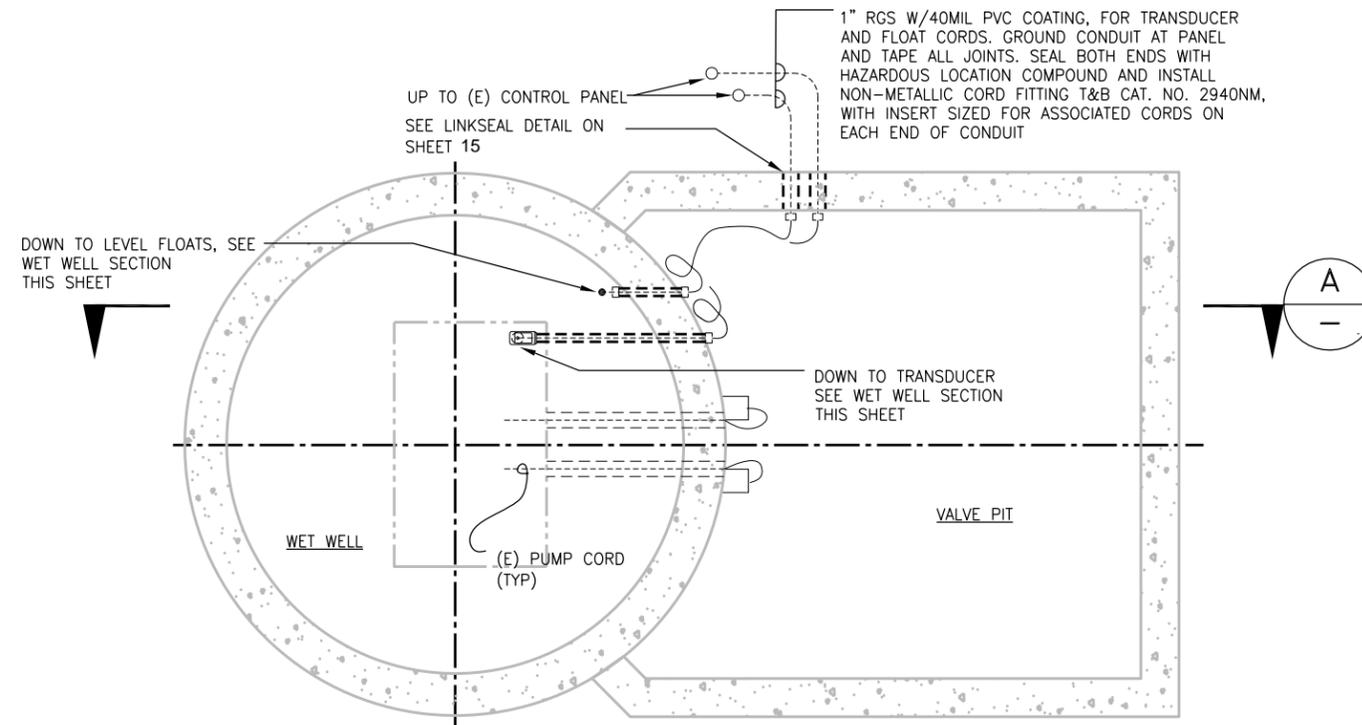
(N) AREA LIGHT AND SWITCH
SEE DETAIL 5 AND 6 ON SHEET 15

PLOT: EXTEND
SCALE: 1:1
BORDER: 22,34

| COLOR: | No. |
|---------|--------|
| RED | 0.70MM |
| YELLOW | 0.20MM |
| GREEN | 0.25MM |
| CYAN | 0.40MM |
| BLUE | 0.50MM |
| MAGENTA | 0.20MM |
| WHITE | 0.35MM |
| GRAY | 0.15MM |
| 9 | 0.15MM |
| 10 | 1.00MM |
| 100 | 0.70MM |
| 210 | 0.60MM |

