

**CASITAS MUNICIPAL  
WATER DISTRICT**

**VENTURA AVENUE NO.1 PUMP PLANT  
ELECTRICAL UPGRADE  
SPECIFICATION NO. 16-383**

*Bids will be received at the office of the  
Casitas Municipal Water District,  
1055 Ventura Avenue, Oak View, California 93022  
until **Thursday, September 8, 2016 @ 3:00 p.m.***

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# CASITAS MUNICIPAL WATER DISTRICT

## NOTICE INVITING BIDS

### VENTURA AVENUE NO. 1 PUMP PLANT ELECTRICAL UPGRADE SPECIFICATION NO. 16-383

Sealed bids for the above referenced project and specification will be received by the Casitas Municipal Water District up to **3:00 p.m. on Thursday, September 8, 2016**, at the office of the District, 1055 Ventura Avenue, Oak View, California, 93022, at which time they will be opened and publicly read aloud. Each bid shall be made out on a form to be obtained from the Casitas Municipal Water District. Each bid must be accompanied by a certified check, a cashier's check, or by a bid bond executed by a corporate surety satisfactory to the Casitas Municipal Water District, in the sum of not less than ten (10) percent of the total amount of the bid, as a guarantee that the bidder will enter into the proposed contract, if it be awarded to them. The guarantee will be forfeited, should the bidder to whom the contract is awarded fail to enter into the contract.

The bidder to whom the contract is awarded may be required to furnish a sworn statement of their financial responsibility, technical ability, and experience.

**In accordance with the provisions of Section 1770 of the California Labor Code, the Casitas Municipal Water District has ascertained the general prevailing rate of wages applicable to the work to be done.** It shall be mandatory upon the Contractor to whom the contract is awarded, and upon the subcontractor under him, to pay not less than the specified rates to all laborers and mechanics employed by him in the execution of the contract. The wage scale can be obtained on the internet at [www.dir.ca.gov/dlsr/statistics\\_research.html](http://www.dir.ca.gov/dlsr/statistics_research.html).

**All bidders and their subcontractors shall be registered with the California Department of Industrial Relations (DIR). Failure of the bidder or subcontractors to be registered with the DIR shall render their bid as non-responsive and will be rejected except where State code provides for exceptions to the registration requirements. All contractors and their subcontractors shall furnish electronic certified payroll records directly to the Labor Commissioner, also known as Division of Labor Standards Enforcement.**

The District reserves the right to waive any formalities which, in the opinion of the Board of Directors, do not materially affect the relationship of the various proposals. The District reserves the right to retain all bids for a period of thirty (30) days and to reject any and all bids for any reason at the sole discretion of the District, with or without cause.

The contract documents shall consist of this Notice Inviting Bids, the Instructions to Bidders, Formal Proposal with Bidding Sheet and Bidder's Plan for Construction, Form of Agreement, Specifications and Drawings, and any changes made by issuance of a supplemental notice.

**No formal pre-bid conference is scheduled for this project.** Bidders may contact Lindsay Cao, P.E. at (805) 649-2251 ext. 144 to schedule a time to visit the site. Complete bid package (plans and specifications) may be examined and **downloaded free of charge** from our website at:

<http://www.casitaswater.org/lower.php?url=bidding-jobs>. Copies may be ordered from Casitas for seventy-five (\$75) dollars, or mailed to you for one hundred (\$100) dollars. Please allow 3 working days to print a complete bid package plus mailing time. No refunds will be made.

## **INSTRUCTIONS TO BIDDERS**

Proposal. The proposal shall be submitted on the separate bid forms accompanying these specifications, designated "Proposal" and made a part of these specifications. The proposal shall be enclosed in a sealed envelope marked "Bid" addressed to Casitas Municipal Water District, 1055 Ventura Avenue, Oak View, California, 93022, and shall be endorsed with the name of the project as set forth in the Notice Inviting Bids.

The sealed proposals will be publicly opened and read at the time and place stated in the Notice Inviting Bids. Bidders, or their authorized agents, are invited to be present.

The proposal shall give the price, both in words and in figures, for which the bidder proposes to do the work required by the Specifications and the accompanying Drawings. In the event of disagreement between words and figures, the words will govern and the figures will be disregarded. In the event that the unit price and the total amount named by any bidder for any item are not in agreement, the unit price shall govern and the totals shall be corrected to conform thereto. The bidder shall fill out all blanks of the proposal forms as therein required.

Unauthorized conditions, limitations, or provisions attached to a proposal will render it informal, and may cause its rejection. The completed proposal forms shall be without interlineations, alterations, or erasures. Alternate proposals will not be considered unless asked for. No oral or telephonic proposals or modifications will be considered.

The District reserves the right to waive any informalities which, in the opinion of the Board of Directors, do not materially affect the relationship of the various proposals. The District reserves the right to reject any and all bids for any reason at the sole discretion of the District, with or without cause.

The proposal may be withdrawn upon request by the bidder without prejudice to themselves prior to, but not after, the time fixed for opening of bids, provided that the request is in writing, has been executed by the bidder or their duly authorized representative, and is filed with Casitas Municipal Water District.

Proposal Signature. If the proposal is made by an individual, it shall be signed and proposer's full name and address shall be given; if it is made by a partnership, it shall be signed with the partnership name by a member of the firm, who shall sign their own name, and the name and address of each member shall be given; and if it is made by a corporation, the name of the corporation shall be signed by its duly authorized officer or officers, attested by the corporate seal, and the names and titles of all officers of the corporation shall be given.

Competency of Bidders. In selecting the bidder for award of the contract, consideration will be given not only to the total amount of the bid, but also to the general competency of the bidder for the performance of the work covered by the proposal. To this end, the District will require bidders to submit a statement of their technical ability, safety record and experience. The District reserves the right to require a statement of the lowest bidder's current financial condition prior to acceptance of the proposal. If requested, such statement shall be prepared on Bidder's Questionnaire forms furnished by the District, shown on pages A-25 through A-31.



Bidders' Plan for Construction. As part of the proposal, bidders must furnish a detailed statement of the plan or layout for performing the work. As preparation for the foregoing, each Bidder shall examine carefully the site of the proposed work and the contract documents therefore. It will be assumed that the bidder has investigated, and is satisfied as to, the conditions to be encountered; the characters, quality, and quantities of work to be performed; the quality and quantities of the materials to be furnished, and the requirements of the contract, specifications, and drawings.

Subcontracts. Subcontracts will be permitted, subject to the following provisions. No subcontract will be permitted which has the effect of avoiding the residence or wage requirements, or any other provision of the main contract. Individual subcontractors, or members of the contracting or subcontracting organizations personally engaged upon the work, shall be subject to all the requirements of these specifications applicable to employees working for wages, including but not limited to wages, hours of work, character of workmen and certified payrolls.

Reference is hereby made to the provisions of Chapter 2 of Division 5 of Title 1 of the Government Code of the State of California, commencing with Section 4100, also known as the "Subletting and Subcontracting Fair Practices Act", which is incorporated herein and made a part hereof by reference, and the Contractor is bound thereby and shall be made subject to the consequences named in sections 4110 and 4111 of said Act, in the event of his violation thereof. Each bidder shall, in their bid or offer, 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 in or about the construction of the work or improvement, in an amount in excess of one-half of one percent of the Contractor's total bid, or a subcontractor licensed by the State of California who, under subcontract to the prime Contractor, specifically fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of one percent of the Prime Contractor's total bid; and (2) the portion of the work which will be done by each such subcontractor under said Act. The Contractor shall list only one subcontract for each such portion as defined by the Contractor in their bid. If the Contractor fails to specify a subcontractor, or if the Contractor specifies more than one subcontractor for the same portion of the work to be performed under this contract in excess of one-half of one percent of the Contractor's total bid, the Contractor agrees that they are fully qualified to perform that portion, and that they shall perform that portion themselves.

Subcontractors. Bidders must furnish as a part of the proposal, a complete listing of names, addresses and contractor license number of all subcontractors who will perform work in an amount in excess of one-half (1/2) of one percent (1%) of the total bid price, and a statement of the work which will be done by each subcontractor. The required statement shall be on the form of Bidder's Statement of Subcontractors, accompanying these specifications.

Prevailing Rate at Per Diem Wages. In accordance with the provisions of Section 1770 of the California Labor Code, the District has ascertained the general prevailing rates of wages applicable to the work to be done. It shall be mandatory upon the Contractor to whom the contract is awarded, and upon any subcontractor under contractor, to pay not less than the specified rates to all laborers, surveyors and mechanics employed by Contractor in the execution of the contract. The wage scale is now on file at the office of the District and on the internet at [www.dir.ca.gov/dlsr/statistics\\_research.html](http://www.dir.ca.gov/dlsr/statistics_research.html). **Final payment for services provided shall not be distributed until receipt of proof of prevailing wage payments.**

**The contractor and all subcontractors shall be subject to Executive Order 12549, “Debarment and Suspension” and Department of Commerce regulations published at 15 CFR Part 26, Subparts A through E, “Governmentwide Debarment and Suspension (Nonprocurement)” for a drugfree work place.**

Disqualification of Bidders. More than one proposal from an individual, partnership, corporation, or association under the same or different names will not be considered. Reasonable grounds for believing that any bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which said Bidder is interested. If there is reason for believing that collusion exists among Bidders, all bids will be rejected, and none of the participants in such collusion will be considered in future proposals.

Return of Proposal Guarantee. Proposal guarantees will be held until the contract has been executed. They will be returned to the respective Bidders whose proposals they accompany upon request.

Insurance and Bonds. The Bidder to whom award is made shall promptly secure Workmen's Compensation Insurance, in accordance with the provisions of the California Labor Code and all amendments thereto, and also shall furnish to the District certificate of insurance showing that they have taken out the insurance of the kinds and in the amounts required under the specifications. The successful Bidder shall also promptly secure, with a reasonable corporate surety or corporate sureties, satisfactory bonds conditioned upon faithful performance by the said Bidder of all requirements under the Contract and upon the payment of claims of materialmen and laborers there under. Refer to Summary of Insurance, Bond and Payment Requirements for Various Construction Contracts attached.

Permits. The Contractor, at their sole expense, shall be required to obtain all other permits and/or licenses as required.

Licensing of Contractors. All Contractors submitting bids shall be licensed in accordance with the provisions of Chapter 9, Division 3, of the Business and Professions Code of the State of California. Effective January 1, 1990, Contractors submitting bids must state, under penalty of perjury, the Contractor's license number and expiration date. Any bid not containing this information shall be considered non-responsive and shall be rejected by Casitas (Business & Professions Code 7028.15). The license required for this project is a C-10, Electrical Contractor.

**In addition to the licensing requirements above,** Contractor shall meet one of the following requirements:

- Contractor shall have successfully completed installation of high voltage switchgears for at least 2 similar projects in the past 10 years. Contractor shall submit sufficient references with current contact information so that the quality and quantity of the work can be determined. Contractor shall list the voltage of switchgears on each referenced project; or
- Contractor shall have successfully completed electrical installation work for Casitas Municipal Water District within the last ten (10) years. “Successful” shall mean the work was completed within a reasonable amount of time with minimum contractor originated change orders to the satisfaction of Casitas Municipal Water District. The work may have been completed as either a general contractor or as a subcontractor.

Failure of the bidder to meet either of the criteria above shall deem the bid proposal non-responsive and the bid proposal will be rejected.

Supplemental Notices. Full consideration shall be given to all Supplemental Notices in the preparation of Bids, as Supplemental Notices form a part of the Contract Documents. Bidders shall verify the number of Supplemental Notices in the bid. Failure to so acknowledge may cause the Bid to be rejected.

Pre-bid Information Requests. All requests for information and questions regarding this bid proposal, the specifications, permits or the plans shall be submitted to the District. The request can be emailed to the District at lcao@casitaswater.com. The District will make a reasonable attempt to respond to the request prior to the bid opening. It is unlikely that any request for information received after **4:30 p.m. on Friday, September 2, 2016** will be responded to by the bid opening.

Award of Contract. The award of the contract by the Board of Directors of the Casitas Municipal Water District, if it is awarded, will be to the lowest responsible bidder or bidders whose proposal complies with all requirements presented herein. Casitas maintains the right to reject any and all bids for any reason and to waive minor irregularities.

Execution of Contract. The Bidder to whom award is made shall execute a written contract with the Casitas Municipal Water District in the form of agreement provided, and shall furnish certificate of Workmen's Compensation Insurance and good and approved bonds as required in the preceding paragraphs, within seven (7) days from the date of the mailing of a notice from the Casitas Municipal Water District to the Bidder, to the address given by them, of the acceptance of their proposal. At this time Contractor shall also provide District with a completed IRS W-9 form (Request of Taxpayer Identification Number and Certification.)

Failure or refusal to enter into a contract as herein provided, or to conform to any of the stipulated requirements in connection therewith, shall be just cause for the annulment of the award and the forfeiture of the proposal guarantee. If the successful Bidder refuses or fails to execute the contract, the Casitas Municipal Water District may award the contract to the second lowest responsible Bidder.

Notice to Proceed shall be issued by the District within fifteen (15) days of the receipt of the bonds, insurance and agreements documents satisfactory to the District and the execution of the Agreement by the District. Should there be reasons why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the District and the Bidder. If the Notice to Proceed has not been issued within the period stated herein, the Bidder may terminate the Agreement without further liability on the part of either party.

## **PROPOSAL**

### **VENTURA AVENUE NO. 1 PUMP PLANT ELECTRICAL UPGRADE**

#### **SPECIFICATION NO. 16-383**

TO: Casitas Municipal Water District  
1055 Ventura Avenue, Oak View, California 93022

The undersigned proposes to furnish all materials and labor, and provide all necessary tools and machinery for the completion of the above referenced project and specification, and to perform and complete all the work in the manner set forth, described, and shown in the specifications or on the drawings for the work and in the form of agreement.

The bidder agrees that, upon receipt of written notice of the acceptance of this proposal within seven (7) days after the opening of the bids, bidder will execute the contract in accordance with the proposal as accepted and furnish the required bonds and will secure the required insurance, all within seven (7) days from the date of mailing of said notice of acceptance to them at their address as given below; and that, upon failure to do so within said time, then the proposal guarantee accompanying this proposal shall become the property of the Casitas Municipal Water District as liquidated damages for such failure, and shall be deposited as monies belonging to the Casitas Municipal Water District. If said bidder shall execute the contract, furnish the required bonds, and secure the required insurance, the proposal guarantee check or bond shall be returned to them within five (5) days thereafter.

The bidder declares that they have read the Notice Inviting Bids and the Instructions to Bidders, and agrees to all the stipulations contained therein; that they have examined the site of the work, the form of agreement, the specifications and the drawings therein referred to; that they propose and agree, in the event their bid as submitted in the attached Bidding Sheet be accepted, to enter into a contract to perform all the work mentioned in the agreement and the specifications, and to complete the same within the time stipulated therein; and that they will accept in full payment therefore the amount named in said Bidding Sheet.

The bidder further declares that the surety or sureties named in the space provided below have agreed to furnish bonds in the form and amounts set forth in the Instructions to Bidders, in the event the contract is awarded on the basis of this proposal.

Dated: \_\_\_\_\_

\_\_\_\_\_  
Bidder

(Corporate Seal)

By: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone No. \_\_\_\_\_

Corporation organized under  
the laws of the State of

Bidder's post office address:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contractor's License Number:

\_\_\_\_\_  
Date of Expiration: \_\_\_\_\_

Surety or Sureties agreeing to furnish bond:

Names and addresses of all members of the  
partnership, or names and titles of all officers of  
the corporation:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**BIDDING SHEET**  
**VENTURA AVENUE NO. 1 PUMP PLANT**  
**ELECTRICAL UPGRADE**  
**SPECIFICATION NO. 16-383**

Schedule of prices for all work, materials and site cleanup for the above-mentioned project and specification in accordance with these specifications. Any item not specifically mentioned shall be considered incidental to the item to which it pertains. The bidder shall list prices for all bid items. Bids received which do not list prices in succession shall be rejected.

Bid Item #	Quantity & Unit	Description & Price in Words	Amount \$
1	LS	Furnish and install a new 2.4KV switchgear and connect the new switchgear to serve the existing systems as specified for the lump sum price of _____ Dollars	
2	LS	Install new underground conduits and 5 KV feeders from pad mount transformer to new switchgear per Edison requirements, which includes excavation and backfill as specified for the lump sum price of _____ Dollars	
3	LS	Pick up from the District Storage, transport and install/remove temporary power system as shown on drawings (either option) in order to accomplish the above without disrupting water service to end users for the lump sum price of _____ Dollars	
4	LS	Install low voltage panels including conduit and wire extensions as shown on drawings for the lump sum price of _____ Dollars	
5	LS	Complete start-up and testing for the lump sum price of _____ Dollars	
6	LS	Install new indoor fan coil unit and outdoor condensing unit as specified for the lump sum price of _____ Dollars	
7	LS	Provide O & M and as-built drawing for the lump sum price of _____ Dollars	
<b>TOTAL BID AMOUNT (Items 1-7)</b>			<b>\$</b>

The above quantities are based on a lump sum price; measurement and payment for each bid item per Part F of specifications. Bidder will not be released on account of errors. When a discrepancy occurs between the written price and the number listed, the written price shall govern. The Bidder understands that the District reserves the right to reject any or all bids, and to waive any formalities in the bidding.

Date: \_\_\_\_\_

**BIDDER:** \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

License No. \_\_\_\_\_ Expiration Date: \_\_\_\_\_

License Classifications: \_\_\_\_\_

Telephone. No: \_\_\_\_\_ Cell No: \_\_\_\_\_

Fax No: \_\_\_\_\_ Email: \_\_\_\_\_

Address: \_\_\_\_\_

**(CORPORATE SEAL)**

**BIDDER'S PLAN FOR CONSTRUCTION**

1. The location for the proposed work was examined on \_\_\_\_\_  
date)  
by \_\_\_\_\_ on behalf of the bidder.  
(name and title)

2. Explain briefly your plan and tentative schedule for performing the proposed work.

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3. Qualifying Projects – List minimum of two Reference Projects to meet the requirements in page A-5.

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## BIDDER'S STATEMENT OF SUBCONTRACTORS

The bidder is required to state the name and address of each subcontractor who will perform work in an amount in excess of one-half (2) of one percent (1%) of the total bid price and the portion of the work which each subcontractor will do.

The undersigned submits herewith a list of subcontractors whom he proposes to employ on the work, with the proper firm name and business address of each and a statement of the work or bid item which will be done by each subcontractor.

Subcontractor		Portion of Work
Location and Place of Business		
License No.	Expiration Date:    /    /	Phone (    )
Subcontractor		Portion of Work
Location and Place of Business		
License No.	Expiration Date:    /    /	Phone (    )
Subcontractor		Portion of Work
Location and Place of Business		
License No.	Expiration Date:    /    /	Phone (    )
Subcontractor		Portion of Work
Location and Place of Business		
License No.	Expiration Date:    /    /	Phone (    )
Subcontractor		Portion of Work
Location and Place of Business		
License No.	Expiration Date:    /    /	Phone (    )
Subcontractor		Portion of Work
Location and Place of Business		
License No.	Expiration Date:    /    /	Phone (    )

Signed:



**BIDDER'S BOND**

KNOW ALL MEN BY THESE PRESENTS,

That we \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_, as PRINCIPAL,

and

\_\_\_\_\_  
\_\_\_\_\_, as SURETY,

are held and firmly bound unto the Casitas Municipal Water District, hereinafter called the District, in the penal sum of TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID of the Principal above named, submitted by said Principal to the Casitas Municipal Water District, for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

In no case shall the liability of the surety hereunder exceed the sum of \$ \_\_\_\_\_

THE CONDITIONS OF THIS OBLIGATION ARE SUCH,

That whereas the Principal has submitted the above-mentioned bid to the Casitas Municipal Water District, for certain construction specifically described as **Ventura Avenue No. 1 Pump Plant Electrical Upgrade – Specification No. 16-383** which bids are to be opened at the office of Casitas Municipal Water District on **Thursday, September 8, 2016 at 3:00 p.m.**

NOW, THEREFORE, if the aforesaid Principal is awarded the contract and, within the time and manner required under the heading Instructions to Bidders, after the prescribed forms are presented to him for signature, enters into a written contract, in the form set forth in said specifications, in accordance with the bid, and files the two bonds with the District, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by Instructions to Bidders and Certificate of Insurance for Workmen's Compensation and Contractor's liability insurance, then this obligation shall be null and void; otherwise, it shall be and remain in full force and virtue.

Bidder's Bond (Continued)

In the event suit is brought upon this bond by the Obligee and judgement 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, we have hereunto set our hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Principal

By \_\_\_\_\_

(SEAL)

NOTE: Signatures of those executing for the surety must be properly acknowledged.

## AGREEMENT

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_ by and between the Casitas Municipal Water District, hereinafter designated as the District, and \_\_\_\_\_ hereinafter designated as the Contractor.

WITNESSETH: That the parties hereto do mutually agree as follows with respect to the project known as **Ventura Avenue No. 1 Pump Plant Electrical Upgrade – Specification No. 16-383.**

ARTICLE I. For and in consideration of the payment of \_\_\_\_\_ Dollars (\$\_\_\_\_\_) in conformance with the specifications hereinafter mentioned, the Contractor agrees with the District to construct the aforementioned project and to perform and complete in a good and workmanlike manner all the work pertaining thereto shown on the Drawings and described in the Specifications therefor, to furnish at its own cost and expense all tools, equipment, labor, and materials necessary therefor, except such materials as in the said specifications are stipulated to be furnished by the District, and to do everything required by this Agreement and the said Specifications and Drawings.

ARTICLE II. For the same consideration set forth in Article I above, Contractor agrees to furnish all said materials and labor, furnishing and removing all plants, temporary work or structures, tools and equipment, and doing all the work contemplated and embraced in this Agreement, also to be responsible at its own expense for all loss and damage arising out of the nature of the work aforesaid, or from the action of the elements, or from any unforeseen difficulties which may arise or be encountered in the prosecution of the work until its acceptance by the District, and for all risks of every description connected with the works, and also for all expenses incurred by or in consequence of the suspension or discontinuance of works, except such as in the said Specifications are expressly stipulated to be borne by the District, and for well and faithfully completing the work and the whole thereof, in the manner shown and described in the said Drawings and Specifications and in accordance with the requirements of the Engineer under them, the District will pay and the Contractor shall receive in full compensation thereof the prices for the several items named in the Bidding Sheet of the Proposal.

ARTICLE III. The District hereby promises and agrees with the said Contractor to employ, and does hereby employ the said Contractor to provide the materials and to do the work according to the terms and conditions herein contained and referred to for the price aforesaid, and hereby contracts to pay the same at the time, in the manner and upon the conditions set forth in the Specifications; and the said parties for themselves, their heirs, executors, administrators, successors and assignees do hereby agree to the full performance of the covenants herein contained.

Agreement (Continued)

ARTICLE IV. The Notice Inviting Bids, the Instructions to Bidders, the Proposal, the Specifications and the Drawings mentioned therein, and all addenda issued by the District with respect to the foregoing prior to the opening of bids, are hereby incorporated in and made part of this Agreement.

IN WITNESS WHEREOF: the parties hereto have caused this contract to be executed the day and year first above written.

CASITAS MUNICIPAL WATER DISTRICT

By: \_\_\_\_\_  
President

ATTEST:

\_\_\_\_\_  
Secretary

Approved as to form:

\_\_\_\_\_  
Attorney

Dated: \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
Contractor

By \_\_\_\_\_

\_\_\_\_\_  
Title

**BOND FOR FAITHFUL PERFORMANCE**

KNOW ALL MEN BY THESE PRESENTS,

That we \_\_\_\_\_

\_\_\_\_\_ hereinafter referred to as Contractor, as principal, and \_\_\_\_\_

\_\_\_\_\_, as surety,

are held and firmly bound unto the Casitas Municipal Water District, OAK VIEW, California, in

the 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, executors, administrators and successors, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that:

whereas, said Contractor has been awarded and is about to enter into a contract with the Casitas Municipal Water District, for construction of the project known as **Ventura Avenue No. 1 Pump Plant Electrical Upgrade - Specification No. 16-383**, and is required by said District to give this bond in connection with the execution of the contract.

NOW, THEREFORE, if the said Contractor shall well and truly do and perform all the covenants and obligations of said contract on his part to be done and performed at the times and in the manner specified herein, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect;

Bond for Faithful Performance (Continued)

PROVIDED, that any alterations in the work to be done, or the material to be furnished, which may be made pursuant to the terms of said contract shall not in any way release the Contractor or the surety thereunder, nor shall any extensions of time granted under the provisions of said contract release either the Contractor or the surety, and notice of such alterations or extensions of the contract is hereby waived by the surety.

WITNESS our hands this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Contractor

By: \_\_\_\_\_

\_\_\_\_\_  
Surety

By: \_\_\_\_\_

Approved as to form and execution:

\_\_\_\_\_  
Attorney

**PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS,

That we \_\_\_\_\_

\_\_\_\_\_

as principal, and \_\_\_\_\_

\_\_\_\_\_, as surety, are held and firmly bound unto the Casitas Municipal Water District, Oak View, California, in the sum of

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of the above obligation is such that:

Whereas, said principal has been awarded and is about to enter into a contract with the Casitas Municipal Water District, for construction of the project known as **Ventura Avenue No. 1 Pump Plant Electrical Upgrade Specification No. 16-383** and is required by said District to give this bond in connection with the execution of the contract.

NOW, THEREFORE, if said principal as Contractor in said contract, or subcontractors, fails to pay for any materials, provisions, provender or other supplies, or teams, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, said surety will pay for the same, in an amount not exceeding the sum specified above, and also, in case suit is brought upon this bond, a reasonable attorney's fee, to be fixed by the court. This bond shall insure to the benefit of any and all persons entitled to file claims under Section 11929 of the Code of Civil Procedure of the State of California.

PROVIDED, that any alterations in the work to be done, or the material to be furnished, which may be made pursuant to the terms of said contract shall not in any way release either the Contractor or the surety thereunder, nor shall any extensions of time granted under the provisions of said contract release either the Contractor or the surety, and notice of such alterations or extensions of the contract is hereby waived by the surety.

WITNESS our hands this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Contractor

By \_\_\_\_\_

\_\_\_\_\_  
Surety

By \_\_\_\_\_

Approved as to form and execution:

\_\_\_\_\_  
Attorney



**CASITAS MUNICIPAL WATER DISTRICT  
SUMMARY OF INSURANCE, BOND & PAYMENT REQUIREMENTS  
FOR VARIOUS CONSTRUCTION CONTRACTS**

	<b>Informal Under \$35,000</b>	<b>Formal \$35,000 &amp;Over</b>
<u>Certificates of Insurance</u> (CG 2010 Endorsement required)		
1. Workmen's Compensation	Yes	Yes
2. Commercial, General & Auto Liability	Yes	Yes
a. For one person per accident	\$1,000,000	\$1,000,000
b. More than one person per accident	\$1,000,000	\$1,000,000
3. Property damage per accident	\$1,000,000	\$1,000,000
4. Thirty days written notice prior to cancellation	Yes	Yes
<u>Bonds</u>		
Bidder's Bonds	None	10%
Payment Bonds (Material and Labor)* (Projects bid by CMWD only)	None	100%
Performance Bonds* (Projects bid by CMWD only)	None	100%
Maintenance and Guarantee Provisions	Yes	Yes
<u>Contracts</u>		
Period for Final payment upon acceptance	15 Days	35 Days
Amount of Retention	-0-	15%
Progress Payment (if required, retain 5%)**	None	If Required
Final Cost Statement	None	Yes
Notice of Completion	None	Yes
Labor and Material Releases	Yes	Yes

\* At the option of the District and depending upon the type of construction activity, payment bonds and/or performance bonds may be placed as a requirement on the job.

\*\* If progress payments are required for a Purchase Order Contract, provisions therefor must be added.

**NOTE:** The above listed are the minimum requirements for all construction contracts. Provisions are included within the Terms and Conditions for Purchase Order Contracts which will be issued for all jobs under \$35,000. Provisions should be included within the Specifications for all contracts \$35,000 and over. **The United States (Bureau of Reclamation), Casitas Municipal Water District, their directors, officers, employees or authorized volunteers,** shall be named as additional insured as respects to all coverages listed above when the named insured is Lessee or Licensee of the Casitas Municipal Water District or when work is performed by the named insured for the Casitas Municipal Water District, and in both instances this coverage shall be primary. Casitas, in addition to Certificates of Insurance, shall be provided with the ISO CG 2510 Endorsement or insurer's equivalent.

In accordance with the provisions of Section 1770 of the California Labor Code, the District has ascertained the general prevailing rates of wages applicable to the work to be done. It shall be mandatory upon the Contractor to whom the contract is awarded, and upon any subcontractor under him, to pay not less than the specified rates to all laborers and mechanics employed by him in the execution of the contract. The wage scale is on the internet at [www.dir.ca.gov/dlsr/statistics\\_research.html](http://www.dir.ca.gov/dlsr/statistics_research.html).

**NOTICE TO CONTRACTORS, AGENTS AND INSURANCE COMPANIES.  
PLEASE COMPLETE AND RETURN THIS FORM TO**

**CASITAS** Municipal Water District  
**CERTIFICATE OF INSURANCE**

(This certificate is to be used to list such coverages as the policies listed thereon provide, and does not reflect our insurance requirements.)

TO: **Casitas Municipal Water District** Name and Address of Insured:  
**P. O. Box 37**  
**Oak View, California 93022**

TYPE OF POLICY	COMPANY AND POLICY NO.	POLICY PERIOD	LIMITS OF LIABILITY	
			Bodily Injury	Property Damage
1.—Workmen's Compensation Employers Liability		Eff. Exp.	Statutory	Nil
2.		Eff. Exp.		
3.—Comprehensive Liability (A) Automobile		Eff. Exp.	Each Person \$ Each Occurrence \$	Each Occurrence \$
(B) General*		Eff. Exp.	Each person \$ Each Occurrence \$ Aggregate \$	Each Occurrence \$ Aggregate \$
4.—Comprehensive Liability Auto and General*		Eff. Exp.	Combine Single Limit: Each Occurrence \$ Aggregate \$	
5.		Eff. Exp.		
6.		Eff. Exp.		
7.—Umbrella Liability		Eff. Exp.	Each Occurrence and Aggregate \$ (A) Excess of Items: (B) Total Limit Including Items:	

\*COVERAGE includes Contractual Liability, Completed Operations, Protective Liability, Product's - Liability, and Explosion, Collapse and Underground Hazards.

REMARKS: The U.S. Bureau of Reclamation, Casitas Municipal Water District, their directors, officers, employees or authorized volunteers shall be named as additional insured as respects to all coverages listed above when the named insured is Lessee or Licensee of the Casitas Municipal Water District or when work is performed by the named insured for the Casitas Municipal Water District, and in both instances this coverage shall be primary.

These policies shall not be canceled nor reduced in coverage until after 30 days written notice of such cancelation or reduction in coverage shall have been mailed to this certificate holder.

Name and Address of Agent:

Dated \_\_\_\_\_

By \_\_\_\_\_

<b>CASITAS MUNICIPAL WATER DISTRICT</b>	Payment Document No. _____	Progress ( ) Final ( )	OFFICE USE ONLY - Contractor/Vault/Pledge over
PROJECT: CONTRACTOR:	Reviewed By: _____		
Date:	Approved for Payment: _____		

Spec. No. Bid Item No.	Project No. Description	Unit	Quantity	Per Bid Schedule		General Num		Date	Actual to Date
				Unit Price	Amount	Quantity	Amount		
1							\$0.00		\$0.00
2							\$0.00		\$0.00
3							\$0.00		\$0.00
TOTAL							\$0.00		\$0.00

Actual to Date: \$0.00 Less 10% Retained: \$0.00 Total Allowed to Date: \$0.00 Less Previous Payment: \$0.00 *Less Deductions: \$0.00 Net Amount Due this Payment: \$0.00	<p>I certify the above bill is correct &amp; just; that payment herefor has not been received; that all statutory requirements as to American Production and Labor Standards and that all conditions of purchase applicable to the transactions have been complied with.</p> <p><b>CONTRACTOR:</b></p> By: _____ Date: _____
--	---

PREV. PAYMENT RECORD	
PP No.	Date

File: \\pcc\spec\bid\form\yocgw\bank.zls

## CERTIFICATION OF NONSEGREGATED FACILITIES

(Applicable to federally assisted construction contracts and related subcontracts exceeding \$10,000 which are not exempt from the Equal Opportunity Clause).

The federally assisted construction contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction Contractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction Contractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion or national origin, because of habit, local custom or otherwise. The federally assisted construction Contractor agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his files.

**NOTE:** The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

---

Contractor

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Signature

---

Title

Date: \_\_\_\_\_

## **BIDDER'S QUESTIONNAIRE**

### **INSTRUCTIONS**

Pending award of a contract to the lowest bidder, Casitas may require bidders to submit a statement of their current financial condition, technical ability and experience (reference is made to the paragraph on Page A-3 of the Instructions to Bidders entitled "Competency of Bidders").

Each bidder shall be required to complete the attached Bidder's Questionnaire. Each subcontractor for a bidder whose work has a monetary value of 15 percent or more of the total price bid shall also be required to complete the Bidder's Questionnaire and submit said Bidder's Questionnaire(s) with the bid package.

Bidder's Questionnaire (Continued)

**PART I - BIDDER'S STATEMENT OF TECHNICAL ABILITY AND EXPERIENCE**

A. History of Bidder

1. Total years organization doing business. \_\_\_\_\_

2. Has your organization done business under another name? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, state name and address of organization(s) and/or names and addresses of owners or principals.

_____	_____
_____	_____
_____	_____
_____	_____

3. List all principals, owners, partners and stockholders owning more than 10 percent of a corporation.

Name

Name

_____	_____
_____	_____
_____	_____
_____	_____

4. State the name of your organization's Responsible Managing Employee or Officer.

<b>Name</b>	<b>State Contractor's License No.</b>	<b>Classification</b>

Bidder's Questionnaire (Continued)

5. List all jobs for which you were either sued by the owner or you sued the owner within the past ten (10) years. Give name of suit, court and number and disposition thereof.

<b>Name of Suit</b>	<b>Court and Number</b>	<b>Disposition</b>

6. List all jobs for which you asked extra compensation of more than 25 percent of the original contract price.

<b>Name of Owner</b>	<b>Address</b>	<b>Result</b>

Bidder's Questionnaire (Continued)

B. Experience

List all of the jobs in which your organization has been involved during the last five years where the predominant type of construction is similar to this job.

1. Project Completion Date<sup>(1)</sup> \_\_\_\_\_  
Value of Contract<sup>(2)</sup> \_\_\_\_\_  
General Description of Work<sup>(3)</sup> \_\_\_\_\_  
Name and Address of Owner \_\_\_\_\_  
\_\_\_\_\_  
Party to Contact \_\_\_\_\_  
Phone Number \_\_\_\_\_  
State whether organization was prime, joint venture, sub or other:  
  
2. Project Completion Date \_\_\_\_\_  
Value of Contract \_\_\_\_\_  
General Description of Work \_\_\_\_\_  
Name and Address of Owner \_\_\_\_\_  
\_\_\_\_\_  
Party to Contact \_\_\_\_\_  
Phone Number \_\_\_\_\_  
State whether organization was prime, joint venture, sub or other:  
\_\_\_\_\_

(1) Project Completion Date - If current, state current; if incomplete, state incomplete.  
(2) Value of Contract is the total amount of money paid for your work, including all settlements or judgments.  
(3) General Description of Work should indicate the predominant type of construction; i.e., water pipeline, paving, earthwork, sewer, pump plant, etc.



Bidder's Questionnaire (Continued)

3. Date of Project \_\_\_\_\_  
Value of Contract \_\_\_\_\_  
General Description of Work \_\_\_\_\_  
Name and Address of Owner \_\_\_\_\_  
\_\_\_\_\_  
Party to Contact \_\_\_\_\_ Phone Number \_\_\_\_\_

State whether organization was prime, joint venture, sub or other:

3. Date of Project \_\_\_\_\_  
4. Value of Contract \_\_\_\_\_  
General Description of Work \_\_\_\_\_  
Name and Address of Owner \_\_\_\_\_  
\_\_\_\_\_  
Party to Contact \_\_\_\_\_ Phone Number \_\_\_\_\_

State whether organization was prime, joint venture, sub or other:

5. Date of Project \_\_\_\_\_  
Value of Contract \_\_\_\_\_  
General Description of Work \_\_\_\_\_  
Name and Address of Owner \_\_\_\_\_  
\_\_\_\_\_  
Party to Contact \_\_\_\_\_ Phone Number \_\_\_\_\_

State whether organization was prime, joint venture, sub or other:

\_\_\_\_\_

**PART II - CONTRACTOR'S STATE LICENSE**

1. List all Contractor's State Licenses issued to your organization or to any of your principals.

Name of License Holder	Position in Organization	License No.	Classification	Date of Expiration

2. Has your organization or any of the license holders in your organization been refused the issuance of a State Contractor's License or been disciplined by the State Contractor's Board? Yes ( ) No ( )

If yes, please explain.

If yes, please explain. \_\_\_\_\_

**PART III – CONTRACTOR’S SAFETY RECORD**

1. List your firm’s experience modification rate (EMR) for the last 3 years. The EMR is available from your Worker’s Compensation Insurance firm. This is only required from Firms with Worker’s Compensation Insurance premiums in excess of \$50,000.

_____	_____	_____	_____	_____	_____
Year	EMR	Year	EMR	Year	EMR

2. List your firm’s Recordable Incident Rate (RIR) for the last 3 years. Incident Rate information is available from your OSHA 200/300 Log and from your insurance carrier.

$$\frac{\text{Total number of recordable incidents} \times 200,000}{\text{Total employee hours worked}} = \text{RIR}$$

_____	_____	_____	_____	_____	_____
Year	RIR	Year	RIR	Year	RIR

3. List your firm’s Lost Time Incident Rate (LTIR) for the last 3 years. Incident Rate information is available on your OSHA 200/300 Log and from your insurance carrier.

$$\frac{\text{Total number of lost time incidents} \times 200,000}{\text{Total employee hours worked}} = \text{LTIR}$$

_____	_____	_____	_____	_____	_____
Year	LTIR	Year	LTIR	Year	LTIR

Bidder's Questionnaire (Continued)

Casitas has established the following minimum requirements for this project:

EMR – None greater than 1.2 over the last 3 years

RIR - None greater than 9 over the last 3 years

LTIR – None greater than 4 .5 over the last 3 years

4. Do you have a written safety program that includes hazardous communications? \_\_\_\_\_

5. Do you have a substance abuse policy? \_\_\_\_\_

6. Do all new employees complete safety orientation before performing any work activities? \_\_\_\_\_

7. Do you conduct jobsite safety inspections? \_\_\_\_\_

8. Do you conduct and document post accident investigations? \_\_\_\_\_

**PART IV – FINANCIAL CONDITION (This portion only needs to be completed if requested by Casitas after the bid opening)**

1. Submit your firm’s most recent audited financial statement or financial data or other information and references sufficiently comprehensive to permit an appraisal of your current financial condition.

2. Submit your firm’s most recent balance sheet and profit and loss statement.

I certify under penalty of perjury that the foregoing is true and correct.

Name of Organization: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**NONCOLLUSION DECLARATION  
(MUST BE SUBMITTED WITH BID)**

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_,  
(Title) (Company)

the party making the foregoing bid. The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_,  
(Date)

at \_\_\_\_\_,  
(City) (State)

\_\_\_\_\_

**NOTICE TO PROCEED**

To: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

Project: **Ventura Avenue No. 1 Pump Plant Electrical Upgrade – Specification No. 16-383**

In accordance with Section 4 of the Special Conditions of the Contract Specifications, you are hereby notified to commence work on or before \_\_\_\_\_ and to complete all work within one hundred (100) working days (including materials procurement) of the work start date, excluding the dates outlined therein.

**CASITAS MUNICIPAL WATER DISTRICT**

By : \_\_\_\_\_  
Title: Lindsay Cao P.E., Civil Engineer

**ACCEPTANCE OF NOTICE**

Receipt of above Notice to Proceed is hereby acknowledged by \_\_\_\_\_  
on \_\_\_\_\_, 2016.

**CONTRACTOR**

By: \_\_\_\_\_  
Title: \_\_\_\_\_

**SPECIFICATIONS**  
**Part B - General Conditions**

1. Definitions.

- (a) Whenever the words defined in this article occur in these Specifications, or in any other contract document, they shall have the meaning here defined:
- (b) The word "specifications" shall include these General Conditions, the Special Conditions and the applicable portions of the Standard Specifications. The form of these Specifications is intended to provide for all of the work performed for Casitas Municipal Water District.
- (c) The word "District" shall mean the Casitas Municipal Water District.
- (d) The word "Board" shall mean the Board of Directors of the Casitas Municipal Water District.
- (e) The words "General Manager" shall mean the person holding the position or acting in the capacity of General Manager of the Casitas Municipal Water District.
- (f) The word "Engineer" shall mean the General Manager, or his duly authorized representative.
- (g) The word "Contractor" shall mean the Contractor in the agreement for the construction of the work and/or the furnishing of materials and/or equipment herein specified, the legal representative, or the agent of said party.
- (h) The word "Subcontractor" shall mean one who, as a subcontractor, performs at the site of the work some part of the Contractor's obligation, the legal representative, or the agent therefor.
- (i) The words "Standard Specifications" shall mean the provisions of the latest edition of the Standard Specifications for Public Works Construction (SSPWC) with all supplements, prepared and promulgated by the Southern California Chapters of the American Public Works Associated and Associated General Contractors of America. Part one of the SSPWC is hereby deleted.

2. Contract Documents.

- (a) The Notice Inviting Bids, Instructions to Bidders, Proposal Bonds, Specifications and Drawings, with the Agreement, supplemental notices, Notice to Proceed, permits and change orders shall be considered as incorporated in the contract. The contract documents are complementary, and what is called for in one shall be as binding as if called for by all. The intent of the contract documents is to provide for the execution and completion of a finished piece of work. The Contractor shall provide all labor and services and furnish all materials and equipment as necessary, except those items definitely stipulated in the Specifications or Drawings to be furnished by the District. Anything shown in the Drawings and not the Specifications, or in the Specifications and not the Drawings, shall be performed by the Contractor as though shown in both the Drawings and the Specifications.
- (b) The Drawings and the Specifications show conditions as they exist, to the best knowledge and belief of the District. The Contractor shall not be relieved of any liability or responsibility under this

contract, and the district or any of its officers shall not be liable for any loss sustained by the Contractor because of any variation between conditions as shown on the Drawings and the actual conditions revealed during the progress of the work, except as provided in Section 4215 of the Government Code.

3. Precedence of Contract Documents.

(a) Should conflicts occur between Contract Documents, the document highest in precedence shall control. The precedence shall be:

- (1) Permits from other agencies as may be required by law.
- (2) Proposal.
- (3) Special Conditions and Measurement and Payment.
- (4) Technical Conditions.
- (5) General Conditions
- (6) Contract Drawings.
- (7) Standard Plans.
- (8) Standard Specifications.
- (9) Reference Specifications.

(b) Change orders, supplemental agreements and approved revisions to plans and specifications will take precedence over documents listed above. Detailed plans shall have precedence over general plans.

4. Indemnification of District. Contractor shall indemnify and hold harmless and defend the United States Bureau of Reclamation, the District, their directors, employees, agents or volunteers, and each of them from and against:

(a) Any and all claims, demands, causes of action, damages, costs, expenses, losses or liabilities, in law or in equity, of every kind and nature whatsoever for, but not limited to, injury to or death of any person including District and/or Contractor, or any directors, officers, employees, agents or volunteers of District or Contractor, and damages to or destruction of property of any person, including but not limited to, District and/or Contractor and their directors, officers, employees, agents or volunteers, arising out of or in any manner directly or indirectly connected with the work to be performed under this agreement, however caused, regardless of any negligence of District or its directors, officers, employees, agents or volunteers, except the sole negligence or willful misconduct or active negligence of District or its directors, officers, employees, agents or volunteers.

(b) Any and all actions, proceedings, damages, costs expenses, penalties or liabilities, in law or equity, of every kind or nature whatsoever, arising out of resulting from, or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of Contractor.

Contractor shall defend, at Contractor's own cost, expense and risk, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against District or District's directors, officers, employees, agents or volunteers.

Contractor shall pay and satisfy any judgment, award or decree that may be rendered against District or its directors, officers, employees, agents or volunteers, in any such suit, action or other legal proceeding.

Contractor shall reimburse District and its directors, officers, employees, agents and/or volunteers, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided.

Contractor agrees to carry insurance for this purpose as set out in the specifications.

5. Insurance.

(A) Contractor shall provide and maintain the following commercial general liability and automobile liability insurance:

(1) Coverage for commercial general liability and automobile liability insurance shall be at least as broad as the following:

- a. Insurance Services Office Commercial General Liability coverage (Occurrence Form CG 0001).
- b. Insurance Services Office Form Number CA 0001 (ed. 1/87) covering Automobile Liability, Code 1 (any auto).

(2) The Contractor shall maintain limits no less than the following:

- a. General Liability. One million dollars (\$1,000,000) per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the project/location (with the ISO CG 2501 or insurers equivalent endorsement provided to the district) or the general aggregate limit shall be twice the required occurrence limit.
- b. Automobile Liability. One million dollars (\$1,000,000 per accident for bodily injury and property damage combine single limit.

