



**Dublin San Ramon
Services District**
Water, wastewater, recycled water

WWTP Electrical Improvements – Phase 1

CIP 22-P044

Volume 1 of 2

Division 0, 1, 16, & Appendix

CONTRACT DOCUMENTS

October 2026

Steven Delight

Steven Delight, District Engineer

**Beecher
& Engineering, Inc.**



OCTOBER 8, 2026

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Dublin San Ramon Services District

WWTP Electrical Improvements – Phase 1 (CIP 24-P044)

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DRAWINGS

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DIVISION 0 – BIDDING AND CONTRACT REQUIREMENTS

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SECTION 00010

NOTICE INVITING BIDS

Notice is hereby given that sealed bids will be received by the Dublin San Ramon Services District office located at 7051 Dublin Boulevard, Dublin, CA 94568, at any time prior to **2 p.m., Wednesday, November 11, 2026**, for furnishing all labor, materials, equipment, and services for the construction of improvements designated as:

WWTP Electrical Improvements – Phase 1 (CIP 24-P044)

Any bids received after the scheduled closing time for receipt of bids shall be returned unopened.

Bids will be publicly opened, examined and declared on said day and hour, and will be referred to the Board for subsequent action.

The successful bidder will have **760** calendar days to substantially complete the project from the Notice to Proceed. The estimated cost of construction is **\$4,414,435**.

A pre-bid conference will be held at **10:00 a.m.**, local time, on **Thursday, October 22, 2026**, at the **Wastewater Treatment Plant (WWTP) Maintenance Building Training Room 1**, located at 7399 Johnson Drive, Pleasanton, CA and attendance is mandatory for all contractors submitting a bid. A site visit prior to bidding is mandatory for the contractor to be qualified to bid on the project.

All of said work is to be done at the places and in the particular locations, of the form, sizes and dimensions and of the materials, and to the lines and grades and at the elevations as shown on the plans and specifications made therefor and approved by the Owner.

This project is subject to labor compliance monitoring and enforcement by the California Department of Industrial Relations.

The Owner hereby advises all bidders that the successful bidder shall:

1. Employ the appropriate number of apprentices on the job site as set forth in California Labor Code 1777.5;
2. Provide Workers' Compensation coverage, as set forth in California Labor Code Sections 1860 and 1861;
3. Keep and maintain the records of work performed on the public works project, as set forth in California Labor Code Section 1812;
4. Keep and maintain the records required under California Labor Code Section 1776 which shall be subject to inspection pursuant to California Labor Code Section 1776 and California Code of Regulations, Division 1, Chapter 8, Subchapter 3, Article 6, Section 16400 (e); and
5. Be subject to other requirements imposed by law.

In accordance with the provisions of the California Labor Code Sections 1722.1, 1725.5, 1770, 1773, 1773.1, 1773.6 and 1773.7 as amended, the Director of the Department of Industrial Relations has determined the general prevailing rate of per diem wages in accordance with the standards set forth in Section 1773 for the locality in which the Work is to be performed. A copy of said wage rates is available on-line at http://www.dir.ca.gov/dlsr/statistics_research.html#PWD. It shall be mandatory upon the Contractor to whom the Work is awarded and upon any subcontractor to pay not less than said specified rates to all workers employed by them in the execution of the Work. Said prevailing rate of per diem wages will be made available to any interested party upon request, and a copy thereof shall be posted at the job site by the Contractor.

The Owner will not recognize any claim for additional compensation because of the payment by the contractor of any wage rate in excess of the prevailing wage rates on file as aforesaid. The possibility of a wage increase is one of the elements to be considered by the contractor in determining his/her or its bid and will not, under any circumstances, be considered as the basis of a claim against the Owner on the contract.

The successful bidder and its subcontractors shall employ workers, trades and craftsmen, which constantly display and demonstrate proper moral, ethical and professional conduct to all fellow workers, employees and representatives of the Owner and other involved entities.

Each bid must conform and be responsive to the invitation, the Plans and Specifications, and all documents comprising the Contract Documents. Each bid shall be presented under sealed cover and shall be accompanied by a certified check or bidder's bond, made payable to the Owner, in an amount not less than ten percent (10%) of the bid. The said check or bidder's bond shall be given as a guarantee that the successful bidder will execute the contract in conformity with the form of agreement contained within the contract documents, and will furnish bonds and insurance policies as specified within ten (10) days after notification of the award of the Contract to the successful bidder. The contract documents that the successful bidder must submit within ten (10) days of notification of award include, but are not limited to, a payment or labor and materials bond in an amount of at least 100 percent of the amount payable by the terms of the project contract and that satisfies the requirements of California Civil Code Section 3248, and a performance bond in an amount of at least 100 percent of the amount payable by the terms of the contract. All project bonds must be executed by an admitted surety insurer in accordance with applicable law and acceptable to the Owner.

Cost for work described in each addenda issued during the time of bidding shall be included in the Bid and the addenda shall become a part of the Contract documents.

Bidders shall develop and submit bids at their own expense. The Owner will not reimburse any costs associated with the development and submittal of any and all Bids.

In accordance with California Public Contract Code Section 3400, bidders may propose equals of products listed in the plans and specifications by manufacturer name, brand or model number, unless the technical specifications or plans specify that the product is only available from one source, or is necessary to match others in use.

The Owner reserves the sole right to reject any or all bids and to waive any informality in a bid.

from the date of bid opening.

Any bid protest must be submitted in writing to the District Secretary at 7051 Dublin Boulevard, Dublin, CA 94568, before 5 p.m. of the fifth working day following bid opening as further described in 00100-21.0, **BID PROTEST**. The above time and content requirements are mandatory, and failure to comply therewith shall constitute a waiver of any further right to pursue a bid protest, including filing a Government Code claim or legal proceedings. Bid protests shall be acted upon by the District's Board.

At the successful Contractor's option, securities may be substituted for the required retention, in accordance with the provisions of Section 22300 of the State of California Public Contract Code.

In accordance with the provisions of California Public Contract Code Section 3300, the Owner has determined that the Contractor shall possess, as a minimum, a valid **Class C-10 License**. In accordance with the provisions of California Business and Professions Code Section 7028.15, a bid submitted to the Owner by a Contractor who is not licensed in accordance with Chapter 9 of the California Business and Professions Code shall be considered non-responsive and shall be rejected by the Owner.

The Contractor shall not be qualified to submit a bid to perform the Work unless it is registered and qualified to perform public work pursuant to Labor Code Section 1725.5 at the time that the bid is submitted. Failure to have registered and thereby be qualified shall render the bid non-responsive.

A copy of the Contract Document is now available online at [Bid Opportunities | Dublin San Ramon Services District](#). A hard copy will not be provided. Contractors wishing to be added to the official planholder list to receive addenda may contact Kim Roberts at kroberts@dsrsd.com. Please include your contact name, company name, email address, phone number, and the project reference "WWTP Electrical Improvements – Phase 1 (CIP 24-P044)" in the subject line when submitting your request.

Questions concerning this project should be submitted in writing via regular mail, email, or fax and directed to:

NAME: Jaclyn Yee
ADDRESS: Dublin San Ramon Services District
7051 Dublin Boulevard
Dublin, CA 94568
PHONE: (925) 875-2258
FAX: (925) 829-1180
E-MAIL: yee@dsrsd.com

By:


Nicole Genzale, District Secretary

Date:



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SECTION 00100

INSTRUCTIONS TO BIDDERS

1.0 GENERAL

The work to be performed is described in the Contract Documents titled, **WWTP Electrical Improvements – Phase 1 (CIP 24-P044)**. Codes and standards, definitions of words and terms, and abbreviations shall be as specified in Section 01090, **REFERENCES**.

2.0 EXAMINATION OF CONTRACT DOCUMENTS

All bidders shall carefully examine the Contract Documents and satisfy themselves as to their sufficiency; and shall not at any time after the submission of the bid dispute or complain of such Contract Documents and the directions explaining them or interpreting them, nor assert that there is any misunderstanding in regard to the location, extent, nature of amount of work to be performed. The bidder shall notify the Owner of any discovered conflicts, errors of discrepancies in the Contract Documents prior to the submission of its bid. Intended bidders shall have visited the site of the work and familiarized themselves with the conditions there existing as well as all other conditions relating the construction and labor under which the work will be performed and affecting cost, progress or performance of the work. The submitting of a bid shall be considered an acknowledgement on the part of the Bidder of its familiarity with conditions at the site of work.

3.0 PRE-BID CONFERENCE AND ACCESS TO THE SITE

A mandatory pre-bid conference for all bidders will be held at the time and place stipulated in Section 00010, **NOTICE INVITING BIDS**. Subcontractors, suppliers and other interested parties are invited and encouraged to attend this conference. Parties interested in an additional site visit may attend one as specified in Section 00010, **NOTICE INVITING BIDS**. Additional site visits are not to be used in lieu of the mandatory pre-bid conference for all bidders. Additional site visits are for the convenience of bidders in preparing the Bid.

4.0 POSTPONEMENT OF OPENING

The Owner reserves the right to postpone the date and time for receiving and/or opening of bids at any time prior to the date and time established in the Notice Inviting Bids in accordance with applicable law. Postponement notices may be faxed and will subsequently be mailed to planholders of record in the form of addenda.

5.0 ADDENDA

Addenda may be issued to all known planholders during the Bid period. Any and all addenda issued shall become a part of the Contract Documents and shall be fully considered by all bidders during preparation of bids.

6.0 PREPARATION OF BID FORMS

Bids shall be made on the blank bid forms prepared by the Owner and issued separately from this

project manual. Bid forms included in this project manual shall be used for reference only. Bids shall give the prices proposed in figures, shall give all other information requested herein, and shall be signed by the bidder or an authorized representative, including address. By submission of a proposal on the separate forms provided by the Owner, the bidder attests that the bidder has reviewed a complete set of the project manual and is aware of its entire contents, including any addenda. Bidder is required to provide a complete bid on all schedules listed in Section 00310, **BID SCHEDULE**.

Bids shall be made on the blank bid forms contained in the Documents and delivered to the Owner at the above address before the time set for the opening of bids as provided in Section 00010, **NOTICE INVITING BIDS**. All blanks in the bid forms must be appropriately filled in.

A complete set of bid forms shall be placed in an envelope, sealed, and addressed to:

Dublin San Ramon Services District
Attention: Jaclyn Yee
7051 Dublin Boulevard
Dublin, CA 94568
BID: **WWTP Electrical Improvements – Phase 1 (CIP 24-P044)**

The submitting of a bid shall be considered an acknowledgment on the part of the Bidder of familiarity with the Project, and its coordination requirements with this Contract's Work.

7.0 OPENING OF BIDS

After the expiration of the time for submission of bids, all bids will be publicly opened, read, declared, and referred to the District Board for action. Any bids received after the time for receiving and opening bids as set forth in the Invitation to Bid or as postponed by addenda will not be opened. Any such bids will be returned, unopened, to the Bidder.

8.0 BID PRICES

Bid prices shall include everything necessary for the completion of construction and fulfillment of the contract. Bid prices shall include all federal, state and local taxes including sales and use taxes. Costs for developing, submitting, and presenting bids are the sole responsibility of the bidder and claims for reimbursement will not be accepted by the Owner.

If the product of a unit price and an estimated quantity does not equal the extended amount quoted, the unit price shall govern, and the correct product of the unit price and the estimate quantity shall be deemed to be the amount bid. If the sum of two or more items in a bidding schedule does not equal the total amounts quoted, the individual item amounts shall govern and the correct total shall be deemed to be the amount of the bid.

9.0 BIDDER'S EXPERIENCE AND QUALIFICATIONS

All Bidders must complete and submit with their Bid Section 00460, **CERTIFICATION OF BIDDER'S EXPERIENCE AND QUALIFICATIONS**. Failure to provide this information with the Bid may render the Bid non-responsive and may be the basis for rejection of the Bid and/or may result in a determination that the Bidder is not a responsible Bidder for the Project. The information furnished will be reviewed

to determine if the Bidder is qualified and responsible to be awarded the Contract.

The Contractor shall not be qualified to submit a bid to perform the Work unless it is registered and qualified to perform public work pursuant to Labor Code Section 1725.5 at the time that the bid is submitted. Failure to have registered and thereby be qualified shall render the bid non-responsive.

10.0 BID IRREGULARITIES

Each bid and the information requested shall be enclosed in a sealed envelope and labeled as specified herein. Bidders are warned against making erasures or alterations of any kind, and bids which contain omissions, erasures, or irregularities of any kind may be rejected. No oral, telegraphic, email, facsimile or telephonic bids or modifications will be considered.

11.0 MODIFICATION OF BID

Modification of a bid already received will be considered only if the modification is received prior to the time established for receiving bids. Modifications shall be made in writing, executed, and submitted in the same form and manner as the original bid.

12.0 SUBCONTRACTORS AND MAJOR SUPPLIERS

In accordance with California Public Contracting Code Section 4100, et. Seq., each bid shall have listed in Section 00430, **DESIGNATION OF SUBCONTRACTORS**, the name, type or trade, portion of work to be performed, location of the place of business, and the California contractor license number and the Public Work Contractor registration number of each subcontractor who will perform work or labor or render service to the bidder in or about the construction of the work or improvement, or of any subcontractor licensed by the State of California who, under subcontract to the bidder, will specifically fabricate and install a portion of the work or improvement according to detailed drawings contained in the Contract Documents, in an amount in excess of one-half of one percent of the bidder's total bid or \$10,000, whichever is greater.

If the Contractor fails to designate in its proposal a subcontractor for any portion of the work as required above, the bidder shall be deemed to have agreed to perform such portion of the work itself and shall not be permitted to subcontract said portion of the work without the written permission of the Owner in accordance with applicable law.

A subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5.

Failure by a listed subcontractor to be registered to perform public work as required by subdivision (a) of Labor Code section 1725.5 shall be grounds under Section 4107 of the Public Contract Code for the contractor, with the consent of the awarding authority, to substitute a subcontractor who is registered to perform public work pursuant to Section 1725.5 in place of the unregistered subcontractor.

13.0 BID GUARANTY BOND AND CONTRACT AWARD

Bids shall be accompanied by a cashier's check, a certified check or a bidder's bond executed by an admitted surety in an amount not less than ten (10) percent of the aggregate of the bid, payable to the order of the Owner. Said check or bond shall be a guarantee that the successful bidder, if awarded the work, will within ten (10) days after notice of its award to the successful bidder: (1) enter into a contract, (2) furnish a bond of faithful performance and a labor and material bond, and (3) furnish insurance policies and endorsements. In case of refusal or failure to enter into said Contract or to conform to any of the requirements stated above in connection therewith including the failure of the Contractor to be currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5, the bid guaranty check or bond, as the case may be, shall be forfeited to the Owner, the proceeds therefrom being hereby agreed upon as liquidated damages to the said Owner on account of the delay in the execution of the Contract and required bonds and the performance of the work thereunder, and the necessity of accepting a higher or less desirable bid resulting from such failure or refusal to execute the Contract and the bonds as required.

Upon the execution of the Contract and the approval on behalf of the Owner of the accompanying bonds and insurance policies and endorsements, all certified checks that accompany Proposals and that have not heretofore been returned, will be returned, each to its maker. If Owner awards a contract, Award of the Contract will be made to the lowest responsive, responsible bidder complying with these instructions, the Section 00010, **NOTICE INVITING BIDS**, and such other pertinent provisions of the Contract Documents as may apply WITHIN THE TIME PERIOD SPECIFIED IN Section 00010, **NOTICE INVITING BIDS**. If award is made, it will be based on the lowest responsive; responsible bid whose base bid and alternate(s) as listed in Section 00300, **BID FORM**, yields the lowest total Contract price. Inclusion of any or all alternates in the contract shall be at the sole discretion of the Owner.

The Owner, however, reserves the right to reject any or all bids. The Owner also reserves the right to waive irregularities or informalities in a bid or bidding procedure, to the extent allowed by law.

In addition, the Owner may reject each bid not accompanied by Section 00412, **IRAN CONTRACTING ACT CERTIFICATION**, in which the Total Amount set forth on the Bid Schedule is \$1,000,000 or more, unless Owner's Board of Directors, in its sole discretion, (1) determines that it is in the best interest of the Owner to contract with the Bidder, and (2) makes a public finding that the Owner would be unable to obtain the goods or services for which the contract is offered if it did not exempt the Bidder from the obligation to submit the **IRAN CONTRACTING ACT CERTIFICATION**. The determination and finding described in the preceding sentence shall be based on substantial evidence, which may include but shall not be limited to evidence submitted by the bidder seeking the determination and finding. Public Contract Code section 2205 establishes penalties for false certifications, including civil penalties equal to the greater of \$250,000 or twice the amount of the contract for which the false certification was made, contract termination, and three-year ineligibility to bid on contracts.

14.0 CONTRACTOR'S LICENSE

Each bidder shall be licensed in accordance with the provisions of the Contractors License Law of California as stipulated in Section 00010, **NOTICE INVITING BIDS**. See Paragraphs 00100-9.0, **BIDDER'S EXPERIENCE AND QUALIFICATIONS**, and 00100-12.0, **SUBCONTRACTORS AND MAJOR SUPPLIERS**, for additional registration requirements.

15.0 LOCAL BUSINESS LICENSE

The Contractor shall have a local business license from **City of Pleasanton** for the work contemplated before the Contract can be executed.

16.0 WORK PERCENTAGES

The Contractor shall perform with its own organization no less than the work percentage specified in Section 01010-7.0, **WORK PERCENTAGES**.

17.0 COLLUSION

If the Owner has reason to believe that collusion exists among bidders, the Owner will reject the bids of the known participants in such collusion and may, at its option, require that all bidders certify under penalty of perjury, that no collusion has occurred or exists. The Owner also, at its option, may reject all bids received. In accordance with Public Contract Code Section 7106, the Contractor shall complete and file with its proposal Section 00480, **NON-COLLUSION AFFIDAVIT**. Public Contract Code Section 7106 requires that the affidavit must be duly sworn.

18.0 INTERPRETATIONS

No oral representations or interpretations will be made to any bidder as to the meaning of the Contract Documents. Requests for an interpretation shall be made in writing and delivered to the individual specified in Section 00010, **NOTICE INVITING BIDS**, at least seven (7) days before the bids are opened as provided in Section 00010, **NOTICE INVITING BIDS**.

19.0 SAFETY COMPLIANCE

The Owner requires that the Contractor conduct its operations in a manner to eliminate or reduce hazards and risks associated with the Contractor's activities, to prevent accidents and injuries, and to prevent property damages. Each Bidder shall certify under penalty of perjury that it will provide evidence that it can comply with the required mandatory Safety Programs delineated in Section 00490, **AFFIDAVIT OF SAFETY COMPLIANCE**.

If the Bidder does not submit an Affidavit of Safety Compliance with the Bid, the Bid may be deemed non-responsive or the Bidder deemed a non-responsible Bidder and be disqualified.

20.0 WITHDRAWAL OF BID

In accordance with Public Contract Code 5101 and 5103, within five days after the opening of bids, a bidder may be permitted to withdraw its bid providing the bidder can establish to the Owner's

satisfaction that a mistake was made in preparing the bid. A bidder desiring to withdraw shall give written notice to the Owner, specifying, in detail, how the mistake occurred and how the mistake made the bid materially different than it was intended to be. Withdrawal will not be permitted for mistakes resulting from errors in judgment or carelessness in inspecting the site of the work or in reading the Contract Documents.

21.0 BID PROTEST

Any Bid protest must be submitted in writing to the District Secretary before 5 p.m. on the fifth (5th) working day following Bid opening.

- A. The initial protest document must contain a complete statement of the basis for the protest, and all supporting documentation.
- B. The party filing the protest must have actually submitted a Bid for the Work. A subcontractor of a party submitting a Bid for the Work may not submit a Bid protest. A party may not rely on the Bid protest submitted by another Bidder, but must timely pursue its own protest.
- C. The protest must refer to the specific portion of the bid document which forms the basis for the protest.
- D. The protest must include the name, address and telephone number of the person representing the protesting party.
- E. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
- F. The Owner will give the Bidder that is the subject of the protest five (5) working days after the receipt of the protest to submit a written response. The responding Bidder shall transmit the response to the protesting Bidder concurrent with delivery to the Owner.
- G. The procedure and time limits set forth in this paragraph are mandatory and are the Bidder's sole and exclusive remedy in the event of Bid protest. The Bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the Bid protest, including filing a Government Code Claim or legal proceedings
- H. If the Owner determines that a protest is frivolous, the protesting bidder may be determined to be non-responsible and that bidder may be determined to be ineligible for future contract awards.

22.0 EXISTING CONDITIONS

The submitting of a bid shall be considered an acknowledgement on the part of the Bidder of familiarity with conditions at the site of the Work. The Bidder further acknowledges that the site examination has provided adequate and sufficient information related to existing conditions which may affect cost, progress or performance of the Work.

All Bidders shall submit affidavits, duly sworn and notarized, as presented in Section 00440, **SITE VISIT AFFIDAVIT**, that they have visited and familiarized themselves with the Project Site.

23.0 BIDDER'S CHECKLIST

This checklist has been prepared and furnished to aid Bidders in including all necessary supporting information with their bid. Bidders' submittals should include, but are not limited to, the following:

<u>Item</u>	<u>Checked</u>
1. Bid Form (Section 00300)	_____
2. Bid Schedule (Section 00310)	_____
3. Bidder's Bond (Section 00410)	_____
4. Iran Contracting Act Certification (Section 00412)	_____
5. Designation of Subcontractors (Section 00430)	_____
6. Site Visit Affidavit (Section 00440)	_____
7. Schedule of Major Equipment and Material Suppliers (Section 00450)	_____
8. Certification of Drug-Free Workplace Requirements (Section 00458)	_____
9. Certification of Bidder's Experience and Qualifications (Section 00460)	_____
10. Acknowledgement of Insurance Requirements (Section 00470)	_____
11. Acknowledgement of Insurance Requirements for Designated Contractors (Section 00471)	_____
12. Non-Collusion Affidavit (Section 00480)	_____
13. Affidavit of Safety Compliance (Section 00490)	_____

*** END OF SECTION ***

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SECTION 00200

INFORMATION AVAILABLE TO BIDDERS

1.0 SUBSURFACE CONDITIONS – NOT USED

2.0 RECORD DRAWINGS AND ADDITIONAL INFORMATION

Previous construction activities have occurred at portions of the site. Specification Section 00800-8.0, **RECORD DRAWINGS AND ADDITIONAL INFORMATION**, lists known available information for review by Bidders.

3.0 SITE ACCESS DURING BID PERIOD

Additional access to the site(s) for investigations may be desired to assist the bidders in the development of their bid. This access shall be provided as described in Section 00100-1.0, **GENERAL**.

***** END OF SECTION *****

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SECTION 00300

BID FORM

To the:
Dublin San Ramon Services District
Attn: Jaclyn Yee
7051 Dublin Boulevard
Dublin, CA 94568

Date: _____

Name of Bidder: _____

Business Address: _____

The undersigned as bidder declares that it has reviewed a complete set of the Project Manual and carefully examined the location of the proposed work, the Contract Documents, and the plans and specifications therein referred to, and the bidder proposes and agrees if this proposal is accepted, that it will contract with the Owner and hereby proposes to furnish all labor, materials, necessary machinery, tools, apparatus, and other means of construction and services, and do all the work specified in the Contract Documents in the manner and time hereinafter set forth required for the construction of the work involved in the improvements designated as:

**WWTP Electrical Improvements – Phase 1
(CIP 24-P044)**

ADDENDUM RECEIPT: The receipt of the following Addenda to the Contract Documents is acknowledged:

Addendum No. _____	Addendum No. _____	Addendum No. _____
Addendum No. _____	Addendum No. _____	Addendum No. _____

The bidder proposes and agrees to contract with the Owner to perform all the above work, including subsidiary obligations as defined in said specifications for the prices indicated in Section 00310, **BID SCHEDULE**.

Further in submitting its bid, the undersigned Bidder understands and agrees that the Total Base Bid amount is determined by the sum total of all bid item amounts in the Bid Schedule. Bid Items include all work as defined in Section 01025, **MEASUREMENT AND PAYMENT**. No base bid items will be excluded from the awarded contract. If award is made, it will be based on the lowest responsive, responsible bid whose Total Base Bid yields the lowest Contract Price. The Bid prices shall remain valid until Award of the Contract.

Only one contract will be awarded.

The undersigned has filled in all information required herein and understands that failure to do so is grounds for rejecting the bid by the Owner.

The Owner reserves the right to change, delete or add new work to the Contract as per the terms of

the General Conditions of the Contract Documents and applicable law.

The undersigned has checked carefully all the above figures and understands that the Owner will not be responsible for any errors or omissions on the part of the undersigned in making up this proposal.

The undersigned understands that the Owner reserves the sole right to reject any or all bids and to waive any informality in any bid in accordance with California law. Award will be made, if any, which, in the judgment of the Owner, is in the best interest of the Owner.

It is agreed that this proposal may not be withdrawn within the Award period time as specified in Section 00010, **NOTICE INVITING BIDS**, except as allowed in Public Contract Code 5103.

Enclosed herewith is a (certified check, cashier's check, bond) for not less than ten (10) percent of the total amount of this proposal and the undersigned agrees that, in case of its default in executing the Contract, or furnishing the necessary bonds and insurance policies and other required documents within ten (10) days after notice of the Award to the successful Bidder, the said check or bond and the money payable thereon shall become forfeit to and remain the property of the Owner, as liquidated damages without proof of loss within ten (10) days of notice of default by Owner. In the event Bidder provides the Owner with a Proposal Guaranty Bond, it shall be on the form enclosed herewith in Section 00410, **BIDDER'S BOND** and be issued by a corporate surety. The corporate surety shall be authorized to conduct business in California. At its discretion, the Owner may request that a certified copy of the certificate of authority of the surety issued by the Insurance Commissioner of the State of California be submitted by the surety to the Owner. At its discretion, the Owner may also require the surety to provide copies of its most recent annual statement and quarterly statement filed with the Department of Insurance pursuant to Article 10 (commencing with Section 900) of Chapter 1 of Part 2 of Division 1 of the Insurance Code. The Bond and the corporate surety will be reviewed and approved by the Owner's counsel in accordance with applicable law.

In accordance with the Specifications, the undersigned further agrees to so plan the work and to prosecute it with such diligence that said work shall be commenced within ten (10) days after the date of issuance of the notice to proceed and shall be completed within the time specified in Section 00800-1.1, **Time Allowed for Completion**.

The undersigned agrees, if awarded the Contract, that there shall be paid by the undersigned and by all subcontractors under him, to all laborers, workers and mechanics employed in the execution of such Contract or any subcontract thereunder, not less than the general prevailing rate of per diem wages, and rates for overtime and legal holidays in the locality in which the work is to be performed, as ascertained and determined, pursuant to California Labor Code Sections 1770, 1773, 1773.1, 1773.6, and 1773.7 as amended. The Director of the Department of Industrial Relations has determined the general prevailing rate of per diem wages in accordance with the standards set forth in Section 1773 for the locality in which the Work is to be performed. A copy of said wage rates is available on-line at www.dir.ca.gov/DLSR/PWD. It shall be mandatory upon the Contractor to whom the Work is awarded and upon any subcontractor under the Contractor to pay not less than said specified rates to all workers employed by them in the execution of the Work. Said prevailing rate of per diem wages will be made available to any interested party upon request, and a copy thereof shall be posted at the job site by the Contractor. The representations made herein, including the bidder's licensing information hereinafter furnished, are made under penalty of perjury. The undersigned understands that any bid not containing said licensing information, or containing any information

which is subsequently proven false, may be considered non-responsive, and be rejected by the Owner and/or be a basis for determining the bidder not responsible or eligible to perform the project.

Signed _____

Name _____

Contractor _____

By _____

Title _____

Contractor License No. _____

License Classification _____

Expiration Date _____

Dated _____

Address _____

Telephone _____

Email _____

CERTIFICATES. Shall be attached to the bid form and submitted with the bid.

- A. Bids by corporations must be executed in the corporate name by the president, a vice-president, or other corporate officer. Such Bid shall be accompanied by the enclosed Certificate of Authority to sign, attested by the secretary or assistant secretary. The corporate address and state of incorporation must appear below the signature.
- B. Bids by partnerships must be executed in the partnership name and be signed by a managing partner, accompanied by the enclosed Certificate of Authority to sign, and his/her title must appear under the signature and the official address of the partnership must appear below the signature.
- C. Bids by joint venture must be executed in the joint venture name and be signed by a joint venture managing partner, accompanied by the enclosed Certificate of Authority to sign, and his/her title must appear under the signature and the official address of the joint venture must appear below the signature. Additionally, the Bid shall bind the joint venture.
- D. If the Bid is made by an individual, bidder's name, signature, and post office address must be shown.

Name of Bidder _____

BID PROPOSAL CERTIFICATE
(if Corporation)

STATE OF CALIFORNIA)
) ss
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Board of Directors of the _____

(Name of corporation and post office address),
a corporation existing under the laws of the State of _____, held
on _____, 20____, the following resolution was duly passed and adopted:

“RESOLVED, that _____, as _____
President of the Corporation, be and is hereby authorized to execute the Bid Proposal
dated _____, 20____, for the **WWTP Electrical Improvements
– Phase 1 (CIP 24-P044)**, for the Dublin San Ramon Services District, and that his/her
execution thereof, attested by the

(Secretary or title of Person who signs on behalf of the Corporation),
and with the Corporate Seal affixed, shall be the official act and deed of this
Corporation.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the
corporation this _____, day of _____, 20____.

(1)
(Title of Person who signs on behalf of Corporation)

- (1) Include a certified copy of the bylaws or resolution of the Board of Directors of the corporation showing authority of the officer signing the Bid to execute contracts on behalf of the corporation.

Name of Bidder _____

BID PROPOSAL CERTIFICATE
(if Partnership)

STATE OF CALIFORNIA)
) ss
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Partners of the _____
a partnership existing under the laws of the State of _____, held
on _____, 20_____, the following resolution was duly passed and adopted:

“RESOLVED, that _____, as _____ the
General Partner of the Partnership, be and is hereby authorized to execute the Bid
Proposal dated _____, 20_____, for the **WWTP Electrical
Improvements – Phase 1 (CIP 24-P044)**, for the Dublin San Ramon Services District,
and that his/her execution thereof, attested by the

shall be the official act and deed of this Partnership.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this _____, day of _____,
20 ____.

Signature of General Partner

List all Partners

Name of Bidder _____

BID PROPOSAL CERTIFICATE
(if Joint Venture)

STATE OF CALIFORNIA)
) ss
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Principals of the _____

a joint venture existing under the laws of the State of _____, held
on _____, 20_____, the following resolution was duly passed and adopted:

“RESOLVED, that _____, as
_____ of the joint venture, be and is
hereby authorized to execute the Bid Proposal dated _____, 20_____,
for the **WWTP Electrical Improvements – Phase 1 (CIP 24-P044)**, for the Dublin San
Ramon Service District, and that his/her execution thereof, attested by the _____
_____, shall be the official act and deed
of this Joint Venture and shall bind the Joint Venture.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this _____, day of _____,
20_____.

(Representative of one of the Joint Venture firms)

***** END OF SECTION *****

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Name of Bidder: _____

SECTION 00310

BID SCHEDULE

WWTP Electrical Improvements – Phase 1 (CIP 24-P044)

1.0 BASE BID

Item	Description	Unit	Estimated Quantity	Unit Bid Price	Total Bid Price
1.	Mobilization/Demobilization (not to exceed 5% of total bid)	LS	1	\$_____	\$_____
2.	Complete the Work in accordance with the Contract Documents, except for the individual bid items listed below:	LS	1	\$_____	\$_____
3.	Switchgear SWGR-DPA	LS	1	\$_____	\$_____
4.	Motor Control Center MCC-E	LS	1	\$_____	\$_____
5.	Power System Studies	LS	1	\$_____	\$_____
6.	Allowance to Replace Existing SWGR-DPC Conductors	LS	1	\$_____	\$_____
7.	Allowance to Extend Existing SWGR-DPA Conductors	LS	1	\$_____	\$_____
Total Base Bid Items 1 through 7 inclusive and all work incidental thereto and connected therewith.					\$_____

Total Base Bid: _____
(In Words)

Bid amount of each of the above Bid Items must be filled in and completed.

Bid items shall be as specified in Section 01025, **MEASUREMENT AND PAYMENT**.

***** END OF SECTION *****

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Name of Bidder: _____

SECTION 00410

BIDDER'S BOND

We, _____, as Principal,
and _____ as Surety, jointly and severally, bind
ourselves, our heirs, representatives, successors and assigns, as set forth herein, to the Dublin San
Ramon Services District (herein called "the Owner") for the payment of the penal sum
of _____ dollars (\$ _____), lawful money of the
United States, which is ten percent (10%) of the total amount bid by bidder to the Owner. Principal
has submitted the accompanying bid for the construction of the **WWTP Electrical Improvements –
Phase 1 (CIP 24-P044)**.

If the Principal is awarded the contract and enters into a written contract, in the form prescribed by
the Owner, at the price designated by his bid, and files the bonds required by the Agreement with the
Owner, and carries all insurance in type and amount which conforms to the contract documents and
furnishes required certificates and endorsements thereof, then this obligation shall be null and void;
otherwise it shall remain in full force and effect.

Forfeiture of this bond, or any deposit made in lieu thereof, shall not preclude the Owner from seeking
all other remedies provided by law to cover losses sustained as a result of the Principal's failure to do
any of the foregoing.

Principal and Surety agree that if the Owner is required to engage the services of an attorney in
connection with the enforcement of this bond, each shall pay the Owner's reasonable attorney's fees,
witness fees and other costs incurred with or without suit.

Executed on _____

Principal

By: _____
Signature

Title

Name of Bidder: _____

Any claims under this bond may be
addressed to:

(Name and address of Surety's agent for
service of process in California, if
different from above)

(Telephone number of Surety's agent in
California)

(Attach Acknowledgment)

SURETY

By _____
(Attorney-in-Fact)

NOTICE:

No substitution or revision to this bond form will be accepted. All bonds submitted must have a certified copy of the bonding agent's power of attorney attached. Also each Surety must be an "Admitted Surety" (i.e., qualified to do business in California), and proof of verification from the California Department of Insurance or a certificate from County Clerk must also be attached.

SECTION 00412

IRAN CONTRACTING ACT CERTIFICATION

Pursuant to Public Contract Code section 2204, each bidder submitting a Bid in which the Total Amount set forth on its Bid Schedule is \$1,000,000 or more must also submit with its bid this **IRAN CONTRACTING ACT CERTIFICATION**, and the failure to submit the IRAN CONTRACTING ACT CERTIFICATION may render the bid non-responsive except as otherwise specified in Paragraph 00100-13.0, **BID GUARANTY BOND AND CONTRACT AWARD**.

The undersigned Bidder certifies as follows (check the applicable circumstance):

- _____ The company submitting the accompanying bid is not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("DGS") pursuant to Public Contract Code section 2203(b), and is not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.
- _____ The company submitting the accompanying bid has previously received written permission from the District, pursuant to subdivision (c) or (d) of Public Contract Code section 2203, to submit a bid. A copy of the written permission from the District is submitted with the accompanying bid.

I, the person signing below, hereby certify that I am duly authorized to execute this certification on behalf of the Company identified below, and that I am aware that Public Contract Code section 2205 establishes penalties for providing false certifications, including civil penalties equal to the greater of \$250,000 or twice the amount of the contract for which the false certification was made; contract termination; and three-year ineligibility to bid on contracts.

Name of Company Submitting Bid

Signature for Company Submitting Bid

Name and Title of Signatory

Date

*** END OF SECTION ***

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Name of Bidder: _____

SECTION 00430

DESIGNATION OF SUBCONTRACTORS

(To Accompany Bid)

In accordance with California Public Contract Code, Section 4100 et. seq., as amended, the following is submitted concerning subcontractors: Each bidder shall set forth below (a) name, the location of the place of business, and the California contractor license number and the Public Work Contractor registration number of each subcontractor who will perform work or labor, fabricate a portion of the work or improvement according to detailed drawings in the project plans, or render service to the Contractor in or about the construction of the work in an amount in excess of one-half (1/2) of one percent (1%) of the Contractor's total bid or \$10,000 whichever is greater; and (b) the portion of the work (type and trade) which will be done by each such subcontractor. If a Contractor fails to specify a subcontractor or, if a contractor specifies more than one subcontractor for the same portion of work to be performed under the contract in excess of one-half (1/2) of one percent (1%) of the contractor's total bid for any portion of the work as above stated, the Contractor agrees that he/she is fully qualified to perform that portion himself/herself, and that the contractor shall perform that portion himself/herself. Subcontractors work for which no subcontractor was designated in the original bid and which is in excess of one-half (1/2) of one percent (1%) of the total contract price, will be allowed only with written consent of the Owner in accordance with applicable law. The Contractor shall provide to the Owner the license number of each listed subcontractor within ten (10) days of issuance of the Notice to Proceed.

Name of Subcontractor: _____

Contractor License No.: _____ PWC Registration No.: _____

Business Location: _____

Description of Work to be Performed: _____

Amount of Work to be Performed: _____

Name of Subcontractor: _____

Contractor License No.: _____ PWC Registration No.: _____

Business Location: _____

Description of Work to be Performed: _____

Amount of Work to be Performed: _____

Name of Subcontractor: _____

Contractor License No.: _____ PWC Registration No.: _____

Business Location: _____

Description of Work to be Performed: _____

Amount of Work to be Performed: _____

Name of Bidder: _____

Name of Subcontractor: _____

Contractor License No.: _____ PWC Registration No.: _____

Business Location: _____

Description of Work to be Performed: _____

Amount of Work to be Performed: _____

Name of Subcontractor: _____

Contractor License No.: _____ PWC Registration No.: _____

Business Location: _____

Description of Work to be Performed: _____

Amount of Work to be Performed: _____

Name of Subcontractor: _____

Contractor License No.: _____ PWC Registration No.: _____

Business Location: _____

Description of Work to be Performed: _____

Amount of Work to be Performed: _____

Name of Subcontractor: _____

Contractor License No.: _____ PWC Registration No.: _____

Business Location: _____

Description of Work to be Performed: _____

Amount of Work to be Performed: _____

Name of Subcontractor: _____

Contractor License No.: _____ PWC Registration No.: _____

Business Location: _____

Description of Work to be Performed: _____

Amount of Work to be Performed: _____

Name of Subcontractor: _____

Contractor License No.: _____ PWC Registration No.: _____

Business Location: _____

Description of Work to be Performed: _____

Amount of Work to be Performed: _____

*** END OF SECTION ***

00430-2

Name of Bidder: _____

SECTION 00440

**SITE VISIT AFFIDAVIT
TO BE EXECUTED
BY BIDDER AND SUBMITTED WITH BID**

(To Accompany Bid)

State of California)
) ss.
County of)

_____, **being first duly sworn**, deposes and says that he or
(Contractor's Authorized Representative)

she is

_____ of _____, the party making the foregoing
(Title of Representative) (Contractor's Name)

bid, has visited the Site of the Work as described in the Contract and has examined and familiarized him or herself with the existing conditions, as well as all other conditions relating to the construction which will be performed. The submission of a bid shall be considered an acknowledgement on the part of the Bidder of familiarity with conditions at the site of Work. The Bidder further acknowledges that the site examination has provided adequate and sufficient information related to existing conditions which may affect cost, progress or performance of the Work.

Signature

Name of Bidder

Title

Date

***** END OF SECTION *****

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Name of Bidder: _____

SECTION 00450

SCHEDULE OF MAJOR EQUIPMENT AND MATERIAL SUPPLIERS, PRODUCTS IDENTIFIED BY NAME AND SUBSTITUTION

Bidders must designate the manufacturer/supplier of each item of equipment, materials or system included on the attached list. The Bidder shall name a manufacturer for each item and the supplier of the item if the supplier is not the manufacturer.

In accordance with California Public Contract Code Section 3400, where the project plans or specifications list products by manufacturer's name, brand or model number, such information indicates the quality and utility of the items desired and does not restrict bidders to that manufacturer's name, brand or model number, absent an express requirement that the listed product is only available from one source, or is necessary to match others in use on a particular public improvement either completed or in the course of completion. Except where expressly indicated in the plans, specifications, or this schedule that a particular brand product is only available from one source or is necessary to match others in use, when a manufacturer's name, brand or model number is listed, it shall be construed to be followed by the words "or equal" whether or not those words in fact follow the manufacturer's name, brand name or model number listed. Absent an express requirement that the listed product is only available from one source, or is necessary to match others in use on a particular public improvement either completed or in the course of completion, bidders may propose equals of products listed by manufacturer name, brand name or model number.

Complete information for products proposed as equals must be submitted to the Owner for review no later than 5:00 p.m. on the fifth day following the Bid opening by the low Bidder and by the second low Bidder if so requested by the Owner. To be considered, proposals concerning products proposed as equals must include sufficient information to permit the Owner to determine whether the products proposed as equals are in compliance with the requirements of the Contract Documents, and will satisfy the same performance requirements as products listed by manufacturer's name, brand or model number. Such performance requirements may include, but are not limited to, size, strength, function, and appearance, ease of maintenance and repair, and useful life requirements. Proposals concerning products proposed as equals that are submitted later than 5:00 p.m. on the fifth day following the bid opening may not be considered. Full submittal information as specified under Specification Section 01340, **SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**, shall be submitted following award.

The Bidder shall be responsible for any additional costs necessary for the incorporation of such substitutions as provided for in Specification Section 01340-2.0, **MATERIAL AND EQUIPMENT SUBSTITUTIONS**.

Failure to bid products specified by manufacturer name, brand name or model number where the plans or specifications specify that a particular product is only available from one source or is necessary to match others in use, or to timely submit a proposal concerning products proposed as equals may render a bid non-responsive.

Name of Bidder: _____

If the Owner should determine that a proposed "or equal" substitute does not meet the requirements of the Contract Documents, the Owner will provide written notice to the Bidder of such determination. Such notice will stipulate that the Bidder has five working days from the Bid opening to provide written response as to which listed manufacturer/supplier it will provide or to submit documentation for an acceptable "or equal" substitute in either case without change in the Bid price or alternatively to request to withdraw its Bid in accordance with California Public Contract Code Section 5100 and following. If the Bidder fails to provide written response the Bidder will be required to provide the first listed manufacturer/supplier without change in the Bid price.

The following named items of major equipment and materials will be supplied by the manufacturers or suppliers as indicated by the Bidder, where no manufacturer or brand name is specified or as specified by the Owner. By so indicating, the Bidder warrants that the equipment and material manufactured and/or supplied by the named manufacturer or supplier will be provided on the project unless review of submittal information or performance under tests reveals that the equipment or material does not meet the Contract requirements.

If the Bidder fails to identify a manufacturer/supplier for any item shown on this list, the Owner has the right to waive such omission. In such case it will be assumed that the manufacturer/ supplier to be used by the Bidder will be the first listed manufacturer/supplier identified for the given item under these Specifications without change in the contract price.

Equipment	Manufacturer
Switchgear SWGR-DPA	Eaton Corporation
Motor Control Center MCC-E	Eaton Corporation

BIDDER

(Signature)

(Date)

***** END OF SECTION *****

Name of Bidder: _____

SECTION 00458

CERTIFICATION OF DRUG-FREE WORKPLACE REQUIREMENTS

DRUG-FREE WORKPLACE CERTIFICATION

CONTRACTOR/APPLICANT:

The contractor or applicant named above hereby certifies compliance with Government Code Section 8355 in matters relating to providing a drug-free workplace. The above named contractor or applicant will:

1. Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations, as required by Government Code Section 8355(a).
2. Establish a Drug-Free Awareness Program as required by Government Code Section 8355(b), to inform employees about all of the following:
 - (a) The dangers of drug abuse in the workplace,
 - (b) The person's or organization's policy of maintaining a drug-free workplace,
 - (c) Any available counseling, rehabilitation and employee assistance programs, and
 - (d) Penalties that may be imposed upon employees for drug abuse violations.
3. Provide as required by Government Code Section 8355(c), that every employee who works on the proposed contract or loan:
 - (a) Will receive a copy of the company's drug-free policy statement, and
 - (b) Will agree to abide by the terms of the company's statement as a condition of employment on the contract or loan.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized legally to bind the contractor or loan recipient to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

OFFICIAL'S NAME: _____

DATE EXECUTED: _____ EXECUTED IN COUNTY OF: _____

CONTRACTOR/APPLICANT SIGNATURE: _____

TITLE: _____

***** END OF SECTION*****

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Name of Bidder: _____

SECTION 00460

**CERTIFICATION OF BIDDER'S
EXPERIENCE AND QUALIFICATIONS**

(To Accompany Bid)

The undersigned Bidder certifies that it is, at the time of bidding, and shall be, throughout the period of the contract, licensed under the provisions of Chapter 9, Division 3, of the Business and Professions Code of the State of California, to do the type of work contemplated in the Contract Documents. Bidder further certifies that it is skilled and regularly engaged in the general class and type of work called for in the Contract Documents.

The Bidder represents that it is competent, knowledgeable, and has special skills concerning the nature, extent, and inherent conditions concerning the work to be performed. Bidder further acknowledges that there are certain inherent conditions existent in the construction of the particular facilities which may create, during the construction program, unsafe conditions hazardous to persons and property. Bidder expressly acknowledges that it is aware of such risks and that it has the skill and experience to foresee and to adopt protective measures to adequately and safely perform the construction work with respect to such hazards.

A Contractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for the public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5.

A. ESSENTIAL REQUIREMENTS FOR QUALIFICATION

If the answer to any of questions 1 through 3 is "no", or if the answer to any of questions 4 through 7 is "yes", the Bidder will be deemed ineligible or not responsible for purposes of the Contract.

1. Bidder possesses a valid and current California Contractor's license as required for the project for which it intends to submit a bid.
☐ Yes ☐ No
2. Bidder will comply with and provide all insurance as defined in Section 00800-2.0, **LIABILITY AND INSURANCE**.
☐ Yes ☐ No
3. Bidder has current Workers' Compensation insurance coverage as required by the Labor Code or is legally self-insured pursuant to Labor Code section 3700 et. seq.
☐ Yes ☐ No
4. Has your contractor's license been revoked at any time in the last five (5) years?
☐ Yes ☐ No

Name of Bidder: _____

5. Has a surety firm completed a contract on your behalf, or paid for completion because your firm was default terminated by the project owner within the last five (5) years?
☐ Yes ☐ No
6. At the time of submitting this qualification form, is your firm ineligible to bid or be awarded a public works contract, or perform as a subcontractor on a public works contract, pursuant to either Labor Code section 1777.1 or Labor Code section 1777.7?
☐ Yes ☐ No
7. At any time during the last five (5) years, has your firm or any of its owners or officers been convicted of a crime involving the awarding of a contract of a government construction project, or the bidding or performance of a government contract?
☐ Yes ☐ No

B. COMPANY EXPERIENCE

The Bidder has been engaged in the contracting business, under the present business name for _____ years and has experience in work of a nature similar to this project which extends over a period of _____ years (Bidder must show at least ten (10) years of related experience).

The Bidder, as a Contractor, has never failed to satisfactorily complete a contract awarded to it, except as follows:

For the bid to be considered responsive, the bid must list at least \$5 million in total construction cost on no more than five (5) projects completed within the last five (5) years by the Bidder of the following types of projects:

Installation of 480-volt motor control center equipment and/or installation of 480-volt switchgear equipment at a Northern California wastewater treatment plant.

The Bidder can include project(s) currently under construction, but only the total amount paid by the Owner(s) as of three (3) months prior to the bid date on uncompleted project(s) can be included in the construction volume for purposes of this certification. Any projects listed below which are not as defined above will not be considered by the Owner in meeting this experience requirement.