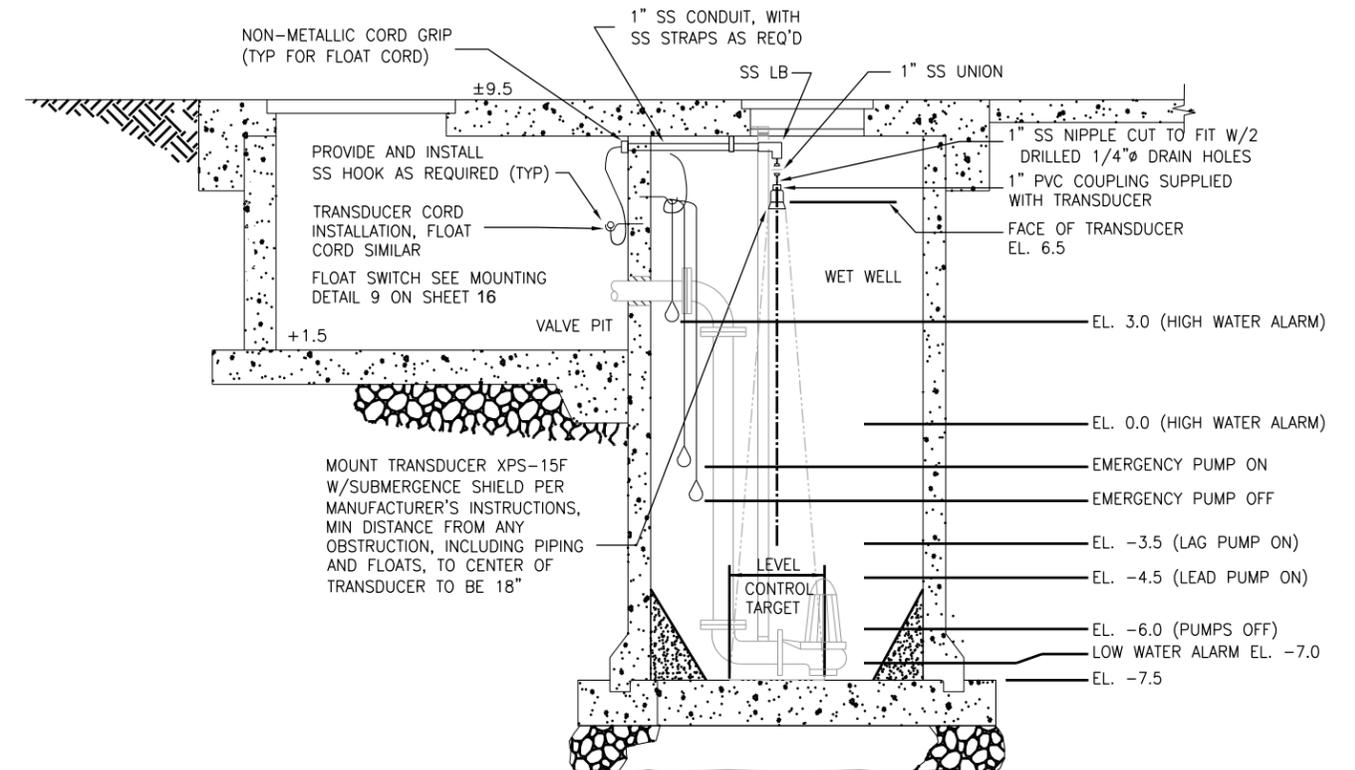


NOTES:
 1. CONTRACTOR RESPONSIBLE TO CORE NEW CONDUIT PENETRATIONS, INSTALL LINK SEAL, AND PLUG EXISTING PENETRATIONS AS REQUIRED.



CONTROL WIRING PLAN

NOT TO SCALE



WET WELL SECTION "A"

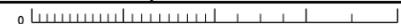
NOT TO SCALE

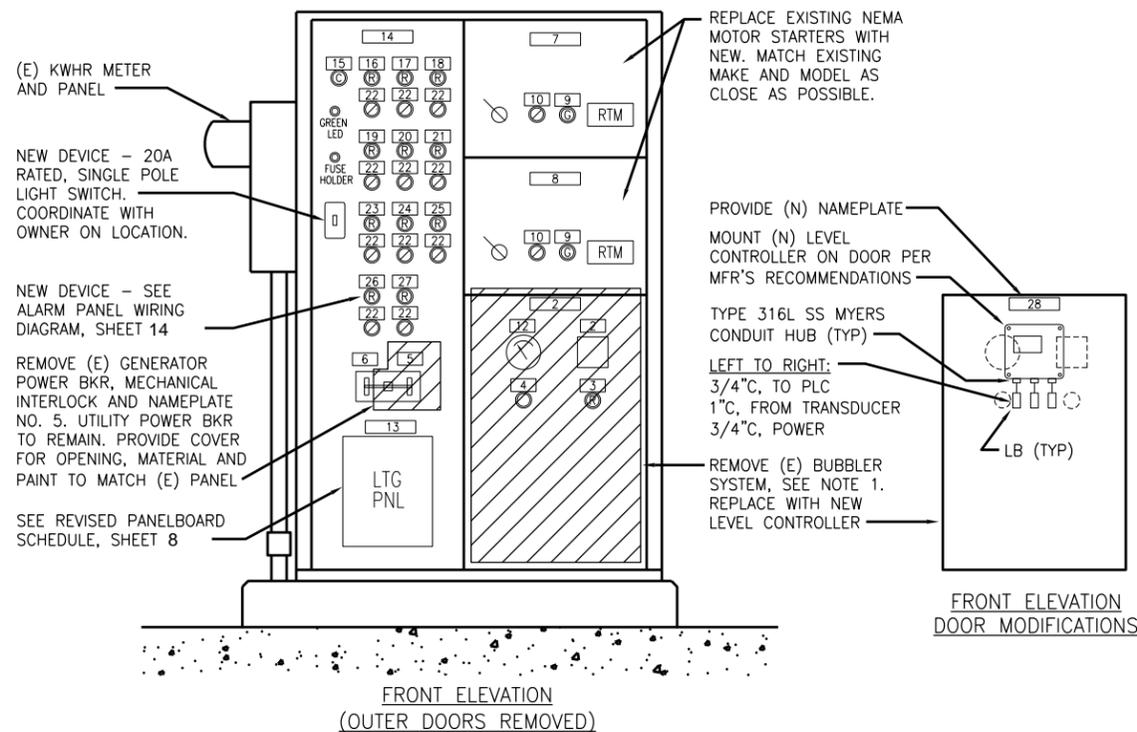
PLOTTED: 3/16/2016 4:54 PM
 SAVED: March 10, 2016