(3) The general liability and automobile liability policies are to contain, or be endorsed to contain the following provisions:

- a. The United States Bureau of Reclamation, the District, their directors, officers, employees, agents and volunteers are to be covered as insureds as respects: liability arising out of activities performed by or on behalf of the Contractors, products and completed operations of the Contractor; premises owned, occupied or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the United States Bureau of Reclamation, the District, its directors, officers, employees, agents and volunteers.
- b. For any claims related to this project, the Contractor's insurance shall be primary insurance as respects the United States Bureau of Reclamation, the District, their directors, officers, employees, agents and volunteers. Any insurance or self-



insurance maintained by the United States Bureau of Reclamation, the District, their directors, officers, employees, agents and volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

- c. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the United States Bureau of Reclamation, the District, their directors, officers, employees, agents and volunteers.
- d. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- e. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior to written notice by certified mail, return receipt requested, has been given to the District.
- f. Such liability insurance shall indemnify the Contractor and his subcontractors against loss from liability imposed by law upon, or assumed under contract by, the Contractor or his subcontractors for damages on account of such bodily injury (including death), property damage, personal injury and completed operations and products liability. Such insurance shall be provided on a policy written by underwriters through an agency satisfactory to the District (see Section 4-08.05), which includes a cross-liability clause, and covers bodily injury and property damage liability, owned and non-owned vehicles and equipment, blanket contractual liability and completed operations liability. Such liability insurance shall include explosion, collapse, underground excavation and removal of lateral support. The United States Bureau of Reclamation, the District, their directors, officers, employees agents and volunteers shall be named as additional primary insured on any such policies. An additional insured endorsement (ISO CG 2010 or equivalent) (modified to include provisions 2-5 above) and a certificate of insurance (Accord Form 25-S or equivalent), shall be provided to the District.

(4) Any deductible or self-insured retention 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 United States Bureau of Reclamation, the District, their directors, officers, employees, agents and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

(5) Insurance is to be placed with insurers having a current A.M. Best's rating of no less than A:VII or equivalent.

(6) The Contractor shall not commence work under this contract, nor allow any subcontractor to commence work on this subcontract, until he has secured all insurance required under the section and has filed with the District, certificates of insurance in the amounts specified. Such certificates shall contain a provision that they may not be called without at least thirty (30) days' written notice to the District.

**(B) Worker's Compensation Insurance.**

(1) By his signature hereunder, Contractor certifies that he is aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and he will comply with such provisions before commencing the performance of the work of this contract.

(2) The Contractor shall maintain, and shall cause all subcontractors he may employ to maintain adequate workers compensation insurance under the laws of the State of California for all labor employed by them, directly or indirectly, in the execution of the work. The Contractor and all subcontractors shall file with the District certification of such workers compensation insurance prior to beginning construction.

**(C) Evidences and Cancellation of Insurance.**

(1) Prior to execution of the contract, the Contractor shall file with the District evidence of insurance from an insurer or insurers certifying to the coverage of all insurance required herein. Such evidence shall include the ISO CG 2010 (or insurer's equivalent) signed by the insurer's representative and certificate of insurance (Accord Form 25-S or equivalent). All evidence of insurance shall be certified by a properly authorized officer, agent or qualified representative of the insurer and shall certify the names of the insured, any additional primary insurers, where appropriate, the type and amount of the insurance, the location and operations to which the insurance applies, the expiration date, and that the insurer will give by certified mail, written notice to the District at least thirty (30) days prior to the effective date of any cancellation, lapse or material change in the policy.

(2) The Contractor shall, upon demand of the District, deliver to the District all such policy or policies of insurance and the receipts for payment or premiums thereon; and should the Contractor neglect to obtain and maintain in force any such insurance or deliver such policy or policies and receipts to the District, then it shall be lawful for the District to obtain and maintain such insurance, and the Contractor hereby appoints the District his true and lawful attorney-in-fact to do all things necessary for this purpose. All money paid by the District for insurance premiums under the provisions of this article shall be charged to the Contractor.

**6. Bonds.**

(a) Payment Bond. The successful bidder shall file with the District a surety bond to be approved by the District in a sum of not less than one hundred percent (100%) of the total amount payable by the terms of the contract, conditional as provided by Section 3247 of the Civil Code.

(b) Performance Bond.

(1) The successful bidder shall also file with the District a surety bond, to be approved by the District in a sum of not less than one hundred percent (100%) of the total amount payable by the terms and conditions of the Contract. Pursuant to Public Contract Code Section 22300, at the request and expense of the Contractor, securities equivalent to the amounts withheld by the District to ensure performance under this contract, shall be deposited with the District. The District shall pay such monies to the Contractor upon satisfactory completion of the contract. Securities eligible for investment under this section shall include those listed in Government

Code Section 16430, or bank or savings and loan certificates of deposit. The Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon. If the securities to be deposited by the Contractor pursuant to this provision are in registered form, the registration shall be transferred to the District.

- (2) Maintenance and Guarantee. The Contractor hereby guarantees that the entire work constructed by him under the Contract will meet fully all requirements thereof as to quality of workmanship and of materials furnished by him. The Contractor hereby agrees to make, at his own expense, any repairs or replacement made necessary by defects in material or workmanship supplied by him that becomes evident within one year after the date of final payment, and to restore to full compliance with the requirements of these Specifications, any part of the work which, during said one year period, is found to be deficient with respect to any provision of the Specifications. The Contractor shall make all repairs and replacement promptly upon receipt of written orders from the Engineer to do so. If the Contractor fails to make the repairs and replacements promptly, the District may do the work and the Contractor and his Surety shall be liable to the District for the cost thereof.

(c) Each of said bonds shall be executed by the Contractor and a corporate surety licensed in the State of California. If the amount payable under terms of the Contract exceeds the original bid because of additional quantities and/or the issuance or change orders, said surety shall be required to cover the additional amount.

7. Additional Surety. If, during the continuance of the Contract, any of the sureties upon the faithful performance bond, in the opinion of the Engineer, are or become insufficient, he may require additional sufficient sureties, which the Contractor shall furnish to the satisfaction of the Engineer within 15 days after notice, and in default thereof, the contract may be suspended and the work completed as provided in Section 21 hereof.

8. Assignment Forbidden. The Contractor shall not assign, transfer, convey or otherwise dispose of this Contract, nor of his right, title or interest in any part thereof, nor any of the monies to become due and payable under the Contract, in any manner without the previous consent in writing of the Engineer. If the Contractor shall, without such written consent, assign, transfer, convey or otherwise dispose of any part of this Contract, or of any of the monies to become due and payable under the Contract, the District may, at its option, terminate the Contract according to Section 21 of these General Conditions. The District shall thereupon be relieved from all liability to the Contractor, and to his assignee or transferee.

9. Time and Order of Work. The Contractor shall at all times employ such personnel, and provide such services, materials and equipment as will be sufficient, in the opinion of the Engineer, to complete the work or any separable portions thereof according to a progress schedule, and within the time limit fixed by the Contract. If the Contractor should fail to maintain adequate progress, he may be required to employ additional personnel, and provide additional services, materials and equipment, and to modify his plans and procedure in such manner as to ensure completion of the work within the time limit fixed by the Contract. This provision shall not be the exclusive remedy of the District.

10. Protests. If the Contractor considers any of the work demanded of him to be outside the requirements of the Contract, or if he considers any order or ruling of the Engineer or any duly authorized representative to be unfair, he shall immediately ask for written instructions or divisions, whereupon he shall proceed without delay to perform the work or conform to the order or ruling; but unless the Contractor finds such instructions or divisions satisfactory, he shall, within ten (10) days after receipt of same, file a written protest with the Engineer, stating clearly and in detail his objections and the reasons therefor. Except for such grounds for protest or objections as are made of record in the manner specified and within the time stated herein, the Contractor hereby waives all grounds for protests or objections to the order, rulings, instructions, or decisions of the Engineer, and hereby agrees that as to all matters not included in such protest, the order, instructions and decisions of the Engineer shall be final and conclusive.

11. Authority of the Engineer. The work shall be observed by the Engineer to determine that the work is being completed according to the plan, specifications and design and planning concepts. The Contractor shall be responsible for the supervision of construction processes, site condition, operation, equipment, personnel and the maintenance of a safe place to work or any safety in, on or about the work site until such time as the District files a Notice of Completion. The Engineer, however, reserves the right to determine the adequacy of the Contractor's method, plant, and appurtenance to determine in all cases the amount, quality, acceptability and fitness of the work and material to be provided under the Contract, to determine all questions in relation to said work and construction thereof, and to decide in all cases any question which may arise concerning the fulfillment of this Contract by the Contractor. Should any discrepancy appear or any misunderstanding arising as the import of anything contained in the Specifications or Drawings, the matter shall be referred to other Engineer and his decision shall be binding on the Contractor. Any differences or conflicts which may arise between the Contractor and other contractors performing work for the District shall be adjusted to the satisfaction of the Engineer.

12. Right of Way and Encroachment.

(a) Except as otherwise stated in the Special Conditions, the right of way for the work to be constructed under these Specifications will be provided by the District. This shall not be interpreted as giving the Contractor exclusive occupancy of the right of way provided. When the work to be performed is located within State Highway, County or Southern Pacific Railroad rights of way, or within a water course which is under the jurisdiction of the Ventura County Flood Control District, the Contractor will be required to obtain construction permits from those agencies in his own name.

(b) Right of way to be furnished by the District for construction operations and other purposes will be specifically shown on the Drawings or provided for in the Detailed Specifications. Should the Contractor find it necessary to use any additional lands during the construction of the work, he shall provide for the use of such lands at his own expense.

13. Errors or Discrepancies Noted by Contractor.

(a) If the Contractor, either before commencing work or during the work, finds any discrepancy between these Specifications and Drawings, or between either of them and the physical conditions at the site of the work, or finds any error or omission in any of the Drawings or in any survey, he shall promptly notify the Engineer in writing of such discrepancy, error, or omission. If the Contractor observes that any drawings or specifications are at variance with any applicable law, ordinance, regulations, order or degree, he shall promptly notify the Engineer, in writing, of such conflict.

(b) The Engineer, upon receipt of any such notice, shall promptly investigate the circumstances and give appropriate instructions to the Contractor. Until such instructions are given, any work done by the Contractor, either directly or indirectly after his discovery of such error, discrepancy or conflict, will be at his own risk and he shall bear all costs arising therefrom.

14. Extra Work.

(a) If, during the performance of the Contract, it shall, in the opinion of the Engineer, become necessary or desirable, for the proper completion of the contract, to order work done or materials or equipment furnished which, in the opinion of the Engineer, are not susceptible of classification under the bid items, the Contractor shall do and perform such work and furnish such materials and equipment as extra work, as hereinafter provided. All extra work shall be ordered in writing before it is started. No extra work shall be paid for unless ordered in writing.

(b) Extra work will ordinarily be paid for at a lump sum or unit price agreed upon in writing by the Engineer and the Contractor before the extra work shall be ordered.

(c) When the price of the extra work cannot be agreed upon, the District will pay for the extra work based on the accumulation of costs as provided in subsections (d) through (I). The failure of the Contractor to comply with the requirements of this section shall deem the Engineer to establish costs as he deems reasonable.

(d) At the close of each working day, the Contractor shall submit a daily report to the Engineer, on forms approved by the District, together with applicable delivery tickets, listing all labor, materials, and equipment involved for that day, and for other services and expenditures when authorized. An attempt shall be made to reconcile the report daily, and it shall be signed by the Engineer and the Contractor. In case of disagreement, pertinent notes shall be entered by each party to explain points which cannot be resolved immediately. Each party shall retain a signed copy of the report. Reports by subcontractors or others shall be submitted through the prime contractor. Said reports shall contain the following information:

- (1) The names of workers, classification and hours worked;
- (2) A description and the amount of materials used;
- (3) The type of equipment, size, identification number and hours of operation, including loading and transportation if available;
- (4) Other services and expenditures shall be described in such detail as the District may require.

(e) The costs of labor will be the actual cost for wages prevailing locally for each craft or type of worker at the time the extra work is done, plus employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State or local laws, as well as assessment or benefits required by lawful collective bargaining agreements. The use of a labor classification which would increase the extra work costs will not be permitted unless the Contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.

(f) The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available and delivered to the job site in the entities involved, plus sales tax, freight and delivery. The District reserves the right to approve material sources of supply, or to supply materials to the Contractor if necessary for the progress of the work. No markup shall be applied to any material provided by the District.

(g) No payment will be made for the use of tools which have a replacement value of \$100 or less. Regardless of ownership, the rates to be used in determining equipment rental costs shall not exceed listed rates prevailing locally at equipment rental agencies or distributors, at the time the work is performed. If local rental costs are unavailable, the Contractor shall submit his costs to operate the equipment compiled and signed by a Certified Public Accountant. The rental rates paid shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance and all incidentals. Necessary loading and transportation costs for equipment used on the extra work shall be included. If equipment is used intermittently and, when not in use, could be returned to its rental source at less expense to the District than holding it at the work site, it shall be returned, unless the Contractor elects to keep it at the work site at no expense to the District. All equipment shall be acceptable to the Engineer, in good working condition, and suitable for the purpose for which it is to be used. Manufacturer's ratings and manufacturer's approved modifications shall be used to classify equipment, and it shall be powered by a unit of at least the minimum rating recommended by the manufacturer. The reported rental time of the equipment already at the job site shall be the duration of its use on the extra work, plus the time required to move it from its previous site and back or to a closer site.

(h) The District may authorize other items which may be required on the extra work. Such items include labor, services, material, and equipment which are different in their nature from those required for the work specified in the Contract which are of a type not ordinarily available from the Contractor or any of the subcontractors. Invoices covering all such items in detail shall be submitted with the request for payment.

(i) Vendors' invoices for material, equipment rental, and other expenditures, shall be submitted with the request for payment. If the request for payment is not substantiated by invoices or other documentation, the District may establish the cost of the item involved at the lowest price which was current at the time of the report.

(j) The following percentage shall be added to the Contractor's costs and shall constitute the markup for all overhead and profits:

Labor	10%
Materials	10%
Equipment Rental	10%
Other Items and Expenditures	10%

To the sum of the costs and markups provided for in this subsection, one percent (1%) shall be added as compensation for bond and liability insurance.

(k) When all or any part of the extra work is performed by any of the Contractor's subcontractors, the markups established in Subsection (14)(j) shall be applied to the subcontractor's actual

cost of such work, to which a markup of five percent (5%) on the subcontracted portion of the extra work may be added by the prime contractor.

(1) Any extra work performed hereunder shall be subject to all of the provisions of the Contract and the Contractor's sureties shall be bound with reference thereto as under the original Contract.

15. Changed Conditions.

(a) The Contractor shall notify the Engineer in writing of the following work site conditions, hereinafter called changed conditions, promptly upon their discovery and before they are disturbed:

- (1) Subsurface or latent physical conditions differing materially from those represented in the Contract; and
- (2) Unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the character of the work being performed.
- (3) Material that the Contractor believes may be material that is 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.

(b) The Engineer will promptly investigate conditions when notified of any conditions which appear to be changed conditions. If the Engineer determines that the conditions are changed conditions and that they will materially increase or decrease the costs of any portion of the work, a change order will be issued adjusting the compensation for such portion of the work. If the Engineer determines that conditions of which he/she has been notified by the Contractor do not justify an adjustment in compensation, the Contractor will be so advised in writing. Should the Contractor disagree with such determination, he may submit a protest to the Engineer, as provided in Section 10 of these General Conditions.

(c) If the Engineer determines that the conditions are changed conditions and that they will materially affect the performance time, the Contractor, upon submitting a written request, may be granted an extension of time subject to the provisions of Section 22.

(d) The Contractor's failure to give notice of changed conditions promptly upon their discovery and before they are distributed shall constitute a waiver of all claims in connection therewith.

16. Disputed Work.

(a) If unable to reach agreement under any of the foregoing procedures, the District may direct the Contractor to proceed with the work. Payment shall be as later determined by arbitration, if District and Contractor agree thereto, or as fixed in a court of law.

(b) Although not to be construed as proceeding under extra work provisions, the Contractor shall keep and furnish records of disputed work according to Section 14.

17. Legal Action by Contractor.

(a) No legal action shall be commenced against the District concerning the Contract until any dispute or decision of the Engineer has been appealed and denied by the District's Board of Directors. The Board's refusal to consider or failure to consider a written appeal within thirty (30) calendar days after receipt shall be deemed denial of such appeal.

(b) Prior to submitting any appeal to the Board, the Contractor shall exhaust his administrative remedies by attempting to resolve his dispute with the District's staff in the following sequence:

Construction Inspector  
District Engineering  
General Manager  
Board of Directors

(c) Should any of the listed persons fail to consider a request by the Contractor for reconsideration of a decision within three (3) working days after receiving written request to do so, the Contractor may proceed directly to the next person in the list. At the option of the District, the person to whom the request for reconsideration is directed may elect to take such request to a higher level and the Contractor's request shall be deemed to be properly submitted to such higher level.

(d) Nothing in this subsection shall be considered as relieving the Contractor from his duties required by the Contract documents.

18. Changes.

(a) If either the Engineer or the Contractor, because of conditions which develop during the progress of the work, finds it impracticable to comply strictly with these Specifications, the Engineer may prescribe a modification of requirements or methods of work. For such proposes, the Engineer may, any time during the life of the Contract, by written order, make such changes, as he shall find necessary, in the design, engineer, grade, form, location, dimensions, plan, or material of any part of the work or equipment to be furnished. If such changes increase or diminish the quantity of work to be done, they shall not constitute the basis for a claim for damages or anticipated profits in the work that may be dispensed with; provided that if such changes or alterations render useless any work already done or materials already furnished or used in the work, the Engineer shall make reasonable allowance therefore, which action shall be binding upon both parties.

(b) In case of increasing or decreasing of work, the total amount of work actually done or materials or equipment furnished shall be paid for according to the unit price established for such work under the contract, wherever such unit price has been established. In the event no prices are named in the Contract but cover such changes or alterations, the cost of such changes shall be determined as provided in Section 14(c).

19. Discovery of an Unknown Utility.

(a) The Contractor's attention is directed to Section 4215 of the Government Code which provides that the district assumes the responsibility for the removal, relocation or protection of the existing



utilities located on the site of any construction project if such utilities are not identified by the District in the plans and specifications made a part hereof.

(b) If the Contractor, while performing the Contract, discovers utility facilities not identified by the District in the Contract plans and specifications, the Contractor shall immediately notify the District. The Contractor shall not be assessed liquidated damages for delay in completion of the project, which such delay is caused by the failure of the District or the owner of the utility to provide for removal or relocation of the existing utility facilities.

(c) In the event that the discovery of said utility facilities may cause extra work, the Contractor is required to obtain written authorization to change or modify the work according to Sections 14 and 18 of these General Conditions, entitled "Extra Work" and "Changes," respectively.

(d) The Contractor's failure to give said notice promptly upon discovery of an unknown utility or the Contractor's failure to obtain written approval for any work concerning the relocation, protection and/or removal of the said unknown utility or for any work relative to the modification of any portion of the work prior to the beginning of any of said work, shall constitute a waiver of any rights to any claim in connection therewith.

## 20. Termination of Contract.

(a) General. If, at any time before completion of work under the contract, it shall be found by the District that reasons beyond the control of the parties hereto render it impossible, or against the best interest of the District, to complete the work contracted to be done; or if the work shall have been prevented or suspended by injunction issued by a court of competent jurisdiction nor by any other order of constituted authority for a period in excess of 30 consecutive days; the District, by written thirty (30) day notice to the Contractor, may discontinue the work and terminate the contract; or, in the event the entire work shall have been suspended by the District, through no fault of the Contractor, in writing, the Contract shall be discontinued. Upon the service of notice of termination, the Contractor shall discontinue the work in such manner, sequence, and at such times as the Engineer may direct, continuing and doing, after said notice, only such work and only until such time or times as the Engineer may direct. Such work shall be paid for as extra work according to Section 14 of these General Conditions. The Contractor shall have no claim for damages for such discontinuance or termination of the Contract, nor shall the Contractor have any claim for anticipated profits on the work thus dispensed with, nor any other claim; except: (1) for the work actually performed between the date of the notice of termination and the time of complete discontinuance; and (2) for any liquidated damages accruing up to the date of said notice of termination according to the provisions of the Special Conditions.

(b) Consumable Supplies. In the event of discontinuance and termination of the contract, the District may, and at the request of the Contractor shall, purchase from the Contractor all consumable supplies of the Contractor on hand, or in transit, or on definite commitment which, in the opinion of the Engineer, are suitable and required, except for such discontinuance and termination, to complete the work, and the District shall pay the Contractor for such consumable supplies the prices paid therefor by the Contractor.

(c) Completion of Contract. In the event that the work shall be discontinued and the Contract terminated, the satisfactory completion of such work, as the Engineer may thereafter direct, and satisfactory compliance with the terms of said order shall be deemed the completion of the work specified in the

Contract; and the final estimate shall be the amount of work completed to the time of such discontinuance and termination, with such other sums as may be due the Contractor according to the provisions of this section.

21. Suspension of Contract.

(a) If the work to be done under the Contract shall be abandoned by the Contractor, or if the Contractor shall make a general assignment for the benefit of his creditors or be adjudicated as bankrupt, or if a receiver of his property or business be appointed by a court of competent jurisdiction, or if this Contract shall be assigned by him otherwise than hereinbefore specified, or if at any time the Engineer shall be of the opinion that the performance of the contract is unnecessarily or unreasonably delayed, or that the Contractor is willfully violating any of the conditions of the Contract, or is executing the same in bad faith or not according to the terms thereof, or if the work be not fully completed within the time named in the Contract for its completion or within the time to which the completion of the Contract may have been extended as hereinafter provided, the Board may, by written notice, instruct the Contractor to discontinue all work, or any part thereof, under this Contract.

(b) When such written notice is served upon the Contractor, he shall immediately discontinue the work or such part thereof as covered by the notice, and shall not resume the same by written notice from the Board, in which case work shall be resumed in ten (10) days. In any such case, the District may take charge of the work and complete it by a new contract or by force account and charge the expense of completion by either method to the Contractor. In so doing, the District may take possession of and use any of the materials, plans, tools, equipment, supplies and property of every kind provided by the Contractor for the purpose of his work. Any such charges shall be deducted from such monies as may be due or may at any time hereafter become due the Contractor under this contract or at any part thereof. In case such expense shall exceed the amount which would have been due the contractor under the Contract if the same had been completed by him, he shall pay the amount of such excess to the District; and in case such expense shall be less than the amount which would have been payable under this contract if the same had been completed by the Contractor, he shall have no claim to the difference except to such extent as may be necessary, in the opinion of the Engineer, to reimburse the Contractor or the Contractor's sureties for any expense properly incurred for plans, equipment, materials, supplies and labor devoted to the prosecution of the work, of which the District shall have received the benefit which shall not have been otherwise paid for by the District. In computing such expense the salvage value of such plans and equipment, at completion of the work, shall be deducted from the depreciated value thereof at the time taken over by the District and the difference shall be considered the expense. All necessary estimate and appraisals shall be made by the Engineer.

(c) When any particular part of the work is being carried on by the District, by Contract or otherwise, under the provisions of this section, the Contractor shall continue the remainder of the work in conformity with the terms of the Contract, and in such a manner as to nowise hinder or interfere with the persons or workers employed, as provided above, by the District, to do any part of the work, or to complete the same under the provisions of this section.

22. Extension of Time of Completion.

(a) If the work shall be delayed in consequence of suspension by the District except as provided in Section 21 or of failure by the District to provide right of way, or of any other act or omission of the District, or by strikes, acts of God, delay of delivery or properly ordered materials for which a delivery time has not been stated in the Proposal, or other unforeseeable causes beyond the control and without the fault or negligence of the Contractor or his subcontractors, the Contractor shall be entitled to so much additional time wherein to perform and complete the contract on his part as the Engineer shall certify in writing to be just.

(b) Application for extension of time must be made to the Engineer, in writing, stating cause, within the ten (10) days immediately following the end of such delay.

(c) Permitting the Contractor to continue and finish the work, or any part of it, after the date to which the time fixed for its completion may have been extended, shall in no way operate as a waiver on the part of the District of any of its rights under this Contract.

(d) The Contractor shall receive no compensation on account of any suspension of the work either in whole or in part or for any delay or hindrance herein mentioned except as provided in the Special Conditions.

(e) No extension of time shall be made for ordinary delays and accidents and the occurrence of such shall not relieve the Contractor from the necessity of maintaining the required progress. In the case of an extension of time by the Engineer for completion of the contract as provided for in these Specifications, a revised schedule of progress may be prescribed according to such extension of time.

23. Failure to Complete on Time.

(a) The Contractor shall pay for each and every calendar day that he shall be in default in completing the whole work to be done under this contract, the sum named in these conditions, which sum is by the execution of this agreement mutually agreed upon as liquidated damages which the District shall suffer by reason of such default. The District shall have the right to deduct the amount of such damages from any monies due or to become due the Contractor under this Contract.

(b) The Contractor shall not be assessed liquidated damages for failure to complete the work on time due to any of the causes stated in Section 22(a).

24. Liquidated Damages.

(a) Pursuant to Section 23 of these General Conditions, failure of the Contractor to complete the work within the time allowed will result in damages being sustained by the District. Such damages are, and will continue to be, impractical and extremely difficult to determine. For each consecutive calendar day in excess of the time specified for completion of the work (as adjusted by change order), the Contractor shall pay the District, or have withheld from monies due it, the sum of \$500, except as otherwise specified in Part C or the Agreement.

(b) Execution of the Contract under these Specifications shall constitute agreement by the District and Contractor that \$500 per day, except as otherwise specified in Part C or the Agreement, is the

minimum value of the costs and actual damage caused by failure of the Contractor to complete the work within the allotted time, that such sum is liquidated damages and shall not be construed as a penalty, and that such sum may be deducted from payments due the Contractor if such delay occurs.

25. Contractor's Responsibility.

(a) The contractor shall be responsible for safe and efficient execution of the work to secure the safety of the workers, the quality of the work and the stipulated rate of progress.

(b) The Contractor shall bear all losses resulting to him no account of the amount or character of the work, or from any unforeseen obstruction or difficulties which may be encountered, or because of weather, floods, or other causes, except as follows:

- (1) The Contractor shall not be responsible for the cost of repairing or restoring damage to the work which damage was caused by an act of God, as defined in Public Contract Code Section 7105, and shall be the basis for determining the extent of the District's liability, if any.
- (2) It shall be the responsibility of the Contractor to take all reasonable and adequate measures to protect the work from damage and/or to minimize any damage to the work.
- (3) The District reserves the right to make changes in the plans and Specifications applicable to the portion of the work to be restored. The District reserves the right to terminate the Contract and relieve the Contractor of further obligations to perform the work. In the event that the work damaged is to be repaired or restored either, in kind or changed by the engineer, a contract change order will be provided according to Sections 14 and 18 of the General Conditions of this Specification. The change order may provide for the Contractor to perform any work deemed by the Engineer as necessary to put the project in satisfactory condition for the termination of all work.
- (4) The District may require the Contractor to submit as a separate bid item the insurance premium covering the cost of work destroyed in whole or in part by an "Act of God," as defined in Public Contract Code 7105 and provide such insurance to indemnify the District for any damage to the work caused by an "Act of God," and to rebuild said work with the proceeds of said insurance. If the District elects to do so, said insurance shall be in lieu of the provision of the Public Contract Code 7105.

(c) The Contractor shall be responsible for all material, except defective material, furnished by the District, and for the care of all work until its completion and final acceptance, and he shall at his own expense replace damaged, lost or stolen material and repair damaged parts of the work, or the same may be done at his expense by the District.

(d) During the progress of the work, the Contractor shall keep the premises occupied by him in a neat and clean condition. When the work is completed he will be required to remove all debris caused by him in his operations, repair all damage to existing improvements done by him or his employees and leave

the site of the work in a neat condition. In the event of his failure to do so, the same may be done at his expense by the District.

(e) The Contractor shall be responsible for all damage or injury which may be caused on any property by trespass of the Contractor's employees during their employment, whether the said trespass was committed with or without the consent or knowledge of the Contractor.

(f) The Contractor shall provide at his own expense, all necessary water, telephone, and power required for his operations under the Contract, except as provided for in the Special Conditions.

(g) The Contractor shall so conduct his operations as not to close or obstruct any portion of any highway, road, or street, or prevent in any way free access to fire hydrants until permission to do so has been obtained from the proper authorities.

(h) The Contractor shall be responsible for determining the nature and extent of any simultaneous, collateral, and essential work by others. The Contractor shall coordinate his operation and cooperate with others to minimize interferences, conflicts, and/or any other related conduct during the construction of the work.

26. Shop Drawings.

(a) Drawings and prints of articles, machinery, or fabricated materials entering into permanent construction which are required to be furnished by the Contractor and for which detailed drawings are not furnished by the District, the Contractor shall submit five (5) copies for approval, three (3) of which will be returned to the Contractor for his distribution, the two (2) other copies shall become the property of the District. The District shall approve such drawings or return them to the Contractor with requirements for approval within ten (10) days after the date of submission.

(b) Approval by the District on items called for under these Specifications does not relieve the Contractor from the responsibility for errors, omissions or deviations from the Contract documents unless such deviations were specifically called to the attention of the Engineer in the letter of transmittal submitted with the material for approval.

(c) If the Contractor objects to any conditions imposed by the District in granting said approvals, he shall immediately give the District written notification.

27. Trench Shoring Plans.

(a) In compliance with Section 6705 of the Labor Code, the Contractor, at his sole expense, shall be required to submit detailed shoring plans for review by the District's Engineer for all construction projects and/or any related modifications, revision or changes thereto, which are in excess of \$25,000, for the excavation of any trench, trenches, or other excavation five (5) feet or more in depth.

(b) Shoring plans shall show the details of the shoring, bracing, sloping and all other provisions to be made for the workers' protection from the hazard of caving ground during the excavation of any trench, trenches, or other excavation.

(c) Such shoring plans shall be prepared by a qualified civil or structural engineer registered in the State of California in the event that such plans vary or deviate, in any manner, from the shoring system standards as outlined in the State Construction Safety Orders issued by the Division of Industrial Safety, State of California.

(d) The Contractor shall submit the shoring plans to the Division of Industrial Safety, State of California, for its approval.

(e) The Contractor shall be required to submit the shoring plans within fifteen (15) days after notification of an award of a contract has been sent.

28. Safety Permit.

(a) In compliance with Section 6424 of the Labor Code, the Contractor, at his sole expense, shall be required to obtain a permit from the Division of Industrial Safety for the excavation of any trench, trenches, or other excavation five (5) feet or more in depth, prior to beginning any excavation work that is not covered by Section 6422 of the Labor Code.

(b) A copy of all permits issued and the related construction safety orders approved by the Division of Industrial Safety shall be filed with the District within fifteen (15) days after notification of the award of a contract, or within three (3) days after issuance of the permit, and prior to the beginning of the excavation of any trench, trenches, or other excavation five (5) feet or more in depth.

(c) Additional permits may be required for each modification, revision or change in the work.

(d) Safety permits required by Section 6424 of the Labor Code shall be in addition to all other permits required.

29. Personal Attention. The Contractor shall give his personal attention constantly to the faithful prosecution of the work, and shall be present, either in person or by a duly authorized and competent representative, on the site of the work continually during its progress, to receive directions or instructions from the Engineer. Whenever the Contractor is not present on any part of the work where it may be desired to give directions, orders may be given by the Engineer, and shall be received and obeyed by the superintendent or foreman who may have charge of the particular part of the work in reference to which orders are given.

30. Laws, Regulations and Permits.

(a) The contractor shall give all notices required by law and comply with all laws, ordinances, rules and regulations pertaining to the conduct of the work. The contractor shall be liable for all violations of the law in connection with the work furnished by the contractor. If the contractor observes that the drawings or specifications are at variance with any law or ordinance, rule or regulation, he shall promptly notify the engineer in writing and any necessary changes shall be made by written instruction or change order. If the contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations and without giving notice to the engineer, the contractor shall bear all costs arising therefrom.

(b) The Contractor shall submit a certification that they are in compliance with the Civil Rights Act of 1964 as amended by the Equal Employment Opportunity Act of 1972, the California Fair

Employment Practice Act of 1959, as amended, California Labor Code Section 1777.5 and Section 1735 and any other applicable Federal and State laws and regulations hereinafter enacted. Certification of Compliance with Executive Order 11246, as amended, will be required when applicable. Such certification shall be on forms satisfactory to the District.

(c) The following are exempted from the above provisions in relation to affirmative action efforts:

- (1) Contractors, subcontractors and suppliers who have a paid work force of less than fifteen (15) persons.
- (2) Contracts and subcontracts which do not exceed \$10,000.00.
- (3) Contracts and subcontracts which are deemed by the Board to be an "Emergency" nature or an apparent "Sole Source" purchase.
- (4) Exemptions may be denied by the Board pursuant to a finding by the District that the exemption is having an adverse effect on the purpose of these Specifications. Additional exemptions may be granted by the Board for reasons of a similar finding.

**(d) The Contractor shall only use equipment that complies with the state air quality regulations and the Ventura Air Pollution Control District regulations.**

31. Sales and/or Use Taxes. Except as may be otherwise specifically provided herein, all sales and/or use taxes assessed by Federal, State or local authorities on materials used or furnished by the Contractor in performing the work hereunder shall be paid by the Contractor.

32. Construction Schedule. Prior to commencing the work, the Contractor shall submit a detailed construction schedule. At the beginning of each month as may be required by the Engineer, the Contractor shall submit an updated construction schedule. Said construction schedule shall show the order in which the Contractor proposes to complete the work, the dates when the various parts of the work are to begin and the estimated dates of completion. The detailed schedule shall be a modified bar type and shall show each principal item of work or activity.

33. Inspection.

(a) All materials furnished and all work done under these Specifications shall be subject to rigid inspection. The Contractor shall furnish the Engineer every reasonable facility for ascertaining whether the work is in accordance with the requirements and intent of these Specifications.

(b) Work done in the absence of prescribed inspection may be required to be removed and replaced under the proper inspection. The entire cost of removal and replacement, including the cost of all materials which may be furnished by the District and used in the work removed, shall be borne by the Contractor, irrespective of whether the work removed is found to be defective.

(c) Work covered up without the authority of the Engineer shall, upon order of the Engineer, be uncovered to the extent required, and the Contractor shall bear the entire cost of performing all the work

and furnishing all the materials necessary for the removal of the covering and its subsequent replacement, as directed and approved by the Engineer.

(d) Nothing in these Specifications shall be construed to mean that the District will provide continuous inspection. The Contractor shall cooperate and coordinate his activities in order that he work can be inspected to the satisfaction of the Engineer.

(e) The Contractor shall keep the Engineer informed, a reasonable time in advance, of the times and places at which he intends to do work, so that the inspection and the necessary measurements may be made with a minimum of inconvenience to the Engineer, or delay to the Contractor.

34. Construction Staking.

(a) The Engineer will provide only minimal construction staking, the extent of which will be described in the Special Conditions hereof. The Contractor shall be required to provide all other additional staking and/or measurements necessary for the proper execution of the work.

(b) The Contractor shall notify the Engineer in writing at least five (5) working days before the time the Contractor will require the construction staking.

(c) The Contractor shall be required to preserve all bench marks, monuments, survey marks and construction stakes, and in case of their removal or destruction caused by the Contractor's activities, the Contractor shall be liable of the cost of their replacement.

35. Construction Interferences.

(a) Insofar as practicable during the progress of the work, the Contractor shall not disturb, but shall support and protect against injury, and maintain in good operating condition at his own expense, all subsurface, surface and overhead utilities, structures and other facilities as are encountered in the prosecution of the work.

(b) In the event that subsurface, surface, or overhead utilities, structures or other facilities are required to be disturbed or removed out permit the construction of the work, the Contractor shall not do any work that would affect such utilities, structures or facilities, or enter upon the right of way or other lands appurtenant thereto until notified by the Engineer that authority has been obtained to do so. The Engineer will make all necessary arrangements with the owner or other utilities for their relocation and reconnection, without cost to the Contractor, including the reconnection of services and the resurfacing of trenches required for said location; provided such arrangements shall not relieve the Contractor of his responsibilities as outlined in Section 2(b) of these General Conditions, nor the responsibility of proper care and protection of any utilities, structures or facilities encountered because of such varying conditions. The Contractor shall coordinate his operations with those of the owner or owners concerned with the disturbance or removal of facilities to minimize the inconvenience imposed on all affected parties.

(c) Except as provided in Section 4215 of the Government Code and in the event the Contractor disturbs, disconnects or damages any subsurface, surface, or overhead utility, structure or other facility prior to the making of necessary arrangements by the Engineer with the owner thereof, he shall immediately give to the owner notice of said disturbance, disconnection, or damage, and the Contractor shall assume all responsibility connected therewith, event in the even such damage occurs after backfilling



or is not discovered until after completion of backfilling, and the provisions of this subsection shall continue in force until the termination of the guarantee period provided.

(d) All facilities removed shall be reconstructed as promptly as is possible in its original or other authorized location, and in a condition at least as good as when removed and subject to the inspection of the owner or of the governing body having jurisdiction.

(e) During the performance of the work under these Specifications, the owners or agencies in control of any of the facilities affected by the work shall have the right to enter, when necessary, upon the project right of way, or upon any street or other public way affected by the Contractor's operations, or any portion thereof, for the purpose of maintaining service and of making changes in or repairs to said facilities.

(f) The District reserves the right during the progress of the work and upon determination of the actual position of the existing utilities, structures, and other facilities, to make changes in the grade or alignment, or both, of the District's facilities wherever by so doing the necessity for relocation as provided herein of such utility, structures, or other facility will be avoided; provided that such changes shall not entitle the Contractor to additional compensation other than according to the prices named in the Bidding Sheet for the respective contract items.

(g) In the event the Contractor discovers a substructure as defined in Section 4215 of the Government Code and not identified by the District on the contract plans and Specifications, the Contractor shall be required to notify the District in writing. In the event that such discovery may cause extra work, the Contractor shall be required to obtain written authorization to change or modify the work according to Sections 14 and 18 of these General Conditions of the Specifications.

(h) Whether the Contractor is entitled to any additional compensation for any work hereinbefore described in Section 36 of these General Conditions shall be governed by the applicable portions of Section 4215 of the Government Code or amendments thereto.

(i) The Contractor shall make every effort to protect and preserve all trees encountered in the work. Any trees which unreasonably interfere with the work shall, with the approval of the Engineer, be removed by the Contractor. The cost of the removal shall be borne by the Contractor.

36. Materials, Workmanship, and Tests. The Contractor shall submit samples, specimens, or test pieces of such materials to be furnished or used in the work as the Engineer shall require. All materials must be new and must be of the specified quality and equal to approved samples. The Contractor shall furnish, without cost to the District, such quantities of construction materials as may be required for test purposes, and shall place at the Engineer's disposal all available facilities for and cooperate with him in the sampling and testing of all materials and workmanship. All work shall be done and completed in a thorough workmanlike manner, notwithstanding any omission from these Specifications or the Drawings.

37. Certification of Materials and Equipment

(a) All materials and equipment furnished by the Contractor shall be according to these Specifications. Any time when requested by the Engineer, the Contractor shall furnish written certification from the manufacturer of the various materials and equipment that such materials and equipment do meet all of the requirements of these Specifications. When requested by the Engineer, such certification shall be

furnished to the District before payment to the Contractor, for the material and/or equipment in question, will be made.

(b) Where reference is made in these Specifications to a specification or test designation of the American Water Works Association, the American Society for Testing and Materials, the American Association of State Highway Officials, Federal Specifications, or any other recognized national organization, and the number or other identification accompanying the test designation representing the year of adoption of latest revision of the test is omitted, it shall mean the test method in effect on the date of the Notice Inviting Bids for the work.

38. Defective Work or Materials.

(a) The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his contract as herein prescribed, and defective work shall be made good, and unsuitable materials may be rejected, notwithstanding that such work and materials have been previously inspected by the Engineer and accepted or estimated for payment. If the work, or any part thereof, shall be found defective at any time before the final acceptance of the whole work, the Contractor shall forthwith make good such defect without compensation in a manner satisfactory to the Engineer and shall be charged for any excess material furnished by the District.

(b) If any materials furnished and brought upon the ground by the Contractor for use in the work, or selected for the same by him, shall be condemned by the Engineer as unsuitable or not in conformity with the Specifications, the Contractor shall forthwith discard such materials and remove them to a satisfactory distance from the vicinity of the work.

(c) If the Contractor shall fail or neglect to make ordered repairs of defective work or to remove condemned materials from the work within ten (10) days after the service by the Engineer of an order to do so, the Engineer acting on behalf of the District may make the ordered repairs or remove the condemned materials and deduct the cost thereof from any monies due the Contractor.

39. Use of "Or Equal."

(a) Any material or article of equipment designated by manufacturer's name, trade name, catalog reference or brand and qualified by "or equal" shall be understood to be a standard of quality and performance. Articles of other make will be acceptable provided they are, in the opinion of the Engineer, of equal quality and/or capable of equal performance. Names, brands and characteristics of proposed substitute materials shall be submitted to the Engineer for approval and no such substitute materials shall be purchased or delivered to the project until the Engineer's approval, in writing, has been obtained.

(b) The Contractor may be required to obtain certification from a qualified testing laboratory approved by the Engineer that such proposed substitute materials meet the minimum requirements in the Specifications, and/or that such proposed substitute materials are of equal quality and performance of the material or article designated in the Specifications. Such certification shall be required prior to obtaining the Engineer's approval, and shall be at the sole expense of the Contractor.

40. Property Rights in Materials.

(a) Nothing in this contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been attached or affixed to the work or the soil, or after payment has been made for the value of unused material delivered to the site of the work as provided for in Sections 45, 58 through 65 inclusive hereof. All such materials attached or affixed or unused shall become the property of the District.

(b) The District reserves the right to use any or all of the completed facilities either after said facilities are connected to the existing facilities or otherwise completed by the Contractor as set forth in Section 45 hereof and prior to acceptance of the work by the Board.

41. Title to Materials Found on the Work. Except as may otherwise be provided in these Specifications, the right to the use of all soil, stone, gravel, sand and all other materials and equipment developed or obtained in the excavation or other operations by the Contractor or any subcontractor or any of their employees, and the right to use and/or dispose of the same, are hereby expressly reserved by the District and neither the Contractor nor any subcontractor, nor any of their employees shall have any right, title or interest in or to any part thereof nor shall they, nor any of them, assert or make any claim thereto. The Contractor shall be permitted to use in the work without charge any such materials which meet the requirements of these Specifications.

42. Patents and Copyrights. The Contractor shall hold and save the District, its officers, agents and employees, harmless from liability of any nature and kind, including costs and expense, for or because of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliances, manufactured, furnished, or used by him in the performance of this contract, including their use by the District, unless otherwise specifically stipulated in this contract.

43. Responsibility for Safe Storage. The Contractor shall be responsible for the safe storage of the material furnished by or to him and accepted by him and intended for the work until it has been incorporated in the completed project. The interior of all pipe, fittings and other accessories shall be kept free from dirt and foreign matter at all times.

44. Completion. When in the opinion of the Contractor, the work under this contract has been fully completed according to the plans and Specifications, he shall notify the Engineer. Upon such notification, the Engineer shall, within a reasonable time, make a field inspection of the work and shall satisfy himself by examination and such tests as may be necessary that the work has been fully and properly completed according to the plans and Specifications. If any deficiencies are found, the Engineer shall notify the Contractor of the measures to be taken to correct them. When all deficiencies, if any, are corrected to the satisfaction of the Engineer, the work shall be deemed completed and the date of such completion shall be used in computing the Liquidated Damages, if any, as set forth in Section 24.

45. Final Cleanup. Upon completion of the work and before the final inspection and estimate is prepared, the Contractor shall, at his own expense, dispose of and remove from the vicinity of the work, all rubbish, unused materials and other items used under his direction during construction and perform cleanup to the satisfaction of the Engineer.

46. Responsibility for a Safe Place to Work.

(a) The Contractor's attention is directed to Section 4 of these General Conditions entitled, "Indemnification of District."

(b) The Contractor shall be responsible for the maintenance of a safe place to work and any safety in or about the work site. The Contractor shall be required to conform to all of the applicable Construction Safety Orders issued by the Division of Industrial Safety of the State of California.

(c) The contractor shall execute and maintain his work so as to avoid injury or damage to any person or property. The contractor shall comply with the requirements of the specifications relating to safety measures applicable in particular operations or kinds of work.

(d) In carrying out his work, the contractor shall at all times, exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed, and be in compliance with all federal, state and local statutory and regulatory requirements including State of California, Division of Industrial Safety (Cal/OSHA) regulations. Safety precautions as applicable shall include, but not be limited to, adequate life protection, and life saving equipment; adequate illumination for underground and night operations; instructions in accident prevention for all employees such as machinery guards, safe walkways, scaffolds, ladders, bridges, gang planks, confined space procedures, trenching and shoring, and other safety devices, equipment and wearing apparel as are necessary or lawfully required to prevent accidents or injuries; and adequate facilities for the proper inspection and maintenance of all safety measures.

(e) The names and telephone numbers of at least two medical doctors practicing in the vicinity and the telephone number of the local emergency response services shall be prominently displayed adjacent to telephones at the project site.

47. Public Convenience and Safety.

(a) The Contractor shall provide for the protection of the traveling public. The Contractor shall be required to furnish and maintain safety devices and other measures required for the public safety, which devices and measures shall conform to the requirements of Section 21406 of the Vehicle Code, any sign manual and current standard specifications of the Division of Highways. The Contractor shall conduct his operation to avoid unnecessary interference with the flow of traffic along highways, streets, roads, etc., used for vehicular traffic. Where any highway, street, road, etc., used for vehicular traffic is required to be kept open, the Contractor shall be required to furnish and maintain warning signs, lights, barricades, flagmen and other safety devices and measures necessary to provide adequate protection of the traveling public. Such protection shall be at the sole expense of the Contractor. Any highway, street maintenance or repair work required by local authorities concerning necessary operation under this contract shall be performed by the Contractor at his sole expense.

(b) Vehicular access to any driveway shall be maintained to the property line unless necessary construction precludes such access for reasonable periods of time.

(c) Vehicular and pedestrian access to any fire hydrant shall be maintained at all times during the construction of the work.