If the Bidder is a Joint Venture of two or more companies, each participant in the Joint Venture shall meet this prior project experience requirement and provide project information for each Joint Venture participant in the format below.

1. **Project Name:** _____

Owner: _____

Name of Bidder: _____

Total Construction Cost: \$ _____

Value of Work Performed by Bidder: \$ _____

Construction Time: _____ Calendar Days

Owner's Representative: _____

Owner's Telephone No.: _____

Date of Substantial Completion: _____

2. Project Name: _____

Owner: _____

Total Construction Cost: \$ _____

Value of Work Performed by Bidder: \$ _____

Construction Time: _____ Calendar Days

Owner's Representative: _____

Owner's Telephone No.: _____

Date of Substantial Completion: _____

3. Project Name: _____

Owner: _____

Total Construction Cost: \$ _____

Value of Work Performed by Bidder: \$ _____

Construction Time: _____ Calendar Days

Owner's Representative: _____

Owner's Telephone No.: _____

Date of Substantial Completion: _____

4. Project Name: _____

Owner: _____

Total Construction Cost: \$ _____

Value of Work Performed by Bidder: \$ _____

Construction Time: _____ Calendar Days

Owner's Representative: _____

Owner's Telephone No.: _____

Name of Bidder: _____

Date of Substantial Completion: _____

5. Project Name: _____

Owner: _____

Total Construction Cost: \$ _____

Value of Work Performed by Bidder: \$ _____

Construction Time: _____ Calendar Days

Owner's Representative: _____

Owner's Telephone No.: _____

Date of Substantial Completion: _____

C. SAFETY QUALIFICATION CRITERIA

The following information will be used in conjunction with other Contractor safety information to determine if the Bidder meets the minimum safety requirements for this project. If the Bidder's current Workers' Compensation Experience Modification Rate (EMR) is equal to or less than 1.0 (100%), then the Bidder will be deemed to meet the minimum safety requirements, subject to post-bid verification of the EMR as described below. If the Bidder's current Workers' Compensation Experience Modification Rate (EMR) is greater than 1.25 (125%), then the bid will be deemed non-responsive, and the bid will be rejected.

However, if the Bidder's EMR is greater than 1.0 and less than or equal to 1.25, the Bidder will be requested to submit additional information related to his/her EMR and safety record, including but not limited to OSHA Form 300A "Summary of Work-Related Injuries and Illnesses" for the previous three (3) calendar years. Failure to submit the required information within two (2) working days after the District's request will result in the bid being deemed non-responsive, and the bid will be rejected. Following review of the additional safety information submitted, the District reserves the right to either deem the bid responsive or reject the Contractor's bid as non-responsive.

The Bidder shall list its current EMR (available from your insurance carrier).

Year

EMR

The Owner will contact the Bidder's Workers' Compensation Insurance carrier to verify the EMR. The Bidder shall authorize its carrier to release this information. Failure to authorize the release of this information may result in the bid being deemed non-responsive and the bid being rejected as non-responsive.

Name of Bidder: _____

Worker's Compensation Insurance Company _____

Contact Person for Insurance Company _____

Telephone No. _____

Signed this _____ day of _____, 20____.

Name of Bidder

Contractor's License No.

Expiration Date

Signature of Bidder

Title of Signator

*****END OF SECTION*****

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Name of Bidder: _____

SECTION 00470

ACKNOWLEDGEMENT OF INSURANCE REQUIREMENTS

Included in the Bid Price is full compensation for the requirements set forth in Section 00800-2.0, **LIABILITY AND INSURANCE** of the Contract Documents including:

- a) Commercial General Liability (CGL) Coverage at least as broad as Insurance Services Office (ISO) Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than \$5,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit. The Owner, its officers, officials, employees, and volunteers are to be covered as additional insureds on the CGL policy
- b) Automobile Liability coverage at least as broad as Insurance Services Office Form CA 0001 covering Code 1 (any auto), with limits no less than \$5,000,000 per accident for bodily injury and property damage.
- c) Workers' Compensation insurance as required by the State of California, with Statutory Limits, and Employers' Liability insurance with a limit of no less than \$1,000,000 per accident for bodily injury or disease.
- d) Builder's Risk (Course of Construction) insurance utilizing an "All Risk" (Special Perils) coverage form, with limits equal to the completed value of the project and no coinsurance penalty provisions.
- e) Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors and Omissions (if project involves environmental hazards) with limits no less than \$1,000,000 per occurrence or claim, and \$2,000,000 policy aggregate.

Contractor shall waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor shall obtain any endorsement that may be necessary to affect this waiver of subrogation. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the Owner for all work performed by the Contractor, its employees, agents and subcontractors.

Signature of Bidder / Title

Date

END OF ACKNOWLEDGEMENT OF INSURANCE REQUIREMENTS

Name of Bidder: _____

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

CERTIFICATE OF ACKNOWLEDGMENT

State of California }
County of _____ } ss

On _____ before me _____,

a Notary Public, personally appeared _____
Name(s) of Signer(s)

who proved to me on basis of satisfactory evidence to be the person(s) whose names(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

Signature of Notary

***** END OF SECTION *****

Name of Bidder _____

SECTION 00471

**ACKNOWLEDGEMENT OF INSURANCE REQUIREMENTS
FOR DESIGNATED SUBCONTRACTORS**

Included in the Bid Price is full compensation for the requirements set forth in Section 00800-2.0, **LIABILITY AND INSURANCE** of the Contract documents including:

- a) Commercial General Liability (CGL) Coverage at least as broad as Insurance Services Office (ISO) Form CB 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than \$5,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 pr 25 04) or the general aggregate limit shall be twice the required occurrence limit. The Owner, its officers, officials, employees, and volunteers are to be covered as additional insureds on the CGL policy.
- b) Automobile Liability coverage at least as broad as Insurance Services Office Form CA 0001 covering Code 1 (any auto), with limits no less than \$5,000,000 per accident for bodily injury and property damage.
- c) Workers' Compensation insurance as required by the State of California, with Statutory Limits, and Employers' Liability insurance with a limit of no less than \$1,000,000 per accident for bodily injury or disease.

Contractor shall waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor shall obtain any endorsement that may be necessary to affect this waiver of subrogation. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the Owner for all work performed by the Contractor, its employees, agents and subcontractors.

Signature of Bidder/Title

Date

END OF ACKNOWLEDGEMENT OF INSURANCE REQUIREMENTS

Name of Bidder_____

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

CERTIFICATE OF ACKNOWLEDGMENT

State of California

County of _____

On _____ before me, _____,
a Notary Public, personally appeared _____
who proved to be on basis of satisfactory evidence to be the person(s) whose name(s) is/are
subscribed to the within instrument and acknowledged to me that he/she/they executed the same in
his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument the
person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing
paragraph is true and correct.

(seal)
Signature of Notary

*****END OF SECTION*****

Name of Bidder: _____

SECTION 00480

BIDDER'S AFFIDAVIT OF NON-COLLUSION SUBMITTED WITH BID

(To Accompany Bid)

_____, (Contractor) hereby declares that:

He or she is _____ (Title/Position) of _____

_____, (Company Name) the party making the foregoing bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that 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, or to secure any advantage against the public body awarding the contract or anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that 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, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Date

Signature

Public Contract Code Section 7106
Code of Civil Procedure Section 2015.5

Name of Bidder: _____

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California } County of _____ } On _____ before me _____, a Notary Public, personally appeared _____ Name(s) of Signer(s) _____ who proved to me on basis of satisfactory evidence to be the person(s) whose names(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal. _____ Signature of Notary	CAPACITY CLAIMED BY SIGNER ☐ INDIVIDUAL(S) ☐ CORPORATE OFFICER(S) _____ Title(s) ☐ PARTNER(S) ☐ ATTORNEY-IN-FACT ☐ TRUSTEE(S) ☐ OTHER _____ Describe ☐ SUBSCRIBING WITNESS (for) _____ _____ _____ SIGNER IS REPRESENTING: _____ _____ _____
--	--

*** END OF SECTION ***

Name of Bidder: _____

SECTION 00490

AFFIDAVIT OF SAFETY COMPLIANCE

(To Accompany Bid)

WWTP Electrical Improvements – Phase 1 (CIP 24-P044)

The Contractor agrees in accordance with the requirements of Section 00700 - 4.7, **Safety**, that for purposes of California Labor Code Section 6400 and related provisions of law the Contractor, the Contractor's privities and any other entities acting pursuant to this Contract will be "employers" responsible for furnishing employment and a place of employment that is safe and healthful for the employees, if any, of such entities acting pursuant to this Contract and that the Owner will not be responsible for having hazards corrected and/or removed at the location where the work under the Contract is to be performed.

The Contractor hereby acknowledges the Contractor's safety obligations at the Project worksite. The Contractor shall conduct its operations to eliminate or reduce hazards and risks associated with Contractor's activities, to prevent accidents and injuries, and to prevent property damage. Therefore, the Contractor is fully responsible for and shall be in compliance with all of the most current safety, health and environmental regulations (federal, state and local). Non-compliance with these regulations may result in suspension or termination of work in progress. The Contractor's Safety Programs must accomplish the foregoing objectives. The Contractor certifies that its Safety Programs comply with and will satisfy these requirements. The Contractor also certifies that each Subcontractor at any tier and other parties engaged in the performance of work on the Project worksite will also comply with and will satisfy these requirements.

Parts A, B, C and D of the attached Contractor Safety Operations Requirements are not required to be completed and submitted with the Bid. The completed forms shall be submitted for the Owner's review with the Contractor's Safety Program prior to commencement of work on the Project as required in Section 00700-4.7.2, **Safety Program**. The Contractor certifies that it can furnish satisfactory evidence of compliance with the elements identified in the attached Contractor Safety Operations Requirements and the Contractor's Safety Program. The Contractor further acknowledges that it's Subcontractors at any tier will provide all Safety Compliance documents to Contractor in accordance with Specification Sections 00490 and 00700-4.7, **Safety**.

Executed On _____, _____

Signature

Name of Bidder

Name (Print)

Title

Attach a Certificate of Acknowledgement for the Notary to the Affidavit.

Name of Bidder: _____

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

CERTIFICATE OF ACKNOWLEDGMENT

State of California }
County of _____ } ss

On _____ before me _____,

a Notary Public, personally appeared _____
Name(s) of Signer(s)

who proved to me on basis of satisfactory evidence to be the person(s) whose names(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

Signature of Notary

CONTRACTOR SAFETY OPERATIONS REQUIREMENTS

(To be submitted with Contractor's Safety Program prior to commencing work)

PART A - Safety Programs

Please indicate below whether your firm has the following written safety programs. If any of the programs listed do not apply to your operations or this project, please make note of this in the "Comments" column. Include any information that you think would be helpful to us in making this assessment. Those programs that are indicated as mandatory must be available for review before commencing work on this project. Other safety programs may be requested if it is later determined that they are applicable to the Project, and as such, must be made available for review upon request, at no additional charge to the Owner.

Program		Do you have a written program?		Program meets Cal/OSHA Criteria		Sub will provide	Have project employees been trained?		Is the training documented?		Comments
Mandatory		Yes	No	Yes	No		Yes	No	Yes	No	
YES	Injury and Illness Prevention										
YES	Hazard Communication										
YES	Confined Space Operations										
	Respiratory Protection										
YES	Emergency Response										
YES	Hearing Conservation										
YES	Lockout/Tagout										
YES	New Employee Orientation										
YES	Excavation Safety										
YES	Code of Safe Practices										
YES	Personal Protective Equipment (PPE)										
YES	Drugs/Alcohol										
YES	Traffic Control Safety										
YES	Fall Prevention Plan ⁽¹⁾										

¹ If conventional fall protection measures cannot be used.

PART B - Safety Equipment - Identify what safety equipment will be available and used for this project.

Name of Bidder: _____

Type	Description/Comments
☐ Gas detectors	
☐ Ventilation equipment	
☐ Approved harnesses and lanyards	
☐ Mechanical hoists	
☐ Fire extinguishers	
☐ First aid kits	
☐ Respirators	
☐ Hard hats	
☐ Hearing protectors	
☐ Safety goggles	
☐ Steel toed footwear	
☐ Hand protection	
☐ Fall protection	
☐ Confined Space Rescue Equipment	
☐	
☐	
☐	

PART C - Specialized Training and Certification - Identify the areas of specialized training or certification that will have been completed by employees who will be assigned to this project. Be prepared to provide documentation as requested.

☐	CPR/first aid	☐	Confined space operations and rescue	☐	Scaffolding
☐	Fork lift operation	☐	Respirators ☐ Air-Supplying ☐ Air-Purifying	☐	Flagging
☐	Cranes/hoists operation	☐	Trenching and shoring competent person	☐	
☐	Heavy equipment operation	☐	Welding	☐	
☐	Powder-actuated tools use	☐	Asbestos abatement	☐	

PART D - Jobsite Safety Practices

1. Name of person who will have responsibility for jobsite safety?

2. Who will be responsible for conducting and documenting accident investigations?

3. Does your company perform near-miss investigations? _____ *
- * If Yes, please provide sample copy of investigation forms.
4. How often are jobsite safety audits or inspections performed, _____
and by whom? _____
5. Does the person who is responsible for jobsite safety have authority to take immediate action to correct unsafe conditions of work practices? _____
6. Who will be designated the competent person for excavation safety on the project?
_____ *
- *Provide substantiation and/or certificate of current training for the competent person.
7. How often are jobsite tailgate or toolbox safety meetings held? _____
8. Briefly describe how you will ensure that workers comply with safety programs and Cal/OSHA requirements?

9. Please list any Cal/OSHA citations and penalties you have received in the last three years.

10. Have there been any on-the-job fatalities at any job site managed by the Contractor in the last five years?
_____ *
- *If yes, please explain: _____

11. Does your company have a safety incentive program? _____ *
- *If yes, please explain: _____

PART E: Evaluation Worksheet

(FOR USE BY THE OWNER ONLY)

Item	Program is Mandatory	Contractor has Written Program	Contractor States Program meets Cal/OSHA Criteria	Comments
PART A: Safety Programs				
PART B: Safety Equipment				
PART C: Training and Certifications				
PART D: Jobsite Safety Practices				
Responsible Person Named				
Accident Investigations				
Worksite Safety Inspections				
Competent Person				
Safety Meetings				
Compliance With Safety Requirements				
Cal/OSHA Citations/Penalties				
Fatalities				
Safety Incentives				

***** END OF SECTION*****

SECTION 00500

AGREEMENT FOR THE CONSTRUCTION OF

WWTP Electrical Improvements – Phase 1 (CIP 24-P044)

THIS AGREEMENT, made and concluded, in duplicate, this _____ day of _____, 20____, between the Dublin San Ramon Services District ("District"), Dublin, California, and _____ ("Contractor").

WITNESSETH:

1. That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the District, and under the conditions expressed in the two bonds, bearing even date with these presents, and hereunto annexed, the Contractor agrees with the District, at his/her own proper cost and expense, to do all the work and furnish all the materials necessary to construct and complete in good workmanlike and substantial manner the project entitled: **WWTP Electrical Improvements – Phase 1 (CIP 24-P044)** in strict conformity with the Contract Documents (collectively defined in Section 01090-2.0), prepared therefor, which said plans and specifications are hereby specially referred to and by said reference made a part hereof.

2. Now, therefore, in consideration of the mutual covenants and agreements of the parties herein contained and to be performed, the Contractor hereby agrees to complete the work in accordance with the terms and conditions stipulated in the Contract Documents for the sum of

(\$_____) computed in accordance with Contractor's accepted proposal dated _____, 20____, which accepted proposal is incorporated herein by reference thereto as if herein fully set forth. Compensation shall be based upon any lump sum bid items plus the unit prices stated in the Bid Schedule times the actual quantities or units of work and materials performed or furnished. The further terms, conditions, and covenants of this Agreement are set forth in the Contract Documents, each of which is by this reference made a part hereof. Payments are to be made to the Contractor in accordance with the provisions of the Contract Documents in legally executed and regularly issued warrants of the District, drawn on the appropriate fund or funds as required by law and order of the District thereof.

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

4. The Contractor and any subcontractor performing or contracting any work shall comply with all applicable provisions of the California Labor Code for all workers, laborers and mechanics of all crafts, classifications or types, including, but not limited to the following:

(a) The Contractor shall comply with all applicable provisions of Section 1810 to 1815, inclusive, of the California Labor Code relating to working hours. The Contractor shall, as a penalty to the District, forfeit the sum of twenty-five dollars (\$25) for each worker employed in the execution of the Contract by the Contractor or by any subcontractor 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, unless such worker receives compensation for all hours worked in excess of eight (8) hours at not less than 1-1/2 times the basic rate of pay.

(b) Pursuant to the provision of California Labor Code, Sections 1770 et. seq., the Contractor and any subcontractor under him shall pay not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations. Pursuant to the provisions of California Labor Code Section 1773.2, the Contractor is hereby advised that copies of the prevailing rate of per diem wages and a general prevailing rate for holidays, Saturdays and Sundays and overtime work in the locality in which the work is to be performed for each craft, classification, or type of worker required to execute the Contract, are on file in the office of the District, which copies shall be made available to any interested party on request. The Contractor shall post a copy of said prevailing rate of per diem wages at each job site.

(c) As required by Section 1773.1 of the California Labor Code, the Contractor shall pay travel and subsistence payments to each worker needed to execute the Work, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with this Section.

(d) To establish such travel and subsistence payments, the representative of any craft, classification, or type of workman needed to execute the contracts shall file with the Department of Industrial Relations fully executed copies of collective bargaining agreements for the particular craft, classification or type of work involved. Such agreements shall be filed within ten (10) days after their execution and thereafter shall establish such travel and subsistence payments whenever filed thirty (30) days prior to the call for bids.

(e) The Contractor shall comply with the provisions of Section 1775 of the California Labor Code and shall, as a penalty to the District, forfeit up to fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the prevailing rate of per diem wages for each craft, classification, or type of worker needed to execute the Contract. The Contractor shall pay each worker an amount equal to the difference between the prevailing wage rates and the amount paid worker for each calendar day or portion thereof for which a worker was paid less than the prevailing wage rate.

(f) As required under the provisions of Section 1776 of the California Labor Code, Contractor and each subcontractor shall keep an accurate payroll record, showing the name, address, social security number, work classification, and straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work. Said payroll shall be certified and shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:

(1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.

(2) A certified copy of all payroll records enumerated in Paragraph 4(f), herein, shall be made available for inspection or furnished upon request to the District, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.

(3) A certified copy of all payroll records enumerated in Paragraph 4(f), herein, shall be made available upon request by the public for inspection or for copies thereof; provided, however, that a request by the public shall be made through either the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to subparagraph 4(f)(2) herein, the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the Contractor, subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal offices of the Contractor.

The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division.

Each Contractor shall file a certified copy of the records, enumerated in Paragraph 4(f) with the entity that requested the records within ten (10) days after receipt of a written request. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of the Contractor awarded the Contract or performing the Contract shall not be marked or obliterated. The Contractor shall inform the District of the location of the records enumerated under Paragraph 4(f) including the street address, city and county, and shall, within five (5) working days, provide a notice of change of location and address. The Contractor shall have ten (10) days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this Paragraph 4(f). In the event that the Contractor fails to comply within the 10-day period, he or she shall, as a penalty to the state or the District, forfeit twenty-five dollars (\$25.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. Responsibility for compliance with Paragraph 4(f) lies with the Contractor.

(g) The Contractor and any subcontractors shall, when they employ any person in any apprenticeable craft or trade, apply to the joint apprenticeship committee administering the apprenticeship standards of the craft or trade in the area of the construction site for a certificate approving the Contractor or subcontractor under the apprenticeship standards for

the employment and training of apprentices in the area or industry affected; and shall comply with all other requirements of Section 1777.5 of the California Labor Code. The responsibility of compliance with California Labor Code Section 1777.5 during the performance of this Contract rests with the Contractor. Pursuant to California Labor Code Section 1777.7, in the event the Contractor willfully fails to comply with the provisions of California Labor Code Section 1777.5, the Contractor shall be denied the right to bid on any public works contract for up to three (3) years from the date noncompliance is determined and be assessed civil penalties.

(h) In accordance with the provisions of Article 5, Chapter 1, Part 7, Division 2 (commencing with Section 1860), and Chapter 4, Part 1, Division 4 (commencing with Section 3700) of the California Labor Code, the Contractor is required to secure the payment of compensation to its employees and for that purpose obtain and keep in effect adequate Workers' Compensation Insurance. If the Contractor, in the sole discretion of the District satisfies the District of the responsibility and capacity under the applicable Workers' Compensation Laws, if any, to act as self-insurer, the Contractor may so act, and in such case, the insurance required by this paragraph need not be provided.

The Contractor is advised of the provisions of Section 3700 of the California Labor Code, which requires every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code and shall comply with such provisions and have Employer's Liability Limits of \$1,000,000 per accident before commencing the performance of the Work of this Contract.

The Notice to Proceed with the Work under this Contract will not be issued, and the Contractor shall not commence work, until the Contractor submits written evidence that it has obtained full Workers' Compensation Insurance coverage for all persons whom it employs or may employ in carrying out the Work under this Contract. This insurance shall be in accordance with the requirements of the most current and applicable state Workers' Compensation Insurance Laws. In accordance with the provisions of Section 1861 of the California Labor Code, the Contractor in signing this Agreement certifies to the District as true the following statement: "I am aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the Work of this Contract."

A subcontractor is not allowed to commence work on the project until verification of Workers' Compensation Insurance coverage has been obtained and verified by the Contractor and submitted to the Construction Manager for the District's review and records.

(i) In accordance with the provisions of Section 1727 of the California Labor Code, the District, before making payment to the Contractor of money due under a contract for public works, shall withhold and retain therefrom all wages and penalties which have been forfeited pursuant to any stipulation in the Contract, and the terms of Chapter 1, Part 7, Division 2 of the California Labor Code (commencing with Section 1720). But no sum shall be withheld, retained or forfeited, except from the final payment, without a full investigation by either the Division of Labor Standards Enforcement or by the District.

5. It is further expressly agreed by and between the parties hereto that should there be any conflict between the terms of this Agreement and the Bid Proposal of said Contractor, then this Agreement shall control, and nothing herein contained shall be considered as an acceptance of the said terms of said Proposal conflicting herewith.

6. The Contractor agrees to provide and maintain insurance coverage, and to indemnify and save harmless the parties named and in the manner set forth in Section 00800-2.0, **LIABILITY & INSURANCE**.

The duty of Contractor to indemnify and save harmless, as set forth herein, shall include a duty to defend as set forth in Section 2778 of the California Civil Code; provided, however, that nothing herein shall be construed to require Contractor to indemnify against any responsibility or liability in contravention of Section 2782 of the California Civil Code.

7. The Contractor shall diligently prosecute the Work so that it shall be substantially completed within the time specified in Section 00800-1.1, **Time Allowed for Completion**.

8. Except as otherwise may be provided in other provisions of the Contract Documents, Contractor hereby expressly guarantees for one (1) full year from the date of the Substantial Completion of the Work under this Agreement and acceptance thereof by the District, to repair or replace any part of the Work performed hereunder which constitutes a defect resulting from the use of inferior or defective materials, equipment or workmanship. If, within said period, any repairs or replacements in connection with the Work are, in the opinion of the District, rendered necessary as the result of the use of inferior or defective materials, equipment or workmanship, Contractor agrees, upon receipt of notice from District, and without expense to District, to promptly repair or replace such material or workmanship and/or correct any and all defects therein. If Contractor, after such notice, fails to proceed promptly to comply with the terms of this guarantee, District may perform the work necessary to effectuate such correction and recover the cost thereof from the Contractor and/or its sureties.

In special circumstances where a particular item of work or equipment is placed in continuous service before Substantial Completion of the Work, the correction period for that item may start to run from an earlier date. This date shall be agreed upon by the Contractor and District on or before the item is placed in continuous service.

Any and all other special guarantees which may be applicable to definite parts of the Work under this Agreement shall be considered as an additional guarantee and shall not reduce or limit the guarantee as provided by Contractor pursuant to this paragraph during the first year of the life of such guarantee.

9. The Contractor shall provide, on the execution of this Agreement, a good and sufficient corporate surety bond in the penal sum of one hundred percent (100%) of amount bid, which bond shall be on the form provided by the District in Section 00610, **BOND OF FAITHFUL PERFORMANCE**, and be conditioned upon the faithful performance of all work required to be performed by the Contractor under this Agreement. Said bond shall be liable for any and all penalties and obligations which may be incurred by Contractor under this Agreement. The corporate surety bond shall be issued by a corporate surety approved by the District's counsel. The corporate surety shall be authorized to conduct business in California. At its discretion, the District may request that a certified copy of the

certificate of authority of the insurer issued by the Insurance Commissioner of the State of California be submitted by the Surety to the District. At its discretion, the District may also require the insurer to provide copies of its most recent annual statement and quarterly statement filed with the Department of Insurance pursuant to Article 10 (commencing with Section 900) of Chapter 1 of Part 2 of Division 1 of the Insurance Code.

10. In addition to the bond required under Paragraph 9, hereof, Contractor shall furnish a good and sufficient corporate surety bond in the penal sum of one hundred percent (100%) of amount of Bid, which bond shall be on the form provided by the District in Section 00620, **PAYMENT BOND**, and conform strictly with the provisions of Chapter 7, Title 15, Part 4, Division 3, of the Civil Code of the State of California, and all amendments thereto. The corporate surety bond shall be issued by a corporate surety approved by the District's counsel. The corporate Surety shall be authorized to conduct business in California. At its discretion, the District may request that a certified copy of the certificate of authority of the insurer issued by the Insurance Commissioner of the State of California be submitted by the Surety to the District. At its discretion, the District may also require the insurer to provide copies of its most recent annual statement and quarterly statement filed with the Department of Insurance pursuant to Article 10 (commencing with Section 900) of Chapter 1 of Part 2 of Division 1 of the Insurance Code.

11. The Contractor may substitute securities for the amounts retained by the District to ensure performance of the work in accordance with the provisions of Section 22300 of the Public Contract Code.

12. Contractor covenants that Contractor is licensed in accordance with the provisions of the Contractors' License Law of California as provided in Section 00010, **NOTICE INVITING BIDS**.

13. The Contractor shall be provided the time period specified in Section 01340-2.0, **MATERIAL AND EQUIPMENT SUBSTITUTIONS**, for submission of data substantiating a request for a substitution of an "or equal" item.

14. As required by Section 6705 of the California Labor Code and in addition thereto, whenever work under the Contract involves the excavation of any trench or trenches five (5) feet or more in depth, the Contractor shall submit in advance of excavations, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards established by the Construction Safety Orders of the Division of Industrial Safety in Title 8, Subchapter 4, Article 6, California Code of Regulations, the plan shall be prepared by a registered civil or structural engineer employed by the Contractor, and all costs therefore shall be included in the price named in the Contract for completion of the Work as set forth in the Contract Documents. Nothing in this Section shall be deemed to allow the use of a shoring, sloping, or other protective system less effective than that required by the Construction Safety Orders. Nothing in this Section shall be construed to impose tort liability on the District, the Design Consultant, Construction Manager nor any of their agents, consultants, or employees. The District's review of the Contractor's excavation plan is only for general conformance to the California Construction Safety Orders.

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

15. In accordance with Section 7104 of the Public Contract Code, whenever any work involves digging trenches or other excavations that extend deeper than four (4) feet below the surface, the provisions of Section 00700-7.2, **Differing Site Conditions**, shall apply.

16. In accordance with Section 7103.5 of the Public Contract Code, the Contractor and subcontractors shall conform to the following requirements. In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or subcontractor offers and agrees to assign to the District all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act [Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code], arising from purchases of goods, materials or services pursuant to this Contract or the subcontract. Such assignment shall be made and become effective at the time the District tenders final payment to the Contractor, without further acknowledgment by the parties.

17. In accordance with Section 4552 of the Government Code, the Contractor shall conform to the following requirements. In submitting a Bid to the District, the Contractor offers and agrees that if the Bid is accepted, it will assign to the District all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act [Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code], arising from purchase of goods, materials, or services by the Contractor for sale to the District pursuant to the Bid. Such assignment shall be made and become effective at the time the Authority tenders final payment to the Contractor.

18. Pursuant to Public Contract Code Section 7100, the acceptance by the Contractor of an undisputed payment made under the terms of the Contract shall operate as, and shall be, a release to the District, and their duly authorized agents, from all claim of and/or liability to the Contractor arising by virtue of the contract related to those amounts. Disputed contract claims in stated amounts may be specifically excluded by the Contractor from the operation of the release.

19. In accordance with California Business and Professions Code Section 7030, the Contractor is required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four (4) years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within ten (10) years of the date of the alleged violation. Any questions concerning the Contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

20. Electronic Signatures. This Agreement may be executed in multiple counterparts, each of which shall, for all purposes, be deemed an original but which together shall constitute one and the same instrument, and the signature pages from any counterpart may be appended to any other counterpart to assemble fully executed documents, and counterparts of this Agreement may also be exchanged via email or other electronic means and any email or other electronic transmission of any party's signature shall be deemed to be an original signature for all purposes.

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the date first set forth above.

CONTRACTOR

By: _____

Title: _____

Dublin San Ramon Services District

By: _____

Jan R. Lee, General Manager

ATTEST:

Nicole Genzale, District Secretary

***** END OF SECTION *****

SECTION 00610

BOND OF FAITHFUL PERFORMANCE

KNOW ALL PERSONS BY THESE PRESENTS: that, WHEREAS, the Board of Directors of the Dublin San Ramon Services District, has awarded to:

hereinafter designated as the "Principal", a Contract for constructing

WWTP Electrical Improvements – Phase 1 (CIP 24-P044)

WHEREAS, said Principal is required under the terms of said Contract to furnish a bond for the faithful performance of said Contract:

NOW, THEREFORE, we, the Principal and _____, as Surety, are held and firmly bound unto the Dublin San Ramon Services District, California, in the penal sum of (\$ _____), lawful money of the United States, being not less than one hundred (100) percent of the Contract amount, 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 THIS OBLIGATION IS SUCH, that if the above bounded Principal, it or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and faithfully perform the covenants, conditions, and agreements said Contract and any alterations made as therein provided, on it or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Dublin San Ramon Services District, its officers and agents, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue.

As a condition precedent to the satisfactory completion of the said Contract, the above obligation in the amount of _____ Dollars, (\$ _____), being not less than one hundred (100) percent of the Contract amount, shall hold good for a period of one (1) year after the substantial completion and acceptance of the said work; and through the expiration of Warranty Period; and such additional time thereafter as may be specified in the contract documents. If the above bounded Principal, it or its heirs, executors, administrators, successors or assigns shall fail to make full, complete and satisfactory repair and replacements or totally protect the said Dublin San Ramon Services District from loss or damage made evident during said Warranty Period, and resulting from or caused by defective materials or faulty workmanship in the prosecution of the work done, the above obligation in said sum of _____ Dollars, (\$ _____), shall remain in full force and virtue otherwise the above obligation shall be void.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall any wise affect its obligations on this bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms

of the Contract, or to the work, or to the Specifications.

In the event the Dublin San Ramon Services District, or its successors or assigns, shall be the prevailing party in an action brought upon this bond, then in addition to the penal sum hereinabove specified, we agree to pay to said Dublin San Ramon Services District or its successors or assigns, a reasonable sum on account of attorney's fees in such action, which sum shall be fixed by the court.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under their seals this _____ day of _____ 20 __, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Title _____

Name _____

Signature _____

Principal

(SEAL)

By _____

Surety

(SEAL)

By _____

***** END OF SECTION *****

SECTION 00620

PAYMENT BOND

WHEREAS, the Dublin San Ramon Services District, State of California, and _____ (hereinafter designated as "Principal") have entered into an agreement whereby the Principal agrees to install and complete certain designated public improvements, which said agreements, dated _____, 20____, and identified as project _____, is hereby referred to and made a part hereof; and,

WHEREAS, under the terms of said agreement Principal is required before entering upon the performance of the work, to file a good and sufficient payment bond with the Dublin San Ramon Services District, to secure the claims to which reference is made in Title 15 (commencing with Section 3082) of Part 4 of Division 3 of the Civil Code of the State of California.

NOW, THEREFORE, said Principal and the undersigned, duly authorized to transact business under the laws of the State of California, as corporate surety, are held firmly bound unto District, and all contractors, subcontractors, laborers, materialmen and other persons employed in the performance of the aforesaid agreement and referred to in the aforesaid Civil Code of the State of California, in the sum of _____ Dollars (\$_____) for materials furnished or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, that said surety will pay the same in an amount not exceeding the amount hereinabove set forth, and also in case suit is brought upon this bond, will pay, in addition to the face amount thereof, costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by the District in successfully enforcing such obligation, to be awarded and fixed by the Court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Title 15 (commencing with section 3082) of Part 4 of Division 3 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

THE SURETY hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of said agreement or the specifications accompanying the same and stipulates and agrees that no such change, extension of time or alteration or addition shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration or addition.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and surety above named, on _____, 20____.

PRINCIPAL

SURETY

By_____

By_____

Name and Title

Name and Title

Address

City

Phone

NOTE: No substitution or revision to this bond form will be accepted. All bonds submitted must have a certified copy of the bonding agent's power of attorney attached. Also each Surety must be an "Admitted Surety" (i.e., qualified to do business in California), and proof of verification from the California Department of Insurance or a certificate from County Clerk must also be attached.

***** END OF SECTION *****

SECTION 00630

**ESCROW AGREEMENT FOR
SECURITY DEPOSITS IN LIEU OF RETENTION**

WWTP Electrical Improvements – Phase 1 (CIP 24-P044)

This Escrow Agreement is made and entered into by and between the Dublin San Ramon Services District, whose address is 7051 Dublin Boulevard, Dublin, California 94568; hereinafter called "Owner", and

whose address is _____

hereinafter called "Contractor", and _____

whose address is _____

hereinafter called "Escrow Agent."

For the consideration hereinafter set forth, the Owner, Contractor, and Escrow Agent agree as follows:

1. Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities which meet the requirements set forth in said Section 22300, with Escrow Agent, as a substitute for retention earnings required to be withheld by Owner pursuant to the Construction Contract entered into between Owner and Contractor for _____ in the amount of _____ dated _____ 20, ____ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the Owner shall make payments of the retention earnings directly to the Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the Owner within ten (10) days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between the Owner and Contractor. Securities shall be held in the name of Owner, and shall designate the Contractor as the beneficial Owner.

2. Owner shall make progress payments to Contractor for such funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.

3. When the Owner makes payment of retentions earned directly to the Escrow Agent the Escrow Agent shall hold them for the benefit of the Contractor until such time as the escrow created under this Contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the Owner pays the Escrow Agent directly.

4. Contractor shall be responsible for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses incurred by the Owner. The Owner will charge a one-time set-

up fee of **\$566** and a monthly fee of **\$49**. These expenses and payment terms shall be determined by the Owner, Contractor, and Escrow Agent.

5. The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the Owner.

6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from Owner to the Escrow Agent that Owner consents to the withdrawal of the amount sought to be withdrawn by Contractor.

7. The Owner shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven (7) days' written notice to the Escrow Agent from the Owner of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the Owner.

8. Upon receipt of written notification from the Owner certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.

9. Escrow Agent shall rely on the written notifications from the Owner and the Contractor pursuant to Sections (5) to (8), inclusive, of this Agreement, and Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

10. The names of the persons who are authorized to give written notice or to receive written notice on behalf of the Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On Behalf of Owner:

Title

Name

Signature

Address

Phone Number

On Behalf of Contractor:

Title

Name

Signature

Address

Phone Number

On Behalf of Escrow Agent:

Title

Name

Signature

Address

Phone Number

At the time the Escrow Account is opened, Owner and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement by their proper officers on the date first set forth above.

Owner: Contractor:

Title

Title

Name

Name

Signature

Signature

*****END OF SECTION*****

SECTION 00650

GENERAL LIABILITY ENDORSEMENT (Form A-1)

DUBLIN SAN RAMON SERVICES DISTRICT ("District")
7051 Dublin Boulevard
Dublin, CA 94568

WWTP Electrical Improvements – Phase 1 (CIP 24-P044)

A. POLICY INFORMATION.

1. Insurance Company _____ ;
Policy No. _____
2. Policy Term (From) _____ (To) _____ ;
Endorsement Effective Date _____
3. Named Insured _____
4. Address of Named Insured _____
5. Limit of Liability Any One Occurrence/Aggregate
\$ _____
6. Deductible or Self-Insured Retention (Nil unless otherwise specified):
\$ _____

B. POLICY AMENDMENTS.

This endorsement is issued in consideration of the policy premium. Notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any other endorsement attached thereto it is agreed as follows:

1. **INSURED.** The Dublin San Ramon Services District, the Design Consultant, the Construction Manager, the City of and Pleasanton and each of their officers, officials, partners, employees, agents and volunteers are included as additional insured with regard to damages and defense of claims arising from: (a) activities performed by or on behalf of the Named Insured, (b) products and completed operations of the Named Insured, or (c) premises owned, leased or used by the Named Insured. The coverage shall contain no special limitation on the scope of protection afforded the District, Design Consultant, Construction Manager, the City of Pleasanton and each of their officers, officials, partners, employees, agents or volunteers

for liability not arising out of the acts or omissions of the Named Insured.

2. CONTRIBUTION NOT REQUIRED. As respects: (a) work performed by the Named Insured for or on behalf of the Owner; or (b) products sold by the Named Insured to the Owner; or (c) premises leased by the Named Insured from the Owner, the insurance afforded by this policy shall be primary insurance with respect to the District, the Design Consultant, the Construction Manager, the City of Pleasanton and each of their officers, officials, partners, employees, agents and volunteers; or stand in an unbroken chain of coverage excess of the Named Insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the District, the Design Consultant and the Construction Manager, the City of Pleasanton and each of their officers, officials, partners, employees, agents and volunteers shall be excess of this insurance and shall not contribute with it.

3. SCOPE OF COVERAGE. The policy: (1) if primary, affords coverage at least as broad as Insurance Services Office (ISO) Form CG 0001 covering CGL on an "occurrence" basis; or (2) if excess, affords coverage which is at least as broad as the primary insurance forms referenced in the preceding section (1).

4. SEVERABILITY OF INTEREST. The insurance afforded by this policy applies separately to each insured who is seeking coverage or against whom a claim is made or a suit is brought, except with respect to the limits of the insurer's liability.

5. PROVISIONS REGARDING THE INSURED'S DUTIES AFTER ACCIDENT OR LOSS. Any failure to comply with reporting provisions of the policy shall not affect coverage provided to the District, the Design Consultant and the Construction Manager, the City of Pleasanton and each of their officers, officials, partners, employees, agents and volunteers.

6. CANCELLATION NOTICE. The insurance afforded by this policy shall not be suspended, voided, canceled, reduced in coverage or in limits except with notice to the District.

C. INCIDENT AND CLAIM REPORTING PROCEDURE.

Incidents and claims are to be reported to the insurer at:

Attn: _____
(Title) (Department)

(Company)

(Street Address)

(Agency) (State) (Zip Code)

(Telephone Number)

D. SIGNATURE OF INSURER OR AUTHORIZED REPRESENTATIVE OF THE INSURER.

I, _____ print/type name), warrant that I have authority to bind the below-listed insurance company and by my signature hereon do so bind this company. By signature below, the surety warrants that if requested by the District, it will furnish a certified copy of the certificate of authority issued by the Insurance Commissioner of the State of California.

Signature of: _____
Authorized Representative
(original signature required on endorsement furnished to the District)

ORGANIZATION: _____ TITLE: _____

ADDRESS: _____ TELEPHONE: _____

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SECTION 00651

AUTO LIABILITY ENDORSEMENT (Form B-1)

DUBLIN SAN RAMON SERVICES DISTRICT ("District")
7051 Dublin Boulevard
Dublin, CA 94568

WWTP Electrical Improvements – Phase 1 (CIP 24-P044)

A. POLICY INFORMATION.

1. Insurance Company _____ ;
Policy No. _____
2. Policy Term (From) _____ (To) _____ ;
Endorsement Effective Date _____
3. Named Insured _____
4. Address of Named Insured _____
5. Limit of Liability Any One Occurrence/Aggregate
\$ _____
6. Deductible or Self-Insured Retention (Nil unless otherwise specified):
\$ _____

B. POLICY AMENDMENTS.

This endorsement is issued in consideration of the policy premium. Notwithstanding any inconsistent statement in the policy to which this endorsement is attached or any other endorsement attached thereto it is agreed as follows:

1. **INSURED.** The Dublin San Ramon Services District, the Design Consultant, the Construction Manager, the City of Pleasanton, and each of their officers, officials, partners, employees, agents and volunteers are included as additional insured with regard to damages and defense of claims arising from ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Named Insured, regardless of whether liability is attributable to the Named Insured or a combination of the Named Insured and the Dublin San Ramon Services District, the Design Consultant and the Construction Manager, the City of Pleasanton and each of its officers, officials, partners, employees, agents

and volunteers.

2. CONTRIBUTION NOT REQUIRED. As respects work performed by the Named Insured for or on behalf of the Owner, the insurance afforded by this policy shall: (a) be primary insurance with respect to the Dublin San Ramon Services District, the Design Consultant and the Construction Manager, the City of Pleasanton, and each of their officers, officials, partners, employees, agents and volunteers; or (b) stand in an unbroken chain of coverage excess of the Named Insured's primary coverage. In either event, any other insurance maintained by the Dublin San Ramon Services District, the Design Consultant and the Construction Manager, the City of Pleasanton, and each of their officers, officials, partners, employees, agents and volunteers shall be excess of this insurance and shall not contribute with it.

3. SCOPE OF COVERAGE. The policy affords coverage to the Named Insured which is at least as broad as Insurance Services Office Form CA 0001 covering Code 1 (any auto).

4. SEVERABILITY OF INTEREST. The insurance afforded by this policy applies separately to each insured who is seeking coverage or against whom a claim is made or a suit is brought, except with respect to the limits of the insurer's liability.

5. PROVISIONS REGARDING THE INSURED'S DUTIES AFTER ACCIDENT OR LOSS. Any failure to comply with reporting provisions of the policy shall not affect coverage provided to the Dublin San Ramon Services District, the Design Consultant and the Construction Manager, the City of Pleasanton, and each of their officers, partners, employees, and agents.

6. CANCELLATION NOTICE. The insurance afforded by this policy shall not be suspended, voided, canceled, reduced in coverage or in limits except with notice to the District.

C. INCIDENT AND CLAIM REPORTING PROCEDURE.

Incidents and claims are to be reported to the insurer at:

Attn: _____
(Title) (Department)

(Company)

(Street Address)

(Agency) (State) (Zip Code)

(Telephone Number)

D. SIGNATURE OF INSURER OR AUTHORIZED REPRESENTATIVE OF THE INSURER.

I, _____ print/type name), warrant that I have authority to bind the below-listed insurance company and by my signature hereon do so bind this company. By signature below, the surety warrants that if requested by the District, it will furnish a certified copy of the certificate of authority issued by the Insurance Commissioner of the State of California.

Signature of: _____
Authorized Representative
(original signature required on endorsement furnished to the District)

ORGANIZATION: _____ TITLE: _____

ADDRESS: _____ TELEPHONE: _____

***** END OF SECTION *****

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SECTION 00700

GENERAL CONDITIONS

1.0 GENERAL

1.1 Contract Agreement

A bidder to whom award is made shall execute a written Contract Agreement and required supplementary documents and submit them to the Owner within ten (10) days after the Notice of Award has been mailed to the bidder at the address given in Section 00300, **BID FORM**. The Agreement shall be made in the form adopted by the Owner and incorporated in the Section 00500, **AGREEMENT**.

If the lowest responsive, responsible bidder to whom award is made fails to enter into the Agreement, as herein provided, the Bidder's Bond will become the property of the Owner, and an award may be made to the next lowest responsive, responsible bidder, and such bidder shall fulfill every stipulation embraced herein as if it were the party to whom the first award was made. A corporation, partnership, or joint venture to which an award is made will be required, before the Agreement is finally executed, to furnish evidence of its corporate existence and evidence that the officer signing the Agreement and bonds for the corporation is duly authorized to do so in the form of a Bid Proposal Certificate as included in Section 00300, **BID FORM**.

In the event the Contractor is a joint venture of two or more contractors, the grants, covenants, provisos and claims, rights, power, privileges and liabilities of the Contract shall be construed and held to be several as well as joint. Any notice, order, direct request or any communication required to be or that may be given by the Owner or the Construction Manager to the Contractor under this Contract, shall be well and sufficiently given to all persons being the Contractor if given to any one or more of such persons. Any notice, request or other communication given by any one of such persons to the Owner or the Construction Manager under this Contract shall be deemed to have been given by and shall bind all persons being the Contractor.

If any part of the work to be done under this Contract is subcontracted, the subcontract shall be in writing and shall provide that all work to be performed thereunder shall be performed in accordance with the terms of the Contract Documents. The subcontracting of any or all of the work to be done will in no way relieve the Contractor of any part of its responsibility under the Contract. Certified copies of subcontract agreements will be provided by the Contractor to the Owner upon request.

The Contractor shall not assign, transfer, convey, or otherwise dispose of the Contract in whole or in part, or its right, title, or interest therein, or its power to execute such Contract, to any other person, firm, or corporation without previous consent in writing of the Owner. Any proposed assignment, transfer, convey and or other disposition without such written consent of this owner will be void.

Equipment supplied under this Contract shall be furnished in accordance with a written agreement, and such agreement shall provide that any equipment supply shall be performed in accordance with the terms of the Contract Documents. Certified copies of agreements for equipment supply will be provided by the Contractor to the Owner upon request.

1.2 **Written Notice and Service Thereof**

Any notice to any party relative to any part of this Contract shall be in writing and considered delivered and the service thereof completed, when said notice is posted, by certified or registered mail, to said party at its last given address, or delivered in person to the said party or its authorized representative of the work. This includes notice of change of address.

1.3 **Rights of Action**

No right of action shall accrue upon or by reason of this Agreement to or for the use or benefit of anyone other than the parties to this Agreement. The parties to this Agreement are the Contractor and the Owner.

1.4 **Plans and Specifications**

The Contract Documents are complementary; what is called for by one is as binding as if called for by all. It is the intent of the Drawings and Specifications to describe a functionally complete and operable Project (and all parts thereof) to be constructed in accordance with the requirements of the Contract Documents. Any work, materials or equipment that may reasonably be inferred from the requirements of the Contract Documents or from prevailing custom or trade usage as being required to produce this intended result will be furnished and performed whether or not specifically called for. When words or phrases that have a well-known technical or construction industry or trade meaning are used to describe Work, materials or equipment, such words or phrases shall be interpreted in accordance with that meaning. The intent of the Drawings specifically includes the intent to depict construction that complies with all applicable laws, codes and standards. Subject to applicable law, including but not limited to California Public Contract Code Section 4100 et seq., and the terms of this Contract governing subcontracting, the Divisions and Sections of the Specifications and identifications of any Drawings shall not control Contractor in dividing the Work among subcontractors or suppliers or delineating the work to be performed by any specific trade.

Reasonably implied parts of the Work shall be performed as “incidental work” even though absent from the Drawings and Specifications. “Incidental” work shall be performed by Contractor without extra cost to Owner. Incidental work includes any work not shown on Drawings nor described in Specifications, but which is necessary or normally or customarily required as a part of the Work shown on the Drawings or described in the Specifications, or is necessary or required to make each installation satisfactory, legally operable, functional, consistent with the intent of the Drawings and Specifications or the requirements of the Contract Documents. Incidental work shall be treated as if fully described in Specifications and shown on Drawings, and expense thereof shall be included in price bid. Incidental work includes, but is not limited to, tasks required to be performed under Division 1 **GENERAL REQUIREMENTS** of Specifications.