PLOT: EXTEND
 SCALE: 1:1
 BORDER:
 22,34
 COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

FILE:

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES





FRONT ELEVATION
(OUTER DOORS REMOVED)

CONTROL PANEL MODS

NOT TO SCALE

CONTROL PANEL NAMEPLATE SCHEDULE

| | |
|------------------------------|--------------------------------|
| 1. PUMP CONTROL PANEL | 13. PANELBOARD |
| 2. LEVEL CONTROLLER | 14. ALARM PANEL |
| 3. LAG COMPRESSOR - REQUIRED | 15. POWER AVAILABLE |
| 4. RESET | 16. PUMP #1 - FAILED |
| 5. GENERATOR POWER | 17. PUMP #2 - FAILED |
| 6. UTILITY POWER | 18. WET WELL - HIGH LEVEL |
| 7. SEWAGE PUMP #1 | 19. WET WELL - LOW LEVEL |
| 8. SEWAGE PUMP #2 | 20. WET WELL HIGH HIGH LEVEL |
| 9. RUN | 21. VALVE PIT - HIGH WATER |
| 10. HAND-OFF-AUTO | 22. ENABLE - DISABLE |
| 11. BUBBLER PNEUMATICS | 23. EMERGENCY HIGH LEVEL FLOAT |
| 12. WET WELL LEVEL | 24. STANDBY GEN LOW FUEL |
| | 25. STANDBY GEN FAILED |
| | 26. STANDBY GEN FUEL TANK LEAK |
| | 27. STANDBY GEN RUNNING |
| | 28. LEVEL CONTROLLER |

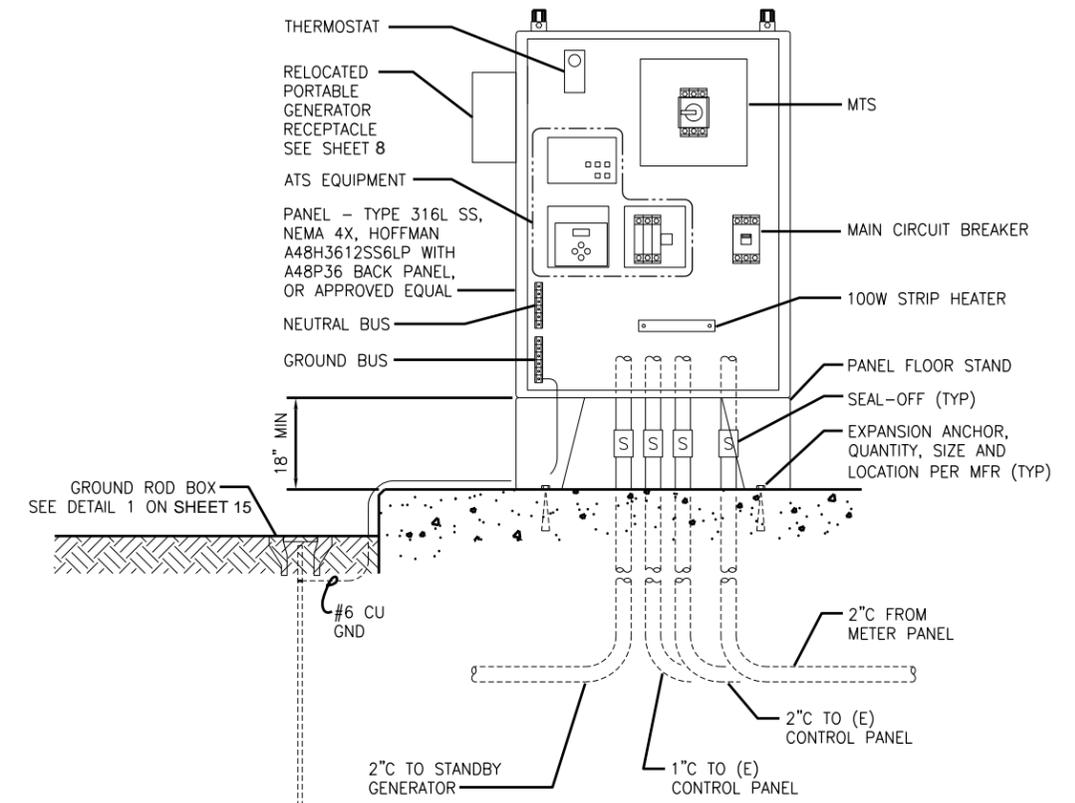
COORDINATE WITH DISTRICT FIELD REPRESENTATIVE.