48. Safety, Sanitary and Medical Requirements.

(a) The Contractor, his employees and the subcontractors, if any, and their employees shall promptly and fully carry out the existing safety, sanitary and medical requirements as may from time to time be prescribed by the District to the end that proper work shall be conserved and safeguarded. In case such regulations and orders are not observed by the Contractor, they may be enforced by the Engineer at the Contractor's expense.

(b) Contractor shall notify District in writing within twenty-four (24) hours should an employee, officer or agent of Contractor or subcontractor incur personal injury while present on District properties or employed by District. District shall be furnished copies of all medical reports or accident reports filed or required by any local state or federal agency or regulatory body.

49. Character of Workers.

(a) None but skilled workers shall be employed on work requiring special qualifications. All equipment operators, pipelayers and jointers shall be well qualified and experienced in their work. All welding, however minor, shall be done by competent, certified welders, who have been qualified under Section IX of the ASME Boiler and Pressure Vessel Code, API Publication 1104 or such other standard as may be satisfactory to the Engineer. The Engineer shall have the right any time to call for and witness the making of test specimens by any welding operator according to these standards, and the expense of such tests shall be borne by the Contractor. When required in writing by the Engineer, the Contractor, or any subcontractor shall discharge any person who is, in the opinion of the Engineer, incompetent, unfaithful, disorderly or otherwise unsatisfactory, and shall not again employ such discharged person on the work except with the consent of the Engineer. Such discharge shall not be the basis of any claim for compensation or damages against the District or any of its officers.

(b) Enforcement of Order. The Contractor shall be responsible for maintaining good order at the site where work is performed under this contract and to that end shall employ such watchmen or other persons as may be required. Unauthorized persons shall be excluded from the site of the work. The Contractor shall not sell, nor shall he permit or suffer the introduction or use of, intoxicating liquors or narcotics upon the work embraced in these Specifications or upon any of the grounds occupied or controlled by him in connection with such works.

50. Subcontracts.

(a) Subcontracts will be permitted subject to the following provisions. No subcontract will be permitted which has the effect of avoiding the residence or wage requirements or any other provisions of the main contract. Individual subcontractors or members of contracting or subcontracting organizations personally engaged upon the work shall be subject to all the requirements of these specifications applicable to employees working for wages, including but not limited to, wages, hours of work, character of workers and certified payrolls.

(b) Reference is hereby made to the provisions of the Subletting and Subcontracting Fair Practices Act, Public Contract Code Section 4100, commencing with Section 4100, also known as the "Subletting and Subcontracting Fair Practices Act," which is incorporated herein and made a part hereof by reference, and the Contractor is bound thereby and shall be subject to the consequences named in Sections 4110 and 4111 of said Act in event of his violation thereof. Each bidder shall, in his bid or offer, 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 in or about the construction of the work or improvement in an amount in excess of one-half of one percent of the Contractor's total bid or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of one percent of the prime contractor's total bid; and (2) The portion of the work which will be done by each such subcontractor under said Act. The Contractor shall list only one subcontractor for each such portion as defined by the Contractor in his bid. If the Contractor fails to specify a subcontractor or if the Contractor specifies more than one subcontractor for the same one-half of one percent of the Contractor's total bid, the Contractor agrees that he is fully qualified to perform that portion himself, and that he shall perform that portion himself.

51. Access to the Site and Haul Routes.

(a) The Contractor shall make his own investigation of the condition of available public or private roads or other access, and of clearances, restrictions, bridge load limits, bond requirements, and other limitations that affect or may affect transportation and ingress and egress at the job site. The unavailability of transportation facilities or limitations thereon shall not become a basis for claims for damages or extension of time for completion of work. It shall be the Contractor's own responsibility to construct and maintain, at his own expense and at his own risk, any haul roads, access roads, bridges, or drainage structures required for construction operations.

(b) The use of existing roads (public or private) shall be at the Contractor's own expense and risk. It shall be the Contractor's responsibility to anticipate and meet all conditions properly imposed upon the use of existing roads by those having jurisdiction thereover, including (without limitation of the generality of the foregoing) seasonal or other limitations or restrictions, the payment of excess size and weight fees, and the posting of bonds conditioned upon repair of road damage caused by contract-generated traffic.

(c) The hauling of sand, gravel, asphalt or other intra job hauling, over public highways, roads or bridges, shall be in compliance with the applicable regulations and shall be such as to minimize interference with or congestion of local traffic.

(d) The cost of all work described in this paragraph shall be included in the prices bid in the schedule for other items of work.

52. Irregular Hours.

(a) When any work is to be performed at a time other than regular working hours Monday through Friday, the Engineer shall be given advance notice. In the event of Saturday and/or Sunday work, the approval of the Engineer shall be required before such work will be allowed. All costs for inspection attributed to irregular working hours shall be borne by the Contractor and shall be deducted from the contract amount. Irregular working hours shall be defined as follows, except for certain specialized jobs and circumstances:

- (1) Before 8:00 a.m. Monday through Friday.
- (2) After 4:30 p.m. Monday through Friday.
- (3) Anytime Saturday, Sunday, or District's Holidays.

(b) The Contractor will be exempt from this provision only for such work as required by the Specifications to be completed at other than working hours.

53. Eight-hour Law. In accordance with the provisions of Articles 1 and 3 of Chapter 1, Part 7, Division 2 of the Labor Code of the State of California eight (8) hours constitute a legal day's work. The Contractor shall forfeit, as a penalty to the District, \$25.00 for each worker employed in the execution of the contract by the Contractor or any subcontractor under him: for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of the Labor Code, and in particular, Sections 1810 to 1815 thereof, inclusive, except that work performed by employees of Contractor in excess of eight (8) hours per day and forty (40) hours during any one week shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1-1/2) times the basic rate of pay as provided in said Section 1815. The Contractor and each subcontractor shall keep accurate records showing the name of and schedule of hours worked by each worker employed by him concerning the contract. The records shall be kept open at all reasonable hours to inspection by the District and the Division of Labor Law Enforcement.

54. Payment of Wages. The issuance as payment for wages of any evidence of indebtedness is prohibited unless the same is negotiable and payable on demand without discount. Wages must be paid at least semi-monthly on regular pay days established in advance, and shall include all amounts for labor or services performed by employees of every description as required under the provisions of the California Labor Code.

55. Prevailing Rate of Per Diem Wages. Pursuant to the provisions of Articles 1 and 2 of Chapter 1, Part 7, Division 2 of the Labor Code of the State of California, not less than the general prevailing rate of per diem wages and not less than the general prevailing rate of per diem wages for legal holiday and overtime work for each craft or type of worker needed to execute the work contemplated under this contract, as determined by the District and as set forth in the schedule of such wages currently on file in the District office, shall be paid to all workers employed on such work by the Contractor or by any subcontractor doing or contracting to do any part of said work. The Contractor shall comply with Labor Code Section 1775. According to said Section 1775, the Contractor shall forfeit, as a penalty to the District, \$25 for each calendar day, or portion thereof, for each worker paid less than the stipulated prevailing rates for such work or craft in which such worker is employed for any work done under the contract by him or by any subcontractor under him in violation of the provisions of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to said Section 1775, the difference between such stipulated 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 stipulated prevailing wage rate shall be paid to each worker by the Contractor. The Contractor and each subcontractor shall keep accurate records showing the name of and schedule of hours worked by each worker employed by him in connection with the contract. The records shall be kept open at all reasonable hours to inspection of the District and the Division of Labor Law Enforcement.

56. Unpaid Claims. If, upon or before the completion of the work herein agreed to be performed or at any time prior to the expiration of the period within which claims may be filed as prescribed by Section 3184 of the Civil Code, any person or persons shall bring against the District or against any agent or agents thereof any action to enforce such claim, the District shall, until the discharge thereof, withhold from the moneys under its control so much of said moneys due or to become due the Contractor under this contract

as shall be sufficient to satisfy and discharge the amount in such notice or under such action claimed to be due, together with the costs thereof; provided, that if the District shall in its discretion permit the Contractor to file such additional bond as is authorized by Section 3196 of the Civil Code, in a penal sum equal to one and one-fourth times the amount of said claim, said moneys shall not thereafter be withheld due to such claim.

57. Monthly Cost Estimates - Progress and Final Progress Payment.

(a) The Contractor shall submit, by the third calendar day of each month on a form acceptable to the District, his estimate of the amount and value of all acceptable work and any extra work or changes approved by the District, up to the last day of the preceding calendar month, for the District's approval; and the Contractor will request a progress payment for the work completed thereof.

(b) A deduction of five (5) percent shall be made from the total thus computed, and from the remainder there shall be further deducted any amounts due the District from the Contractor for supplies or materials furnished or services rendered and any other amounts that may be due the District under the terms of the contract. From the balance thus determined shall be deducted the amount of all previous payments and the remainder shall constitute the progress payment for that month. Such progress estimates shall not be required to be made by strict measurement, but they may be made by measurement or by estimation, or partly by one method and partly by the other, and it shall be sufficient if they are approximate only.

(c) Pursuant to Public Contract Code Section 22300, at the request and expense of the Contractor, securities equivalent to the amounts, if any, withheld by the District to ensure performance under this contract shall be deposited with the District. The District shall pay such moneys to the Contractor upon satisfactory completion of the contract. Securities eligible for investment under this section shall include those listed in Government Code Section 16430 or bank or savings and loan certificates of deposit. The Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon.

If the securities to be deposited by the Contractor pursuant to this provision are in registered form, the registration shall be transferred to the District.

(d) The Engineer shall approve the amount and value of all acceptable work and any extra work or changes approved by the District. Upon mutual agreement thereto, the Engineer will forward the approved estimate to the Administrative Services Manager for payment of the progress or final progress payment within ten (10) days thereafter.

(e) In the event that the Contractor and the District cannot mutually agree as to the amount and value of any item of work in the progress payment, the District will authorize payment of that portion of the progress and final progress payment to which the Contractor and the District have mutually agreed.

(f) The Contractor shall file with the District, within five (5) calendar days after the Engineer has issued written notice of the disputed items to the Contractor, a written statement setting forth in complete detail the basis for his disagreement, including, but not limited to, any amount or value in disagreement or dispute.



(g) Upon receipt of the Contractor's written statement, the General Manager shall investigate and consider the items of disagreement or dispute and render a decision thereon within a reasonable time, which decision shall be conclusive.

(h) In the event that the Contractor disagrees with the General Manager's decision, the Contractor's cost to the Contract for the delay in receiving the disputed balance of any progress or final progress payment, may be an item for arbitration according to Section 65 of the General Conditions.

(i) In the event the contract or any part thereof shall be suspended as provided in Section 21, the retained percentage as provided in Section 58(b) shall become the sole and absolute property of the District to the extent necessary to repay the District any excess in the cost of the work above the contract price. After issuance of notice to discontinue work, no payment upon progress estimates or otherwise shall thereafter be made to the Contractor for the work covered by said notice until completion of work and final settlement.

(j) The making of an estimate and payment in accordance therewith shall not preclude the District from demanding and recovering from the Contractor such damages as it may be entitled to under the contract because of his failure to comply with the Specifications.

58. Final Cost Statement.

(a) Final Cost Statement is a document which summarizes all of the Contractor's earnings under this contract and any amounts due the District from the Contractor, and from which the final payment is made.

(b) Upon completion of all of the work to be performed under this contract as set forth in Section 45, the Contractor shall submit for approval by the District in a form satisfactory to the District the amount and value of all acceptable work, and all extra work or changes approved by the District.

(c) The Engineer shall approve the amount and value of all acceptable work and any extra work or changes approved by the District. Upon mutual agreement thereof, this District will prepare the Final Cost Statement document which shall be submitted to the Contractor for his acceptance and signature.

(d) Upon endorsement by the Contractor of the Final Cost Statement, the District shall accept the work and authorize the final payment according to Sections 61 and 62 hereof.

59. Disputed Final Payment.

(a) In the event that the Contractor and the District cannot mutually agree as to the amount and value of the work, as set forth in this Final Cost Statement, the District will prepare the Final Cost Statement based upon the Engineer's determination of the amount and value of the work to which this Contractor may be entitled. Upon receipt of this Final Cost Statement, the Contractor shall file with the District within five (5) calendar days thereafter, a written statement setting forth in complete detail the basis for his disagreement, including, but not limited to, any amount or value in disagreement or dispute.

(b) The Board reserves the right to accept the work and file the necessary Notice of Completion.

(c) The Board shall investigate and consider the items of disagreement or dispute and render its decision thereon as to the amount due the Contractor within a reasonable time.

(d) The District will authorize payment of that portion of the Final Cost Statement to which the Contractor and the District have mutually agreed according to Section 58 hereof. Reference is made to Section 64 of these General Conditions.

60. Acceptance. Upon endorsement by the Contractor of the final cost statement, the Engineer shall prepare a memorandum of completion to advise the Board that the work has been satisfactorily completed and is ready for acceptance. At its next succeeding meeting, the Board shall consider acceptance of the work, and upon acceptance, shall authorize payment to the Contractor.

61. Final Payment.

(a) At the end of thirty-five (35) days after filing the notice of completion, as set forth above, the total balance due the Contractor, or in case of a dispute, any portion of the total balance which has been mutually agreed is not in dispute, if unencumbered, or any part thereof unencumbered, shall be paid provided that a guarantee bond shall have been filed with the District.

(b) For the purposes of this section, unencumbered balance means that portion over and above the face amount of all the stop notices on file with the District plus 25 percent of the face amount for potential interest and the cost of litigation as provided for in the Civil Code Section 3186-7.

62. Final Payment Terminates Liability.

(a) The acceptance by the Contractor of the final payment aforesaid shall be a release to the District and its agents from all claim liability to the Contractor for anything done related to the work or for any act or neglect of the District related to the work, except the claim against the District for the remainder, if any, of the amounts kept or retained as hereinbefore provided.

(b) No agent of the District shall be personally responsible for any liability arising under the contract. No claim shall be made or filed, and neither the District nor any of its agents shall be liable for, or held to pay any money, except as specifically provided in the contract.

63. Releases.

(a) Prior to payment of the final progress payment, the District may require the Contractor to obtain releases from each of the subs, material suppliers, equipment rental firms and employees, whether or not any have filed a preliminary notice with District, who have performed any work for the Contractor under this contract for which any payment may be warranted.

(b) Releases shall be submitted in a form approved by the District. Conditional releases may be unacceptable and acceptance thereof will be at the discretion of the District.

64. Disputes Settled by Arbitration. In the event there is a dispute between the parties as to any of the terms and conditions of this agreement, including but not limited to the accounting rendered by the District, and said dispute cannot be resolved according to Section 59 of these General Conditions, the dispute shall be submitted to arbitration before a single arbitrator agreed to by the parties or failing such agreement

appointed by the American Arbitration Association and resolved according to Article 1.5 of the Public Contract Code. Regardless of the manner of appointment of said arbitrator, the arbitration shall be conducted according to the then prevailing rules of the American Arbitration Association for commercial arbitration, except that each party shall bear their own costs and attorney's fees which they incur.

(a) As required under Section 20104, et seq., of the California Public Contract Code (Stats. of 1990), any demand of \$375,000 or less, by the Contractor for a time extension, payment of money, or damages arising from the work done by or on behalf of the Contractor pursuant to this Contract; or payment of an amount which is disputed by District shall be processed in accordance with the provisions of said Section 20104, et seq., related to informal conferences, non-binding judicially-supervised mediation, and judicial arbitration.

(b) A single written claim shall be filed under this Article prior to the date of final payment for all demands resulting out of the Contract.

(c) Within thirty (30) days of the receipt of the claim, District may request additional documentation supporting the claim or relating to defenses or claims District may have against the Contractor. If the amount of the claim is less than \$50,000, the Contractor shall respond to the request for additional information within fifteen (15) days after receipt of the request. The Contractor shall respond to the request within thirty (30) days of receipt if the amount of the claim exceeds \$50,000, but is less than \$375,000.

(d) Unless further documentation is requested, District shall respond to the claim within forty-five (45) days if the amount of the claim is less than \$50,000, or within sixty (60) days if the amount of the claim is more than \$50,000 but less than \$375,000. If further documentation is requested, District shall respond within the same amount of time taken by Contractor to respond, or fifteen (15) days, whichever is greater, after receipt of the information if the claim is less than \$50,000. If the claim is more than \$50,000 but less than \$375,000 and further documentation is requested by District, District shall respond within the same amount of time taken by the Contractor to respond or thirty (30) days, whichever is greater.

(e) If the Contractor disputes District's response, or District fails to respond, the Contractor may demand an informal conference to meet and confer for settlement of the issues in dispute. The demand shall be served on District within fifteen (15) days after the deadline of District to respond or within fifteen (15) days of District's response, whichever occurs first. District shall schedule the meet and confer conference within thirty (30) days of the request.

(f) If following the meet and confer conference the claim or any portion remains in dispute, the claimant may pursue the remedies authorized by law. For purposes of these provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim until the time the claim is denied, including any period of time utilized by the meet and confer conference.

END OF PART B

**CASITAS MUNICIPAL WATER DISTRICT**  
**SUMMARY OF INSURANCE, BOND & PAYMENT REQUIREMENTS**  
**FOR VARIOUS CONSTRUCTION CONTRACTS**

	<b>Informal</b> Under \$35,000	<b>Formal</b> \$35,000 & Over
<u>Certificates of Insurance</u> (CG 2010 Endorsement required))		
1. Workmen's Compensation	Yes	Yes
2. Commercial, General & Auto Liability	Yes	Yes
a. For one person per accident	\$1,000,000	\$1,000,000
b. More than one person per accident	\$1,000,000	\$1,000,000
3. Property damage per accident	\$1,000,000	\$1,000,000
4. Thirty days written notice prior to cancellation	Yes	Yes
<u>Bonds</u>		
Bidder's Bonds	None	10%
Payment Bonds (Material and Labor)* (Projects bid by CMWD only)	None	100%
Performance Bonds* (Projects bid by CMWD only)	Yes	Yes
<u>Maintenance and Guarantee Provisions</u>		
<u>Contracts</u>		
Period for Final payment upon acceptance	15 Days	35 Days
Amount of Retention	0, or stated in specs	5%
Progress Payment (if required, retain 5%)**	Per specs	Per specs
Final Cost Statement	None	Yes
Notice of Completion	None	Yes
Labor and Material Releases	Yes	Yes

\* At the option of the District and depending upon the type of construction activity, payment bonds and/or performance bonds may be placed as a requirement on the job.

\*\* If progress payments are required for a Purchase Order Contract, provisions therefor must be added.

**NOTE:**

The above listed are the minimum requirements for all construction contracts. Provisions are included within the Terms and Conditions for Purchase Order Contracts which will be issued for all jobs under \$35,000 and provisions should be included within the Specifications for all contracts which are \$35,000 and over. **The U.S. Bureau of Reclamation, Casitas Municipal Water District, their directors, officers, employees or authorized volunteers shall be named as additional insured as respects to all coverages listed above when the named insured is Lessee or Licensee of the Casitas Municipal Water District or when work is performed by the named insured for the Casitas Municipal Water District, and in both instances this coverage shall be primary.** Casitas, in addition to Certificates of Insurance, shall be provided with the ISO CG 2510 Endorsement or insurer's equivalent.

In accordance with the provisions of Section 1770 of the California Labor Code, the District has ascertained the general prevailing rates of wages applicable to the work to be done. It shall be mandatory upon the Contractor to whom the contract is awarded, and upon any subcontractor under him, to pay not less than the specified rates to all laborers and mechanics employed by him in the execution of the contract. The wage scale can be obtained from the California Labor Relations Board website at:

<http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm>.

## PART C

### SPECIAL CONDITIONS

1. Requirement. The work to be performed under this contract shall consist of furnishing all plans, tools, materials, supplies and manufactured articles and for furnishing all transportation, services, including fuel, power and water, trench shoring, and essential communications and the performance of all labor, work or other operations required for the fulfillment of the contract in strict accordance with the specifications, schedules and drawings, all of which are made a part hereof, and including such detail sketches as may be furnished by the Engineer from time to time during the construction in explanation of said drawings. The work shall be complete, and work, materials and services not expressly called for in the specifications or not shown on the drawings which may be necessary for complete and proper construction to carry out the contract in good faith shall be performed, furnished and installed by the Contractor at no increase in cost to the District.

2. General Description. The work generally consists of installation of a temporary 2.4 KV power service and a new 2.4 KV service panel; installation of conduits and wiring from the transformer to the new service panel per SCE requirements; installation of conduits, wiring and associated work required to power and control of the existing pumps; and installation of low voltage panels. The sequence of work is generally as follows:

- (a) Coordinate an 8-hour power-down with Casitas and Southern California Edison (SCE) to disconnect old switchgear and install temporary power to location. See E-1.2
- (b) Install temporary conduits and 5KV power cables from relocated old switchgear to service tap box at wall of building. Coordinate with SCE and Casitas, for power shutdown.
- (c) Install temporary 5 KV power cables from switchgear directly to motor control center and check for motor phase rotation. Install temporary 120/208 v-3 $\phi$  section as shown on E-1.2
- (d) Coordinate with SCE and Casitas to power to re-energize the relocated service switchgear.
- (e) Proceed with the removal of 'old' unused 5KV cabinets, wiring and controls, to make room for new switchgear.
- (f) Proceed with installation of new switchgear, and complete all construction activities.
- (g) Coordinate an 8-hour power down with SCE and Casitas to disconnect temporary 5 KV power cables to MCC. Complete final bus connections from new switchgear to existing MCC, check phase rotation.
- (h) Start-up, testing and commissioning of new switchgear by manufacturer.
- (i) Connect low voltage lighting panel 'LP' to MCC panel 'NP'.

- (j) Complete all remaining site activities including rodent control.
- (k) Remove temporary power of 5KV and 120/208V
- (l) Submit all required documentation (as-built drawings, O&M manuals, etc.).

3. General Sequence of Pre-Construction.

The General Sequence of the Contractor's pre-construction shall be as follows unless otherwise approved by the Engineer:

- (a) Submit all necessary forms.
- (b) Submit five (5) copies of the shop drawings per Part C Section 15. After the shop drawings are accepted, any special pieces may be ordered and delivered to the site.
- (c) Submit a detailed schedule of construction as specified in General Electrical Requirements Section 260100-1.3 Construction Time Line. This schedule shall be updated during the process of the work when requested by the Engineer. A weekly progress report shall be coordinated with the Engineer.
- (d) Pre-Construction. Prior to the start of construction, at a time agreed on between the Contractor and the District, a pre-construction and safety conference shall be held for the purpose of discussing and familiarizing all concerned with the contract documents, procedures, standards, correspondence and shop drawing requirements and safety issues relevant to this project.

Personnel to be present at this meeting are representatives of Casitas, the General Contractor and superintendent of General Contractor, the Subcontractors and foreman or superintendents of Subcontractors.

4. Beginning and Completion of the Work.

(a) The Contractor shall begin the work within fifteen (15) calendar days after the execution date on the Notice-to-Proceed and shall complete all work within **one hundred (100) working days of work start date, which includes the time required to procure all materials.** Failure to have the pump plant completed within hundred (100) working days shall result in predetermined liquidated damages of **\$500** per day. Contractor shall not be responsible for delays caused by Southern California Edison provided Contractor has diligently worked to install Southern California Edison required components and diligently attempted to schedule Southern California Edison for inspection and energizing the new power panel.

(b) The contractor shall have the pump plant operational within eight (8) hours after the beginning of a scheduled pump plant shutdown. The beginning of the shutdown is defined as the time District personnel shut down and “tag out” the power to the pump plant. Failure of the contractor to

have the pump plant operational within eight hours of the beginning of the shut down shall result in predetermined liquidated damages of **\$400 per hour**. See **Section 24 of Part B – General Conditions**.

5. Access to the Site and Haul Routes.

(a) The Contractor shall make his or her own investigation of the condition of the available public or private roads or other access, and of clearances, restrictions, bridge load limits, bond requirements and other limitation that affect or may affect transportation and ingress and egress at the job site. The unavailability of transportation facilities or limitation thereon shall not become a basis for claims for damages or extension of time for completion of work. It shall be the Contractor's responsibility to construct and maintain, at Contractor's own expense and at Contractor's own risk, any haul roads, access roads, bridges or drainage structures required by construction operations.

(b) Existing Public or Private Roads. The use of existing roads shall be at the Contractor's own expense and risk. It shall be the Contractor's responsibility to anticipate and meet all conditions properly imposed upon the use of existing roads by those having jurisdiction there over, including (without limitation of the generality of the foregoing) seasonal or other limitations or restrictions, the payment of excess size and weight fees, and the posting of bonds conditioned upon repair of road damage caused by contract-generated traffic. It shall be the Contractor's responsibility to satisfy all lawful demands for repair of damage to existing roads caused by contract-generated traffic and barricade public access to project sites.

(c) Haul Routes. The hauling of sand, gravel, earth materials or other intra-job hauling over public highways, roads or bridges shall be in compliance with the applicable local regulations and shall be such as to minimize interference with or congestion of local traffic.

(d) The Contractor shall provide worker training and follow-up reminders about traffic safety issues and restrictions to all employees and representatives from firms that will be traveling to the work site. Contractor shall promptly take corrective action, including forbidding the offending party from the work site, against parties found to be speeding on roads leading to the job site.

(e) Cost. The cost of all work described in this paragraph shall be included in the prices bid in the schedule for other items of work.

6. Contract Drawings. The Contractor's attention is directed to Section 2 of Part B - General Conditions to these Specifications. When deemed necessary by the Engineer, additional detailed drawings will be furnished to the Contractor during the progress of the work. The Contractor will be furnished three copies of the contract drawings and specifications. Additional copies may be purchased at the cost of reproduction.

The contract drawings are further identified as follows:

Drawing E-1.0 through E 1.7 Prepared by Consulting West

E-1.0 - Electrical Title Sheet

- E-1.1 - Electrical Site Plan
- E-1.2 – Temporary Power
- E-1.2A – Temporary Power Alternate Floor Plan
- E-1.2B – Temporary Power Alternate Cross Section Drawings
- E-1.3 - New Service Switchgear
- E-1.4 – Single Line Diagram
- E-1.5 - Specifications
- E-1.6 – 120/208 V – Single Line Diagram and Load Schedules
- M-1.0 – Mechanical Floor Plan

7. Permits. The following permits are required:

(a) Safety Permit from California Division of Industrial Safety shall be required. Contractor's attention is directed to Sections 28 and 30 of Part B - General Conditions of these specifications.

(b) The Contractor's attention is directed to Section 3 of Part B - General Conditions in regard to precedence of documents.

8. Explosives and Blasting. The use of explosives on the work will not be permitted.

9. Water & Power. The Contractor will be required to make his or her own arrangements for water and power the Contractor may require during construction of the project. If water is obtained from existing District facilities, the water will be furnished free of charge, but Contractor shall install and subsequently remove at Contractor's expense, all temporary facilities required to obtain and use the water.

10. Construction Surveys. Reference is made to Section 34 of Part B – General Conditions. No construction survey or staking will be provided by the District.

11. Safety.

(a) The Contractor shall execute and maintain Contractor's work so as to avoid injury or damage to any person or property. The Contractor shall comply with the requirements of the specifications relating to safety measures applicable in particular operations or kinds of work.

(b) In carrying out the Contractor's work, the Contractor shall at all times, exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed, and be in compliance with all federal, state and local statutory and regulatory requirements including State of California, Division of Industrial Safety (Cal/OSHA) regulations. Safety precautions as applicable shall include, but not be limited to, adequate life protection, and life saving equipment; adequate illumination for underground and night operations; instructions in accident prevention for all employees; such machinery guards, safe walkways, scaffolds, ladders, bridges, gang planks, confined space procedures, trenching and shoring, and other safety devices, equipment and wearing apparel as are necessary or lawfully required to prevent accidents or



injuries; traffic control per County of Ventura requirements; and adequate facilities for the proper inspection and maintenance of all safety measures.

(c) The name and telephone number of at least one medical provider in the vicinity and the telephone number of the local ambulance service shall be prominently displayed adjacent to telephones.

12. Nonresidency at Job Site. The Contractor, their employees or any of their subcontractors shall not be permitted to remain at any of the job sites during non-working hours. The contractor shall be responsible for the safe storage and security of equipment, materials, and waste by-products used or produced during the course of work.

13. Coordination of Work. The Contractor shall coordinate Contractor's work with the District, material suppliers, manufacturers and subcontractors during the course of the work. The time limit, date and time of the shutdown must be coordinated and approved by the Casitas Project Manager.

14. Utility Shutdowns. After Casitas has shutdown and locked out the pump plant, Contractor shall not exceed (8) eight standard working hours.

(a) The Contractor shall coordinate the shutdown(s) in writing ten (10) calendar days prior to shutdown time. No discharge of water to nearby creeks or streams shall be permitted unless complete removal of chloramines is provided by the Contractor. After the facility has been electrically shutdown and locked out, the Contractor shall complete the connection work within the above prescribed time period.

(b) Materials and equipment shall be at the project site twenty-four (24) hours prior to shutdown.

(c) For each hour or fraction thereof in excess of the allotted shut down time, the Contractor shall pay to the District a penalty of Four hundred dollars (\$400) per hour.

(d) Rescheduling a shutdown may occur prior to the District isolation of the facility.

15. Shop Drawing Submittals.

(a) The Contractor shall review, mark with approval, and submit for review to the Engineer all shop drawings as listed below, as well as any additional submittals the Engineer may find necessary. Five (5) sets of shop drawings shall be submitted to the Engineer and be accompanied by a letter of transmittal listing the drawings submitted. As an alternative, the Contractor may submit the drawing electronically in an Adobe file. Drawings shall show the name of the project, the name of the Contractor, and if any, the names of the suppliers, manufacturers and subcontractors. Shop drawings shall be submitted with promptness and in an orderly sequence so as not to cause delay in prosecution of the work. By submitting shop drawings, the Contractor represents that the material, equipment and other work shown therein conforms to the plans and specifications, unless otherwise indicated in writing on the transmittal. Drawings required for conventional pumps, motors and other manufactured equipment

may be brochures or catalogue sheets but must show the necessary dimensions required for proper installation, operation, and maintenance of the equipment.

(b) The Engineer will, within two (2) weeks of submittal receipt, return three (3) of the copies or one (1) electronic copy to the Contractor with any comments thereon. If so noted by the Engineer the Contractor shall correct the drawings and resubmit them in the same manner as specified for the original submittal. Shop drawings which are approved by the Engineer and will not require a resubmittal, shall be returned to the Contractor as, "Approved, No Exceptions Taken".

(c) The review of the Engineer is only of general conformance with the design concept of the project, and general compliance with the plans and specifications and shall not be construed as relieving the Contractor of the full responsibility for: providing materials, equipment, and work required by the Contract; the proper fitting and construction of the work; the accuracy and co-processes and techniques of construction; and performing the work in a safe manner.

(d) No portion of the work requiring a shop drawing submittal shall commence until the submittal has been reviewed by the Engineer and returned to the Contractor with a notation "Approved, No Exceptions Taken".

(e) Prior to District approval and commencement of construction, the Contractor shall submit to the District:

- (1) Work Schedule - Gant Chart for schedule of work and order of precedence.
- (2) Service Panel drawings
- (3) Conduit and cable materials and suppliers

16. Materials. All parts and materials provided for construction of the project shall be new unless otherwise indicated.

END OF PART C

## **PART D**

### **ELECTRICAL SPECIFICATIONS**

1. General.

(a) This section defines electrical portion of the project. The work is described in the Electrical Specifications Booklet and Plans prepared by Consulting West, and Southern California Edison Project requirements.

(b) Contractor shall provide and install all wiring necessary except as noted on the plans to provide for full function and control of the Ventura Avenue Pumping Plant No. 1 Service Panel Replacement.

2. Conduits. As specified in Section 26 11 00.

3. Southern California Edison. Contractor shall be responsible for coordinating the Southern California Edison required work. Should Southern California Edison work be delayed after the Contractor has provided sufficient lead time to Southern California Edison, the District will allow addition work days for the delay. No additional payment will be made by the District for delays resulting from Southern California Edison's delay in completing its portion of the work.

END OF PART D

## PART E

### MEASUREMENT AND PAYMENT

1. General. This section defines bid item prices and the manner in which they will be used to determine measurement and payment for all items included in the bid sheet.

2. Bid Item Prices Required.

(a) In the Bidding Sheet of the Proposal form, each Bidder shall quote unit prices for the appropriate items of work in the units stated in the Bidding Sheet form. Failure to quote on each unit price item may cause rejection of the Bidder's entire bid at the discretion of the District.

(b) The unit prices as described herein for those bid items which are bid on a lump sum basis shall be equivalent to the "amount" price. Only the "amount" price need be completed on the items which are specifically stated on the Proposal form in lump sum units.

(c) Unbalanced Prices. Proposed bid item prices which are so unbalanced as to be detrimental to the District's interests may be rejected or cause rejection of the Bidder's entire bid, at the discretion of the District.

(d) Costs Included. Each proposed bid item shall cover all costs and charges, including, without limitation, the cost of material, fabrication, delivery, installation or application, damage to structure before acceptance by District, supervision, bond and insurance charges, overhead, profit and taxes. Quoted unit prices shall be the exact amount per unit to be applied to the units of work actually provided for the purpose of establishing the payment due the Contractor.

(e) Quoted Bid Item. Prices accepted by the District shall be held good and in effect until the work is completed and accepted by the District, unless modified by change order.

3. Measurement and Payment

(a) This section defines the manner and method of measurement and payment for all items included in the contract.

(b) Compensation for all plants, equipment, tools, material, labor, service, permits and all other items required to complete the work in conformity with the contract documents will be included in the payment provided in this section, unless specifically excluded. No other compensation will be made except for the items listed in the bid sheet. Work for which no separate payment has been provided will be considered as a subsidiary obligation of the Contractor, and the cost therefore shall be included in the applicable contract price for the item to which the work applies. All measurements of work will be made by the Engineer.

4. Bid Items

(a) Bid Item No.1 – Furnish and install a new 2.4 KV switchgear as specified in Section 26 24 10 of the CMWD Electrical Specifications. The metal-clad switchgear shall be manufactured by Square D (Schneider Electric). Install in accordance with manufacturer's instructions, applicable requirements of the NEC and in accordance with recognized industry practices. Install cables, as provided by the switchgear manufacturer, to connect to the primary surge arresters. Payment will be on a lump sum basis.

(b) Bid Item No.2 – Furnish and install underground conduits from Pad Mount SCE Transformer to new switchgear per SCE requirements. The scope shall include all labor, materials, services

and equipment required for excavation, trenching, backfill, and transportation, furnishing and installing new conduit, fittings, pull strings, bedding material, compaction and all appurtenant work for a complete installation of the SCE power system. Payment will be made on a lump sum basis.

(c) Bid Item No.3 – Pick up from the District Storage, transport and install temporary 2.4 KV service (choose one of the alternatives as shown in the drawings), using bypass 5 KV-MC cables from existing switchgear to MCC; coordinate with Casitas Municipal Water District (CMWD) and SCE for shutdowns and services switch overs (two 8-hours) between the temporary power and the new power. Remove temporary systems when electrical update is complete. Measurement shall be on a percent complete basis. Payment will be made on lump sum basis.

(d) Bid Item No.4 – Furnish and install low voltage (120/240) panels including conduit and wire extensions. Payment will be on a lump sum basis.

(e) Bid Item No.5 – Complete start-up and testing. The lump sum bid price bid to complete start-up and testing shall include all labor, materials, services and equipment required to complete testing in accordance with Section 26 70 00 of the CMWD Electrical Specifications, Acceptance and Testing. Payment will be on a lump sum basis.

(f) Bid Item No. 6 – Install new indoor fan coil unit and outdoor condensing unit as specified. Measurement shall be on a percent complete basis. Payment will be made on lump sum basis.

(g) Bid Item No. 7 – Provide operational & maintenance manual (O&M) and as-built drawings upon completion of the construction. Payment will be on a lump sum basis.

END OF PART E

# CASITAS MUNICIPAL WATER DISTRICT

OAK VIEW, CALIFORNIA

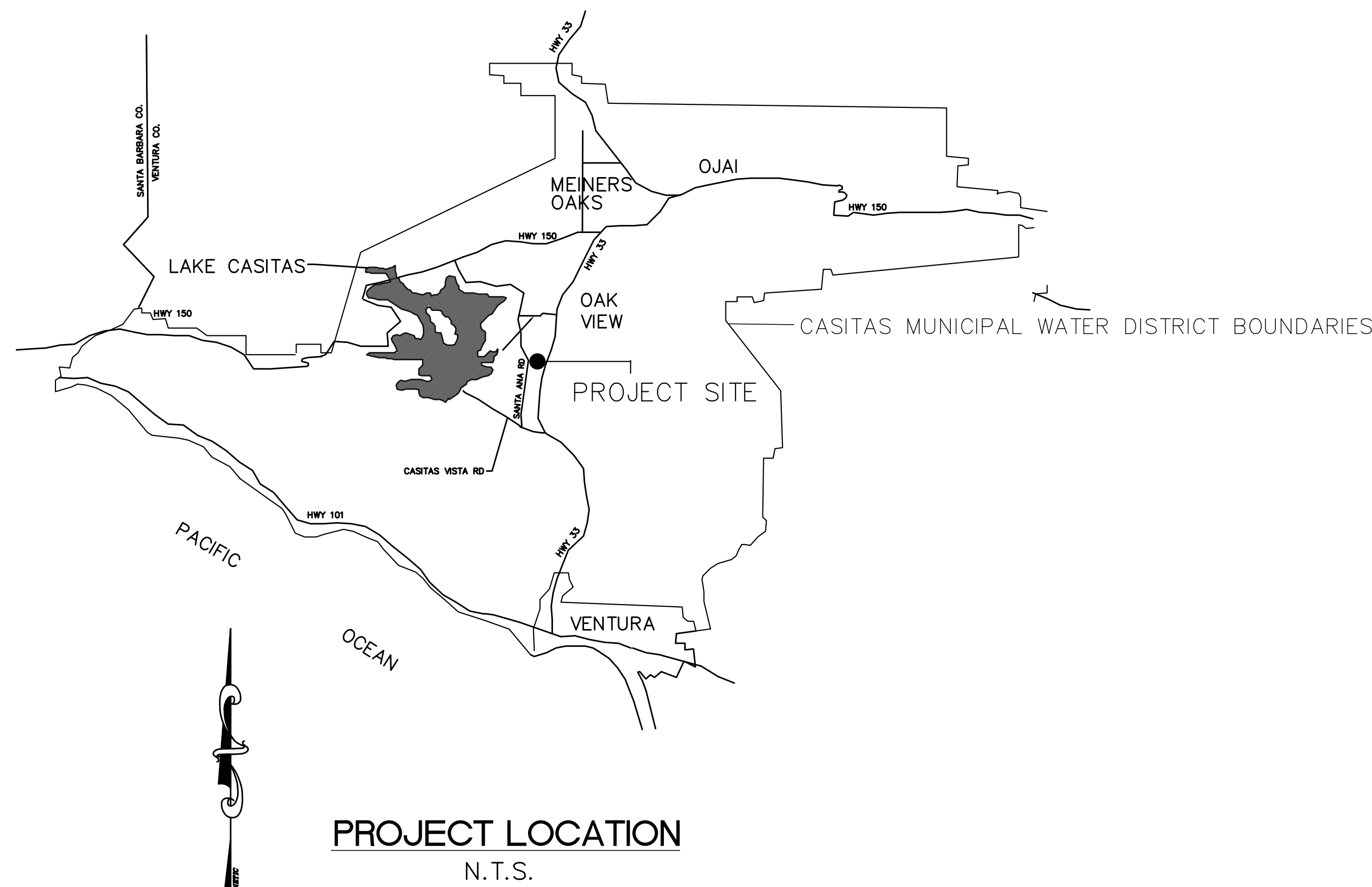
## VENTURA AVE. NO. 1 PUMP PLANT ELECTRICAL UPGRADE

### GENERAL NOTES

- THE COMPLETE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE 2013 CEC BASED ON 2011 EDITION OF THE NATIONAL ELECTRICAL CODE, THE LATEST RULES AND REGULATIONS OF THE SAFETY ORDERS ISSUED BY THE DIVISION OF INDUSTRIAL SAFETY, THE NATIONAL BOARD OF FIRE UNDERWRITERS AND ALL APPLICABLE STATE AND LOCAL CODES ISSUED BY THE AUTHORITIES HAVING JURISDICTION.
- THE CONTRACTOR, PRIOR TO BIDDING, SHALL VISIT THE JOB SITE TO BECOME ACQUAINTED WITH THE EXISTING INSTALLATION AND SYSTEMS RELATED TO HIS WORK AND SHALL INCLUDE IN THE BID PROPOSAL ALL LABOR AND MATERIALS REQUIRED FOR THE ELECTRICAL INSTALLATION TO BE COMPLETE AND OPERATIVE.
- CONSTRUCTION SEQUENCING AND PHASING:** PROVIDE CONSTRUCTION IN PHASES AND IN CONJUNCTION WITH THE CONSTRUCTION SEQUENCE INDICATED ON THESE PLANS AND AS REQUIRED BY THE PROJECT.
- RODENT CONTROL:** RODENTS ARE A PERSISTENT NUISANCE AT THIS SITE. ALL CONDUITS, J-BOXES, & PANELS SHALL BE SEALED TO PREVENT RODENTS FROM GAINING ACCESS TO ELECTRICAL EQUIPMENT OR BUILDINGS BY MEANS OF CONDUITS, WIREWAYS, OR BUILDING PENETRATIONS.
- THE CONTRACTOR SHALL REVIEW THE ELECTRICAL SPECIFICATIONS BOOKLET AND THE CASITAS MUNICIPAL WATER DISTRICT (CMWD) ADDITIONAL DRAWINGS RELATED TO THIS PROJECT FOR REQUIRED WORK TO BE PROVIDED.
- ANY POWER SHUTDOWN SHALL BE COORDINATED WITH THE CMWD CONSTRUCTION COORDINATOR. A SHUTDOWN SCHEDULE SHALL BE PRESENTED TO THE OWNER FOR APPROVAL TWO WEEKS PRIOR TO COMMENCEMENT OF WORK.
- ALL MOTOR FEEDER AND CONTROL CIRCUIT CONDUITS SHALL BE INSTALLED UNDERGROUND, UNLESS OTHERWISE NOTED.
- THE OWNER RETAINS FIRST SALVAGE RIGHTS TO ALL EXISTING EQUIPMENT REMOVED UNDER THIS CONTRACT. THE ELECTRICAL CONTRACTOR SHALL CONSULT WITH THE OWNER FOR DISPOSITION OF THE EXISTING EQUIPMENT TO BE REMOVED BY HIM. THE CONTRACTOR SHALL INCLUDE IN HIS BID PROPOSAL ALL COSTS RELATED TO THE DISPOSITION OF EXISTING EQUIPMENT REMOVED UNDER THIS CONTRACT.
- DEMOLITION WORK** SHALL BE PROVIDED AS REQUIRED TO ACCOMPLISH NEW WORK CALLED FOR AND AS NOTED. WORK SHALL BE PERFORMED CAREFULLY TO AVOID DAMAGE TO SURFACES, STRUCTURES, AND EQUIPMENT NOT BEING REMOVED. EXISTING EQUIPMENT AND/OR ELECTRICAL WIRING WHICH IS TO REMAIN, BUT HAS BEEN REMOVED TO FACILITATE THE INSTALLATION OF THE NEW EQUIPMENT, SHALL BE RESTORED TO ITS ORIGINAL OPERATING CONDITION.
- THE CONTRACTOR SHALL REMOVE ALL ELECTRICAL ITEMS INDICATED ON PLANS, WHICH WILL BE REMOVED FOR THE RENOVATION WORK OF THIS PROJECT. DISCONNECT COMPLETELY BEFORE START OF REMOVAL.
- WHERE OUTLETS ARE REMOVED AND/OR CONDUIT IS CUT OFF, ALL EXISTING CONDUCTORS SHALL BE REMOVED BACK TO THE NEXT OUTLET, JUNCTION BOX OR BACK TO MOTOR CONTROL CENTER.
- EXISTING CONDUCTORS REMOVED FROM SERVICE SHALL NOT BE PERMITTED TO BE USED FOR NEW WORK UNDER THIS CONTRACT, EXCEPT ON A TEMPORARY BASIS AS SHOWN ON DRAWINGS.
- EXISTING CONDUIT RUNS REMAINING IN PLACE MAY BE UTILIZED FOR THE RENOVATION WORK, PROVIDED THAT THE CONDUIT IS OF ADEQUATE SIZE PER N.E.C. FOR THE NUMBER AND SIZE OF CONDUCTORS BEING INSTALLED.
- BLANK COVERS SHALL BE INSTALLED WHEREVER DEVICE IS REMOVED AND OUTLET BOX REMAINS IN PLACE.
- SEPARATE INSULATED GROUND CONDUCTORS SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUIT CONDUITS.
- PROVIDE LABELS ON ALL EQUIPMENT AND DEVICES. LABELS SHALL BE SELF-ADHESIVE PHENOLIC TYPE WITH WHITE LETTERS ON BLACK BACKGROUND.
- THE CONTRACTOR SHALL PROVIDE A TYPED DIRECTORY FOR THE ELECTRICAL PANELS INVOLVED IN THIS PROJECT. THE PANEL DIRECTORY SHALL REFLECT THE AS-BUILT CIRCUITS. ONE COPY OF SCHEDULE SHALL BE TAPED TO THE INSIDE OF THE PANEL DOOR, AND ONE COPY SHALL BE SUBMITTED TO THE ENGINEER AS AN "AS-BUILT" DRAWING.
- ELECTRICAL EQUIPMENT AND FEEDERS SHALL BE SUPPORTED AND/OR ANCHORED IN ACCORDANCE WITH UBC ZONE 4, IMPORTANCE FACTOR 1.5 SEISMIC REQUIREMENTS.
- THE CONTRACTOR SHALL MAINTAIN, AT THE JOB SITE, AN UP TO DATE DRAWING SET. THE DRAWING SET SHALL REFLECT ALL APPROVED CHANGES TO THE DESIGN DRAWINGS. AN "AS-BUILT" DRAWING SET SHALL BE KEPT CLEAN AND IN GOOD CONDITION AND SHALL BE TURNED OVER TO THE CMWD AT THE COMPLETION OF THE PROJECT.
- UPON COMPLETION OF WORK, THE CONTRACTOR SHALL SCHEDULE AND PERFORM A COMPLETE FUNCTIONAL TEST TO DEMONSTRATE TO THE OWNER THAT THE NEW INSTALLATION IS OPERATING AS INTENDED. ANY DEFECTS OR DEFICIENCIES IN THE MATERIALS OR WORK SHALL BE CORRECTED IMMEDIATELY BY AND AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ANY REQUIRED ELECTRICAL PERMITS AND INSPECTIONS.
- THE SUBMISSION OF A BID OR PROPOSAL SHALL BE CONSIDERED AS CONCLUSIVE EVIDENCE THAT THE CONTRACTOR IS THOROUGHLY FAMILIAR WITH THE INTENT OF THE CONTRACT DOCUMENT, AND NO CHANGE ORDER WILL BE ISSUED FOR ANY ADDITIONAL LABOR OR MATERIAL REQUIRED TO RECTIFY ANY DISCREPANCY DISCOVERED OR REPORTED TO THE ENGINEER AFTER THE EXECUTION OF THE CONTRACT.
- PROVIDE 120 VOLT A/C CIRCUITS AS REQUIRED TO SERVE AUXILIARY EQUIPMENT SUCH AS CONTROL PANELS AND SERVICE OUTLETS.
- CONTRACTOR SHALL PROVIDE ANY TEST REPORTS AS PART OF TURN-OVER PACKAGE TO THE OWNER.
- CONDUITS SHALL BE SUPPORTED AND BRACED PER THE SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL AND PLUMBING PIPING SYSTEMS", OR THE SUPERSTRUT "SEISMIC RESTRAINT SYSTEM".
- ALL EXTERIOR ELECTRICAL DEVICES AND EQUIPMENT SHALL BE WEATHERPROOF TYPE, NEMA "3R".
- GROUNDING: IN ADDITION TO ALL OTHER GROUNDING REQUIREMENTS, ADJACENT PIPING SECTIONS ON EACH SIDE OF THE PUMPS SHALL BE SECURELY GROUNDED.
- VAPOR-SEAL ALL CONDUITS AT POINT OF ENTRY INTO BUILDINGS OR ENCLOSURES.
- MOTOR J-BOX REPLACEMENT MAY BE NECESSARY TO ACCOMMODATE WIRE SIZES.