The Contractor may obtain from the Owner, free of charge, ten (10) copies of the conformed Plans (half-size) and Specifications. The Contractor may also obtain from the Owner, free of charge, five (5) sets of full-size prints of the Plans and Specifications. Both the Plans and Specifications will be conformed by incorporating all addenda, which may have been issued during the bid period to the original bid documents. The Owner will endeavor to provide those conformed “Issued for Construction” documents no later than the date of the Notice to Proceed. The conformed “Issued for Construction” documents will be produced for the convenience and efficiency of all parties involved

with construction. In the event of a discrepancy or failure to include a specific item of any addendum, the addendum as issued during the bid period shall take precedence over the conformed documents. Additional sets of the plans and specifications may be procured at the cost of printing and binding. The Owner will also provide one electronic copy of the conformed plans and specifications upon receipt of an executed release from the Contractor. The Owner will furnish the release form at the Contractor's request.

The Contractor shall keep on the Project site a copy of the Specifications and Drawings and shall at all times give the Construction Manager access thereto. Any Drawings included in the Specifications shall be regarded as part thereof and of the Contract. Anything mentioned in these Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in these Specifications, shall be of like effect as though shown or mentioned in both. The Construction Manager will furnish from time to time such drawings, plans, profiles, and information, as it may consider appropriate for the Contractor's guidance. Unless otherwise provided in the Contract Documents, it shall be the duty of the Contractor to see that all provisions are complied with in detail irrespective of the inspections of the Work during its progress by the authorized official or its representatives. Any failure on the part of the Contractor to observe the Contract Documents will be sufficient cause for the rejection of the Work at any time before its acceptance.

Wherever reference specifications are referred to in these Specifications without designation of year, the reference is to the current or revised specification effective at the time of the Owner receiving bids, unless otherwise referenced in Section 01060, **REGULATORY REQUIREMENTS AND PERMITS**.

1.5 Applicability of all Paragraphs of Specifications

The technical specifications are presented in paragraphs for convenience. However, this presentation does not necessarily delineate trades or limits of responsibility. All paragraphs of the Specifications and Plans are interdependent and applicable to the Project as a whole.

The Specifications and all notes on the Drawings are directed to the Contractor and all work shall be performed by the Contractor even though phrases such as "the Contractor shall" or "shall be done by the Contractor" are omitted. Where terms such as "approved," "acceptable," "favorably reviewed," "review," "selected," "directed," "equivalent," "equal," or "satisfactory" are used, it shall mean by or to the Construction Manager and/or Design Consultant.

1.6 Contract Interpretation by the Construction Manager

Notwithstanding any omission from these Specification or the Drawings it shall be the duty of the Contractor to call the Construction Manager's attention to apparent errors or omissions and request instructions before proceeding with the work. The Construction Manager may, by appropriate instructions correct errors and supply omitted information, which instructions shall be as binding upon the Contractor as though contained in the original Specifications or Drawings.

Any discrepancies found between the Contract Documents and Project site conditions or any inconsistencies or ambiguities in the Contract Documents shall be immediately reported, in writing, to the Construction Manager. Questions regarding the meaning and intent of the Contract Documents shall be referred in writing by the Contractor to the Construction Manager with a Request for Information. The Construction Manager shall respond to the Contractor in writing with a decision

within fifteen (15) days of receipt of the request, or if it is necessary to extend this period, the Construction Manager shall notify the Contractor in writing as to when a decision will be provided.

Work done by the Contractor after its discovery of such discrepancies, inconsistencies or ambiguities without such notice and prior to response from the Construction Manager shall be done at the Contractor's risk.

1.7 **Order of Precedence**

In resolving inconsistencies among two or more sections of the Contract Documents, precedence shall be given in the following order:

1. Addenda, Supplemental Agreements and Change Orders, the one dated later having precedence over another dated earlier.
2. Agreement (Section 00500)
3. Permits
4. General Requirements (Sections 01000-01999)
5. Supplementary General Conditions (Section 00800)
6. General Conditions (Section 00700)
7. Instructions to Bidders (Section 00100)
8. Project Plans
9. Technical Specifications (Section 02000 and all others following)
10. Typical Details
11. Reference/Standard Specifications
12. Reference/Standard Plans

Figure dimensions on Drawings shall govern over scaled dimensions, and detailed Drawings shall govern over general or standard Drawings.

1.8 **Bonds**

The successful bidder shall, at the time of signing the Contract, furnish surety bonds executed by a surety admitted to conduct business in California using the bond forms included in the bid package.

The payment bond shall be in amount equal to one hundred percent (100%) of the Contract Amount and shall be for payment of just claims for materials, equipment, labor and subcontractors employed by the Contractor thereon.

The faithful performance bond shall be in an amount equal to one hundred percent (100%) of the Contract Amount and shall be for the faithful performance of the Contract, and for the fulfillment of such other requirements as may be provided by Law. The performance bond shall remain in effect to guarantee the repair and replacement of defective equipment, materials, and workmanship, and payment of damages sustained by the Owner on account of such defects, discovered within one (1) year after final acceptance by the Owner, for the work performed under the Contract, which shall remain in effect for a period of one (1) year, to guarantee the repair and replacement, and payments for damages.

Attorneys-in-fact, who sign bid bonds or contract bonds, must file with each bond a notarized and effectively dated copy of their power of attorney as required on bond forms supplied by the Owner for Contractor use in Section 00610, **FAITHFUL PERFORMANCE BOND** and 00620, **PAYMENT BOND**.

The surety company shall familiarize itself with all of the conditions and provisions of this Contract, and it waives the right of special notification of any change or modification of this Contract or of extension of time, or of decreased or increased work, or of the cancellation of the Contract, or of any other act or acts by the Owner or its authorized agents under the terms of this Contract; and failure to so notify the aforesaid surety companies of changes shall not relieve the surety companies of their obligations under this Contract.

1.9 **Penalty for Collusion**

If, at any time, it is found that the person, firm, or corporation to whom the Contract has been awarded has, in presenting any bid or bids, colluded with any other party or parties, then the Contract shall be null and void, and the Contractor and its sureties shall be liable for loss or damage which the Owner may suffer thereby, and the Owner may advertise for new bids.

1.10 **Rights and Remedies**

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to, and not a limitation of, any duties, obligations, rights, and remedies otherwise imposed or available by law.

No action or failure to act by the Owner, the Design Consultant, or the Construction Manager shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

2.0 **CONTRACT ADMINISTRATION**

2.1 **Administration of the Contract**

The Owner's Representative, the Construction Manager, and the Design Consultant will provide administration of the Contract as hereinafter described. These parties are designated in Section 00800-1.4, **Contract Administration**. If the status of any of the above parties should change, the Owner will provide written notice to the Contractor of such change.

In case of the termination of the employment of the Design Consultant or the Construction Manager, the Owner shall appoint a Design Consultant or a Construction Manager whose status under the Contract Documents shall be that of the former Design Consultant or Construction Manager, respectively.

2.2 Owner's Representative

2.2.1 General - The Owner's Representative has the authority to act on behalf of the Owner on change orders, field orders, progress payments, Contract decisions, acceptability of the Contractor's work, and early possession.

2.2.2 Change Orders/Field Orders - The Owner's Representative has the authority to accept or reject change orders, field orders and cost proposals submitted by the Contractor or as recommended by the Construction Manager.

2.2.3 Progress Payments - The Owner's Representative has the authority to accept or reject requests for progress payments, which have been submitted by the Contractor and recommended by the Construction Manager.

2.2.4 Contract Decisions - Should the Contractor disagree with the Construction Manager's decision with respect to the Contract, the Contractor may appeal to the Owner's Representative in accordance with the provisions of the Contract.

2.2.5 Acceptability of Work - The Owner's Representative has the authority to make the final determination of the acceptability of the Work. The Owner's Representative also has the authority to accept or reject the Design Consultant's recommendations regarding retention of defective work as provided.

2.3 Construction Manager

2.3.1 General - The Construction Manager is a representative of the Owner employed to act as advisor and consultant to the Owner in construction matters related to the Contract. The term Construction Manager may include more than one individual to perform contract administration and construction observation. Hereinafter, the term Construction Manager includes any and all representatives working under the direction of the Construction Manager.

All instructions to the Contractor and all communications from the Contractor to the Owner or the Design Consultant shall be forwarded through the Construction Manager. The Construction Manager will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents. The Owner has delegated its authority to the Construction Manager to make initial decisions regarding questions, which may arise as to the quality or acceptability of materials furnished and work performed, and as to the manner of performance and rate of progress of the work under the Contract. The Construction Manager shall interpret the intent and meaning of the Contract and shall make initial decisions with respect to the Contractor's fulfillment of the Contract and the Contractor's entitlement to compensation. The Contractor shall look initially to the Construction Manager in matters relating to the Contract.

The Construction Manager's authority to act under Paragraph 00700-2.1, **Administration of the Contract**, and any decision made by it in good faith either to exercise or not to exercise such authority, shall not be interpreted or construed as control or responsibility of any of the work performed under this Contract.

2.3.2 **Owner Representative** - The Construction Manager will observe the progress, quality, and quantity of the Work to determine, in general, if the Work is proceeding in accordance with the provisions of the Contract Documents. The Construction Manager shall not be responsible for construction means, methods, appliances techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work.

In accordance with the provisions detailed elsewhere in these General Conditions, the Construction Manager will make decisions relative to all matters of interpretation or execution of the Contract Documents.

2.3.3 **Observation and Inspections of Construction** - The Construction Manager shall observe the construction and shall have the authority to reject work and materials, which do not conform to the Contract Documents, and to require special inspection or testing.

Observation and inspection by an inspector is not an authorization to revoke, alter, or waive any requirements of the Specifications. Observation and inspection is the authorization to call the attention of the Contractor to any failure of the Work, materials or workmanship to conform to the Contract Documents. The inspector shall have this authority including the ability to reject materials or, in any emergency, suspend the Work. The Contractor may appeal any such issue, which it disagrees with to the Construction Manager for decision. If the decision of the Construction Manager is not satisfactory to the Contractor, the Contractor may appeal such decision to the Owner's Representative.

2.3.4 **Acceptability of the Work** - The Construction Manager has the authority to make a recommendation as to the acceptability of the Work.

2.3.5 **Change Orders** - The Construction Manager has the authority to initiate change orders; to reject change orders proposed by the Contractor or Design Consultant; to negotiate and recommend acceptance of change orders; or to order minor changes in the Work at no cost to the Owner.

2.3.6 **Construction Schedule** - The Construction Manager has the authority to review and recommend acceptance of the progress schedule submitted by the Contractor at the start of the Work and subsequent significant revisions for conformance to the specified sequence of work and logic.

2.3.7 **Progress Payments** - The Construction Manager has the authority to recommend acceptance or rejection of requests for progress payments, which have been submitted by the Contractor.

2.3.8 **Final Payment** - The Construction Manager, with the assistance of the Design Consultant, will conduct inspections to determine the dates of substantial completion of the Work and final completion of the Work, and will receive and forward to the Owner, for the Owner's review, written warranties, and related documents required by the Contract and assembled by the Contractor.

2.4 Design Consultant

2.4.1 General - The Design Consultant will have the authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

2.4.2 Interpretations - The Design Consultant has the authority to be the initial interpreter of the technical requirements of the Contract Documents. Either party to the Contract may make written request to the Construction Manager for interpretations necessary for the proper execution or progress of the Work. The Construction Manager shall refer such written requests to the Design Consultant, who will render such interpretations. Where the Contractor has requested an interpretation from the Construction Manager, or been notified by the Construction Manager that such interpretation has been requested by the Owner, any work done before receipt of such interpretations, if not in accordance with same, shall be removed and replaced or adjusted as directed by the Construction Manager without additional expense to Owner. Written request shall be handled in accordance with Section 01345, **REQUESTS FOR INFORMATION AND CLARIFICATIONS**.

2.4.3 Acceptability of the Work - The Design Consultant has the authority to make a recommendation as to the acceptability of the Work. The Design Consultant has the authority to recommend acceptance regarding the retention of defective work.

2.4.4 Submittal - The Design Consultant shall receive, through the Construction Manager, shop drawings, product data and samples for review in accordance with Section 01340, **SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**.

The Design Consultant has the authority to review and take other appropriate action upon the Contractor's submittal such as shop drawings, product data and samples, but only for conformance with the design concept of the Work and the information given in the Contract Documents.

3.0 **OWNER**

3.1 General

The Owner, acting through the Owner's Representative or the Construction Manager, shall have the authority to act as the sole judge of the Work and materials with respect to both quantity and quality as set forth in the Contract.

3.2 Attention to Work

The Owner's Construction Manager's and Design Consultant's representatives are designated in Section 00800-1.4, **Contract Administration**. The Construction Manager's designated representative will normally be available at the Project site of the Work. An alternate representative will be designated when the designated Construction Manager's representative is not available at the Project site of the Work. The Design Consultant may assign a representative to be available at the Project Site of the Work.

3.3 **Observation and Inspection**

In addition to the Construction Manager's designated representative, the Owner may provide one or more inspectors to the Construction Manager to observe the work and with the same authority as provided for in Section 00700-2.3.3, Observation and Inspections of Construction.

Separate and independent from the observations and inspections above, the project may be inspected by Building Officials or Fire Officials for code compliance. Such inspectors shall have the authority provided to them by local jurisdiction.

3.4 **Owner's Right to Use or Occupy**

The Owner reserves the right, prior to Substantial Completion, to occupy, or use, any completed part or parts of the Work, providing these areas have been approved for occupancy by the Owner. Subject to applicable laws, the exercise of this right shall in no way constitute an acceptance of such parts, or any part of the Work, nor shall it in anyway affect the dates and times when progress payments shall become due from the Owner to the Contractor or in any way prejudice the Owner's rights in the Contract, or any bonds guaranteeing the same. The Contract shall be deemed completed only when all the Work contracted has been duly and properly performed and accepted by the Owner.

Prior to such occupancy or use, the Owner and Contractor shall agree in writing regarding the responsibilities assigned to each of them for payments, security, maintenance, heat, utilities, damage to the Work, insurance, the period for correction of the Work, and the commencement of warranties required by the Contract Documents.

In exercising the right to occupy or use completed parts of the Work prior to the Substantial Completion thereof, the Owner shall not make any use which will materially increase the cost to the Contractor, without increasing the Contract Amount, nor materially delay the completion of the Contract, without extending the time for completion.

The part or parts of the Work, if any, which the Owner anticipates the use or occupancy of prior to Substantial Completion are noted in Section 01010-3.0, **EARLY OCCUPANCY OF PORTIONS OF WORK**. Failure to include a part of the Work in the above referenced section, shall not limit the Owner's right to use or occupy parts of the Work not listed.

3.5 **Owner's Right to Carry Out the Work**

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of the Contract, and fails within five (5) days after receipt of written notice from the Owner to commence and continue correction of such neglect or deficiency with diligence and promptness, the Owner may, and without prejudice to any other remedy, make good such default, neglect or failure.

The Owner also reserves the right to perform any portion of the work due to an emergency threatening the safety of the Work, public, Owner, and any property or equipment.

In either case, a Change Order shall be issued unilaterally deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies and/or for performing such

work, including compensation for the Design Consultant's, the Construction Manager's, and Owner's additional services made necessary by such default, neglect, failure or emergency.

3.6 Owner's Right to Perform Work and to Award Separate Contracts

The Owner reserves the right to perform work related to the Project with the Owner's own forces, and to award separate contracts in connection with the Project or other work on the Project site. If the Contractor claims that delay, damage, or additional cost is involved because of such action by the Owner, the Contractor shall make such claim as provided elsewhere in the Contract Documents.

When separate contracts are awarded for different portions of the Project or other work on the Project site, the term "Contractor" in the Contract Documents in each case shall mean the contractor who executes each separate Agreement.

The Owner will provide for the coordination of the work of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate therewith as provided in Section 00700-4.10, **Cooperation with Other Contractors**.

3.7 Responsibility of the Owner

The Owner shall not be held responsible for the care or protection of any material or parts of the work prior to the final acceptance, except as expressly provided in these Specifications.

4.0 CONTRACTOR

4.1 Status of Contractor and Subcontractors

4.1.1 It is stipulated and agreed that the Contractor shall be an independent contractor in the performance of this Contract and shall have complete charge of persons engaged in performance of the Work. The Contractor shall perform the Work in accordance with its own means, methods, and appliances subject to compliance with the requirements of the Contract.

4.1.2 Subcontractors will not have or be recognized as having a direct relationship with the Owner. The persons engaged in the work, including employees of subcontractors and suppliers, will be considered employees of the Contractor and their work shall be subject to the provisions of the Contract. References in the Contract Documents to actions required of subcontractors, manufacturers, suppliers, or any person other than the Contractor, the Owner or the Construction Manager shall be interpreted as requiring that the Contractor shall require such subcontractor, manufacturer, supplier or person to perform the specified action.

The Contractor shall not employ any subcontractors that are not properly licensed in accordance with State law. Prior to commencement of any work by a subcontractor, the Contractor shall submit verification to the Construction Manager that the subcontractor is properly licensed for the work it will perform.

Contractor shall be fully responsible to Owner for the performance, acts and omissions of its subcontractors, and of persons directly or indirectly employed by them. Each subcontract shall expressly incorporate by reference the terms of this Agreement, including the following provisions:

- Each subcontractor shall carry insurance as required by this Agreement, and provide evidence of such insurance, as provided in Section 00800-2.0, Indemnity & Insurance.
- Each subcontractor shall be obligated to defend, indemnify, and hold the Owner harmless from all claims arising from the subcontractor's portion of the Work in the same manner as Contractor.
- Each subcontractor shall grant Owner a license to use its drawings and design materials as provided in the Agreement.
- Each subcontract shall acknowledge the Owner's right to suspend or terminate the Agreement, and waive any right to anticipate profits in the event of such termination.

The removal and/or substitution of any subcontractor listed in Section 00430, **DESIGNATION OF SUBCONTRACTORS**, shall be made by the Contractor and Owner as provided for in Public Contract Code Section 4100 et. seq.

4.2 **Contractor's Representative**

The Contractor shall designate in writing, before starting work, an authorized representative who shall have complete authority to represent and to act for the Contractor. Said authorized representative, or designated alternate, who has the authority to act in matters relating to the Contract, shall be personally present at the Project site at all times while work is actually in progress on the Contract. During periods when the Work is suspended, arrangements acceptable to the Construction Manager shall be made for any emergency work that may be required. The Contractor's authorized representative, or designated alternate(s), shall be fluent and proficient in the English language in order to understand, receive, and carry out oral and written communications or instructions relating to all job functions and responsibilities.

When the Contractor consists of two or more persons, firms, partnerships, or corporations functioning on a joint venture basis, said Contractor shall designate in writing to the Construction Manager, the name of their authorized representative who shall have supreme authority to direct the work and to whom orders will be given by the Construction Manager, to be received and obeyed by the Contractor.

Information shall include the representative's name, street address, town, and telephone number, cell phone number and the mailing address if different from the street address.

The Contractor's authorized representative shall give its personal attention to and shall supervise the Work to the end that it shall at all reasonable times be prosecuted faithfully; and when the authorized representative or designated alternate is not personally present on the Work, the representative shall at all reasonable times be represented by a competent superintendent or foreman who shall receive and obey all instructions or orders given under this Contract, and who shall have full authority to supply materials, tools, and labor without delay, and who shall be the legally appointed representative of the Contractor. The Contractor shall be liable for the faithful observation of any instructions delivered to the Contractor or to its authorized representative.

4.3 **Use and Protection of Owner's Site and Adjacent Property**

4.3.1 With the approval of the Construction Manager, the Contractor may use portions of the Owner's site for storage of construction equipment, materials and field offices. The Owner will not accept any responsibility for damage to or loss of the Contractor's equipment or materials stored on any Project related site caused by vandalism, nature, or otherwise, suffered by the Contractor. Protection of all construction equipment, stores, and supplies shall be the sole responsibility of the Contractor. Where additional workspace is desired by the Contractor or where the Owner cannot provide the space to the Contractor, it shall be the Contractor's sole responsibility and expense to obtain such a space for its use.

4.3.2 All workers or representatives of the Contractor, subcontractors or suppliers are admitted to the Site only for the proper execution of the Work in accordance with the Contract Documents. Furthermore, no persons may occupy property owned by the Owner outside the limit of the Work, as indicated on the drawings, without the express written permission of the Owner.

4.3.3 The Contractor shall enforce any instructions from the Owner or Construction Manager regarding combustible materials, placement of signs, danger signals, barricades, radios, noise, dust, and smoking. Upon completion of the Work, the Contractor shall remove all temporary barricades, signs and related materials.

4.3.4 The Contractor shall determine safe loading capacities and shall not overload any structure, building, pipe or other existing facility beyond its safe capacity during construction. In addition to any requirements imposed by law, the Contractor shall shore up, brace, underpin and protect as may be necessary all foundations and other parts of all existing structures, facilities and improvements on the Site or adjacent to the Site which are in any way affected by the Contractor's excavations or other operations connected with the Work. Prior to commencing any work which in any way affects adjoining or adjacent land or buildings thereon, or public utilities, the Contractor shall notify the Construction Manager to discuss responsibilities for properly notifying the owners/occupants of adjacent land and the protective measures taken by the Contractor. Upon request of the Construction Manager, the Contractor shall meet with the recipient of any notice or attend local public meetings as proper public outreach on local impacts caused by completion of the Work.

4.3.5 The Contractor shall take all necessary precautions to protect existing facilities against the effects of all weather and environmental elements and Contractor shall be strictly liable for failure to protect any facility.

4.3.6 All existing improvements and facilities shall be protected from any damage resulting from the operations, equipment or workers of the Contractor during the entire Contract Time.

4.3.7 The Contractor shall take all steps necessary to protect all structures, buildings, land and other facilities from fires and sparks originating from the Work. The Contractor shall comply with all laws and regulations regarding fire protection and shall comply with all instructions given by the fire department with jurisdiction.

4.3.8 Any damage to existing conditions, or to any other improvement or property above or below the ground surface, whether public or private, arising from the Contractor's operations or performance of the Work shall be repaired within forty-eight (48) hours by the Contractor without

expense to the Owner, unless disruption of the Owner's operations or creation of a safety hazard has occurred, in which case damage will be repaired immediately. The forty-eight (48) hour non-emergency repair response time may be extended only if agreed to in writing by the Owner and/or private property owner. Any delays to the project completion times caused by such repairs shall be considered non-compensable and no further extension of the Contract Time will be granted therefor. Should the Contractor fail to timely repair damage caused by its operations or performance in accordance with this section, the Owner may take steps to protect property and life, in its sole discretion, and deduct entire cost of such work from amounts due or that may become due the Contractor. No prior notice to the Contractor shall be necessary for the Owner to take such action.

4.4 **Fees and Permits**

The requirements for fees and permits are specified in Section 01060-2.0, **FEES AND PERMITS**.

4.5 **Compliance with Laws**

The Owner is a public agency in the State of California and is subject to the provisions of law relating to public contracts. It is agreed that all provisions of law applicable to public contracts are a part of these Contract Documents to the same extent as though set forth herein and will be complied with by Contractor.

The Contractor, shall at its own cost and expense, observe and keep itself and its subcontractors fully informed of all existing and future legislated State and Federal Laws and City and County ordinances and regulations which in any manner affect those engaged or employed in the Work, or the materials and equipment used in the Work, or which in any way affect the conduct of the Work, and all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. If any discrepancy or inconsistency is discovered in the Drawings, Specifications, or in any other part of this Contract, in relation to any such law, ordinance, regulation, order or decree, the Contractor shall immediately report the same to the Construction Manager in writing. The Contractor shall at all times observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees; and shall protect, indemnify, defend and hold harmless the Owner, the Construction Manager, the Cities of Dublin, San Ramon and Pleasanton, the Design Consultant, and all of their officers, officials, partners, employees, agents, volunteers, and servants against any claim or liability arising from or based upon the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor itself, its employees, subcontractors, suppliers or others acting on the Contractor's behalf.

The following regulations and requirements that are included in the Contract Documents do not relieve the Contractor of the burden of ascertaining legal requirements that must be satisfied in accordance with this section and applicable law.

4.5.1 **Eight Hour Day Limitation** – In accordance with the provisions of Division 2, Part 7, Chapter 1, Article 3 of the Labor Code, State of California, and in particular Sections 1810 to 1815 inclusive, thereof, eight (8) hours labor shall constitute a days' work and no laborer, worker, or mechanic in the employ of said Contractor, or any subcontractor doing or contracting to do any part of the Work contemplated by this Contract, shall be required or permitted to work more than eight (8) hours in any one calendar day, and forty (40) hours in any one calendar week unless compensated at not less than time and a half as set forth in California Labor Code Section 1815. However, if the prevailing wage

determination requires a higher rate of pay for overtime than is required under said Section 1815, then the overtime rate must be paid, as specified in California Code of Regulation Title 8, Group 3, Section 16200(a)(3)(F). The Contractor and each subcontractor shall also keep an accurate record showing the names and actual hours worked of all workers employed by them in connection with the work contemplated by this Contract, which record shall be open at all reasonable hours for the inspection of the Owner or its officers or agents and by the Division of Labor Standards Enforcement of the Department of Industrial Relations, their deputies or agents; and it is hereby further agreed that said Contractor shall forfeit as a penalty to the Owner, the sum of Twenty-five Dollars (\$25.00) for each laborer, worker or mechanic employed in the execution of this Contract by the Contractor or by any subcontractor for each calendar day during which such laborer, worker or mechanic is required or permitted to labor more than eight (8) hours in any one calendar day and forty (40) hours in one calendar week in violation of these provisions.

4.5.2 Apprentices – Authority shall, within five (5) days of the Award of Contract, send a copy of the Award to the Division of Apprenticeship Standards. Authority shall within five (5) days of a finding of any discrepancy regarding the ratio of apprentices to journeymen pursuant to the certificated fixed number of apprentices to journeyman, notify the Division of Apprenticeship Standards.

In accordance with the provision of California Labor Code Section 1777.7, if Contractor willfully fails to comply with the provisions of Section 1777.5 of said Code, Contractor shall be denied the right to bid on any public works Contract for a period of up to one (1) year for the first violation and up to three (3) years for each subsequent violation from the date the determination of non-compliance is made by the Administrator of Apprenticeship; and forfeit as a civil penalty the sum of fifty dollars (\$50.00) for each calendar day of non-compliance. Notwithstanding the provisions of Section 1727 of the California Labor Code, upon receipt of a determination that a civil penalty has been imposed, Authority shall withhold from Contract progress payments then due or to become due the amount of such penalty. Any funds withheld by Authority pursuant to Section 1777.7 shall be deposited in the general funds of Authority.

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

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

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

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

"A contractor shall not discriminate in the employment of persons upon public works on any basis listed in subdivision (a) of Section 12940 of the Government Code, as those bases are defined in Sections 12926 and 12926.1 of the Government Code, except as otherwise provided in Section 12940 of the Government Code. Every contractor for public works who violates this section is subject to all the penalties imposed for a violation of this chapter."

4.5.5 Workers' Compensation Insurance – Attention is directed to the provisions of Section 00800-2.1.2, Workers' Compensation Insurance, and the requirements of California Labor Code Section 3700.

4.5.6 Certified Electricians – Workers performing work for an electrical contractor installing, constructing, or maintaining any electrical system covered by the National Electrical Code shall be certified as a General Electrician per California Labor Code Section 3099.

4.5.7 Lateral and Subjacent Supports – Attention is directed to Section 832 of the Civil Code of the State of California relating to lateral and subjacent supports, and wherever structures or improvements adjacent to the excavation may be damaged by such excavation, the Contractor shall comply with this law. As provided in Labor Code Section 6707, a separate bid item is provided for costs of shoring and bracing of excavations five (5) feet or more in depth.

4.5.8 Safety Standards – The Contractor shall comply with all applicable provisions of the Safety and Health Regulations of Construction, promulgated by the Secretary of Labor under Section 107 of the Contract Work Hours and Safety Standards Act (40 USC 327 et. seq.) as set forth in Title 29, C.F.R., CAL/OSHA, and the regulations issued thereunder. Compliance shall be the Contractor's sole responsibility, and neither the Owner, the Construction Manager nor the Design Consultant shall have any liability for non-compliance. See Section 00700-4.7, Safety, for additional safety requirements.

4.5.9 Asbestos Related Work – All work involving asbestos containing material must be performed in accordance with California Labor Code, Sections 6501.5 through 6510, inclusive, and California Administrative Code, Title 8, Section 5208 and all other pertinent laws, rules, regulations, codes, ordinances, decrees and orders.

4.5.10 Public Records Act – Except as otherwise provided herein, all records, documents, drawings, plans, specifications, and all other information relating to the conduct of Owner's business, including information submitted by the Contractor ("Records"), shall become the exclusive property of Owner and shall be deemed public records. Said Records are subject to the provisions of the California Public Records Act (Government Code § 6250 et. seq.). The Owner's use and disclosure of its records are governed by this Act. The Owner will use its best efforts to inform the Contractor of any request for any financial records or documents marked "Trade Secret", "Confidential" or "Proprietary" provided by the Contractor to Owner.

Contractor, at its sole expense and risk, shall be fully responsible for any and all fees for prosecuting or defending any action brought or instituted by Contractor opposing disclosure of Record and shall indemnify and hold Owner harmless from all costs and expenses including attorney's fees and costs of litigation in connection with any such action.

Owner will have no liability to Contractor or Contractor's privity concerning disclosure of records in accordance with the California Public Records Act or other applicable law or in accordance with the direction of any competent authority, and Contractor, on behalf of itself, and its privities waives, releases and fully discharges such liability.

4.5.11 Audit and Examination of Records – The Owner may examine and audit at its own cost and expense all books, estimates, records, contracts, documents, bid documents, bid cost data, subcontract job cost reports and other Work related data of the Contractor, subcontractors engaged in performance of the Work, and suppliers providing supplies, equipment and other materials required for the Work, including computations and projections related to bidding, negotiating, pricing or performing the Work or Contract modifications and other materials concerning the Work, including, but not limited to, Contractor daily logs, in order to evaluate the accuracy, completeness, and currency of cost, pricing, scheduling and any other Work related data. The Contractor will make available all such Work related data at all reasonable times for examination, audit, or reproduction at the Contractor's business office at or near the Work site, and at any other location where such Work related data may be kept until three years after final payment under the Contract. Pursuant to California Government Code Section 8546.7, if the amount of public funds to be expended is in excess of \$10,000, this Contract will be subject to the examination and audit of the State Auditor, at the request of the Owner, or as part of any audit of the Owner, for a period of three (3) years after final payment under the Contract.

USE FOR ALL PROJECTS NOT USING PROPOSITION 84 OR FEDERAL FUNDS:

4.5.12 Labor Compliance Monitoring and Enforcement. This project is subject to labor compliance monitoring and enforcement by the California Department of Industrial Relations.

The Contractor and each subcontractor shall keep or cause to be kept an accurate record showing the names and occupants of all laborers, workers and mechanics employed by it in connection with the execution of this Agreement or any subcontract thereunder, and showing also the actual per diem wage paid to each of such workers. Contractor must provide certified payroll records to the District or District's Representative on a weekly basis. Each payroll record shall be on forms provided by the Division of Labor Standards Enforcement or may consist of printouts of payroll data that are maintained as computer records, if the printouts contain the same information as the forms provided by the division and the printouts are certified or verified as described below.

The District or District Representative will request detailed information from the Contractor and each subcontractor reflecting the required Department of Industrial Relations Classification, Craft, Base/Straight Rate, OT Rate, and Benefit Breakdown and other pertinent information to be determined by the District, in addition to the breakdown of the same information to be paid by the Contractor and each subcontractor.

The General Contractor shall be responsible for the submittal of payroll records of all its subcontractors. The payroll records shall be certified or verified by a written declaration that it is made under penalty of perjury, stating both of the following:

- (1) The information contained in the payroll record is true and correct.
- (2) The employer has complied with the requirements of Sections 1722.1, 1725.5, 1771, 1811, and 1815 of the Labor Code for any work performed by his or her employees on the

public works project.

Payroll records shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:

- A. A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or its authorized representative on request.
- B. A certified copy of all payroll records shall be made available for inspection or furnished upon request to a representative of the District, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.
- C. A certified copy of all payroll records shall be made available upon request by the public in accordance with Section 1776 of the Labor Code.

In addition to the submissions described above, if the Labor Commissioner directs the contractors or subcontractors on the project to furnish records directly to it, each Contractor and subcontractor shall furnish the records specified in Labor Code Section 1776 each month directly to the Labor Commissioner, in the format prescribed by the Labor Commissioner.

The Contractor is responsible for its and its subcontractors' compliance with the provisions of Section 1776 of the Labor Code.

4.6 **Compliance with Environmental Laws**

During construction, the Contractor shall comply with all pertinent requirements of Federal, State, and local environmental laws and regulations, including, but not limited to, the Federal Clean Air Act, State and local air pollution and noise ordinances, construction site erosion control regulations. Specific requirements are further specified in Section 01060, **REGULATORY REQUIREMENTS AND PERMITS**, and Section 01560, **TEMPORARY CONTROLS**.

4.7 **Safety**

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

No provision of the Contract Documents shall act to make the Owner, the Construction Manager, Design Consultant or any other party than the Contractor responsible for safety. The Contractor

agrees that for purposes of California Labor Code Section 6400 and related provisions of law the Contractor, the Contractor's privities and any other entities acting pursuant to this contract will be "employers" responsible for furnishing employment and a place of employment that is safe and healthful for the employees, if any, of such entities acting pursuant to this contract and that neither the Owner nor the Construction Manager, the Cities of Dublin, San Ramon and Pleasanton, the Design Consultant or their respective officers, officials, partners, employees, agents or volunteers or other authorized representatives will be responsible for having hazards corrected and /or removed at the location(s) where the work is to be performed. The Contractor agrees that neither the Owner nor the Construction Manager, the Cities of Dublin, San Ramon and Pleasanton, the Design Consultant or their respective officers, officials, partners, employees, agents or volunteers or other authorized representatives will be responsible for taking steps to protect the Contractor's employees from such hazards, or for instructing the Contractor's employees to recognize such hazards or to avoid the associated dangers. The Contractor agrees that with respect to the work to be performed under this contract and the location(s) where such work is to be performed, the Contractor will be responsible for not creating hazards, and for having hazards corrected and/or removed. The Contractor agrees that through the safety obligations contained in this contract and the Contractor's own inspection of the site(s) where the contract work is to be performed, the Contractor is aware and has been notified of the hazards to which the Contractor's employees may be exposed in the performance of contract work. The Contractor has taken and/or will take appropriate, feasible steps to protect the Contractor's employees from such hazards, and has instructed and/or will instruct its employees to recognize such hazards and how to avoid the associated dangers. The Contractor agrees that neither the Owner nor the Construction Manager, the Cities of Dublin, San Ramon and Pleasanton, the Design Consultant or their respective officers, officials, partners, employees, agents or volunteers or other authorized representatives will be "employers" pursuant to California Labor Code Section 6400 and related provisions of law with respect to the Contractor, the Contractor's privities or other entities acting pursuant to this contract.

The Contractor shall indemnify, defend and hold Owner and Construction Manager, the Cities of Dublin, San Ramon and Pleasanton, the Design Consultant and their respective officers, officials, partners, employees, agents and volunteers or other authorized representatives harmless to the full extent permitted by law concerning liability related to the Contractor's safety obligations in accordance with Section 00800-2.1.8, Indemnification.

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

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

4.7.2 Safety Program – Contractor shall establish, implement, and maintain a written Injury and Illness Prevention Program as required by Cal/OSHA Title 8, Section 1509. Before beginning the Work

Contractor shall prepare and submit to the Construction Manager a Contractor Safety Program that provides for the implementation of all of Contractor's safety responsibilities in connection with the Work at the site and the coordination of that program and its associated procedures and precautions with safety programs, precautions and procedures of each of its subcontractors and other prime Contractors performing work at the site. Contractor shall be solely responsible for initiating, maintaining, monitoring, coordinating, and supervising all safety programs, precautions, and procedures in connection with the Work and for coordinating its programs, precautions, and procedures of the other prime contractors and subcontractors performing the Work at the site. The Safety Program should contain all the necessary elements for Contractor to administer its program on site. At a minimum, this written Safety Program shall address the elements required by Cal/OSHA Title 8, Section 1509.

The Contractor shall maintain a Drug-Free workplace policy within the Project site for the safety of its employees, the District's, Construction Manager's, and Design Consultant's employees and the public. At the time of execution of an Agreement with the Owner, the Contractor shall provide the Owner with certification, as provided in Section 00458, **CERTIFICATION OF DRUG-FREE WORKPLACE REQUIREMENTS**, that the Contractor maintains, and will maintain for the duration of the Agreement, a Drug-Free workplace policy at the Construction site. The Drug-Free workplace policy shall be substantially the same as the Owner's policy and a copy of the policy shall be posted on the Construction site. The Contractor shall notify the Construction Manager of any criminal drug statute violation occurring on the site not later than five (5) days after the Contractor becomes aware of such violation.

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

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

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

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

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

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

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

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

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

4.7.6 Safety Emergencies - In emergencies affecting the safety or protection of persons or the Work or property at the Project site or adjacent thereto, the Contractor, without special instruction or authorization from the Construction Manager, is obligated to act to prevent threatened damage, injury or loss. The Contractor shall give the Construction Manager prompt written notice if the Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby.

4.7.7 Safety Violations – Should the Contractor fail to correct an unsafe condition, the Owner shall have the right to notify the Contractor through the Construction Manager that an unsafe condition may exist and must be corrected or the work in question can be stopped in accordance with Section 00700-6.6, **Suspension of Work** until the condition is corrected to the satisfaction of the Owner. No extension of time or additional compensation will be granted as a result of any stop order so issued.

The notification and suspension of such work or the failure to provide such notification and suspension by the Owner shall not relieve the Contractor of its sole responsibility and liability for safety and the correction of any unsafe conditions.

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

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

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

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

In addition, the Owner classifies the following as confined space: the interior of sewers, vaults, manholes, reservoirs and any other such structure of space which is similarly surrounded by confining surfaces as to permit the accumulation of dangerous gases or vapors. The confined spaces are “permit” confined spaces as defined by OSHA and therefore entry is allowed only through compliance with a confined space entry permit program by the Contractor that meets the requirements of CAL/OSHA Section 5157. While the above-mentioned locations have been identified as permit confined spaces, other permit-confined spaces may exist. It shall be the responsibility of the Contractor to identify and classify these confined spaces. Sources of ignition, including smoking, shall be prohibited in any confined space.

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

- A. Exposure to hydrogen sulfide, methane, carbon dioxide and other gases and vapors commonly found in municipal sewers which could have or has the potential of having Immediate Danger to Life or Health Conditions (IDLH).
- B. Exposure to atmosphere containing insufficient oxygen to support human life.

- C. Exposure to combustible, flammable and/or explosive atmosphere.
- D. Exposure to sewage, which may contain bacteriological, chemical and other constituents harmful to humans.
- E. Work in conditions where engulfment or entrapment may occur.
- F. Work in environments, which may be slippery and/or have uneven work surfaces.
- G. Work in structures, which have limited and/or restricted access and egress.
- H. Work in structures where workers may trip, slip and/or fall several feet.

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

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

4.7.11 Public Safety and Convenience – The Contractor shall conduct his work so as to ensure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the Work and to ensure the protection of persons and property. No road or street shall be closed to the public except with the permission of the Construction Manager and the proper governmental authority. Fire hydrants on or adjacent to the Work shall be accessible to fire fighting equipment. Temporary provisions shall be made by the Contractor to ensure the use of sidewalks, private and public driveways and proper functioning of gutters, sewer inlets, drainage ditches and culverts, irrigation ditches and natural water courses. To the maximum extent permitted by law, Contractor shall indemnify, hold harmless and defend Owner from any and all liability, including attorneys' fees and costs of litigation, arising from any failure to comply with this section by Contractor or its privities.

4.8 Provisions for Handling Emergencies

It is possible that emergencies may arise during the progress of the Work, which may require special treatment or make advisable extra shifts of labor forces to continue the Work for twenty-four (24) hours per day. These emergencies may be caused by damage or possible damage to nearby existing structures or property by reason of the work under construction, or by storm, accidents, or leakage. The Contractor shall be prepared in case of such emergencies to make all necessary repairs and shall promptly execute such work when required by the Construction Manager. The determinations made by the Construction Manager for handling emergencies shall be final and conclusive upon the parties.

Upon start of the Work, Contractor shall provide means for immediate emergency notification of Contractor's designated representative and designated emergency alternates.

4.9 **Nonstandard Working Hours**

The Contractor may be required to prosecute the Work at night or outside of the normal working hours defined in Section 01560-7.0, **WORKING HOURS**. Such work may be required due to project and/or operational constraints as defined in Section 01010, **SUMMARY OF WORK**, or if emergencies arise as provided for in Section 00700-4.8, **Provisions for Handling Emergencies**. When required, ordered, or permitted to work at night, the Contractor shall provide sufficient and satisfactory lighting and other facilities therefor. Subject to applicable law, for work outside of the normal working hours, the Contractor shall receive no extra payment, but compensation shall be considered as having been included in the price stipulated for the Work, except for authorized work performed outside of the Contract requirements.

4.10 **Cooperation with Other Contractors**

This Paragraph shall serve as notice to the Contractor that the Owner may let other contracts for other work at or near the site of this work. The Contractor shall afford other contractors reasonable opportunity for the delivery and storage of their materials and the execution of their work, and shall properly connect and coordinate its work with theirs.

Should construction be under way by other forces or by other contractors within or adjacent to the limits of the work or in the vicinity of the work to be done under this Contract, the Contractor shall so conduct its operations as to interfere to the least possible extent with the work of such other forces or contractors.

Any difference or conflicts, which may arise between the Contractor and any other forces or contractors, creating delays or hindrance to each other, shall be adjusted as determined by the Construction Manager.

Section 01010, **SUMMARY OF WORK**, indicates anticipated other potential construction activities within or adjacent to work to be performed in this Contract.

5.0 **CONTROL OF WORK AND MATERIAL**

5.1 **Means, Methods and Appliances**

The means, methods and appliances adopted by the Contractor shall be planned and executed to produce the highest grade quality of work and will enable the Contractor to complete the Work in the time agreed upon. The Owner and Construction Manager shall not supervise, direct, or have control over, or be responsible for, Contractor's means, methods and appliances of construction or for the safety precautions and programs incident thereto, or for any failure of Contractor to comply with laws and regulations applicable to the furnishing or performance of Work. However, if at any time the means, methods and appliances appear inadequate or of inferior quality, the Construction Manager may order the Contractor to improve their character or efficiency, and the Contractor shall conform to such order; failure of the Construction Manager to order such improvement of methods or efficiency will not relieve the Contractor from its obligation to perform satisfactory work and to finish the Work in the time agreed upon.

Subject to the Contract Times specified in the Contract Documents, the Contractor is solely responsible for planning and scheduling the means, methods, and appliances to address weather conditions that may occur during the course of the Work. The Contractor is solely responsible for all costs to address such means, methods and appliances and for the direct and indirect costs resulting from weather conditions.

5.2 Character of Workers

None but competent superintendents, forepersons and workers shall be employed on the Work. The Contractor shall remove from the Work any person who commits trespass, possesses firearms or other weaponry, is under the influence or is in the possession of alcohol or other illegal drugs/controlled substance, or is, in the opinion of the Contractor or Construction Manager, disorderly, dangerous, insubordinate, incompetent, or otherwise objectionable. Such discharge shall not be the basis of any claim for compensation or damages against the Owner, its officers, officials, employees, agents, and volunteers, the Design Consultant, the Construction Manager, and their partners, officers, employees, agents or any of its officers or representatives.

5.3 Supply of Sufficient Workers

The Contractor shall at all times employ qualified workers sufficient to prosecute the Work at a rate and in a sequence and manner necessary to complete the Work within the Contract Time(s). This obligation shall remain in full force and effect notwithstanding disputes or claims of any type.

5.4 Materials and Workmanship

Unless otherwise indicated in these Specifications, or favorably reviewed by the Design Consultant, materials and equipment for the construction work shall be the best grade in quality of a manufacturer regularly engaged in the production of such materials and equipment or materials and equipment of comparable character. All materials must be of the specified quality and equal to approved samples, if samples have been submitted. All work shall be done and completed in the best workmanlike manner, obtainable in the local market. All permanent materials and equipment shall be new unless otherwise specified.

Notwithstanding any omission from these Contract Documents it shall be the duty of the Contractor to call the Construction Manager's attention to apparent errors or omissions and request instructions before proceeding with the Work. The Construction Manager may, by appropriate instructions correct errors and supply omitted information. Such instructions shall be as binding upon the Contractor as though contained in the original Contract Documents.

All defective work or materials shall be promptly removed from the premises by the Contractor, whether in place or not, and shall be replaced or renewed in such manner as the Construction Manager may direct. All materials and workmanship of whatever description shall be subjected to the inspection of, and rejection by, the Construction Manager if not in conformance with the Contract Documents.

Any defective material or workmanship, or any unsatisfactory or imperfect work, which may be discovered before the final acceptance of the work or within one (1) year thereafter, shall be corrected immediately upon the receipt of notice from the Construction Manager, without extra charge,

notwithstanding that it may have been overlooked in previous inspections and estimates. Failure to inspect work shall not relieve the Contractor from any obligation to perform sound and reliable work as herein described.

5.5 Existing Utilities

5.5.1 General – The location of known existing utilities and pipelines are shown on the Plans in their approximate locations. However, nothing herein shall be deemed to require the Owner to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the site of the project can be inferred from the presence of other visible facilities, such as buildings, cleanouts, meter and junction boxes, on or adjacent to the site of the Project.

The Owner will assume the responsibility for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Project site if such utilities are not identified by the Owner in the Contract Documents or which can reasonably be inferred from the presence of other visible facilities.

5.5.2 Utility Location – It shall be the Contractor's responsibility to determine the exact location and depth of all utilities, including service connections, which have been marked by the respective utility owners and which the Contractor believes may affect or be affected by the Contractor's operations. The Contractor shall not be entitled to additional compensation nor time extensions for work necessary to avoid interferences nor for repair to damaged utilities if the Contractor does not expose all such existing utilities as required by this section.

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

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

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

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

After the utility survey is completed, the Contractor shall commence "potholing" or hand digging to determine the actual location of the pipe, duct, or conduit. The Construction Manager shall be given notice prior to commencing potholing operations. The Contractor shall uncover all piping and

conduits, to a point one (1) foot below the pipe, where crossings, interferences, or connections are shown on the Drawings, prior to trenching or excavating for any pipe or structures, to determine actual elevations. New pipelines shall be laid to such grade as to clear all existing facilities, which are to remain in service for any period subsequent to the construction of the run of pipe involved.

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

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

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

The Owner will compensate the Contractor for the costs of locating and repairing damage not due to the failure of the Contractor to exercise reasonable care, and for removing or relocating such main or trunk line utility facilities not indicated in the Contract Documents with reasonable accuracy, and for the cost of equipment on the Project necessarily idled during such work. The payment for such costs will be made as provided in Section 00700-7.1, **Change Orders**. The Contractor shall not be assessed liquidated damages for delay in completion of the Project, when such delay is caused by the failure of the Owner or utility company to provide for removal or relocation of such utility facilities. Requests for extensions of time arising out of utility relocation or repair delays shall be filed in accordance with Section 01310-6.0, **TIME IMPACT ANALYSES**.