REVISED NAMEPLATE SCHEDULE

NOT TO SCALE

NOTES:

1. REMOVE (E) BUBBLER SYSTEM, INCLUDING ALL EQUIPMENT, PIPING, TUBING, AND ELECTRICAL LEVEL CONTROL COMPONENTS. PROVIDE COVERS FOR OPENINGS IN CONTROL PANEL, MATERIAL AND PAINT TO MATCH EXISTING. INSTALL NEW LEVEL CONTROLLER IN VACATED SPACE. PLUG ALL UNUSED CONDUITS.
2. AUTOMATIC TRANSFER SWITCH SHALL BE AN ASCO UNIT, 100A, 240V 60HZ OR APPROVED EQUAL. THE TRANSFER SWITCH SHALL BE EQUIPPED WITH A MICROPROCESSOR CONTROL PANEL SIMILAR TO ASCO 7000 SERIES WITH ENGINE EXERCISER CAPABILITY AND IN-PHASE MONITOR TO PREVENT TRIPPING WHEN TRANSFERRING MOTOR LOADS. PROVIDE 2 N.O. AND 2 N.C. CONTACTS FOR USE IN REMOTE INDICATION.
3. MANUAL TRANSFER SWITCH - SEE SPECIFICATION.



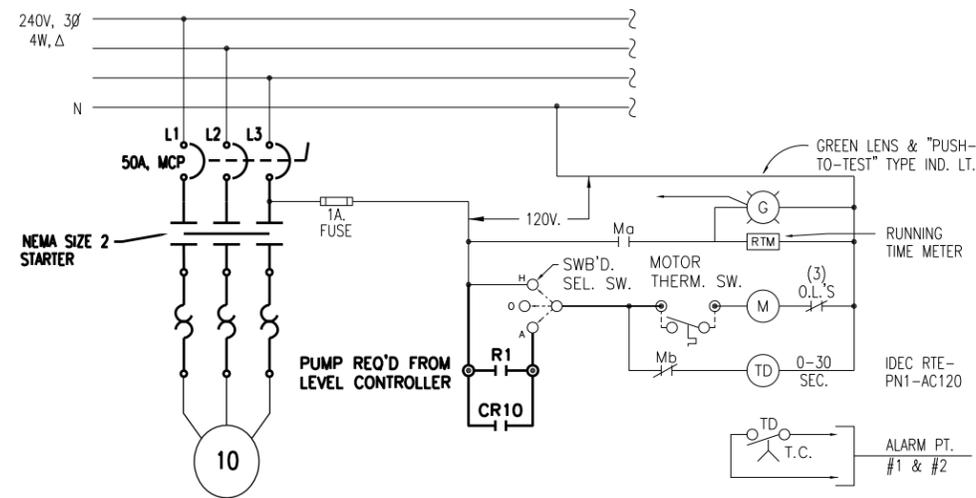
NEW TRANSFER SWITCH PANEL

NOT TO SCALE

PLOT: EXTEND
SCALE: 1:1
BORDER:
22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

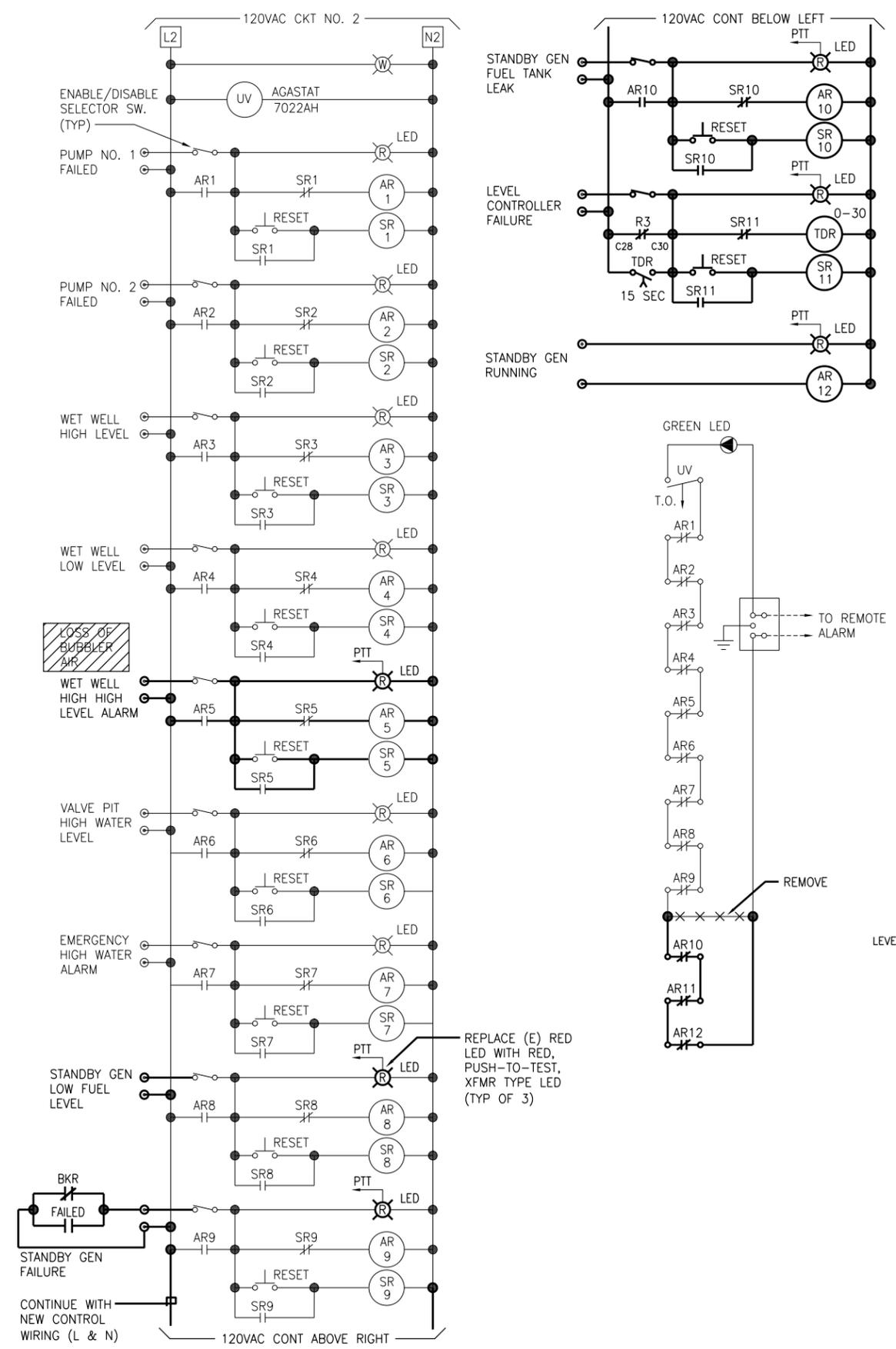
PLOT: EXTEND
 SCALE: 1:1
 BORDER:
 22,34