### ABBREVIATIONS

A, AMP	AMPERE	MCC	MOTOR CONTROL CENTER
AF	AMP FUSE	MFG	MANUFACTURER
AIC	INTERRUPTING CAPACITY RATING	MIN	MINIMUM
AS	AMP. SWITCH	MSB	MAIN SWITCHBOARD
AT	AMP. TRIP	MTD	MOUNTED
AFF	ABOVE FINISHED FLOOR	NEC	NATIONAL ELECTRICAL CODE
ATS	AUTOMATIC TRANSFER SWITCH	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASS.
C	CONDUIT	NU	NEUTRAL
CKT	CIRCUIT	N/A	NOT APPLICABLE
CB	CIRCUIT BREAKER	NL	NITE LITE CIRCUIT
C.O.	CONDUIT ONLY	NO. #	NUMBER
CT	CURRENT TRANSFORMER	NTS	NOT TO SCALE
CU	COPPER	N	NEW
DB	DISTRIBUTION BOARD	PLC	PROGRAM LOGIC CONTROLLER
DN	DOWN	PB	PULL BOX
DWG	DRAWING	PH, #	PHASE
EA	EACH	PNL	PANEL
ELEC	ELECTRICAL	PVC	POLYVINYL CHLORIDE
EM	EMERGENCY	PWR	POWER
EQ	EQUIPMENT	RECEPT.	RECEPTACLE
EX	EXISTING (E)	RM	ROOM
FLUOR	FLUORESCENT	SHT	SHEET
FVNR	FULL VOLTAGE NON-REVERSING	SPEC	SPECIFICATIONS
F	FUSED	SW	SWITCH
FA	FIRE ALARM	SWBD	SWITCHBOARD
G, GND	GROUND	T/C	TIME CLOCK LIGHT. CONTROL PANEL
GFI	GROUND FAULT INTERRUPTER	TEL	TELEPHONE
HOA	HAND-OFF-AUTOMATIC	TTC	TELEPHONE TERMINAL CABINET
HP	HORSE-POWER	TYP	TYPICAL
HV	HIGH VOLTAGE	XFMR	TRANSFORMER
Isc	RMS SHORT CIRCUIT CURRENT	UG	UNDERGROUND
JB	JUNCTION BOX	UON	UNLESS OTHERWISE NOTED
KV	KILO VOLT	V	VOLT
KVA	KILO VOLT- AMPERE	VA	VOLT-AMPERES
KW	KILO WATT	V.L.	VERIFY EXACT LOCATION IN FIELD
LTG	LIGHTING	W/	WITH
LTS	LIGHTS	W	WATT
LV	LOW VOLTAGE	WP	WEATHERPROOF
MAX	MAXIMUM	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED



### BASIS OF DESIGN AND CONSTRUCTION SEQUENCE

#### OVERVIEW

THE CASITAS MUNICIPAL WATER DISTRICT WILL BE UPGRADING THE EXISTING ELECTRICAL SERVICE OF THE AVENUE 1 PUMP PLANT TO ACHIEVE THE FOLLOWING OVERALL OBJECTIVES:

- REPLACE AGING 2.4KV-3Φ-SERVICE SWITCHGEAR.
- IMPLEMENT ABOVE WITHOUT DISRUPTING WATER SERVICE TO END USERS.

#### ELECTRICAL OBJECTIVES

THE FOLLOWING CHANGES TO THE EXISTING ELECTRICAL SYSTEM WILL BE REQUIRED AS PART OF THE ABOVE OVERALL OBJECTIVES:

- PROVIDE A NEW 2.4KV SWITCHGEAR.
- INSTALL A NEW UNDERGROUND CONDUITS AND 5KV FEEDERS FROM PAD MOUNT TRANSFORMER TO NEW SWITCHGEAR.
- PROVIDE TEMPORARY POWER AS SHOWN ON DRAWINGS IN ORDER TO ACCOMPLISH THE ABOVE WITHOUT DISRUPTING WATER SERVICE TO END USERS.
- CHANGES WILL BE IMPLEMENTED IN PHASES AS DESCRIBED IN THE DRAWINGS.

#### CONSTRUCTION SEQUENCE:

- COORDINATE AN 8HR POWER-DOWN AND DISCONNECT EXISTING OVERHEAD SERVICE BUSWAY. DISCONNECT OLD SWITCHGEAR AND INSTALL TEMPORARY POWER TO LOCATION. SEE E-12
- INSTALL TEMPORARY CONDUITS AND 5KV CABLES FROM RELOCATED OLD SWITCHGEAR TO SERVICE TAP BOX AT WALL OF BLDG. COORDINATE WITH S.C. EDISON, FOR POWER SHUTDOWN.
- INSTALL TEMPORARY 5KV POWER CABLES FROM SWITCHGEAR DIRECTLY TO MOTOR CONTROL CENTER. CHECK FOR MOTOR PHASE ROTATION. INSTALL TEMPORARY 120/208V-3Φ SECTION AS SHOWN ON E-12.
- SC EDISON POWER TO RE-ENERGIZE THE RELOCATED SERVICE SWITCHGEAR.
- PROCEED WITH THE REMOVAL OF 'OLD' UNUSED 5KV CABINETS, WIRING AND CONTROLS, TO MAKE ROOM FOR NEW SWITCHGEAR.
- PROCEED WITH INSTALLATION OF NEW SWITCHGEAR, AND COMPLETE ALL CONSTRUCTION ACTIVITIES.
- COORDINATE AN 8 HOUR POWER DOWN FROM SC EDISON AND DISCONNECT TEMPORARY 5KV POWER CABLES TO 'MCC'. COMPLETE FINAL BUS CONNECTIONS FROM NEW SWITCHGEAR TO EXISTING MOTOR CONTROL CENTER. CHECK PHASE ROTATION.
- START UP, TESTING AND COMMISSIONING OF NEW SWITCHGEAR BY MANUFACTURER.
- CONNECT LOW VOLTAGE LIGHTING PANEL 'LP' TO PANEL 'MP'.
- COMPLETE ALL REMAINING SITE ACTIVITY, INCLUDING RODENT CONTROL.
- REMOVE TEMPORARY POWER OF 5KV AND 120/208V
- FURNISH AND INSTALL AIR CONDITIONING SYSTEM AS SHOWN ON THE MECHANICAL DRAWINGS.
- SUBMIT ALL REQUIRED DOCUMENTATION (AS-BUILT DWGS, MANUALS, ETC.)

NOTE: ALL POWER-DOWN PERIODS REQUIRE 48-HOUR ADVANCE NOTICE TO AND APPROVAL FROM CMWD PROJECT MANAGEMENT, AND MUST BE LIMITED TO 8 HOURS MAXIMUM PER EVENT.

### LIST OF DRAWINGS

SHEET	TITLE
E-1.0	ELECTRICAL TITLE SHEET
E-1.1	ELECTRICAL SITE PLAN
E-1.2	TEMPORARY POWER
E-1.3	NEW SERVICE SWITCHGEAR 2.4KV
E-1.4	SINGLE LINE DIAGRAM
E-1.5	SPECIFICATIONS
E-1.6	120/208V-SINGLE LINE DIAGRAM AND LOAD SCHEDULES
M-1.0	MECHANICAL FLOOR PLAN

D			
2			
1	ISSUE FOR BID	R.V.	08-10-16
A	ISSUE FOR FINAL REVIEW	R.V.	07-12-16
A	APPROVED	R.G.E.	APP. DATE



PREPARED BY:  
**CONSULTING WEST**  
 31340 VIA COLINAS, #102  
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DESIGNED	DRAWN	CHECKED
PROJ. ENG. DIRK DE KREEK	RECOMMENDED ROD VASQUEZ	
REL. NO.	DATE	APPROVED

APPROVED BY: CASITAS MUNICIPAL DISTRICT

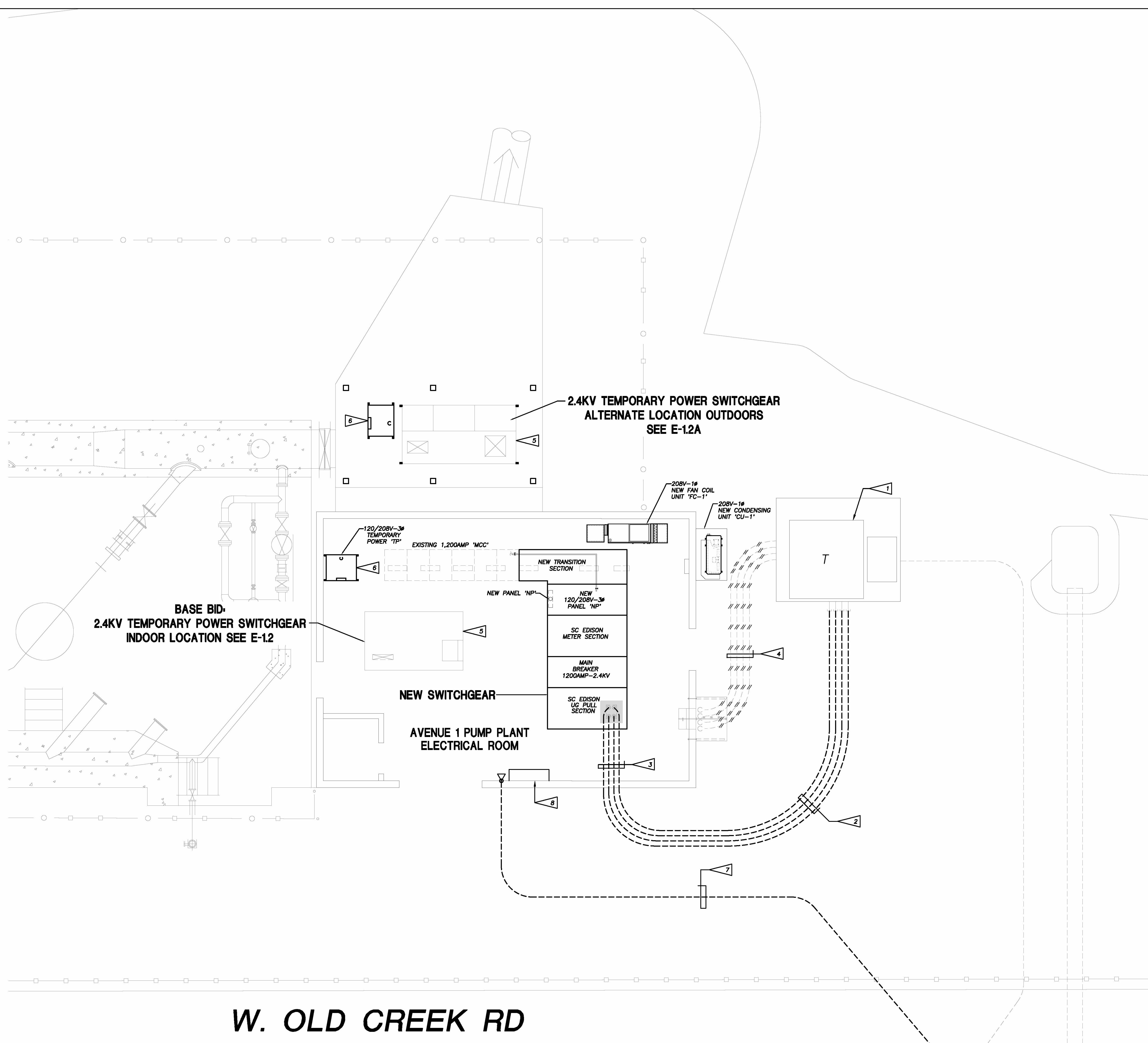
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SPEC. NO.
PROJ. NO.

CASITAS MUNICIPAL WATER DISTRICT- VENTURA AVE. NO. 1 PUMP PLANT

ELECTRICAL TITLE SHEET

SHEET _____
OF _____
DRAWING NO. E-10



**PLAN NOTES:**

- 1 PROTECT AND MAINTAIN EXISTING SCE PAD MOUNT TRANSFORMER, WITH CABLE VAULT.
- 2 NEW (4) 4" CO. FOR 5KV CABLES FROM TRANSFORMER VAULT TO NEW SWITCHGEAR. UNDERGROUND CONDUITS IN RED COLOR CONCRETE ENCASEMENT. 5KV CABLES TO BE OWNED AND MAINTAINED BY SC EDISON CO.
- 3 (4) 4" CO. BELOW EXISTING 14" CONCRETE SLAB. CONTRACTOR TO SAW-CUT AND REPAIR CONCRETE, AFTER WORK IS DONE TO MATCH FINISH SURFACES.
- 4 EXISTING UNDER GROUND SERVICE CONDUITS AND 5KV POWER CABLES TO BE USED AS TEMPORARY SERVICE. SEE E-1.2 AND E-1.2A. AFTER SWITCHOVER IS COMPLETED, REMOVE 5KV CABLES AND ABANDON CONDUITS BELOW GROUND.
- 5 TEMPORARY 2.4KV-3Ø METER-SWITCHGEAR (OFC): INSTALL TEMPORARY SWITCHGEAR AVAILABLE AT OWNER'S (CMWD) STORAGE FACILITY. CONTRACTOR SHALL HIRE THE SERVICES OF SPECIALIZED RIGGING COMPANY TO PICK UP, TRANSPORT AND PLACE SWITCHGEAR AS SHOWN ON SHEET E-1.2 AND E-1.2A(ALTERNATE LOCATION). COMPLETE INSTALLATION PER PLANS.
- 6 TEMPORARY 120/208V-3Ø-4W TRANSFORMER AND PANEL SECTION (OFC): INSTALL TEMPORARY LOW VOLT POWER SECTION AVAILABLE AT OWNER'S (CMWD) STORAGE FACILITY. CONTRACTOR SHALL HIRE RIGGING COMPANY TO PICK UP, TRANSPORT AND PLACE POWER SECTION AS SHOWN ON SHEET E-1.2 AND E-1.2A(ALTERNATE LOCATION). COMPLETE INSTALLATION PER PLANS.
- 7 PROVIDE NEW 1" CO.-U.G. WITH PULL CORD FOR TEL. SERVICE FROM OUTDOOR POLE TO INSIDE BLDG. TERMINATION IN 6x6 WALL 'U' BOX.
- 8 EXISTING CONTROL PANEL 'CP-5' SEE E-1.2 AND E-1.2A.

**W. OLD CREEK RD**

SCE POLE  
4659287E

**SITE PLAN**  
SCALE: 1/4" = 1'-0"



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 \_\_\_\_\_  
 SIGNATURE DATE

SPEC. NO.
PROJ. NO.

CASITAS MUNICIPAL WATER DISTRICT- VENTURA AVE. NO. 1 PUMP PLANT

**ELECTRICAL SITE PLAN**

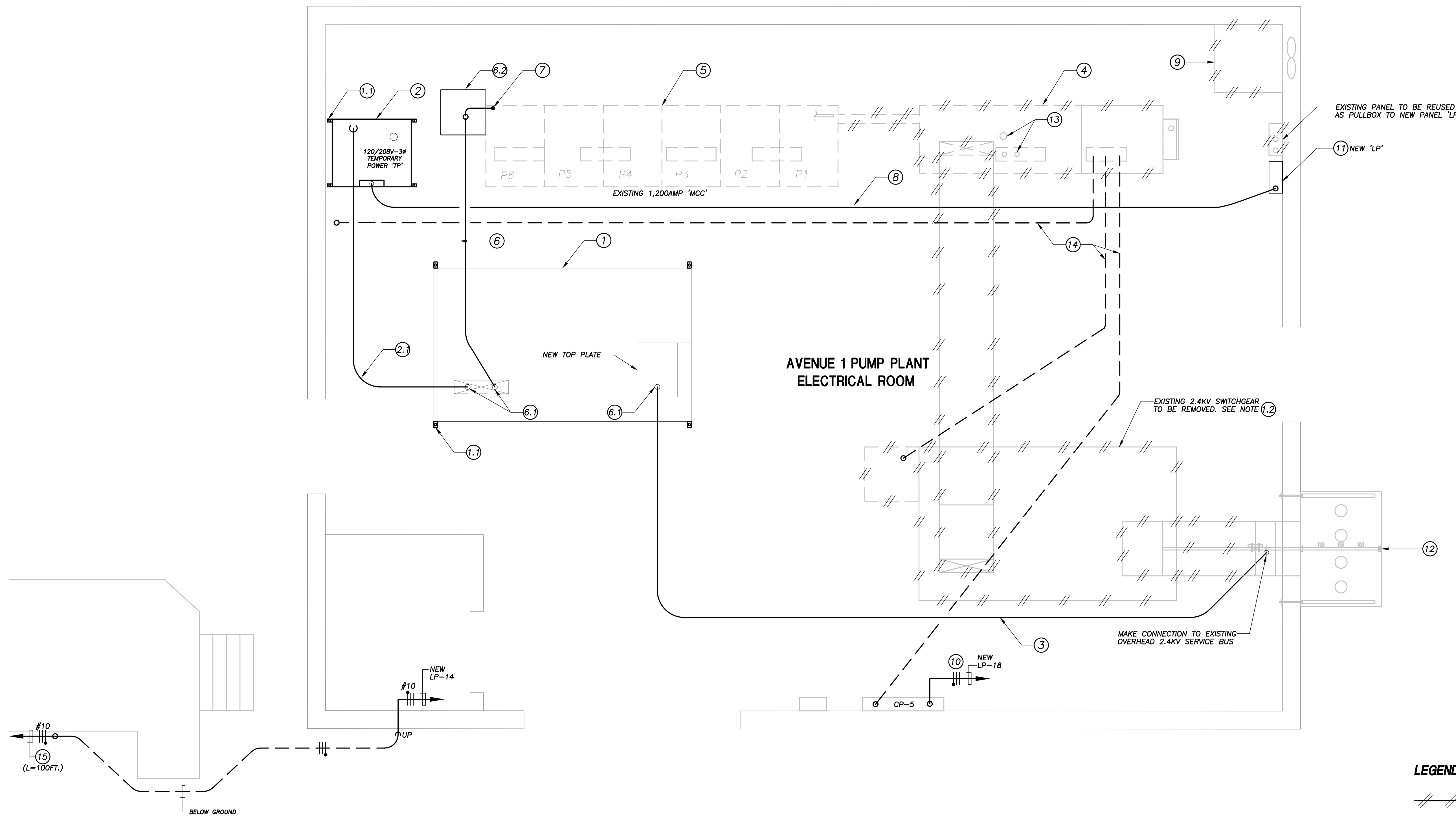
SHEET	_____
OF	_____
DRAWING NO.	<b>E-1.1</b>

**GENERAL NOTES:**

1. MAKE AN INSPECTION OF THE EXISTING SERVICE SWITCHGEAR AND MOTOR CONTROL CENTER. DETERMINE THE POINT OF DISCONNECT OF THE SERVICE BUS ATTACHMENT TO SWITCHGEAR. INSULATE BUS TERMINATIONS AT POINT OF DISCONNECTION. PROVIDE TEMPORARY BUS-CABLE CONNECTORS AT THE SWITCHGEAR SIDE OF THE BUS. CONNECT TEMPORARY POWER CABLES AND RE-ENERGIZE SWITCHGEAR. USE HEAT SHRINKABLE CABLE TERMINATIONS. TAPE BUS CONNECTOR TO MAINTAIN 5KV RATING.
2. COORDINATE WITH S.C. EDISON FOR FINAL INSPECTION. VERIFY PHASE ROTATION BEFORE RE-ENERGIZING.
3. FOR DEMOLITION WORK REQUIREMENTS SEE GENERAL NOTES 9 THRU 9.5 OF SHEET E-1.0.
4. PROVIDE NEW WIRING FEEDERS AND BREAKERS FOR ALL EXISTING ELECTRICAL TO REMAIN IN SERVICE WHICH HAS ITS EXISTING SUPPLY CIRCUIT INTERRUPTED BY DEMOLITION WORK PERFORMED UNDER THIS CONTRACT. DO NOT RECONNECT TO A SOURCE WHICH COULD BE OVERLOADED BY THE ADDITION OF THIS ITEM.
5. WHERE EXISTING CONDUIT AND/OR CIRCUIT HAS BEEN INTERRUPTED BY REMOVAL OF AN OUTLET(S), WALL OR PORTION OF THE CIRCUIT, THE REMAINING CONDUIT AND/OR CIRCUIT SHALL BE REROUTED, EXTENDED AND RECONNECTED AS REQUIRED TO PROVIDE CONTINUITY FOR THE CIRCUIT THAT IS TO REMAIN IN SERVICE.
6. PERFORM DEMOLITION WORK IN SEQUENCE AND IN COORDINATION WITH THE PHASING OF NEW CONSTRUCTION.

**KEY NOTES:**

1. INSTALL TEMPORARY MAIN SWITCHGEAR AND METER SECTIONS (OFC). SEE E-1.1. PROVIDE NEW CONDUITS AND 5KV CABLES AS SHOWN. VERIFY IN FIELD. SEE NOTE 3.
1. ANCHOR AT FOUR CORNERS USING 1/2"x4" EXPANSION BOLTS ATTACHED TO 4x4x3/16" ANGLE PIECES WELDED TO CABINET BASE.
2. DISCONNECT AND REMOVE EXISTING SWITCHGEAR. CONTRACTOR SHALL REQUEST A POWER DOWN FROM S.C. EDISON AND PROCEED WITH REMOVAL OF SWITCHGEAR, OVERHEAD BUSWAY, CABLES, CONNECTIONS, ETC. CONTRACTOR TO HIRE RIGGING COMPANY TO MOVE SWITCHGEAR OUT OF ELECTRICAL ROOM AND DELIVER TO OWNER (CMWD) FOR STORAGE.
2. TEMPORARY 120/208V-3Ø SECTION FOR TEMP. POWER. THIS SECTION WILL BE OWNER FURNISHED FOR CONTRACTOR INSTALLATION (OFC).
2. PROVIDE 5"CO-9#4/0 5KV CABLE + 1/0 GND. MAKE CONNECTIONS, TESTING AND ENERGIZING OF TEMPORARY POWER. NEUTRAL SHALL BE GROUNDED ON SECONDARY SIDE OF 15KVA TRANSFORMER.
3. PROVIDE 5"CO-9#4/0 5KV CABLE + 1/0 GND. TEMPORARY FEEDER, FROM TEMPORARY SWITCHGEAR TO OVERHEAD SERVICE BUS: (3)4/0 CABLES/PHASE + GND.
4. DISCONNECT AND REMOVE EXISTING 1200AMP-5KV OLD MOTOR CONTROL SWITCHGEAR AND OVERHEAD BUSWAY AND CONNECTORS. VERIFY IN FIELD BEFORE PROCEEDING. DE-ENERGIZE SERVICE IN COORDINATION WITH SC EDISON AND CASITAS WATER DISTRICT.
5. PROTECT AND MAINTAIN EXISTING ALLEN BRADLEY MOTOR CONTROL CENTER (MCC) PUMPS 1, 2, 3, 4, 5 & 6 TO BE RECONNECTED TO TEMPORARY OVERHEAD 5KV FEEDER.
6. PROVIDE 5"CO-9#4/0 5KV CABLE + 1/0 GND. TEMPORARY FEEDER, FROM RELGATED SWITCHGEAR TO MOTOR CONTROL CENTER: (3)4/0 CABLES/PHASE + GND.
6. CONDUIT DROP FROM OVERHEAD AND PENETRATION THRU TOP OF GEAR BOX. VERIFY EXACT LOCATION IN FIELD. MAKE 5KV CONNECTIONS. PROVIDE NEW TOP PLATES.
- 6.2. PROVIDE 20"Wx20"Dx36"H TEMPORARY PULL BOX NEXT TO 'MCC'. SUPPORT METAL BOX WITH FLOOR LEGS.
7. PROVIDE TEMPORARY CABLE CONNECTIONS TO EXISTING 2.4KV 'MCC'. USE 5KV CABLE TERMINATIONS AND INSULATION. DE-ENERGIZE SERVICE IN COORDINATION WITH OWNER & SC EDISON CO. BEFORE PROCEEDING. VERIFY EXACT POINT OF CONNECTIONS TO EXISTING BUS SYSTEM. PROVIDE 5KV LUGS AS REQUIRED.
8. TEMPORARY 2"CO-4#2/0 + 1#6 GND. FROM SECTION 'TP' TO NEW PANEL 'LP'.
9. DISCONNECT AND REMOVE WALL MOUNTED FAN. VERIFY IN FIELD. SEE MECHANICAL DRAWINGS.
10. RECONNECT POWER TO SCADA PANEL CP-5. VERIFY IN FIELD.
11. NEW 120/208-3Ø-4W PANEL 'LP'. INTERCEPT ALL EXISTING CIRCUITS, CONDUIT AND WIRE AND RECONNECT WIRING TO NEW PANEL 'LP'. SEE PANEL SCHEDULE ON E-1.4.
12. PROTECT AND MAINTAIN OVERHEAD BOX. CABLE-BUS CONNECTOR, & BUSWAY UNTIL NEW SWITCHGEAR IS INSTALLED.
13. REMOVE 120/240V-1Ø WIRES FROM ALL U.G. BRANCH CIRCUITS. SEAL OFF ABANDONED CONDUITS SEE NOTE 1 ABOVE.
14. REMOVE EXISTING CABLES AND WIRING. CAP CONDUITS FLUSH WITH FLOOR. INFILL PIT AND CONDUIT WITH CONCRETE. SMOOTH FINISH TO MATCH FLOOR SURFACES.
15. 3/4"CO-3#10 W/GND. SUMP PUMP FEEDER REPLACEMENT. RUN CONDUIT IN HAND DIG TRENCH EXTENDED ABOUT 100FT. VERIFY IN FIELD. RECONNECT SUMP PUMP AND TEST. START UP MOTOR. REMOVE OLD WIRING BACK TO SOURCE.



**LEGEND:**

// // DOUBLE HASH MARK INDICATES ITEMS & EQUIPMENT TO BE REMOVED.

1 TEMPORARY POWER SERVICE  
SCALE: 1/2" = 1'-0"



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1	ISSUE FOR BID	R.V.	08-10-16
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DESIGNED	DRAWN	CHECKED
PROJ. ENG. DIRK DE KREEK	RECOMMENDED ROD VASQUEZ	
REL. NO.	DATE	APPROVED

APPROVED BY: CASITAS MUNICIPAL DISTRICT

SPEC. NO.

PROJ. NO.

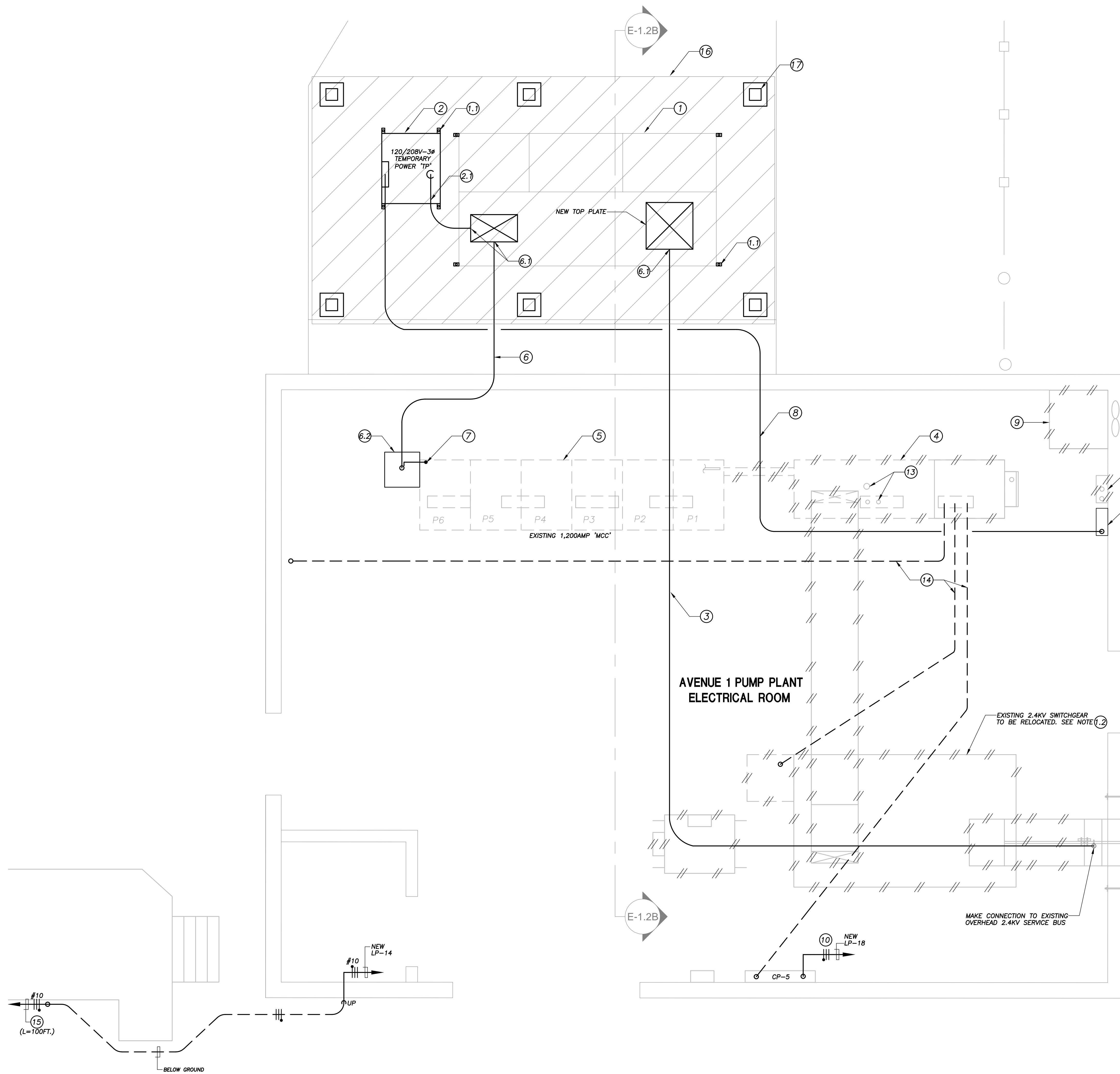
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CASITAS MUNICIPAL WATER DISTRICT- VENTURA AVE. NO. 1 PUMP PLANT

TEMPORARY POWER

SHEET \_\_\_\_\_  
OF \_\_\_\_\_  
DRAWING NO.  
**E-12**





**GENERAL NOTES:**

1. MAKE AN INSPECTION OF THE EXISTING SERVICE SWITCHGEAR AND MOTOR CONTROL CENTER. DETERMINE THE POINT OF DISCONNECT OF THE SERVICE BUS ATTACHMENT TO SWITCHGEAR. INSULATE BUS TERMINATIONS AT POINT OF DISCONNECTION. PROVIDE TEMPORARY BUS-CABLE EXPANSORS AT THE SWITCHGEAR SIDE OF THE BUS. CONNECT TEMPORARY POWER CABLES AND RE-ENERGIZE SWITCHGEAR. USE HEAT SHRINKABLE CABLE TERMINATIONS. TAPE BUS CONNECTOR TO MAINTAIN SKV RATING.
2. COORDINATE WITH S.C. EDISON FOR FINAL INSPECTION. VERIFY PHASE ROTATION BEFORE RE-ENERGIZING.
3. FOR DEMOLITION WORK REQUIREMENTS SEE GENERAL NOTES 9 THRU 9.5 OF SHEET E-1.0.
4. PROVIDE NEW WIRING FEEDERS AND BREAKERS FOR ALL EXISTING ELECTRICAL TO REMAIN IN SERVICE WHICH HAS ITS EXISTING SUPPLY CIRCUIT INTERRUPTED BY DEMOLITION WORK PERFORMED UNDER THIS CONTRACT. DO NOT RECONNECT TO A SOURCE WHICH COULD BE OVERLOADED BY THE ADDITION OF THIS ITEM.
5. WHERE EXISTING CONDUIT AND/OR CIRCUIT HAS BEEN INTERRUPTED BY REMOVAL OF AN OUTLET(S), WALL OR PORTION OF THE CIRCUIT, THE REMAINING CONDUIT AND/OR CIRCUIT SHALL BE REROUTED, EXTENDED AND RECONNECTED AS REQUIRED TO PROVIDE CONTINUITY FOR THE CIRCUIT THAT IS TO REMAIN IN SERVICE.
6. PERFORM DEMOLITION WORK IN SEQUENCE AND IN COORDINATION WITH THE PHASING OF NEW CONSTRUCTION.

**KEY NOTES:**

1. INSTALL TEMPORARY MAIN SWITCHGEAR AND METER SECTIONS UNDER TEMPORARY ROOF ASSEMBLY. PROVIDE NEW CONDUITS AND 5KV CABLES AS SHOWN. VERIFY IN FIELD.
1. ANCHOR AT FOUR CORNERS USING 1/2"x4" EXPANSION BOLTS ATTACHED TO 4x4x3/16" ANGLE PIECES WELDED TO CABINET BASE.
2. DISCONNECT AND REMOVE EXISTING SWITCHGEAR. CONTRACTOR SHALL REQUEST A POWER DOWN FROM S.C. EDISON AND PROCEED WITH REMOVAL OF SWITCHGEAR, OVERHEAD BUSWAY, CABLES, CONNECTIONS, ETC. CONTRACTOR TO HIRE RIGGING COMPANY TO MOVE SWITCHGEAR OUT OF ELECTRICAL ROOM AND DELIVER TO OWNER (CMWD) FOR STORAGE.
2. TEMPORARY 120/208V-3Ø SECTION FOR TEMP. POWER. THIS SECTION WILL BE OWNER FURNISHED FOR CONTRACTOR INSTALLATION (OPI).
2. PROVIDE 5"CO-9#4/0 5KV CABLE + 1/0 GND. MAKE CONNECTIONS, TESTING AND ENERGIZING OF TEMPORARY POWER. NEUTRAL SHALL BE GROUNDED ON SECONDARY SIDE OF 15KVA TRANSFORMER.
3. PROVIDE 5"CO-9#4/0 5KV CABLE + 1/0 GND. TEMPORARY FEEDER, FROM TEMPORARY SWITCHGEAR TO OVERHEAD SERVICE BUS INSIDE ELECTRICAL ROOM. (3)3/4" CABLES/PHASE + GND.
4. DISCONNECT AND REMOVE EXISTING 1200AMP-5KV OLD MOTOR CONTROL SWITCHGEAR AND OVERHEAD BUSWAY AND CONNECTORS. VERIFY IN FIELD BEFORE PROCEEDING. DE-ENERGIZE SERVICE IN COORDINATION WITH SC EDISON AND CASITAS WATER DISTRICT.
5. PROTECT AND MAINTAIN EXISTING ALLEN BRADLEY MOTOR CONTROL CENTER (MCC) PUMPS 1, 2, 3, 4, 5 & 6 TO BE RECONNECTED TO TEMPORARY OVERHEAD SKV FEEDER.
6. PROVIDE 5"CO-9#4/0 5KV CABLE + 1/0 GND. TEMPORARY FEEDER, FROM RELOCATED SWITCHGEAR TO MOTOR CONTROL CENTER. (3)3/4" CABLES/PHASE + GND.
6. CONDUIT DROP FROM OVERHEAD AND PENETRATION THRU TOP OF GEAR BOX. VERIFY EXACT LOCATION IN FIELD. MAKE 5KV CONNECTIONS. PROVIDE NEW TOP PLATES.
- 6.2. PROVIDE 20"Wx20"Dx36"H TEMPORARY PULL BOX NEXT TO 'MCC'. SUPPORT METAL BOX WITH FLOOR LEGS.
7. PROVIDE TEMPORARY CABLE CONNECTIONS TO EXISTING 2.4KV 'MCC'. USE 5KV CABLE TERMINATIONS AND INSULATION. DE-ENERGIZE SERVICE IN COORDINATION WITH OWNER & SC EDISON CO. BEFORE PROCEEDING. VERIFY EXACT POINT OF CONNECTIONS TO EXISTING BUS SYSTEM. PROVIDE 5KV LUGS AS REQUIRED.
8. TEMPORARY 1-1/2"CO-4#2+#6 GND. FROM SECTION 'TP' TO NEW PANEL 'LP'.
9. DISCONNECT AND REMOVE WALL MOUNTED FAN. VERIFY IN FIELD. SEE MECHANICAL DRAWINGS.
10. RECONNECT POWER TO SCADA PANEL CP-5. VERIFY IN FIELD.
11. NEW 120/208-3Ø-4W PANEL 'LP'. INTERCEPT ALL EXISTING CIRCUITS, CONDUIT AND WIRE AND RECONNECT WIRING TO NEW PANEL 'LP'. SEE PANEL SCHEDULE ON E-1.4.
12. PROTECT AND MAINTAIN OVERHEAD BOX CABLE-BUS CONNECTOR, & BUSWAY, UNTIL NEW SWITCHGEAR IS INSTALLED.
13. REMOVE 120/240V-1Ø WIRES FROM ALL U.G. BRANCH CIRCUITS. SEAL OFF ABANDONED CONDUITS SEE NOTE 1 ABOVE.
14. REMOVE EXISTING CABLES AND WIRING. CAP CONDUITS FLUSH WITH FLOOR. INFILL PIT AND CONDUIT WITH CONCRETE. SMOOTH FINISH TO MATCH FLOOR SURFACES.
15. 3/4"CO-3#10 W/GND. SUMP PUMP FEEDER REPLACEMENT. RUN CONDUIT IN HAND DIG TRENCH EXTENDED ABOUT 100FT. VERIFY IN FIELD. RECONNECT SUMP PUMP AND TEST. START UP MOTOR. REMOVE OLD WIRING BACK TO SOURCE.
16. PROVIDE SHEET METAL COVER SUFFICIENT FOR EXTERIOR OPERATION OF SWITCHGEAR. SEE E-1.2B
17. RECOMMENDED LOCATIONS OF 8"x6" POST SUPPORTING SHEET METAL ROOFING. ANCHOR TO CONCRETE BASE WITH (4)1/2"x4" EXPANSION BOLTS. SEE E-1.2B. COORDINATE WITH CASITAS CIVIL ENGINEER FOR CONSTRUCTION DETAILS OF TEMPORARY ROOF ASSEMBLY.

**LEGEND:**

DOUBLE HASH MARK INDICATES ITEMS & EQUIPMENT TO BE REMOVED.

**1** TEMPORARY POWER SERVICE  
SCALE: 1/2" = 1'-0"



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2			
1	ISSUE FOR BID	R.V.	08-10-16
A	ISSUE FOR FINAL REVIEW	R.V.	07-12-16
A	APPROVED	R.G.E.	APP. DATE

PREPARED BY:  
  
**CONSULTING WEST**  
 31340 VIA COLINAS, #102  
 WESTLAKE VILLAGE, CA 91362  
 (818)889-3383 fax (818)889-4927

DESIGNED	DRAWN	CHECKED
PROJ. ENG. DIRK DE KREEK	RECOMMENDED ROD VASQUEZ	
REL. NO.	DATE	APPROVED

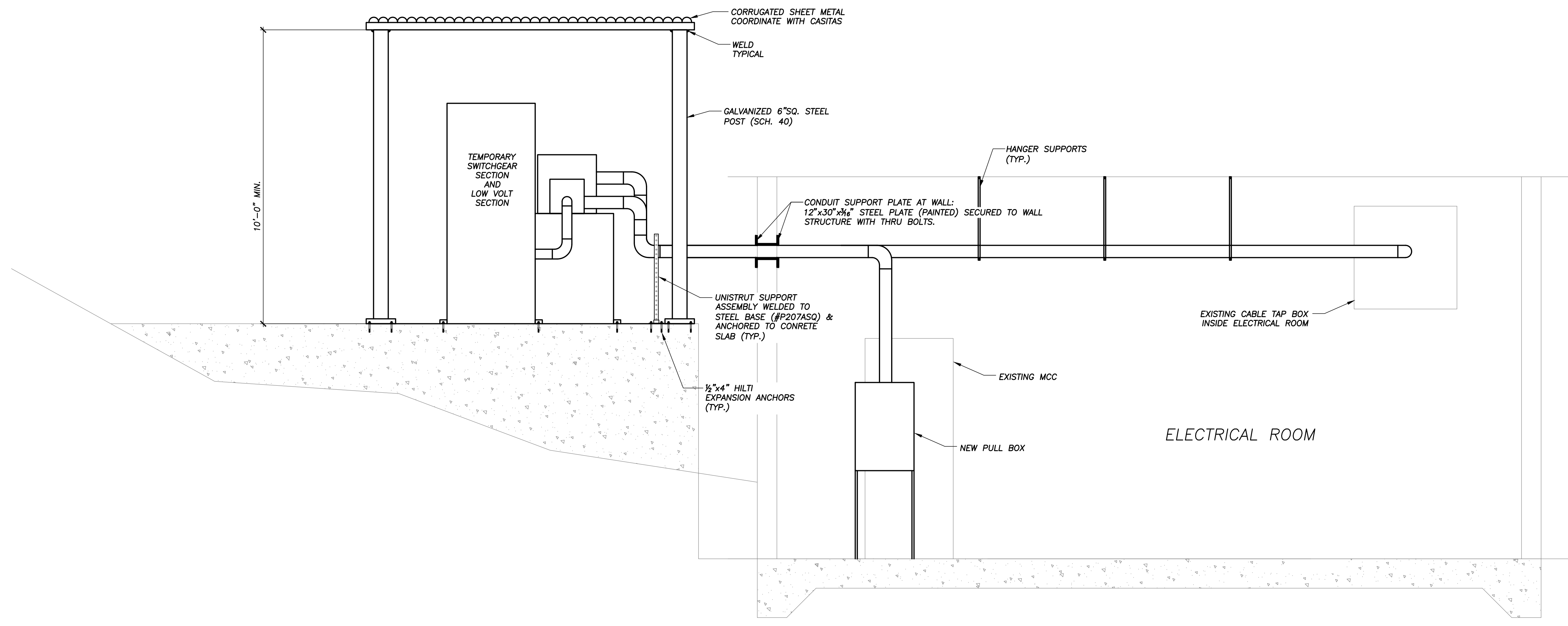
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SPEC. NO.
PROJ. NO.