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

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

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

6.0 PROGRESS OF THE WORK

6.1 Commencement of Work

Within thirty (30) calendar days after receipt of the required bonds and evidences of insurance and the executed Agreement from the Contractor, written Notice to Proceed will be given by the Owner to Contractor. Notwithstanding other provisions of the Contract, the Contractor shall not be obligated to perform work, and the Owner shall not be obligated to accept or pay for work performed by the Contractor, prior to Notice to Proceed. The Contractor shall provide the required Contract bonds and evidences of insurance prior to Notice to Proceed and commencing work at the site.

The Contractor shall commence the work covered by this Contract within ten (10) days after the date established in the Notice to Proceed for the commencement of Contract Time.

The Contractor shall give the Construction Manager written notice not less than two (2) working days in advance of the actual date on which the work will be started. The Contractor shall be entirely responsible for any delay in the work, which may be caused by its failure to give such notice.

6.2 Contract Time

Time shall be of the essence of the Contract. The Contractor shall prosecute the work so that the various portions of the project shall be complete and ready for use within the time specified in Section 00800-1.1, **Time Allowed for Completion**. It is expressly understood and agreed by and between the Contractor and the Owner that the Contract Time for completion of the work described herein is a reasonable time taking into consideration the general climatic and economic conditions and other factors prevailing in the locality and the nature of the work. The Contractor is hereby advised that the Contractor's bid is to be based on the entire Contract Time and the Contractor shall include its field and home office overhead costs in the bid for the entire Contract Time.

6.3 Delays

6.3.1 **Notice of Delays** - When the Contractor foresees a delay in the prosecution of the Work and, in any event, immediately upon the occurrence of a delay, the Contractor shall notify the Construction Manager in writing of the probability of the occurrence of the delay, and its cause. The Contractor shall provide this notice no later than one (1) working day after the occurrence of such delay, including weather delays as specified herein. The Contractor shall take immediate steps to prevent, if possible the occurrence or continuance of the delay. The Contractor agrees that no claim shall be made for delays, which are not called to the attention of the Construction Manager at the time of their occurrence.

6.3.2 **Non-Excusable Delays** - Non-excusable delays in the prosecution of the Work shall include delays, which could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its subcontractors, at any tier level, or suppliers. The Contractor shall receive no compensation or time extension for such delay.

6.3.3 Excusable Delays - Excusable delays in the prosecution or completion of the Work shall include delays which result from causes beyond the control of the Contractor and Owner and which could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its subcontractors, at any tier level, or suppliers. The Contractor shall receive no compensation for such delay.

- A. Abnormal Delays - Delays caused by fire, unusual storms, floods, tidal waves, earthquakes, strikes, labor disputes, freight embargoes, and shortages of materials shall be considered as excusable delays insofar as they prevent the Contractor from proceeding with the Work for at least five (5) hours per day toward completion of the current critical activity item(s) on the latest favorably reviewed progress schedule.
- B. Weather Delays - Should inclement weather conditions or the conditions resulting from weather prevent Contractor from proceeding with seventy-five (75) percent of the normal labor and equipment force engaged in the current critical activity item for a period of at least five (5) hours per day toward completion of such operation or operations, and the crew is dismissed as a result thereof, it shall be a weather delay day. Contractor may be granted a time extension pursuant to Section 00700-6.4.2.C, Weather Delays.
- C. Material Shortages - Upon the submission of satisfactory proof to the Construction Manager by the Contractor, shortages of material may be acceptable as grounds for granting a time extension. In order that such proof may be satisfactory and acceptable to the Construction Manager, it must be demonstrated by the Contractor that the Contractor has made every effort to obtain such materials from all known sources within reasonable reach of the proposed Work. Only the physical shortage of material, caused by unusual circumstances, will be considered under these provisions as a cause for extension of time, and no consideration will be given to any claim that material could not be obtained at a reasonable, practical, or economical cost or price, unless it is shown to the satisfaction of the Construction Manager that such material could have been obtained only at exorbitant prices entirely out of line with current rates, taking into account the quantities involved and usual practices in obtaining such quantities. A time extension for shortage of material will not be considered for material ordered or delivered late or whose availability is affected by virtue of the mishandling of procurement. The above provisions apply equally to equipment to be installed in the work.

6.3.4 Compensable Delays – Compensable delays in the prosecution or completion of the Work shall include delays that occur through no fault of the Contractor or its subcontractors and prevent the Contractor from proceeding with the Work for at least five (5) hours per day toward completion of the current critical activity item(s) on the latest favorably reviewed progress schedule due to the following cause(s):

- A. Delays due solely to the actions and/or inactions of the Owner.
- B. Delays due to differing site conditions as defined in Section 00700-7.2, Differing Site Conditions.
- C. Delays due to other Contractors employed by the Owner who interfere with the Contractor's prosecution of the Work as defined above.

6.3.5 Concurrent Delays – Concurrent delays are those delay periods when the prosecution of the Work is delayed during the same period of time due to causes from a combination of the delays defined in Sections 00700-6.3.2, Non-Excusable Delays, 00700-6.3.3, Excusable Delays, or 00700-6.3.4, Compensable Delays. During such concurrent delay periods, time extensions will be granted in accordance with Section 00700-6.4, Time Extensions; however, the Contractor will be granted a non-compensable time extension, and the Owner shall not assess its actual costs as defined in Section 00700-6.4.1, Non-Excusable Delays.

6.3.6 Critical Activity – The definition and application of the term “critical activity” and “critical path” as used in Section 6.3, Delays, and 6.4, Time Extensions, is specified in Section 01310-3.3.2,B, Critical Path.

6.4 Time Extensions

6.4.1 Non-Excusable Delays – The Owner, at its sole option, may grant an extension to milestone or completion dates for non-excusable delays. If the Owner grants an extension of time for non-excusable delays, the Contractor agrees to pay the Owner's actual costs, arising from the delay, including charges for engineering, inspection and administration incurred during the extension.

6.4.2 Excusable or Compensable Delays - If the Contractor is delayed in the performance of its work as defined in Sections 00700-6.3.3, Excusable Delays, or 00700-6.3.4, Compensable Delays, then milestone and Contract completion dates may be extended by the Owner for such time that, in the Owner's and Construction Manager's determination, the Contractor's completion dates will be delayed, provided that the Contractor strictly fulfills the following:

- A. The Contractor shall provide notification, in accordance with Paragraph 00700-6.3.1, Notice of Delays, and submit in writing a request for an extension of time to the Construction Manager stating at a minimum the probable cause of the delay and the number of days being requested. The time extension request shall be submitted in accordance with the requirements of Section 01310-6.0, **TIME IMPACT ANALYSES**.
- B. If requested by the Construction Manager, the Contractor shall promptly provide sufficient information to the Construction Manager to assess the cause or effect of the alleged delay, or to determine if other concurrent delays affected the Work.
- C. Weather Delays. The Contractor will be granted a non-compensable time extension for weather caused delays, pursuant to Section 00700-6.3.3.B, Weather Delays, over and above an allowance as provided for in Section 00800-1.3, Weather Days. No time extensions for weather delays will be granted until the total number of weather days exceeds this allowance. The provisions of articles A and B above also apply to Weather Delays. Both the use of the Weather Day allowance and the granting of additional days to the Contract due to weather require an actual impact to the critical path as defined below and in Section 01310, **PROGRESS SCHEDULES AND REPORTS**.

Should the Contractor fail to fulfill any of the foregoing, which are conditions precedent to the right to receive a time extension, the Contractor waives the right to receive a time extension.

During such extension of time, neither extra costs incurred by the Owner for engineering, inspection and administration nor damages for delay will be charged to the Contractor. It is understood and agreed by the Contractor and Owner that time extensions due to excusable or compensable delays will be granted only if such delays involve an impact to the critical path that would prevent completion of the whole Work within the specified Contract time. Attention is directed to Section 01310-3.3.2.G, Float, regarding the use of float in the Project schedule as related to time extensions.

Should the Contractor fail to complete the Work within the time specified in the Contract, as extended in accordance with this section if applicable, the Contractor shall forfeit and the Owner may recover liquidated damages in accordance with Section 00700-6.5, **Liquidated Damages**.

6.4.3 **Indirect Overhead**

The Contractor shall be reimbursed for indirect overhead expenses for periods of time when the Work is delayed as defined in Section 00700-6.3.4, **Compensable Delays**, only when such delay involves an impact to the critical path that would prevent completion of the whole Work within the specified Contract Time. However, no reimbursement for indirect overhead shall be made for compensable delays, which occur during a concurrent delay as defined in Section 00700-6.3.5, **Concurrent Delays**. If it is mutually agreed that the allowable markups provided for in Section 01035, **MODIFICATION PROCEDURES**, do not provide equitable compensation for the Contractor's indirect overhead expenses then the adjustments provided for under this section shall be applied and the change order markups in Section 01035, **MODIFICATION PROCEDURES**, reduced to reflect the compensation provided by this section. As a condition precedent to any reimbursement, the Contractor must fulfill all conditions as provided in Section 00700-6.4.2 **Excusable or Compensable Delays**. No additional markup for overhead or profit shall be provided for such indirect overhead expenses.

Payment to the Contractor for indirect overhead expenses will be made only if the extended Contract period granted for the compensable delay(s) is required to complete the work following the depletion of the original Contract period and any time extensions granted other than compensable time extensions.

6.4.3.1 **Indirect Field Overhead** – For those allowable delay periods as defined in Section 00700-6.4.3, **Indirect Overhead**, the Contractor shall be reimbursed for its indirect field overhead based on:

- A. Actual invoice costs for on-site field offices and temporary utilities as described in Sections 01510, **TEMPORARY UTILITIES** and 01560, **TEMPORARY CONTROLS**.
- B. Actual labor costs, as determined consistent with Section 01035-3.0, **FORCE ACCOUNT PAYMENT**, for field office staff.
- C. Fair rental values acceptable to the Construction Manager as described in Section 01035-3.0, **FORCE ACCOUNT PAYMENT**, for construction equipment idled due to the delay.

6.4.3.2 **Indirect Home Office Overhead** – For those allowable delay periods as defined in Section 00700-6.4.3, **Indirect Overhead**, the Contractor shall be reimbursed for the total of its home office overhead and all of its subcontractor's home office overhead based on the following formula:

Contract Bid Price (\$) _____ x 0.03 = Total Daily Home Office Overhead (\$/Day of Delay)
Contract Period (Days) _____

As it is impractical to determine the actual home office overhead, such reimbursement shall encompass full payment for any and all home office overhead expenses for such periods of time for the Contractor and all subcontractors. Distribution of the markup amount among the Contractor and all subcontractors and suppliers is the responsibility of the Contractor.

6.5 **Liquidated Damages**

- A. Owner and the Contractor recognize that time is of the essence of this Agreement and that the Owner will suffer financial loss if the Work is not completed within the time specified in Section 00800-1.1, **Time Allowed for Completion**, and required milestone work in Section 00800-1.2, **Damages for Delays** herein, plus any extensions thereof allowed in accordance with Section 00700-6.4, **Time Extensions** of the General Conditions. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage which the Owner will sustain in the event of and by reason of the Contractor's failure to fully perform the Work or to fully perform all of its contract obligations that have accrued by the time for completion as specified in Section 00800-1.1, **Time Allowed for Completion** herein and/or as specified for completion of any scheduled operations or works described in Section 00800-1.2, **Damages for Delays**. It is, therefore, agreed in accordance with California Government Code Section 53069.85 that the Contractor will forfeit and pay to the Owner liquidated damages in the amount set forth in Section 00800-1.2, **Damages for Delays**, per day for each and every calendar day that expires after the time for completion specified in 00800-1.1, **Time Allowed for Completion** herein and/or as specified for completion of any scheduled operations or works described in Section 00800-1.2, **Damages for Delays** except as otherwise provided by extension of time pursuant to Section 00700-6.4, **Time Extensions** of the General Conditions. It is further understood and agreed in accordance with California Government Code Section 53069.85 that the liquidated damages sum specified in this provision is not manifestly unreasonable under the circumstances existing at the time this Contract was made, and that the Owner may deduct liquidated damages sums in accordance with this provision from any payments due or that may become due the Contractor.
- B. Liquidated damages will continue to accrue at the stated rate until substantial completion of the Work. Accrued liquidated damages may be deducted by the Owner from amounts due or that become due to the Contractor for performance of the Work. Liquidated damages may not be waived or reduced by the Owner unless expressly waived or reduced in writing by the Construction Manager.

6.6 Suspension of Work

6.6.1 If the Contractor fails to correct defective work as required by Sections 00700-5.3, **Supply of Sufficient Workers**, and 00700-5.4 **Materials and Workmanship** or fails to carry out the Work in accordance with the Contract Documents or any other applicable rules and regulations, the Owner, by a written order of the Owner's representative or signed personally by an agent specifically so empowered by the Owner, in writing, may order the Contractor to stop the work, in its entirety or any portion thereof. In the event of a suspension of only a portion of the work, the Contractor is obligated to perform the portion of the work not suspended. The Suspension of Work shall remain in effect until the condition or cause for such order has been eliminated. The Owner's concurrence that the

condition or cause has been eliminated will be provided to the Contractor in writing. This right of the Owner to stop and suspend the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity. All delays in the Work occasioned by such stoppage shall not relieve the Contractor of any duty to perform the Work or serve to extend the time for its completion. Any and all necessary corrective work done in order to comply with the Contract Documents shall be performed at no cost to the Owner.

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

6.6.3 The Owner shall also have authority to suspend the Work wholly or in part, for such period, as the Owner may deem necessary, due to unsuitable weather, or to such other conditions as are considered unfavorable for the suitable prosecution of the Work. Such temporary suspension of the Work will be considered justification for time extensions to the Contract in an amount equal to the period of such suspension if such suspended work includes the current critical activity on the latest favorably reviewed progress schedule. The Contractor as directed by the Owner shall comply with the provisions in Section 00700-6.6.2, **Suspension of Work**, above. Such additional work shall be compensated as provided for in Section 00700-7.0, **CHANGES IN THE WORK**.

6.7 **Right to Terminate Contract**

If at any time the Contractor is determined to be in material breach of the Contract, notice thereof in writing will be served upon the Contractor and its sureties, and should the Contractor neglect or refuse to propose and effect a means for a satisfactory compliance with the Contract, as directed by the Construction Manager, within the time specified in such notice, the Owner or the Owner's Representative in such case shall have the authority to terminate the operation of the Contract.

Upon such termination, the Contractor shall discontinue the Work, or such parts of it as the Owner may designate. Upon such termination, the Contractor's control shall terminate and thereupon the Owner or its fully authorized representative may take possession of all or any part of the Contractor's materials, tools, equipment, and appliances upon the premises and use the same for the purposes of completing the Work and hire such force and buy or rent such additional machinery, tools, appliances, and equipment, and buy such additional materials and supplies at the Contractor's expense as may be necessary for the proper conduct of the Work and for the completion thereof; or the Owner may employ other parties to carry the Contract to completion, employ the necessary workers, substitute other machinery or materials and purchase the materials contracted for, in such manner as the Owner may deem proper; or the Owner may annul and cancel the Contract and release the Work or any part thereof. Any excess of cost arising therefrom over and above the Contract Price will be charged against the Contractor and its sureties, who will be liable therefor.

In the event of such termination, all monies due the Contractor or retained under the terms of this Contract shall be held by the Owner; however, such holdings will not release the Contractor or its sureties from liability for failure to fulfill the Contract. Any excess cost over and above the Contract Amount incurred by the Owner arising from the termination of the operations of the Contract and the completion of the Work by the Owner as above provided shall be paid for by the Contractor. The Contractor shall be entitled to credit against such excess costs and contract funds held by the Owner.

Any contract funds remaining after all valid claims for completion of the Work have been paid, shall be paid to the Contractor sixty (60) days after completion of the Work.

If at any time before completion of the work under the Contract, it shall be determined by the Owner that reasons beyond the control of the parties hereto render it impossible, impractical, undesirable, or otherwise against the interests of the Owner to complete the work, or if the work shall be stopped by an injunction of a court of competent jurisdiction or by order of any competent authority, the Owner may, upon ten (10) days written notice to the Contractor, discontinue the work and terminate the Contract for its convenience. Upon service of such notice of termination, the Contractor shall discontinue the work in such manner, sequence, and at such times as the Construction Manager may direct. The Contractor shall have no claim for damages for such discontinuance or termination, nor any claim for anticipated profits on the work thus dispensed with, nor any other claim except for the work actually performed in accordance with the Contract Documents up to the time of discontinuance, including any extra work ordered by the Construction Manager to be done.

7.0 CHANGES IN THE WORK

7.1 Change Orders

7.1.1 Without invalidating the Contract and without notice to sureties or insurers, the Owner through the Construction Manager, may at any time or from time to time, order additions, deletions, or revisions in the Work; these will be authorized by Field Directive, Field Order, or Change Order. A Change Order will not be issued for a Field Directive unless the Construction Manager concurs with an appeal by the Contractor that such Field Directive is a change in the scope of the Contract. The Contractor shall comply promptly with the requirements for all Change Orders, Field Orders, or Field Directives. The work involved in Change Orders shall be executed under the applicable conditions and requirements of the Contract Documents. If any Field Order causes an increase or decrease in the Contract Amount or an extension or shortening of the Contract Time, an equitable adjustment will be made by issuing a Change Order using the Change Order form indicated in Section 01035, **MODIFICATION PROCEDURES**. By the acceptance of a Change Order, the Contractor waives any claim for additional time, not included in the Change Order, for the work covered by that Change Order. Additional or extra work performed by the Contractor without written authorization of a Field Order or Change Order will not entitle the Contractor to an increase in the Contract Amount or an extension of the Contract Time.

7.1.2 Compensable extra work shall be that work required for the completed project, but not shown, detailed or specified in the Contract Documents and not constituting "incidental work " as defined in Section 00700-1.4, **Plans and Specifications**. Such work shall be governed by all applicable provisions of the Contract Documents. In giving instructions, the Construction Manager shall have authority to make minor changes in the Work, not involving extra cost, and not inconsistent with the purposes of the Work; but otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the Owner through the Construction Manager, and no claim for an addition to the Contract Amount and/or Contract Time shall be valid unless so ordered.

7.1.3 In case any change increases or decreases the work shown, the Contractor shall be paid for the work actually done at a mutually agreed upon adjustment to the Contract Price, based upon the provisions of Section 01035, **MODIFICATION PROCEDURES**.

7.1.4 If the Contractor refuses to accept a Change Order, the Owner may issue it unilaterally. The Contractor shall comply with the requirements of the Change Order. The Owner shall provide for an equitable adjustment to the Contract Price and/or Contract Time, and compensate the Contractor accordingly. If the Contractor does not agree that the adjustment is equitable, it may submit a claim in accordance with Section 00700-7.3, **Resolution of Disputes**.

7.2 **Differing Site Conditions**

Pursuant to Public Contract Code Section 7104, the Contractor shall promptly, and before such conditions are disturbed, notify the Construction Manager in writing, of any:

- a. 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. Subsurface or latent physical conditions at the site differing from those indicated in the Contract Documents.
- c. Unknown physical conditions at the site of any unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

The Owner shall promptly investigate the conditions, and if it finds that the conditions do materially differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work the Owner shall cause to be issued a change order under the procedures provided in Section 00700-7.1, **Change Orders**.

In the event that a dispute arises between the Owner and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. The Contractor shall retain any and all rights provided either by Contract or by law, which pertain to the resolution of disputes and protests between the contracting parties, Section 00700-7.3, **Resolution of Disputes**.

No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required herein and in accordance with Section 00700-6.3.1, **Notice of Delays**.

7.3 **Resolution of Disputes**

It is the intent of this Contract that disputes regarding the Contract be resolved promptly and fairly between the Construction Manager and Contractor. However, it is recognized that some disputes will require detailed investigation and review by one or both parties before a determination and resolution can be reached. For the protection of the rights of both the Contractor and Owner the following provisions apply to the resolution of disputes, which cannot be resolved by the Contractor and Construction Manager.

7.3.1 Pre-Claims procedures

- a. Notice – Either party shall provide verbal or written notice of disputed or potentially disputed work to the other parties' attention prior to the commencement of and sufficiently in advance of performing the disputed work to allow both parties joint initial review of the disputed work. If there is disagreement subsequent to the initial review, the Contractor shall formally request a Contract Interpretation by the Construction Manager in accordance with Section 00700-1.6, **Contract Interpretation by the Construction Manager**. If the Contractor disagrees with the Construction Manager's decision in Section 00700-1.6, **Contract Interpretation by the Construction Manager**, or in any case where the Contractor deems additional compensation or a time extension to the Contract Time is due the Contractor for work or materials not covered in the Contract or which the Construction Manager has not recognized as extra work, the Contractor shall notify the Construction Manager, in writing, of its intention to make claim. Notice pertaining to decisions provided in Section 00700-1.6, **Contract Interpretation by the Construction Manager**, or such other determinations by the Construction Manager shall be filed in writing to the Construction Manager within ten (10) days of receipt of such decision and prior to the commencement of such work. All other notices for extra work shall be filed in writing to the Construction Manager prior to the commencement of such work. Written notice shall use the words "Notice of Potential Claim". Such Notice of Potential Claim shall state the circumstances and the reasons for the claim, but need not state the amount.

Additionally, no Claim for additional compensation or extension of time for a delay will be considered unless the provisions of Sections 00700-6.3, **Delays**, and 6.4, **Time Extensions**, are complied with. No claim filed after the date of final payment will be considered.

Unless notice is properly given, the Contractor shall not recover costs incurred by it as a result of the alleged extra work, changed work or other situation which had required notice been given, would have given rise to a right for additional compensation. Timely notice of potential claim is of great importance to the Construction Manager and Owner, and is not merely a formality. Such notice allows the Owner to consider preventative action, to monitor the Contractor's increased costs resulting from the situation, to marshal facts, and to plan its affairs. Such notice by the Contractor, and the fact that the Construction Manager has kept account of the work in question, shall not in any way be construed, in itself, as proving the validity of the claim.

- b. Response by Construction Manager – The Construction Manager shall review the "Notice of Potential Claim" and within ten (10) days of receipt of the notice shall respond to the Contractor in writing with its determination, or if it is necessary to extend this period, the Construction Manager shall notify the Contractor in writing as to when a decision will be provided.
- c. Appeals to the Owner's Representative – In the event the Contractor disagrees with any determination of the Construction Manager provided in accordance with Section 00700-7.3.1.b, Response by Construction Manager, the Contractor may, within ten (10) days of receipt of such determination, appeal the determination to the Owner's Representative for review. The Owner's Representative shall review the appeal and transmit the decision in writing to the Contractor within 30 days from the date of receipt of the appeal. Failure of the Contractor to appeal the determination of the Construction Manager within said ten (10) day

period shall constitute a waiver of the Contractor's right to thereafter assert claim resulting from such determination or decision.

In the event the Contractor disagrees with the determination of the Owner's Representative, the Contractor shall notify the Construction Manager, in writing within ten (10) days of receipt of such determination, of its intention to make Claim in accordance with Paragraphs 00700-7.3.2 through 00700-7.3..

7.3.2 Upon receipt of a Claim sent by registered mail or certified mail with return receipt requested, the Owner shall conduct a reasonable review of the Claim and, within a period not to exceed 45 days, shall provide the Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a Claim, the Owner and the Contractor may, by mutual agreement, extend the time period provided in the preceding sentence.

The Contractor shall furnish reasonable documentation to support the Claim. Unless otherwise agreed, such documentation will consist of accurate records of all costs, including a summary of the hours and classification of equipment and labor utilized on the disputed work, as well as a summary of any materials or any specialized services, which are used. Unless otherwise agreed in writing, such information shall be submitted to the Construction Manager on a daily basis, receipt of which shall not be construed as an authorization for or acceptance of the disputed work.

Within 30 days after the last cost of work for which the Contractor contends it is due additional compensation is incurred, but if costs are incurred over a span of more than 30 days, then within 15 days after the thirtieth day and every month thereafter, the Contractor shall submit to the Construction Manager reasonable documentation to support the Claim, including, as best the Contractor is able, its costs incurred for the claimed matter. The Construction Manager shall have the right as provided in Section 01035-7.0, **COST PRICING DATA AND ACCESS TO RECORDS**, to review the Contractor's records pertaining to a submitted claim. In case the claim is found to be just, it shall be allowed and paid for as provided in Section 01035, **MODIFICATION PROCEDURES**.

If the Owner needs approval from its governing body to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the Claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a Claim sent by registered mail or certified mail, return receipt requested, the Owner shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the Contractor a written statement identifying the disputed portion and the undisputed portion.

Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the Owner issues its written statement. If the Owner fails to issue a written statement, Paragraph 00700-7.3.3 shall apply.

7.3.3 If the Contractor disputes the Owner's written response, or if the Owner fails to respond to a Claim issued pursuant to this Paragraph 00700-7.3 within the time prescribed, the Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the Owner shall schedule a meet and confer conference within 30 days for settlement of the dispute.

Within 10 business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, the Owner shall provide the Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the Owner issues its written statement. Any disputed portion of the Claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the Owner and the Contractor sharing the associated costs equally. The Owner and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the Claim remaining in dispute shall be subject to applicable procedures outside this Paragraph 00700-7.3.

For purposes of this Paragraph 00700-7.3.3, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this Paragraph 00700-7.3.3.

Unless otherwise agreed to by the Owner and the Contractor in writing, the mediation conducted pursuant to this Paragraph 00700-7.3.3 shall excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has been commenced.

7.3.4 Failure by the Owner to respond to a Claim from a Contractor within the time periods described in this Paragraph 00700-7.3 or to otherwise meet the time requirements of this Paragraph 00700-7.3 shall result in the Claim being deemed rejected in its entirety. A Claim that is denied by reason of the Owner's failure to have responded to a Claim, or its failure to otherwise meet the time requirements of this Paragraph 00700-7.3., shall not constitute an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of the Contractor.

7.3.5 Amounts not paid in a timely manner as required by this Paragraph 00700-7.3 shall bear interest at 7 percent per annum.

7.3.6 If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against the Owner because privity of contract does not exist, the Contractor may present to the Owner a Claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the Contractor present a Claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the Owner shall furnish reasonable documentation to support the Claim. Within 45 days of receipt of this written request, the Contractor shall notify the subcontractor in writing as to whether the Contractor presented the Claim to the Owner and, if the original Contractor did not present the Claim, provide the subcontractor with a statement of the reasons for not having done so.

7.3.7 Resolution of Claims Not Exceeding \$375,000 – Claims pertaining to this Agreement for three hundred and seventy-five thousand dollars (\$375,000) or less which cannot be resolved between the parties shall be resolved pursuant to the provisions of Public Contract Code commencing at Section 20104, except that the mediation conducted pursuant to this Paragraph 00700-7.3 shall

excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has been commenced unless otherwise agreed. The arbitration proceedings established in Public Contract Code Section 20104.4(b) shall only apply if both the Owner and Contractor mutually agree to arbitration.

7.3.8 Civil Action Proceedings – If a civil action is filed to resolve the Claim, the case must be submitted to judicial arbitration pursuant to procedures set forth in the Code of Civil Procedure commencing at Section 1141.10. Discovery is permitted consistent with the rules pertaining to judicial arbitration.

Arbitrators shall be experienced in construction law.

A party who elects to have a trial de novo following an arbitration award and does not obtain a more favorable judgment shall pay the attorney's fees incurred by the other party from and after the filing of the request for trial de novo. The Owner must pay interest at the legal rate on any arbitration award or judgement, commencing on the date when suit was filed.

Should either party to this Contract bring legal action against the other, the case shall be handled by the Superior Court of the State of California in the County of Contra Costa. The Agreement shall be construed and its performance enforced under California Law without regard to the conflict of law provisions thereof.

8.0 PAYMENT

8.1 Basis of Payment

8.1.1 General - The Contractor shall accept the compensation, as herein provided, as full payment for furnishing all labor, materials, tools, equipment, and incidentals necessary to the completed Work and for performing all work contemplated and embraced under the Contract; also for loss or damage arising from the nature of the Work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the Work, also for all expenses incurred in consequence of the suspension or discontinuance of the Work as herein specified; and for completing the Work according to the Contract Documents. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective work or material.

No compensation will be made in case of loss of anticipated profits. Increased or decreased work involving supplemental agreements will be paid for as provided in such agreements.

Full compensation for conforming to all of the provisions of the Contract Documents shall be considered as included in the prices paid for the various Contract items of work and no additional compensation will be allowed therefor.

8.1.2 Payment for Patents and Patent Infringement - All fees or claims for any patented invention, article, or arrangement that may be used upon, or in, any manner connected with the performance of the Work or any part thereof shall be included in the price bid for doing the work, and the Contractor and its sureties shall defend, protect, and hold the Owner, the Construction Manager, the Cities of Dublin, San Ramon and Pleasanton, the Design Consultants, together with all their officials,

officers, partners, volunteers, agents, and employees harmless from and any and all suits and claims including claims for attorneys fees, expert's fees and costs brought or made by the holder of any invention or patent, or on account of any patented or unpatented invention, process, article, or appliance manufactured for or used in the performance of the Contract, including its use by the Owner, unless otherwise specifically stipulated in the Contract. Before final payment is made on the Contract, the Contractor shall furnish an affidavit to the Owner regarding patent rights for the Project. The affidavit shall state that all fees and payments due as a result of the work incorporated into the Project or methods utilized during construction have been paid in full. The Contractor shall certify in the affidavit that no other fees or claims exist for work in this Project.

8.1.3 Payment of Taxes - The Contractor shall pay and shall assume exclusive liability for all taxes levied or assessed on or in connection with its performance of this Contract, whether before or after acceptance of the work, including, but not limited to, State and local sales and use taxes, Federal and State payroll taxes or assessments, and excise taxes, including any taxes or assessments levied or increased during the performance period of the work. No separate allowance will be made therefor, and all costs in connection therewith shall be included in the total amount of the Contract price.

8.2 Partial Payments

8.2.1 General - In consideration of the faithful performance of the Work prosecuted in accordance with the Contract Documents, the Owner will pay the Contractor for all such work installed on the basis of unit prices and/or percentage completion of lump sum Bid Items. Amounts earned for lump sum work will be based on accepted Cost Breakdown (Section 01025, **MEASUREMENT AND PAYMENT**).

Payments will be made by the Owner to the Contractor on estimates duly certified and approved by the Construction Manager, based on the Lump Sum or unit price value of equipment installed and tested, labor and materials incorporated into said permanent work by the Contractor during the preceding month, and acceptable materials and equipment on hand (materials and equipment furnished and delivered to the site by the Contractor and not yet incorporated into the work accompanied by an approved invoice). Payments will not be made for temporary construction unless specifically provided for in the Contract Documents.

Partial payments will be made monthly based on work accomplished as of a day mutually agreed to by the Owner and the Contractor.

The Contractor shall submit a completed and signed progress payment request form with its estimate of the work completed during the prior month and the work completed to date in a format corresponding to the unit price schedule and accepted cost breakdown. Additionally, the Contractor shall submit a detailed statement of the Contractor's request for payment of acceptable materials and equipment on hand in compliance with Section 00700-8.2.2, Partial Payments - Inclusion of Materials on Hand. Each payment request shall list each Change Order executed prior to date of submission, including the Change Order Number.

Upon receipt of Contractor's requests for payment, the Owner shall act in accordance with the following:

- (a) The Construction Manager shall review the submitted estimates, as soon as practicable after receipt for the purpose of determining that the estimates are a proper request for payment, and shall prepare a certified estimate of the total amount of work done and acceptable materials and equipment on hand.
- (b) Any request for payment determined not to be a proper payment request suitable for payment shall be returned to the Contractor as soon as practicable, but not later than seven (7) days after receipt. A request for payment returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the request for payment is not proper.
- (c) The number of days available to the Owner to make a payment without incurring interest pursuant to this section shall be reduced by the number of days by which the Owner exceeds the seven (7) day return requirement set forth in subdivision (b) above.

If requested, the Contractor shall provide such additional data as may be reasonably required to support the partial payment request. The Construction Manager will be available to meet and discuss the partial payment request prior to its resubmittal(s). When the Contractor's estimate of amount earned conforms with the Construction Manager's evaluation, the Contractor shall submit to the Construction Manager a properly completed and signed progress payment request. The Construction Manager will submit the recommended progress payment request for the Owner's approval and processing. Payment will be made by the Owner to the Contractor in accordance with Owner's normal accounts payable procedures; the Owner shall retain amounts in accordance with Section 00700-8.3, **Right to Withhold Amounts**.

No such estimate or payment shall be required to be made, when in the judgement of the Construction Manager, the Work is not proceeding in accordance with the provisions of the Contract, or when in the Construction Manager's judgement the total value of the Work done since the last estimate amounts to less than One Thousand Dollars (\$1,000).

Subject to the provisions of this section, the Owner shall pay the Contractor within thirty (30) days after receipt of undisputed and properly submitted requests for payment from the Contractor. In accordance with Public Contract Code Section 20104.50, if the Owner fails to pay an undisputed request for payment within the allotted thirty (30) days, the Owner shall pay interest to the Contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.

Each progress payment request and the final payment request shall be deemed "proper" only if it is submitted on the form approved by the Owner, with all of the requested information completely and accurately provided by the Contractor and such completed progress payment request form or final payment request form is accompanied by: (i) certified payrolls of the Contractor and all Subcontractors, of any tier, for laborers performing any portion of the Work for which a progress payment or final payment is requested; (ii) duly completed and executed Conditional Waiver and Release Upon Progress Payment or Final Payment forms in accordance with California Civil Code §3262 for all Subcontractors of any tier, and Material Suppliers covering the progress payment or final payment requested; (iii) duly completed and executed Unconditional Waiver and Release Upon Progress Payment forms in accordance with California Civil Code §3262 for all Subcontractors of any

tier, and Material Suppliers covering the Progress Payment received by the Contractor under the prior progress payment request.

8.2.2 Partial Payments - Inclusion of Materials on Hand - Materials, as used herein, shall be considered to be those items, which are fabricated and manufactured material and equipment. Only those materials for which the Contractor can transfer clear title to the Owner will be qualified for partial payment. The Contractor may request payment of seventy-five (75) percent of the actual net cost of these materials. The request for partial payment will be subject to retention as provided elsewhere in the Contract Documents.

To receive partial payment for materials and equipment not incorporated in the Work, it shall be necessary for the Contractor to submit to the Construction Manager a list of such materials, at least seven (7) days prior to submitting the monthly estimate of amount earned for work completed. At the Construction Manager's sole discretion, it will approve items for which partial payment is to be made subject to the following:

- a. Equipment and materials will only be eligible if given conditional or final acceptance by the Design Consultant and are in apparent compliance with favorably reviewed shop drawings.
- b. Only equipment or materials which have received favorable review of shop drawings will qualify. The Operation and Maintenance Manuals for equipment must be submitted in accordance with Section 01730, **OPERATION AND MAINTENANCE DATA**, prior to payment for stored materials.
- c. Eligible equipment or materials must be delivered and properly stored, protected, and maintained in a manner favorably reviewed by the Construction Manager, at the job site.
- d. The Contractor's actual net cost for the materials must be supported by paid invoices of suppliers, or other documentation requested by the Construction Manager.
- e. Materials or equipment delivered to the Site less than thirty (30) days prior to their scheduled incorporation in the Work shall not qualify.
- f. Final payment shall be made only for materials actually incorporated in the Work and, upon acceptance of the Work, all materials remaining for which advance payments had been made shall revert to the Contractor, unless otherwise agreed, and partial payments made for these items shall be deducted from the final payment for the Work.
- g. Partial payments for materials and equipment on hand shall not be deemed to be final payment for the material nor relieve the Contractor of its obligations under the Contract.
- h. Partial payments for materials and equipment on hand shall not be construed or considered as acceptance of any portion of the Work.
- i. Partial payments for materials and equipment on hand shall be subject to retention in accordance with Section 00700-8.3, **Right to Withhold Amounts**.

8.2.3 Effect of Payment – Payment will be made by Owner based on the Construction Manager’s observations at the site and the data comprising the progress payment request. Payment will not be a representation that the Owner has:

- (a) made exhaustive or continuous on-site inspections to check the quality or quantity of Work;
- (b) reviewed construction means, methods, techniques, sequences or procedures;
- (c) reviewed copies of requisitions received from subcontractors and material suppliers and other data requested by Owner to substantiate Contractor’s right to payment;
- (d) made examination to ascertain how or for what purpose Contractor has used money previously paid on account of the Contract Sum; or
- (e) accepted all or part of the Work.

8.2.4 Cash Flow Projection – A cash flow projection covering the entire construction period shall be included with the monthly contract earnings estimate report. The time increment shall be monthly and shall be revised monthly to show actual earnings and changes to projected cash flows. If there is a difference in the percent complete of the Work as measured by the CPM schedule and the percent complete of the Work as measured by the monthly contract earnings estimate, the Contractor shall explain the reason for the difference.

8.3 Right to Withhold Amounts

8.3.1 Retention - The Owner will deduct from the partial payment and retain as part security, five (5) percent of the amount earned until the final payment in accordance with Public Contract Code Section 7201.

8.3.2 Other Withholds - In addition to the amount which the Owner may otherwise retain under the Contract, the Owner may withhold a sufficient amount or amounts of any payment or payments otherwise due the Contractor, as in its judgment may be necessary to cover:

- a. Defective work not remedied.
- b. A reasonable doubt that the Contract can be completed for the balance then unpaid.
- c. Damage to another contractor or third party, or to property.
- d. Failure of the Contractor to maintain Record Documents current as required in Section 01720, **PROJECT RECORD DOCUMENTS**.
- e. Cost of insurance arranged by the Owner due to cancellation or reduction of the Contractor's insurance.
- f. Failure to submit, revise, resubmit or otherwise conform to the requirements herein for preparing and maintaining a construction schedule as required in Section 01310, **PROGRESS SCHEDULES AND REPORTS**.
- g. Failure to make proper submissions, as specified herein.
- h. Payments due the Owner from the Contractor.
- i. The Contractor's neglect or unsatisfactory prosecution of the Work including additional engineering and administrative costs related to construction and/or shop drawing errors and the failure to clean up.

- j. Provisions of law that enable or require the Owner to withhold such payments in whole or in part.
- k. Stop Notice claims filed by Contractor's subcontractors, of any tier, or its material suppliers.
- L. Failure of Contractor to submit Operation and Maintenance Manuals as required in Section 01730, **OPERATION AND MAINTENANCE DATA**.
- m. Failure to comply with environmental or other regulatory requirements.

When the above reasons for withhold amounts are removed, payment will be made to the Contractor for amount withheld because of them.

8.4 **Security Substitution for Withholds**

For any retention of amount earned by the Contractor under Sections 00700-8.2, **Partial Payments**, or 00700-8.7, **Final Inspection and Payment**, the Contractor may substitute securities as provided in Section 22300 of the Public Contract Code, as amended, which state in part as follows:

"Provisions shall be included in any invitation for bid and in any contract documents to permit the substitution of securities for any moneys withheld by a public agency to ensure performance under a contract, provided that substitution of securities provisions shall not be required where federal regulations or policies, or both, do not allow the substitution of securities. At the request and expense of the contractor, securities equivalent to the amount withheld shall be deposited with the public agency, or with a state or federally chartered bank as the escrow agent, who shall then pay those monies to the contractor. Upon satisfactory completion of the contract, the securities shall be returned to the contractor."

Alternatively, the contractor may request and the Owner shall make payment of retentions earned directly to the escrow agent at the expense of the contractor. At the expense of the contractor, the contractor may direct the investment of the payments into securities and the contractor shall receive the interest earned on the investments upon the same terms provided for in this section for securities deposited by the contractor. Upon satisfactory completion of the contract, the contractor shall receive from the escrow agent all securities, interest and payments received by the escrow agent from the Owner, pursuant to the terms of this section. The contractor shall pay to each subcontractor, not later than 20 days of receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each subcontractor, on the amount of retention withheld to insure the performance of the contractor.

The contractor shall be the beneficial owner of any securities substituted for money withheld and shall receive any interest thereon.

Securities eligible for investment under Section 22300 of the Public Contract Code shall be limited to those listed in Section 16430 of the Government Code and to bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the Contractor and the Owner.

The escrow agreement used hereunder shall be null, void, and unenforceable unless it is substantially similar to the form in Section 00630, **ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION**.

8.5 Warranty of Title

No material, supplies, or equipment for the Work under this Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by the seller or supplier. The Contractor warrants good title to all material, supplies, and equipment installed or incorporated in the work and agrees upon completion of all work to deliver the premises, together with all improvements and appurtenances constructed or placed thereon by the Contractor, to the Owner free from any claims, liens, security interests, or charges. The Contractor further agrees that neither the Contractor nor any person, firm, or corporation furnishing any materials or labor for any work covered by this Contract shall have any right to a lien upon the premises or any improvement or appurtenances thereon, provided that this shall not preclude the Contractor from installing metering devices and other equipment of utility companies or of municipalities, the title of which is commonly retained by the utility company or the municipality. In the event of the installation of any such metering device or equipment, the Contractor shall advise the Owner as to the legal Owner thereof.

Nothing contained in this paragraph, however, shall defeat or impair the right of such persons furnishing materials or labor under any bond given by the Contractor for their protection or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this Paragraph shall be inserted in all subcontracts and material contracts, and notice of its provisions shall be given to all persons furnishing materials for the work when no formal Contract is entered into for such materials.

8.6 Substantial Completion

When the Contractor considers that the Work or portion of the Work as defined in Section 01010-3.0, **EARLY OCCUPANCY OF PORTIONS OF WORK**, is substantially complete, the Contractor shall notify the Construction Manager in writing. Upon receipt of the notification, the Construction Manager, the Owner, the Design Consultant and/or their authorized representatives will make inspection, to determine if the Work and administrative requirements are sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use. If items are found which prevent such use or occupancy, the Construction Manager shall notify the Contractor in writing of such items by issuing a Corrective Work Item List.

Upon the completion of such corrective work, the Contractor shall so notify the Construction Manager in writing. The Construction Manager, the Owner and/or the Design Consultant shall inspect the Work to determine its acceptability for Substantial Completion and for determination of other items, which do not meet the terms of the Contract. Upon verification that the Work is substantially complete the Construction Manager shall prepare a Certificate of Substantial Completion and the Punch List. The Certificate shall establish the date of Substantial Completion and the responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, commencement of warranties required by the Contract Documents, and shall fix the time, not to exceed 60 days, within which the Contractor shall finish all items on the Punch List or remaining work or administrative requirements accompanying the Certificate. When the preceding provisions have been approved by both the Owner and the Contractor, they shall sign the Certificate to acknowledge their written acceptance of the responsibilities assigned to them in such Certificate. By such acknowledgment, the Owner has the right to retain, in accordance with applicable law, withheld monies due the Contractor to pay the Owner's actual costs including, but not limited to, charges for engineering, inspection and administration incurred due to the failure to complete the Punch List

within the time period provided in the Certificate of Substantial Completion, which costs the Owner may deduct from amounts due or that may become due the Contractor under the Contract.

8.7 Final Inspection and Payment

Upon completion of the Work, including all items on the Punch List, and upon completion of final cleaning, the Contractor shall so notify the Construction Manager in writing. Upon receipt of the notification, the Construction Manager, the Owner and/or their authorized representatives will make the final inspection, to determine the actual status of the Work in accordance with the terms of the Contract. If materials, equipment, workmanship or administrative requirements are found which do not meet the terms of the Contract, the Construction Manager shall prepare a Final Inspection List of such items and submit it to the Contractor. Following completion of the work to correct all items in the Final Inspection List the Contractor shall notify the Construction Manager. The Construction Manager shall, in turn, notify the Owner that the Work has been completed in accordance with the Contract. Final determination of the acceptability of the Work shall be made by the Owner. After completion of the work, but prior to its acceptance by the Owner, the last partial payment will be made to the Contractor in accordance with Section 00700-8.2, **Partial Payments**.

After receipt of the last partial payment, but prior to acceptance of the Work by the Owner, the Contractor shall send a letter to the Construction Manager. The letter, pursuant to California Public Contract Code Section 7100, shall state that acceptance of the final payment described below shall operate as and shall be, a release to the Owner, the Construction Manager, the Design Consultant, and their duly authorized agents, from all claim of and/or liability to the Contractor arising by virtue of the Contract related to undisputed contract amounts. Disputed Contract claims in stated amounts previously filed as provided in Section 00700-7.3, **Resolution of Disputes**, may be specifically excluded by the Contractor from the operation of the release.

Following receipt of all required submittals and the Construction Manager's written statement that construction is complete and recommendation that the Owner accept the project, the Owner will take formal action on acceptance.

Within ten (10) days of the acceptance by the Owner of the completed work embraced in the Contract, the Owner will cause to be recorded in the office of the County Recorder a Notice of Completion.

Sixty (60) days after recording the Notice of Completion of the Work involved in the Contract, the Owner will pay the Contractor in lawful money such sums of money as may be due the Contractor and are undisputed including all sums retained but excluding such sums as have previously been paid the Contractor. This payment will constitute the final payment to the Contractor under this Contract. Upon receipt of such payment, the Contractor shall send Owner an "unconditional waiver and release upon final payment" properly executed in accordance with California Civil Code Section 3262.

The Owner will pay the Contractor in lawful money such sums of money as may be due the Contractor including all sums retained but excluding such sums as have previously been paid the Contractor and as may be needed to cover outstanding stop notices. This payment will constitute the final payment to the Contractor under this Contract.

In the event of a dispute between the Owner and the Contractor, the Owner may in accordance with Public Contract Code Section 7107 withhold from the final payment an amount of 150 percent of the disputed amount.

***** END OF SECTION *****

SECTION 00800

SUPPLEMENTARY GENERAL CONDITIONS

1.0 MODIFICATIONS TO THE GENERAL CONDITIONS

1.1 Time Allowed for Completion

In accordance with the provisions of Section 00700-6.2, **Contract Time**, substantial completion of this Project shall be completed within **760** consecutive days from the date established in the Notice to Proceed for the commencement of Contract Time.

Milestone A: Submittals for the development, review and acceptance for the Switchgear SWGR-DPA and Motor Control Center MCC-E shall be provided within 140 calendar days from the Notice to Proceed.

Milestone B: Phase 1 – Switchgear SWGR-DPA shall be in service prior to Phase 2 – Motor Control Center MCC-E.

Milestone C: Final Completion shall be 45 days after Substantial Completion.

1.2 Damages for Delays

In accordance with the provisions of Section 00700-6.5, **Liquidated Damages**, for the period of time that any portion of the work remains unfinished after the time fixed for an interim milestone and/or Substantial Completion in Section 00800-1.1, **Time Allowed for Completion**, as modified by extensions of time granted by the Owner, it is understood and agreed by the Contractor and the Owner that the Contractor shall pay the Owner the damages listed below.

	Dollars Per Day Liquidated Damages (Amount in Dollars)
1. Substantial Completion	<u>\$2,900</u>
2. Milestone A	<u>\$2,900</u>

1.3 Weather Days

In accordance with the provisions of Paragraph 00700-6.4.2.C, Weather Delays, the following allowance(s) for weather caused delay have been included in the time allowed for completion.

	Weather Day Allowance (Working Days)
1. Substantial Completion	<u>0</u>

This allowance represents the Owner's assessment of potential lost working days. This allowance includes both weather days due to inclement weather conditions and the conditions resulting from weather in accordance with Paragraph 00700-6.3.3.2, Weather Delays. These weather days shall be included in the Contractor's schedule as specified in Section 01324-4.0, **WEATHER CONDITIONS**. This allowance is not a warranty as to the extent that weather may or may not impact the Work. The Contractor shall make its own independent assessment of potential impacts to the Work due to weather based on the Project location, the Work required, the Contract Period, the schedule, and the Contractor's planned means, methods and appliances, and the Contractor shall take such factors into consideration in its Bid and planning of the Work. The Contractor is responsible for determining the means, methods and appliances for prosecuting the Work as defined in Section 00700-5.1, **Means, Methods and Appliances**.