| COLOR: | No. |
|---------|--------|
| RED | 0.70MM |
| YELLOW | 0.20MM |
| GREEN | 0.25MM |
| CYAN | 0.40MM |
| BLUE | 0.50MM |
| MAGENTA | 0.20MM |
| WHITE | 0.35MM |
| GRAY | 0.15MM |
| 9 | 0.15MM |
| 10 | 1.00MM |
| 100 | 0.70MM |
| 210 | 0.60MM |

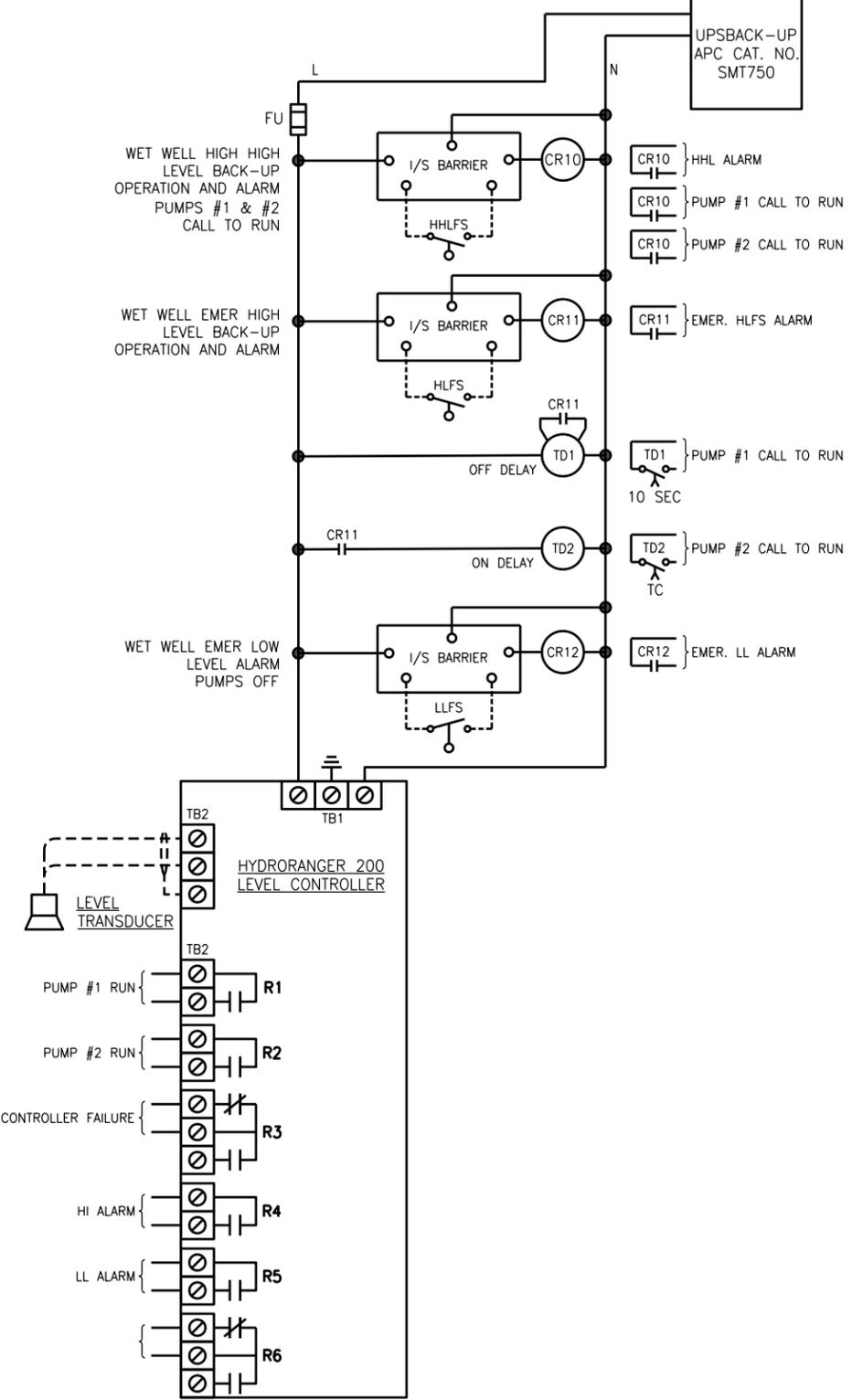


**REVISED SEWAGE PUMPS NOS. 1 & 2
 ELEMENTARY WIRING DIAGRAM**

PLOT: EXTEND
 SCALE: 1:1
 BORDER:
 22,34
 COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

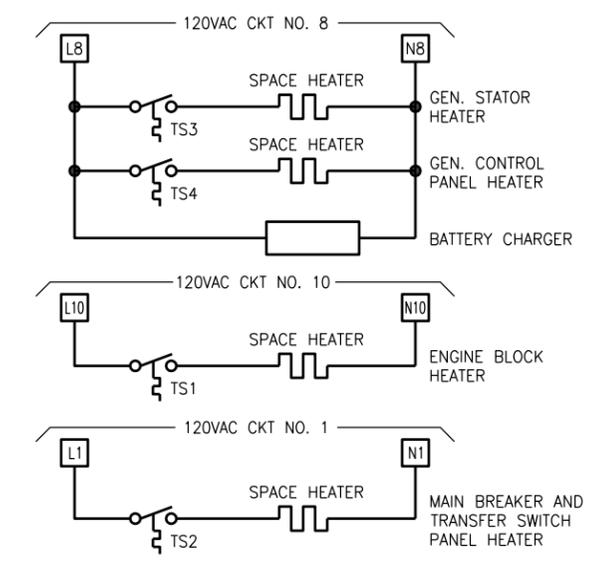


ALARM PANEL WIRING DIAGRAM



ULTRASONIC LEVEL TRANSMITTER

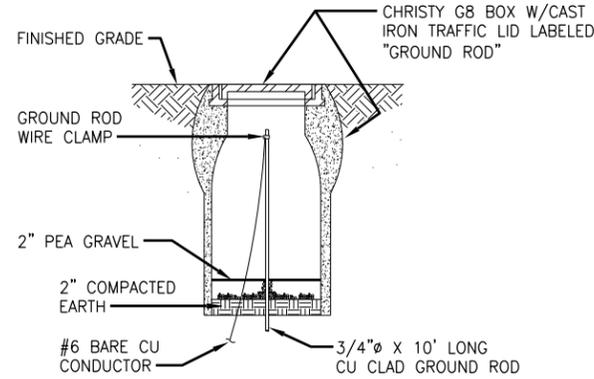
- NOTES:**
1. THE WIRING CONNECTION DETAILS SHOWN ON THE CONTROL SCHEMATICS ARE FOR GENERAL ILLUSTRATION OF OPERATION AND GENERAL GUIDANCE FOR THE CONTRACTOR. SPECIFIC INTERCONNECTION DETAILS ARE THE RESPONSIBILITY OF THE CONTRACTOR, PANEL VENDOR AND VARIOUS EQUIPMENT SUPPLIERS.
 2. INTRINSICALLY SAFE RELAY (I/S BARRIER) SHALL BE GEMS SAFEPAC NO. 144600 OR APPROVED EQUAL.
 3. RELAYS SHALL BE IDEC #RRXP-UL SERIES WITH IDEC #SRXP-05C SOCKETS OR APPROVED EQUAL.
 4. LEVEL CONTROLLER SHALL BE MILLTRONICS HYDRORANGER PLUS, 120VAC. LEVEL TRANSDUCER SHALL BE MILLTRONICS XPS-15F WITH SUBMERGENCE SHIELD.
 5. TDR, TIME DELAY RELAY, SHALL BE IDEC #RTE-P1AF20, 120 VAC.