CASITAS MUNICIPAL WATER DISTRICT- VENTURA AVE. NO. 1 PUMP PLANT

TEMPORARY POWER - ALTERNATE FLOOR PLAN

SHEET _____
OF _____
DRAWING NO. E-12A



**1** TEMPORARY POWER ELEVATION  
 SCALE: 1/2" = 1'-0"  
 NORTH

D			
2			
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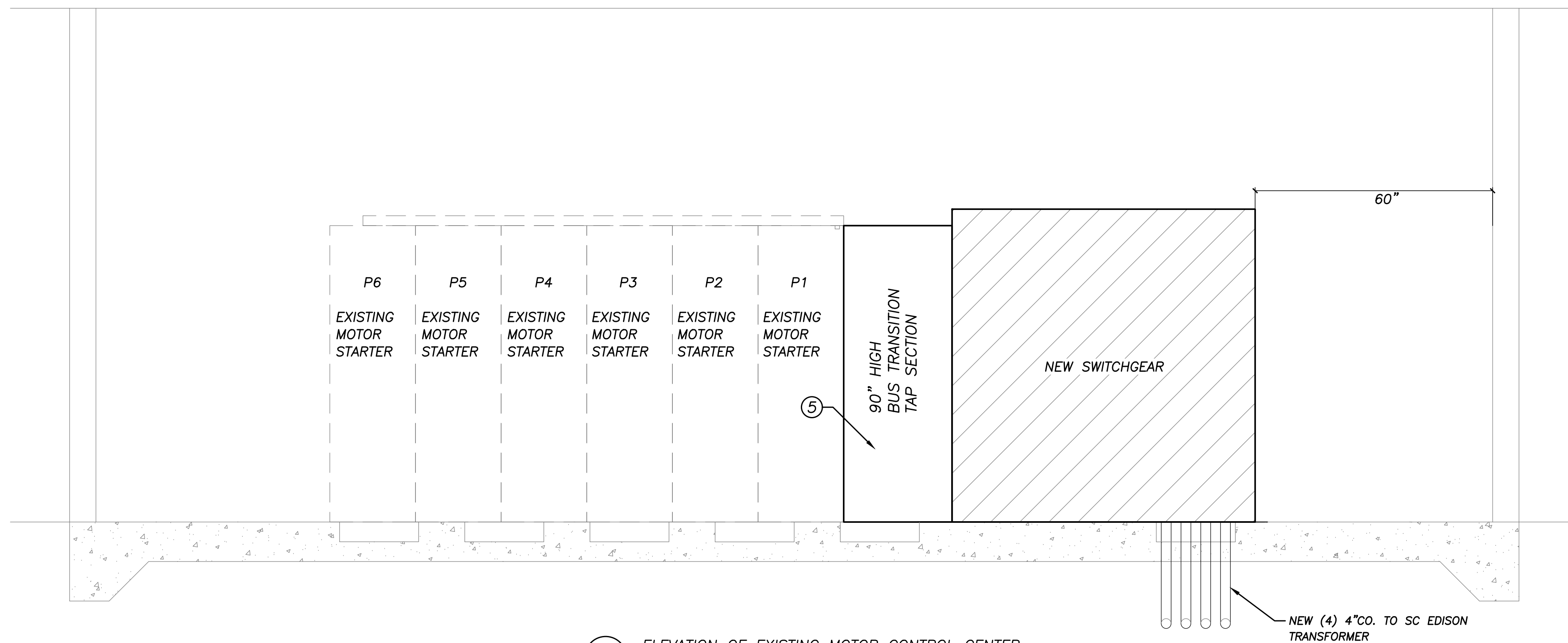
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PROJ. NO.

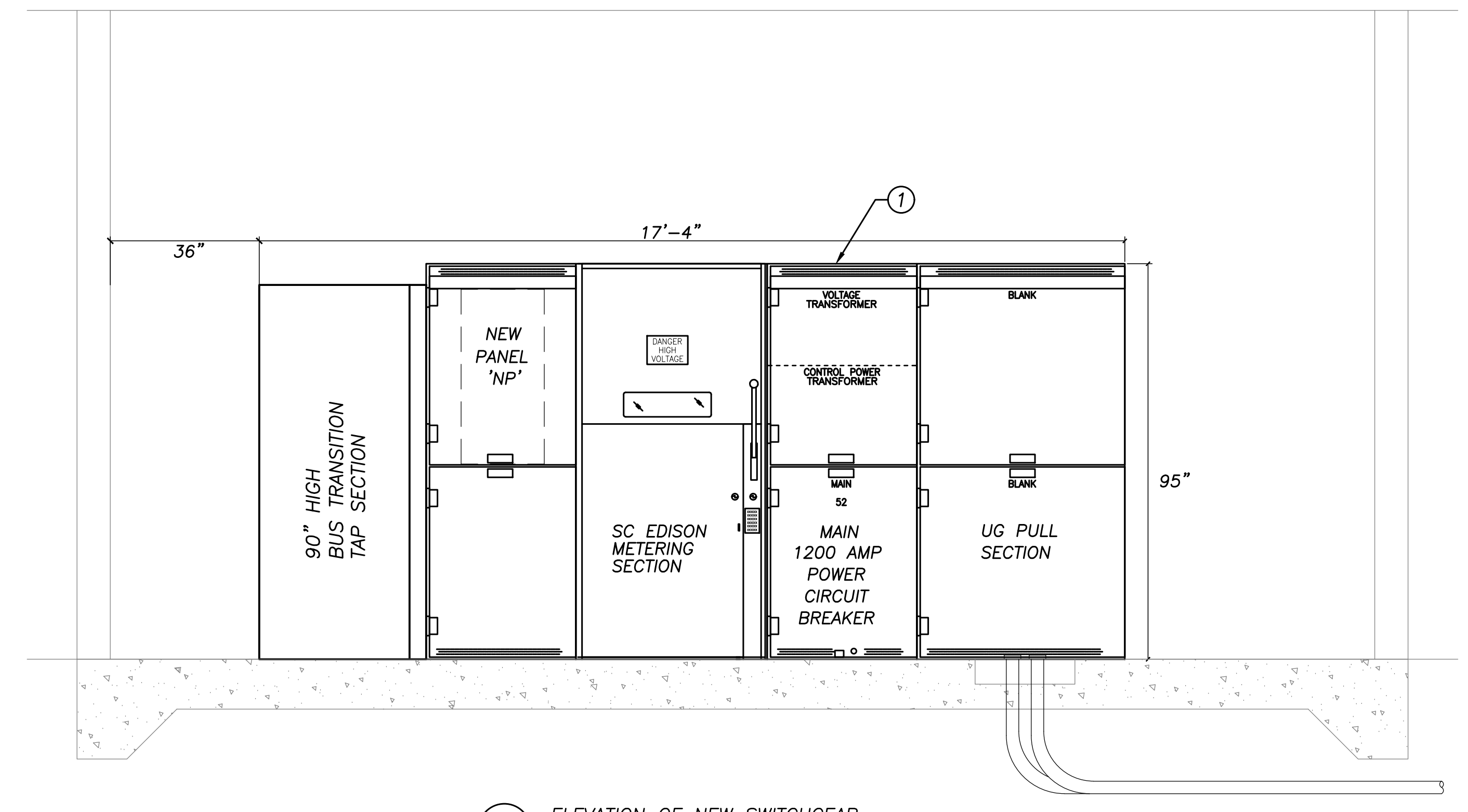
CASITAS MUNICIPAL WATER DISTRICT- VENTURA AVE. NO. 1 PUMP PLANT

TEMPORARY POWER - ALTERNATE  
 CROSS SECTION DRAWING

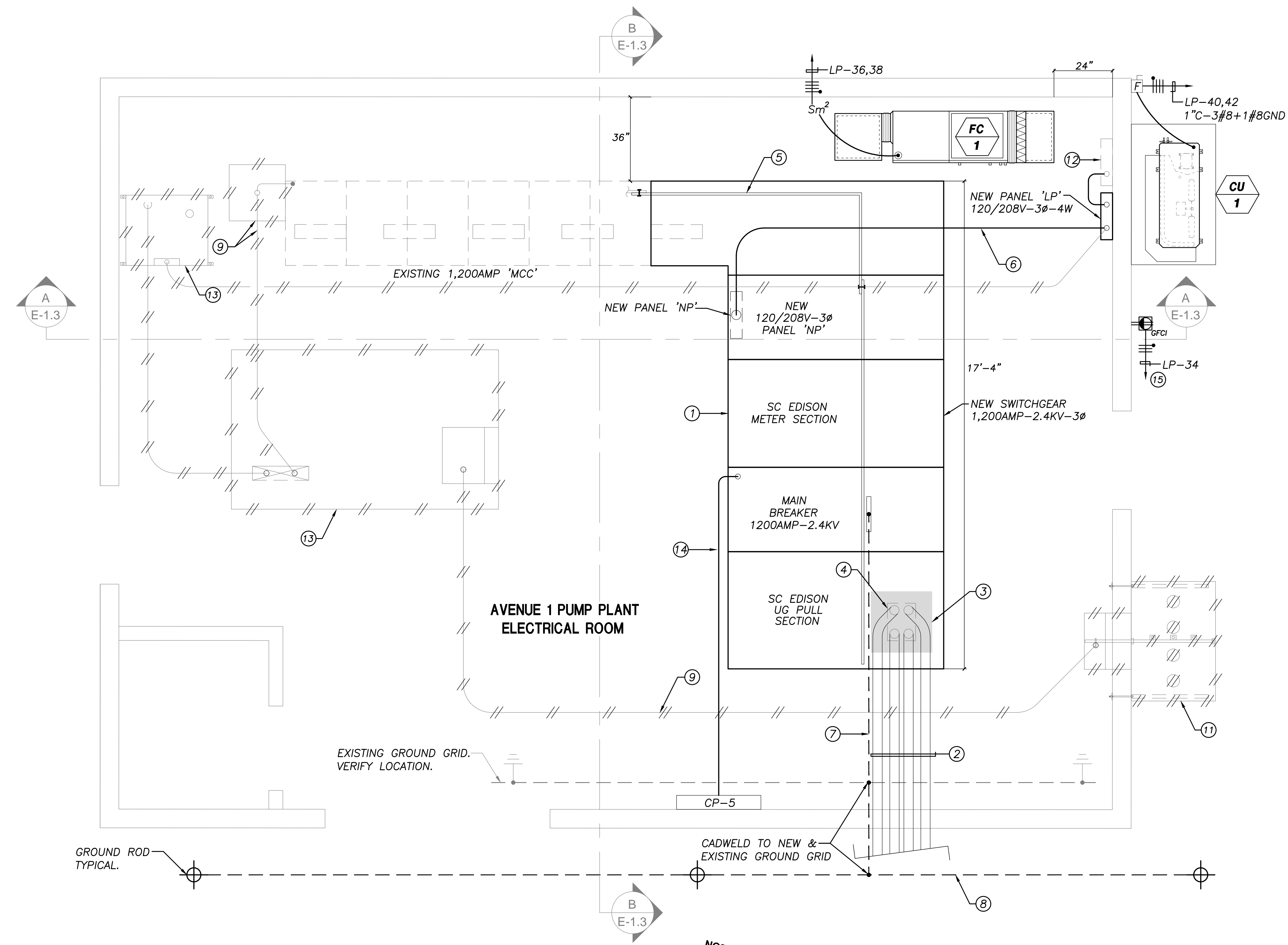
SHEET _____
OF _____
DRAWING NO. E-12B



**A** ELEVATION OF EXISTING MOTOR CONTROL CENTER  
SCALE: 1/2" = 1'-0"



**B** ELEVATION OF NEW SWITCHGEAR  
SCALE: 1/2" = 1'-0"



**1** ELECTRICAL ROOM  
SCALE: 1/2" = 1'-0"  
\* INSTALLATION MUST BE RODENT-PROOF.

**KEY NOTES**

- 1 NEW 2.4KV-3P-1,200AMP SWITCHGEAR, PROVIDED BY ELECTRICAL CONTRACTOR. SEE SINGLE LINE SHEET E-1.4. CONTRACTOR SHALL HIRE THE SERVICES OF SPECIALIZED RIGGING COMPANY TO PICK UP, TRANSPORT AND PLACE SWITCHGEAR AS SHOWN. COMPLETE INSTALLATION PER PLANS.
- 2 NEW (4) 4" CO. UNDERGROUND, CONCRETE ENCASED, RED COLORED, PER SC EDISON REQUIREMENTS. SEE E-2.1.
- 3 CONCRETE FLOOR SAW-CUT AREA (SHADED AREA) VERIFY LOCATION OF EXISTING CONDUITS AND WIRING BEFORE TRENCHING. REMOVE 12" THICK CONCRETE SLAB, TRENCH AND INSTALL INCOMING (4) 4" CO. FROM SC EDISON TRANSFORMER. COORDINATE WITH CASITAS (CMWD) CIVIL ENGINEER. PROVIDE NEW CONCRETE IN-FILL AND FINISHES TO MATCH EXISTING.
- 4 CONDUIT TERMINATION AREA AT NEW SWITCHGEAR UG PULL SECTION. VERIFY EXACT LOCATION WITH DRAWINGS OF SWITCHGEAR MANUFACTURER.
- 5 5KV-1,200AMPS-3P + GND. BUS TRANSITION SECTION; FACTORY ASSEMBLED TRANSITION BUS AND TAP CONNECTORS FROM NEW SWITCHGEAR TO EXISTING MOTOR CONTROL CENTER. FIELD VERIFY EXACT DIMENSIONS AND LOCATIONS BEFORE FABRICATION OF SWITCHGEAR.
- 6 NEW 1/2" CO. 4#2+#6 GND. (FEEDER TO 'LP') FROM NEW PANEL 'NP' TO NEW LIGHT PANEL 'LP'.
- 7 SAW-CUT CONCRETE AND PROVIDE NEW 250MCM CU-GND. CONDUCTOR FROM NEW AND EXISTING GROUND GRID TO NEW SWITCHGEAR GND. BUS. USE ONLY CADWELDED CONNECTIONS. RISER THRU SLAB WITH PROTECTIVE CONDUIT OF 1". CONTRACTOR TO VERIFY EXACT LOCATION OF GRID BEFORE PROCEEDING. SEE SUPPLEMENTAL GROUNDING. REFINISH CONCRETE TO MATCH EXISTING FLOOR.
- 8 NEW SUPPLEMENTAL GROUND SYSTEM: 250MCM-CU, BARE COPPER CONDUCTOR BURIED 30" BELOW GRADE AND CONNECTED TO (3) 3/4"x10FT. LONG DRIVEN GROUND RODS.
- 9 AFTER SWITCHOVER IS COMPLETED: REMOVE SKV OVERHEAD TEMPORARY FEEDER TO 'MCC' AND OLD SWITCHGEAR. CONTRACTOR SHALL SCHEDULE A SHUTDOWN WITH CASITAS (CMWD).
- 10 AFTER SWITCHOVER IS COMPLETED: REMOVE TEMP POWER SWITCHGEAR AND SECTION 'TP' INCLUDING PRIMARY AND SECONDARY CONDUIT AND WIRE.
- 11 AFTER SWITCHOVER IS COMPLETED: REMOVE WALL MOUNTED BUS-CABLE CONNECTOR. REMOVE EXPOSED OUTDOOR CONDUITS AND GAP AT FLOOR LEVEL. REMOVE SKV CABLES. PATCH EXTERIOR WALL WITH LARGE STEEL PLATES AT BOTH SIDES AND BOLT THEM. SEAL OFF FOR RODENT CONTROL.
- 12 EXISTING PANEL TO BE REUSED AS PULLBOX TO NEW 120/208-3P-4W PANEL 'LP'. INTERCEPT ALL EXISTING CIRCUITS, CONDUIT AND WIRE. AND RECONNECT WIRING TO NEW PANEL 'LP'. SEE PANEL SCHEDULE ON E-1.4.
- 13 DISCONNECT AND REMOVE TEMPORARY POWER. CONTRACTOR SHALL REQUEST A POWER DOWN FROM S.C. EDISON AND PROCEED WITH REMOVAL OF SWITCHGEAR AND LOW VOLT SECTION. CONTRACTOR TO HIRE RIGGING COMPANY TO MOVE SWITCHGEAR AND LOW VOLT SECTION OUT OF ELECTRICAL ROOM AND DELIVER TO OWNER (CMWD) FOR STORAGE.
- 14 3/4" CO. 4#16 FROM MAIN BREAKER SECTION TO EXISTING CONTROL PANEL 'CP-5' FOR GROUND FAULT ALARM.
- 15 RECEPTACLE TO BE WITH WEATHERPROOF AND LOCKABLE COVER, KEY TO OWNER (CMWD).

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REV. NO.	DATE	APPROVED

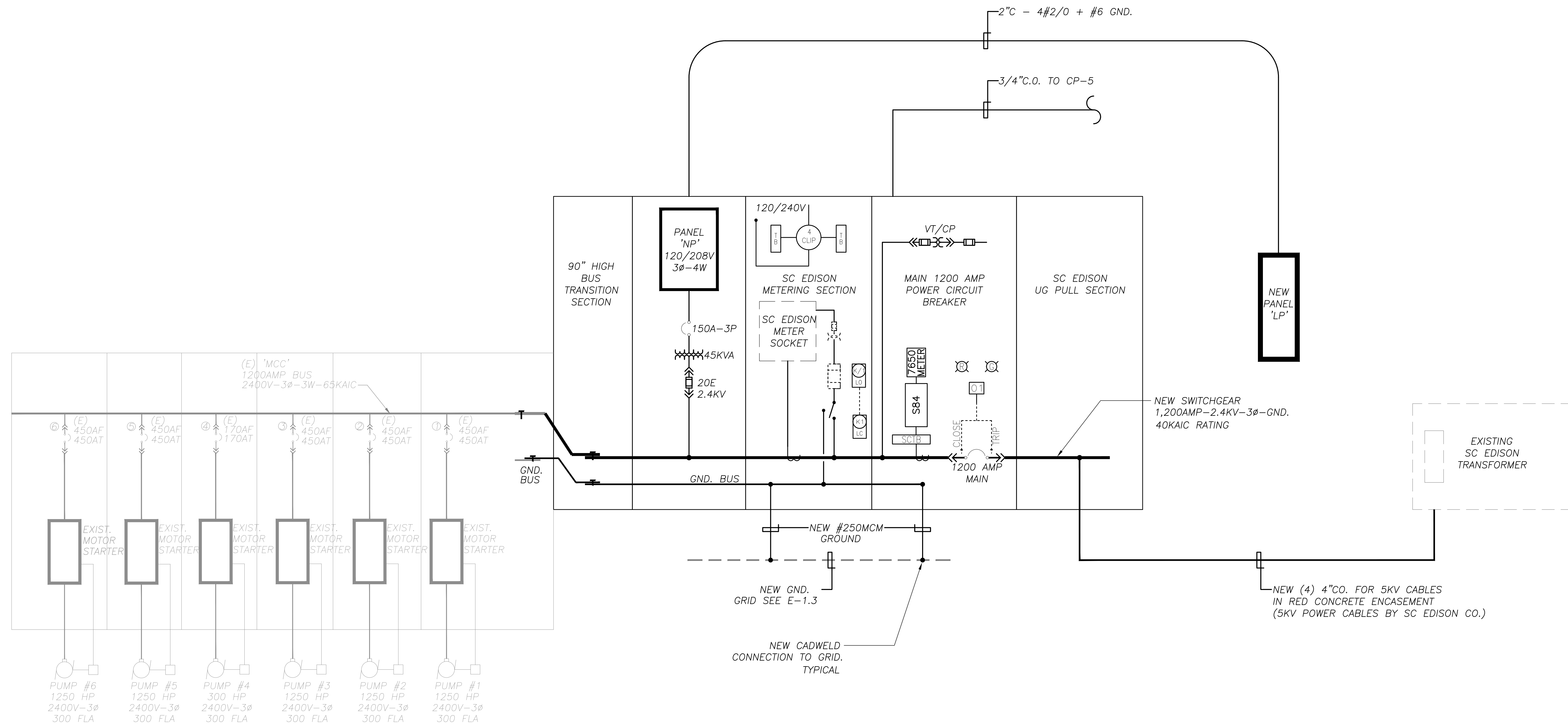
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SPEC. NO.
PROJ. NO.

CASITAS MUNICIPAL WATER DISTRICT- VENTURA AVE. NO. 1 PUMP PLANT

NEW SERVICE SWITCHGEAR

SHEET	
OF	
DRAWING NO.	E-13



**LOAD CALCULATIONS @ 2.4KV-3Ø:**  
 HISTORICAL DEMAND BY S.C. EDISON:  
 PEAK DEMAND = 1,318 KW  
 CODE DEMAND = 1,318 x 125% = 1,648 KVA  
 1,648 KVA @ 2.4KV-3Ø = 400 AMPS  
 DESIGNED = 1,200 AMPS >> 400 AMPS

**SHORT CIRCUIT CALCULATIONS:**  
 (E) TRANSFORMER SIZE = 1,500 KVA, Z=5.3%  
 AVAILABLE SHORT CIRCUIT:  
 3Ø = 3,400 AMPS, X/R = 3.75  
 SLG = 4,060 AMPS, X/R = 4.4  
 SWITCHBOARD RATING = 40 KAIC MIN.

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DESIGNED: \_\_\_\_\_ DRAWN: \_\_\_\_\_ CHECKED: \_\_\_\_\_  
 PROJ. ENG. DIRK DE KREEK RECOMMENDED: ROD VASQUEZ  
 REG. NO. \_\_\_\_\_ DATE: \_\_\_\_\_ APPROVED: \_\_\_\_\_

APPROVED BY: CASITAS MUNICIPAL DISTRICT  
 \_\_\_\_\_  
 SIGNATURE DATE

SPEC. NO. \_\_\_\_\_  
 PROJ. NO. \_\_\_\_\_

**CASITAS MUNICIPAL WATER DISTRICT- VENTURA AVE. NO. 1 PUMP PLANT**

**SINGLE LINE DIAGRAM**

SHEET \_\_\_\_\_ OF \_\_\_\_\_  
 DRAWING NO. **E-14**

**2400V - 3ph - 1,200AMPS  
Metal Clad Switchgear Specifications**

METALCLAD Switchgear Assembly  
Consisting of the following:  
(4) Self standing sections.  
(1) 1 Set of Certified Test Reports included with Final Drawings  
IBC/ASCE7 Seismic Qualification  
Indoor (Type 1)  
Label Requirements: UL  
With Front and Rear Access Required  
AC Panel – Branch Breakers per Plans and Spec  
Start up and acceptance testing by manufacturer is required

**Equipment Ratings**

Nominal Voltage: 2.4KV-3ph-3W-GND.  
Maximum Bus Continuous Current: 1200A  
Maximum Short Circuit Current: 40kA (RMS Symmetrical)  
Maximum Voltage: 4.76KV  
One-Minute Withstand Voltage: 19kv RMS  
Impulse Withstand Voltage (BIL): 60kV  
Frequency: 60 Hertz

**Required Features**

1 – 5th Wheel for Breaker  
1 – Test Cabinet, 8 ft. cable  
1 – Test Jumper, 14 ft. cable only  
Breaker Lift Truck  
Control wiring terminations: 9080G R6 Compression Type

**Structure**

1200A Silver Plated Copper Main Bus  
Bus Bracing: 50kA (RMS Symmetrical)  
Bus Supports: Porcelain  
Ground Bus: Tin Plated Copper  
Porcelain Pass-Through Inserts in Glass  
Polyseter Bus Barrier (between sections)  
2 Infrared Viewing Windows per Cubicle Cable Compartment  
Breaker Close Control Power: Manufacturer Supplied 120VAC  
Breaker Failure Detection  
Breaker Trip Control Power: 120VAC – 170 VDC Capacitor Trip Unit Provided  
Door Gasket for indoor (Type 1) gear, not Dustproof  
Exterior Paint Color: ANSI #61, Light Gray (Std)  
Gasketing & Filters (not Dustproofing)  
Indication Lights – LED Push to Test Type lamps  
Rear Access, Bolted Panel  
White Interior LV Panels

**Dimensions:**

1 Width of Lineup 168" (4) Sections.  
Height @ Highest Point 95.10"  
Depth @ Base 92.00"

2 MV Transition Section Maximum Height= 90"  
Depth= 35", Front= 32", Back= 123".

FINAL DIMENSIONS TO BE DETERMINED IN FIELD.  
SEE FLOOR PLANS.

**Details by Section**

The Metal Clad Switchgear shall include the following:

Section 1 – 48"W, SCE Underground Pull Section  
Bottom Cable Entry, Cable Termination Boots.

Section 2 – 36"W, Upper Subsection – Auxiliary  
1 – VT Drawer with (3) VTs, (2) Primary Fuse per VT  
1 – 5kVA, Single Phase CPT

Section 2 – 36"W, Lower Subsection with – Breaker\_1200A  
Catalog Number: V5D3155YSJ0

1 – 4.76kV Max. Voltage, 250MVA / 40KA, 1200A, Vacuum Breaker Type: VR-05025-12

Special 'AB' Power Monitor PM5000/14250M  
TOC Switch Supplying 10 Additional Contacts (5a, 5b)  
Breaker Spring Charge Indicator – LED Push to Test Type lamp

Trip Coil Monitor  
Charged Spring Indicator and Kirk Key Interlock.  
1 – Breaker Control Switch 1t, 1c  
1 – MOC Switch Supplying 10 Additional Contacts (5a, 5b)

1 – Capacitor-Trip Device, (20-Second Charge)  
1 – Square D SEPAM Relay S84  
1 – Alternative Maintenance Setting Switch  
3 – Multi-Ratio 600:5 CT – High Accuracy – Model 786 – Set#1  
1 – Shutter Barrier Per Breaker  
1 – 3kV Distribution Class Surge Arrester, 3 Phase Set  
1 – Set Ground Ball Studs w/ Insulating Cap & Cable Asby

Section 3 – 48"W, Full-height section, –  
1 – 1200A Space Only for Metering Section  
Euserc Utility – Southern Cal Edison (CA)  
Utility requires Ground Ball Studs  
Utility does not require lugs to be provided

Section 4 – 36"W, 120/208v-3Ø Panel and Transformer.

1 – 45kVA, Three Phase CPT  
1 – Panelboard 200 AMPS. 120/208V-3Ø-4w-GND.

Section 5: MV Bus Transition Section for Field Connection to existing Allen Bradley MV-MCC:  
Power and Ground Bus Extensions for connection to existing AB Motor Control Center.

**START UP TESTING, COMMISSIONING AND TRAINING:**

1 MANUFACTURER OF SWITCHGEAR SHALL BE RESPONSIBLE FOR THE ACCEPTANCE TESTING AND COMMISSIONING OF SWITCHGEAR. SUBMIT A SIGNED REPORT OF THESE ACTIVITIES TO CLIENT.

2 MANUFACTURER SHALL ALSO BE RESPONSIBLE FOR MINIMUM 5 HOUR TRAINING OF OPERATORS AND OTHER CLIENT'S PERSONNEL.

**ARC FLASH STUDY AND LABELING:**

MANUFACTURER TO PROVIDE THE ARC FLASH HAZARDOUS STUDY, AND LABEL EACH SECTION OF THE SWITCHBOARD, PER CODE.

**5 YEAR PREVENTIVE MAINTENANCE AND SERVICE:**

MANUFACTURER SHALL INCLUDE THE COST OF 5 YEAR PREVENTIVE MAINTENANCE & SERVICE.

CASITAS MUNICIPAL WATER DISTRICT- VENTURA AVE. NO. 1 PUMP PLANT

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SPECIFICATIONS

SHEET \_\_\_\_\_  
OF \_\_\_\_\_  
DRAWING NO.  
**E-15**

NEW PANEL 'NP' IN SWITCHGEAR 120/208V-3Ø-4W-GND.

PANEL 'NP'  MAIN BRKR. 150 AMPS  
200 AMP  
LOCATION SWITCHGEAR

QTY	LOAD NAME	CR NO.	LOAD WATTS	BRK AMP	LOAD/POLE			CR NO.	LOAD WATTS	CR NO.	LOAD NAME	QTY
					A	B	C					
1	SUB PANEL 'LP'	1	5540	100	5540			1	20	2	SPARE	
3		3	6300		6300			1	20	4	SPARE	
5		5	3100	3		3100		1	20	6	SPARE	
7	SPARE	7		20				1	20	8	SPARE	
9	SPARE	9		20				1	20	10	SPARE	
11	SPARE	11		20				1	20	12	SPARE	
13	SPARE	13		20				1	20	14	SPARE	
15	SPARE	15		20				1	20	16	SPARE	
17	SPARE	17		20				1	20	18	SPARE	
19	SPARE	19		20				1	20	20	SPARE	
21	SPARE	21		20				1	20	22	SPARE	
23	SPARE	23		20				1	20	24	SPARE	

TOTAL LOAD/PHASE  
WATTS 5540 6300 3100  
AMPS 46 53 26 S.C. INT CAP/BRK. \_\_\_\_\_ AMPS.

L.C.L. X 125% = \_\_\_\_\_ W = \_\_\_\_\_ W FEEDER CONDUCTOR SIZE: \_\_\_\_\_  
OTHER LOAD = \_\_\_\_\_ W CONDUIT SIZE \_\_\_\_\_  
TOTAL = \_\_\_\_\_ W  
42 A

REMARKS: \_\_\_\_\_

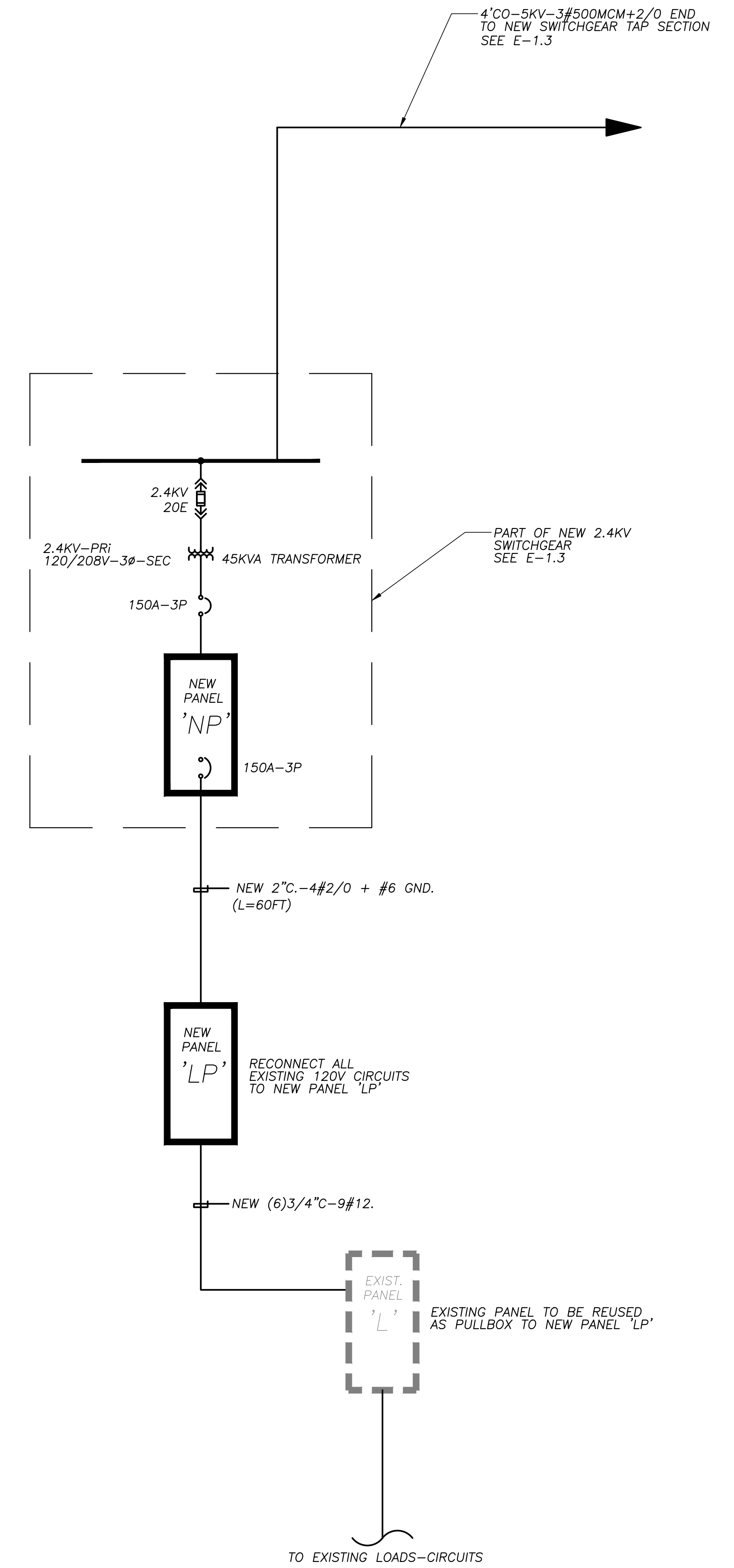
PANEL 'LP' (NEW) 120/208V-3Ø-4W  
200 AMP  MAIN BRKR. 150 AMPS  FEED BOTTOM  SURFACE  
LOCATION ELECT. ROOM  MAIN LUGS ONLY  FEED TOP  FLUSH  
 MAIN SW. \_\_\_\_\_ AMPS DIMENSIONS

QTY	LOAD NAME	CR NO.	LOAD WATTS	BRK AMP	LOAD/POLE			CR NO.	LOAD WATTS	CR NO.	LOAD NAME	QTY
					A	B	C					
1	DECK LIGHTS 5 & 6	1	300	20	1	700		1	20	400	2	RECONNECTED LOAD
3	BATH AND WALL LIGHT	3	200	15	1	600		1	20	400	4	RECONNECTED LOAD
5	DECK LIGHTS 2 & 3	5	300	15	1	700		1	20	400	6	CONTROL RM LIGHTS
7	DECK LIGHTS 1,4,7	7	450	30	1	850		1	20	400	8	CONTROL RM LIGHTS
9	SOUTH DECK RECEPTACLE	9	1000	30	1	2000		1	30	1000	10	CONTROL RM RECEPTACLES
11	FROST PROT. NO DECK	11	1500	20	1	1700		1	20	200	12	ABC TEST CIRC.
13	RELIEF VALVES	13	1200	20	1	2000		1	20	800	14	SUMP PUMP
15	SPACE	15				1800		1	20	600	16	EXHAUST FAN
17	SPACE	17				400		1	20	400	18	SCADA PANEL
19	SPACE	19						1	20		20	SPACE
21	SPACE	21						1	20		22	SPACE
23	SPACE	23						1	20		24	SPACE
25	SPACE	25						1	20		26	SPACE
27	SPACE	27						1	20		28	SPACE
29	SPACE	29						1	20		30	SPACE
31	SPACE	31						1	20		32	SPACE
33	SPACE	33				200		1	20	200	34	CU-1 GFCI RECEPTACLE
35	SPACE	35				500		2		500	36	FC-1
37	SPACE	37				500		2	15	500	38	208V-1Ø-1HP
39	SPACE	39				2000		2		2000	40	CU-1
41	SPACE	41				2000		40		2000	42	208V-1Ø-20FLA

TOTAL LOAD/PHASE  
WATTS 4250 6600 5300  
AMPS 35 55 44 S.C. INT CAP/BRK. \_\_\_\_\_ AMPS.

L.C.L. X 125% = 1,200 W = 1,500 W FEEDER CONDUCTOR SIZE: \_\_\_\_\_  
OTHER LOAD = 14,950 W CONDUIT SIZE \_\_\_\_\_  
TOTAL = 16,450 W  
46 A

REMARKS: \_\_\_\_\_



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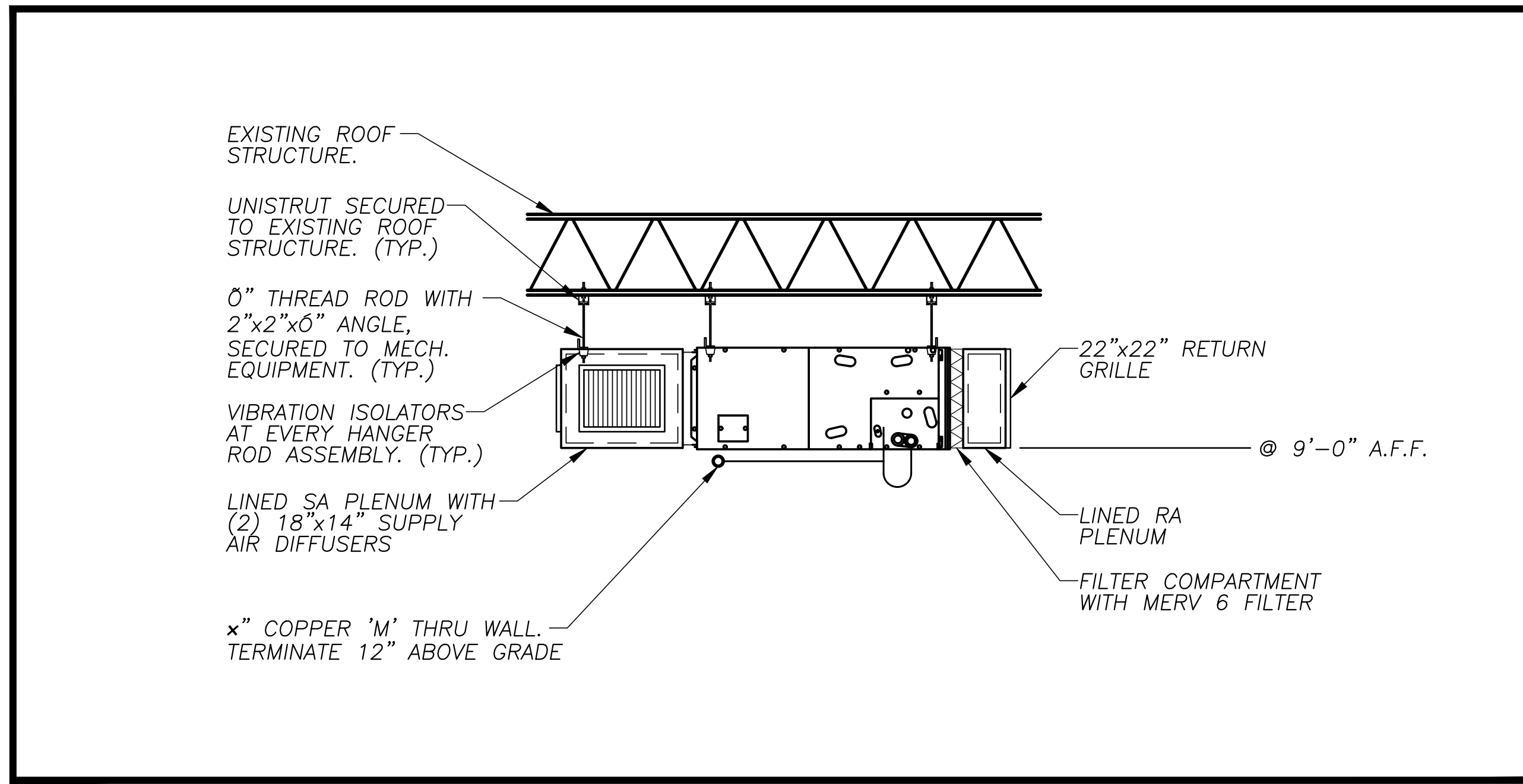
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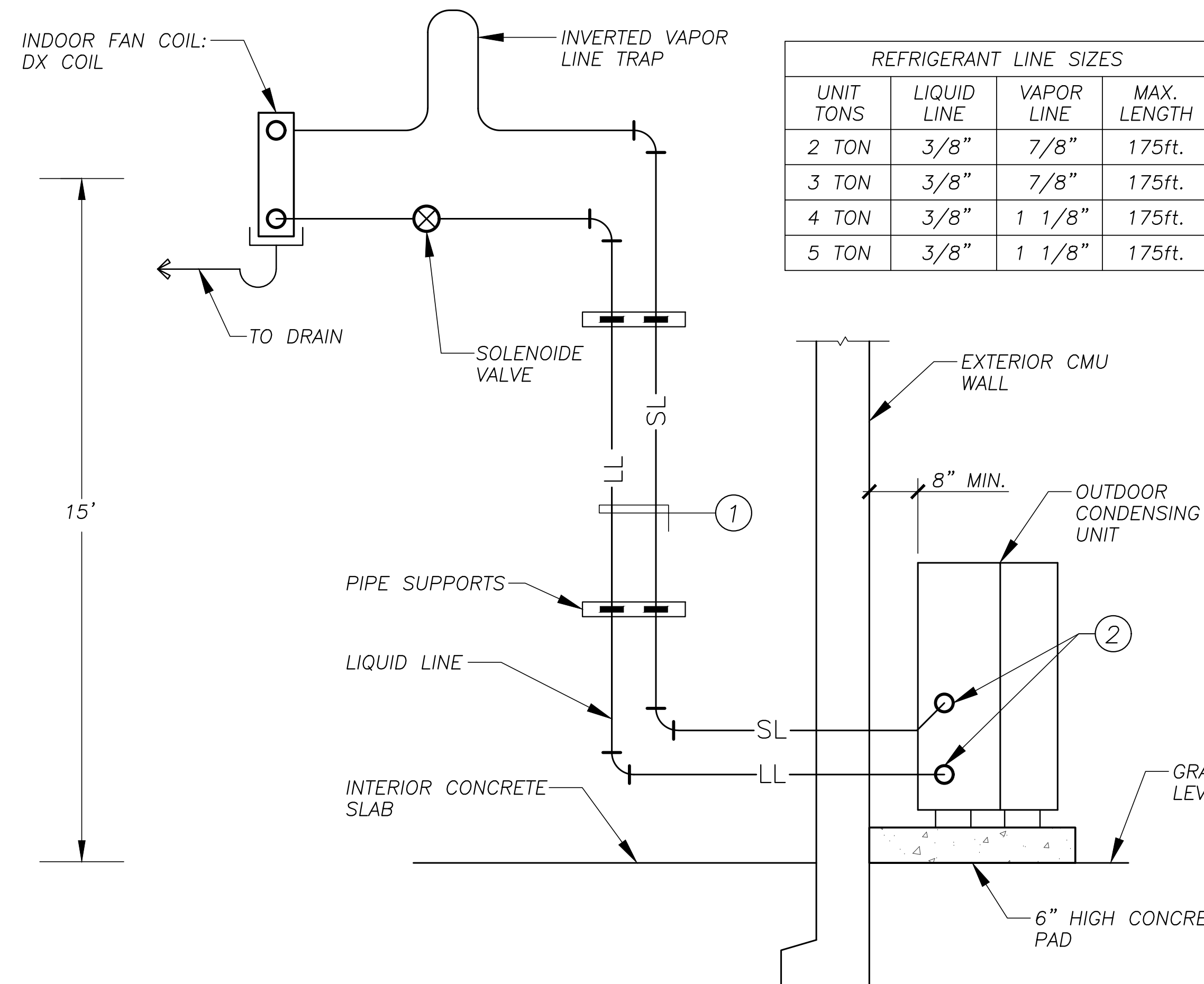
CASITAS MUNICIPAL WATER DISTRICT- VENTURA AVE. NO. 1 PUMP PLANT

120/208V-SINGLE LINE DIAGRAM AND LOAD SCHEDULES

SHEET \_\_\_\_\_  
OF \_\_\_\_\_  
DRAWING NO. E-16



**2** INDOOR FAN COIL UNIT DETAIL  
SCALE: N.T.S.



NOTES:

- CONTRACTOR SHALL MEASURE EXACT LENGTH OF REFRIGERATION PIPING.
- REFRIGERANT SERVICE PORTS LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING TYPE TAMPER RESISTANT CAPS.

**3** DX COOLING PIPING DIAGRAM  
SCALE: N.T.S.

SPLIT AIR CONDITIONING SYSTEM SCHEDULE

TAG	INDOOR UNIT	TAG	OUTDOOR UNIT
<b>FC 1</b>	INDOOR FAN COIL UNIT WITH TXV: <b>CARRIER FV4CNF005</b> HORIZONTAL MOUNT WITH FACTORY-INSTALLED TXV RATED AIR DELIVERY=1,400 CFM, MOTOR: 208V-1Ø-1/2 HP, FLA=4.3, MCA=5.4, MAX FUSE=15A WEIGHT=200 LBS. PROVIDE UNIT WITH: - FILTER COMPARTMENT & MERV 6 R.A. FILTER. - PROGRAMMABLE ELECTRONIC THERMOSTAT - VIBRATION ISOLATION	<b>CU 1</b>	OUTDOOR CONDENSING UNIT: <b>CARRIER 24AHA448A0030</b> (4 TON) WITH OEM HARD START KIT COOLING CAPACITY= 48,000 BTUH, SEER=14 ELECTRICAL: 208V-1Ø- FLA=19.7, MCA=24.3, MAX FUSE=40A. MOUNT UNIT ON 1/2" THICK NEOPRENE MOUNT FOR VIBRATION CONTROL. UNIT WEIGHT=250 LBS. - PROVIDE UNIT WITH CORROSION RESISTIVE COATING.