1.4 **Contract Administration**

The following project representatives are hereby designated by the Owner:

- A. Owner Representative: **Jaclyn Yee**
- B. Design Consultant: **Beecher Engineering, Inc.**
- C. Construction Manager **TBD**

All communications to and from the Contractor shall be routed through the Construction Manager. Wherever the Contract Documents indicate that the Contractor shall contact or notify the Engineer, Architect, Soils Engineer, Structural Engineer, etc., the Contractor shall route such communication through the Construction Manager except when otherwise explicitly approved by the Construction Manager.

1.5 **Alternative Dispute Resolution of Claims** Section 00700-7.3.7, Resolution of Claims, describes the procedures that are to be utilized for claims procedures on the project. The following provisions supersede Section 00700-7.3.7, Resolution of Claims and shall be utilized as described herein.

1.5.1 **Use of Project Arbiter** - Both parties to the Contract agree to select a mutually acceptable Project Arbiter within 20 days of execution of the Contract. In no case shall work begin, unless mutually agreeable, until the project arbiter has been selected, except that the Owner may issue a Notice to Proceed at its sole discretion.

If both parties cannot agree on the initial Arbiter, the Arbiter shall be selected by the Judicial and Mediators Services of Northern California upon application by either party. If during the life of this Contract, both parties agree that a new Arbiter must be selected, or the current arbiter indicates that he/she cannot continue, then a new Project Arbiter shall be selected and the previous Arbiter discharged.

The parties to this Contract agree to each provide to the Arbiter on a monthly basis its summary of the Contract status. The status shall cite the progress of the job relative to the latest accepted progress schedule, significant equipment breakdowns, delayed material deliveries, status of necessary non-District owned utility relocations, Contractor payment status, and the status and nature of claims.

Any contract dispute amounting to less than \$50,000 shall be decided by the Arbiter prior to any other legal action. For claims greater than \$50,000 and less than or equal to \$375,000, the procedure beginning with Subsection 1.5.1.B below shall be followed unless both parties agreed in writing to proceed solely with the Project Arbiter. If such claims proceed to arbitration it is agreed that the Project Arbiter shall be one of the arbiters in case of an arbitrated claim exceeding \$50,000.

The Owner agrees to pay Arbiter's retainer cost. In addition to the retainer, the Project Arbiter shall be paid for rendering decisions for claims submitted for decision, which shall be borne equally by the Contractor and the Owner.

A. Claims Not Exceeding \$50,000

If any claim is not resolved within 15 days of having been presented to the other party, both parties to this Contract agree that it shall be submitted in writing to the Project Arbiter, who shall be requested to render a decision within 35 calendar days. If both parties agree, the period for resolving the matter prior to sending it to the Arbiter may be extended to 30 days from the presentation date. The Arbiter may request additional information relative to a claim, beyond what was initially submitted in writing, in attempting to reach a decision.

The parties agree that the form of the written submittal to the Arbiter shall consist of the claimant's claim, a response to the claim from the defending party, and a response from the claimant to the defendant's position. The parties to the dispute shall state the monetary and time adjustment settlement that each deems appropriate. This written submittal shall be accompanied by a cover letter on the Owner's letterhead and signed by both parties submitting the matter to the Project Arbiter for written decision. Such decision shall contain the legal, technical, and contractual basis for the decision and shall state which of the two proposed settlements shall be awarded. Only the settlement award which more nearly reflects the decision shall be made.

Decisions by the Arbiter shall be binding on both parties unless the parties agree in writing prior to the arbitration that the decision shall be non-binding. All findings and conclusions of the Project Arbiter shall be considered as admissible documentation in all future proceedings related to the claim.

B. For Claims of over \$50,000 and less than \$375,000

The initial resolution process shall be in accordance with Section 00700-7.3.7, Resolution of Claims and Public Contract Code Section 20104.2. Subsequent to the "meet and confer conference" as described in Public Contract Code Section 20104.2.e and if the claim or any portion remains in dispute, the parties shall submit the unresolved claim to the Project Arbiter. The procedure of Section 00800-1.5.1.A. shall be followed for submitting claims to the Project Arbiter. Such rulings shall be non-binding unless the parties agree, either before or after such decision, that it shall be binding upon them.

Following the Project Arbiter's decision, if the claim or any portion remains in dispute, the claimant may file a claim as required by the claims statute commencing at California Government Code Section 910. The time within which a Government Code claim must be filed

is tolled from the time the claimant submits the Public Contract Code claim until the time when the claim is denied in the Arbitrator's decision.

C. Judicial Arbitration for Claims Exceeding \$375,000

All claims between the Owner and the Contractor that are not resolved between the parties exceeding \$375,000 may be resolved according to the procedures established in Public Contract Code Section 20104 with the following exceptions:

1. The Owner must respond in writing to any written claim greater than three hundred seventy-five thousand dollars (\$375,000) within 60 days of receipt of the claim, or may request in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the Owner may have against the claimant, or may advise the Contractor in writing within 30 days of receipt of the claim when the review and response to the claim will be furnished.
2. The judicial arbitration proceedings established in Public Contract Code Section 20104.4(b) and specified in Section 00800-1.5.1.D, Civil Action Proceedings shall only apply if both the Owner and Contractor mutually agree to arbitration. The Project Arbitrator shall be one of the Arbitrators in any dispute over \$375,000.

D. Civil Action Proceedings

If a civil action is filed to resolve the claim, then between 30 and 60 days after the filing of responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by the parties. The parties are given 15 days to select a disinterested third person as mediator. Mediation must commence within 30 days of submittal and conclude within 15 days of commencement unless the time is extended for good cause by the court.

Mediators shall, when possible, be experienced in construction law. If the matter remains in dispute, the case must be submitted to judicial arbitration pursuant to procedures set forth in the Code of Civil Procedure commencing at Section 1141.10. Discovery is permitted consistent with the rules pertaining to judicial arbitration.

Arbitrators shall, when possible, be experienced in construction law.

A party who appeals an arbitration award and does not obtain a more favorable judgment shall pay the attorney's fees on appeal of the other party. The Owner must pay interest at the legal rate on any arbitration award or judgment, commencing on the date when suit was filed. Except as otherwise provided in the Contract, the Owner must pay the undisputed portions of any claims.

Should either party to this Contract bring legal action against the other, the case shall be handled by a court of competent jurisdiction in Alameda County, California.

2.0 LIABILITY AND INSURANCE

2.1 General Requirements

The Contractor shall take out, pay for, and maintain throughout the duration of this Contract and for such additional periods as more specifically required herein the following insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, the Contractor's agents, representatives, employees or subcontractors.

Within ten (10) days after notice of award of the Contract, the Contractor shall promptly obtain at its own expense, all the insurance required by Section 00800-2.0, **LIABILITY AND INSURANCE** and as specified in Section 00470, **ACKNOWLEDGEMENT OF INSURANCE REQUIREMENTS**. The Contractor shall submit coverage verification for review and approval by the Owner prior to the Owner's execution of the Contract.

The Notice to Proceed with the Work under this Contract will not be issued, and the Contractor shall not commence work, until such insurance has been approved by the Owner. Such insurance shall remain in full force and effect at all times during the prosecution of the Work and until the final completion and acceptance thereof. The Notice to Proceed does not relieve the Contractor of the duty to obtain such insurance as required herein.

Contractor shall include all costs for insurance in its bids.

Each insurance policy required by this contract shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except with notice to the Owner.

Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from its operations under this Contract. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects the Owner, the Construction Manager, the Cities of Dublin, San Ramon and Pleasanton, the Design Consult, and their officers, officials, partners, employees, agents and volunteers. Any insurance or self-insurance maintained by the Owner, its officers, officials, employees, agents or volunteers shall be in excess of the Contractor's insurance and shall not contribute with it.

Any failure of the Contractor to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the Owner, the Design Consultant and the Construction Manager, the Cities of Dublin, San Ramon and Pleasanton, and their officers, officials, partners, employees, agents or volunteers.

Companies writing the insurance under this article shall be licensed to do business in the State of California or be permitted to do business under the Surplus Line Law of the State of California. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A: VII.

Owner reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.

2.2 Subcontractors

Before any subcontractor commences work, Contractor shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Contractor shall ensure that the Owner is an additional insured on insurance required from subcontractors.

Each designated subcontractor shall promptly obtain at its own expense, all the insurance required by Section 00800-2.0, **LIABILITY AND INSURANCE** and as specified in Section 00471, **ACKNOWLEDGEMENT OF INSURANCE REQUIREMENTS FOR DESIGNATED SUBCONTRACTORS**. Subcontractors shall furnish original certificates and required endorsements as verification of insurance coverage to the Contractor. The Contractor shall make such documents available for the Construction Manager's and/or Owner's review upon such request. The insurance liability limits specified in Section 00800-2.0, **LIABILITY AND INSURANCE**, shall apply for all subcontractors listed in Section 00430, **DESIGNATION OF SUBCONTRACTORS**. The Contractor is responsible for confirming that the proper insurance is provided in accordance with Section 00471, **ACKNOWLEDGEMENT OF INSURANCE REQUIREMENTS FOR DESIGNATED SUBCONTRACTORS**. For Commercial General Liability coverage subcontractors shall provide coverage with a format least as broad as CG 20 38 04 13.

2.3 Coverage Requirements

Coverage shall be as broad as required herein. If the contractor or subcontractor maintains higher limits than the minimums shown above, the Owner requires and shall be entitled to coverage for the higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Owner.

2.3.1 Commercial General Liability

Commercial General Liability (CGL) Coverage shall be at least as broad as Insurance Services Office (ISO) Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than \$5,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.

2.3.2 Automobile Liability

Automobile Liability coverage shall be at least as broad as Insurance Services Office Form CA 0001 covering Code 1 (any auto), with limits no less than \$5,000,000 per accident for bodily injury and property damage.

2.3.3 Worker's Compensation

Workers' Compensation insurance shall be as required by the State of California, with Statutory Limits, and Employers' Liability insurance with a limit of no less than \$1,000,000 per accident for bodily injury or disease.

2.3.4 Builder's Risk

Builder's Risk (Course of Construction) insurance utilizing an "All Risk" (Special Perils) coverage form, with limits equal to the completed value of the project and no coinsurance penalty provisions.

Contractor may submit evidence of Builder's Risk insurance in the form of Course of Construction coverage. Such coverage shall name the Owner as a loss payee as their interest may appear.

If the project does not involve new or major reconstruction, at the option of the Owner, an Installation Floater may be acceptable. For such projects, a Property Installation Floater shall be obtained that provides for the improvement, remodel, modification, alteration, conversion or adjustment to existing buildings, structures, processes, machinery and equipment. The Property Installation Floater shall provide property damage coverage for any building, structure, machinery or equipment damaged, impaired, broken, or destroyed during the performance of the Work, including during transit, installation, and testing at the Owner's site.

2.3.5 Pollution Legal Liability, Asbestos legal Liability, Errors and Omissions

Contractors' Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors and Omissions (if project involves environmental hazards) shall have limits no less than \$1,000,000 per occurrence or claim, and \$2,000,000 policy aggregate.

2.4 Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the Owner. At the option of the Owner, either: the Contractor shall cause the insurer to reduce or eliminate such self-insured retentions as respects the Owner, its officers, officials, employees, and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the Owner guaranteeing payment of losses and related investigations, claim administration, and defense expenses. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or Owner.

2.5 Additional Insureds

The Owner, its officers, officials, employees, and volunteers are to be covered as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations and automobiles owned, leased, hired, or borrowed by or on behalf of the Contractor. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10, CG 11 85 or both CG 20 10, CG 20 26, CG 20 33, or CG 20 38; and CG 20 37 forms if later revisions used).

2.6 **Primary Coverage**

For any claims related to this project, the Contractor's insurance coverage shall be primary insurance at least as broad as ISO CG 20 01 04 13 as respects the Owner, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the Owner, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

2.7 **Claims Made Policies**

If any coverage required is written on a claims-made coverage form:

- A. The retroactive date must be shown, and this date must be before the execution date of the contract or the beginning of contract work.
- B. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of contract work.
- C. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective, or start of work date, the Contractor must purchase extended reporting period coverage for a minimum of five (5) years after completion of contract work.
- D. A copy of the claims reporting requirements must be submitted to the Owner for review.
- E. If the services involve lead-based paint or asbestos identification/remediation, the Contractors Pollution Liability policy shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/remediation, the Contractors Pollution Liability policy shall not contain a mold exclusion, and the definition of Pollution shall include microbial matter, including mold.

2.8 **Waiver of Subrogation**

Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the Owner for all work performed by the Contractor, its employees, agents and subcontractors.

2.9 **Verification of Coverage**

Contractor shall furnish the Owner with original Certificates of Insurance including all required and amendatory endorsements (or copies of the applicable policy language effecting coverage required by this contract and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to Owner before work begins. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The Owner reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

2.10 Insurance During Guarantee Period

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

3.0 INDEMNIFICATION

Contractor shall indemnify, defend with counsel acceptable to Owner and hold harmless to the full extent permitted by law, Owner, the City of Pleasanton, the Design Consultant and the Construction Manager, their consultants, subconsultants, and their officers, officials, partners, employees, agents and volunteers, (collectively "the Indemnified Parties"), from and against any and all liability, loss, damage, claims, expenses and costs (including, without limitation, attorney fees and costs and fees of litigation) (collectively, "Liability") of every nature arising out of or in connection with Contractor's performance of the Work or its failure to comply with any of its obligations contained in this Agreement. Such indemnification by the Contractor shall include, but not be limited to, the following:

- a. Liability or claims resulting directly or indirectly from the negligence or carelessness of the Contractor, its subcontractors, employees, or agents in the performance of the Work, or in guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the Contractor, its employees, or agents;
- b. Liability or claims arising directly or indirectly from bodily injury, occupational sickness or disease, or death of the Contractor's, or Supplier's own employees, or agents engaged in the Work resulting in actions brought against the Indemnified Parties;
- c. Liability or claims arising directly or indirectly from or based on the violation of any Laws or Regulations, whether by the Contractor, its subcontractors, employees, or agents;
- d. Liability or claims arising directly or indirectly from the use or manufacture by the Contractor, its subcontractors, employees, or agents in the performance of this Agreement of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliance, unless otherwise specified stipulated in this Agreement.
- e. Liability or claims arising directly or indirectly from the breach of any warranties, whether express or implied, made to the Owner or any other parties by the Contractor, its subcontractors, employees, or agents;
- f. Liability or claims arising directly or indirectly from the willful misconduct of the Contractor, its subcontractors, employees, or agents;
- g. Liability or claims arising directly or indirectly from any breach of the obligations assumed in this Agreement by the Contractor;
- h. Liability or claims arising directly or indirectly from, relating to, or resulting from a hazardous condition created by the Contractor, Subcontractors, Suppliers, or any of their employees or agents, and;
- i. Liability or claims arising directly, or indirectly, or consequentially out of any action, legal or equitable, brought against the Indemnified Parties, their consultants, subconsultants, and the officers, directors, employees, agents and volunteers of each or any of them, to the extent caused by the Contractor's use of any premises acquired by permits, rights of way, or easements, the Site, or any land or area contiguous hereto or its performance of the Work thereon.
- j. Liability arising directly or indirectly from exposure to hazards in violation of the California

Labor Code that may be asserted by any person or Owner, including, but not limited to, the Contractor, arising out of or in connection with the negligent activities of the Contractor, its agents, employees or privities pursuant to this Contract, whether or not there is concurrent negligence on the part of the Indemnified Parties.

The Contractor shall reimburse the Indemnified Parties for all costs and expenses, (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court costs of appeal) incurred by said Indemnified Parties in enforcing the provisions of this Paragraph.

The indemnification obligation under this Section 00800-**3.0 INDEMNIFICATION** shall not be limited in any way by any limitation on the amount or type of insurance carried by Contractor or by the amount or type of damages, compensation, or benefits payable by or for the Contractor or any Subcontractor or other person or organization under workers' compensation acts, disability benefit acts, or other employee benefit acts.

Pursuant to California Public Contract Code Section 9201, Owner shall timely notify Contractor of receipt of any third-party claim relating to this Agreement.

The Contractor's obligations pursuant to this provision will survive the expiration or earlier termination of this Contract.

4.0 INJURY OR ILLNESS REPORTS

The Contractor shall furnish the Construction Manager with a copy of the Employer's Report of Injury immediately following any incident requiring the listing of said report on the OSHA Log during the prosecution of the work under this Contract. The Contractor shall also furnish the Construction Manager with a copy of the Employer's Report of injury involving any subcontractor on this project.

5.0 STATE REVOLVING FUND LOAN PROGRAM – NOT USED

6.0 WAGE RATE REQUIREMENTS

6.1 PREVAILING WAGES

Pursuant to the statutes of the State of California, the Director of Industrial Relations has ascertained and determined the general prevailing rate of per diem wages, and rates for overtime and legal holidays, in the locality in which this work is to be performed for each craft or type of worker or mechanic needed to execute the Contract. The prevailing rates so determined are available for inspection at the Authority office and form a part of the Contract Documents. It shall be the duty of the Contractor to post a copy of such prevailing wages at the job site as required by regulation.

This project is subject to labor Compliance monitoring and enforcement by the California Department of Industrial Relations.

6.1.1 Davis Bacon Act – NOT USED

6.2 TRAVEL AND SUBSISTENCE

As required by Section 1773.1 of the California Labor Code, the Contractor shall pay travel and subsistence payments to each worker needed to execute the Work, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with that Section.

6.3 PENALTY

Unless a greater amount is specified within the Contract Documents, the Contractor shall forfeit as penalty to the Authority twenty-five dollars (\$25) for each calendar day, or portion thereof, for each worker paid less than the stipulated prevailing rates for any Work done under the Contract by the Contractor or by any subcontractor under the Contractor, in violation of the provisions of the Labor Code and, in particular, Section 1770 to Section 1871 thereof, inclusive

7.0 **PARTNERING – NOT USED**

8.0 **RECORD DRAWINGS AND ADDITIONAL INFORMATION**

The following drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) have been used by Design Consultant in preparing the Contract Documents. Drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) are available for review at the Owner's office at 7051 Dublin Boulevard, Dublin, CA, upon 48 hours notice to Owner. The following record information is available for review by the Contractor at the Owner's office. The Owner makes no warranty as to the accuracy of this information.

a. **NONE**

9.0 **SUBSTANTIAL COMPLETION**

Substantial completion of the Project as required by Section 00700-8.6, **Substantial Completion**, requires that the following portions of the Work must be completed in accordance with the requirements of the Contract Documents:

- Completion of the work as required by the Contract Documents to allow the Owner to occupy and utilize the Project for its intended purpose.
- Completion of the Corrective Work Item List as described in Section 00700-8.6, **Substantial Completion**
- Training has been completed for all electrical, mechanical and instrumentation systems.
- All testing required by the Contract and Specification Section 01660, **TESTING AND TRAINING**, has been successfully completed.
- All process equipment shall be installed and operational.
- All instrumentation and control systems shall be installed and operational to allow automatic operation.
- All alarms are fully functional, tested and demonstrated to properly associate locally, remotely and in the SCADA system.

- All items related to health and safety of Owner operations and maintenance staff, including warning signs, guardrails, and safety equipment shall be complete.
- All record drawings have been submitted, updated, reviewed and approved.

Portions of the Work not essential to the system operation, which can be completed without interruption of system operations, may be completed after the Work is substantially complete, and may include the following items:

- Final Site Clean-Up
- Completion of the Final Punch List prepared by the Construction Manager in accordance with Section 00700-8.6, **Substantial Completion**.

9.1 RETENTION RELEASE

In accordance with Public Contract Code Section 7201 (b)(3) the District has determined this Project to be substantially complex and therefore requires a higher retention amount. The Authority will deduct from the partial payment and retain as part security, ten (10) percent of the amount earned until the final payment.

10.0 PROJECT LIASION – NOT USED

***** END OF SECTION *****

DIVISION 1 – GENERAL REQUIREMENTS

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DIVISION 1 – GENERAL REQUIREMENTS

SECTION 01010

SUMMARY OF WORK

1.0 WORK COVERED BY CONTRACT DOCUMENTS

The Work includes the following:

- Replacement of existing 480-volt switchgear SWGR-DPA with new 480-volt switchgear SWGR-DPA; and
- Replacement of existing 480-volt motor control center MCC-E with new 480-volt motor control center MCC-E.

2.0 WORK SEQUENCE AND CONSTRAINTS

2.1 Continuity of Operations – General

Construction under this Contract involves expansion and/or modification of facilities at the existing operating treatment facilities, pump stations, reservoirs and/or pipelines which must continue to meet requirements of State and Federal regulating agencies.

These existing facilities are currently and continuously in operation and those functions shall not be interrupted except as specified herein. The Contractor shall coordinate the work to avoid any interference with normal operation of equipment and processes.

In addition to the requirements specified elsewhere in these Contract Documents, the Contractor is advised of the following constraints to the work sequence and schedule.

Shutdown of existing facilities will be performed by Owner personnel or by the Contractor only under Owner personnel's supervision and with prior approval.

The work under this Contract shall be conducted in a manner that will minimize shutdowns, roadway closures, or traffic obstructions caused by construction. Shutdowns causing damage to adjacent public and private property shall not be permitted and any damage resulting shall be the sole responsibility of the Contractor.

The Contractor shall note that only certain structures, tie-ins and constraints are addressed in this section. All work, whether or not addressed here, shall be governed by applicable parts of this section, and schedules and procedures further submitted for approval.

Changes to existing utilities or any new connection thereto must be coordinated to provide the least possible interference with plant operations. Prior to any shutdown or flow diversion all materials, fittings, supports, equipment and tools shall be on the site and all necessary labor scheduled prior to starting any connection work.

The Contractor shall include all work described in this section in the construction schedule. The sequence and constraints identified in this section shall be followed in the construction of the work. However, alternatives to these sequences and constraints may be submitted by the Contractor for review by the Construction Manager.

- a) Shutdowns are only permitted on Tuesdays, Wednesdays, or Thursdays unless otherwise approved by the Construction Manager. Such shutdowns are only permitted a maximum of once per week.
- b) Shutdowns shall not be permitted during rainfall events and for a period of one week after the occurrence of a rainfall event.
- c) Where night shutdowns are specified or required, they shall take place only between the hours of 1:00 a.m. and 6:00 a.m., and shall not exceed 4 hours in a single shutdown.
- d) Where shutdowns are specified not to occur during the wet weather season, this season shall be defined as starting on November 1 and ending on March 31.
- e) The first Wednesday of each month is a permit sampling day. Shutdowns which impact the treatment process are prohibited the night before these sampling days and on the sampling day.

Disruptions to wastewater operations shall be permitted during dry weather periods (April 1 to October 31) and only when flow conditions are below peak levels. To minimize impact on the Owner's staff, all outages shall be limited to 8-hour periods, whenever possible. Planned utility service shutdowns to any service area or process unit of the Project shall be accomplished during periods of minimum use. In some cases this will require night or weekend work, which shall be at no additional cost to the Owner. The Contractor shall program work so that service will be restored in the minimum possible time and shall cooperate with the Owner in reducing shutdowns of the utility to a minimum.

No utility shall be disconnected without prior written approval from the utility owner and Construction Manager. When it is necessary to disconnect a utility, the Contractor shall give at least two weeks notice to the utility owner and to the Construction Manager for approval of the proposed schedule.

The Contractor shall provide staff following shutdowns to monitor and ensure the proper operation of systems.

The Contractor is advised that any shutdown of facilities will place a considerable burden on the Owner's staff before, during and after the shutdown. If through inadequate planning, lack of preparedness, faulty or inefficient workmanship or other causes controllable by the Contractor, delays, excessive time, or additional shutdowns are required that cause the Owner to incur extra cost, said extra cost will be assessed against the Contractor.

2.2 Bypassing – NOT USED

2.3 System Outage Request

Modifications to existing facilities, the construction of new facilities, and the connection of new to existing facilities shall require the temporary power supply of processes or facilities. In addition to the Construction Schedule, the Contractor shall submit a detailed outage plan and time schedule for all construction activities related to all outages.

The outage plans shall be submitted to the Construction Manager for the Owner's review and acceptance a minimum of two weeks in advance of the time that such outages are required.

A System Outage Request (SOR) form located at the end of this section shall accompany each outage plan. The outage plans shall be coordinated with the construction schedule and shall meet the Contractor's planned method; the length of time required to complete said operation; and necessary temporary power, controls, instrumentation or alarms required to maintain control, monitoring and alarms; and the manpower, plant and equipment which the Contractor shall provide in order to ensure proper operation of affected facilities. In addition, the outage plan shall describe the Contractor's contingency plan that shall be initiated in the event that its temporary facilities fail or it becomes apparent that the time constraints described in the approved SOR cannot be met. The contingency plan shall conform to all specified outage requirements. All costs for preparing and implementing both the outage and contingency plans shall be borne by the Contractor.

The Construction Manager shall be notified in writing at least one week in advance of the required outage if the schedule for performing the work has changed or if revisions to the outage plan are required. Any changes must be approved by the Construction Manager and the Owner prior to the outage.

The Contractor shall attend a meeting with the Construction Manager and Owner one week before the scheduled outage to review the SOR.

The Contractor is advised that any shutdown of facilities will place a considerable burden on the Owner's staff before, during, and after the shutdown. If through inadequate planning, lack of preparedness, faulty or inefficient workmanship or other causes controllable by the Contractor, delays, excessive time, or additional shutdowns are required that cause the Owner to incur extra cost, said extra cost will be paid by the Contractor.

2.4 Specific Sequence and Constraints

Suggested Work Sequence provides a suggested work sequence for the Contractor's consideration. **Section 01010A** is provided for the Contractor's reference and convenience. However, the Contractor shall be responsible for submitting an overall work plan construction sequence which complies with the Contract Document requirements. It is acceptable for the Contractor to adopt the suggested work sequence provided in Section 01010A or provide an alternate work sequence.

The Contractor shall note that only certain structures, tie-ins and constraints are addressed in **Section 01010A**. All work, whether or not addressed in Section 01010A, shall be governed by applicable parts of this section and schedules and procedures further submitted for approval.

The Contractor shall include all work described the in Contractor's **ACCEPTED WORK SEQUENCE** in the construction schedule. The sequence and constraints identified in the **WORK SEQUENCE** shall be followed in the construction of the work. However, alternatives to these sequences and constraints may be submitted by the Contractor for review by the Construction Manager.

2.5 Facility Access

Continuous access to the Owner's facilities shall be provided at all times during the Project. Such access shall be suitable for large vehicles, e.g. chemical delivery and sludge hauling trucks. Access routes shall be provided as detailed on the Contract Plans unless alternative plans are submitted by the Contractor and approved by the Owner. The Contractor will be responsible for providing any temporary signage and controls to notify of this traffic routing.

2.6 Sewer Flow Control – NOT USED

3.0 **EARLY OCCUPANCY OF PORTIONS OF WORK**

3.1 Substantially Complete following portions of Work for Owner's occupancy including specified testing, training of Owner's personnel, and other preparations necessary for Owner's occupancy or use, by the date specified:

- **New switchgear SWGR-DPA**

3.2 Certificates of Substantial Completion will be executed for each designated portion of Work prior to Owner occupancy. Such certificate of Substantial Completion will describe the portion of the Work to be occupied by Owner, items that may be incomplete or defective, date of occupancy by Owner, and other information required by Owner and Contractor.

3.3 After Owner occupancy, allow access for Owner's personnel, access for others authorized by Owner, and Owner operation of equipment and systems.

3.4 Following Occupancy, Owner will:

1. Provide power to operate equipment and systems.
2. Repair damage caused by Owner's occupancy.

3.5 Guarantee correction period for portions of the Work occupied or partially utilized by Owner shall commence with date of Substantial Completion for that portion of the Work and acceptance for use by Owner. Progress payment withholdings for portions of the Work occupied by Owner will not be released until final acceptance of the total Work.

3.6 Prior to such occupancy or use, enter into agreement with Owner indicating work that remains to be performed in occupied areas.

3.7 When Owner's use of occupied facilities reveals defective work, correct defects.

4.0 OWNER FURNISHED MATERIALS – NOT USED

5.0 TRENCH EXCAVATION – NOT USED

6.0 WORK UNDER OTHER CONTRACTS

6.1 Owner, utilities, and others may perform activities within Project area while the Work is in progress. Schedule the Work with Owner, utilities, and others to minimize mutual interference.

6.2 Activities by others which may affect performance of work include:

Hypochlorite Building Rehabilitation (CIP 22-P021) – Scope of work includes building a new facility to replace existing Building F including all electrical, chemical pumps (3), piping, and hypochlorite storage tanks (5). Most work will take place west of Holding Basin 1 to construct the new building and demolish existing Building F. A temporary Hypochlorite fill station will be constructed to accommodate chemical deliveries during the construction. Electrical upgrade work will also take place in Building G to tie in and power the new facility. MCC-G1 and MCC-G2 will be impacted by the work. Once the new facility is completed the old facility will be demolished. The duration of the project is 623 calendar days from Notice to Proceed.

WWTP HVAC Replacements (CIP 22-P010) - Scope of work includes Building A (rooftop, 2nd floor lab, 1st floor air control valves, chillers outside the building), Building T (chiller and canopy over chiller along with associated pumps), Building C (rooftop AHU/air conditioning package unit) and Building H (rooftop AHU/air conditioning package unit). The Contractor, Blocka, is currently on-site and is expected to be on-site through March 2027.

7.0 WORK PERCENTAGES

The Contractor shall perform at least eighty (80%) percent of the Contract bid amount. This portion of work shall encompass the performance of work by the Contractor's forces and equipment, the procurement of materials and equipment by the Contractor and field related general conditions required to support and supervise the construction effort.

The Contractor shall provide a detailed breakdown of the planned distribution of work, by dollar amount specifically indicating the aforementioned Contractor's work percentage, prior to the Notice to proceed.

Failure to comply with the aforementioned percentage may result in monetary penalties and/or contract termination.

Subcontractors shall not be responsible for the performance of any work or procurement of materials and equipment within the above Contractor's work percentage allotment.

8.0 UNDERGROUND FACILITIES – NOT USED

9.0 PROJECT SIGN – NOT USED

10.0 ACCESS FOR OPERATING PERSONNEL

The Contractor's attention is drawn to the fact that during the course of the work of this Contract, adjacent existing facilities will be used and maintained by Owner personnel. The Contractor shall coordinate its work in such a way as to interfere as little as possible with the routine work of existing facilities except in direct pursuit of the work of this Contract and as favorably reviewed by the Construction Manager. The Contractor shall provide safe access at all times to all existing facilities for operating personnel and equipment.

**DSRSD
SYSTEM OUTAGE REQUEST
(For DSRSD Use)**

SOR No. _____

Date:

Project:

To:

Requested By:

Construction Manager

Name:

1. A Shutdown is requested on the following system:

2. Proposed date of Shutdown:

3. Estimated duration: _____ Hrs. Beginning at _____ A.M. P.M.

4. Reason for Shutdown:

5. Operations staff assistance required: _____ Yes _____ No
Describe:

6. Method of Approach/Sequence of Events:

7. Equipment to be used during Shutdown:

8. Contingency Plan:

DSRSD
WWTP ELECTRICAL IMPROVEMENTS – PHASE 1 (CIP 24-P044)
SOR REVIEW- For DSRSD Use

SOR No. _____

Item: _____

Construction Manager Comments:

Construction Manager Signature: _____ Date: _____

Date Transmitted to DSRSD: _____

DSRSD Comments:

DSRSD Engineering: _____ Date: _____

DSRSD Operations: _____ Date: _____

DSRSD Maintenance: _____ Date: _____

Date Transmitted to Construction Manager: _____

SOR Acceptable with Comments Noted: _____

SOR Not Acceptable/Resubmit: _____

Date Construction Manager Transmits to Contractor: _____

*****END OF SECTION *****

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SECTION 01010A

WORK SEQUENCE

Commencement of suggested work sequence herein assumes that the following has been successfully completed:

- Prior to commencing with the Phase 1 work sequence, new switchgear SWGR-DPA has been delivered to the Project site and is ready for installation, connection and energization.
- Prior to commencing with the Phase 2 work sequence, new motor control center MCC-E has been delivered to the Project site and is ready for installation, connection and energization.
- Contractor's coordination study which indicates protective device settings for new and existing protective devices has been accepted by the District.
- Existing Plant PLC and SCADA control system programming has been completed and tested, ready for online operation of new SWGR-DPA and MCC-E equipment.

Work Sequence Phasing:

The Work shall include two (2) separate phases as listed below:

- Phase 1 Work: Replacement of existing switchgear SWGR-DPA with new switchgear SWGR-DPA.
- Phase 2 Work: Replacement of existing motor control center MCC-E with new motor control center MCC-E.

The work phases shall be performed sequentially. Phase 2 work shall not commence until all Phase 1 work is substantially complete.

Phase 1 Suggested Work Sequence Shutdown Summary:

Shutdown #1 (up to 4 hours): SWGR-DPB and Panelboard DPA-A shutdown to temporarily transfer power supply to DPA-A from SWGR-DPA to SWGR-DPB.

Shutdown #2 (up to 8 hours): Shutdown of all equipment supplied from SWGR-DPA, Cogeneration Units G1 thru G3 and Standby Generator G4 to establish temporary power supply to SWGR-DPB and SWGR-DPC from XMFR-1.

Shutdown #3 (up to 1 hour): Panelboard DPA-A shutdown to connect temporary "Source Simulation" supply feeder.

Shutdown #4 (up to 8 hours): Shutdown of all equipment supplied from SWGR-DPB, Cogeneration Units G1 thru G3 and Standby Generator G4 to replace standby generator main circuit breaker at SWGR-DPB.

Shutdown #5 (up to 8 hours): Shutdown of all equipment supplied from SWGR-DPB, Cogeneration Units G1 thru G3 and Standby Generator G4 to test new SWGR-DPA automatic transfer controller.

Shutdown #6 (up to 8 hours): Shutdown of all equipment supplied from SWGR-DPB, Cogeneration Units G1 thru G3 and Standby Generator G4 to restore permanent power system configuration via new SWGR-DPA.

Shutdown #7 (up to 8 hours): Shutdown of all equipment supplied from SWGR-DPA, Cogeneration Units G1 thru G3 and Standby Generator G4 to perform a full system utility outage test including de-energization of the utility source (i.e. “real” PG&E outage simulation test, 1 of 3).

Shutdown #8 (up to 8 hours): Shutdown of all equipment supplied from SWGR-DPA, Cogeneration Units G1 thru G3 and Standby Generator G4 to perform a full system utility outage test including de-energization of the utility source (i.e. “real” PG&E outage simulation test, 2 of 3).

Shutdown #9 (up to 8 hours): Shutdown of all equipment supplied from SWGR-DPA, Cogeneration Units G1 thru G3 and Standby Generator G4 to perform a full system utility outage test including de-energization of the utility source (i.e. “real” PG&E outage simulation test, 3 of 3).

Phase 1 Suggested Work Sequence:

1. Successfully perform pre-energization testing on all new SWGR-DPA circuit breakers and new District-furnished, Contractor-installed SWGR-DPB main circuit breaker, including implementation of recommended protective device settings per the Contractor’s accepted coordination study.
2. Install temporary outdoor splice termination box adjacent to existing transformer XFMR-1.
3. Install temporary conductors from existing transformer XFMR-1 to temporary outdoor splice termination box and connect conductors to termination box (conductor connections to XFMR-1 shall be performed in a subsequent step).
4. Install temporary conductors from existing switchgear SWGR-DPB to temporary outdoor splice termination box and connect conductors to termination box (conductor connections to SWGR-DPB shall be performed in a subsequent step).
5. Install temporary conductors from temporary outdoor splice termination box to existing SWGR-DPC feeder conductor temporary splice location indicated on the Drawings and connect conductors to termination box (temporary splice connections to existing feeder conductors shall be performed in a subsequent step).
6. Install temporary conductors from existing switchgear SWGR-DPB location to existing panelboard DPA-A location. Temporary conductors shall be connected in a subsequent step.

7. Install temporary automatic transfer controller panel adjacent to existing SWGR-DPB, including temporary signal wiring to existing SWGR-DPB tie feeder circuit breaker.
8. District to temporarily disable operation of existing standby generator G4.
9. Disconnect existing automatic transfer controller signal conductors from existing SWGR-DPB generator G4 supply circuit breaker at SWGR-DPB.
10. Connect temporary automatic transfer controller signal wiring to existing SWGR-DPB generator G4 supply circuit breaker.
11. District to re-enable generator G4 for automatic operation (now utilizing temporary automatic transfer controller).
12. With District assistance, simulate a SWGR-DPB normal power supply failure and confirm that temporary automatic transfer controller is operating properly and that power supply to SWGR-DPB is automatically provided from generator G4.
13. Disconnect and remove existing automatic transfer controller (located at existing SWGR-DPA) signal conductors between SWGR-DPA and SWGR-DPB.
14. District to configure the following power distribution system equipment for supply from existing switchgear SWGR-DPB:
 - a. MCC-E: MTS-E switched to SWGR-DPB supply position.
 - b. MCC-L: MCC-L main circuit breaker supplied from SWGR-DPA opened and main circuit breaker supplied from SWGR-DPB closed.
 - c. MCC-B3: MCC-B3 main circuit breaker supplied from SWGR-DPA opened and main circuit breaker supplied from SWGR-DPB closed.
 - d. MCC-B4: MCC-B4 main circuit breaker supplied from SWGR-DPA opened and main circuit breaker supplied from SWGR-DPB closed.
 - e. MCC-HN and MCC-HE: MCC-HN main circuit breaker supplied from SWGR-DPA opened, feeder circuit breaker for connection to MCC-HE closed and MCC-HE main circuit breaker supplied from SWGR-DPB closed.
 - f. MCC-K: MCC-K main circuit breaker supplied from SWGR-DPA opened and main circuit breaker supplied from SWGR-DPB closed.

SHUTDOWN#1: A maximum 4-hour shutdown of existing switchgear SWGR-DPB and existing panelboard DPA-A shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following four (4) steps (Items 15 – 18):

15. District to take existing panelboard DPA-A temporarily out of service.
16. Temporarily disconnect existing main supply conductors from DPA-A main circuit breaker.
17. Connect temporary supply conductors from SWGR-DPB to DPA-A to temporary feeder circuit breaker at SWGR-DPB and to main circuit breaker at DPA-A.
18. District to return SWGR-DPB and DPA-A to normal operating service (DPA-A now supplied from SWGR-DPB).

SHUTDOWN #2: A maximum 8-hour shutdown of the following equipment shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following nine (9) steps (Items 19 – 27):

- ***SWGR-DPA***
- ***SWGR-DPB***
- ***MCC-E***
- ***MCC-L***
- ***MCC-B3***
- ***MCC-B4***
- ***MCC-HN***
- ***MCC-HA***
- ***MCC-HE***
- ***MCC-K***
- ***SWGR-DPC***
- ***MCC-X***
- ***MCC-Y***
- ***MCC-R***
- ***MCC-S***
- ***Cogeneration Unit G1***
- ***Cogeneration Unit G2***
- ***Cogeneration Unit G3***
- ***DPA-A***
- ***Standby Generator G4***

19. District to take the above listed equipment temporarily out of service.
20. District to temporarily de-energize transformer XFMR-1 by opening upstream 21kV MVS-1A switch and verifying MVS-1B is also open.
21. Disconnect existing SWGR-DPA main supply conductors from XFMR-1.
22. Connect temporary conductors from outdoor splice termination box to XFMR-1 secondary.

23. Temporarily disconnect existing SWGR-DPA/SWGR-DPB tie feeder circuit breaker conductors from SWGR-DPB tie feeder circuit breaker.
24. Connect temporary conductors from outdoor splice termination box to SWGR-DPB tie feeder circuit breaker.
25. Temporarily disconnect existing SWGR-DPC feeder conductors from SWGR-DPA feeder circuit breaker, pull existing conductors back to temporary splice location indicated on the Drawings and temporarily splice conductors to temporary conductors from outdoor splice termination box.
26. District to energize XFMR-1 by re-energizing 21kV MVS-1A upstream circuit.
27. District to return all equipment listed above to normal service.
28. Disconnect and protect existing feeder conductors connected to existing SWGR-DPA for the following equipment:
 - SWGR-DPA/SWGR-DPB tie feeder conductors
 - MCC-E
 - MCC-L
 - MCC-B3
 - MCC-B4
 - MCC-HN
 - MCC-K
 - DPA-A
29. Disconnect and remove existing main supply conductors from XFMR-1 to existing SWGR-DPA.
30. Disconnect and remove existing SWGR-DPA.
31. Install new SWGR-DPA and new DC battery system.
32. Perform switchgear pre-energization testing on complete, installed new SWGR-DPA (note that circuit breakers were tested in a previous step and need not be tested again as part of this step).
33. Install new main supply conductors from XFMR-1 to new SWGR-DPA. Conductors shall be coiled at XFMR-1 below-grade trench location with adequate length to reach XFMR-1 secondary termination spades in a subsequent step. Connections of new conductors at new SWGR-DPA shall be performed in a subsequent step.
34. Successfully perform megger testing on new main supply conductors from XFMR-1 to new SWGR-DPA.

35. Install temporary conductors from DPA-A feeder circuit breaker to new SWGR-DPA main circuit breaker (for use as a simulated SWGR-DPA utility source to facilitate commissioning).

SHUTDOWN #3: A maximum 1-hour shutdown of existing panelboard DPA-A shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following three (3) steps (Items 36 – 38):

36. District to take panelboard DPA-A temporarily out of service.
37. Connect temporary source simulation conductors to spare circuit breaker at existing DPA-A.
38. District to return DPA-A to normal service.
39. Re-connect existing feeder conductors to new SWGR-DPA for the following equipment:
- SWGR-DPA/SWGR-DPB tie feeder conductors
 - MCC-E
 - MCC-L
 - MCC-B3
 - MCC-B4
 - MCC-HN
 - MCC-K
 - DPA-A
40. With the exception of the new SWGR-DPA automatic transfer controller equipment, energize, test and partially commission new SWGR-DPA (SWGR-DPA main circuit breaker temporarily supplied from DPA-A).
41. Install new signal wiring from new SWGR-DPA automatic transfer controller to existing generator supply circuit breaker at SWGR-DPB. Conductor connections at SWGR-DPB shall be performed in a subsequent step. Connect new conductors to new SWGR-DPA.
42. District to temporarily disable operation of existing standby generator G4.

SHUTDOWN #4: A maximum 8-hour shutdown of the following equipment shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following eight (8) steps (Items 43 – 50):

- ***SWGR-DPB***
- ***MCC-E***
- ***MCC-L***
- ***MCC-B3***
- ***MCC-B4***
- ***MCC-HN***
- ***MCC-HA***
- ***MCC-HE***
- ***MCC-K***

- **SWGR-DPC**
- **MCC-X**
- **MCC-Y**
- **MCC-R**
- **MCC-S**
- **Cogeneration Unit G1**
- **Cogeneration Unit G2**
- **Cogeneration Unit G3**
- **DPA-A**
- **Standby Generator G4**

43. District to take the above listed equipment temporarily out of service.
44. District to temporarily de-energize transformer XFMR-1 by opening upstream 21kV MVS-1A switch and verifying MVS-1B is also open.
45. Disconnect and remove existing SWGR-DPB generator supply circuit breaker.
46. Install new District-furnished SWGR-DPB generator supply circuit breaker.
47. Disconnect temporary automatic transfer controller conductors at SWGR-DPB.
48. Connect 48VC control power and new automatic transfer controller signal wiring to new generator supply circuit breaker at SWGR-DPB.
49. District to energize XFMR-1 by re-energizing 21kV MVS-1A upstream circuit.
50. District to return all equipment listed above to normal service.
51. District to re-enable generator G4 for automatic operation.

SHUTDOWN #5: A maximum 8-hour shutdown of the following equipment shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following three (3) steps (Items 52 – 54):

- **SWGR-DPA**
- **SWGR-DPB**
- **MCC-E**
- **MCC-L**
- **MCC-B3**
- **MCC-B4**
- **MCC-HN**
- **MCC-HA**
- **MCC-HE**
- **MCC-K**

- **SWGR-DPC**
- **MCC-X**
- **MCC-Y**
- **MCC-R**
- **MCC-S**
- **Cogeneration Unit G1**
- **Cogeneration Unit G2**
- **Cogeneration Unit G3**
- **DPA-A**
- **Standby Generator G4**

52. District to take the above listed equipment temporarily out of service.
53. Test and commission new SWGR-DPA automatic transfer controller, confirming automatic circuit breaker and standby generator G4 operation for a simulated SWGR-DPA power failure.
54. District to return all equipment listed above to normal service.
55. Disconnect and remove temporary automatic transfer controller and all associated temporary conductors.

SHUTDOWN #6: A maximum 8-hour shutdown of the following equipment shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following thirteen (13) steps (Items 56 – 68):

- **SWGR-DPA**
- **SWGR-DPB**
- **MCC-E**
- **MCC-L**
- **MCC-B3**
- **MCC-B4**
- **MCC-HN**
- **MCC-HA**
- **MCC-HE**
- **MCC-K**
- **SWGR-DPC**
- **MCC-X**
- **MCC-Y**
- **MCC-R**
- **MCC-S**
- **Cogeneration Unit G1**
- **Cogeneration Unit G2**
- **Cogeneration Unit G3**
- **DPA-A**
- **Standby Generator G4**

56. District to take the above listed equipment temporarily out of service.
57. District to temporarily de-energize transformer XFMR-1 by opening upstream 21kV MVS-1A switch and verifying MVS-1B is also open.
58. Disconnect and remove temporary conductors from outdoor splice termination box to XFMR-1 secondary.
59. Disconnect and remove temporary conductors from DPA-A to new SWGR-DPA main circuit breaker.
60. Connect new conductors at XFMR-1 secondary and at new SWGR-DPA main circuit breaker.
61. Disconnect and remove temporary conductors from outdoor splice termination box to SWGR-DPA/SWGR-DPB tie feeder circuit breaker at SWGR-DPB.
62. Re-connect existing SWGR-DPA/SWGR-DPB tie feeder conductors to tie circuit breaker at SWGR-DPB.
63. Disconnect and remove temporary conductors from SWGR-DPB to DPA-A.
64. Re-connect existing DPA-A main supply conductors at DPA-A.
65. Disconnect and remove temporary conductors from existing SWGR-DPC main supply conductor splice location.
66. Re-connect SWGR-DPC main supply conductors to new SWGR-DPA.
67. District to energize XFMR-1 by re-energizing 21kV MVS-1A upstream circuit.
68. District to return all equipment listed above to normal service.
69. Energize new SWGR-DPA (by closing new SWGR-DPA main breaker).
70. District to configure the following power distribution system equipment for supply from new switchgear SWGR-DPA:
 - a. MCC-E: MTS-E switched to SWGR-DPA supply position.
 - b. MCC-L: MCC-L main circuit breaker supplied from SWGR-DPB opened and main circuit breaker supplied from SWGR-DPA closed.

- c. MCC-B3: MCC-B3 main circuit breaker supplied from SWGR-DPB opened and main circuit breaker supplied from SWGR-DPA closed.
- d. MCC-B4: MCC-B4 main circuit breaker supplied from SWGR-DPB opened and main circuit breaker supplied from SWGR-DPA closed.
- e. MCC-HN: MCC-HN main circuit breaker supplied from SWGR-DPA closed, feeder circuit breaker for connection to MCC-HE closed and MCC-HE main circuit breaker supplied from SWGR-DPB opened.
- f. MCC-K: MCC-K main circuit breaker supplied from SWGR-DPB opened and main circuit breaker supplied from SWGR-DPA closed.