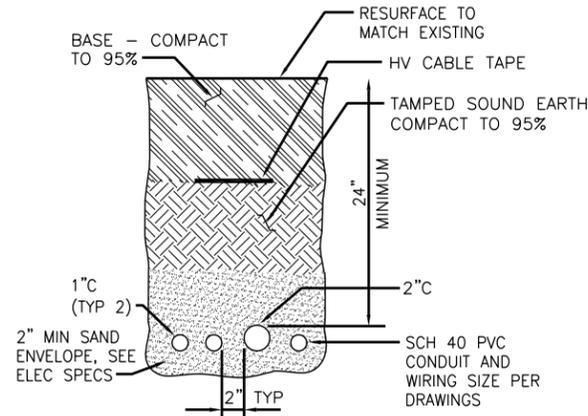
CONTROL PANEL CIRCUITS

NOTES:

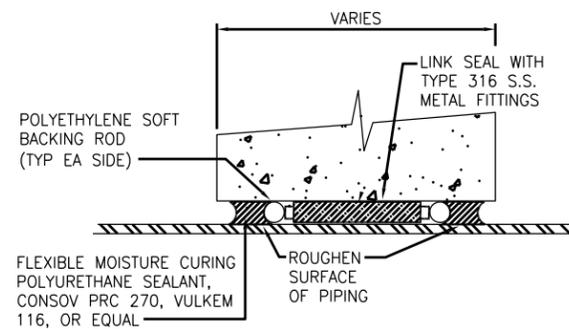
1. LIGHTING FIXTURE: LITHONIA DSXF LED 6 P2 50K FL MVOLT IS DNAXDLED, POST TOP MOUNTED, UNIVERSAL VOLTAGE, 183W, ALUMINUM HOUSING, IN-LINE FUSING, NATURAL ALUMINUM POWDER COAT PAINT. TENON MOUNTING.
2. POLE: LITHONIA SSS20 4C T20DNA POLE, 4" SQUARE, STRAIGHT, ALUMINUM, WITH MAINTENANCE HOLE AND COVER, 20-FOOT HIGH.



1 GROUND ROD BOX DETAIL
SCALE: NONE



2 TRENCH DETAIL
SCALE: NONE

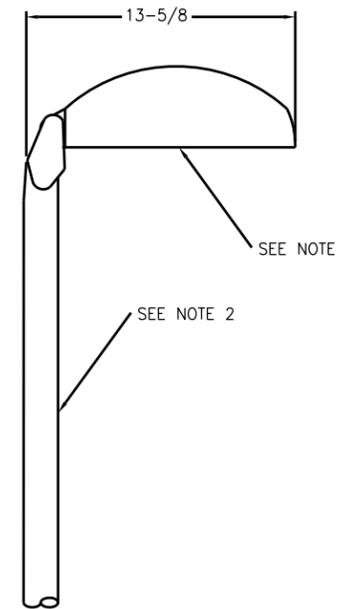


3 LINK SEAL THRU WALL
SCALE: NONE

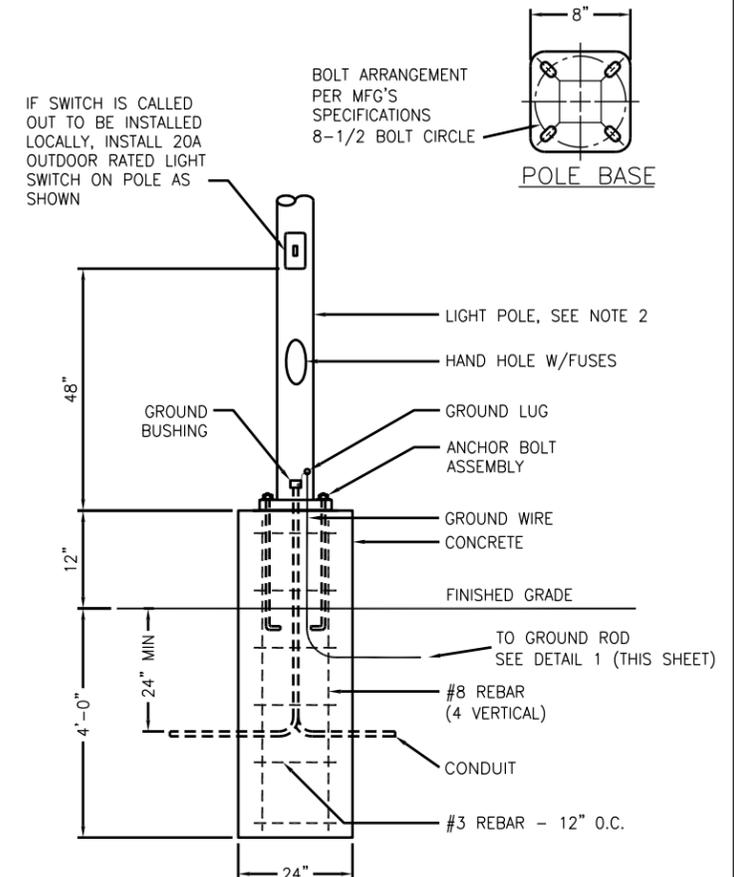
| PUMP PROGRAM* | | |
|-----------------------------------|--------------|---------------|
| | RISING LEVEL | FALLING LEVEL |
| LEAD PUMP ON | -4.5 | |
| OFF | | -6.0 |
| LAG PUMP ON | -3.5 | |
| OFF | | -6.0 |
| LOW WATER LEVEL ALARM | | -7.0 |
| HIGH WATER LEVEL ALARM | +1.0 | |
| EMER. HIGH HIGH WATER LEVEL ALARM | +3.0 | |