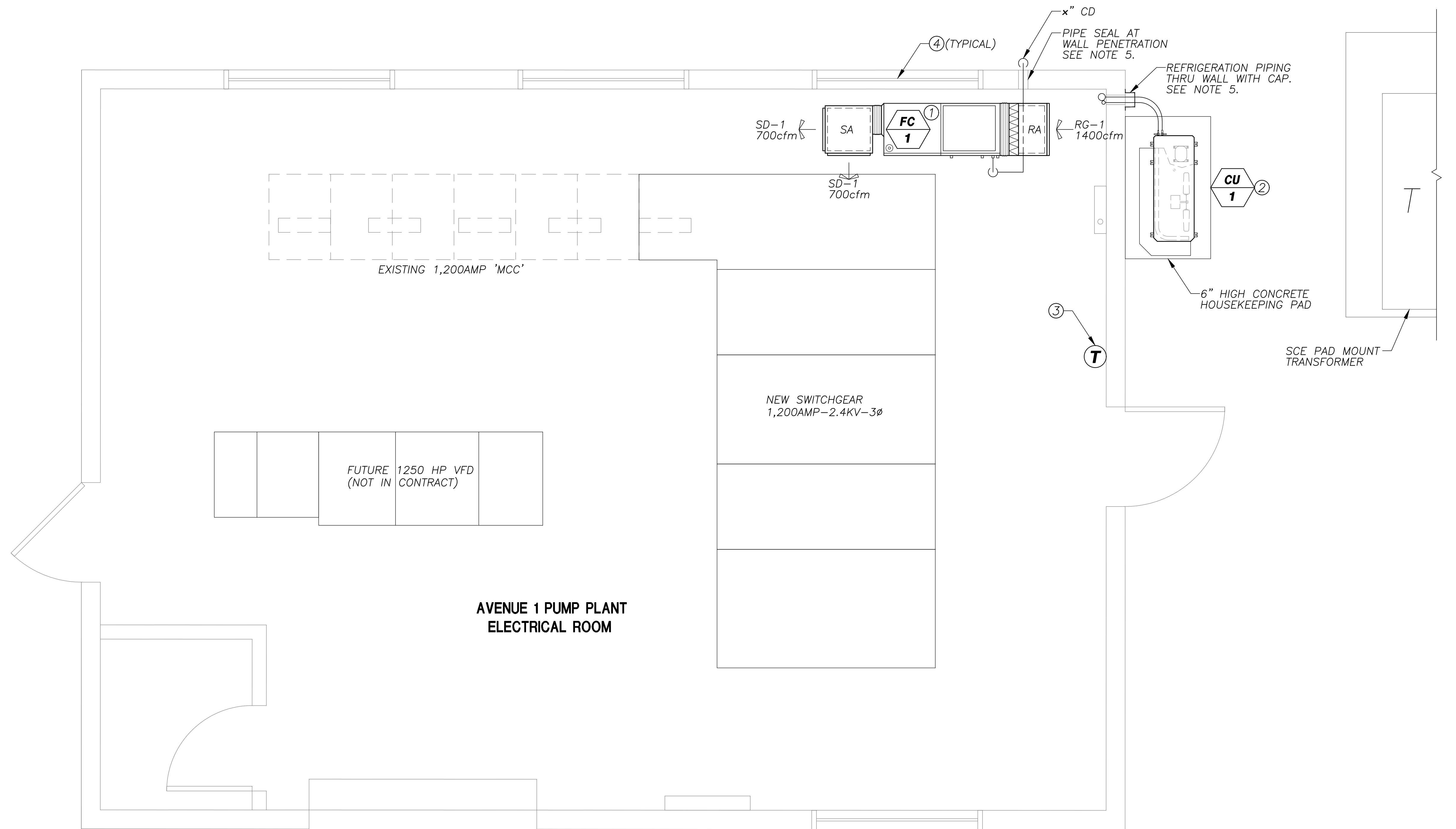
**DIFFUSER / GRILLE SCHEDULE**

SUPPLY AIR LEGEND		
DIFFUSER TYPE	CFM	DIFFUSER SIZE
SD-1: 'TITUS' 301FS SUPPLY DIFFUSER	700cfm	18"x14"

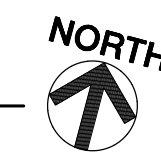
RETURN AIR LEGEND		
GRILLE TYPE	CFM	GRILLE SIZE
RG-1: 'TITUS' 350ZRL RETURN GRILLE	1400cfm	22"x22"

PLAN NOTES:

- NEW INDOOR FAN COIL UNIT SUSPENDED FROM CEILING STRUCTURE. SEE DETAIL 2 M-1.0.
- NEW OUTDOOR CONDENSING UNIT MOUNTED ON 6" CONCRETE PAD.
- NEW PROGRAMMABLE ROOM THERMOSTAT SET @ 80°F. PROVIDE WITH METAL BACK PLATE.
- EXISTING WINDOWS TO BE REPLACED WITH NEW DUAL PANE, METAL FRAME WINDOWS.
- RODENT PROOF INSTALLATION IS REQUIRED AT ALL PENETRATIONS THRU EXTERIOR WALLS. PROVIDE ADEQUATE PIPE SEALING.



**1** MECHANICAL FLOOR PLAN  
SCALE: 1/2" = 1'-0"



CASITAS MUNICIPAL WATER DISTRICT- VENTURA AVE. NO. 1 PUMP PLANT

REV	DATE	BY	APP	DATE
D				
2				
1	08-10-16	R.V.		
A	07-12-16	R.V.		
A				

PREPARED BY:  
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31340 VIA COLINAS, #102  
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DESIGNED	DRAWN	CHECKED
DIRK DE KREEK		
PROJ. ENG.	RECOMMENDED	
	ROD VASQUEZ	
REG. NO.	DATE	APPROVED

APPROVED BY: CASITAS MUNICIPAL DISTRICT  
SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

SPEC. NO.
PROJ. NO.

MECHANICAL FLOOR PLAN

SHEET
OF
DRAWING NO.
M-1.0



**Casitas Municipal Water District (CMWD)  
Electrical Upgrades for Avenue 1  
Pumping Plant**

**ELECTRICAL  
SPECIFICATION  
BOOKLET**

**PREPARED BY,**  
Consulting West Engineers  
31340 Via Colinas, Suite 102  
Westlake Village, CA 91362  
(818) 889-3383

August 1, 2016



**Casitas Municipal Water District  
Electrical Upgrades for Avenue 1**

**INDEX TO SPECIFICATIONS**

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**SECTION 26 01 00**  
**GENERAL ELECTRICAL REQUIREMENTS**

**PART 1 - GENERAL**

1.1 SUMMARY

1.1a This Section includes the following:

1. CONSTRUCTION COORDINATION (Very important!) (See Section 1.2).
2. CONSTRUCTION TIME LINE (See Section 1.3).
3. Submittal requirements, including but not limited to the following:
  - 3.1 Supporting devices for electrical components.
  - 3.2 Concrete equipment bases.
  - 3.3 Electrical identification.
  - 3.4 Cutting and patching for electrical construction.
  - 3.5 Touchup painting.

1.1b Related Work:

1. Temporary Services:
  - a. Include all costs for temporary service, temporary 5KV-MC cables, temporary routing of service or any other requirements of a temporary nature associated with the objective to ensure that the pumps remain operational during construction.
2. Concrete Work:
  - a. Provide cast-in-place concrete as shown on drawings, unless otherwise noted.
  - b. Provide metal shapes and templates used to form concrete, and provide anchor bolts required to be cast in concrete, for support of electrical equipment.
3. Painting:
  - a. Electrical equipment shall be furnished with factory applied primer and finish coats, unless otherwise specified.
  - b. If factory finish on equipment furnished by Contractor is damaged in shipment or during construction, equipment shall be refinished to satisfaction of CMWD at no extra cost to CMWD.
  - c. Furnish one can of touch up paint for each type/color of factory final finish coat.

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1.1c Definitions:

1. Intent of drawings and specifications is to define 100% complete and operable systems that are furnished, installed, tested, adjusted, and ready for operation.
2. Complete and operable systems shall include all required hardware, fittings, boxes, pedestals, mounting provisions and miscellaneous equipment.
3. Except as otherwise defined in greater detail, the terms "provide", "furnish" and "install" as used in Division 16 contract documents shall have the following meanings:  
  
"Provide" or "provided" shall mean, "furnish and install".  
  
"Furnish" or "furnished" does not include installation.  
  
"Install" or "installed" does not include furnishing.
4. Include incidental details not usually shown or specified, but necessary for proper installation and operation.
5. Check, verify, and coordinate work with drawings and specifications prepared for other trades. Include modifications, relocations, or adjustments necessary to complete work or to avoid interference with other trades.
6. Information given herein and on drawings is as exact as could be secured but is not guaranteed. Do not scale drawings for exact dimensions.

1.2 CONSTRUCTION COORDINATION

It is critically important to minimize downtime of this pump plant to periods of no longer than 24 hours during winter months and no longer than 6 hours during spring, summer, and fall seasons, with adequate follow-on time to refill the served reservoirs. The construction drawings delineate a recommended construction sequence that provides for an orderly transition to the new switchgear replacement work. The contractor is welcome to propose alternate approaches. The objective is to ensure that the pumps remain operational during the entire project.

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1.3 CONSTRUCTION TIME LINE

Due to the critical need to complete this project during the winter season (when water demand is lower), the contractor shall include in his proposal a specific time line showing critical steps and completions dates for each phase of construction. Contractor's time-line shall specifically include the following milestones:

1. Disconnect and remove existing switchgear
2. Install temporary 2.4KV service, using by pass 5KV-MC cables from existing overhead tap-buss to temporary switchgear and to Motor Control Center.
3. Remove existing 5KV busway and unused 5kV cabinets.
4. Proceed with the required installation of underground conduits from Pad mount S.C.E. Transformer to new switchgear.
5. **Existing system shall remain operational and undisturbed during these stages.**
6. Completion of all conduit and busway inspection in coordination with S.C.Edison Co. .
7. Install new Service Switchgear as shown on plans.
8. Complete the installation of Low Voltage (120/240V) panels including conduit and wire extensions as shown on drawings.
9. SCE to remove old service conductors.
10. Complete all remaining work and site activity.
11. SCE to power up Switchgear in coordination with contractor. Removal of temporary 2.4KV service.
12. Start up and Testing of new Switchgear, MCC and motors.
13. Submit all required documentation (as-built dwgs, manuals, etc.)

Contractor shall make provisions to provide all necessary labor and materials necessary to complete all the activities listed above. Time line shall clearly indicate date and duration of all anticipated power-down periods where no pumps will be operable. (CMWD recognizes that some of these steps may require SCE involvement, and that the contractor cannot be held responsible for delays caused by the local power utility or by unanticipated CMWD events.)

1.4 SUBMITTALS

A. Shop Drawings (Product Data):

1. The term "Shop Drawings" is generally used throughout this specification, and refers to detailed product information and installation details as dictated by context. Manufacturer-provided product drawings are acceptable, provided all optional items and generalized dimensions are clearly marked to indicate precise dimensions and included options. Items shown on submittal documents that are not included must be crossed out or deleted from submittal documents.
2. Contractor shall submit shop drawings for equipment and systems as requested in the respective specification sections. Submittals which were not requested may not be reviewed.
3. Mark general catalog sheets and drawings to indicate specific items submitted.

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4. Include proper identification of equipment by name and/or number, as indicated in specification and shown on plans.
  5. When manufacturer's reference numbers are different from those specified, provide correct cross reference number for each item. Submittal shall be clearly marked and noted accordingly.
  6. When equipment and items specified include accessories, parts and additional items under one designation, submittal shall be complete and include all required components.
  7. Submittal based on other than the item specified in Electrical Distribution System sections shall include coordination study showing complete system coordination.
  8. Where submittal cover products containing non-metallic materials, include "Material Safety Data Sheet" (MSDS) from manufacturer stating physical and chemical properties of components and precautionary considerations required.
  9. Submit shop drawings or product data as soon as practicable after signing contracts. Submittal must be approved before installation of materials and equipment.
  10. Submittals which are not complete, not permanent, or not properly checked by Contractor will be returned without review.
- B. Coordination Drawings::
1. "Coordination Drawings" shall be prepared by Contractor to coordinate work among various trades and to facilitate installation. These types of drawings typically include dimensioned conduit and electrical raceway layouts.
- C. Certificates and Inspections:
1. Obtain inspections required by this specifications and deliver certificates approving installations to CMWD unless otherwise directed.
- D. Operation and Maintenance Manuals:
1. Upon completion of work and before final acceptance of system, submit to CMWD for approval, three copies of operation and maintenance manuals in loose-leaf binders. If one copy is larger than two inches thick or consists of multiple volumes, submit only one set initially for review. After securing approval, submit all three copies to CMWD.
  2. Manuals shall be organized by specification section number and shall have table of contents and tabs for each piece of equipment or systems.
  3. Manuals shall include the following:
    - a. Manufacturer's operating and maintenance instructions and parts lists of all items or equipment. Where manufacturer's data includes several types or models, applicable type or model shall be designated.

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- b. Wiring diagrams for all systems. Diagrams of a general nature are not acceptable. Diagrams must show exact internal wiring, and any optional items or components that are not included must be deleted from the diagrams.
- c. Additional information, diagrams or explanations as designated under respective equipment or systems specification section.
- d. Factory and field-test records.
- 4. TRAINING: Manufacturer shall instruct CMWD's Representative regarding operation and maintenance of equipment. Instruction shall include complete operating cycle on all apparatus.
- 5. O&M manuals and instructions to CMWD are of prime importance and shall be provided prior to request for final payment.
- E. Record Documents:
  - 1. Prepare complete set of record drawings by revising electronic copies of original contract documents as prepared and furnished by CMWD. Where reproducible drawings cannot be satisfactorily revised for record purposes, prepare appropriate new drawings using title block furnished by CMWD.

1.5 QUALITY ASSURANCE

- A. Requirements of Regulatory Agencies:
  - 1. Rules and regulations of Federal, State and local authorities and utility companies, in force at time of execution of contract shall become part of this specification.
- B. Reference Standards:
  - 1. Agencies or publications referenced herein refer to the following:
    - ANSI American National Standards Institute
    - ICEA Insulated Cable Engineers Association
    - IEEE Institute of Electrical & Electronics Engineers
    - NEC National Electrical Code (by NFPA)
    - NECA National Electrical Contractors Association
    - NEMA National Electrical Manufacturers Association
    - NFPA National Fire Protection Association
    - NIST National Institute of Standards & Technology
    - UL Underwriters Laboratories, Inc.
    - Uniform Building Code, latest edition
    - NECA Standards for Construction
    - California Administrative Codes and Title 24
    - California State and Local Fire Marshall

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1.6 WARRANTY

- A. Guarantee all equipment, materials, and workmanship to be free from defect for twelve (12) months from startup date or eighteen (18) months from complete delivery to CMWD, whichever comes first.
- B. Repair, replace or alter systems or parts of systems found defective at no extra cost to CMWD.
- C. In any case, wherein fulfilling requirements of any guarantee, if Contractor disturbs any work guaranteed under another contract, restore such disturbed work to condition satisfactory to CMWD and guarantee such restored work to same extent as it was guaranteed under such other contract.

**PART 2 - PRODUCTS**

Products shall be as indicated on drawings and specification.

**PART 3 - EXECUTION**

3.1 INSTALLATION

- A. Equipment Access:
  - 1. Provide raceways, pull boxes, and accessories so as to permit access for maintenance.
  - 2. Install equipment with ample space allowed for removal, repair or changes to equipment. Provide ready accessibility to equipment and wiring without moving other equipment, which is to be installed, or which is already in place.
- B. Equipment Supports:
  - 1. Provide supporting steel not indicated on drawings as required for installation of equipment and materials including angles, unistrut channels, beams, hangers, etc.
  - 2. Provide concrete & masonry anchors, used for attachment to concrete. Anchors shall be steel shell with plug type. Plastic, rawhide or anchors utilizing lead are not allowed.
- C. Support Protection:
  - 1. In existing, electrical areas requiring normal maintenance access by CMWD, provide equipment guards as necessary to protect personnel from injury.
  - 2. Provide minimum 1/2" thick Armstrong Armaflex insulation or similar product applied with Armstrong 520 adhesive on lower edges of equipment, including conduit, pull boxes, and electrical supporting devices suspended less than 7 ft above floors.
  - 3. Threaded rod or bolts shall not extend beyond supporting element and shall be protected as described above.

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D. Cutting and Patching:

1. Perform cutting, drilling and patching required for complete installation of conduit systems. When installation requires openings and access through existing construction and is not provided by General Contractor, it shall be provided under this Section. Patch and restore all work cut or damaged to original condition. This includes openings remaining from removal or relocation of existing system components. All openings and penetrations must be rodent-proof when complete.
2. Provide all materials required for patching unless otherwise noted.
3. Do not pierce beams or columns without permission of CMWD and then only as directed. for Openings required through walls or floors, hole shall be core drilled to avoid unnecessary damage and structural weakening.
4. Replace, repair, and refinish surfaces to condition existing prior to commencement of work. This may include areas beyond construction limits.

E. Wall Openings:

1. Sleeves shall be Schedule 40 carbon steel pipe with integral water stop Similar to type "WS" wall sleeves by Thunderline Corporation. Seal annular space between sleeves and pipe with "Link-Seal" modular wall and casing seals by Thunderline Corporation, or sealing system by another manufacturer approved as equal by CMWD. Sealing system shall utilize Type 316 stainless steel bolts, washers and nuts.
2. For core drilled holes, size and location shall be reviewed and approved by CMWD prior to execution.
3. Seal concrete wall openings with water proof caulk and rodent proof sealants.

F. Rodent Proof Installation: All building openings, including new conduits, and busway, shall be sealed with rodent proof materials to prevent rodents from gaining access to Electrical Switchgear.

G. Housekeeping and Cleanup:

1. Periodically as work progresses and/or as directed by CMWD, remove waste materials and leave area of work broom clean. Upon completion of work, remove tools, scaffolding, broken and waste materials, etc. from site.
2. Food items shall be removed from site daily to minimize attraction of raccoons and rodents to construction areas.

H. Testing:

1. Refer to Section 267000 – Acceptance testing.
2. Prior to energizing of switchgear, conduct appropriate tests to verify integrity of insulation and grounding. Hi-pot test new conductors before connecting to existing switchgear. Do NOT apply meg-ohm or other high voltage tests to existing pump motors when checking switchgear, unless specifically directed to do so by CMWD personnel.



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3. Verify proper operation of main circuit breaker of 1,200 Amps and all ground-fault interrupting devices prior to energizing switchgear.
  4. Notify engineer and CMWD inspectors at least 48 hours in advance of each test, and schedule so that testing may be witnessed by all parties.
  5. Provide all equipment required for testing, including meters and power sources.
  6. This Contractor is responsible for certifying in writing, the results of all testing of systems and equipment in this contract. Include description of the portion of system that has been tested for each entry. Record date, time, test criteria, and include signature, name and title of person certifying the test.
  7. When equipment or systems fail to meet minimum test requirements, replace or repair defective work or materials as necessary and repeat inspection and test. Make repairs with new materials.
  8. Maintain complete records at job site of testing that has been certified.
  9. At completion of project, include in O&M manuals copies of test approval records and certifications.
  10. Upon completion of work, submit to CMWD copies of test approval records and certifications.
- I. Start-Up:
1. Manufacturer of Switchgear shall provide start-up services with a qualified medium voltage engineer.
  2. Switchgear shall be started, tested, adjusted and turned over to CMWD ready for operation.
- J. Identification:
1. Submit identification text to CMWD for approval. CMWD reserves the right to modify identifications prior to shop drawing approval.
  2. After painting is completed, identify equipment as indicated. Locate identification as conspicuously as possible except where such would distract from finished area.
  3. Group conductors as to phases and arrange in a neat manner in pull boxes and cabinets. Group, bind together with nylon ties and identify conductors. Phase identification shall be consistent throughout system.
  4. Furnish typewritten charts with identification and location of access panels serving equipment and incorporate in O&M manuals.

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- K.      Cleaning:
1.        After installation is complete, Contractor shall clean all systems.
  2.        Clean debris from panel enclosures, junction boxes and pull boxes and arrange wire neatly with surplus length cut off prior to installation of covers.
  3.        Thoroughly clean equipment of stains, paint spots, dirt and dust. Remove temporary labels not used for instruction or operation.

END OF SECTION

**SECTION 26 07 00**  
**ELECTRICAL CONNECTIONS**

**PART 1 - GENERAL**

**1.01 DESCRIPTION OF WORK**

- A. Extent of electrical connections for applicable equipment is indicated on drawings and schedules. A specific sequence is indicated on the drawings, and should be followed as closely as possible to minimize water supply disruptions during construction activity. Electric connections are hereby defined to include, but not necessarily limited to, connections for providing electrical power to existing equipment.
- B. Furnish all labor and material required to complete power connections to all existing electric equipment, including 2.4KV Motors, Motor Starters and Service Switchgear.

**PART 2 - PRODUCTS**

**2.01 ACCEPTABLE MANUFACTURERS:**

- A. Available Manufacturers: Subject to compliance with requirements, manufactures offering products which may be incorporated in the work include, but are not limited to, the following:

- 3-M Corp.
  - AMP Products Corp.
  - Appleton Electric Co.
  - Burndy Corp.
  - Ideal Industries, Inc.
  - T and B/Thomas and Betts Corp.

**2.02 MATERIALS AND COMPONENTS:**

- A. General: For each electrical connection indicated, provide complete assembly of materials, including but not necessarily limited to, pressure connectors, terminals (lugs), electrical insulating tape, electrical solder, electrical soldering flux, heat-shrinkable insulating tubing, cable ties, solderless wire nuts, and other items and accessories as needed to complete splices and terminations of types indicated.
- B. Metal Conduit and Fittings: Provide rigid metal conduit and fittings, grades, sizes and weights indicated for each type service. Where types and grades are not indicated, provide proper selection as determined by Installer to fulfill wiring requirements; comply with NEC requirements for raceways. Provide products complying with Electrical Work basic materials and methods section "Raceways", and in accordance with the raceway material required for the project.
- C. Wire, Cable, and Connectors: Provide wires, cables, and connectors complying with Electrical Work basic materials and methods section "Wires and Cables".
- D. Wire: Unless otherwise indicated, provide wires/conductors for electrical connections which match wires/conductors of wiring supplying power.
- E. Connectors and Terminals: Provide electrical connectors and terminals as recommended by connector and terminal manufacturer for intended applications.

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- F. Electrical Connection Accessories: Provide electrical insulating tape, heat-shrinkable insulating tubing and boots, solder, electrical soldering flux, wire nuts and cable ties as recommended for use by accessories manufacturers for type services indicated.

**PART 3 - EXECUTION**

**3.01 INSTALLATION OF ELECTRICAL CONNECTIONS:**

- A. Install electrical connections as indicated; in accordance with connector manufacturer's written instructions and with recognized industry practices, and complying with requirements of NEC and NECA's "Standard of Installation" to ensure that products fulfill requirements.
- B. Connect electrical power supply conductors to equipment conductors in accordance with equipment manufacturer's written instructions and wiring diagram. Wherever possible, mate and match conductors of electrical connections for proper interface between electrical power supplies and installed equipment.
- C. Coordinate installation of electrical connections for equipment with equipment installation work.
- D. Cover splices with electrical insulation equivalent to, or of higher rating, than insulation on conductors being spliced.
- E. Prepare cables and wires by cutting and stripping covering armor, jacket, and insulation properly to ensure uniform and neat appearance where cables and wires are terminated.
- F. Trim cables and wires as short as practicable and arrange routing to facilitate inspection, testing and maintenance.
- G. Tighten wire-binding connector screws firmly.
- H. Refer to section 26 01 00 for identification of electrical power supply conductor terminations with markers approved as to types, colors, letters and market sizes. Affix markers at each point of termination, as close as possible to each point of connection.

END OF SECTION

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**SECTION 26 11 00  
CONDUITS & FITTINGS**

**PART 1- GENERAL**

1.1 SUMMARY

A. Section Includes:

1. Conduits, fittings, boxes, enclosures, and cabinets for electrical wiring.

B. Related Work:

1. Underground conduits for S.C.Edison Service Conductors.  
Contractor shall follow requirements of S.C.Edison.

1.2 PROTECTION

- A. Furnish information to CMWD as to size and location of built-in openings required. Do not cut, remove or pierce exterior walls, fire rated walls, ceilings or steelwork without prior permission and instruction.

- B. Coordinate layout and installation of raceways and boxes with other construction elements to insure adequate headroom, working clearance, and access.

1.3 SUBMITTAL

- A. Procedure: In accordance with this Section.

B. Shop Drawings:

1. Submit shop drawings for:

- a. Conduits.
- b. Couplings & Fittings.
- c. Conduit bodies.
- d. Boxes.
- e. Conduit seals.

2. Provide list of conduit types indicating where each type will be used.

1.4 QUALITY ASSURANCE

- A. Each conduit shall bear manufacturer's trademark and UL label.

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**PART 2- PRODUCTS**

**2.1 CONDUIT AND FITTINGS**

**A. Rigid Steel Conduit:**

1. Heavy wall tubing with hot dipped galvanized coating and shall conform to ANSI C-80.1.
2. Provide threaded connectors and couplings.
3. Connections shall be made with double locknuts and bushings. Bushings to be steel with internal insulator except conduits 2" and below may have high impact thermoset phenolic insulated bushings.
4. All conduit bushings, fittings and terminations shall be UL listed as grounding type fittings, or shall be supplemented by a UL approved grounding type device.

**B. Rigid Nonmetallic Conduit:**

1. Heavy wall rigid, type 40, listed for underground encased, underground direct and above ground applications.

**C. PVC Jacketed Conduit:**

1. Rigid steel conduit and fittings with an extruded polyvinyl chloride jacket. The jacket shall have high tensile strength, shall be highly resistant to corrosion and shall not oxidize or deteriorate or shrink when exposed to sunlight and weather. The jacket shall be flame retardant and shall not support combustion. The interior of the conduit shall have a urethane coating.

**2.2 CONDUIT BODIES**

- A. Conduit bodies 3" or larger shall be Crouse-Hinds, Type LBD.
- B. Conduit bodies smaller than 2" shall be Crouse-Hinds, Type Form 8.

**2.3 BOXES**

- A. Galvanized steel or FD cast type outlet boxes to accommodate device indicated by symbol, in conformance with code requirements, number and size of conductors and splices and consistent with type of construction. Bell boxes are not allowed.
- B. Surface mounted boxes shall have the appropriate cover, raised device covers on 4" square and 4-11/16" boxes, etc. Boxes in block shall have device covers that are square drawn or square cut. Boxes in tile shall have tile covers. Use round drawn device covers on boxes in lath and plaster walls or dry wall only.
- C. FD cast type boxes shall be utilized with rigid steel conduit.
- D. The front edge of the device boxes must be set flush with the finished wall surfaces except on walls of non-combustible materials where the boxes may have maximum set back of 1/4".

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- E. Outside exterior wall boxes or wet location boxes shall be gasketed type cast boxes with matching cover. Boxes shall have hubs threaded for rigid conduit and neoprene gasketed covers.
- F. Junction or Pull Boxes and Covers:
  - 1. Code gauge steel with galvanized or sheradized finish with covers secured by galvanized machine screws. Boxes shall be large enough so that code required minimum cable bending radii can be rolled and constructed. Knock out punches shall be used for required holes.

2.4 SUPPORT

- A. Conduit supports for horizontal and vertical multiple runs:
  - 1. Hot dipped galvanized structural steel and unistrut channel systems with appropriate components. Horizontal runs to be supported with appropriate unistrut and vertical runs anchored to support structure. Provide 25% future conduit space on each channel construction.

**PART 3 - EXECUTION**

3.1 INSTALLATION

- A. Provide for proper application, installation and location of, supports and anchor bolts for satisfactory raceway system. Where any component of the raceway system is damaged, replace it or provide new raceway system at no cost to district. CMWD.
- B. Complete raceway installation before starting conductor installation.
  - 1. Use temporary closures to prevent foreign matter from entering raceways.
  - 2. Protect stub-ups from damage where conduits rise through floor slabs. Arrange so curved portion of bend is not visible above the finished slab.
  - 3. Make bends and offsets so ID is not reduced. Keep legs of bends in the same plane and straight legs of offsets parallel, unless otherwise indicated.
- C. Separation of system low voltage signal cabling from power wiring: Maintain a min. of 6"
- D. Run conduits to permit drainage, and to avoid materials and equipment of other trades. Maintain minimum clearance of six inches from water pipes.
- E. Feeder conduits, exposed conduit grouped and parallel supported on structural wall. Exposed conduits shall be offset at boxes. Make bends in parallel. Bank runs from same centerline to make bends parallel. Use factory elbows only where elbows can be installed parallel; otherwise, provide field bends for parallel raceways.
- F. Running threads are not allowed for any type of conduits.
- G. Center conduit on structural walls clear of reinforcing steel, except where crossing same, and spaced on centers equal or exceeding three times the conduit diameter.

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- H. Conduit larger than 3/4" shall not be installed in topping slabs without approval. Minimize conduit in topping slabs. Locate to avoid conflict with equipment, door bucks, partitions and other equipment bolted to floor.
- I. Ream conduit smooth at ends, restore galvanized finish, cap upon installation, rigidly attach to structural parts of building and securely fasten to outlet boxes, panel cabinets, junction boxes, pull boxes, splicing chambers, safety switches and other components of the raceway system.
- J. Join raceways with fittings designed and approved for the purpose and make joints tight.
  - 1. Make raceway terminations tight. Use bonding bushings or wedges at connections subject to vibration. Use bonding jumpers where joints cannot be made tight.
  - 2. Use insulating bushings to protect conductors.
- K. Terminations
  - 1. Tighten set screws of threadless fittings with suitable tools.
  - 2. Where raceways are terminated with locknuts and bushings, align raceways to enter squarely and install locknuts with dished part against the box. Where terminations are not secure with 1 locknut, use 2 locknuts: 1 inside and 1 outside the box.
  - 3. Where raceways are terminated with threaded hubs, screw raceways or fittings tightly into the hub so the end bears against the wire protection shoulder. Where chase nipples are used, align raceways so the coupling is square to the box and tighten the chase nipples so no threads are exposed. Verify that conduits are securely seated and thighten into threaded hub of conduits.
  - 4. Threadless connectors and couplings are not allowed.
- L. Independently support or attach raceway system to structural supports in accordance with good industry practice. Suspended ceiling systems shall not be considered as structural parts of the construction for conduit support. Conduit, conduit systems or boxes shall not be supported or secured by wire, but shall be supported by devices manufactured specifically for this purpose. Plastic tie-wrap is not permitted.
- M. Conduits supported on channel systems shall be secured on each channel with appropriate clamps.
- N. Conduit installed in metal stud walls must be secured to prevent rattling.
- O. Devices in exterior or load-bearing walls may be fed by horizontal conduit runs. Horizontal bends in conduit around corners is not allowed. Other devices shall be fed vertically from above.
- P. Provide spare capped conduits for flush-mounted panelboards consisting of three 3/4" conduits to the ceiling space above, and three 3/4" conduits to the ceiling space below floor slab.
- Q. Provide empty raceways 2-1/2" and over with No.10 galvanized fishwire and nylon cord in smaller sizes.
- S. Provide conduit expansion and deflection fittings in all conduit at building separation/seismic joints complete with bonding jumpers. Conduit shall be rigid steel heavy wall. Alternate flexible connection made up of full size 24" length of flexible metal conduit and couplings may be used where EMT runs across expansion joints in ceiling spaces. Conduits on roof exposed to weather shall have watertight fittings.



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- T. Conduit attached to building surfaces which may be damp shall be spaced out to avoid rust and/or corrosion using fittings approved for use.
- U. Provide conduit seals where conduits pass from interior to exterior of the building, in moist areas in accordance with NEC, where conduits enter room which at any time is low or high temperature room and where conduits enter a room which at any time is subject to internal air pressures above or below normal.
- V. Provide minimum of 5 ft of rigid metal conduit on duct lines entering or leaving buildings.
- W. Three 90° bends are maximum allowed in any conduit run.
- X. Seal conduits entering or passing through areas which are "hazardous areas" as defined by NEC and/or NFPA using Crouse Hinds Series EYS seal fittings and Crouse Hinds "Chico A" sealing compound, following manufacturer's recommended installation methods.
- AA. Install conduits located in hazardous areas in accordance with NEC.
- AB. Set outlet boxes parallel to construction and independently attached to same. Adjust flush type boxes to set level with finished surface. Back to back and through-the-wall boxes are not acceptable. Ganged sectional type boxes are not acceptable. Do not install back to back boxes in the same wall stud space.
- AC. Boxes in concrete shall be of type to allow placing of conduit without displacing reinforcing bars, and shall be type approved for concrete use. Boxes installed in poured concrete shall be packed with approved material to prevent concrete entering box. Do not use paper for such packing.
- AD. Lighting fixtures outlet boxes shall be equipped with proper fittings to support and attach light fixtures.
- AE. Box Support: Mount boxes straight. In stud walls provide horizontal bracing at top or bottom of box for three or more gang device boxes. For up to two gang device boxes, provide stud support one side, with short piece of stud of support on opposite side. In masonry walls boxes shall be solidly mortared in. Tie wire supported boxes are not acceptable.
- AF. For one and two gang box support, Steel City "H" bracket supports shall be accepted alternate.
- AG. Provide multi-ganged boxes where two or more devices are in same location, except where otherwise noted. Provide partitions in multi-ganged boxes where different types of devices are installed, or devices installed operate at different voltages.
- AH. With prior approval by CMWD, raceway runs may be field changed to obtain better installation.
- AI. Conduit clamps, mounting hardware, supports, hangers, etc., shall be made of stainless steel when located on roof, in "wet" or wash-down areas.

**3.2 APPLICATION**

- A. PVC Jacketed Conduit:
  - 1. Use rigid PVC jacketed conduit for all outdoor, exposed conduit.

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- B. Nonmetallic Rigid Conduit:
  - 1. Nonmetallic rigid conduit shall be permitted for:
    - a. Direct burial, concrete encased.
    - b. Direct burial, in sand fill on bottom and top.
  - 2. All elbows and stub-ups both vertical and horizontal, shall be PVC coated (inside and outside) rigid steel in areas where direct contact with earth occurs.

END OF SECTION

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**SECTION 26 11 20**  
**EXCAVATION AND BACKFILL FOR UNDERGROUND**  
**ELECTRICAL CONDUITS**

**PART 1 - GENERAL**

1.1 SUMMARY

- A. Section Includes:
  - 1. Methods and materials for trench excavation and backfill for electrical conduits.
- B. Related Document:
  - 1. Refer to Geotechnical Report available from CMWD.

1.2 REFERENCES

- A. The Work under this section is subject to requirements of the Contract Documents including the GENERAL CONDITIONS and GENERAL REQUIREMENTS.

1.3 SUBMITTALS

- A. Procedure: In accordance with this Section.
- B. List of materials to be used for backfill.

**PART 2 - PRODUCTS**

2.1 FILL MATERIAL

- A. Type 1 Fill:
  - 1. Material from excavation separated from materials which do not compact by tamping and rolling. No stones larger than 3" and no building, organic, corrosive or frozen materials and no lumps larger than 6".
- B. Type 2 Fill:
  - 1. Sand or gravel materials with none larger than 2" and of that portion passing the #4 sieve less the 5% to pass #200 sieve.
- C. Type 3 Fill:
  - 1. Gravel of rounded to subangular shape, screened, which will pass 0.75" sieve and retained on #4 sieve.

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- D. Type 4 Fill:
  - 1. Pit run rock or gravel with maximum stone size of 1".
- E. Type 5 Fill:
  - 1. Pea gravel, screened, which will pass 0.375" sieve and retained on #4 sieve.

**PART 3 - EXECUTION**

3.1 PREPARATION

- A. Verify location of existing utilities prior to excavation for new conduits.

3.2 EXCAVATION

- A. Provide excavation for underground work, including bank of conduits encased in concrete.
- B. Excavate trench to 24" wider than concrete bank dimension and minimum of 3" below bottom of conduit.
- C. Include necessary work such as rock excavation, sheet piling; shoring; underpinning; pumping; bailing and transportation.
- D. Blasting will not be allowed on this project without written permission of CMWD.
- E. Dispose of excess excavation material on site in location designated by Construction Manager.

3.3 ROCK EXCAVATION

- A. Use mechanical methods to remove rock in trenches for conduit. Excavate trench to 24" wider than the conduit diameter and minimum of 3" below bottom of conduit.
- B. Include rock excavation in the Bid.

3.4 INSTALLATION

- A. Keep underground conduit to proper line and grade and sealed to prevent entrance of animals or foreign matter.
- B. Provide bracing and sheet piling as necessary to support trenches. Remove water to fully protect workmen and adjacent structures to permit proper installation of conduit. Comply with local regulations, applicable provisions of OSHA regulations on trenching, or with provisions of "Manual of Accident Prevention in Construction" published by Associated General Contractors of America. Under no circumstances lay conduit in water. Keep trench free from water until conduit joint material has hardened and concrete encasement is in place. Presence of ground water in soil or necessity of sheet piling or bracing trenches shall not constitute condition for which any increase may be made in Contract price, except when sheet piling is left in place, on written order of CMWD, Contract price shall be adjusted.

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- C. Cut off sheet piling left in place not less than 2 ft below new-finished grade. Do not remove sheet piling until trench is substantially backfilled.
- D. Install lines passing under foundations with minimum of 1-1/2" clearance to concrete and insure there is no disturbance of bearing soil.

**3.5 BACKFILL**

- A. Backfill around conduit bank by hand to depth of 12" above top of conduit with Type 2 fill in 6" layers. Compact backfill thoroughly with compactor of suitable weight or with approved mechanical tamper. No flooding or jetting with water will be allowed.
- B. Place backfill from 12" above conduit bank to elevation of subgrade in layers not exceeding 8" in depth with Type 2 fill. Compact backfill material to 95% modified proctor.
- C. When excavation occurs on public property or areas beyond the property line, excavation, pipe laying, backfilling, grading and surfacing shall conform as herein specified, except additional requirements for public utility or other authorities shall be complied with when in order. Check with each utility and incorporate cost of any additional requirements in base bid.

**3.6 FINISHING**

- A. On completion of trenching and backfilling operations, restore grades to original elevation or to new subgrade elevation. When trenching is through existing areas or beyond constructions limits, replace surfaces to existing conditions.
- B. Install lines passing under foundations with minimum of 1-1/2" clearance to concrete and insure there is no disturbance of bearing soil.
- C. Edison incoming feeders shall be protected from damage and finished in accordance with SCE requirements.

END OF SECTION

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**SECTION 26 12 00  
LOW VOLT CONDUCTORS**

**PART 1 - GENERAL**

1.1 SUMMARY

A. Section Includes:

1. Power and control circuit conductors.
2. Overhead busway (new and existing)

B. Related Work:

1. Acceptable wire and insulation for various systems shall be as indicated in the appropriate section of this specification.

1.2 REFERENCES

- A. The Work under this section is subject to requirements of the Contract Documents including the Section 26 01 00 GENERAL ELECTRICAL REQUIREMENTS.

1.3 SYSTEM DESCRIPTION

A. Design Criteria:

1. All conductors shall be copper.
2. All wire and cable connections and terminations shall be made with compression type connectors using solid barrel type connectors at terminals and installed with a hydraulic compression tool similar to Anderson or Burndy. Busway connections shall be made with manufacturer-approved kits and hardware.
3. Conductor and conduit sizes in these contract documents are based on copper wire, and only copper wire shall be used.

1.4 SUBMITTALS

- A. Shop drawings shall be submitted for all equipment under this Section.

1.5 QUALITY ASSURANCE

- B. Conductors shall conform to applicable IACS, ASTM and ICEA standards.

1.6 SEQUENCING-SCHEDULING

- A. Do not pull wire in until the conduit system is complete and weather tight.

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**PART 2 - PRODUCTS**

2.1 FABRICATION AND MATERIALS

- A. Cable and wire to be of new manufacture not to exceed 12 months prior to date of contract award.
- B. Existing overhead busway shall be inspected and may be reused where suitable and practical. Replacement or extension shall be of similar gauge and material, rated for 600 Volts and amperage as shown on drawings.
- C. Conductors for use at 600 volts or below shall be 600 volt rated. Provide stranded conductors. Solid conductors are not acceptable.
- D. Motor controls branch wiring:
  - 1. Provide type XHHW insulation. All control wiring to be stranded copper.
- E. Wiring in fluorescent fixture channels:
  - 1. Provide type THWN insulation.
- F. Feeder Circuit Wiring:
  - 1. Use only type XHHW insulation rated for wet location.
  - 2. Use only copper 75°C rated cable, or 90°C copper cable sized at 75°C copper rating for connection to 100% rated devices.
- G. Branch Circuit Wiring:
  - 1. Use Type THWN or XHHW insulation rated.
- H. Other wiring (communications, low voltage sensors, etc.)
  - 1. Use type and gauge as indicated on drawings. Where a question exists regarding suitability of a specific cable or conductor, contact Engineer or submit for approval.

**PART 3 - EXECUTION**

3.1 INSTALLATION

- A. Color code power wiring as follows:
  - 1. 120/208 volt, 3 phase, 4 wire: phase A-black, phase B-red, phase C-blue, neutral-white; ground conductor-green.
- B. Pull wire and cables into conduits and raceways in such manner that insulation will not be damaged or undue strain placed on conductors. Lubricants shall be UL listed.
- C. Branch circuit wires in panels shall be neatly arranged with all surplus wire cut off and wires tied with non-metallic ties. Metallic ties not permitted.

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- D. Conductors shall be attached to terminal screw or lug per UL listing.
- E. Joints, taps and splices sizes No. 10 and smaller:
  - 1. Ideal-Nut Connectors or Scotchlok Spring connectors.
- F. Joints, taps and splices sizes No. 8 and larger:
  - 1. Tinned copper compression connectors that have been installed with a hydraulic compression tool.
- G. Joints, taps and splices sizes larger than No. 1:
  - 1. Tape with electrical insulation putty to build up insulation level equivalent to cable insulation and cover with not less than two half lapped layers of plastic electrical tape.
- H. Plastic snap-on splice insulators are not permitted.
- I. Conductors in vertical raceways shall be supported per NEC 300-19 using O.Z. type "S" cable supports for 600 volt conductors.
- J. Wire and cable boxes and reels shall bear the date of manufacture. The date of manufacture shall not precede contract date by more than one year.
- K. Minimum conductor sizes shall be as follows:
  - 1. No. 12 - Branch circuits of any kind.
  - 2. No. 10 - Security lighting and all exterior light circuits.
- L. Limit homeruns to 8 current carrying conductors.
- M. Circuits of different panels shall not be installed in the same conduit.
- N. Provide a minimum #10 sized neutral conductor for all shared neutral branch circuits.
- O. Branch circuit shall not pass through a different panelboard.
- P. Branch Wiring:
  - 120/208 volt circuits over 100 ft in length:
    - Increase one size for each 100 ft of length.
    - Increase conduit size as required.

END OF SECTION



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**SECTION 26 12 20  
MEDIUM VOLTAGE WIRES AND CABLES**

**PART 1 GENERAL**

1.01 SCOPE OF SPECIFICATION

- A. 5kV Shielded Power Cable, Single Conductor, Type MV-105.

1.02 REFERENCES

- A. Insulated Cable Engineers Association, Inc. (ICEA) - ICEA S-68-516 – EPR Insulated Wire and Cable
- B. Association of Edison Illuminating Companies (AEIC) - AEIC CS6 – EPR Insulated Shielded Cable
- C. Institute of Electrical and Electronics Engineers, Inc. (IEEE) - IEEE 404 – Cable Joints
- D. Underwriters Laboratories (UL) - UL 1072 – Medium Voltage Power Cables
- E. National Fire Protection Association (NFPA) - NFPA 70 – National Electric Code
- F. Materials and insulation shall meet or exceed the above referenced standards.

1.03 SUBMITTALS

- A. Submit data sheet on cable construction, shielding, insulation material, thickness of insulation and jacket, cable stranding, and voltage rating.
- B. Submit certified test reports for: 1. Sample test on insulation: Physical properties, solvent extraction, heat distortion, and accelerated water absorption. 2. Insulation resistance, power factor corona level, AC dielectric
- C. Certified Factory Test Report including the results of the test plus cable identification, factory order number, cable length and all cable specifications. No cable shall be installed until Owner's representative has accepted related test report.
- D. Provide recommended DC voltage for field-testing of cable.
  - 1. Provide minimum three copies of field test reports indicating test results relative to compliance with performance requirements.
- E. Manufacturer's cable pulling calculations for each cable installation. The calculations shall include jam ratio, tension, and sidewall pressure analysis.

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## 1.04 QUALITY ASSURANCE

### A. Qualifications of Cable Splicers

1. Submit a certification for the approval of Owner's Representative containing the names and the qualifications of persons who are to perform the splicing and termination of medium voltage cables approved for installation.
2. The certification shall indicate that persons who shall perform actual splicing and terminations have been adequately trained in the proper techniques and have had at least five years experience in the "cable splicer" classification.

- B. Provide cable of recent manufacture, no more than 12 months old, and in continuous lengths with no splices, as noted on the purchase order release. Seal ends of cable to prevent moisture penetration into the conductor strands.

## PART 2 PRODUCTS

### 2.01 GENERAL

- A. UL listed, type MV-105 shielded single conductors, with ozone and discharge resistant dielectric.
- B. Suitable for use in wet locations; or outdoor, including direct sunlight
- C. Suitable for routing in conduit, underground duct systems.
- D. Rated 105 degrees C for normal operation, 140 degrees C for emergency overload operation, and 250 degrees C for short circuit conditions. Emergency overload operation may occur for periods up to 1,500 hours cumulative during the life of the cable.

### 2.02 MANUFACTURERS

- A. Okonite
- B. Pirelli
- C. Or approved equal

### 2.03 5KV POWER CABLE

#### A. Basic Construction

1. Stranded, bare copper conductor
2. Triple extrusion
  - a) Semiconducting thermosetting compound strand shield
  - b) Ethylene-propylene rubber insulation
  - c) Extruded semiconducting thermosetting compound insulation shield

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- B. Copper tape shield
- C. Overall PVC jacket
- D. Conductor
  - 1. Uncoated soft copper wire, compact stranded per ASTM B-496
  - 2. Comply with the electrical resistance requirements of ICEA S-68-516
- E. Conductor Shield
  - 1. Extruded layer of semi-conducting thermosetting compound compatible with the overlaying insulation and meeting resistivity requirements of AEIC-CS6
  - 2. The shield shall be clean-stripping from the conductor, and inseparably bonded to the overlaying insulation.
  - 3. The minimum thickness of the extruded conductor shield shall be as shown in Table 1. Measure and control the thickness of the shield to meet or exceed all physical and electrical tests prescribed by AEIC specifications.

**TABLE 1**

**CONDUCTOR SHIELD THICKNESS**

Conductor Size AWG/Kcmil	Minimum Point (mils)	Minimum Average (mils)
1 - 4/0	12	15
250 - 500	16	20

- F. Insulation
  - 1. Provide insulation of a flexible thermosetting dielectric based on an ethylene propylene elastomer. Heat, moisture, ozone, and corona resistant. Color shall contrast from the conductor and insulation shields.
  - 2. Provide 133 percent insulation unless otherwise indicated on drawings. Minimum average insulation thickness not less than as scheduled in Table 2. The minimum thickness at any cross-section of the insulation shall not be less than 90 percent of the specified minimum average thickness.
  - 3. Perform the extrusion operation by using a triple-extrusion process that permits the measurement and accurate control of the wall thickness of each layer of compound, and prevent intersurface contamination.