SHUTDOWN #7: A maximum 8-hour shutdown of the following equipment shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following five (5) steps (Items 71 – 75):

- ***SWGR-DPA***
- ***SWGR-DPB***
- ***MCC-E***
- ***MCC-L***
- ***MCC-B3***
- ***MCC-B4***
- ***MCC-HN***
- ***MCC-HA***
- ***MCC-HE***
- ***MCC-K***
- ***SWGR-DPC***
- ***MCC-X***
- ***MCC-Y***
- ***MCC-R***
- ***MCC-S***
- ***Cogeneration Unit G1***
- ***Cogeneration Unit G2***
- ***Cogeneration Unit G3***
- ***DPA-A***
- ***Standby Generator G4***

- 71. District to prepare above listed loads for power interruptions to switch between the “Normal” and “Standby” power sources (for testing of the new automatic transfer control system).
- 72. District to temporarily de-energize transformer XFMR-1 by opening upstream 21kV MVS-1A switch and verifying MVS-1B is also open to simulate a “Normal” power source failure.

73. Confirm that standby generator G4 automatically starts and that the new SWGR-DPA automatic transfer controller transfers power supply to the standby generator source, restoring power to all supplied loads.
74. After observing trouble-free standby power operation for approximately one (1) hour, District to energize XFMR-1 by re-energizing 21kV MVS-1A upstream circuit (i.e. restoring “Normal” supply source to SWGR-DPA).
75. After expiration of the utility source stability timer at the automatic transfer controller, confirm that the new SWGR-DPA automatic transfer controller transfers power supply from the standby generator source to the utility source, restoring power to all supplied loads, followed by automatic shutdown of G4 after the G4 cooldown period expires.

SHUTDOWN #8: A maximum 8-hour shutdown of the following equipment shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following five (5) steps (Items 76 – 80):

- ***SWGR-DPA***
- ***SWGR-DPB***
- ***MCC-E***
- ***MCC-L***
- ***MCC-B3***
- ***MCC-B4***
- ***MCC-HN***
- ***MCC-HA***
- ***MCC-HE***
- ***MCC-K***
- ***SWGR-DPC***
- ***MCC-X***
- ***MCC-Y***
- ***MCC-R***
- ***MCC-S***
- ***Cogeneration Unit G1***
- ***Cogeneration Unit G2***
- ***Cogeneration Unit G3***
- ***DPA-A***
- ***Standby Generator G4***

76. District to prepare above listed loads for power interruptions to switch between the “Normal” and “Standby” power sources (for testing of the new automatic transfer control system).
77. District to temporarily de-energize transformer XFMR-1 by opening upstream 21kV MVS-1A switch and verifying MVS-1B is also open to simulate a “Normal” power source failure.

78. Confirm that standby generator G4 automatically starts and that the new SWGR-DPA automatic transfer controller transfers power supply to the standby generator source, restoring power to all supplied loads.
79. After observing trouble-free standby power operation for approximately one (1) hour, District to energize XFMR-1 by re-energizing 21kV MVS-1A upstream circuit (i.e. restoring “Normal” supply source to SWGR-DPA).
80. After expiration of the utility source stability timer at the automatic transfer controller, confirm that the new SWGR-DPA automatic transfer controller transfers power supply from the standby generator source to the utility source, restoring power to all supplied loads, followed by automatic shutdown of G4 after the G4 cooldown period expires.

SHUTDOWN #9: A maximum 8-hour shutdown of the following equipment shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following five (5) steps (Items 81 – 85):

- ***SWGR-DPA***
 - ***SWGR-DPB***
 - ***MCC-E***
 - ***MCC-L***
 - ***MCC-B3***
 - ***MCC-B4***
 - ***MCC-HN***
 - ***MCC-HA***
 - ***MCC-HE***
 - ***MCC-K***
 - ***SWGR-DPC***
 - ***MCC-X***
 - ***MCC-Y***
 - ***MCC-R***
 - ***MCC-S***
 - ***Cogeneration Unit G1***
 - ***Cogeneration Unit G2***
 - ***Cogeneration Unit G3***
 - ***DPA-A***
 - ***Standby Generator G4***
81. District to prepare above listed loads for power interruptions to switch between the “Normal” and “Standby” power sources (for testing of the new automatic transfer control system).
 82. District to temporarily de-energize transformer XFMR-1 by opening upstream 21kV MVS-1A switch and verifying MVS-1B is also open to simulate a “Normal” power source failure.

83. Confirm that standby generator G4 automatically starts and that the new SWGR-DPA automatic transfer controller transfers power supply to the standby generator source, restoring power to all supplied loads.
84. After observing trouble-free standby power operation for approximately one (1) hour, District to energize XFMR-1 by re-energizing 21kV MVS-1A upstream circuit (i.e. restoring “Normal” supply source to SWGR-DPA).
85. After expiration of the utility source stability timer at the automatic transfer controller, confirm that the new SWGR-DPA automatic transfer controller transfers power supply from the standby generator source to the utility source, restoring power to all supplied loads, followed by automatic shutdown of G4 after the G4 cooldown period expires.
86. Remove temporary outdoor splice box.

***** End of Phase 1 Suggested Work Sequence *****

Phase 2 Suggested Work Sequence Shutdown Summary:

Shutdown #10 (up to 2 hours): Shutdown of all equipment supplied from SWGR-DPA, Cogeneration Units G1 thru G3 and Standby Generator G4 to connect existing MCC-E temporary main supply conductors to new SWGR-DPA.

Shutdown #11 (up to 4 hours): Existing MCC-E shutdown to establish temporary power supply to existing MCC-E.

Shutdown #12 (up to 4 hours): Panelboard PNL-M shutdown to establish temporary power to panelboard PNL-M.

Shutdown #13 (up to 4 hours): Panelboard PNL-M to make permanent power supply connections.

Shutdown #14 (up to 8 hours): Shutdown of SWGR-DPB and Standby Generator G4 to install new transformer TFR-K feeder circuit breaker.

Phase 2 Suggested Work Sequence:

1. Install new MCC-E, new transformer TFR-M and new panelboard PNL-M disconnect switch at locations indicated on the Drawings.
2. Successfully perform pre-energization testing on new TFR-M, PNL-M disconnect switch and MCC-E, including circuit breakers, motor circuit protectors and motor overload heaters, including implementation of recommended protective device settings per the Contractor's accepted coordination study.
3. Install temporary conductors from new SWGR-DPA to existing MCC-E. Temporary conductor terminations shall be performed in subsequent steps.

SHUTDOWN #10: A maximum 2-hour shutdown of the following equipment shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following five (5) steps (Items 4 – 8):

- **SWGR-DPA**
- **SWGR-DPB**
- **MCC-E**
- **MCC-L**
- **MCC-B3**
- **MCC-B4**
- **MCC-HN**
- **MCC-HA**
- **MCC-HE**
- **MCC-K**
- **SWGR-DPC**
- **MCC-X**
- **MCC-Y**

- **MCC-R**
- **MCC-S**
- **Cogeneration Unit G1**
- **Cogeneration Unit G2**
- **Cogeneration Unit G3**
- **DPA-A**
- **Standby Generator G4**

4. District to take the above listed equipment temporarily out of service.
5. De-energize new SWGR-DPA by opening SWGR-DPA main circuit breaker.
6. Connect existing MCC-E temporary main supply conductors to new SWGR-DPA.
7. Energize new SWGR-DPA (by closing new SWGR-DPA main breaker).
8. District to return all equipment listed above to normal service.

SHUTDOWN #11: A maximum 4-hour shutdown of existing MCC-E shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following four (4) steps (Items 9 – 12):

9. District to take existing MCC-E temporarily out of service and open upstream feeder circuit breakers at new SWGR-DPA and existing SWGR-DPB.
10. Disconnect and remove existing conductors routed from existing manual transfer switch MTS-E to existing MCC-E and remove portion of existing MCC-E main supply overhead conduit run as indicated on the Drawings.
11. Connect temporary main supply conductors (from new SWGR-DPA) to existing MCC-E.
12. District to return existing MCC-E to normal operating service (temporarily supplied from new SWGR-DPA spare feeder circuit breaker).
13. Install new main supply conductors from existing manual transfer switch MTS-E to new MCC-E.
14. After successful megger testing of new MCC-E main supply conductors, connect new conductors to existing manual transfer switch MTS-E and new MCC-E.
15. Energize new MCC-E.
16. Install temporary conductors from existing PNL-M disconnect switch to existing panelboard PNL-M. Temporary conductor terminations shall be performed in subsequent steps.

SHUTDOWN #12: A maximum 4-hour shutdown of existing panelboard PNL-M shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following four (4) steps (Items 17 – 20):

17. District to take existing panelboard PNL-M temporarily out of service.
18. Disconnect existing PNL-M main supply conductors from existing disconnect switch and from existing PNL-M.
19. Connect temporary main supply conductors to existing disconnect switch and existing PNL-M.
20. District to return PNL-M to normal service.
21. Disconnect and remove existing PNL-M main supply conductors.
22. Modify existing PNL-M main supply conduit run for re-routing and connection to new PNL-M disconnect switch.
23. Install new PNL-M main supply conductors from new disconnect switch to existing PNL-M location.
24. After successful megger test of new PNL-M main supply conductors, connect new conductors to new disconnect switch. Connection of new conductors to existing PNL-M shall be performed in a subsequent step.

SHUTDOWN #13: A maximum 4-hour shutdown of existing panelboard PNL-M shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following four (4) steps (Items 25 – 28):

25. District to take existing panelboard PNL-M temporarily out of service.
26. Disconnect temporary PNL-M main supply conductors from existing disconnect switch and from existing PNL-M and remove temporary conductors.
27. Connect new main supply conductors to existing PNL-M.
28. District to return PNL-M to normal service (now supplied from new MCC-E).
29. Install portion of new conduit from existing switchboard SWGR-DPB to existing transformer TFR-K disconnect switch.

SHUTDOWN #14: A maximum 8-hour shutdown of existing switchboard SWGR-DPB and standby generator G4 shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following nine (9) steps (Items 30 – 38):

30. District to take existing switchboard SWGR-DPB and standby generator G4 temporarily out of service.

31. Install new feeder circuit breaker in existing switchboard SWGR-DPB (for supply of transformer TFR-K).
32. Finalize new conduit run from SWGR-DPB to existing TFR-K disconnect switch.
33. Disconnect and remove existing conductors from existing MCC-E to existing transformer TFR-K disconnect switch.
34. Install new conductors from SWGR-DPB to existing transformer TFR-K disconnect switch.
35. Successfully megger test new conductors.
36. Connect new conductors to new circuit breaker at SWGR-DPB and existing transformer TFR-K disconnect switch.
37. District to return existing SWGR-DPB to normal operation.
38. District to return transformer TFR-K to normal operation (now supplied from SWGR-DPB).
39. Install temporary conductors from new MCC-E to the following existing equipment field locations. Temporary conductors shall be connected to new MCC-E. Temporary field connections to equipment shall be performed in subsequent steps.
 - CHWP-1
 - CHWP-2
 - Pump P-4
 - Pump P-3
 - Tunnel Supply Fan
 - Exhaust Fan 1
 - Standby Generator G4 Block Heater
 - Transformer TFR-BB
 - Transformer TFR-J
 - Exhaust Fan 7
 - Exhaust Fan 8
 - Main Gate

The following existing equipment supplied from existing MCC-E shall be temporarily taken out of service by the District one piece of equipment at a time. Once a piece of equipment has been transitioned from being supplied from existing MCC-E to new MCC-E (via temporary conductor connections) and new MCC-E proper operation has been confirmed by the District, the next piece of equipment can be transitioned to new MCC-E. ***A maximum 4-hour shutdown for each piece of equipment listed below shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following four (4) steps (Items 40 – 43):***

- CHWP-1
- CHWP-2
- Pump P-4
- Pump P-3
- Tunnel Supply Fan
- Exhaust Fan 1
- Standby Generator G4 Block Heater
- Transformer TFR-BB
- Transformer TFR-J
- Exhaust Fan 7
- Exhaust Fan 8
- Main Gate

40. District to take equipment temporarily out of service.
41. Temporarily disconnect existing equipment field conductors.
42. Connect temporary conductors to field location indicated on the Drawings.
43. District to return piece of equipment to normal operation, now temporarily supplied from new MCC-E.
44. De-energize existing MCC-E by opening upstream supply feeder circuit breaker at new SWGR-DPA.
45. Disconnect all existing field conductors from existing MCC-E, protecting conductors for re-connection to new terminal box in subsequent step.
46. Disconnect and remove existing MCC-E, existing transformer TFR-M and existing panelboard PNL-M disconnect switch.
47. Install new free-standing terminal box, including connection of existing conduits and field conductors.
48. Install new conduits and conductors from new terminal box to new MCC-E. Conductors shall be terminated in a subsequent step.
49. Successfully megger test new conductors from new terminal box to new MCC-E.
50. Terminate new conductors to new terminal box (terminations at new MCC-E shall be performed in a subsequent step).

The following existing equipment supplied new MCC-E via temporary conductors shall be temporarily taken out of service by the District one piece of equipment at a time. Once a piece of equipment has been transitioned from being supplied via temporary conductors to permanent conductors proper equipment operation has been confirmed by the District, the next piece of equipment can be transitioned. ***A maximum 4-hour shutdown for each piece of equipment listed below shall be permitted between the hours of 7:00 a.m. and 3:00 p.m. for the following four (4) steps (Items 51 – 54):***

- CHWP-1
- CHWP-2
- Pump P-4
- Pump P-3
- Tunnel Supply Fan
- Exhaust Fan 1
- Standby Generator G4 Block Heater
- Transformer TFR-BB
- Transformer TFR-J
- Exhaust Fan 7
- Exhaust Fan 8
- Main Gate

51. District to take equipment temporarily out of service.
52. Disconnect temporary conductors at field location and at new MCC-E and remove temporary conductors.
53. Connect permanent conductors at field location and at new MCC-E.
54. District to return piece of equipment to normal operation, now permanently supplied from new MCC-E.

***** End of Phase 2 Suggested Work Sequence *****

**** END OF SECTION ****

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SECTION 01025

MEASUREMENT AND PAYMENT

1.0 MEASUREMENT AND PAYMENT

1.1. General

Measurements of the completed work shall be in accordance with, and by instruments and devices calibrated to United States Standard Measures and the units of measurement for payment, and the limits thereof, shall be made as shown on the Plans, Specifications, General Requirements, and Supplementary Conditions.

1.2 Units of Measurement

Measurements shall be in accordance with U.S. Standard Measures. A pound is an avoirdupois pound. A ton is 2,000 pounds avoirdupois. The unit of liquid measure is the U.S. gallon.

1.3 Certified Weights

When payment is to be made on the basis of weight, the weighing shall be done on certified platform scales, or when approved by the Construction Manager, on a completely automated weighing and recording system. The Contractor shall furnish the Construction Manager with duplicate licensed weighmaster's certificates showing the actual net weights. The Owner will accept the certificates as evidence of the weights delivered.

1.4 Methods of Measurement

Materials and items of work which are to be paid for on the basis of measurement shall be measured in accordance with the method stipulated in the particular sections involved. In determining quantities, all measurements shall be made in a horizontal plane unless otherwise specified.

Material not used from a transporting vehicle shall be determined by the Construction Manager and deducted from the certified tag.

When material is to be measured and paid for on a volume basis and it would be impractical to determine the volume, or when requested by the Contractor in writing and approved by the Construction Manager in writing, the material will be weighed and converted to volume measurement for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Construction Manager and shall be agreed to by the Contractor before such method of measurement of pay quantities will be adopted.

Full compensation for all expense involved in conforming to the above requirements for measuring and weighing materials shall be considered as included in the unit prices paid for the materials being measured or weighed and no additional allowances will be made therefor.

Quantities of material wasted or disposed of in a manner not called for under the Contract; or rejected loads of material, including material rejected after it has been placed by reason of failure of the Contractor to conform to the provisions of the Contract; or material not unloaded from the transporting vehicle; or material placed outside the lines indicated on the plans or given by the Construction Manager; or material remaining on hand after completion of the Contract, will not be paid for and such quantities will be deducted from the final total quantities. No compensation will be allowed for hauling rejected material.

2.0 BID ITEMS

The Bid Amounts for each Bid Item will be used for comparative bid analysis. The Bid amounts will also form the basis of monthly progress payments. Each Lump Sum bid amount will undergo further breakdown as described later in this section. Unit prices for any unit price bid items will be the basis for monthly progress payment determinations and for any changes related to that Work item. Bid items are not intended to be exclusive descriptions of work categories and the Contractor shall determine and include in its pricing all materials, labor, and equipment necessary to complete each Bid Item (work phase) as shown and specified.

BID ITEM 1: Mobilization/Demobilization – Lump Sum

Bid Item 1 includes all costs for mobilization of construction plant and equipment and payment of bonds and insurance. This bid item is limited to a maximum amount of five (5) percent of the Bid Price. Payment for this item shall be made eighty (80) percent on first progress payment and twenty (20) percent on the final progress payment.

BID ITEM 2: All Other Work – Lump Sum

Bid Item 2 includes payment for all work required under the Contract except for work specifically being provided under Bid Items 3 through 6. This item shall constitute full compensation for all such work as required per the Contract Documents.

Payment for the Bid Item “All Other Work” shall be by lump sum which price named on the Bid Schedule under this Bid Item shall constitute full compensation for completion of all such Work as required per the Contract Documents.

BID ITEM 3: Supply of New Switchgear SWGR-DPA – Lump Sum

Bid Item 3 shall include all costs for the supply of new 480-volt low voltage switchgear SWGR-DPA including, but not limited to, fabrication, factory acceptance testing, delivery, offloading, Eaton personnel travel to the Project site, pre-energization field inspection and testing by Eaton certified field technician personnel, commissioning by Eaton certified field technician personnel and training by Eaton certified field technician personnel.

BID ITEM 4: Supply of New Motor Control Center MCC-E – Lump Sum

Bid Item 4 shall include all costs for the supply of new 480-volt low voltage motor control center MCC-E including, but not limited to, fabrication, factory acceptance testing, delivery, offloading, motor control center Integrator personnel travel to the Project site, commissioning by motor control center Integrator field technician personnel and training by motor control center Integrator field technician personnel.

BID ITEM 5: Power System Studies – Lump Sum

Bid Item 5 shall include payment for all work required under the Contract for Power System Studies. This Bid Item shall constitute full compensation for completion of all such Work as required by the Contract Documents.

BID ITEM 6: Replace Existing SWGR-DPC Conductors – Lump Sum

Bid Item 6 includes an allowance that shall be used at the District's discretion to cover additional costs to replace a portion of existing SWGR-DPC conductors from the temporary conductor splice location to new SWGR-DPA. Payment for work completed under this bid item will be established by one or more of the ways described in Section 01035, Modification Procedures, as directed by the Construction Manager. See Section 01026, Allowance, for more information on allowance bid items.

BID ITEM 7: Extend Existing SWGR-DPA Conductors – Lump Sum

Bid Item 7 includes an allowance that shall be used at the District's discretion to cover additional costs to extend existing conductors in the rear compartments of new SWGR-DPA during its installation. Payment for work completed under this bid item will be established by one or more of the ways described in Section 01035, Modification Procedures, as directed by the Construction Manager. See Section 01026, Allowance, for more information on allowance bid items.

3.0 CONTRACTOR'S COST BREAKDOWN

For work to be performed for a lump sum amount, the Contractor shall submit a cost breakdown to the Construction Manager prior to the first payment and within ten (10) days after Notice to Proceed. The cost breakdown, as agreed upon by the Contractor and the Construction Manager, shall be used for preparing future estimates for partial payments to the Contractor, and shall list the major items of work with a price fairly apportioned to each item. Mobilization, overhead, bond, insurance, other general costs and profit shall be prorated to each item so that the total of the prices for all items equal the lump sum price. At the discretion of the Construction Manager, mobilization, bond and insurance costs may be provided for separately if accompanied by invoices to verify actual expenses.

The cost breakdown shall be generally in the same format as the Contract specifications divisions and subdivisions, with major items of work listed individually. The cost breakdown shall be by structure, civil, landscaping, or other logical division of work. The cost breakdown for architectural, structural, mechanical, and electrical work shall include separate items for identifiable portions of the structures. The cost breakdown shall include separate allowances for any testing and startup work required. Measurable approximate quantities of work performed by the Contractor or its subcontractors shall be provided. For quantities that are the sum total of several individual quantities, backup summaries shall be provided which list the individual descriptions and quantities. These summaries then will be used to determine the quantities of work in place in subsequent progress payment requests.

The above is a statement of the intent of the Contract Documents to provide a moderate level of detail, acceptable to the Construction Manager, to allow a fair and reasonable estimate to be made of the value of work installed. The detail of the cost breakdown must be sufficient to provide timely processing of the monthly progress payment request.

The cost breakdown will be subject to the approval of the Construction Manager, and upon request, the Contractor shall substantiate the price for any or all items and provide additional level of detail, including quantities of work. The cost breakdown shall be sufficiently detailed to permit its use by

the Construction Manager as one of the bases for evaluating requests for payments. The Construction Manager shall be the sole judge of the adequacy of the cost breakdown.

The cost breakdown shall be solely used to determine progress payments. The cost breakdown shall not be considered in determining payment or credit for additional or deleted work.

4.0 PAYMENT SCHEDULE FOR PIPELINE PROJECTS – NOT USED

***** END OF SECTION *****

SECTION 01026

ALLOWANCES

1.0 SUMMARY

1.1 Section Includes: Listing of allowance items, related responsibilities of Construction Manager and Contractor, and procedures.

1.2 Related Documents: Document 00310, **BID SCHEDULE**.

2.0 ALLOWANCE AMOUNTS

2.1 The following cost allowances shall be included in the Base Bid price as part of this Contract, listed in Section 00310, **BID SCHEDULE**.

Bid Item 6:

Bid item 6 comprises a bid allowance to pay for furnishing and installing 500 feet of 750 kcmil THWN-2 copper wire and (16) compression butt splices, each with cold shrink insulation for possible replacement of portion of existing SWGR-DPC conductors from temporary conductor splice location to new SWGR-DPA. The cost of such work, when performed upon approval of the Construction Manager, shall be paid for by force account payment, or lump sum as specified in section 01035, and shall be charged against the allowance shown in the **Bid Schedule**, Section 00310, for Bid Item 5.

Bid Item 7:

Bid item 7 comprises a bid allowance to pay for extending each set of existing conductors within the rear compartments of new SWGR-DPA should the new SWGR-DPA connection lug locations be higher than those presently installed for existing SWGR-DPA. Lump sum price shall be based upon extending three (3) 500 kcmil conductors utilizing (24) inches of 500 kcmil THWN-2 wire for each of the three (3) conductors, each new extension conductor spliced to each existing conductor utilizing a compression butt splice with cold shrink insulation. The cost of such work, when performed upon approval of the Construction Manager, shall be paid for by force account payment, or lump sum as specified in section 01035, and shall be charged against the allowance shown in the **Bid Schedule**, Section 00310, for Bid Item 6.

3.0 COSTS INCLUDED AND EXCLUDED IN ALLOWANCES

3.1 Allowances for Furnishing Products Only – Not used

3.2 Allowances for Furnishing and Installing Products:

3.2.1 Costs included in Allowance: Net cost of product, delivery, applicable taxes, labor, installation, testing, and finishing. Such labor costs shall be the actual costs for the work performed.

3.2.2 Costs included in Contract Price: Handling at site, including uncrating and storage; protection from elements, theft, and damage; other expenses required to complete installation; overhead and profit; handling at site, including uncrating and storage.

4.0 DUTIES OF CONTRACTOR IN PROVIDING PRODUCTS BY ALLOWANCE

- 4.1 Advise Construction Manager at least sixty (60) days in advance of purchase date necessary to avoid impacts to Progress Schedule.
- 4.2 Obtain Proposals from Suppliers, including:
- Quantity
 - Unit Cost
 - Total amount of purchase
 - Taxes and delivery charges.
- 4.3 Provide proposal to Construction Manager and Owner for review, at least thirty (30) days prior to purchase for review and approval.
- 4.4 On notification of selection, enter into purchase agreement with designated supplier.
- 4.5 Arrange for delivery and unloading.
- 4.6 Install products in accordance with Contract Documents.

5.0 ADJUSTMENT OF COSTS

When the actual cost is more or less than amount of allowance, Contract Price will be adjusted by Change Order.

6.0 PRODUCTS – NOT USED

7.0 EXECUTION – NOT USED

***** END OF SECTION *****

SECTION 01035

MODIFICATION PROCEDURES

1.0 CHANGES IN CONTRACT PRICE

This section provides supplementary procedures for the administration of changes to the Contract as specified in Section 00700-7.0, **CHANGES IN THE WORK**. Whenever corrections, alterations, or modifications of the work under this Contract are ordered by the Construction Manager and approved by the Owner which increases the amount of work to be done, such added work shall be known as extra work; and when such corrections, alterations, or modifications decrease the amount of work to be done, such subtracted work shall be known as omitted work.

The difference in cost of the work affected by such change will be added to or deducted from the amount of said Contract price, as the case may be, by a fair and reasonable valuation, which shall be determined in one or more of the following ways as directed by the Construction Manager:

- A. Where applicable, by unit prices accepted by the Owner and stated in the Contract Documents;
- B. By unit prices subsequently fixed by agreement between the parties;
- C. By an acceptable lump sum proposal from the Contractor; or
- D. By Force Account.

The prices agreed upon and any agreed upon adjustment in Contract Time shall be incorporated in the written order issued by the Owner, which shall be written so as to indicate an acceptance on the part of the Contractor as evidenced by its signature. By signature of the Change Order, the Contractor acknowledges that the adjustments to cost and time contained in the Change Order are in full satisfaction and accord, payment in full, and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by the Change Order. The form attached at the end of this section shall be used for Change Orders and shall not be modified without mutual agreement of both the Owner and Contractor.

2.0 NEGOTIATED CHANGE ORDERS

Under the methods described in Paragraph 01035-1.0.B and 1.0.C above, the Contractor shall submit substantiating documentation with an itemized breakdown of Contractor's and subcontractor's direct costs, including labor, material, equipment rentals, and approved services, pertaining to such ordered work in the form and detail acceptable to the Construction Manager. The direct costs shall include only costs as described in Section 01035-4.0, **DIRECT COST CATEGORIES**.

The Construction Manager will review the Contractor's proposal for the change and negotiate an equitable adjustment with the Contractor. After there is an agreement, the Construction Manager will prepare and process the Change Order and make a recommendation for action by the Owner. All Change Orders must be approved by the Owner in writing before the work can be authorized and the Change Order executed.

3.0 FORCE ACCOUNT PAYMENT

If either the amount of work or payment for a Change Order cannot be determined or agreed upon beforehand, the Owner may direct by written Change Order or Field Order that the work be done on a force account basis. The term "force account" shall be understood to mean that payment for the work will be done on a time and expense basis, that is, on an accounting of the Contractor's forces, materials, equipment, and other items of cost as required and used to do the work. For the work performed, payment will be made for the documented actual cost of the work as described in Section 01035-4.0, **DIRECT COST CATEGORIES**.

Prior to the commencement of force account work, the Contractor shall notify the Construction Manager of its intent to begin work. Labor, equipment and materials furnished on force account work shall be recorded daily by the Contractor upon report sheets acceptable to the Construction Manager. The reports, if found to be correct, shall be signed by both the Contractor and Construction Manager, or inspector, and a copy of which shall be furnished to the Construction Manager no later than the working day following the performance of said work. The daily report sheet shall thereafter be considered the true record of force account work provided. If the Construction Manager, or inspector, do not agree with the labor, equipment and/or materials listed on the Contractor's daily force account report, the Contractor and Construction Manager, or inspector, shall sign-off on the items on which they are in agreement. The Construction Manager shall then review the items of disagreement and will advise the Contractor, in writing, of its determination. If the Contractor disagrees with this determination, it shall have the right to file a claim notice as provided in Paragraph 00700-7.3.1, Notice.

The Contractor shall maintain its records in such a manner as to provide a clear distinction between the direct costs of work paid for on a force account basis and the costs of other operations.

To receive partial payments and final payment for force account work, the Contractor shall submit, in a manner approved by the Construction Manager, detailed and complete documented verification of the Contractor's and any of its subcontractor's actual costs involved in the force account pursuant to the pertinent Change Order or Field Order. Such costs shall be submitted within thirty (30) days after said work has been performed. No payments will be made for work billed and submitted to the Construction Manager after the thirty (30) day period has expired.

The force account invoice shall itemize the materials used and shall cover the direct costs of labor and the charges for equipment rental, whether furnished by the Contractor, subcontractor, or other forces. The invoice shall be in a form acceptable to the Construction Manager and shall provide names or identifications and classifications of workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment and hours operated. Material charges shall be substantiated by valid copies of vendor's invoices.

4.0 DIRECT COST CATEGORIES

The categories described below are defined to be direct costs. No other type of costs will be allowable as direct costs. Direct costs shall not include any labor costs pertaining to the Contractor's and subcontractor's managers or superintendents, their office and engineering staffs, the cost of their offices, facilities, vehicles, or anyone not directly employed on such work, nor small tools and supplies. All such items are considered indirect costs which form a part of the Contractor's and subcontractors'

overhead expenses.

The Owner reserves the right to furnish such labor, materials and equipment as it deems expedient, and the Contractor shall have no claim for profit or added fees on the cost of such items.

4.1 Direct Labor

The Contractor will be paid the cost of direct craft labor for the workers and foremen (when authorized by the Construction Manager) used or proposed to be utilized in the actual and direct performance of the work.

The direct labor cost will be the actual payroll cost, including wages, subsistence and travel payments, fringe benefits as established by negotiated labor agreements or state prevailing wages. To these actual wages, will be added a labor surcharge set forth in the State of California Department of Transportation publication entitled Labor Surcharge & Equipment Rental Rates. An additional allowance of eight (8%) percent will be added to this labor rate surcharge. No other fixed labor burdens will be considered, unless approved in writing by the Construction Manager.

Except as otherwise provided, the Contractor shall receive no additional compensation for wage premiums resulting from overtime work performed under change conditions without the prior written authorization of the Construction Manager.

4.2 Materials

The Contractor will be paid the cost of the materials to the purchaser, including tax and delivery if paid. If the Contractor does not furnish satisfactory evidence of the cost of such materials, it shall be deemed to be the lowest current price for the materials delivered to the jobsite for the applicable quantities of the materials.

Small tools and supplies will be paid for based on seven and a half percent (7.5%) of the direct labor costs for the change prior to inclusion of the markup allowances provided for in Section 01035-5.0, **MARKUP ALLOWANCES**. The allowance for small tools and supplies shall be deemed as full compensation for all tools and materials which are incidental to performing work including safety equipment provided by the Contractor to its employees.

4.3 Construction Equipment

The cost of construction machinery and equipment for changes shall be based on fair rental cost or equivalent rental cost of owned equipment. Such costs will be allowed for only those days or hours during which the equipment is in actual use. Payment shall be based on actual rental and transportation invoices but shall not exceed the rental rates listed for such equipment in the State of California Department of Transportation publication entitled "Labor Surcharge and Equipment Rental Rates" which is in effect on the date upon which the work is performed. Owner-operated equipment rates shall not exceed the rates in the aforesaid Rental Rate publication plus the labor costs as provided in Section 01035-4.1, Direct Labor. The rental cost allowed for equipment will, in all cases, be understood to cover all fuel, supplies, repairs, ownership, and incidental costs and no further allowances will be made for those items, unless specific written agreement to that effect is made. Compensation for idle time of equipment through delays caused by the Owner will be made consistent with Section 8-1.09, Right of Way Delays, of the Caltrans Standard Specifications.

5.0 MARKUP ALLOWANCES

The Contractor and subcontractors shall be entitled to compensation for indirect field and home office overhead costs, bond and insurance costs, profit and Contractor's risk for Change Order work. This compensation shall be in the form of markup percentages applied to the direct cost of the Change Order work, as further described below. The maximum markup which will be allowed for the Contractor's combined overhead and profit will be:

- A. For work by its own organization, the Contractor may add up to the following percentages:
 - 1. Direct Labor
 - a. Negotiated Change Orders - Section 01035-2.0: 25 percent
 - b. Force Account - Section 01035-3.0: 15 percent
 - 2. Materials, including Small Tools: 10 percent
 - 3. Equipment (owned or rented): 15 percent
- B. For all such work performed by subcontractors, such subcontractor may add the same percentages as the Contractor as listed in (A) above to its actual net increase in costs for combined overhead and profit. The Contractor may add up to five (5) percent of the subcontractor's total for its combined overhead and profit. No further compensation will be allowed for the Contractor's administration of the work performed by the subcontractor.
- C. For all such work done by sub-tier-subcontractors, such sub-subcontractors may add the same percentages as the Contractor as listed in (A) above to its actual net increase in costs for combined overhead and profit. The subcontractor may then add up to five (5) percent of the sub-subcontractor's total for its combined overhead and profit. The Contractor may add up to five (5) percent of the subcontractor's total for its combined overhead and profit. No further compensation will be allowed for the subcontractors' and Contractor's administration of the work performed by the sub-tier-subcontractor. No additional mark-ups will be allowed for further tier-ed subcontracts.
- D. For all such work performed by consultants, engineers, surveyors, etc. there shall be no mark-up or fees with the exception that added to their costs the combined total allowable markup for the Contractor and all subcontractors is five (5) percent of the fee total.
- E. To the total of the actual costs and fees allowed hereinunder, not more than two and one half (2.5) percent shall be added for additional bond and insurance. The compensable percentage for additional bonds and insurance shall be based on the Contractor's actual costs, as substantiated through documentation submitted to the Construction Manager.

When both additional and deleted work are involved in any one change, the markup allowances of this section shall be applied to the net extra cost of the work, if any, after subtraction of the costs for the omitted work from the extra work. For Change Order work which results in a net decrease in cost a minimum of five (5) percent markup shall be added to the sum of the direct labor, materials and equipment as a deduction for profit, costs, and reduction in bond and insurance. The Contractor shall not be entitled to nor claim for anticipated profits on work that may be omitted.

The added fixed fees shall be considered to be full compensation, covering the cost of general supervision, overhead, profit, Contractor's risk, incidentals and any other general expenses. The above

fixed fees represent the maximum limits which will be allowed, and they include but are not limited to the Contractor's and all subcontractors' indirect field and home office expenses and all other costs for cost proposal preparation, schedule analysis and preparation, operation and maintenance manual documentation, record documents and change order administration.

6.0 INCREASED OR DECREASED QUANTITIES

Increases or decreases in the quantity of a Contract unit price bid item of work will be determined by comparing the total pay quantity of such item of work with the Bid Schedule quantity.

If the total pay quantity of any item of work required under the Contract varies from the Bid Schedule quantity by 25 percent or less, payment will be made for the quantity of work of said item performed at the Contract unit prices therefor, unless eligible for adjustment pursuant to Section 01035-6.4, Changes in Character of Work.

If the total pay quantity of any item of work required under the Contract varies from the Bid Schedule quantity by more than 25 percent, in the absence of an executed Contract change order specifying the compensation to be paid, the compensation payable to the Contractor will be determined in accordance with Sections 01035-6.1, 6.2 or 6.3, as the case may be.

6.1 Increases of More Than 25 Percent

Should the total pay quantity of any item of work required under the Contract exceed the Bid Schedule quantity by more than 25 percent, the work in excess of 125 percent of the Bid Schedule quantity will be paid for by adjusting the Contract unit price, as hereinafter provided. At the option of the Construction Manager, payment for the work involved in such excess will be made on the basis of force account as provided by Section 01035-3.0, **FORCE ACCOUNT PAYMENT**.

Such adjustment of the Contract unit price will be the difference between the Contract unit prices and the actual unit costs, which will be determined as hereinafter provided, of the total pay quantity of the item. If the costs applicable to such item of work include fixed costs, such fixed costs will be deemed to have been recovered by the Contractor by the payments made for 125 percent of the Bid Schedule quantity for such item, and in computing the actual unit cost, such fixed costs will be excluded. Subject to the above provisions, such actual unit cost will be determined by the Construction Manager in the same manner as if the work were to be paid for on a force account basis as provided in Section 01035-3.0, **FORCE ACCOUNT PAYMENT** or such adjustment will be as agreed to by the Contractor and the Construction Manager.

When the compensation payable for the number of units of an item of work performed in excess of 125 percent of the Bid Schedule quantity is less than \$5,000 at the applicable Contract unit price, the Construction Manager reserves the right to make no adjustment in said price if it so elects, except that an adjustment will be further considered if requested in writing by the Contractor.

6.2 Decreases of More Than 25 Percent

Should the total pay quantity of any item of work required under the Contract be less than 75 percent of the Bid Schedule quantity, an adjustment in compensation pursuant to this Section will not be made unless the Contractor so requests in writing. If the Contractor so requests, the revised quantity will be paid for by adjusting the Contract unit price as hereinafter provided. At the option of the Construction

Manager, payment for the quantity of the work of such item performed will be made on the basis of force account as provided in Section 01035-3.0, **FORCE ACCOUNT PAYMENT**. However, in no case shall the payment for such work be less than that which would be made at the Contract unit price.

Such adjustment of the Contract unit price will be the difference between the Contract unit price and the actual unit cost of the total pay quantity of the item, including fixed costs. Such actual unit cost will be determined by the Construction Manager in the same manner as if the work were to be paid for on a force account basis as provided in Section 01035-3.0, **FORCE ACCOUNT PAYMENT**; or such adjustment will be as agreed to by the Contractor and the Construction Manager.

The payment for the total pay quantity of such item of work will in no case exceed the payment which would have been made for the performance of 75 percent of the Bid Schedule of the quantity for such item at the original Contract unit price.

6.3 Eliminated Items

In the event that a part of the Work is to be eliminated in its entirety and such Work is covered by unit price(s) contained in the Bid and/or Contract Documents, the price of the eliminated Work item shall be based on the applicable unit price(s). The Contractor shall be paid five (5) percent of the total extended amount (bid price times quantity) for the eliminated Work item in consideration of the applicable Contractor's overhead costs.

Should any Contract item of the Work be eliminated in its entirety, in the absence of an executed Contract change order covering such elimination, payment will be made to the Contractor for actual costs incurred in connection with such eliminated Contract item if incurred prior to the date of notification in writing by the Construction Manager of such elimination.

If acceptable material is ordered by the Contractor for the eliminated item prior to the date of notification of such elimination by the Construction Manager, and if orders for such material cannot be canceled, it will be paid for at the actual cost. In such case, the material paid for shall become the property of the Owner and the actual cost of any further handling will be paid for. If the material is returnable to the vendor and if the Construction Manager so directs, the material shall be returned and the Contractor will be paid for the actual costs of charges made by the vendor for returning the material. The actual cost of handling returned material will be paid for by the Owner.

6.4 Changes in Character of Work

If an ordered change in the plans and specifications materially changes the character of work of a Contract unit price bid item from that on which the Contractor based its Bid price, and if the change increases or decreases the actual unit cost of such changed item as compared to the actual or estimated actual unit cost of performing the work of said item in accordance with the plans and specifications originally applicable thereto, in the absence of an executed Contract change order specifying the compensation payable, an adjustment in compensation therefor will be made in accordance with the following:

The basis of such adjustment in compensation will be the difference between the actual unit cost to perform the work of said item or portion thereof involved in the change as originally planned and the actual unit cost of performing the work of said item or portion thereof involved in the change, as

changed. Actual unit costs will be determined by the Construction Manager in the same manner as if the work were to be paid for on a force account basis as provided in Section 01035-3.0, **FORCE ACCOUNT PAYMENT**; or such adjustment will be agreed to by the Contractor and the Construction Manager. Any such adjustment will apply only to the portion of the work of said item actually changed in character. At the option of the Construction Manager, the work of said item or portion of item which is changed in character will be paid for by force account as provided in Section 01035-3.0, **FORCE ACCOUNT PAYMENT**.

If the compensation for an item of work is adjusted under this Section, the costs recognized in determining such adjustment shall be excluded from consideration in making an adjustment for such item of work under the provisions in Sections 01035-6.1, Increases of More Than 25 Percent and 6.2, Decreases of More Than 25 Percent.

7.0 COST PRICING DATA AND ACCESS TO RECORDS

All cost and pricing data submitted by the Contractor with respect to any change, prospective or executed, or any claim for extra compensation shall be a true, complete, accurate and current representation of actual cost and pricing of the work. The Construction Manager may require a formal certification as to cost and pricing data submitted by the Contractor.

The Construction Manager shall have access, upon reasonable notice during normal business hours, to any books, documents, accounting records, papers, project correspondence, project files, scheduling information and other relevant records of the Contractor and all subcontractors directly or indirectly pertinent to the work, original as well as changes and claimed extra work, and the Contract for the purpose of making audit, examination, excerpts and transcriptions and in order to verify or evaluate any change, prospective or executed, or any claim for which compensation has been requested or notice of potential claim has been tendered.

Such books, documents, and other records mentioned above shall include, but are not limited to all those reasonably necessary to determine the accurate amount of direct and indirect costs, job site, and delay and impact costs, however characterized, and shall include the original Bid and all documents related to the Bid and its preparation, as well as, the as-planned construction schedule and all related documents.

Such access shall include the right to examine and audit such records and make excerpts, transcriptions, and photocopies at the Owner's cost.

8.0 TIME EXTENSIONS FOR CHANGE ORDERS

If the Contractor requests a time extension for the extra work necessitated by a proposed Change Order, the request must comply with the applicable requirements of Paragraph 01310-6.0, **TIME IMPACT ANALYSES**.

9.0 COST-REDUCTION INCENTIVE

9.1 General

The cost-reduction incentive program provides a mechanism by which the Contractor can be

motivated to use his construction expertise to improve contract performance and thereby create an overall reduction in the total cost of the Contract. The Contractor and its subcontractors may participate in the cost-reduction program; however, participation of the subcontractors shall be through the Contractor. In addition, the sharing arrangement between the Contractor and the subcontractor must be mutually agreed upon by the Contractor and its subcontractor, and written evidence of such agreement will be submitted along with the submittal of the cost-reduction proposal.

No cost reduction proposals shall be submitted for which the Owner's share in the participation of the proposals is not greater than \$5,000.

Cost-reduction proposals shall comply with the following conditions:

1. The proposed change shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to, service life, economy of operation, ease of maintenance, desired appearance, or design and safety standards.
2. The proposed change will not cause undue interruption of the Contract work, nor shall the proposed change be allowed to extend the Contract completion date of the project unless an extension provides a specific project benefit.
3. The proposed change shall be in compliance with all local permits and regulations and code requirements as set forth in the contract documents.
4. The proposed change shall not involve payment of royalties by the Owner to the Contractor.

9.2 Proposal Submittal

The cost-reduction proposal shall generally conform to Section 01340, **SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**.

The cost-reduction proposals shall contain as a minimum the following information:

1. Name of individuals associated with the development and preparation of the cost-reduction proposal.
2. A detailed description and duly signed plans and specifications showing work as presently designed and the proposed changes. Clear identification of all advantages and disadvantages for each change proposed.
3. A summary of estimated costs which shall include but not be limited to the following:
 - a. Project construction costs before and after the cost-reduction proposal. This shall be a detailed estimate identifying the following items:
 - 1) Quantities of material and equipment.
 - 2) Unit prices of materials and equipment.
 - 3) Labor hours and rates for installation.
 - 4) Equipment hours and rates for installation.
 - 5) Subcontractors and prime contractor markups.

- 6) Other estimate items necessary to evaluate the proposal.
 - b. Operation and maintenance costs before and after the cost-reduction proposal.
 - c. Costs for implementing the cost-reduction proposal not included in item 3a above.
 - d. Other costs as required to meet all local permits, regulations, and code requirements as set forth in the contract documents.
 - e. Time required for execution of the proposed change.
4. A preliminary schedule indicating the general time impacts for implementing the proposed change. Also indicate the date that the cost-reduction proposal needs to be approved for implementation.
5. If the Owner advises the Contractor that the proposed change will be reviewed for more detailed consideration and approval, a detailed procedure and schedule for implementing the proposed change shall be submitted. This detailed procedure and schedule shall include all necessary Contract amendments. This submittal shall also include a copy of the current Contractor's schedule showing all changes which would occur if the cost-reduction proposal were accepted.

The provisions of Section 01035-9.0, **COST-REDUCTION INCENTIVE** shall not be construed to require the Owner or Design consultant to consider any cost-reduction proposal which may be submitted. The Owner will not be liable to the Contractor for failure to accept or act upon any cost-reduction proposal submitted pursuant to this section nor for any delays to the work attributable to any such proposal. The Owner shall not be responsible or liable for payment of any of the Contractor's costs associated with a non-accepted proposal.

If a cost-reduction proposal is similar to a change in the Contract Documents under consideration by the Owner at the time said proposal is submitted, or if such a proposal is based upon or similar to standard specifications, standard special provisions, or standard plans adopted by the Owner after the advertisement for the Contract, the Owner will not accept such proposal, and the Owner reserves the right to made such changes without cost-reduction compensation to the Contractor under the provisions of this section.

The Contractor shall continue to perform the work in accordance with the requirements of the contract until an executed change order, incorporating the cost-reduction proposal has been issued. If an executed change order has not been issued by the date upon which the Contractor's cost-reduction proposal specifies that a decision thereon should be made, or such other date as the Contractor may subsequently have specified in writing, such cost-reduction proposal shall be deemed rejected.

The Owner shall be the sole judge of the acceptability of the cost-reduction proposal and the estimated net savings in construction costs from the adoption of all or any part of such proposal. In determining the estimated net savings, the right is reserved to disregard the contract bid prices if in

the judgement of the Owner, such prices do not represent a fair measure of the value of work to be performed or to be deleted.

The Owner reserves the right, where it deems such action appropriate, to require the Contractor to share in the Owner's costs of investigating a cost-reduction proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall indicate its acceptance thereof in writing, and such acceptance shall constitute full authority for the Owner to deduct amounts payable to the Owner from any monies due or may become due to the Contractor under the Contract.

9.3 Acceptance

If the Contractor's cost-reduction proposal is accepted in whole or in part, such acceptance will be by a Contract change order, which shall specifically state that it is executed pursuant to Section 01035, **MODIFICATION PROCEDURES**. Such change order shall incorporate the changes in the plans and specifications, which are necessary to be put into effect and shall include any conditions upon which the Owner's approval thereof is based if the approval of the Owner is conditional. The change order shall also set forth estimated net savings in construction costs attributable to the cost-reduction proposal effectuated by the change order and shall further provide that the Contractor be paid 50 percent of said estimated net savings amount. The Contractor's cost of preparing the cost-reduction proposal and the Owner's costs of investigating a cost-reduction proposal, including any portion thereof paid by the Contractor, shall be excluded from consideration in determining the estimated net savings in construction costs.

Acceptance of the cost-reduction proposal and performance of the work thereunder shall not extend the time of completion of the contract, unless specifically provided for in the contract change order authorizing the use of the cost-reduction proposal.

The amount specified to be paid to the Contractor in the change order which effectuates a cost-reduction proposal shall constitute full compensation to the Contractor for the cost-reduction proposal and the performance of the work thereof pursuant to the said change order.