*NOTE: FIELD VERIFY ALL LEVELS WITH DISTRICT STAFF

4 REVISED SAN RAFAEL MEADOWS PUMP PROGRAM
SCALE: NONE



5 LIGHT FIXTURE-AREA FLOOD
SCALE: NONE

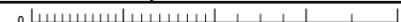


6 POLE BASE MOUNTING DETAIL
SCALE: NONE

PLOT: EXTEND
SCALE: 1:1
BORDER:
22,34
COLOR: No.
RED 0.70MM
YELLOW 0.20MM
GREEN 0.25MM
CYAN 0.40MM
BLUE 0.50MM
MAGENTA 0.20MM
WHITE 0.35MM
GRAY 0.15MM
9 0.15MM
10 1.00MM
100 0.70MM
210 0.60MM

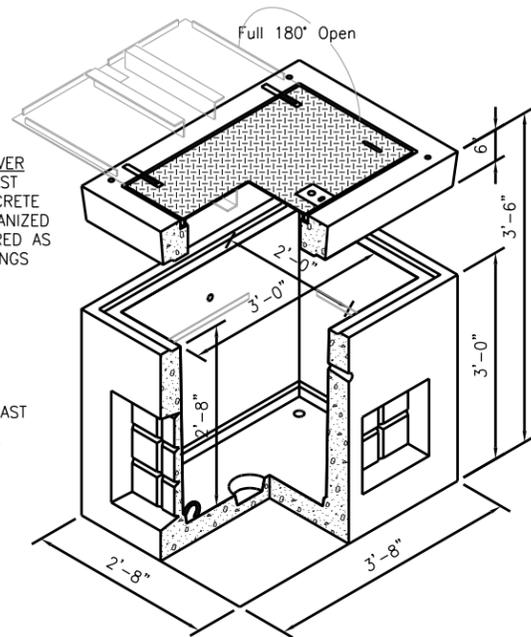
FILE:

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

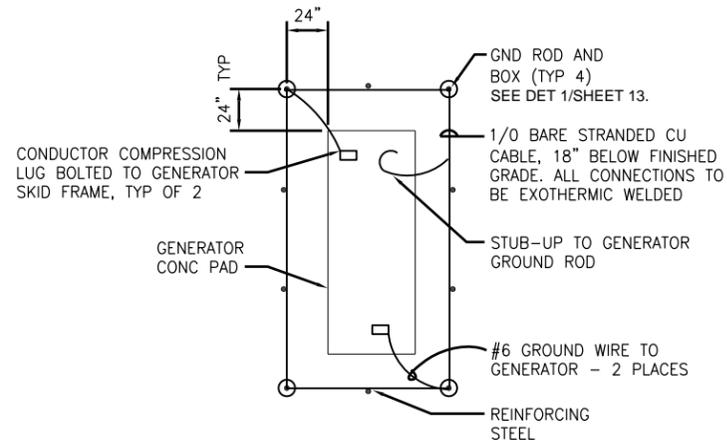


NO.23-2436P COVER
 OLDCASTLE PRECAST
 REINFORCED CONCRETE
 FRAME WITH GALVANIZED
 STEEL COVER MARED AS
 SHOWN ON DRAWINGS
 350 lbs.

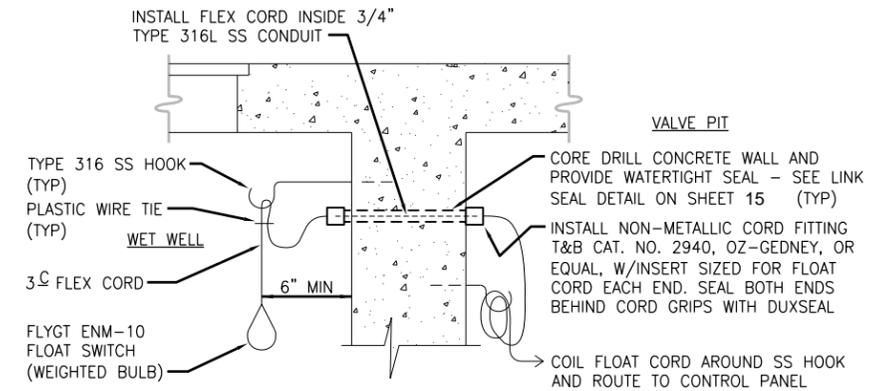
NO.233-BL
 OLDCASTLE PRECAST
 REINFORCED
 CONCRETE VAULT
 1,750 lbs.



**7 TYPICAL ELECTRICAL VAULT
 DETAIL (TYPE 233-LA)**
 SCALE: NO SCALE



8 GENERATOR GROUNDING DETAIL
 SCALE: NONE



9 FLOAT SWITCH MOUNTING
 SCALE: NONE

PLOT: EXTEND
 SCALE: 1:1
 BORDER:
 22,34
 COLOR: No.
 RED 0.70MM
 YELLOW 0.20MM
 GREEN 0.25MM
 CYAN 0.40MM
 BLUE 0.50MM
 MAGENTA 0.20MM
 WHITE 0.35MM
 GRAY 0.15MM
 9 0.15MM
 10 1.00MM
 100 0.70MM
 210 0.60MM

FILE:

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