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**TABLE 2  
INSULATION THICKNESS AND WITHSTAND VOLTAGES**

Rated Voltage Phase to Phase (kV)	Conductor Size	Minimum Average Insulation Thickness (mils)		5 minute ac Withstand (kV)		15 minute dc Withstand (kV)	
		100%	133%	100%	133%	100%	133%
5	#2 AWG to 1000 kcmil	175	220	35	44	70	80

G. Insulation Shield

1. Apply an extruded semi-conducting thermosetting insulation shield over the insulation.
  - a) Extruded semiconducting thermosetting compound compatible with the underlying insulation. Comply with the resistivity requirements of AEIC CS6.
  - b) Clean stripping. Peel strength of between 6 and 24 pounds from the insulation for a 1/2-inch width when tested per AEIC CS-6. The extruded shield shall be in intimate contact with the outer surface of the insulation and shall be free-stripping, leaving no conducting particles or other residue on the insulation surface.
  - c) Identify the insulation shield by continuously printing, with contrasting colored ink on the outer surface, "Semi-conducting - Remove When Splicing or Terminating."
  - d) The average thickness of the extruded shield shall be in accordance with AEIC-CS6, Table C3. The minimum and maximum point thickness of the extruded shield shall be in accordance with the values shown in Table 3.

**TABLE 3  
INSULATION SHIELD THICKNESS**

Calculated Minimum Diameter (d) Over Insulation (inches)	Insulation shield thickness (mils)	
	Min. point	Max point
$d < 1.0$	30	70
$1.0 < d < 1.5$	40	85
$1.5 < d < 2.0$	55	100
$d > 2.0$	55	115

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## H. Metallic Shield

1. Apply a helical 5-mil uncoated annealed copper shielding tape, directly over the extruded insulation shield, with a minimum 12-1/2 percent overlap. Comply with the requirements of Part 4 of ICEA S-68-516.

## I. Jacket

1. Overall jacket: Black polyvinylchloride (PVC)
2. PVC jacket thickness as scheduled in Table 4. The minimum thickness at any point shall not be less than 80 percent of the specified minimum average thickness.

**TABLE 4 PVC JACKET THICKNESS**

Cable Core Diameter (inches)	Minimum Average Jacket Thickness (mils)
0 - 0.425	45
0.426 - 0.700	60
0.701 - 1.500	80
1.501 - 2.500	110
2.501 & larger	140

## J. Identification

1. Print the following identifying legend, items 1 through 12, on the jacket with contrasting ink, or emboss into the jacket. Repeat at maximum two-foot intervals (unmarked surfaces not exceeding six inches).
  - a) Cable Manufacturer
  - b) Plant Number or Letter
  - c) Conductor Size (AWG) (kcmil)
  - d) Cu
  - e) Insulation Type (EPR)
  - f) Shielded
  - g) Voltage (kV)
  - h) Insulation Level in percent
  - i) Insulation Thickness (MILS)
  - j) UL
  - k) MV-105
  - l) Year of Manufacture

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## PART 3 EXECUTION

### 3.01 TESTS

- A. Factory Test: A complete test shall be done on each length of cable at the factory in accordance with ICEA S-68-516, and UL-1072. In addition a corona test shall be done per AEIC CS6-87, Section E.
- B. Field Test
  - 1. Visual and mechanical inspections of physical damage, shield grounding cable support, cable bend, and termination.
  - 2. Third-party Contractor shall perform tests per Acceptance Testing specification, or if not defined therein a D.C. High Potential Test shall be performed in accordance with NETA Acceptance Testing Specification.

### 3.02 INSTALLATION

- A. The cable shall be drawn into the conduit using basket grips on swivel connections. Lubricate the cables before pulling in accordance with cable pulling calculations. All cable ends shall be sealed when being pulled into the ducts.
- B. All cables shall be tagged with 2-inch diameter anodized tags with 5/32-inch high white letters on black background, showing the size of the cable, what the cable feeds, and the date it was first energized. The tags shall be attached to the cables with wire ties and shall be located in every pullbox, junction box, etc., and at every splice and termination. The cables shall also be phase marked "A", "B", and "C".
- C. Cable lugs shall be coordinated with the associated equipment connection and shall be manufactured by Burndy or Thomas and Betts, made from plated copper, 2-hole minimum. Lugs shall be compression type, installed with the manufacturer's pressure type indent tool, using properly sized rounding type dies.
- D. Splices shall have insulation shield carried across the splice. Splices and terminations shall have insulation shield ground grounded at each splice location.
- E. Stress relief terminations shall be made on all cable splices and terminations, and shall be made in accordance with the printed recommendations of the cable manufacturer.
- F. The conductor shields shall be grounded at each termination of the cable run, and on both sides of all splices, using a stranded, #6 bare copper wire to the nearest ground system. Conductor shield continuity must be maintained at all splices. The ground wire shall be protected from mechanical injury by enclosing it in a metal protective covering or by placing it where it will not be subject to damage.
- G. Single conductor cables in racks in vaults, shall have the three conductors of each circuit bound together with plastic cable ties at each points not over three feet apart.
- H. The cables shall be installed within one year of manufacture.

END OF SPECIFICATION

**SECTION 26 12 40**  
**MEDIUM VOLTAGE CABLE TERMINATIONS, SPLICES, & ACCESSORIES**

**PART 1 - GENERAL**

**1.01 SECTION INCLUDES**

- A. Medium voltage cable terminations.
- B. Medium voltage cable splices.
- C. Medium voltage end sealing caps.
- D. Medium voltage connections.

**1.02 RELATED SECTIONS**

- A. Section 26 12 20- Medium Voltage Cable

**1.03 REFERENCES**

- A. ANSI/IEEE C2- National Electrical Safety Code.
- B. ANSI/NFPA 70- National Electrical Code.
- C. IEEE 48- Test Procedures and Requirements for High- Voltage Alternating- Current Cable Terminations.
- D. IEEE 404- Standards for Cable Joints for use with extruded Dielectric Cable Rated 5,000 through 46,000 Volts, and Cable Joints for use with Laminated Dielectric Cable Rated 2,500 through 500,000 volts.
- E. ANSI C 119.2- Separable Insulated Connectors for Power Distribution Systems above 600V.
- F. NEMA WC3- Rubber- Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
- G. NEMA WC5- Thermoplastic- Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
- H. NEMA WC 7- Cross-Linked-Thermosetting-Polyethylene Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
- I. NEMA WC 8- Ethylene-Propylene-Rubber-Insulated wire and Cable for the Transmission and Distribution of Electrical Energy.

**1.04 SUBMITTALS**

- A. Submit under provisions of this Section
- B. Product Data: Provide for cable terminations and Splices.
- C. Test Reports: Indicate results of cable test with terminations and splices installed in tabular form and in plots of current versus voltage for incremental voltage steps, and current versus time at 30 second intervals at maximum voltage.
- D. Test Reports: Terminations. Manufacturer shall provide a test report demonstrating design-proof testing per IEEE 48 and capability of passing IEEE 404 test sequence. Manufacturer shall provide a test report demonstrating accelerated and real-time testing of weathering resistance including track and U.V. resistance as well as termination stability with time, temperature, and stress variation.
- E. Test Reports: Splices. Manufacturer shall provide a test report demonstrating design-proof testing according to IEEE 404, and water submersion testing according to ANSI C119.2.
- F. Manufacturer's Instructions: Manufacturer shall provide illustrated step-by-step instructions describing installation on cable construction specified in Section 16121.

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**1.05 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing Products specified in this Section with minimum 15 years documented experience.
- B. Installer: Company specializing in installing Products specified in this Section with minimum three years documented experience.

**1.06 FIELD SAMPLES**

- A. Provide under provisions of Section
- B. Provide field sample of one each of each type of termination and splice used.

**1.07 EXTRA MATERIAL**

- A. Provide 10% extra spare terminations and splices of each type.

**1.08 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver, store, product, and handle Products to site under provisions of this Section
- B. Accept cable and accessories on site in manufacturer's packaging. Inspect for damage.
- C. Store and protect in accordance with manufacturer's instructions.
- D. Protect from weather. Provide adequate ventilation to prevent condensation.

**1.09 PROJECT CONDITIONS**

- A. Verify that field measurements are as shown on Drawings.
- B. Verify routing, termination and splice location of cable bank prior to rough-in.

**PART 2 - PRODUCTS**

**2.01 CABLE TERMINATIONS:**

- A. Manufacturer: Tyco Electronics, Model Raychem HVT.
- B. Description: IEEE 48; Class 1, heat shrinkable cable terminations in kit form, capable of properly terminating cables specified in Section 16122.
- C. Termination for single-conductor cables shall consist of heat-shrinkable radiation crosslinked high dielectric constant linear stress relief material and heat-shrinkable radiation crosslinked non-tracking outer insulation. Terminations shall contain a high relative permittivity electric stress relief mastic for insulation shield cutback treatment and a heat activated sealant for environmental sealing.
- D. In addition to the components describe above, three-conductor kits shall contain heat shrinkable components to seal the cable jacket, phase conductors, ground wire and re-jacket phase and ground conductors.
- E. Kits shall be factory engineered and shall accommodate any common form of cable shielding or construction without the need for special adaptors. Kits shall accommodate a wide range of cable sizes and be completely independent of cable manufacturers' tolerances. Kits shall accommodate commercially available standard connectors.



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**2.02 CABLE SPLICES**

- A. Manufacturer: Tyco Electronics, Model Raychem HVS
- B. Description: IEEE 404, heat shrinkable cable splices in kit form, capable of properly splicing cables specified in Section 16122.
- C. Splice kits shall contain all necessary components to reinstate primary cable insulation, metallic shielding and grounding systems and overall jacket to the equivalent of the cable itself. Splices shall be of a uniform cross-section and shall consist of heat-shrinkable radiation crosslinked insulation. The outer insulating layer shall be bonded to a conducting layer for shielding. The splice shall be re-jacketed with a heavy-wall, heat-shrinkable sealant lined sleeve to provide a waterproof hot melt adhesive seal. Splices shall contain heat-shrinkable radiation cross-linked high dielectric constant linear stress relief material. Splices shall contain a high relative permittivity electric stress relief mastic for insulation shield cutback treatment and heat activated sealant for environmental sealing.
- D. Kits shall be factory engineered and shall accommodate any common form of cable shielding or construction without the need for special adaptors. Kits shall accommodate a wide range of cable sizes and be completely independent of cable manufacturers' tolerance. Kits shall allow splicing cables with different types of insulation, conductor sizes, and shielding construction. Kits shall accommodate commercially available standard connectors.

**2.03 CABLE END SEALING CAPS**

- A. Manufacturer: Tyco Electrics, Model Raychem ESC
- B. Description: Heat-shrinkable crosslinked polymeric end sealing caps capable of sealing cables specified in Section 16122.
- C. End caps shall be precoated with a heat activated sealant and shall be able to accommodate a wide range of cable sizes and be completely independent of cable manufactures' tolerances.

**2.04 MEDIUM VOLTAGE SWITCHGEAR CONNECTION**

- A. Manufacturer: Tyco Electronics, Model Raychem MCK
- B. Description: Heat-shrinkable kits capable of property connecting cables specified in section 16121 to switchgear bus.
- C. Connections kits shall consist of two layers of heat-shrinkable radiation crosslinked insulation and heat activated sealant for environmental sealing. Kits shall be factory engineered and shall accommodate a wide range of cable sizes and be completely independent of cable manufactures' tolerances.

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**PART 3 - EXECUTION**

**3.01 EXAMINATION**

- A. Verify installation conditions.

**3.02 INSTALLATION**

- A. Install cable terminations and splices in accordance with manufacturer's instructions.
- B. Avoid abrasion and other damage to cables during installation.

**3.03 FIELD QUALITY CONTROL**

- A. Field inspection and testing will be performed under provisions of this Section
- B. Inspect exposed cable sections for physical damage.
- C. Inspect cable for proper connections as shown on Drawings.
- D. Inspect shield grounding, cable support, terminations, and splices for proper installation.
- E. Perform DC high potential test of each conductor in accordance with NEMA standards.
- F. Connect untested conductors in circuit to ground during test.
- G. Apply test voltage in at least eight equal increments to maximum test voltage.
- H. Record leaking current at each increment, allowing for charging current decay.
- I. Hold maximum test voltage for ten minutes.

END OF SECTION

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**SECTION 26 24 10**  
**5KV MEDIUM VOLTAGE METAL-CLAD SWITCHGEAR**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Medium voltage (5 kV) freestanding close-coupled metal-clad switchgear with vacuum circuit breakers.

**1.02 REFERENCES**

- A. ANSI/IEEE C37.20.2 - Standard for Metal-Clad Switchgear.
- B. ANSI/IEEE C37.04 and .06 - Standard ratings and preferred ratings for Indoor AC Medium-Voltage Circuit Breakers used in Metal-Clad Switchgear.
- C. ANSI/IEEE C37.11 - Requirements for electrical control for AC High-Voltage Circuit Breakers rated on a symmetrical current basis or a total current basis.
- D. ANSI/IEEE C37.09 - Standard Design and Production Testing.
- E. ANSI Z55.1 - Gray Finishes for Industrial Apparatus and Equipment.
- F. ANSI/IEEE C57.13 - Requirements for Instrument Transformers.
- G. NEMA SG4 - Alternating Current High Voltage Circuit Breakers.
- H. NEMA SG5 - Power Switchgear Assemblies.

**1.03 SUBMITTALS**

- A. Submit shop drawings indicating outline dimensions, enclosure construction, shipping splits, lifting and supporting points, electrical single line diagram, control schematics, equipment electrical ratings and electrical bill of materials.

**1.04 OPERATION AND MAINTENANCE DATA**

- A. Include circuit breaker recommended spare parts list.

**1.05 QUALITY ASSURANCE**

- A. Manufacturer: Company specializing in medium voltage metal-clad switchgear with at least twenty years documented experience. The manufacturer of the switchgear must be the same as the manufacturer of the circuit breaker.

**1.06 DELIVERY, STORAGE, AND HANDLING**

By special arrangement and coordination with the owner: Casitas Municipal Water District

**1.07 EXTRA MATERIALS/ACCESSORIES**

- A. Submit one racking handle with equipment. Charging handle furnished on each breaker mechanism.
- B. Provide one set of spare control fuses for each set installed.
- C. For all switchgear with circuit breaker, provide circuit breaker lifting device - portable, floor-supported with a roller base.
- D. Provide one test cabinet.
- E. Provide one test jumper cable.
- F. Provide one key interlock to prevent insertion of the breaker in the connected position during lockout.
- G. Provide a 5<sup>th</sup> wheel for the breaker.
- H. Provide one Infrared Viewing Window.
- I. Provide surge arresters.
- J. Provide one 30kVA transformer and 100A 208/120V associated panelboard with the required branch breakers.

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**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. The metal-clad switchgear shall be manufactured by Square D (Schneider Electric).

**2.02 METAL-CLAD SWITCHGEAR ASSEMBLY**

- A. The metal-clad switchgear shall consist of a MASTERCLAD™ indoor enclosure containing circuit breakers and the necessary accessory components all factory assembled (except for necessary shipping splits) and operationally checked. The assembly shall be a self-supporting and floor mounted on a level concrete pad. The integrated switchgear assembly shall withstand the effects of closing, carrying and interrupting currents up to the assigned maximum short circuit rating.
- B. System Voltage: 2.4 kV nominal, three-phase ungrounded Delta, 60 Hz.
- C. Maximum Design Voltage: 4.76 kV.
- D. Impulse Withstand (Basic Impulse Level): 60 kV.
- E. Power Frequency Withstand: 19 kV, 1 minute test.
- F. Main Bus Ampacity: 1200 amps, continuous.
- G. Momentary Current Ratings: Equal to the circuit breaker close and latch rating.

**2.03 COMPONENTS**

- A. Stationary Structure
1. The switchgear shall consist of 4 sections including 1 breaker (plus CPT/VT) section and 3 others sections assembled to form a rigid self-supporting completely enclosed structure providing steel barriers between sections.
  2. The sections are divided by metal barriers into the following separate compartments:  
Circuit breaker, instrument, main bus, auxiliary device and cable. Each feeder section may have up to two circuit breaker compartments.
  3. The base of the switchgear structure shall be provided with a 1/2" minimum raise, as well as any available additional assistance from the manufacturer, in order to facilitate an easier means of transportation. This is a special requirement to be utilized by the rigging company to be hired by contractor.
- In addition, a transition section shall be provided for connecting the load bus to the existing Allen Bradley MV MCC. The manufacturer will need to take measurements from the site and ensure that the bus transition to feed the existing equipment meets the installation requirements.
- B. Circuit Breaker Compartment
1. Each circuit breaker compartment shall be designed to house a horizontal drawout metal-clad vacuum circuit breaker. The stationary primary disconnecting contacts are to be silver-plated copper and mounted within porcelain support bushings. The movable contacts and springs shall be mounted on the circuit breaker element for ease of inspection/maintenance.
  2. Entrance to the stationary primary disconnecting contacts shall be automatically covered by metal shutters when the circuit breaker is withdrawn from the connected position to the test or disconnected position or removed from the circuit breaker compartment. Extend a ground bus into the circuit breaker compartment to automatically ground the breaker frame with high-current spring type grounding contacts located on the breaker chassis when in the test and connected positions. Guide rails for positioning the circuit breaker and all other necessary hardware are to be an integral part of the circuit breaker compartment. Blocking devices shall interlock breaker frame sizes to prevent installation of a lower ampere rating or interrupting capacity element into a compartment designed for one of a higher rating. It shall be possible with indoor or outdoor walk-in switchgear to install a circuit breaker into a bottom compartment without use of a transport truck or lift device.
- C. Cable Compartment/Ground Bus
1. Cable terminators shall be furnished as shown on plans. The ground bus shall extend through this compartment for the full length of the switchgear.

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- D. Main Bus Compartment
  - 1. The main bus is to be rated 1200 amps and be fully insulated for its entire length with an epoxy coating by the fluidized bed process. The conductors are to be silver-plated copper and be of a bolted [not welded] design. Access to this compartment is gained from the front or rear of the structure by removing a steel barrier. Provide standard provisions for future extension, as applicable.
- E. Doors and Panels
  - 1. Relays, meters, control switches, etc., shall be mounted on a formed front-hinged panel for each circuit breaker compartment.
- F. Circuit Breakers:
  - 1. The circuit breakers shall be rated 2400 nominal volts, 4760 maximum volts, 60 Hz, with a continuous current rating of 1200 amps and a maximum symmetrical interrupting rating of 40kA/250mVA - 4.76 kV system. Furnish Type VR circuit breakers with one vacuum interrupter per phase. Breakers of same type and rating shall be completely interchangeable. The circuit breaker shall be operated by means of a stored energy mechanism which is normally charged by a universal motor but can also be charged by the manual handle supplied on each VR breaker for manual emergency closing or testing. The closing speed of the moving contacts is to be independent of both the control voltage and the operator. Provide a full front shield on the breaker. Secondary control circuits shall be connected automatically with a self-aligning, self-engaging plug and receptacle arrangement when the circuit breaker is racked into the connected position. Provision shall be made for secondary control plug to be manually connected in test position. A minimum of 4 auxiliary contacts (2a 2b), shall be provided for external use. Provisions shall be made for 10 additional cell-mounted auxiliary contacts both MOC and TOC type for external use. The racking mechanism to move the breaker between positions shall be operable with the front door closed and position indication shall be visible with door closed.
  - 2. An interlocking system shall be provided to prevent racking a closed circuit breaker to or from any position. An additional interlock shall automatically discharge the stored-energy operating mechanism springs upon removal of the breaker out of the compartment.
  - 3. The circuit breaker control voltage shall be: 120, volts ac - provide one capacitor trip unit for each circuit breaker when ac control power is required.
- G. Instrument Transformers
  - 1. Current transformers: Each breaker compartment shall have provision for front-accessible mounting of up to three multi ration high accuracy current transformers. The current transformer assembly shall be insulated for the full voltage rating of the switchgear. The current transformers wiring shall be Type SIS #12 AWG. Relaying and metering accuracy shall conform to ANSI Standards.
  - 2. Voltage transformers are drawout mounted with primary current-limiting fuses and shall have ratio as indicated. The transformers shall have mechanical rating equal to the momentary rating of the circuit breakers and shall have metering accuracy per ANSI Standards.
- H. Control Wiring
  - 1. The switchgear shall be wired with type SIS #14 AWG, except where larger size wire is specified. The switchgear shall be provided with terminal blocks for outgoing control connections. Wire markers shall be provided for each end of all control wires.
- I. Protective Relays: Provide SEPAM S84 Relay for each circuit breaker in circuit.
- J. With each circuit breaker in circuit, provide an Allen Bradley PM5000/1425DM Power Monitor.

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**2.04 FABRICATION**

- A. Construction: Each equipment bay shall be a separately constructed cubicle assembled to form a rigid freestanding unit. Minimum sheet metal thickness shall be 11 gauge steel on all exterior surfaces. Adjacent bays shall be securely bolted together to form an integrated rigid structure. The rear covers shall be removable to assist installation and maintenance of bus and cables. Each individual unit shall be braced to prevent distortion.
- B. Dimensions: Standard dimensions per indoor section are: 36 in W x 95 in H x 92/100 in D except for the Utility and Transition sections.
- C. The metal-clad switchgear shall be fully assembled, inspected and tested at the factory prior to shipment. Large line-ups shall be split to permit normal shipping and handling as well as for ease of rejoining at the job site.

**2.05 FACTORY FINISHING**

- A. All steel parts, except galvanized (if used), shall be cleaned and an iron phosphate pre-treatment applied prior to paint application.
- B. Paint color shall be ANSI-61 [light grey]; TGIC polyester powder, applied electrostatically through air. Following paint application, parts shall be baked to produce a hard durable finish. The average thickness of the paint film shall be 2.0 mils. Paint film shall be uniform in color and free from blisters, sags, flaking and peeling.
- C. Adequacy of paint finish to inhibit the buildup of rust on ferrous metal materials shall be tested and evaluated per paragraphs 5.2.8.1-7 of ANSI C37.20.2-1987. Salt spray withstand tests in accordance with ASTM #D-1654 and #B-117 shall be performed on a periodic basis to provide conformance with the corrosion resistance standard of at least 600 hours minimum.

**PART 3 EXECUTION**

**3.01 WITNESS TESTING**

The owner/engineer will witness the factory tests. Provide two weeks notice so that the owner/engineer is able to make travel arrangements.

**3.02 INSTALLATION**

- 1. Contractor shall hire the services of a specialized rigging company for the pickup, transport, and installation of the switchgear.
- 2. Install in accordance with manufacturer's instructions, applicable requirements of the NEC and in accordance with recognized industry practices.
- 3. Install cables, as provided by the switchgear manufacturer, to connect the primary surge arresters. Bending of high-voltage cables should be avoided or minimized. All necessary bends should meet at least the minimum radius specified by the cable manufacturer.

**3.03 FIELD QUALITY CONTROL**

Field inspection and testing.  
Visually inspect for physical damage.  
Perform start-up tests in accordance with manufacturer's instruction manual.  
Verify key interlock operation.  
Perform low frequency withstand (Hi-Pot) tests according to ANSI/IEEE C37.20.2, paragraph 5.5.  
Test CPT/CT/PT/Protection Relay and ground resistance.

**3.04 TRAINING**

Provide one day of classroom training at the owner location and include videotaping of the training.

**3.05 EXTENDED WARRANTY**

Provide one year additional warranty in addition to the manufacturer's standard warranty.

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**3.06 PREVENTIVE MAINTENANCE**

Include the Schneider Electric SIBS ASP 5 YR PLUS plan that includes two preventive maintenance and three IR scans of the equipment.

END OF SECTION

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**SECTION 26 29 40  
SEISMIC ANCHORAGE AND RESTRAINT**

**PART 1 - GENERAL**

1.1 SUMMARY

A. Section Includes:

1. Seismic anchorage and restraint of electrical systems including switchgear, conduits, and bus duct.

B. Related Work:

1. Reference other sections of this specification to coordinate installation requirements with respect to seismic restraints.

1.2 STANDARDS

- A. Seismic anchorage and restraints shall be installed in accordance with codes and standards as enforced by authorities having jurisdiction in California for earthquake zone 4.0. Earthquake load shall be 2.5 times UBC essential rating. Importance factor shall be 1.5. Authorities shall include CMWD's insurance company.

- B. Where applicable, building standards supersede those of other evaluation or listing agencies referenced in specification.

1.3 SUBMITTALS

A. Procedure: In accordance with this Section.

1. Provide complete calculations, drawings and details.
2. Submittal shall be sealed by the contractor's seismic engineer.
3. Submittal shall be coordinated with building structural engineer.
4. Submit for approval, seismic restraint calculations, drawings and details to authorities having jurisdiction as required by those authorities.



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**PART 2 - PRODUCTS**

2.1 MATERIALS

- A. Materials and devices shall be in accordance with applicable codes and standards and shall be appropriate for intended use.
- B. Anchors and attachments to building structure shall be as approved by building structural engineer.
- C. Seismic restraints used in conjunction with vibration isolators may consist of loose cables, telescoping pipes or box sections, angles or sections, flat plates used as limit stops or snubbers, or other types of housing used either integral with or separate from vibration isolators to accomplish necessary seismic restraint.

2.2 EQUIPMENT

- A. Equipment available with seismic rating including motor control center, shall be provided with rating applicable to seismic zone of project location.

**PART 3 - EXECUTION**

3.1 INSTALLATION

- A. Secure stationary equipment, raceways and equipment supports to structure, concrete slab, or special supports to provide protection against earthquakes and to restrain lateral or vertical movement. Where vibration isolators are used, seismic restraints shall be designed to limit lateral or vertical movement during earthquake without short circuiting vibration isolation system.
- B. Coordinate seismic restraints with structural engineer and incorporate structural engineer's requirements.
- C. Seismic restraint methods and materials shall be supplementary to support devices specified in other sections of this specification and together shall serve as equipment support criteria.
- D. Installation of devices shall be in accordance with seismic design engineer's drawings and details and in accordance with seismic guidelines.
- E. Coordinate installation of devices with other contractors and incorporate their requirements.
- F. Refer to drawings and details for seismic restraint system concepts. Verify, revise and refine details in accordance with requirements of this specification.
- G. Modify raceway and equipment locations as required for seismic restraint system.
- H. Seismic restraint systems shall not interfere with installation of other building systems and access space as indicated on drawings.

END OF SECTION

**SECTION 26 40 00**

**PANEL BOARDS**

**1. GENERAL**

**1.1. Summary**

1.1.1. Scope of Specification

- A. Provide and install panelboards as shown on the Drawings and as specified.

**1.2. Applicable Standards**

1.2.1. FS W-C-375 – “Circuit Breakers, Molded Case, Branch Circuit and Service”

1.2.2. FS-W-P-115 – “Power Distribution Panel”

1.2.3. NEMA AB 1 – “Molded Case Circuit Breakers”

1.2.4. NEMA PB 1 – “Panelboards”

1.2.5. NEMA PB 1.1 – “Instructions for safe installation, Operation and Maintenance of Panelboards Rated 600 Volts”

1.2.6. NEMA PB 1.2 – “Application Guide for Ground-fault protective devices for equipment”

1.2.7. UL 67 – “Panelboards”

1.2.8. NFPA 70 – “National Electric Code, Article 384 – Panelboards”

**1.3. Submittals**

1.3.1. Shop Drawings

- A. Include a front elevations, indicate cabinet dimensions, make, location and capacity of circuit breakers, integrated short circuit ampere rating, size of gutters, type of mounting, finish, and catalog number of locks and construction details, and catalog of all circuit breakers.

**2. PRODUCTS**

**2.1. General**

- 2.1.1. Provide panelboard cabinets surface-mounted as noted on the Drawings, with bolt-on circuit breakers, with hinged lockable door, typewritten index card holders under plastic cover, copper bushing, and main lugs or main protective device as indicated on the drawings. Panels shall have concealed hinge, latch and flush locks, keyed to operate from one key, and permanent type plastic or metal numbers on adjacent trim removable only from back of trim, to identify the branch circuit breakers.

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- 2.1.2. Lighting, power panelboards shall be three phase, four wire, 208/120V, as indicated on the Drawings. All panelboards shall be equipped with a ground bus. Panelboards shall be UL listed for non-linear loads and therefore possess a neutral bus capable of carrying 200% of the phase bus current.
- 2.1.3. All boxes shall be formed of galvanized steel, chemically cleaned, and all breaks in galvanizing shall be painted with metallic aluminum paint. All trims and doors shall be chemically cleaned. Front door and trim shall be finished with ANSI 61 gray paint.
- 2.1.4. Provide factory finish on the exposed trim of all flush mounted panels.
- 2.1.5. Protective devices, main, branch or sub-feed shall be bolt-on type circuit breakers as shown on the drawings and panel schedules. Circuit breakers in panelboards shall be rated to interrupt the fault current available at panelboards, as shown on the drawings or otherwise indicated.
- 2.1.6. Equip each circuit feeding electrical discharge lamp with NEC lock-off device, unless lamps are within sight of panelboard, or have local switch. Non-switched emergency light circuits, fire alarm, security system and control circuits shall include "lock-on" devices.
- 2.1.7. Minimum interrupting rating shall be 10KAIC.
- 2.1.8. The main circuit breaker shall be installed vertically on the top or the bottom of panel. Installing the main at branch circuit location is not acceptable.
- 2.1.9. Where a contactor, relay or time switch is indicated to be included with or adjacent to a panelboard, it shall be in a separate box and mounted under a separate hinged lockable door. Where a panelboard or box has more than one door, a barrier and divider bar shall be installed between doors. Relays, time switches and control devices may be grouped under one door, but not with contactor.
- 2.1.10. Panelboards shall be UL labeled per UL Standard 67.
- 2.1.11. Panelboards shall be manufactured by Eaton-Cutler-Hammer or Square 'D'.

**2.2. Panelboard Cabinets**

- 2.2.1. Panelboard cabinets shall be code gauge galvanized steel or blue steel; and fronts, doors, and trims shall be code gauge furniture steel. Cabinets shall have at least 6" high gutters at top and bottom where feeder cable pass through the cabinet vertically. Cabinets shall have top and bottom gutters sized as required by the inspection department having jurisdiction but never less than " where more than one feeder enters the top or bottom of the cabinets. Side gutters shall not be less than 4" wide.
- 2.2.2. Doors shall be cut true, accurately fit opening and shall finish smooth across the joints. Rabbets concealed except for barrels and pins. Hinge flanges shall be welded to the door and trim. Each door shall be equipped with flush type lock, spring latching. All panelboard locks shall be keyed to operate from one key.
- 2.2.3. Where contactors, time switches, and the control devices are specified or indicated to be installed within panelboard cabinets, a separate compartment and door shall be provided at the top of the cabinet for such devices. The door shall be sized as required to permit removal of the contactor and other devices intact. Gutters shall be provided to the sides and top of the compartment.
- 2.2.4. Panelboard Schedule: The contractor shall prepare a neatly typewritten schedule with the number or name of the room or area and the machine served by each panel board circuit. The room numbers or

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name used shall be determined at the site and shall not necessarily be those used on the drawings. The schedule shall also indicate the panel designation, voltage and phase, the building and distribution panel or switchboard from which fed. The schedule shall be mounted in a frame under transparent plastic 1/32" thick on the inside of each panelboard cabinet door.

**3. EXECUTION**

**3.1. Installation**

- 3.1.1. Fronts shall be flush type unless otherwise indicated and shall be fastened to the cabinets with 1/4"-20 nickel plated oval headed machine screws and cup washers. Sufficient screws shall be installed to prevent buckling or warping of the panel front. Flush type fronts shall be aligned plumb and square and cabinet shall be drilled and tapped for cover screw sat the site to accomplish this if necessary. Install nameplates at the front of each panelboard.
- 3.1.2. All surfaces of surface mounting cabinets and fronts shall be given one coat of metal primer and a finish coat of baked on gray enamel.
- 3.1.3. Surface mounted panelboard shall be rigidly supported in place independent of the conduit with (2) row unistrut.
- 3.1.4. Panelboard located in Chlorine building shall have weatherproof gaskets on trims and doors.
- 3.1.5. Obtain building room numbering system from CMWD and include these room numbers in final typewritten panelboard directories.

**End of Specification**

**SECTION 16450**  
**GROUNDING SYSTEM**

**PART 1 - GENERAL**

1.1 DESCRIPTION

- A. Provide a complete and adequate grounding system as here required to meet the minimum resistance to ground of 5ohms herein specified.

1.2 SYSTEM REQUIREMENT

- A. Grounding shall be as approved by the State of California, Occupational Safety and Health Administration ("CAL-OSHA").
- B. Provide extensions and reconnections to existing grounding ring encircling the Building in direct contact with the earth and consisting of a bare copper conductor #250 MCM of 25ft. connected to (2) new ground rods.
- C. Electrical continuity to ground metal raceways and enclosures, isolated from the equipment ground by use of non-metallic conduit or fittings, shall be provided by a green insulated grounding conductor of approved sized with in each raceway connected to the isolated metallic raceways or enclosures at each end.
- D. Ground conductors shall be terminated at the ground bus of the switchboard and the neutral bus, equipment enclosure, and "grounding ring" shall be bonded together.

1.3 REFERENCES

- A. ANSI/NEPA 70 – National Electrical Code.

Materials and/or installation shall be meet or exceed the above-referenced standards.

**PART 2 - PRODUCTS**

2.1 MATERIALS

- A. Ground conductors shall be bare copper, 250 MCM, stranded, installed in one continuous length.
- B. Splices shall be by means of exothermic welding process.
- C. Ground Rods shall be 3/4" dia with a minimum depth of 10Ft.

**PART 3 - EXECUTION**

3.1 INSTALLATION

- A. All feeder runs and branch circuit wiring in non-metallic conduit shall carry a green THWN insulated NEC sized ground conductor per circuit correctly connected for electrical ground continuity.

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- B. All primary feeder conduits to panelboard shall contain an equipment ground conductor with 600 volt insulation.
- C. Flexible conduit shall not be used as a ground path. Include NEC sized green conductor in all flex conduit.
- D. Provide NEC approved bonding devices, fittings or jumpers at expansion fitting, isolation sections or wherever continuity of ground is broken.
- E. Connections above grade shall be made with bolted solderless connectors and those below grade shall be made by a fusion-welding process, a compression ground grid connector of a type, which uses a hydraulic compression tool to provide the correct circumferential pressure, may be used. Tools and dies shall be as recommended by the manufacturer. An embossing die code or other standard method shall provide visible indication that a connector has been adequately compressed on the ground wire.
- F. Weld grounding conductors to underground grounding ring.
- G. Install grounding and bonding conductors with sufficient slack to prevent breaking due to settlement and movement of conductors at attached points.
- H. Resistance to ground for all systems shall be measured by the “direct” method:  
  
Perform the 2 point method test per IEEE No. 81, Section 9.03 to determine the ground resistance between the main grounding system and all major electrical equipment frames, system neutral and derived neutral points. Ground resistance shall be 5 ohms or less between any system ground point and the two reference ground rods, which shall be located at least 20 FT. away from each other and any other enclosure or underground conduit.
- I. Apply corrosion-resistant finish to field connections, buried splice grounding and bonding products, and places where factory applied protective coating has been destroyed, which are subjected to corrosive action.
- J. Resistance to ground for electrical systems shall not exceed 5 ohms measurement and additional grounding rods and bare copper conductors shall be provided to attain this value or lower.

**3.2 RECORDS**

- A. A certified record of ground-resistance test on ground ring, and other grounding electrodes shall be prepared and submitted for approval to CMWD upon completion of this part of the work.
- B. The record shall include the number of splices, bondings, and their depth at each location to meet the required resistance to ground measurements specified. A statement shall be included describing the conditions of the soil at the time of measurement.

**3.3 AS-BUILT DRAWINGS**

- A. As-built drawings shall indicate the location of ground ring and all connections to the grounding system.

END OF SECTION

**SECTION 26 70 00**  
**ACCEPTANCE TESTING**

**1. GENERAL**

**1.1. Summary**

1.1.1. Scope of Specification

- A. A third party agency is required to perform this section of work. This section provides the guidelines for inspection, testing and verification of electrical equipment, cables, circuit breakers, and related apparatus of the electrical distribution system. This specification does not release the contractor from any further testing required for safe commissioning of the equipment. All inspections, tests and verifications shall be documented, dated and signed off by the individual who does the actual work.
  - 1. Electrical contractor shall perform infrared testing on all power connections after start-up. Infrared testing shall include but shall not be limited to the following: Switchgear bus connection, distribution panels, cable terminations.
  - 2. Electrical contractor shall redo any loose connections found during testing. All findings and corrective actions shall be given to CMWD in binder form (video tape if applicable). Infrared images to be included in a binder and turned over to CMWD.
  - 3. Contractor will pay all costs of testing including costs of correcting failures and of replacing or repairing any damage to associated work or surrounding areas resulting therefrom.
  
- B. The Contractor shall be responsible for the following general equipment tests:
  - 1. 2.4KV busway and cable testing.
  - 2. Low voltage cable testing for L-L and L-G faults.
  - 3. Grounding Systems.
  - 4. Overload settings for protective relays of switchgear.
  - 5. Coordination of the trip settings for main 1,200Amp-2.4KV circuit breaker.
  - 6. Insulation resistance.
  
- C. Test reports shall include:
  - 1. Description of equipment tested.
  - 2. Description of test.
  - 3. Test results.
  - 4. Conclusions and recommendations.
  - 5. Appendix, including appropriate test forms.
  - 6. List of test equipment used and calibration date.

**1.2. Quality Assurance**

1.2.1. Requirements of Regulatory Agencies

- A. Codes and Ordinances: All work shall meet the requirements of the codes as listed in General Conditions as applicable.

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- B. Materials shall bear the Underwriters' Laboratories, Inc. (UL) label.
- C. Qualifications of Testing Agency
  - 1. The testing firm shall meet the Federal Occupational Safety and Health Administration (OSHA) criteria for accreditation of testing laboratories, Title 29, part 1907.
  - 2. Proof of the above qualifications shall be submitted.
  - 3. All instruments used to evaluate electrical performance shall meet National Electrical Testing Association (NETA) specifications for Test Instruments.
  - 4. The testing firm shall meet all requirements for accreditation for this type of work. Membership in NETA will constitute proof of meeting those requirements.

**1.3. Applicable Standards**

- 1.3.1. National Electric Testing Association Standards for acceptance testing of Electrical Distribution Apparatus, Publication 1.001 and IEEE Publication No. 141 are part of this section unless modified herein.

**2. PRODUCTS**

**Not applicable.**

**3. EXECUTION**

**3.1. Preparatory Work**

- 3.1.1. Prior to the testing of any specific piece of equipment, the contractor shall remove all shipping hardware and inspect for broken or missing parts and proper connections in accordance with the manufacturer's instructions.

**3.2. General**

- 3.2.1. The Contractor shall notify CMWD's representative of scheduled dates of electrical equipment installation completion. Equipment testing shall be coordinated at this time with contractor, CMWD's representative Engineer and appropriate manufacturer.
- 3.2.2. Tests of 2.4KV switchgear circuit breakers shall be supervised by CMWD's Representative. CMWD's representative shall be given a one week notice of all scheduled tests.

**3.3. Switchgear Main Circuit Breaker**

- 3.3.1. General: Before performing any inspection tests, confirm that the incoming power is locked and tagged "off" and will remain "off" to the switchgear being tested. For safety, ground all three incoming cables to ground using a shorting strap. If power is "on" to the incoming main, lock the main in the off position.
- 3.3.2. Obtain from the switchgear manufacturer, the recommended testing procedure for the main breaker. Perform as indicated in the written procedure.
- 3.3.3. Using the solid state tester designed for testing the breaker trip devices, test the breaker for proper trip operation. Visually inspect to see if the CT ratio is correct for the breaker rating and manually operate breaker to assure that the breaker is not binding. Perform high current testing at minimum of 300% of breaker rating.



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- 3.3.4. With power off to the switchgear, inspect the breaker trip devices and settings provided.
- 3.3.5. The breaker, after being completely tested, shall be tagged showing test completion. The tag shall show company's name performing test, tester's name and date of test.

**3.4. Grounding**

- 3.4.1. Perform a visual and mechanical inspection to insure that all connections (both compression and exothermal) have been properly made.
  - A. Perform three point fall of potential tests on main grounding electrode per IEEE No. 81 Section 9.04. Notify Engineer if exceeds 5 ohm.
  - B. Perform 2 point method test as per IEEE No. 81, Section 9.03 to determine ground resistance between the main ground system and all major electrical equipment frames, system neutral and/or derived neutral points.
  - C. Conduct resistance to ground tests. Submit to the CMWD representative a report showing the results of these measurements. If the resistance exceed values specified elsewhere, perform all corrective measures at no additional cost to CMWD.

**3.5. 2.4KV Cable and Busway**

- 3.5.1. Conditions Required to Start Testing:
  - A. All cables and busway installed and terminated.
  - B. All conduit fittings in place.
- 3.5.2. Visual and Mechanical Inspection:
  - A. Inspect exposed section for physical damage.
  - B. Verify system is connected in accordance with the single-line diagram.
  - C. Check color-coding with applicable engineer's specifications and NEC standards.
  - D. Check visible cable bends against ICEA or manufacturer's minimum allowable bending radius.
  - E. Inspect jacket and insulation condition.
  - F. Inspect for proper phase identification and arrangement.
- 3.5.3. Electrical Tests
  - A. Perform insulation resistance test on each conductor with respect to ground and adjacent conductors. Applied potential to be 2500 volts dc for one (1) minute. Minimum insulation resistance values shall be not less than onethousand megohms.
  - B. Perform continuity test to insure proper cable connection.

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**3.6. Operational Test:**

- A. Upon completion of the work and adjustment of all equipment, conduct an operating test for approval at such time as the CMWD representative directs. Conduct the test in the presence of the CMWD representative. Demonstrate all systems and equipment to operate in accordance with all requirements of the Contract documents and to be free from all electrical and mechanical defects. Provide all systems free from short circuits and grounds and show an insulation resistance between phase conductors and ground not less than the requirements of the governing electric Code. Test all circuits for proper neutral connection.

END OF SECTION

**SECTION 26 70 10**  
**ARC FLASH HAZARD ANALYSIS/SHORT-CIRCUIT/COORDINATION STUDY**

**PART 1 GENERAL**

**1.01 SCOPE**

- A. The Switchgear Manufacturer, Square D Company shall furnish short-circuit and protective device coordination studies.
- B. The Arc Flash Hazard Analysis Study shall be performed per the requirements set forth in the current version of NFPA 70E -*Standard for Electrical Safety in the Workplace*. The arc flash hazard analysis shall be in accordance to IEEE Standard 1584 – 2002, the IEEE *Guide for Performing Arc-Flash Calculations*.
- C. The scope of the studies shall include new distribution equipment supplied by Square D Company under this contract as well as the recommended settings of the three motor protection relays of the existing equipment.

**1.02 RELATED SECTIONS**

- A. Drawings and general provisions of the Contract.

**1.03 REFERENCES**

- A. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
  - 1. IEEE 141 – Recommended Practice for Electric Power Distribution and Coordination of Industrial and Commercial Power Systems
  - 2. IEEE 242 – Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems
  - 3. IEEE 399 – Recommended Practice for Industrial and Commercial Power System Analysis
  - 4. IEEE 241 – Recommended Practice for Electric Power Systems in Commercial Buildings
  - 5. IEEE 1015 – Recommended Practice for Applying Low-Voltage Circuit Breakers Used in Industrial and Commercial Power Systems.
  - 6. IEEE 1584 -Guide for Performing Arc-Flash Hazard Calculations
- B. American National Standards Institute (ANSI):
  - 1. ANSI C57.12.00 – Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers
  - 2. ANSI C37.13 – Standard for Low Voltage AC Power Circuit Breakers Used in Enclosures
  - 3. ANSI C37.010 – Standard Application Guide for AC High Voltage Circuit Breakers Rated on a Symmetrical Current Basis
  - 4. ANSI C 37.41 – Standard Design Tests for High Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches and Accessories.

- C. The National Fire Protection Association (NFPA)
  - 1. NFPA 70 -National Electrical Code, latest edition
  - 2. NFPA 70E – Standard for Electrical Safety in the Workplace

#### **1.04 SUBMITTALS FOR REVIEW/APPROVAL**

- A. The studies shall be submitted to the design engineer prior to receiving final approval of the distribution equipment shop drawings and/or prior to release of equipment drawings for manufacturing. If formal completion of the study may cause delays in equipment shipments, approval from the Engineer may be obtained for a preliminary submittal of data to ensure that the selection of device ratings and characteristics will be satisfactory to properly select the distribution equipment. The formal study will be provided to verify preliminary findings.

#### **1.05 SUBMITTALS FOR CONSTRUCTION**

- A. The results of the short-circuit, protective device coordination and arc flash hazard analysis studies shall be summarized in a final report. A minimum of five (5) bound copies of the complete final report shall be submitted. Electronic PDF copies of the report shall be provided upon request.
- B. The report shall include the following sections:
  - 1. Executive Summary including Introduction, Scope of Work and Results/Recommendations.
  - 2. Short-Circuit Methodology Analysis Results and Recommendations
  - 3. Short-Circuit Device Evaluation Table
  - 4. Protective Device Coordination Methodology Analysis Results and Recommendations
  - 5. Protective Device Settings Table
  - 6. Time-Current Coordination Graphs and Recommendations
  - 7. Arc Flash Hazard Methodology Analysis Results and Recommendations including the details of the incident energy and flash protection boundary calculations, along with Arc Flash boundary distances, working distances, Incident Energy levels and Personal Protection Equipment levels.
  - 8. Arc Flash Labeling section showing types of labels to be provided. Section will contain descriptive information as well as typical label images.
  - 9. One-line system diagram that shall be computer generated and will clearly identify individual equipment buses, bus numbers used in the short-circuit analysis, cable and bus connections between the equipment, calculated maximum short-circuit current at each bus location, device numbers used in the time-current coordination analysis, and other information pertinent to the computer analysis.

#### **1.06 QUALIFICATIONS**

- A. The short-circuit, protective device coordination and arc flash hazard analysis studies shall be conducted under the responsible charge and approval of a Registered Professional Electrical Engineer skilled in performing and interpreting the power system studies.