The Owner expressly reserves the rights to adopt a cost-reduction proposal for general use on contracts administered by the Owner when it determines that said proposal is suitable for the application to other contracts. When an accepted cost-reduction proposal is adopted for general use, only the Contractor who first submitted such proposal will be eligible for compensation pursuant to this section, and in that case, only as to those contracts awarded to this same Contractor prior to submission of the accepted cost-reduction proposal and as to which such cost-reduction proposal is also submitted and accepted. Cost-reduction proposals identical or similar to previously submitted proposals will be eligible for consideration and compensation under the provisions of this section, if the identical or similar previously submitted proposals were not adopted for general application to other contracts administered by the Owner.

*****END OF SECTION*****

DUBLIN SAN RAMON SERVICES DISTRICT
CIP PROJECT NAME (CIP NO.)
CONTRACT CHANGE ORDER NO. 00
DATE: Date

Title/Subject: Type text here.

Description of Change: Type text here.

- Type text here.
- Type text here.

Item 1: Item Description

\$Cost

Type text here.

Item 2: Item Description

\$Cost

Type text here.

Cost of Change: \$Cost

Contract Time Adjustment: Substantial Completion: # of days Calendar Days **New S.C. Date:** Date

Percent of Original Contract Percent% (cumulative to date)

This change order constitutes full and complete compensation for all labor equipment, materials, overhead, profit, any and all indirect costs, and time adjustments required to perform the above described change.

Contractor Acceptance:

Company Name

Contractor Name

Date

Construction Manager Recommended Approval:

Company Name

Construction Manager Name

Date

Project Manager Recommended Approval:

DSRSD Project Manager

Project Manager Name

Date

District Approval:

Engineering Services Director

Steve Delight, P.E.

Date

*General Manager

*Jan Lee

Date

*GM approval required for CCOs exceeding \$60k.

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SECTION 01060

REGULATORY REQUIREMENTS AND PERMITS

1.0 APPLICABLE CODES

See Technical Specifications for Applicable Codes.

2.0 FEES AND PERMITS

2.1 Contractor Fees and Permits

Contractor shall apply for, obtain, and comply with all the terms, conditions and requirements attached to all permits, bonds and licenses required by any local, state, or federal agencies to perform work, construct, erect, test and start up of any equipment or facility for this Contract. Where operating permits are required, the Contractor shall apply for and obtain such operating permits in the name of the Owner and provide the permit in an appropriate frame or file holder when the Owner accepts the equipment or facility for beneficial use. The Contractor shall give all notices necessary and incidental to the due and lawful prosecution of the Work.

Any permits, bonds, licenses and fees therefore required for the performance of work under this Contract and not specifically mentioned herein as being reimbursed by the Owner shall be included in the Contractor's Bid price (see Section 2.2). The Contractor shall apply for and obtain all safety permits for excavations, tunneling, trenches, construction (building structure, scaffolding, or falsework) and demolition required by CAL/OSHA.

2.2 Local Agency and Building Code Fees and Permits

The Contractor shall apply for and obtain in its name the necessary building and electrical permits and shall be responsible for satisfying all code requirements, calling for inspections, and obtaining final approvals. The Contractor shall notify the Construction Manager of the need and the readiness of all required inspections. All inspections are to be coordinated with the Construction Manager. The Contractor shall comply with all construction conditions stipulated in the permits. The Contractor shall initially pay for all permits, fees and inspections required to comply with local agency and code requirements. The Contractor shall submit invoices to the Construction Manager for the Owner's reimbursement of such costs. All other permits and inspection fees will be the sole responsibility of the Contractor and shall be included in the Bid Price. The Contractor shall be responsible for and the Owner shall not provide reimbursement for any costs required for the reinspection of defective work or additional costs due to the Contractor's failure to properly schedule the inspections. The Contractor shall comply with the provisions of any and all permits obtained by the Owner and contained in the appendix to these Specifications.

2.3 Environmental Permits – Not Used

2.4 Other Permits – Not Used

3.0 STORM WATER AND NON-STORM WATER QUALITY CONTROLS WITHIN TREATMENT PLANT DRAINAGE BOUNDARIES

3.1 Regulatory Requirements

Construction activities are regulated under the National Pollutant Discharge Elimination System (NPDES) General Permit (GP) for Storm Water Discharges Associated with Construction and Land Disturbances Activities (State Water Resources Control Board [SWRCB] Order No. 2009-0009-DWQ, NPDES Permit No. CAS00002 generally referred to as the GP). The appropriate Regional Water Quality Control Board (RWQCB) enforces the GP. The GP indicates the construction projects that are within the drainage footprint of a sewage treatment plant do not require coverage under the GP. The District has determined that this Project falls under this category. This determination eliminates the preparation of a Storm Water Pollution Prevention Plan (SWPPP), Risk Assessment and a report of Known Pollutants and Contaminants by the District and/or the Contractor.

3.2 General

The Contractor shall not discharge water, wastewater or other waste that will impact the District's sanitary sewerage facilities, the District's staff working in those facilities, the facilities' effluent quality, biosolids quality, recycled water quality or the air emissions from the District's facilities.

The Contractor shall be responsible for meeting the requirements of the "REGULATIONS of Dublin San Ramon Services District". Failure of the Contractor to comply with Section 01060-3.4, CONTRACTOR RESPONSIBILITIES, will result in the Contractor being responsible for any fines, applicable remediation requirements and all other costs associated with the failure.

3.3 Not Used

3.4 Contractor Responsibilities

The Contractor shall be responsible for meeting the requirements of this Section which incorporates the "REGULATIONS of Dublin San Ramon Services District", by reference.

Prior to soil disturbing work, the Contractor shall implement all measures to assure that all storm runoff, drainage and construction water is directed to the Plant Storm Water System. The Contractor shall prevent pollutants and all other hazardous substances and contaminants from entering the Plant's Storm Water System. The Contractor shall prevent any and all solids material from entering the Plant's Storm Water System, including construction debris and waste materials, garbage and any materials not intended to enter the Plant's Storm Water System.

General Discharge Prohibitions: The Contractor shall not discharge waste into the sewerage facilities which cause, threaten to cause, or are capable of causing, either alone or by interaction with other substances:

- A. A fire or explosion
- B. Obstruction of flow in, or injury to, the sewerage facilities, or any portion thereof;

- C. Danger to life or safety of persons;
- D. Conditions inhibiting or preventing the effective maintenance or operation of the sewerage facilities;
- E. Strong or offensive odors, air pollution, or any noxious, toxic, or malodorous gas or substance, or gas producing substances;
- F. Interference with the wastewater treatment process, or overloading of the sewerage facilities, or excessive collection or treatment costs, or use of a disproportionate share of the capacity of the sewerage facilities;
- G. Interference with any wastewater reclamation process, which does or may operate in conjunction with the sewerage facilities, or overloading, or a breakdown of such reclamation process, or excessive reclamation costs, or any product of the treatment process which renders such reclamation process impracticable or not feasible under normal operating conditions;
- H. A detrimental environmental impact, or a nuisance wherever located, or a condition unacceptable to any public agency having regulatory jurisdiction over operation of the sewerage facilities;
- I. Discoloration, or any other adverse condition in the quality of the effluent from the sewerage facilities such that receiving water quality requirements established by any statute, rule, regulation, ordinance, or permit condition cannot be met by the District;
- J. Conditions at or near the sewerage facilities, or any portion thereof, which cause, or may cause, the District to be in violation of the requirements of law.
- K. Pollutants introduced into the sewerage facilities which pass through or interfere with the operation or performance of the sewerage facilities.

Specific Discharge Prohibitions: The Contractor shall not discharge waste into the sewerage facilities that are prohibited by the following requirements:

- A. The temperature of which is higher than 150° Fahrenheit (65° centigrade);
- B. Containing more than 300 mg/l of oil or grease of animal or vegetable origin;
- C. Containing more than 100 mg/l of oil or grease of mineral or petroleum origin;
- D. Having a pH lower than 6.0 or having a corrosive property capable of causing damage or hazard to structures or equipment of the sewerage facilities, or any portion thereof;
- E. Any sand, grit, straw, metal, glass, rags, feathers, paper, tar, plastic, wood, leaves, garden clippings, manure, dead animals, offal, or any other solid or viscous substance capable of causing obstruction to the flow in the sewerage facilities, or which in any way interferes with the proper operation of the sewerage facilities;

- F. Any pollutant not otherwise specifically prohibited in these regulations, in sufficient quantities to constitute a hazard to humans or animals, or to create a hazard to the sewerage facilities, or to injure or interfere with the operation thereof;
- G. Any waste containing suspended solids not otherwise specifically prohibited under the provisions of these regulations, the characteristics or quantity of which require or requires unusual attention, treatment, or expense in handling or treating in the sewerage facilities, or any portion thereof;
- H. Any waste streams with a closed cup flashpoint of less than 140° Fahrenheit.
- I. Any trucked or hauled wastes except at points designated by the District.
- J. Should the Contractor fail to meet any of the requirements stated above immediate action by the Contractor is required to mitigate and remediate the occurrence. The Contractor is required to provide immediate notification to the District if any of the requirements of Section 01060-3.4 have been violated or are suspected of being violated by the Contractor.

3.5 District Responsibilities

The District reserves the right to request the Contractor to prepare a submittal to address storm water and construction water for any circumstances the District determines as necessary for special treatment and care by the Contractor. The Contractor must provide such submittal within the time period requested by the District.

4.0 STORM WATER AND NON-STORM WATER QUALITY CONTROLS OUTSIDE TREATMENT PLANT DRAINAGE BOUNDARIES – NOT USED

***** END OF SECTION *****

SECTION 01090

REFERENCES

1.0 CODES AND STANDARDS

Whenever reference is made to a code or standard, it means the latest edition in effect the date that the Contract Documents are dated. Where codes, standards and reference documents are referred to in the Contract Documents, the Contractor may submit a written request to the Construction Manager for assistance in locating such documents. Within three days of receipt of such request, the Construction Manager or the Design Consultant will notify the Contractor as to where the document(s) can be reviewed.

2.0 DEFINITIONS OF WORDS AND TERMS

Where used in the project manual, the following words and terms shall have the meanings indicated. The meanings shall be applicable to the singular, plural, masculine and feminine of the words and terms.

Acceptance, Final Acceptance. Formal action of the District's Board of Directors in determining that the Contractor's work has been completed in accordance with the Contract Documents and in notifying the Contractor in writing of the acceptability of the Work.

Acts of God. "Acts of God" shall include only the following occurrences or conditions and effects: earthquakes in excess of a magnitude of 3.5 on the Richter Scale and tidal waves.

Addenda. Supplemental written specifications or drawings issued prior to bid submittal which modify or interpret the project manual by addition, deletion, clarification, or corrections.

Agreement. The written document covering the performance of the Work as more fully described in the Contract Documents.

Bid. Offer of a bidder submitted on the prescribed form setting forth prices of the work to be performed.

Bidder. Individual, partnership, corporation, or a combination thereof, including joint ventures, offering a bid to perform the work.

Claim. A separate demand by a Contractor for one or more of the following: (1) A time extension, including without limitation, for relief from damages or penalties for delay assessed by the District under the Contract Documents for the Project, (2) Payment by the District of money or damages arising from work done by, or on behalf of, the Contractor pursuant to the Contract Documents for the Project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled, or (3) Payment of an amount that is disputed by the District.

Clarification Letter. A Clarification Letter is issued by the Construction Manager to address the clarification of Contract issues raised by the Construction Manager, Design Consultant or Owner.

Completion. The word completion shall indicate substantial completion. See Substantial Completion.

Construction Manager. The person designated, in writing, by the Owner to act as its representative at the construction site and to perform construction inspection services and administrative functions relating to this Contract. All contact by the Contractor with the Owner shall be through the Construction Manager.

Contract Change Order. A written order to the Contractor, covering changes in the plans or specification quantities, or both, and establishing the basis of payment and time adjustments for the work affected by the changes. Also referred to as a Change Order.

Contract Documents. The words "Contract Documents" shall mean any or all of the following items, as applicable:

- Notice Inviting Bids
- Instructions to Bidders
- Bid Form and Bid Schedule
- Designation of Subcontractors
- Bidder's Bond
- Agreement
- Performance Bond
- Payment Bond
- Insurance Endorsements
- Non-Collusion Affidavit
- General Conditions
- Supplementary General Conditions
- General Requirements
- Specifications
- Drawings
- Addenda, if any
- Executed Change Orders, if any
- Field Orders
- Notice to Proceed
- Permits

Each of these items is to be considered by reference as part of the Contract Documents, also referred to as Contract.

Contract Price (also referred to as Contract Amount). The amount payable to the Contractor under the terms and conditions of the Contract based on the price given on the bidding schedule, with adjustments made in accordance with the Contract. The base amount given in the bidding schedule shall be either a lump sum bid or the summation of the unit price bids multiplied by the estimated quantities set forth in the bid form.

Contract Time. Number of calendar days stated in the Contract for the completion of the Work.

Contractor. The individual partnership, corporation, or combination thereof including joint venturers who enter into the Contract with the Owner for the performance of the Work. The term covers

subcontractors, subtier subcontractors, consultants, equipment and material suppliers, and their employees.

Contractor's Plant and Equipment. Equipment, material, supplies, and all other items, except labor, brought onto the site by the Contractor to carry out the Work, but not to be incorporated in the Work.

Corrective Work Item List. List of incomplete items of work, incomplete administrative requirements and items of work which are not in conformance with the Contract, prepared by the Construction Manager and issued to the Contractor during the course of the project and prior to the owner issuing the notice of Substantial Completion.

Days. The word "Days" shall mean calendar days, including legal holidays, Saturdays and Sundays, unless specifically noted otherwise.

Design Consultant. The engineer or architect designated by the Owner to have design control over the Work or a specified portion of the Work, acting either directly or through duly authorized representatives. Such representatives shall act within the scope of the particular duties delegated to them. The Design Consultant may also furnish inspection services as provided by the Contract.

District. The word "District" refers to the Dublin San Ramon Services District, the governing body of which is termed the Board.

District Representative. The person designated in writing by the District to act as its agent on specified matters relating to this Contract. The District's Representative is not the Construction Manager, but an employee of the District who has been designated to represent the District.

Drawings. Also referred to as "Plans". That part of the Contract Documents consisting of the graphical and technical requirements of the Contract as included on the plan sheets.

Engineer. Engineer shall refer to either the Construction Manager or Design Consultant based on their roles as defined in Section 00700, **GENERAL CONDITIONS**, and their separate contracts with the Owner.

Favorable Review. "Favorable Review" means that the person or entity acting on behalf of the District has reviewed a proposal or submittal and found it acceptable as to the aspects for which review was sought. "Favorable Review" does not imply any approval of deviations from the Contract Documents which can only be made by formal Field Directive, Field Order or Contract Change Order.

Field Directive. Written documentation of the actions of the Owner or Construction Manager in directing the Contractor. Also referred to as a Directive.

Field Order. A written instruction given to the Contractor authorizing work that is a change to the scope of work carried out on a time and material basis.

Final Completion. The date when the Work is 100% complete, including completion and acceptance of all punch list corrections, as certified by the Owner.

Final Inspection List. List of materials, equipment, workmanship, or administrative requirements

which are not in conformance with the Contract. The list shall be prepared by the Construction Manager and submitted to the Contractor following the Contractor's notice of completion of the Work, including all items on the Punch List.

Furnish. To deliver to the job site or other specified location any item, equipment or material.

General Conditions. Sections 00700, **GENERAL CONDITIONS**, and 00800, **SUPPLEMENTARY GENERAL CONDITIONS**, which form the part of the Contract Documents representing the general clauses that establish how the Project is to be administered.

General Requirements. Division 1, **GENERAL REQUIREMENTS**, which forms the part of the Contract Documents establishing special conditions or requirements peculiar to the Work and supplementary to the General Conditions.

Herein. Refers to information presented in the Contract Documents.

Holidays. Legal holidays shall include the following holidays designated by the Owner: New Year's Day, Martin Luther King Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the day after Thanksgiving, and Christmas Day.

Install. Placing, erecting, or constructing complete in place any item, equipment, or material.

Notice to Proceed. Notice to Proceed shall mean the written notice issued by Owner to Contractor authorizing him to proceed with the work and establishing the date of commencement of the Contract Time. Notice to Proceed may or may not include separate dates establishing the date of commencement of the submittal process.

Owner. The word "Owner" shall have the same meaning as the term "District".

Owner's Representative. The person designated in writing by the Owner to act as its agent on specified matters relating to this Contract. The Owner's Representative is not the Construction Manager, but an employee of the Owner who has been designated to represent the Owner.

Paragraph. For reference or citation purposes, a paragraph shall refer to the paragraph, or paragraphs, called out by paragraph number and alphanumeric designator.

Person. The term, person, includes firms, companies, corporations, partnerships, and joint ventures.

Plans. See "Drawings".

Project. The undertaking to be performed under the provisions of the Contract Documents.

Project Manual. The bound documentary information prepared for bidding and constructing the work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the Table of Contents.

Provide. Furnish and install, complete in place.

Punch List. List of incomplete items of Work, incomplete administrative requirements and items of Work which are not in conformance with the Contract, prepared by the Construction Manager and issued to the Contractor as an attachment to the Certificate of Substantial Completion.

Request for Information. Also referred to as “Request for Clarification”. A Request for Information (RFI) is issued by the Contractor to the Construction Manager to request resolution of a question on a Contract issue. A RFI is not to be used for request for material/equipment substitutions or value engineering/cost reduction incentive proposals.

Request for Quotation. A request for a proposed cost made of the Contractor by the Owner to add, delete or change the Work. A Contract Change Order is issued upon Agreement of Price and nature of the change of the Work.

Shall. Refers to actions entered into by the Contractor or the Owner as a covenant with the other party to do or to perform the action.

Shown. Refers to information presented on the drawings, with or without reference to the drawings.

Specifications. That part of the Contract Documents consisting of written descriptions of the technical features of materials, equipment, constructions systems, standards, and workmanship.

Specify. Refers to information described, shown, noted or presented in any manner in any part of the contract.

State of California Specifications. The State of California Department of Transportation Standard Specifications in effect at the date of Notice Inviting Bids, Section 00010. Also referred to as State Standard Specifications and Caltrans Standard Specifications.

Subcontractor. A subcontractor is a person or entity who has a direct contract with the Contractor or a sub-tier subcontractor who has a direct contract with a subcontractor to perform any of the Work associated with the Project. The term subcontractor means a subcontractor or subcontractor's authorized representative. The term subcontractor, does not include any separate contractor or any separate contractor's subcontractors.

Submittals. The information which is specified for submission to the Construction Manager in accordance with the Contract Documents.

Substantial Completion. Sufficient completion of the project or the portion thereof to permit a utilization of the project. Determination of substantial completion is solely at the discretion of the Owner. Substantial completion does not mean complete in accordance with the Contract nor shall substantial completion of all or any part of the project entitle the Contractor to acceptance under the Contract.

Substantial Completion Date. Date when the Owner puts into service, the Project, or that portion of the Project that has been determined to be substantially complete.

Sub-subcontractor. A sub-subcontractor is a person or entity who has a direct or indirect contract with a subcontractor to perform any of the Work associated with the Project. The term sub-subcontractor

means a sub-subcontractor or an authorized representative thereof, also referred to as subtier-subcontractor.

Supplier. Any person, firm, corporation, or organization who supplies materials or equipment for the Work, including that fabricated to a special design, and may also be a Subcontractor or a Sub-contractor.

Surety. The person, firm, corporation, or organization that joins with the Contractor in assuming the liability for the faithful performance of the Work and for the payment of all obligations pertaining to the Work in accordance with the Contract Documents by issuing the Bonds required by the Contract Documents or by law.

Warranty Period. Period where the Contractor is responsible for repairs to equipment or the Work at no cost to the District after Substantial Completion. Length of period is as established in the Section 01740, **WARRANTIES AND BONDS**, and/or elsewhere in the Contract Document.

Will. See definition of "Shall".

Work. The labor, materials, equipment, supplies, services, and other items necessary for the execution, completion and fulfillment of the Contract.

Work Day. Any day except Saturday, Sunday, and legal District holidays.

3.0 ABBREVIATIONS

Whenever the following terms are used, the intent and meaning shall be as follows:

Abbreviation Stands For

AASHTO	American Association of State and Highway and Transportation Officials
AAMA	Architectural Aluminum Manufacturers Association
ABMA	American Boiler Manufacturers Association
ACI	American Concrete Institute
ADC	Air Diffusion Council
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AMCA	Air Moving and Conditioning Association
ANSI	American National Standard Institute (formerly United States of America Standards Institute)
APA	American Plywood Association
API	American Petroleum Institute
AREA	American Railway Engineers Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Construction Managers
ASME	American Society of Mechanical Engineers

ASTM	American Society of Testing and Materials
AWPA	American Wood-Preserver's Association
AWS	American Welding Society
AWWA	American Water Works Association
CAGI	Compressed Air and Gas Institute CAL/OSHA State of California Department of Industrial Relations, Division of Industrial Safety
CBM	Certified Ballast Manufacturers
CBR	California Bearing Ratio
CI	Chlorine Institute
CISPI	Cast Iron Soil Pipe Institute
CMAA	Crane Manufacturers Association of America
CPSC	Consumer Products Safety Commission
CRA	California Redwood Association
CRSI	Concrete Reinforcing Steel Institute
CTI	Cooling Tower Institute
DFPA	Douglas Fir Plywood Association
EIA	Electronic Industries Association
EPA	U.S. Environmental Protection Agency
ETL	Electronic Testing Laboratory
FM	Factory Mutual Insurance Company
FPS	Fluid Power Society
FS	Federal Specifications
GO 95	General Order No. 95, California Public Utilities Commission Rules for Overhead Electric Line Construction
HI	Hydraulic Institute
HMI	Hoist Manufacturers Institute
IAPMO	International Association of Plumbing and Mechanical Officials
IBR	Institute of Boiler and Radiator Manufacturers
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IPCE	International Power Cable Engineers Association
ISA	Instrument Society of America
MIL	Military Specifications
MSS	Manufacturer's Standardization Society
NAAMM	National Association of Architectural Metal Manufacturers
NBS	National Bureau of Standards
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NSF	National Sanitation Foundation
NWMA	National Woodwork Manufacturers Association
OSHA	Occupational Safety and Health Administration
PCMAC	Prestressed Concrete Manufacturers Association of California
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SSPC	Structural Steel Painting Council TCA Tile Council of America
UBC	Uniform Building Code
UFC	Uniform Fire Code

UPC	Uniform Plumbing Code
UL	Underwriters Laboratories
WCLIB	West Coast Lumber Inspection Bureau
WIC	Woodwork Institute of California

***** END OF SECTION *****

SECTION 01200

PROJECT MEETINGS

1.0 PRE-CONSTRUCTION CONFERENCE

Prior to the start of construction the Construction Manager will conduct a pre-construction conference that shall be attended by the Contractor's Project Manager/Project Engineers and major subcontractors and major equipment and material suppliers, effected utilities and others as determined by the Contractor and Construction Manager. At the conference the following shall be reviewed - the Contractor's proposed schedule of operations and the construction procedure and sequence requirements, Contractor's field organization, submittals, progress payments procedures, change order procedures, Contractor Safety Program, safety requirements, permits and inspections, and other matters.

2.0 PROGRESS MEETINGS

The Construction Manager shall schedule, arrange and conduct progress meetings. These meetings shall be conducted not more than once per week and shall be attended by the Contractor's superintendent and representatives of all subcontractors, utilities, and others, that are active in the execution of the Work. The purpose of these meetings shall be to review the Contractor's three week schedule provided in accordance with Section 01310-7.0, **WEEKLY SCHEDULE**, resolve conflicts, and in general, coordinate and expedite the execution of the Work.

The agenda of progress meetings shall include, as a minimum, review of progress and schedule of the Work and any other matters related to the execution of the Work. The Construction Manager shall prepare and distribute record of discussions of the meetings.

3.0 PARTNERING MEETINGS – NOT USED

4.0 SUBMITTAL MEETINGS

When required in the individual technical specification, or if requested by the Contractor or the Construction Manager, a meeting regarding a required submittal will be held to facilitate the timeliness of the submittal preparation and review process. This meeting will convene at a mutually agreeable place. The party responsible for preparing the submittal shall be in attendance along with the Design Consultant.

5.0 QUALITY ASSURANCE MEETINGS

The Contractor or the Construction Manager may request a meeting prior to the start of a particular phase of the Project to discuss how the Work shall be accomplished in accordance with the quality requirements of the contract documents, codes, permits and industry standards. All required inspection and testing applicable to this phase of the Project will be discussed in detail. The Contractor shall require that all management and quality control personnel employed by the Contractor for this phase of the Project are in attendance. Quality assurance meetings might be requested for such phases of the Project as site work, concrete, piping, mechanical, specialty subtrades and electrical/instrumentation.

6.0 PRE-INSTALLATION MEETINGS

When required in the individual specification, or if requested by the Contractor or Construction Manager, a pre-installation meeting will be held to review conditions of the installation, installation procedures and coordination with related work. This meeting should take place at least seven (7) days in advance of installation or as required in the technical specifications. Meeting is to be attended by all parties involved in the installation.

7.0 SPECIAL MEETINGS

Any time during progress of the Work, the Owner and the Construction Manager shall have the authority to require the Contractor and any subcontractor, suppliers, or service providers to attend job-site conferences on matters which require immediate or special attention. Any notice of such conference shall be duly observed and complied with by the Contractor and subcontractors, suppliers, or service providers without extra cost to Owner.

8.0 POST CONSTRUCTION GUARANTY PERIOD MEETING

The Contractor shall meet with the Owner, Construction Manager and Design Consultant approximately eleven (11) months after date of Substantial Completion to inspect the Work. Meeting will be arranged by the Owner at least seven (7) days before meeting. The Contractor will require attendance of its Project Manager/Superintendent, appropriate manufacturers and appropriate subcontractors.

***** END OF SECTION *****

SECTION 01308

PROJECT PLAN

1.0 GENERAL

To compliment the Progress Schedule requirements described in Section 01310, **PROGRESS SCHEDULES AND REPORTS**, the Contractor shall develop and submit a Project Plan. The plan shall be used to outline the construction objectives, milestones, general resource requirements and the approach to major activities. The Project Plan shall be the “planning document” that demonstrates the Contractor’s, subcontractors and suppliers commitment to providing adequate resources to meet the Contractual milestones, Substantial Completion and Final Completion.

2.0 PROJECT PLAN REQUIREMENTS

The Project Plan shall be in narrative, tabular and bar chart format and shall include the following information:

- A. Description of the Contractor’s approach to each major structure, process, component, discipline and indirect activities (such as public notifications, environmental compliance and traffic control)
- B. Description of the Contractor’s key interfaces with the Owner and other third parties.
- C. Description of the Contractor’s approach to communication, coordination and planning the Work with each subcontractor, as listed in Section 00430, **DESIGNATION OF SUBCONTRACTORS** and other major suppliers.
- D. Description of long-lead procurement items and their anticipated submittal, fabrication and delivery dates for all equipment listed in Section 00450, **MAJOR EQUIPMENT AND MATERIAL SUPPLIERS**.
- E. Description of the Contractor’s understanding and commitment of the key interim milestones.
- F. Description of the Contractor’s understanding and approach to start-up, testing and training as described in Section 01660, **TESTING AND TRAINING**.
- G. Description of the Contractor’s field construction organization, including management and supervision for the Contractor and subcontractors listed in Section 00430, **DESIGNATION OF SUBCONTRACTORS**.
- H. A table which indicates the type and quantity of trades and craft workers required at each stage of the Project.
- I. A table which indicates the type and quantity of construction equipment required at each stage of the Project.
- J. A description of the Contractor’s overall strategy that demonstrates a planned sequence that lists major dependencies, interfaces, milestone events, testing, training and completion.
- K. A summary bar chart that depicts the Contractor’s overall strategy for achieving the Plan.

3.0 SUBMITTALS

- A. The Contractor shall submit seven (7) copies of the initial Project Plan with the executed Contract documents.
- B. Owner shall review and return comments to the Contractor prior to issuance of the Notice to

Proceed.

- C. Contractor shall incorporate Owner's comments and re-submit no later than five (5) days after issuance of the Notice to Proceed.
- D. The Contractor shall prepare and submit monthly updates of the Project Plan. The updated Plan shall address all the items listed in 01308-2.0, **PROJECT PLAN REQUIREMENTS**. The updated Plan shall also provide a description of any impacts or effects to the Work that has occurred.
- E. The monthly updates shall be submitted within ten (10) days of the end of the reporting period and shall include narrative, tables and a summary bar chart.

***** END OF SECTION *****

SECTION 01310

PROGRESS SCHEDULES AND REPORTS

1.0 GENERAL

The Progress Schedule for this Project will also be referred to as the Critical Path Method (CPM) Schedule. A CPM network schedule is a graphical depiction of the Contractor's construction plan, showing the sequential activities necessary to complete the Work within the specified contract times and constraints. The CPM network schedule for this Project shall depict events and tasks as activities, showing their interrelationships, and shall identify the progress required for each activity before subsequent activities can start. Activities shall be logically presented in a network showing the activities' interrelationships chronologically. Because each activity has an assigned duration, the completed network shall show the critical path of activities that must be completed on time to ensure timely project completion. The earliest and latest start and finish times for each activity shall also be shown. The CPM network shall be comprehensive and shall include all interdependencies and interactions required to perform the Work.

The Owner, Construction Manager and/or Design Consultant will regularly analyze the most current progress schedule during construction to monitor progress status of the project relative to contract times and to coordinate work activities. The Schedule Updates and Weekly Schedules will be an agenda item at all project progress meetings as project participants work together in prioritizing their respective tasks and action items to efficiently perform their duties.

Time Impact Analyses will be required as part of the scheduling requirements of this Contract. Time Impact Analyses will be used by the Construction Manager and Owner as they evaluate possible changes to the Contract time and/or viable options to mitigate time impacts.

By submitting a bid for this Project, the Contractor represents to the Owner that the Contractor has included all costs within its Total Bid Price to fully comply with all scheduling and reporting requirements hereinafter prescribed in this Section 01310.

Schedule Format: Utilize critical path method (CPM) format utilizing Precedence Diagramming Method.

Prepare computerized schedules utilizing Primavera Project Planner (P6) scheduling software.

2.0 RESPONSIBLE SCHEDULING PERSON

Within five (5) days after the Notice of Award, the Contractor shall designate, in writing, an authorized representative in its firm who will be responsible for the preparation, revising, and updating of the Construction Schedule. The Contractor's representative shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling the construction scheduling requirements set forth herein, and such authority will not be interrupted throughout the duration of the Project. The requirements for the Construction Schedule are included to assure adequate planning and execution of the work and to assist the Construction Manager in appraising the reasonableness of the proposed schedule and evaluating progress of the work.

3.0 CONSTRUCTION SCHEDULE

3.1 Preconstruction Scheduling Meeting and Preparation

The Construction Manager will conduct a Preconstruction Scheduling Meeting with Contractor's Project Manager and Responsible Scheduling Person within five (5) days after the Notice to Proceed date. This meeting is separate from the Preconstruction Conference Meeting and is intended to only cover schedule requirements for this Project. These requirements will include, at a minimum, formatting, color coding, activity detail, coding structure, calendar requirements, reporting requirements, updates, revisions, and schedule delay analysis.

Contractor shall present their schedule methodology, planned sequence of operations and proposed activity coding structure. All Progress Schedules shall be consistent with the Project Plan as required by Section 01308, **PROJECT PLAN**. The coding structure shall, at a minimum, include code fields for Project Segment or Phase, Area of Work, Type of Work, Submittal/Procurement/ Construction and Responsibilities (this would include all subcontractors). The activity code structure shall be sufficient to allow future sorting and/or grouping by responsibility or subcontractor, area/location, CSI division, milestones and change orders. This will allow the "rollup" of the activities in the form of a Summary Schedule.

During preparation of the Preliminary and Baseline Schedules the Construction Manager will be available to answer questions regarding sequencing issues, scheduling constraints, interface points, and dependency relationships.

3.2 Preliminary Progress Schedule

Within five (5) days after receipt of the Notice to Proceed or the Preconstruction Conference, whichever occurs first, the Contractor shall submit a Preliminary Progress Schedule in the form of a time scaled logic diagram and a bar chart which shows the Contractor's intended plan for execution of the Work within the specified Contract times and constraints. The Preliminary Progress Schedule shall be consistent with the Project Plan as required by Section, **01308 PROJECT PLAN**. The Preliminary Progress Schedule shall cover the following project phases and activities:

Procurement and Submittals, including shop drawings and fabrication and delivery of key and long lead time procurement items. The Contractor's submittal information shall show intended submittal dates and shall include, as a minimum, the maximum allowable review period as specified as a separate predecessor activity. The information shall provide sufficient durations for administration, fabrication and transportation to produce realistic delivery dates for the procurement items.

- A. All activities planned for the first ninety (90) days in the execution of the Work.
- B. The approach to scheduling the remaining activities or phases of the Work shall be represented by at least one summary activity for each major phase or activity. The total duration of the summary activities shall equal the Contract Time.
- C. Approximate duration for each summary activity representing the Contractor's best estimate for the work the summary activity represents.
- D. Weather days.

The Contractor shall produce and provide one (1) complete set on 22-inch by 34-inch sheets and two (2) complete sets on 11-inch by 17-inch sheets of each time scaled logic diagram and one electronic copy on a CD with data in the scheduling program format.

The Preliminary Progress Schedule shall describe the activities to be accomplished and their dependency subject to all requirements under these Construction Schedule provisions, as appropriate. The Preliminary Progress Schedule will be used temporarily to record and monitor the progress of the Work until the Baseline Schedule, specified hereinafter, has been completely developed and favorably reviewed. Recorded data on the Preliminary Progress Schedule shall be incorporated into the Baseline Schedule during the first schedule update.

The Construction Manager shall review the Preliminary Progress Schedule and provide any comments, provide favorable review of the Preliminary Progress Schedule, or request a meeting to review the Preliminary Progress Schedule with the Contractor within ten (10) days of receipt of the schedule. If requested, the Contractor shall participate in a review and evaluation of the schedule with the Construction Manager. Any revisions necessary as a result of this review shall be resubmitted for review by the Construction Manager within five (5) days.

The Contractor shall update the Preliminary Progress Schedule as required by the Construction Manager until the Baseline Schedule, specified hereinafter, has been favorably reviewed.

3.3 Baseline Schedule

The Contractor shall submit a conforming Critical Path Method (CPM) Baseline Schedule to the Construction Manager within thirty-five (35) days after the receipt of the Notice to Proceed for all Work of the Project. The Baseline Schedule shall be consistent with the Project Plan as required by Section 01308, **PROJECT PLAN**. Subsequent revisions to the Baseline Schedule shall be submitted as set forth hereinafter.

The Contractor shall produce and provide one (1) complete set on 22-inch by 34-inch sheets and two (2) complete sets on 11-inch by 17-inch sheets each of time-scaled network logic diagrams and bar charts in color and one electronic copy on a CD with data in P3 format. The network logic diagram shall be clear and legible. Critical activities shall be indicated in red color on both schedules.

The Contractor shall include with the Baseline Schedule Submittal a signed statement from each Subcontractor listed on the Contractor's Bid Form Section 00430, **DESIGNATION OF SUBCONTRACTORS** which confirms they have evaluated the Contractor's Baseline Schedule and agree that the Baseline Schedule accurately depicts the quantity, logic and durations for all activities assigned to their company.

The Construction Manager shall review the schedule and provide any comments, its favorable review of the schedule, or request a meeting to review the schedule with the Contractor within twenty (20) days of receipt of the schedule. If requested, the Contractor shall participate in a review and evaluation of the proposed network diagrams and analysis by the Construction Manager. Any revisions necessary as a result of this review shall be resubmitted for review by the Construction Manager within ten (10) days. When completed, the favorably reviewed schedule shall then be the schedule to be used by the Contractor for planning, organizing, and directing the work, and for

reporting progress. If the Contractor thereafter desires to make significant changes in its method of operating and scheduling, the Contractor shall notify the Construction Manager in writing stating the reasons for the change.

Failure to include an activity required for execution of the Work does not excuse the Contractor from completing the Work and portions thereof within specified contract times and contract price. Failure of the Contractor to include required schedule constraints, sequences or milestones in schedule shall not relieve the Contractor of the obligation to conform to the requirements of the Contract. The favorable review of the schedule shall not waive the Contract requirements. In event of conflict between the accepted schedule and the Contract requirements, terms of the Contract shall govern at all times, unless requirements are waived in writing by the Owner.

Contractor shall not unilaterally change the favorably reviewed Baseline Schedule without the prior written notification to and acceptance and consent of the Construction Manager, excepting only the reporting of Actual Start, Actual Finish, and Activity Progress. The accepted Baseline Schedule shall be used for comparison with the current updated schedule, and possible revised schedules, during the Contract.

3.3.2 Baseline Schedule Requirements - The Contractor's proposed Baseline Schedule and all updates or revisions thereto, shall meet the following requirements:

- A. Schedule and Project Completion- The Schedule shall indicate completion of the Project at the Contract completion date and shall incorporate the entire Project duration. As provided for in Section 00700-6.2, Contract Time, the Contractor is required to base their bid and the construction schedule on the entire Contract Time and include its field and home office overhead costs in the bid for the entire Contract Time as defined in Section 00800-1.1, Time Allowed for Completion.
- B. Critical Path – The critical path is defined as the longest continuous path of activities in a network logic diagram with the least amount of float. Critical path activities are defined only as those activities included in the previously defined critical path. The Contractor's inclusion of other activity(ies) on the critical path based on the selection of an arbitrary number of days of float is not allowed.
- C. Schedule Logic- Schedule shall be assembled to show order in which Contractor proposes to carry out Work, indicate restrictions of access, availability of Work areas, and availability and use of manpower, materials and equipment. The Contractor shall indicate all dependencies and logic between activities so that it may be established what effect the progress of any one activity has on the schedule. The following criteria shall form basis for assembly of schedule logic.
 - 1. Which activities must be completed before subsequent activities can be started?
 - 2. Which activities can be performed concurrently?
 - 3. Which activities must be started immediately following completed activities?
 - 4. What major facility, equipment or manpower restrictions are required for sequencing these activities?

The schedule shall not incorporate resource loading and leveling. The Contractor shall provide hard coded logic constraints as necessary to incorporate any resource requirements that may be applicable to the Project construction. The Contractor shall determine and allocate the proper resources to complete the Project by the specified Contract completion date.

D. Network Activities - The selection and number of detailed network activities shall be subject to favorable review by the Construction Manager and shall meet the following requirements:

1. All Work activities should be of sufficient detail to ensure adequate planning and execution of the Work, consistent with the Project Plan and such that schedules provide an appropriate basis for monitoring and evaluating the progress of the Work. A work activity is defined as a single task that requires time and resources (manpower, equipment and/or material) to complete in a continuous operation, excluding submittal activities, review/acceptance activities, and fabrication/procurement activities. Durations for on-site work activities shall be in working days and shall not exceed ten (10) workdays. Passive on-site activities such as curing and testing periods can be in calendar days if desired by Contractor. All such passive on-site activities shall be included in the Contractor's schedule and durations should be as specified in the Contract Documents. To accommodate tracking of the progress of work and review of the schedule updates, the Contractor shall provide detailed information to support the proposed breakdown of work activities, e.g. concrete pour schedules, pipeline stationing, etc.
2. The submittal and approval of samples and equipment, fabrication of special material and equipment and their installation and testing. Should the Contractor expect multiple submittals and deliveries for materials or equipment from the same supplier, the Contractor shall show each planned submittal and delivery and the logic to the respective on-site Work activity(s).
3. The critical path shall be shown on all reports and on the graphic network logic diagram. The activities which constitute the critical path shall be identified.
4. Progress milestone events or other significant stages of completion, as defined in Section 00800-1.1, Time Allowed for Completion, and Section 01010-2.0, **WORK SEQUENCE AND CONSTRAINTS**. System shutdown and tie-in dates must be specifically and conspicuously identified and included on the schedule.
5. The lead time required for testing, inspection and other procedures required prior to acceptance of the work. All witnessed factory tests shall be shown as individual activities.
6. The activity numbers shall be grouped by responsibility, phases, milestones, work area, trade and subcontractor to provide logical summary activities.
7. All activities of the Owner and the Construction Manager that affect progress along with required contract dates for completion of all parts of the work.
8. All activities of utilities, regulatory agencies and permitting agencies.
9. All mobilization and demobilization activities, including temporary controls.
10. Schedule shall show all hydraulic testing of structures, pipe testing, field testing, training and demonstration periods as required. Field testing and training activities should be broken down to reflect all individual system and equipment components.
11. Float shall not be an activity unless approved by the Construction Manager.

E. Network Logic Diagram - The graphic network diagram shall include for each activity, the description, activity number, the estimated duration in workdays, and all activity relationship lines. The network diagram shall be drawn for the early start and early finish of all activities. The diagrams shall show elements of the project in detail and an entire project summary. Diagrams shall show the order and interdependence of all activities and sequence in which the work is to be accomplished as planned by the Contractor and its subcontractors. The basic concept of a network analysis diagram shall be followed to show how the start of a given activity is dependent on the completion of preceding activities and its completion restricts

the start of following activities. The layout of the network logic diagrams shall be time-scaled and show the following as a minimum:

1. Activity numbers and description
2. Activity duration and total float
3. Critical path, highlighted in red color
4. Relationships between activities and lag times, if any
5. Start, completion and milestone dates

F. Bar Chart- The layout of the bar chart shall show the following as a minimum:

1. Activity numbers and description
2. Early-start-early-finish, duration and total float time of activities
3. Critical path, highlighted in red color
4. Percent complete on bar, highlighted in blue color
5. Relationships between activities and lag times, if any
6. Start, completion and milestone dates

The layout of the columns, printed on the left-hand side of the bar chart, shall include the following as a minimum:

1. Activity ID Number
2. Activity Description
3. Original Duration
4. Remaining Duration
5. Early Start, Early Finish, Late Start and Late Finish dates
6. Percent Complete
7. Current Total Float
8. Change in Total Float since previous update.

G. Float – “Total Float” or “Float” shall be defined as the difference between the early finish and late finish dates for an activity. On the CPM Schedule delineate the specified Contract duration and identify the planned completion of the Work as the final finish milestone. The time-period between these two dates, if any, shall be considered float. Float in any activity, milestone completion date or Contract completion date shall be considered a resource available to both the Owner and the Contractor. Neither the Owner nor the Contractor has ownership of the float.

The parties agree that float, as properly shown on the Baseline Schedule and all updates thereto, is not for the exclusive benefit of either party. Consequently, either party may, without liability to the other for actual or liquidated damages for delay, delay a schedule activity provided that such delay shall not cause the Total Project Float to become negative and extend the Project completion date.

If the Contractor’s schedule is based on less time than the maximum time allowed for milestone(s) or Contract completion no compensation for extended overhead expenses will be considered until the expiration of the entire time periods provided for in the Contract as adjusted by any time extensions granted other than compensable time extensions. In such

case refer to Section 00700-6.4.3, **Indirect Overhead**, for further provisions on the reimbursement of overhead expenses.

Acceptance of the Contractor's Baseline Schedule, monthly updates or revised schedule, when based on less time than the maximum time allowed for milestone(s) or Contract completion does not serve to change any Contract duration, nor serve as a waiver of the Contractor's nor the Owner's right to utilize the full amount of time specified in the Contract, unless so modified in a Contract Change Order.

If the Project has interim milestones with separate liquidated damages, only compensable delays by the Owner to the Project Critical Path shall potentially entitle the Contractor to extended overhead costs subject to the limitations of Section 00700-6.4 et seq.

Pursuant to these float sharing requirements, use of float suppression techniques such as preferential sequencing or logic, special lead or lag logic restraints, extended activity duration's or imposed dates shall be cause for rejection of any schedule submittal.

- H. Owner-furnished Equipment or Materials (if applicable)- Immediately after Award of Contract, Contractor shall obtain from Construction Manager anticipated delivery dates of Owner furnished equipment or materials if they are not already specified in the Contract Documents. These dates shall be shown on Baseline Construction Schedule in same manner indicated by Construction Manager.
- I. Baseline Tabular Reports - The Baseline Schedule submission shall include two (2) copies of the following tabular reports:

(1) Tabular Reports

- a. Activity Report: Sort report by Activity ID
- b. Total Float Report: Sort report by Total Float, Early Start, Activity ID

The following information shall be furnished as a minimum for each activity;

- c. activity description and number
- d. estimated duration of activities
- e. earliest start date (by calendar date)
- f. earliest finish date (by calendar date)
- g. latest start date (by calendar date)
- h. latest finish date (by calendar date)
- i. float
- j. percentage of activity completed.
- k. percentage of activity completed

(2) Tabular Report – Predecessor/Successor Report: The report shall include the same information listed above plus the additional information listed below. This report shall be sorted by Activity ID.

- a. Preceding and succeeding activities

b. Activity constraints

The schedule reports shall include a Project calendar in workdays indicating all non-working periods and an Activity Code dictionary which identifies all code values and code titles used.

4.0 WEATHER CONDITIONS AND WEATHER DAY ALLOWANCE

Weather conditions shall be considered in the planning and scheduling of work activity durations influenced by high or low ambient temperatures or precipitation to ensure the completion of the Work within the Contract Time. No time extensions will be granted for the Contractor's failure to take into account such weather conditions for the location of the Work and for the period of time in which the Work is to be accomplished.

The expected loss of working days specified in the Supplementary General Conditions, Section 00800-1.3, Weather Days, shall be included in a separate identifiable critical activity labeled "Weather Days Allowance" to be included as the last critical activity of the Project schedule or milestone activity. When weather days are experienced, notice is to be provided by the Contractor in accordance with Section 00700-6.3.1, Notice of Delays. When weather days are approved as such by the Construction Manager, the Contractor shall either:

- A. Increase the duration of the current critical activity(ies) by the number of weather days experienced, or
- B. Add a critical activity to the schedule to reflect the occurrence of the weather day(s).

The duration of the weather day allowance activity shall be reduced as weather days are experienced and included in the schedule. Any remaining weather days in the weather day allowance activity at the completion of the project shall be considered as float and shall not be for the exclusive use or benefit of either the Owner or Contractor.

5.0 SCHEDULE UPDATES

5.1 General

The Contractor shall update the Baseline Schedule on a monthly basis for the purpose of recording and monitoring the progress of the Work. Each monthly report shall cover a period of approximately thirty (30) days. The monthly reports shall be submitted within ten (10) days of the end of the reporting period. The monthly updates shall be consistent with and submitted concurrent with the updated Project Plan as required in Section 01308, **PROJECT PLAN**. The end of the reporting period shall be as agreed upon by the Construction Manager and the Contractor. The Updated Baseline Schedule shall incorporate changes mutually agreed upon by Contractor and Construction Manager during preceding periodic reviews and changes resulting from approved Change Orders and Field Orders.

The Activity Numbers, Descriptions and Original Durations in the original submittal shall not be changed in the future submittals. New Activity Numbers and Descriptions may be added and Activity Numbers and Descriptions may be eliminated if the work intended to be included in the Activity has never been performed and is eliminated at a future date.

The Contractor shall produce and provide two (2) complete sets each of time-scaled network logic diagrams and bar charts in color on 11-inch by 17-inch sheets and one electronic copy on a CD with data in the scheduling program format. The network logic diagram shall be clear and legible. Critical activities shall be indicated in red color on both schedules.

A. Tabular Reports- Each Updated and Revised Schedule shall include a separate report that provides a comparative analysis between the updated or revised schedule and the previously accepted schedule submitted to the Construction Manager. This report shall be provided in both electronic and hard copy form and shall include the following information:

1. List of all Activities deleted since last schedule update.
2. List of all Activities added since last schedule update.
3. List of all Activities with any changes in original duration since last schedule update.
4. List of all changes in percent completes for each activity since last schedule update.
5. List of all Activities who should have began since last schedule update and did not.
6. List of all Activities that should have completed since last schedule update and did not.
7. List of all changes in activity Total Floats since last schedule update.
8. List of all changes in activity Free Floats since last schedule update.
9. List of any activity description or number changes since last schedule update.
10. List of all activity relationship changes, additions or deletions since last schedule update.
11. List of all changes to any schedule constraints since last schedule update.