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- B. The Registered Professional Electrical Engineer shall be an employee of the equipment manufacturer or an approved engineering firm.
- C. The Registered Professional Electrical Engineer shall have a minimum of five (5) years of experience in performing power system studies.
- D. The approved engineering firm shall demonstrate experience with Arc Flash Hazard Analysis by submitting names of at least ten actual arc flash hazard analyses it has performed in the past year.
- E. The engineering firm shall have a minimum of twenty-five (25) years experience in performing power system studies.

**1.07 COMPUTER ANALYSIS SOFTWARE**

- A. The studies shall be performed using SKM Systems Analysis Power\*Tools for Windows (PTW) software program.

**PART 2 PRODUCT**

**2.01 STUDIES**

- A. The contractor shall furnish an Arc Flash Hazard Analysis Study per NFPA 70E -Standard for Electrical Safety in the Workplace, reference Article 130.3 and Annex D. This study shall also include short-circuit and protective device coordination studies. All studies to be prepared by Square D Engineering Services.

**2.02 DATA**

- A. Client shall furnish all data as required for the power system studies. The Engineer performing the short-circuit, protective device coordination and arc flash hazard analysis studies shall furnish the Client with a listing of required data immediately after award of the contract. The Client shall expedite collection of the data to assure completion of the studies as required for final approval of the distribution equipment shop drawings and/or prior to the release of the equipment for manufacturing.
- B. Data Source may include present and future motors and generators.
- C. Load data utilized may include existing and proposed loads obtained from Contract Documents provided by Client.
- D. If applicable, include fault contribution of existing motors in the study. The Client shall obtain required existing equipment data, to satisfy the study requirements.

**2.03 SHORT-CIRCUIT ANALYSIS**

- A. Transformer design impedances shall be used when test impedances are not available.

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- B. Study shall provide the following:
1. Calculation methods and assumptions
  2. Selected base per unit quantities
  3. One-line diagram of the system being evaluated that clearly identifies individual equipment buses, bus numbers used in the short-circuit analysis, cable and bus connections between the equipment, calculated maximum short-circuit current at each bus location and other information pertinent to the computer analysis
  4. The study shall include input circuit data including electric utility system characteristics, source impedance data, conductor lengths, number of conductors per phase, conductor impedance values, insulation types, transformer impedances and X/R ratios, motor contributions, and other circuit information as related to the short-circuit calculations.
  5. Tabulations of calculated quantities including short-circuit currents, X/R ratios, equipment short-circuit interrupting or withstand current ratings and notes regarding adequacy or inadequacy of the equipment rating.
  6. Results, conclusions, and recommendations. A comprehensive discussion section evaluating the adequacy or inadequacy of the equipment must be provided and include recommendations as appropriate for improvements to the system.
- C. For solidly-grounded systems, provide a bolted line-to-ground fault current study for applicable buses as determined by the engineer performing the study.
- D. Protective Device Evaluation:
1. Evaluate equipment and protective devices and compare to short circuit ratings
  2. Adequacy of switchgear, motor control centers, and panelboard bus bars to withstand short-circuit stresses
  3. Square D shall notify Owner in writing, of any circuit protective devices improperly rated for the calculated available fault current.

**2.04 PROTECTIVE DEVICE TIME-CURRENT COORDINATION ANALYSIS**

- A. Protective device coordination time-current curves (TCC) shall be displayed on log-log scale graphs.
- B. Include on each TCC graph, a complete title with descriptive device names.
- C. Terminate device characteristic curves at a point reflecting maximum symmetrical or asymmetrical fault current to which the device is exposed.
- D. Identify the device associated with each curve by manufacturer type, function, and, if applicable, tap, time delay, and instantaneous settings recommended.
- E. Plot the following characteristics on the TCC graphs, where applicable:
1. Electric utility's overcurrent protective device
  2. Medium voltage equipment overcurrent relays
  3. Medium and low voltage fuses including manufacturer's minimum melt, total clearing, tolerance, and damage bands

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4. Low voltage equipment circuit breaker trip devices, including manufacturer's tolerance bands
  5. Transformer full-load current, magnetizing inrush current, and ANSI through-fault protection curves
  6. Medium voltage conductor damage curves
  7. Ground fault protective devices, as applicable
  8. Pertinent motor starting characteristics and motor damage points, where applicable
  9. Pertinent generator short-circuit decrement curve and generator damage point
  10. The largest feeder circuit breaker in each motor control center and applicable panelboard.
- F. Provide adequate time margins between device characteristics such that selective operation is provided, while providing proper protection.
- G. Provide the following:
1. A One-line diagram shall be provided which clearly identifies individual equipment buses, bus numbers, device identification numbers and the maximum available short-circuit current at each bus when known.
  2. A sufficient number of log-log plots shall be provided to indicate the degree of system protection and coordination by displaying the time-current characteristics of series connected overcurrent devices and other pertinent system parameters.
  3. Computer printouts shall accompany the log-log plots and will contain descriptions for each of the devices shown, settings of the adjustable devices, and device identification numbers to aid in locating the devices on the log-log plots and the system one-line diagram.
  4. The study shall include a separate, tabular printout containing the recommended settings of all adjustable overcurrent protective devices, the equipment designation where the device is located, and the device number corresponding to the device on the system one-line diagram
  5. A discussion section which evaluates the degree of system protection and service continuity with overcurrent devices, along with recommendations as required for addressing system protection or device coordination deficiencies.
  6. Square D shall notify Owner in writing of any significant deficiencies in protection and/or coordination. Provide recommendations for improvements.

**2.05 ARC FLASH HAZARD ANALYSIS**

- A. The arc flash hazard analysis shall be performed according to the IEEE 1584 equations that are presented in NFPA70E-2009, Annex D. The arc flash hazard analysis shall be performed in conjunction with the short-circuit analysis (Section 2.03) and the protective device time-current coordination analysis (Section 2.04)
- B. The flash protection boundary and the incident energy shall be calculated at significant locations in the electrical distribution system (switchboards, switchgear, motor-control centers, panelboards, busway and splitters) where work could be performed on energized parts.
- C. Circuits 240V or less fed by single transformer rated less than 125 kVA may be omitted from the computer model and will be assumed to have a hazard risk category 0 per NFPA

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70E.

- D. Working distances shall be based on IEEE 1584. The calculated arc flash protection boundary shall be determined using those working distances.
- E. When appropriate, the short circuit calculations and the clearing times of the phase overcurrent devices will be retrieved from the short-circuit and coordination study model. Ground overcurrent relays should not be taken into consideration when determining the clearing time when performing incident energy calculations
- F. The short-circuit calculations and the corresponding incident energy calculations for multiple system scenarios must be compared and the greatest incident energy must be uniquely reported for each equipment location in a single table. Calculations must be performed to represent the maximum and minimum contributions of fault current magnitude for normal and emergency operating conditions. The minimum calculation will assume that the utility contribution is at a minimum. Conversely, the maximum calculation will assume a maximum contribution from the utility. Calculations shall take into consideration the parallel operation of synchronous generators with the electric utility, where applicable as well as any stand-by generator applications.

The Arc-Flash Hazard Analysis shall be performed utilizing mutually agreed upon facility operational conditions, and the final report shall describe, when applicable, how these conditions differ from worst-case bolted fault conditions.

- G. The incident energy calculations must consider the accumulation of energy over time when performing arc flash calculations on buses with multiple sources. Iterative calculations must take into account the changing current contributions, as the sources are interrupted or decremented with time. Fault contribution from motors should be decremented as follows:
  - 1. Fault contribution from induction motors should not be considered beyond 5 cycles.
- H. For each piece of ANSI rated equipment with an enclosed main device, two calculations shall be made. A calculation shall be made for the main cubicle, sides, or rear; and shall be based on a device located upstream of the equipment to clear the arcing fault. A second calculation shall be made for the front cubicles and shall be based on the equipment's main device to clear the arcing fault. For all other non-ANSI rated equipment, only one calculation shall be required and it shall be based on a device located upstream of the equipment to clear the arcing fault.
- I. When performing incident energy calculations on the line side of a main breaker (as required per above), the line side and load side contributions must be included in the fault calculation.
- J. Mis-coordination should be checked amongst all devices within the branch containing the immediate protective device upstream of the calculation location and the calculation should utilize the fastest device to compute the incident energy for the corresponding location.



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- K. Arc Flash calculations shall be based on actual overcurrent protective device clearing time. A maximum clearing time of 2 seconds will be used based on IEEE 1584-2002 section B.1.2. Where it is not physically possible to move outside of the flash protection boundary in less than 2 seconds during an arc flash event, a maximum clearing time based on the specific location shall be utilized.
- L. Provide the following:
  - 1. Results of the Arc-Flash Hazard Analysis shall be submitted in tabular form, and shall include device or bus name, bolted fault and arcing fault current levels, flash protection boundary distances, working distances, personal-protective equipment classes and AFIE (Arc Flash Incident Energy) levels.
  - 2. The Arc-Flash Hazard Analysis shall report incident energy values based on recommended device settings for equipment within the scope of the study.
  - 3. The Arc-Flash Hazard Analysis may include recommendations to reduce AFIE levels and enhance worker safety.

## **PART 3 EXECUTION**

### **3.01 ARC FLASH LABELS**

- A. Square D Engineering Services shall provide a 4.0 in. x 4.0 in. Brady thermal transfer type label of high adhesion polyester for each work location analyzed.
- B. The labels shall be designed according to the following standards:
  - 1. UL969 – Standard for Marking and Labeling Systems
  - 2. ANSI Z535.4 – Product Safety Signs and Labels
  - 3. NFPA 70 (National Electric Code) – Article 110.16
- C. The label shall include the following information:
  - 1. System Voltage
  - 2. Flash protection boundary
  - 3. Personal Protective Equipment category
  - 4. Arc Flash Incident energy value (cal/cm<sup>2</sup>)
  - 5. Limited, restricted, and prohibited Approach Boundaries
  - 6. Study report number and issue date
- D. Labels shall be printed by a thermal transfer type printer, with no field markings.
- E. Arc flash labels shall be provided for equipment as identified in the study and the respective equipment access areas per the following:
  - 1. Floor Standing Equipment - Labels shall be provided on the front of each individual section. Equipment requiring rear and/or side access shall have labels provided on each individual section access area. Equipment line-ups containing sections with multiple incident energy and flash protection boundaries shall be labeled as identified in the Arc Flash Analysis table.

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2. Wall Mounted Equipment – Labels shall be provided on the front cover or a nearby adjacent surface, depending upon equipment configuration.
3. General Use Safety labels shall be installed on equipment in coordination with the Arc Flash labels. The General Use Safety labels shall warn of general electrical hazards associated with shock, arc flash, and explosions, and instruct workers to turn off power prior to work.

**Label Installation by the owner/contractor**

END OF SECTION

## Request for Taxpayer Identification Number and Certification

**Give form to the  
requester. Do not  
send to the IRS.**

<b>Print or type See Specific Instructions on page 2.</b>	Name (as shown on your income tax return)	
	Business name, if different from above	
	Check appropriate box: <input type="checkbox"/> Individual/Sole proprietor <input type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Limited liability company. Enter the tax classification (D=disregarded entity, C=corporation, P=partnership) ▶ ..... <input type="checkbox"/> Exempt payee <input type="checkbox"/> Other (see instructions) ▶	
	Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	City, state, and ZIP code	
	List account number(s) here (optional)	

### Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on Line 1 to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Social security number
or
Employer identification number

**Note.** If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

### Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. citizen or other U.S. person (defined below).

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN. See the instructions on page 4.

<b>Sign Here</b>	Signature of U.S. person ▶	Date ▶
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## General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

### Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

**Note.** If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

The person who gives Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States is in the following cases:

- The U.S. owner of a disregarded entity and not the entity,

- The U.S. grantor or other owner of a grantor trust and not the trust, and
- The U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

**Foreign person.** If you are a foreign person, do not use Form W-9. Instead, use the appropriate Form W-8 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

**Nonresident alien who becomes a resident alien.** Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a “saving clause.” Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

**Example.** Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity not subject to backup withholding, give the requester the appropriate completed Form W-8.

**What is backup withholding?** Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called “backup withholding.” Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

**Payments you receive will be subject to backup withholding if:**

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),
3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See the instructions below and the separate Instructions for the Requester of Form W-9.

Also see *Special rules for partnerships* on page 1.

## Penalties

**Failure to furnish TIN.** If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

**Civil penalty for false information with respect to withholding.** If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

**Misuse of TINs.** If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

## Specific Instructions

### Name

If you are an individual, you must generally enter the name shown on your income tax return. However, if you have changed your last name, for instance, due to marriage without informing the Social Security Administration of the name change, enter your first name, the last name shown on your social security card, and your new last name.

If the account is in joint names, list first, and then circle, the name of the person or entity whose number you entered in Part I of the form.

**Sole proprietor.** Enter your individual name as shown on your income tax return on the “Name” line. You may enter your business, trade, or “doing business as (DBA)” name on the “Business name” line.

**Limited liability company (LLC).** Check the “Limited liability company” box only and enter the appropriate code for the tax classification (“D” for disregarded entity, “C” for corporation, “P” for partnership) in the space provided.

For a single-member LLC (including a foreign LLC with a domestic owner) that is disregarded as an entity separate from its owner under Regulations section 301.7701-3, enter the owner’s name on the “Name” line. Enter the LLC’s name on the “Business name” line.

For an LLC classified as a partnership or a corporation, enter the LLC’s name on the “Name” line and any business, trade, or DBA name on the “Business name” line.

**Other entities.** Enter your business name as shown on required federal tax documents on the “Name” line. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on the “Business name” line.

**Note.** You are requested to check the appropriate box for your status (individual/sole proprietor, corporation, etc.).

### Exempt Payee

If you are exempt from backup withholding, enter your name as described above and check the appropriate box for your status, then check the “Exempt payee” box in the line following the business name, sign and date the form.

Generally, individuals (including sole proprietors) are not exempt from backup withholding. Corporations are exempt from backup withholding for certain payments, such as interest and dividends.

**Note.** If you are exempt from backup withholding, you should still complete this form to avoid possible erroneous backup withholding.

The following payees are exempt from backup withholding:

1. An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2),
2. The United States or any of its agencies or instrumentalities,
3. A state, the District of Columbia, a possession of the United States, or any of their political subdivisions or instrumentalities,
4. A foreign government or any of its political subdivisions, agencies, or instrumentalities, or
5. An international organization or any of its agencies or instrumentalities.

Other payees that may be exempt from backup withholding include:

6. A corporation,
7. A foreign central bank of issue,
8. A dealer in securities or commodities required to register in the United States, the District of Columbia, or a possession of the United States,
9. A futures commission merchant registered with the Commodity Futures Trading Commission,
10. A real estate investment trust,
11. An entity registered at all times during the tax year under the Investment Company Act of 1940,
12. A common trust fund operated by a bank under section 584(a),
13. A financial institution,
14. A middleman known in the investment community as a nominee or custodian, or
15. A trust exempt from tax under section 664 or described in section 4947.

The chart below shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 15.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 9
Broker transactions	Exempt payees 1 through 13. Also, a person registered under the Investment Advisers Act of 1940 who regularly acts as a broker
Barter exchange transactions and patronage dividends	Exempt payees 1 through 5
Payments over \$600 required to be reported and direct sales over \$5,000 <sup>1</sup>	Generally, exempt payees 1 through 7

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> However, the following payments made to a corporation (including gross proceeds paid to an attorney under section 6045(f), even if the attorney is a corporation) and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, and payments for services paid by a federal executive agency.

## Part I. Taxpayer Identification Number (TIN)

**Enter your TIN in the appropriate box.** If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited liability company (LLC)* on page 2), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

**Note.** See the chart on page 4 for further clarification of name and TIN combinations.

**How to get a TIN.** If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local Social Security Administration office or get this form online at [www.ssa.gov](http://www.ssa.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/businesses](http://www.irs.gov/businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting [www.irs.gov](http://www.irs.gov) or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

**Note.** Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

**Caution:** A disregarded domestic entity that has a foreign owner must use the appropriate Form W-8.

## Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, and 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). Exempt payees, see *Exempt Payee* on page 2.

**Signature requirements.** Complete the certification as indicated in 1 through 5 below.

**1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.

**2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

**3. Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.

**4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

## Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, social security number (SSN), or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

Call the IRS at 1-800-829-1040 if you think your identity has been used inappropriately for tax purposes.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

### Protect yourself from suspicious emails or phishing schemes.

Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to [phishing@irs.gov](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS personal property to the Treasury Inspector General for Tax Administration at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: [spam@uce.gov](mailto:spam@uce.gov) or contact them at [www.consumer.gov/idtheft](http://www.consumer.gov/idtheft) or 1-877-IDTHEFT(438-4338).

Visit the IRS website at [www.irs.gov](http://www.irs.gov) to learn more about identity theft and how to reduce your risk.

## What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account <sup>1</sup>
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
4. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee <sup>1</sup>
b. So-called trust account that is not a legal or valid trust under state law	The actual owner <sup>1</sup>
5. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
For this type of account:	Give name and EIN of:
6. Disregarded entity not owned by an individual	The owner
7. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>
8. Corporate or LLC electing corporate status on Form 8832	The corporation
9. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
10. Partnership or multi-member LLC	The partnership
11. A broker or registered nominee	The broker or nominee
12. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity

<sup>1</sup> List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> You must show your individual name and you may also enter your business or "DBA" name on the second name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 1.

**Note.** If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

## Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons who must file information returns with the IRS to report interest, dividends, and certain other income paid to you, mortgage interest you paid, the acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA, or Archer MSA or HSA. The IRS uses the numbers for identification purposes and to help verify the accuracy of your tax return. The IRS may also provide this information to the Department of Justice for civil and criminal litigation, and to cities, states, the District of Columbia, and U.S. possessions to carry out their tax laws. We may also disclose this information to other countries under a tax treaty, to federal and state agencies to enforce federal nontax criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism.

You must provide your TIN whether or not you are required to file a tax return. Payers must generally withhold 28% of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to a payer. Certain penalties may also apply.

**TO ALL FORMAL BIDDERS**  
**CHECKLIST OF FORMS TO BE RETURNED TO CMWD**

**VENTURA AVENUE PUMP PLANT NO.1**  
**ELECTRICAL UPGRADE**

**SPECIFICATION NO. 16-383**

Notice Inviting Bids  
Instructions to Bidders  
Proposal  
Bidding Sheet  
Bidder's Plan for Construction  
Bidder's Statement of Subcontractors  
Bidder's Bond  
Certification of Nonsegregated Facilities  
Bidder's Questionnaire  
Noncollusion Declaration

**RETURN TO**

**Casitas Municipal Water District**  
**1055 Ventura Avenue**  
**Oak View, CA 93022**

*Bids will be received at the offices of the  
Casitas Municipal Water District  
until 3:00 p.m.  
on Thursday, September 8, 2016*

# CASITAS MUNICIPAL WATER DISTRICT

## NOTICE INVITING BIDS

### VENTURA AVENUE NO. 1 PUMP PLANT ELECTRICAL UPGRADE SPECIFICATION NO. 16-383

Sealed bids for the above referenced project and specification will be received by the Casitas Municipal Water District up to **3:00 p.m. on Thursday, September 8, 2016**, at the office of the District, 1055 Ventura Avenue, Oak View, California, 93022, at which time they will be opened and publicly read aloud. Each bid shall be made out on a form to be obtained from the Casitas Municipal Water District. Each bid must be accompanied by a certified check, a cashier's check, or by a bid bond executed by a corporate surety satisfactory to the Casitas Municipal Water District, in the sum of not less than ten (10) percent of the total amount of the bid, as a guarantee that the bidder will enter into the proposed contract, if it be awarded to them. The guarantee will be forfeited, should the bidder to whom the contract is awarded fail to enter into the contract.

The bidder to whom the contract is awarded may be required to furnish a sworn statement of their financial responsibility, technical ability, and experience.

**In accordance with the provisions of Section 1770 of the California Labor Code, the Casitas Municipal Water District has ascertained the general prevailing rate of wages applicable to the work to be done.** It shall be mandatory upon the Contractor to whom the contract is awarded, and upon the subcontractor under him, to pay not less than the specified rates to all laborers and mechanics employed by him in the execution of the contract. The wage scale can be obtained on the internet at [www.dir.ca.gov/dlsr/statistics\\_research.html](http://www.dir.ca.gov/dlsr/statistics_research.html).

**All bidders and their subcontractors shall be registered with the California Department of Industrial Relations (DIR). Failure of the bidder or subcontractors to be registered with the DIR shall render their bid as non-responsive and will be rejected except where State code provides for exceptions to the registration requirements. All contractors and their subcontractors shall furnish electronic certified payroll records directly to the Labor Commissioner, also known as Division of Labor Standards Enforcement.**

The District reserves the right to waive any formalities which, in the opinion of the Board of Directors, do not materially affect the relationship of the various proposals. The District reserves the right to retain all bids for a period of thirty (30) days and to reject any and all bids for any reason at the sole discretion of the District, with or without cause.

The contract documents shall consist of this Notice Inviting Bids, the Instructions to Bidders, Formal Proposal with Bidding Sheet and Bidder's Plan for Construction, Form of Agreement, Specifications and Drawings, and any changes made by issuance of a supplemental notice.

**No formal pre-bid conference is scheduled for this project.** Bidders may contact Lindsay Cao, P.E. at (805) 649-2251 ext. 144 to schedule a time to visit the site. Complete bid package (plans and specifications) may be examined and **downloaded free of charge** from our website at:



<http://www.casitaswater.org/lower.php?url=bidding-jobs>. Copies may be ordered from Casitas for seventy-five (\$75) dollars, or mailed to you for one hundred (\$100) dollars. Please allow 3 working days to print a complete bid package plus mailing time. No refunds will be made.

## **INSTRUCTIONS TO BIDDERS**

Proposal. The proposal shall be submitted on the separate bid forms accompanying these specifications, designated "Proposal" and made a part of these specifications. The proposal shall be enclosed in a sealed envelope marked "Bid" addressed to Casitas Municipal Water District, 1055 Ventura Avenue, Oak View, California, 93022, and shall be endorsed with the name of the project as set forth in the Notice Inviting Bids.

The sealed proposals will be publicly opened and read at the time and place stated in the Notice Inviting Bids. Bidders, or their authorized agents, are invited to be present.

The proposal shall give the price, both in words and in figures, for which the bidder proposes to do the work required by the Specifications and the accompanying Drawings. In the event of disagreement between words and figures, the words will govern and the figures will be disregarded. In the event that the unit price and the total amount named by any bidder for any item are not in agreement, the unit price shall govern and the totals shall be corrected to conform thereto. The bidder shall fill out all blanks of the proposal forms as therein required.

Unauthorized conditions, limitations, or provisions attached to a proposal will render it informal, and may cause its rejection. The completed proposal forms shall be without interlineations, alterations, or erasures. Alternate proposals will not be considered unless asked for. No oral or telephonic proposals or modifications will be considered.

The District reserves the right to waive any informalities which, in the opinion of the Board of Directors, do not materially affect the relationship of the various proposals. The District reserves the right to reject any and all bids for any reason at the sole discretion of the District, with or without cause.

The proposal may be withdrawn upon request by the bidder without prejudice to themselves prior to, but not after, the time fixed for opening of bids, provided that the request is in writing, has been executed by the bidder or their duly authorized representative, and is filed with Casitas Municipal Water District.

Proposal Signature. If the proposal is made by an individual, it shall be signed and proposer's full name and address shall be given; if it is made by a partnership, it shall be signed with the partnership name by a member of the firm, who shall sign their own name, and the name and address of each member shall be given; and if it is made by a corporation, the name of the corporation shall be signed by its duly authorized officer or officers, attested by the corporate seal, and the names and titles of all officers of the corporation shall be given.

Competency of Bidders. In selecting the bidder for award of the contract, consideration will be given not only to the total amount of the bid, but also to the general competency of the bidder for the performance of the work covered by the proposal. To this end, the District will require bidders to submit a statement of their technical ability, safety record and experience. The District reserves the right to require a statement of the lowest bidder's current financial condition prior to acceptance of the proposal. If requested, such statement shall be prepared on Bidder's Questionnaire forms furnished by the District, shown on pages A-25 through A-31.

Bidders' Plan for Construction. As part of the proposal, bidders must furnish a detailed statement of the plan or layout for performing the work. As preparation for the foregoing, each Bidder shall examine carefully the site of the proposed work and the contract documents therefore. It will be assumed that the bidder has investigated, and is satisfied as to, the conditions to be encountered; the characters, quality, and quantities of work to be performed; the quality and quantities of the materials to be furnished, and the requirements of the contract, specifications, and drawings.

Subcontracts. Subcontracts will be permitted, subject to the following provisions. No subcontract will be permitted which has the effect of avoiding the residence or wage requirements, or any other provision of the main contract. Individual subcontractors, or members of the contracting or subcontracting organizations personally engaged upon the work, shall be subject to all the requirements of these specifications applicable to employees working for wages, including but not limited to wages, hours of work, character of workmen and certified payrolls.

Reference is hereby made to the provisions of Chapter 2 of Division 5 of Title 1 of the Government Code of the State of California, commencing with Section 4100, also known as the "Subletting and Subcontracting Fair Practices Act", which is incorporated herein and made a part hereof by reference, and the Contractor is bound thereby and shall be made subject to the consequences named in sections 4110 and 4111 of said Act, in the event of his violation thereof. Each bidder shall, in their bid or offer, 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 in or about the construction of the work or improvement, in an amount in excess of one-half of one percent of the Contractor's total bid, or a subcontractor licensed by the State of California who, under subcontract to the prime Contractor, specifically fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of one percent of the Prime Contractor's total bid; and (2) the portion of the work which will be done by each such subcontractor under said Act. The Contractor shall list only one subcontract for each such portion as defined by the Contractor in their bid. If the Contractor fails to specify a subcontractor, or if the Contractor specifies more than one subcontractor for the same portion of the work to be performed under this contract in excess of one-half of one percent of the Contractor's total bid, the Contractor agrees that they are fully qualified to perform that portion, and that they shall perform that portion themselves.

Subcontractors. Bidders must furnish as a part of the proposal, a complete listing of names, addresses and contractor license number of all subcontractors who will perform work in an amount in excess of one-half (1/2) of one percent (1%) of the total bid price, and a statement of the work which will be done by each subcontractor. The required statement shall be on the form of Bidder's Statement of Subcontractors, accompanying these specifications.

Prevailing Rate at Per Diem Wages. In accordance with the provisions of Section 1770 of the California Labor Code, the District has ascertained the general prevailing rates of wages applicable to the work to be done. It shall be mandatory upon the Contractor to whom the contract is awarded, and upon any subcontractor under contractor, to pay not less than the specified rates to all laborers, surveyors and mechanics employed by Contractor in the execution of the contract. The wage scale is now on file at the office of the District and on the internet at [www.dir.ca.gov/dlsr/statistics\\_research.html](http://www.dir.ca.gov/dlsr/statistics_research.html). **Final payment for services provided shall not be distributed until receipt of proof of prevailing wage payments.**

**The contractor and all subcontractors shall be subject to Executive Order 12549, “Debarment and Suspension” and Department of Commerce regulations published at 15 CFR Part 26, Subparts A through E, “Governmentwide Debarment and Suspension (Nonprocurement)” for a drugfree work place.**

Disqualification of Bidders. More than one proposal from an individual, partnership, corporation, or association under the same or different names will not be considered. Reasonable grounds for believing that any bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which said Bidder is interested. If there is reason for believing that collusion exists among Bidders, all bids will be rejected, and none of the participants in such collusion will be considered in future proposals.

Return of Proposal Guarantee. Proposal guarantees will be held until the contract has been executed. They will be returned to the respective Bidders whose proposals they accompany upon request.

Insurance and Bonds. The Bidder to whom award is made shall promptly secure Workmen's Compensation Insurance, in accordance with the provisions of the California Labor Code and all amendments thereto, and also shall furnish to the District certificate of insurance showing that they have taken out the insurance of the kinds and in the amounts required under the specifications. The successful Bidder shall also promptly secure, with a reasonable corporate surety or corporate sureties, satisfactory bonds conditioned upon faithful performance by the said Bidder of all requirements under the Contract and upon the payment of claims of materialmen and laborers there under. Refer to Summary of Insurance, Bond and Payment Requirements for Various Construction Contracts attached.

Permits. The Contractor, at their sole expense, shall be required to obtain all other permits and/or licenses as required.

Licensing of Contractors. All Contractors submitting bids shall be licensed in accordance with the provisions of Chapter 9, Division 3, of the Business and Professions Code of the State of California. Effective January 1, 1990, Contractors submitting bids must state, under penalty of perjury, the Contractor's license number and expiration date. Any bid not containing this information shall be considered non-responsive and shall be rejected by Casitas (Business & Professions Code 7028.15). The license required for this project is a C-10, Electrical Contractor.

**In addition to the licensing requirements above,** Contractor shall meet one of the following requirements:

- Contractor shall have successfully completed installation of high voltage switchgears for at least 2 similar projects in the past 10 years. Contractor shall submit sufficient references with current contact information so that the quality and quantity of the work can be determined. Contractor shall list the voltage of switchgears on each referenced project; or
- Contractor shall have successfully completed electrical installation work for Casitas Municipal Water District within the last ten (10) years. “Successful” shall mean the work was completed within a reasonable amount of time with minimum contractor originated change orders to the satisfaction of Casitas Municipal Water District. The work may have been completed as either a general contractor or as a subcontractor.

Failure of the bidder to meet either of the criteria above shall deem the bid proposal non-responsive and the bid proposal will be rejected.

Supplemental Notices. Full consideration shall be given to all Supplemental Notices in the preparation of Bids, as Supplemental Notices form a part of the Contract Documents. Bidders shall verify the number of Supplemental Notices in the bid. Failure to so acknowledge may cause the Bid to be rejected.

Pre-bid Information Requests. All requests for information and questions regarding this bid proposal, the specifications, permits or the plans shall be submitted to the District. The request can be emailed to the District at lcao@casitaswater.com. The District will make a reasonable attempt to respond to the request prior to the bid opening. It is unlikely that any request for information received after **4:30 p.m. on Friday, September 2, 2016** will be responded to by the bid opening.

Award of Contract. The award of the contract by the Board of Directors of the Casitas Municipal Water District, if it is awarded, will be to the lowest responsible bidder or bidders whose proposal complies with all requirements presented herein. Casitas maintains the right to reject any and all bids for any reason and to waive minor irregularities.

Execution of Contract. The Bidder to whom award is made shall execute a written contract with the Casitas Municipal Water District in the form of agreement provided, and shall furnish certificate of Workmen's Compensation Insurance and good and approved bonds as required in the preceding paragraphs, within seven (7) days from the date of the mailing of a notice from the Casitas Municipal Water District to the Bidder, to the address given by them, of the acceptance of their proposal. At this time Contractor shall also provide District with a completed IRS W-9 form (Request of Taxpayer Identification Number and Certification.)

Failure or refusal to enter into a contract as herein provided, or to conform to any of the stipulated requirements in connection therewith, shall be just cause for the annulment of the award and the forfeiture of the proposal guarantee. If the successful Bidder refuses or fails to execute the contract, the Casitas Municipal Water District may award the contract to the second lowest responsible Bidder.

Notice to Proceed shall be issued by the District within fifteen (15) days of the receipt of the bonds, insurance and agreements documents satisfactory to the District and the execution of the Agreement by the District. Should there be reasons why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the District and the Bidder. If the Notice to Proceed has not been issued within the period stated herein, the Bidder may terminate the Agreement without further liability on the part of either party.

**PROPOSAL**

**VENTURA AVENUE NO. 1 PUMP PLANT  
ELECTRICAL UPGRADE**

**SPECIFICATION NO. 16-383**

TO: Casitas Municipal Water District  
1055 Ventura Avenue, Oak View, California 93022

The undersigned proposes to furnish all materials and labor, and provide all necessary tools and machinery for the completion of the above referenced project and specification, and to perform and complete all the work in the manner set forth, described, and shown in the specifications or on the drawings for the work and in the form of agreement.

The bidder agrees that, upon receipt of written notice of the acceptance of this proposal within seven (7) days after the opening of the bids, bidder will execute the contract in accordance with the proposal as accepted and furnish the required bonds and will secure the required insurance, all within seven (7) days from the date of mailing of said notice of acceptance to them at their address as given below; and that, upon failure to do so within said time, then the proposal guarantee accompanying this proposal shall become the property of the Casitas Municipal Water District as liquidated damages for such failure, and shall be deposited as monies belonging to the Casitas Municipal Water District. If said bidder shall execute the contract, furnish the required bonds, and secure the required insurance, the proposal guarantee check or bond shall be returned to them within five (5) days thereafter.

The bidder declares that they have read the Notice Inviting Bids and the Instructions to Bidders, and agrees to all the stipulations contained therein; that they have examined the site of the work, the form of agreement, the specifications and the drawings therein referred to; that they propose and agree, in the event their bid as submitted in the attached Bidding Sheet be accepted, to enter into a contract to perform all the work mentioned in the agreement and the specifications, and to complete the same within the time stipulated therein; and that they will accept in full payment therefore the amount named in said Bidding Sheet.

The bidder further declares that the surety or sureties named in the space provided below have agreed to furnish bonds in the form and amounts set forth in the Instructions to Bidders, in the event the contract is awarded on the basis of this proposal.

Dated: \_\_\_\_\_

\_\_\_\_\_  
Bidder

(Corporate Seal)

By: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone No. \_\_\_\_\_

Corporation organized under  
the laws of the State of

Bidder's post office address:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contractor's License Number:

\_\_\_\_\_

Date of Expiration: \_\_\_\_\_

Surety or Sureties agreeing to furnish bond:

Names and addresses of all members of the  
partnership, or names and titles of all officers of  
the corporation:

\_\_\_\_\_

\_\_\_\_\_

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**BIDDING SHEET**  
**VENTURA AVENUE NO. 1 PUMP PLANT**  
**ELECTRICAL UPGRADE**  
**SPECIFICATION NO. 16-383**

Schedule of prices for all work, materials and site cleanup for the above-mentioned project and specification in accordance with these specifications. Any item not specifically mentioned shall be considered incidental to the item to which it pertains. The bidder shall list prices for all bid items. Bids received which do not list prices in succession shall be rejected.

Bid Item #	Quantity & Unit	Description & Price in Words	Amount \$
1	LS	Furnish and install a new 2.4KV switchgear and connect the new switchgear to serve the existing systems as specified for the lump sum price of _____ Dollars	
2	LS	Install new underground conduits and 5 KV feeders from pad mount transformer to new switchgear per Edison requirements, which includes excavation and backfill as specified for the lump sum price of _____ Dollars	
3	LS	Pick up from the District Storage, transport and install/remove temporary power system as shown on drawings (either option) in order to accomplish the above without disrupting water service to end users for the lump sum price of _____ Dollars	
4	LS	Install low voltage panels including conduit and wire extensions as shown on drawings for the lump sum price of _____ Dollars	
5	LS	Complete start-up and testing for the lump sum price of _____ Dollars	
6	LS	Install new indoor fan coil unit and outdoor condensing unit as specified for the lump sum price of _____ Dollars	
7	LS	Provide O & M and as-built drawing for the lump sum price of _____ Dollars	

**TOTAL BID AMOUNT (Items 1-7) \$**

The above quantities are based on a lump sum price; measurement and payment for each bid item per Part F of specifications. Bidder will not be released on account of errors. When a discrepancy occurs between the written price and the number listed, the written price shall govern. The Bidder understands that the District reserves the right to reject any or all bids, and to waive any formalities in the bidding.

Date: \_\_\_\_\_

**BIDDER:** \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

License No. \_\_\_\_\_ Expiration Date: \_\_\_\_\_

License Classifications: \_\_\_\_\_

Telephone. No: \_\_\_\_\_ Cell No: \_\_\_\_\_

Fax No: \_\_\_\_\_ Email: \_\_\_\_\_

Address: \_\_\_\_\_

**(CORPORATE SEAL)**



**BIDDER'S PLAN FOR CONSTRUCTION**

1. The location for the proposed work was examined on \_\_\_\_\_ date)  
by \_\_\_\_\_ on behalf of the bidder.  
(name and title)

2. Explain briefly your plan and tentative schedule for performing the proposed work.

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3. Qualifying Projects – List minimum of two Reference Projects to meet the requirements in page A-5.

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## BIDDER'S STATEMENT OF SUBCONTRACTORS

The bidder is required to state the name and address of each subcontractor who will perform work in an amount in excess of one-half (2) of one percent (1%) of the total bid price and the portion of the work which each subcontractor will do.

The undersigned submits herewith a list of subcontractors whom he proposes to employ on the work, with the proper firm name and business address of each and a statement of the work or bid item which will be done by each subcontractor.

Subcontractor		Portion of Work
Location and Place of Business		
License No.	Expiration Date:    /    /	Phone (    )
Subcontractor		Portion of Work
Location and Place of Business		
License No.	Expiration Date:    /    /	Phone (    )
Subcontractor		Portion of Work
Location and Place of Business		
License No.	Expiration Date:    /    /	Phone (    )
Subcontractor		Portion of Work
Location and Place of Business		
License No.	Expiration Date:    /    /	Phone (    )
Subcontractor		Portion of Work
Location and Place of Business		
License No.	Expiration Date:    /    /	Phone (    )
Subcontractor		Portion of Work
Location and Place of Business		
License No.	Expiration Date:    /    /	Phone (    )

Signed:

**BIDDER'S BOND**

KNOW ALL MEN BY THESE PRESENTS,

That we \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_, as PRINCIPAL,

and

\_\_\_\_\_  
\_\_\_\_\_, as SURETY,

are held and firmly bound unto the Casitas Municipal Water District, hereinafter called the District, in the penal sum of TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID of the Principal above named, submitted by said Principal to the Casitas Municipal Water District, for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

In no case shall the liability of the surety hereunder exceed the sum of \$ \_\_\_\_\_

THE CONDITIONS OF THIS OBLIGATION ARE SUCH,

That whereas the Principal has submitted the above-mentioned bid to the Casitas Municipal Water District, for certain construction specifically described as **Ventura Avenue No. 1 Pump Plant Electrical Upgrade – Specification No. 16-383** which bids are to be opened at the office of Casitas Municipal Water District on **Thursday, September 8, 2016 at 3:00 p.m.**

NOW, THEREFORE, if the aforesaid Principal is awarded the contract and, within the time and manner required under the heading Instructions to Bidders, after the prescribed forms are presented to him for signature, enters into a written contract, in the form set forth in said specifications, in accordance with the bid, and files the two bonds with the District, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by Instructions to Bidders and Certificate of Insurance for Workmen's Compensation and Contractor's liability insurance, then this obligation shall be null and void; otherwise, it shall be and remain in full force and virtue.

Bidder's Bond (Continued)

In the event suit is brought upon this bond by the Obligee and judgement 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, we have hereunto set our hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Principal

By \_\_\_\_\_

(SEAL)

NOTE: Signatures of those executing for the surety must be properly acknowledged.

## CERTIFICATION OF NONSEGREGATED FACILITIES

(Applicable to federally assisted construction contracts and related subcontracts exceeding \$10,000 which are not exempt from the Equal Opportunity Clause).

The federally assisted construction contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction Contractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction Contractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion or national origin, because of habit, local custom or otherwise. The federally assisted construction Contractor agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his files.

**NOTE:** The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

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Contractor

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Signature

---

Title

Date: \_\_\_\_\_

## **BIDDER'S QUESTIONNAIRE**

### **INSTRUCTIONS**

Pending award of a contract to the lowest bidder, Casitas may require bidders to submit a statement of their current financial condition, technical ability and experience (reference is made to the paragraph on Page A-3 of the Instructions to Bidders entitled "Competency of Bidders").

Each bidder shall be required to complete the attached Bidder's Questionnaire. Each subcontractor for a bidder whose work has a monetary value of 15 percent or more of the total price bid shall also be required to complete the Bidder's Questionnaire and submit said Bidder's Questionnaire(s) with the bid package.

Bidder's Questionnaire (Continued)

**PART I - BIDDER'S STATEMENT OF TECHNICAL ABILITY AND EXPERIENCE**

A. History of Bidder

1. Total years organization doing business. \_\_\_\_\_

2. Has your organization done business under another name? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, state name and address of organization(s) and/or names and addresses of owners or principals.

_____	_____
_____	_____
_____	_____
_____	_____

3. List all principals, owners, partners and stockholders owning more than 10 percent of a corporation.

Name

Name

_____	_____
_____	_____
_____	_____
_____	_____

4. State the name of your organization's Responsible Managing Employee or Officer.

<b>Name</b>	<b>State Contractor's License No.</b>	<b>Classification</b>

Bidder's Questionnaire (Continued)

5. List all jobs for which you were either sued by the owner or you sued the owner within the past ten (10) years. Give name of suit, court and number and disposition thereof.

Name of Suit	Court and Number	Disposition

6. List all jobs for which you asked extra compensation of more than 25 percent of the original contract price.

Name of Owner	Address	Result



Bidder's Questionnaire (Continued)

B. Experience

List all of the jobs in which your organization has been involved during the last five years where the predominant type of construction is similar to this job.

1. Project Completion Date<sup>(1)</sup> \_\_\_\_\_  
Value of Contract<sup>(2)</sup> \_\_\_\_\_  
General Description of Work<sup>(3)</sup> \_\_\_\_\_  
Name and Address of Owner \_\_\_\_\_  
\_\_\_\_\_  
Party to Contact \_\_\_\_\_  
Phone Number \_\_\_\_\_  
State whether organization was prime, joint venture, sub or other:  
  
2. Project Completion Date \_\_\_\_\_  
Value of Contract \_\_\_\_\_  
General Description of Work \_\_\_\_\_  
Name and Address of Owner \_\_\_\_\_  
\_\_\_\_\_  
Party to Contact \_\_\_\_\_  
Phone Number \_\_\_\_\_  
State whether organization was prime, joint venture, sub or other:  
\_\_\_\_\_

(1) Project Completion Date - If current, state current; if incomplete, state incomplete.  
(2) Value of Contract is the total amount of money paid for your work, including all settlements or judgments.  
(3) General Description of Work should indicate the predominant type of construction; i.e., water pipeline, paving, earthwork, sewer, pump plant, etc.

Bidder's Questionnaire (Continued)

3. Date of Project \_\_\_\_\_  
Value of Contract \_\_\_\_\_  
General Description of Work \_\_\_\_\_  
Name and Address of Owner \_\_\_\_\_  
\_\_\_\_\_  
Party to Contact \_\_\_\_\_ Phone Number \_\_\_\_\_

State whether organization was prime, joint venture, sub or other:

3. Date of Project \_\_\_\_\_  
4. Value of Contract \_\_\_\_\_  
General Description of Work \_\_\_\_\_  
Name and Address of Owner \_\_\_\_\_  
\_\_\_\_\_  
Party to Contact \_\_\_\_\_ Phone Number \_\_\_\_\_

State whether organization was prime, joint venture, sub or other:

5. Date of Project \_\_\_\_\_  
Value of Contract \_\_\_\_\_  
General Description of Work \_\_\_\_\_  
Name and Address of Owner \_\_\_\_\_  
Party to Contact \_\_\_\_\_ Phone Number \_\_\_\_\_

State whether organization was prime, joint venture, sub or other:

\_\_\_\_\_

**PART II - CONTRACTOR'S STATE LICENSE**

1. List all Contractor's State Licenses issued to your organization or to any of your principals.

Name of License Holder	Position in Organization	License No.	Classification	Date of Expiration

2. Has your organization or any of the license holders in your organization been refused the issuance of a State Contractor's License or been disciplined by the State Contractor's Board? Yes ( ) No ( )

If yes, please explain.

If yes, please explain. \_\_\_\_\_

**PART III – CONTRACTOR’S SAFETY RECORD**

1. List your firm’s experience modification rate (EMR) for the last 3 years. The EMR is available from your Worker’s Compensation Insurance firm. This is only required from Firms with Worker’s Compensation Insurance premiums in excess of \$50,000.

_____	_____	_____	_____	_____	_____
Year	EMR	Year	EMR	Year	EMR

2. List your firm’s Recordable Incident Rate (RIR) for the last 3 years. Incident Rate information is available from your OSHA 200/300 Log and from your insurance carrier.

$$\frac{\text{Total number of recordable incidents} \times 200,000}{\text{Total employee hours worked}} = \text{RIR}$$

_____	_____	_____	_____	_____	_____
Year	RIR	Year	RIR	Year	RIR

3. List your firm’s Lost Time Incident Rate (LTIR) for the last 3 years. Incident Rate information is available on your OSHA 200/300 Log and from your insurance carrier.

$$\frac{\text{Total number of lost time incidents} \times 200,000}{\text{Total employee hours worked}} = \text{LTIR}$$

_____	_____	_____	_____	_____	_____
Year	LTIR	Year	LTIR	Year	LTIR

Bidder's Questionnaire (Continued)

Casitas has established the following minimum requirements for this project:

EMR – None greater than 1.2 over the last 3 years

RIR - None greater than 9 over the last 3 years

LTIR – None greater than 4 .5 over the last 3 years

4. Do you have a written safety program that includes hazardous communications? \_\_\_\_\_

5. Do you have a substance abuse policy? \_\_\_\_\_

6. Do all new employees complete safety orientation before performing any work activities? \_\_\_\_\_

7. Do you conduct jobsite safety inspections? \_\_\_\_\_

8. Do you conduct and document post accident investigations? \_\_\_\_\_

**PART IV – FINANCIAL CONDITION (This portion only needs to be completed if requested by Casitas after the bid opening)**

1. Submit your firm’s most recent audited financial statement or financial data or other information and references sufficiently comprehensive to permit an appraisal of your current financial condition.

2. Submit your firm’s most recent balance sheet and profit and loss statement.

I certify under penalty of perjury that the foregoing is true and correct.

Name of Organization: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**NONCOLLUSION DECLARATION  
(MUST BE SUBMITTED WITH BID)**

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_,  
(Title) (Company)

the party making the foregoing bid. The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_,  
(Date)

at \_\_\_\_\_,  
(City) (State)

\_\_\_\_\_