B. Narrative - This report should also include a narrative. The narrative shall show the activities or portions of activities completed during the reporting period. The report shall state the percentage of the work actually completed and scheduled, the remaining duration, and the progress along the Critical Path in terms of days ahead or behind the allowable dates as of the report date. Any changes made by the Contractor to the Baseline Schedule or prior schedule updates, including activity numbers and activity descriptions, shall be listed in a detailed report which describes the reason for each change. The narrative shall also include a report on any current or anticipated problems affecting the progress of Work, impact of these problems and the measures taken to mitigate impact.

5.2 Delayed Schedule Updates

If, in the opinion of the Construction Manager, the project is behind schedule, the monthly report shall include a revised network logic diagram and/or tabular reports showing the Contractor's proposed revised schedule. The schedule shall be revised under the conditions defined in Section 01310-5.4, Schedule Revisions. An analysis of the effect that the delay has on progress along other paths shall also be included in the report. The Contractor shall also submit a narrative report with each updated analysis which shall include but not be limited to, a description of current and anticipated problem areas, delaying factors and their impact, and an explanation of corrective actions taken or proposed.

5.3 Schedule Review

Once each month, on a date mutually agreed upon, but no later than ten (10) days after the submittal of the monthly update specified herein, a jobsite meeting will be held to review the schedule, job progress and the monthly update, or the Construction Manager will provide written comments on the monthly update.

5.4 Schedule Revisions

The conditions under which the Construction Manager may require revisions of the Construction Schedule include the following:

- A. When delay in completion of any work item or sequence of work item results in an estimated extension of project completion by either fifteen (15) working days or by five percent (5%) of the remaining duration of time to complete the Contract, whichever is less. This slippage duration may be reduced further for any contract time that is a critical fixed completion date which must be met.
- B. When delays in submittals or deliveries make re-planning or re-scheduling of the work necessary.
- C. When the schedule does not represent actual prosecution and progress of the work.
- D. When any change to the sequence of activities, the completion date for major portions of the work, or changes occur which affect the critical path.
- E. When Contract modification necessitates schedule revision.

6.0 **TIME IMPACT ANALYSIS**

When change orders are initiated, delays are experienced, or the Contractor desires to revise the schedule logic, the Contractor shall submit to the Construction Manager a written Time Impact Analysis illustrating the influence of each change, delay, or Contractor request on the current contract schedule completion date.

6.1. CPM Schedule - Analysis

- A. Each Time Impact Analysis shall include a fragmentary network analysis demonstrating how the Contractor proposes to incorporate the change order, delay, or Contractor request into the CPM Schedule.
- B. The analysis shall demonstrate the time impact based on the date of occurrence of the change, delay or revision; the status of construction at that point in time; and the event time computation of all affected activities.
- C. The event times used in the analysis shall be those included in the latest updated copy of the CPM Schedule encompassing both the actual start and actual finish of the event activity or as adjusted by mutual agreement between the Construction Manager and Contractor.

6.2 Delays/Time Extensions

Activity time delays will not automatically mean that an extension of Contract Time is warranted or due the Contractor.

- A. It is possible that an excusable delay or contract modification will not affect existing critical activities or cause noncritical activities to become critical, i.e., a delay or modification may result in only absorbing a part of the available total float that may exist within an activity chain of the network, thereby not causing any effect on the Contract completion date or time.
- B. The Contractor acknowledges and agrees that mitigation for delays due to changes, differing site conditions, and other causes will require revision of preferential sequences of the Work. Accordingly, to mitigate delays, the activities shall be re-sequenced prior to the Contractor proposing an updated schedule which supports a delay to the Project as a whole. When a delay to the Project as a whole can be avoided by revising preferential sequencing, and the Contractor chooses not to implement the revisions, the Contractor will be entitled to a time extension but is not entitled to compensation for indirect overhead for this extended duration.
- C. Actual delays in activities which do not affect the critical path work or which do not move the Contractor's planned completion date beyond a milestone or the Contract completion date will not be the basis for an adjustment to the Contract Time.
- D. Extensions of time can be granted for a delayed or impacted activity only for the duration of the time adjustment which exceeds the total float for the schedule path wherein the activity is located. The adjustment is only applicable during the time the delay occurred or when the change is ordered.

6.3 Time Impact Submittal and Review

Time Impact Analyses shall be submitted in triplicate and within fifteen (15) days after a delay occurs or with the Contractor's cost proposal in response to a notice of change from the Construction Manager. In cases where the Contractor does not submit a Time Impact Analysis for a specific change order, delay, or Contractor request within the specified period of time, then it is mutually agreed that the particular change order, delay, or Contractor request has no time impact on the Contract completion date and no time extension is required.

- A. Approval or rejection of Time Impact Analyses by the Construction Manager and the Owner will be made within fifteen (15) days after receipt of the Time Impact Analysis unless subsequent meetings and negotiations are necessary.
- B. Upon approval, a copy of the Time Impact Analysis signed by the Construction Manager and Owner will be returned to the Contractor.
- C. Upon mutual agreement by both parties, schedule revisions illustrating the influence of change orders, delays, and/or Contractor requests will be incorporated into the next schedule update.

7.0 WEEKLY SCHEDULE

Submit to the Construction Manager at the Weekly Progress Meetings, a progress schedule showing the activities completed during the previous week and the Contractor's schedule of activities for the following three (3) weeks.

The Weekly Schedule may be a CPM schedule or a bar chart but shall utilize the logic and conform to the status of the current progress schedule. In the event that the Weekly Schedule no longer conforms to the current schedule, the Contractor may be required to revise the schedule in accordance with Section 01310-5.4, Schedule Revisions.

The activity designations used in the Weekly Schedule shall be consistent with those used in the Baseline Schedule and the monthly Schedule Updates.

The format of the Weekly Schedule shall be as agreed upon between the Contractor and the Construction Manager.

8.0 FINAL SCHEDULE SUBMITTAL

As a condition precedent to the release of retainage the final Schedule Update shall be identified by the Contractor as the As-Built Schedule.

The As-Built Schedule shall reflect the manner in which the project was constructed by reflecting actual start and completion dates for all activities accomplished on the project.

The As-Built Schedule shall be signed and certified by the Contractor's Project Manager and Responsible Scheduler as being an accurate record of the way in which the project was actually constructed.

***** END OF SECTION *****

SECTION 01322

WEB BASED DOCUMENT CONTROL

1.0 WEB DATABASE

1.1 Summary

The project team will use and maintain a web-based database as the primary means of communication related to the Project's correspondence, submittals, requests for information (RFIs), advisory notices, and non-compliance issues. Correspondence from the CONTRACTOR shall be sent to the CONSTRUCTION MANAGER via the PROCORE System.

The CONSTRUCTION MANAGER and CONTRACTOR shall utilize PROCORE's system for electronic submittal of all data and documents (unless specified otherwise by the CONSTRUCTION MANAGER) throughout the duration of the Contract. PROCORE is a web-based electronic media site that is hosted by PROCORE LLC utilizing their PROCORE web solution. PROCORE will be made available to all CONTRACTOR's project personnel. The joint use of this system is to facilitate; electronic exchange of information, automation of key processes, and overall management of the Contract. PROCORE shall be the primary means of project information submission and management. When required by the CONSTRUCTION MANAGER, paper documents will also be required. In the event of discrepancy between the electronic version and paper documents, the paper documents will govern. PROCORE is a registered trademarks of PROCORE LLC.

1.2 User Access Limitations

The CONSTRUCTION MANAGER will control the CONTRACTOR's access to PROCORE by allowing access and assigning user profiles to accepted CONTRACTOR personnel. User profiles will define levels of access into the system; determine assigned function-based authorizations (determines what can be seen) and user privileges (determines what they can do).

1.3 Automated System Notification and Audit Log Tracking

Review comments made (or lack thereof) by the CONSTRUCTION MANAGER and ENGINEER on CONTRACTOR submitted documentation shall not relieve the CONTRACTOR from compliance with requirements of the Contract Documents. The CONTRACTOR is responsible for managing, tracking, and documenting the Work to comply with the requirements of the Contract Documents. The CONSTRUCTION MANAGER's acceptance via automated system notifications or audit logs extends only to the face value of the submitted documentation and does not constitute validation of the CONTRACTOR's submitted information.

1.4 Contractor Responsibility

The CONTRACTOR shall be responsible for the validity of their information placed in PROCORE and for the abilities of their personnel. Accepted users shall be knowledgeable in the use of computers, including Internet Browsers, email programs, CAD drawing applications, and Adobe Portable Document Format (PDF) document distribution program. Adobe PDF documents will be created through electronic conversion rather than optically scanned whenever possible. The CONTRACTOR is

responsible for the training of their personnel in the use of PROCORE (outside what is provided by the CONSTRUCTION MANAGER) and the other programs indicated above as needed.

1.5 User Access Administration

Provide a list of CONTRACTOR's key PROCORE personnel for the CONSTRUCTION MANAGER's acceptance. The CONSTRUCTION MANAGER is responsible for adding and removing users from the system. The CONSTRUCTION MANAGER reserves the right to perform a security check on all potential users.

1.6 Connectivity Problems

PROCORE is a web-based environment and therefore subject to the inherent speed and connectivity problems of the Internet. The CONTRACTOR is responsible for its own connectivity to the Internet. PROCORE response time is dependent on the CONTRACTOR's equipment, including processor speed, Internet access speed, etc. and current traffic on the Internet. The OWNER and CONSTRUCTION MANAGER will not be liable for any delays associated from the usage of PROCORE including, but not limited to: slow response time, down time periods, connectivity problems, or loss of information. The CONTRACTOR will ensure that its connectivity to the PROCORE system (whether at the home office or job site) is accomplished through some form of high-speed communications with 128 kb/s as the minimum bandwidth requirements for using the system. It is recommended a faster connection be used when uploading pictures and files into the system. Under no circumstances shall the usage of PROCORE be grounds for a time extension or cost adjustment to the Contract. If there are problems that persist with the PROCORE site for more than 24 consecutive hours that prevent the electronic submission of data by the CONTRACTOR, the CONTRACTOR may submit documents in paper form to the CONSTRUCTION MANAGER until such time that the CONSTRUCTION MANAGER notifies the CONTRACTOR that the PROCORE site is operable and available for use. Construction Manager shall likewise send documents to Contractor in paper form during such disruption of the Procore system.

1.7 Training

The CONSTRUCTION MANAGER has arranged for the following training to be provided to the CONTRACTOR. The CONSTRUCTION MANAGER will provide a one-hour training class to the CONTRACTOR within ten (10) days of NTP at a time mutually agreeable to CONTRACTOR and CONSTRUCTION MANAGER. Thereafter the CONSTRUCTION MANAGER will provide up to one hour of additional training via telephone during the project per month of the project life.

2.0 EQUIPMENT

2.1 Summary

In order to process correspondence, submittals, and RFIs, the CONTRACTOR must provide and have in place for its own use the required basic components outlined below.

2.2 Hardware

A computer with internet access and sufficient capabilities to perform all project duties; a scanner at least large enough to scan 11" x 17" sheets with sufficient resolution to maintain clarity and legibility

of the document at its native size; and a color printer of sufficient size and capacity to accept incoming correspondence as described in this section.

2.3 Software

- A. Adobe Acrobat 9 or higher; Microsoft's Internet Explorer v7 or higher; Microsoft Office 2003 or higher, including but not limited to Microsoft Word and Microsoft Excel.
- B. PROCORE currently supports Mozilla's Firefox v3.5 and newer, Apple's Safari v4 and newer, Google Chrome, and Microsoft's Internet Explorer v7 and v8 web browsers for accessing the application. Certain functions may not be available when using any program other than the newest version of Microsoft's Internet Explorer.

2.4 Facilities

The CONTRACTOR shall make its own arrangements to provide high-speed (minimum speed: download 1Mbps/upload 256Kbps) internet connection for its own use as soon as practicable.

3.0 **EXECUTION**

3.1 Summary

Items to be uploaded to PROCORE by the CONSTRUCTION MANAGER include but are not limited to: RFI responses, Submittal comments, Clarification letters, Design Clarifications, Field Orders, et al. These items will be emailed as attachments in PDF file format. These attachments may include files that need to be viewed and/or printed in color. Formal letters, stop notices, Field Orders, Progress Payment Requests, and Contract Change Orders will always include a wet-signed hard copy.

3.2 Procure Utilization

All project related correspondence (RFIs, submittals, etc.) originated by the CONTRACTOR or Subcontractor, Supplier, et al. shall be directed to the CONSTRUCTION MANAGER, unless otherwise indicated in the Specifications.

3.3 Submittals

- A. The use of the electronic communication does not waive the requirement for the provision of hard copies of all formal correspondence and submittals. The hard copies of all documents must match the electronic copies of all correspondence and submittals.
- B. Submittals shall be in accordance with Section 01330. The provisions of Section 01330 shall apply both to electronic copies and hard copies of submittals.
- C. In addition to above, PROCORE shall be utilized in connection with submittal preparation and information management required by but not limited to Sections:
 - 1. Section 01035 - Modification Procedures.
 - 2. Section 01310 - Progress Schedules.
 - 3. Section 01340 - Submittal Procedures.

4. Section 01720 - Record Documents.
 5. Section 01730 – Operations and Maintenance Data
- D. PROCORE will be utilized by all other Sections not listed above and as required by the CONSTRUCTION MANAGER.
- E. If a submittal package has multiple items that are not directly related, each item shall be considered a separate submittal and shall be sent separately. For example, “Concrete Mix Design,” and “Concrete Curing Compound” shall be submitted as separate items to the CONSTRUCTION MANAGER.

3.4 Termination in Use

The OWNER may request a termination of the use of PROCORE for the electronic submission of data, and alternatively the use of paper documents submitted in accordance with the Contract Documents by providing notification in writing with ten (10) days notice that it intends to discontinue use of PROCORE.

3.5 Adobe PDF

- A. All information, comments, questions, and statements shall be scanned and/or converted to the PDF file format and attached to the email. Items to be sent via email include but are not limited to large-format plan sheets (22” x 34” or larger), small-format plan sheets, pages within tabbed binders, RFIs, transmittal sheets, et al. The PDF attachments supplied to the CONSTRUCTION MANAGER shall be in a sufficient resolution to be fully legible at its native size.
- B. All separate files within a given piece of correspondence shall be combined into a single PDF document (i.e., An RFI that contains a text file and two photo files shall be combined into a single PDF document prior to delivery to the CONSTRUCTION MANAGER.)

3.6 Labeling Format

- A. The subject line of each email, and the file name of any attached files shall begin with the file labeling scheme:
1. RFI_XXX.Y_(CONTRACTOR Name)_(Subject).
 2. Letter_XXX_(CONTRACTOR Name)_(Subject).
 3. Transmittal_XXX_(CONTRACTOR Name)_(Subject).
 4. PCO_XXX.Y_(CONTRACTOR Name)_(Subject).
 5. Submittal_XXXXX-YY-Z_(CONTRACTOR Name)_(Subject).
- B. The first section of the label indicates the type of correspondence (i.e RFI). “XXX” indicates a unique number, sequentially assigned for the given piece of correspondence. “Y” is a sequential letter assigned for revised or resubmitted documents, i.e. A, B, or C being the 1st, 2nd, and 3rd revision or resubmittal, respectively. “(CONTRACTOR Name)” indicates to the database that the correspondence is from the CONTRACTOR. The CONTRACTOR will indicate the subject at the end of the numbering scheme. For submittals, XXXXX denotes the Specification Number, YY denotes the sequential number of submittals in that Specification Section, and “ZZ” indicates whether the submittal is an original or a resubmittal, as described

in Specification Section 01340.4.1. Each piece of correspondence shall be sent in a separate email.

3.7 Original Documents

Where possible, the CONTRACTOR will obtain the electronic document from its original source to maintain the integrity, legibility, and searchability of the document.

3.8 Organization

The information included in the attachments shall be organized in a logical and thoughtful manner. Where the information originated in a tabbed format (a binder, for example), the scanned and/or converted PDF file shall be electronically bookmarked accordingly using the “bookmark” function of Adobe Acrobat 9 Std.

3.9 Printing

Except where otherwise indicated, the CONTRACTOR will receive no hard copies of the above outlined correspondence. The CONTRACTOR will be required to print for its use, in color if necessary, any record copies, field copies, sub-CONTRACTOR copies, etc., if such copies are desired.

3.10 Project Forms

The CONTRACTOR may use its own correspondence forms to be attached to correspondence emails as long as the CONTRACTOR’s forms comply with this and all submittal sections.

*****END OF SECTION****

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SECTION 01340

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

1.0 SUBMITTALS

1.1 General

Where the Contractor is required by these Specifications to make submittals, they shall be made to the Construction Manager with a letter of transmittal and in accordance with the requirements of this section.

Unless specified otherwise in the Contract Documents, electronic submission of submittals is required. See Section 01322 **WEB BASED DOCUMENT CONTROL** for details of the web based document management system. Upon request, or when electronic files are not practical, the Contractor shall provide a sufficient number of copies to allow three (3) copies to be retained by the Construction Manager of the following items:

- Contractor's Representative
- Cost Breakdown
- Safety Program with Designated "Competent Person(s)"
- Construction Schedules
- Substitutions
- Shop Drawings, Product Data, and Samples
- Material Safety Data Sheets
- Operation and Maintenance Manuals
- Working Drawings
- Warranty Data
- Others as Specified in the Technical Specifications

Upon completion of review, any hard copies provided will be retained by the Construction Manager. It shall be the Contractor's responsibility to copy and/or conform reviewed submittals in sufficient numbers for its files, subcontractors, and vendors.

1.1.1 General Submittal Instructions

- A. Provide submittals that are specified or reasonably required for construction, operation, and maintenance of the Work.
- B. Provide submittal information from only 1 manufacturer for a specified product. Submittals with multiple manufacturers for 1 product will be rejected without review.
- C. Where multiple submittals are required, provide a separate submittal for each specification section.
 - 1. In order to expedite construction, the Contractor may make more than 1 submittal per specification section, but a single submittal may not cover more than 1 specification section.
 - 2. The only exception to this requirement is when 1 specification section covers the requirements for a component of equipment specified in another section.

- D. For example, circuit breakers are a component of switchgear. The switchgear submittal must also contain data for the associated circuit breakers, even though they are covered in a different specification section.
- E. Edit all submittals so that the submittal specifically applies to only the equipment furnished. Neatly cross out all extraneous text, options, models, etc. that do not apply to the equipment being furnished, so that the information remaining is only applicable to the equipment being furnished.
- F. Prepare submittals in the English language. Do not include information in other languages.
- G. Present measurements in customary American units (feet, inches, pounds, etc.).
- H. Show dimensions, construction details, wiring diagrams, controls, manufacturers, catalog numbers, and all other pertinent details.
- I. Indicate project designated equipment tag numbers from P&IDs for submittal of devices, equipment, and assemblies.
- J. Hardcopy submittals, if required:
 - 1. Must be clear and legible, and of sufficient size for presentation of information.
 - a. Minimum page size will be 8 1/2 inches by 11 inches.
 - b. Maximum page size will be 11 inches by 17 inches.
- K. Submittals in electronic media format:

All information, comments, questions and statements shall be scanned and/or converted to the PDF file format and attached to the web-based database system. Items to be sent via the system include but are not limited to large-format plan sheets (22" x 34" or larger), small-format plan sheets, pages within tabbed binders, transmittal sheets, et al. The PDF attachments shall be in a sufficient resolution to be fully legible at its native size.

- L. Submittal Organization
 - 1. Fully indexed with a tabbed divider for every component.
 - 2. Sequentially number pages within the tabbed sections.
 - 3. Organize submittals in exactly the same order as the items are referenced, listed, and/or organized in the specification section.
 - 4. For submittals that cover multiple devices used in different areas under the same specification section, the submittal for the individual devices must list the area where the device is used.
 - 5. All electronic format submittals with multiple separate files shall be combined into a single PDF document.

1.2 Contractor's Responsibilities

The Contractor shall submit, at its own expense, submittals and details of structural and reinforcing steel, equipment, material, electrical controls, architectural fabrications, pipe, pipe joints, special pipe sections, and any other appurtenances as required in technical specifications.

All submittals and supporting data, catalogs, schedules, etc., shall be submitted as the instruments of the Contractor, who shall be responsible for their accuracy and completeness and coordination. Such responsibility shall not be delegated in whole or part to subcontractors or suppliers. These submittals may be prepared by the Contractor, subcontractors, or suppliers, but the Contractor shall ascertain that submittals meet all of the requirements of the Contract Documents, while conforming to structural, space, and access conditions at the point of installation. Designation of work "by others," if shown in submittals, shall mean that the work will be the responsibility of the Contractor rather than the subcontractor or supplier who prepared the submittals. The Contractor shall insure that there is no conflict with other submittals and notify the Construction Manager in each case where its submittal may affect the work of another contractor or the Owner. The Contractor shall insure coordination of submittals among the related crafts and subcontractors. The Contractor accepts the responsibility and expense for additional costs and delays which may result from Work performed without favorably reviewed submittals.

Submittals shall be prepared in such form that data can be identified with the applicable Specification paragraph. The data shall clearly demonstrate compliance with the Contract Plans and Specifications and shall relate to the specific equipment to be furnished. Where manufacturer's standard drawings are employed, they shall be marked clearly to show what portion of the data is applicable to this project.

2.0 MATERIAL AND EQUIPMENT SUBSTITUTIONS

2.1 General

In preparing these Specifications, the Design Consultant has named those products, which to its knowledge meet the Specifications and are equivalent in construction, functional efficiency, and durability.

Wherever catalog numbers and specific brands or trade names preceded by "similar and equal" or followed by the designation "or equal" are used in conjunction with a designated material, product, thing, installation, or service mentioned in these Specifications, they are used to establish the standards of quality and utility required.

The first-named manufacturer is the basis for the project design and the use of alternative-named or unnamed manufacturer's products proposed by the Contractor may require modifications in the project design and construction. Where only one product has been named by brand, it is the only brand, trade name, or manufactured product known to the Design Consultant that meets these Specifications.

The Owner has made a determination that no substitution will be considered and that the following listed materials and/or equipment must be furnished as designated below in order to match others in use by the Owner or because it is a unique or novel product application required to be used by the Owner:

- New Switchgear SWGR-DPA: Eaton Corporation, Magnum PXR Low Voltage Switchgear
- New Motor Control Center MCC-E: Eaton Corporation, Freedom 2100 Series motor control center equipment, custom-integrated and supplied by motor control center Integrator as required in the technical specifications

2.2 Substitutions

2.2.1 General - Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the Contractor after award of the Contract are considered "requests for substitutions." The following are not considered substitutions:

1. Revisions to Contract Documents requested by the Owner.
2. Specified options of products and construction methods included in Contract Documents.
3. Compliance with governing regulations and orders issued by governing authorities.

2.2.2 Submittal - Requests for substitution will be considered if received within 35 days from the date of Award, or within 15 days from the date the Notice to Proceed is issued, whichever is the later. Requests received after this period may be accepted or rejected at the discretion of the Owner.

Each request for substitution shall be prepared and presented to the Owner in accordance with the procedures for submittals, except that the following additional information shall be provided.

1. An explanation of the advantages to the Owner for accepting the substitution.
2. A comparison of significant qualities of the proposed substitution with those specified.
3. A list of changes or modifications needed to other parts of the work and to construction performed by the Owner and separate Contractors that will be necessary to accommodate the proposed substitution.
4. A statement indicating the substitution's effect on the Construction Schedule compared to the Construction Schedule without acceptance of the substitution. Indicate the effect of the proposed substitution on overall contract time.
5. Cost information, including a proposal of the net change, if any, in the Contract Sum.
6. Certification that the substitution is equal to or better in every respect to that required by Contract Documents, and that it will perform adequately in application indicated. Include Contractor's waiver of rights to additional payment or time extensions that may be necessary because of the substitution's failure to perform adequately.

2.2.3 Substitution Conditions - The Contractor's substitution request will be considered by the Owner when the following conditions are satisfied, as determined by the Owner; otherwise, requests will be returned without action except to record noncompliance with these requirements.

1. Extensive revisions to Contract Documents are not required.
2. Proposed changes are in keeping with the general intent of Contract Documents.
3. The request is timely, fully documented and properly submitted.

The specified product or method of construction cannot be provided within the Contract Time. The request may not be considered if the product or method cannot be provided as a result of failure of the Contractor to pursue the work promptly or coordinate activities properly, unless the product proposed is at least equal or better.

A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Engineer for redesign and evaluation services, increased cost of other construction by the Owner or separate contractors, and similar considerations.

The specified product or method of construction cannot receive necessary approval by a regulatory agency, and the requested substitution can be approved.

The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the Contractor certifies that the substitution will overcome the compatibility.

The specified product or method of construction cannot be coordinated with other materials, and where the Contractor certifies that the proposed substitution can be coordinated.

The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution can provide the required warranty.

2.2.4 Unacceptable Substitution Conditions - The Contractor's submittal and Owner's acceptance of Shop Drawings, Product Data or Samples that do not comply with the Contract Documents does not constitute a valid request for substitution, nor does it constitute acceptance of a substitution.

2.2.5 Owner's Action - Within 14 days of receipt of the request for substitution, the Owner may request additional information necessary for evaluation. Within 28 days from receipt of the request for substitution, or 14 days from the receipt of additional information, whichever is later, the Owner will respond to the request for substitution.

2.2.6 Time Extension - With the submittal of a proposed substitution, the Contractor agrees that the time for the Owner to review and consider such substitution shall not constitute a cause for a delay in contract completion or a reason for an extension of Contract Time. Any delay due to the rejection of proposed substitutions shall be the sole responsibility of the Contractor.

2.3 Modifications and Costs

If alternative named or substitutions are proposed by the Contractor and favorably reviewed by the Design Consultant, the Contractor is responsible for providing, at no additional cost to the Owner, any electrical, mechanical, structural, or other related changes or testing that may be required to accommodate or provide the particular material or equipment the Contractor desires to use. Any deviation from the Specifications or the Drawings resulting from the type of material or equipment to be used shall not be the basis for any "extra charges" above and in excess of the original bid price of the work.

In addition, the Contractor is responsible for all additional costs to the Owner, and its agents and representatives, for evaluation of data submitted by the Contractor for alternative named or substitutions and any redesign necessary. The Owner shall deduct said costs from the Contract monies due the Contractor.

3.0 SUBMITTAL AND MATERIAL LIST

Within five (5) days after the Notice to Proceed and prior to the submission of the initial shop drawings, the Contractor shall submit a complete list of all required submittals to the Construction Manager for favorable review. The Submittal and Material List shall include a description of each item, Specification reference and the anticipated submittal date. The List shall include all items of equipment and materials for architectural, structural, mechanical, piping, electrical, heating and ventilating, equipment piping, and plumbing work; and the names of manufacturers with whom purchase orders have been placed. Items on the List shall be arranged in the same order as in these Specifications, and shall contain sufficient data to identify precisely the items of material and equipment the Contractor proposes to furnish. The List shall reference the applicable Specification section or Drawing. After the submission is favorably reviewed and returned to the Contractor by the Construction Manager, it shall become the basis for the submission of detailed manufacturer's drawings, catalog cuts, curves, diagrams, schematics, data, and information on each separate item for review. No work shall proceed on any item until it has been submitted and favorably reviewed. An incomplete submittal list is not a basis for avoiding a submittal required by the specifications.

4.0 TRANSMITTAL PROCEDURES

4.1 Transmittal Form

A separate transmittal form shall be used for each specific item, class of material, equipment, and items specified in separate, discrete sections, for which the submittal is required. Submittal documents common to more than one piece of equipment shall be identified with all the appropriate equipment numbers. Submittals for various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole. The specification section and subsection or paragraph to which the submittal is related shall be indicated on the transmittal form.

A unique number, sequentially assigned, shall be noted on the transmittal form accompanying each item submitted. Original submittal numbers shall have the following format: "XXX"; where "XXX" is the sequential number assigned by the Contractor. Resubmittals shall have the following format: "XXX-Y"; where "XXX" is the originally assigned submittal number and "Y" is a sequential letter assigned for resubmittals, i.e., A, B, or C being the 1st, 2nd, and 3rd resubmittals, respectively. Submittal 25B, for example, is the second resubmittal of submittal 25.

4.2 Deviations From The Contract

If the submittals show any deviations from the Contract requirements, the Contractor shall submit with the submittal submission a separate written description of such deviations and the reasons therefor. If the Owner accepts such deviation, the Owner shall issue an appropriate Contract Change Order, except that, if the deviation is minor, or does not involve a change in price or in time of performance, a Change Order need not be issued. If any deviations from the Contract requirements are not noted on the submittal, the review of the shop drawing shall not constitute acceptance of such deviations.

4.3 Submittal Completeness

The Contractor shall review and check all submittals before submitting them to the Construction Manager. The Contractor shall stamp and certify on the transmittal letter and on each shop drawing that they have been checked, are in compliance with the Plans and Specifications, and all deviations from the Contract requirements are noted.

If the Contractor submits an incomplete submittal, the submittal will be returned to the Contractor without review. A complete submittal shall contain sufficient data to demonstrate that the items comply with the Specifications, shall meet the minimum requirements for submissions cited in the technical specifications, shall include materials and equipment data and seismic anchorage certifications where required, and shall include any necessary revisions required for equipment other than first named.

It is considered reasonable that the Contractor shall make a complete and acceptable submittal to the Construction Manager at least by the second submission of data. The Owner reserves the right to deduct monies from payments due the Contractor to cover additional costs of review beyond the second submission.

4.4 Submittal Period

The Contractor shall submit the intended schedule for submission of the major submittals as defined in Section 01310, **PROGRESS SCHEDULES**. Submittals shall be submitted in time to allow appropriate time for review and response to submittals as provided for herein prior to the incorporation of materials and equipment in the Work.

4.5 Certificates of Compliance

For materials furnished and installed in accordance with Division 2 of these Specifications and for standard “off-the-shelf” materials where the Contractor is furnishing the materials listed in the Contract Documents, the Contractor may furnish a Certificate of Compliance in lieu of a full shop drawing for such materials. The Certificate of Compliance shall be submitted as otherwise stipulated in Section 01340-4.0, **TRANSMITTAL PROCEDURES**. The certificate shall be signed by the manufacturer or supplier of the material and shall state that the materials involved comply in all respects with the requirements of the Contract Documents. The fact that material is used on the basis of a Certificate of Compliance shall not relieve the Contractor of responsibility for incorporating material in the Work which conforms to the requirements of the Contract Documents

4.6 Alternate Submittals

If a submittal is approved and the Contractor elects to submit an alternate item for review for the same application, the Contractor shall be responsible for the review costs for the alternate submittal.

5.0 REVIEW PROCEDURE

Submittals shall be submitted to the Construction Manager for review and returned to the Contractor within **thirty (30)** days after receipt. When a submittal cannot be returned within this period, the Construction Manager will within a reasonable time after receipt of the submittal give notice of the date by which that submittal will be returned. Review of submittals by the Design Consultant has as its primary objective the completion for the Owner of a project in full conformance with the Contract Documents, unmarred by field corrections, and within the time provided. In addition to this primary objective, submittal review as a secondary objective will assist the Contractor in its procurement of equipment that will meet all requirements of the Contract Documents, will fit the structures detailed on the Plans, will be completed with respect to piping, electrical, and control connections, will have the proper functional characteristics, and will become an integral part of a complete operating facility.

After review by the Design Consultant of each of the Contractor's submissions, the material will be returned to the Contractor with actions defined as follows:

- A. **NO EXCEPTIONS NOTED (RESUBMITTAL NOT REQUIRED)** - Accepted subject to its compatibility with future submissions and additional partial submissions for portions of the work not covered in this submission. Does not constitute approval or deletion of specified or required items not shown in the partial submission.
- B. **MAKE CORRECTIONS NOTED (RESUBMITTAL NOT REQUIRED)** - Same as A, except that minor corrections as noted shall be made by the Contractor. Contractor shall provide partial resubmittal where required by the review comments.
- C. **MAKE CORRECTIONS NOTED (RESUBMIT)** - Rejected because of major inconsistencies or errors which shall be resolved or corrected by the Contractor prior to subsequent review by the Design Consultant.
- D. **NOT ACCEPTABLE (RESUBMIT)** - Submitted material does not conform to Plans and Specifications in major respect., i.e.: wrong size, model, capacity, or material.
- F. **REVIEW NOT REQUIRED, FOR RECORD ONLY** - The submittal was not required in the specifications or the information was provided for the project files.

Items A and B above are considered "favorable review." Items C and D above (correction and resubmittal required) are considered "unfavorable review."

6.0 EFFECT OF REVIEW OF CONTRACTOR'S SUBMITTALS

The Design Consultant's favorable review of submittals shall be obtained prior to the fabrication, delivery and construction of items requiring submittal review.

Favorable review of submittals does not constitute a Change Order to the Contract requirements.

The favorable review of all submittals by the Design Consultant shall apply in general design only and shall in no way relieve the Contractor from responsibility for errors or omissions contained therein. Favorable review by the Design Consultant shall not relieve the Contractor of its obligation to meet contractual requirements, safety requirements and all other requirements of laws, nor constitute a Contract Change Order. Favorable review will not constitute acceptance of any responsibility for the accuracy, coordination, and completeness of the submittals or the items of equipment represented on the submittals.

7.0 SEISMIC DESIGN AND ANCHORAGE OF EQUIPMENT AND OTHER APPURTENANT FACILITIES

All pieces of electrical, mechanical, and instrumentation equipment and appurtenant facilities which are mounted or anchored shall be so designed and installed as to be in conformance to all requirements of the California Building Code for the edition adopted by the governing jurisdiction, both for vertical and lateral loading. This requirement applies, but is not limited to, such items as light fixtures, electrical and instrumentation panels, tanks, pumps, piping, pipe supports and hangers, conduits and supports, generators, motors, fans, ventilating ducts and equipment, and other similar equipment or facilities. All Authority equipment or facilities within these Specifications or on the Drawings shall be considered essential and shall be designed and anchored to resist seismic forces. Such equipment or facilities shall be functional during and after an earthquake. Anchorage or restraints shall be so designed as to resist the greater of the specified or code required forces acting in any direction. The design of the entire anchoring system, and the furnishing of any part of the anchoring system which must be integral with the equipment or facilities, shall be the responsibility of the manufacturer or supplier. The Contractor, working closely with the manufacturer or Supplier, shall be responsible for furnishing or installing any anchors or restraints which are independent of the equipment or facilities. Examples, but not limited to those noted, are anchor bolts, restraining curbs, walls, or angles and similar items.

Shop drawings for seismic anchorages listed in these specifications shall be submitted. Shop drawing submittals shall include calculations, details, and other amplifying data demonstrating conformance to the seismic requirements of this paragraph. Such calculations shall be prepared and signed by a Civil or Structural Engineer registered in the State of California.

Although calculations will not be required, manufacturers shall assure that equipment has been designed and constructed to safely transfer seismic induced loads through the equipment and to the anchorage systems without failure of equipment components.

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SECTION 01345

REQUESTS FOR INFORMATION AND CLARIFICATIONS

1.0 GENERAL

Should the Contractor discover conflicts, omissions, or errors in the Contract Documents, or have any questions concerning interpretation or clarification of the Contract Documents, or if it appears to the Contractor that work to be done or any matter relative thereto are not sufficiently detailed or explained in the Contract Documents, then, before proceeding with the work effected, the Contractor shall immediately notify the Construction Manager in writing and request interpretation, clarification, or additional detailed instructions concerning the work. The Contractor shall ask for any clarification or request for information immediately upon discovery and prior to the start of the effected work. Contractor shall be responsible for its costs to implement and administer RFI's throughout the Contract duration. Regardless of the number of RFI's submitted, Contractor will not be entitled to additional compensation.

An RFI is not to be used for request for materials/equipment substitutions or value engineering/cost reduction incentive proposals.

2.0 RFI PROCEDURES

2.1 Contractor Review and Submittal

A. Contractor's review

Before submitting each RFI, the Contractor shall carefully review the following for relevant information:

1. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto.
2. All materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work.
3. All information relative to means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto.
4. The coordination of each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.
5. The Contract Documents.
6. The Project correspondence and documentation.

B. Submittal requests

The Contractor shall submit all requests for clarification and/or additional information in writing through the Construction Manager using a form acceptable to the Construction Manager. Contractor shall provide a detailed written statement that indicates the specific Drawings or Specifications in need of clarification and the nature of the clarification requested.

Each RFI shall be dated and bear a signed certification that Contractor has performed the review defined above. No consideration for review by Construction Manager of an RFI will be made for any item which has not been certified by the Contractor. All non-certified RFI's will be returned to the Contractor without action taken by the Construction Manager, and any delays caused thereby shall be the total responsibility of Contractor.

Each RFI shall be limited to one subject.

2.2 RFI Numbering System

The Contractor shall consecutively number each RFI with the date of issue, except for re-issuance of a respective RFI in which the subscript A, B, C, etc., will be added until the RFI is resolved. If Contractor believes the RFI reviewer's response is incomplete, Contractor shall issue another RFI (with the same RFI number with the letter "A" indicating if it is a follow-up RFI) to Construction Manager clarifying original RFI. Additionally, Construction Manager may return RFI requesting additional information should original RFI be inadequate in describing condition.

2.3 Owner's RFI Review and Response Time

Except as may otherwise be provided herein, the Construction Manager will return one copy of each RFI form to Contractor, with its comments noted thereon or on a separate comment sheet, within a reasonable amount of time, but no more than fifteen (15) calendar days following their receipt from Contractor, or if it is necessary to extend this period, the Construction Manager shall notify the Contractor in writing or at the Weekly Progress Meeting as to when a decision will be provided.

The Owner's review will be only to provide clarification and interpretation of the Contract Documents. The Owner's review shall not relieve the Contractor of the responsibility for compliance with the Contract Documents.

The Owner's review will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto.

The Construction Manager may furnish additional detailed written instructions to further explain the Work, and such instructions shall be a part of the Contract Documents. Clarifications will be issued using the above RFI system or as a Clarification Letter. Should additional detailed instructions in the opinion of the Contractor constitute work in excess of the scope of the Contract, the Contractor shall submit notification immediately and written notification thereof to the Construction Manager no more than ten (10) days following receipt of such instruction, and in any event prior to the

commencement of work thereon. If the Construction Manager considers the Contractor's notice justified, the instructions and/or interpretation will be revised or a proposed change order will be issued in accordance with Section 01035, **MODIFICATION PROCEDURES**. The Contractor shall have no claim for additional compensation or extension of the schedule because of any such additional instructions unless the Contractor provides the Construction Manager written notice thereof within the time frame specified above.

Should the Contractor proceed with the work affected before receipt of a response from the Construction Manager, any portion of the work which is not done in accordance with the Owner's interpretation, clarifications, instructions, or decisions are subject to removal or replacement and the Contractor shall be responsible for all losses.

RFI's will not be recognized or accepted, if in the opinion of the Construction Manager, one of the following conditions exists:

- A. The Contractor submits an RFI as a submittal.
- B. The Contractor submits the RFI under the pretense of a Contract Documents discrepancy or omission without thoroughly reviewing the documents. In this case, the Contractor shall be responsible for both the Construction Manager's and Design Consultant's administrative costs to process the RFI. Such costs may be deducted from the Contractor's progress payments.
- C. The Contractor submits the RFI in a manner that suggests that specific portions of the Contract Documents are assumed to be excluded, or be taken as an isolated portion of the Contract Documents in part rather than whole.
- D. The Contractor submits an RFI in an untimely manner without proper coordination and scheduling of work or related trades.

The Owner's review shall not relieve the Contractor from the responsibility for a variation from the requirements of the Contract Documents unless the Contractor has in writing called attention to each such variation at the time of each RFI submittal and Construction Manager has given written approval of each such variation by specific written notation thereof incorporated in the RFI review; nor will any review by Owner relieve Contractor from responsibility for compliance with the requirements for careful review above.

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SECTION 01400

QUALITY CONTROL

1.0 CONTRACTOR'S QUALITY CONTROL

1.1 General

The Contractor is to ensure that products, services, workmanship and Site conditions comply with the requirements of the Contract Documents by coordinating, supervising, testing and inspecting its Work. The Contractor shall utilize only suitably qualified, skilled and trained personnel experienced in the tasks required to complete the Work in accordance with the quality requirements of the Contract Documents. Should there be no quality basis specifically prescribed for any portion of the Work, the quality and testing procedures shall be in accordance with the best-accepted practices of the construction industry in the State of California, for projects of this type, or standards set by engineering or technical societies (e.g., ASTM or ASHRAE), whichever is more stringent.

1.2 Quality of Work

The Contractor's quality of Work shall include, but not be limited to, the following requirements:

Quality of Products: Unless otherwise indicated or specified, all products shall be new, free of defects, and fit for the intended use.

Quality of installation: All Work shall be produced plumb, level, square and true, or true to indicated angle, and with proper alignment and relationship between the various elements, as shown on or required by Contract Documents.

Protection of Completed Work: Take all measures necessary to preserve completed Work free from damage, deterioration, soiling, and staining, until acceptance by Owner.

Standards and Code Compliance and Manufacturer's Instructions and Recommendations: Unless more stringent requirements are indicated or specified, comply with manufacturer's instructions and recommendations, reference standards and building code research report requirements in preparing, fabricating, erecting, installing, applying, connecting, and finishing Work.

Deviations from Standards and Code Compliance and Manufacturer's instructions and Recommendations: Secure Owner's advanced written consent. Document and explain all deviations from reference standards and building code research report requirements and manufacturer's product installation instructions and recommendations, including acknowledgement by the manufacturer that such deviations are acceptable and appropriate for the Project.

Verification of Quality: Work shall be subject to verification of quality by Owner in accordance with provisions of the Contract Documents.

1.3 Defective Work

Defective Work shall be modified, replaced, repaired or redone by the Contractor at no change in Contract Sum or Contract Time. Acceptance of Defective Work, without specific written acknowledgement and approval of Owner, shall not relieve the Contractor of the obligation to correct such Work. Should Owner determine that it is not feasible or in Owner's interest to require Defective Work to be repaired or replaced, an equitable reduction in Contract Sum shall be made by agreement between Owner and Contractor. If equitable amount cannot be agreed upon, a Construction Change Directive will be issued and the amount in dispute resolved in accordance with the Contract Documents. Owner and Owner's consultants disclaim any and all responsibility for Work produced not in conformance with the Drawings and Specifications. Contractor shall have full responsibility for all consequences resulting from Defective Work, including without limitation all delays, disruptions, extra inspection and correction costs by Contractor and Owner and re-Work, and extra time and costs of all types. Contractor waives excuses for defective work relating to Owner's prior review of Submittals and/or prior failure to notice Defective Work in place on inspection.

2.0 **INSPECTION AND TESTING**

Additional requirements for tests are described in Section 01660, **TESTING AND ADJUSTING** and other Technical Paragraphs of these Specifications.

2.1 General

Where the Contract Documents require work to be field tested or approved, it shall be tested in the presence of the Construction Manager or its authorized representative. The Construction Manager shall have the right to witness all on-site tests performed by the Contractor and any shop tests. The results of any tests performed by the Contractor shall be made available for the information of the Construction Manager. Inspections, tests or favorable reviews by the Construction Manager or others shall not relieve the Contractor from its obligation to perform the work in accordance with the requirements of the Contract Documents or for its sole responsibility for the quality of workmanship and materials.

Except as specifically required under the technical specifications for testing and inspection, all tests for materials furnished by the Contractor will be done in accordance with commonly recognized standards of national organizations. Where tests are to be performed by the Construction Manager or by an independent laboratory or agency, the Contractor shall furnish such samples of all materials as required by the Construction Manager without charge. The sample or samples of materials to be tested shall be selected by such laboratory or agency, or the Construction Manager, and not by the Contractor. No material for which the Contract Documents require the submittal and approval of tests, certificates of compliance or other documentation shall be incorporated in the Work until such submittal has been made and approved.

The Contractor shall provide safe access for the Construction Manager and inspectors to adequately inspect the quality of work and the conformance with the Contract Documents. The Contractor shall furnish the Construction Manager the necessary labor and facilities for such things as excavation in the compacted fill to the depths required to take samples. The Contractor shall provide adequate lighting, ventilation, ladders and other protective facilities as may be necessary for the safe performance of inspections.

Upon completion of the Work the Construction Manager will conduct a final inspection as provided for in Section 00700-8.7, Final Inspection and Payment. Records shall be available at all reasonable hours for inspection by other local or State agencies to ascertain compliance with laws and regulations.

2.2 Notice

The Contractor shall notify the Construction Manager in writing at least 24 hours before any field testing or special inspections are required to be performed by the Construction Manager or independent laboratory furnished by the Owner. The Contractor shall notify the Construction Manager at least two hours before any inspection is required to be performed or to witness the Contractor's on-site field testing.

Whenever the Contractor varies the period during which work is carried on each day, the Contractor shall give due notice to the Construction Manager so that proper inspection may be provided. Any work done in the absence of the Construction Manager shall be considered to be rejected. It will be the responsibility of the Contractor to demonstrate to the satisfaction the Construction Manager that the work meets all conditions of the specification and if such conditions are not met to remove the work.

The Contractor shall give the Construction Manager written notification at least thirty (30) days prior to the shipment of materials and equipment to be tested and/or inspected at the point of origin. Satisfactory tests and inspections at the point of origin shall not be construed as a final acceptance of the materials and equipment nor shall such tests and inspections preclude retesting or reinspection at the site of the Work.

2.3 Costs of Testing

The Contractor shall be responsible for, and shall pay for, all quality control and off-site tests of materials required including all source and mix design tests for the approval of soil and concrete materials. The Owner will perform the soils and concrete confirmation tests detailed in the Technical Specifications during the performance of the Work. Owner will retain and pay a qualified testing agency to perform soil compaction testing and work identified as requiring special inspections and testing as defined by UBC section 1701. All other testing required by the technical specifications shall be the responsibility of the Contractor.

The Contractor shall be responsible for, and shall pay for, all source quality control and all on-site tests of materials required, except those tests specifically noted to be performed and paid for by the Owner.

The Construction Manager shall have the authority to require additional tests or inspections due to the manner in which the Contractor executes its work. Examples of such additional tests and inspections include; tests of materials substituted for previously accepted materials, or substituted for specified materials, or retests made necessary by failure of material to comply with the requirements of the Specifications. Where such tests and inspections are required by Contract to be performed by the Owner, the Owner will pay for the additional tests and inspections but will issue a unilateral Change Order to deduct these costs from the Contract price.

2.4 Work Covered Prior to Inspection and/or Testing

Work requiring inspection and/or testing shall not be concealed or buried prior to the acceptance of such inspection or testing. Work covered without the favorable review or consent of the Construction Manager shall, if required by the Construction Manager, be uncovered for inspection and/or testing at the Contractor's expense.

2.5 Work Covered With Prior Inspection and/or Testing

If the Construction Manager considers it necessary or advisable that covered work which was favorably inspected and tested be uncovered for reinspection and/or retesting, the Contractor, at the Construction Manager's request, will uncover, expose or otherwise make available for observation, inspection or testing as the Construction Manager may require, that portion of the work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such work is defective, the Contractor will bear all expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction. If, however, such work is not found to be defective the Contractor will be allowed an increase in the Contract price or an extension of the Contract time, or both, directly attributable to such uncovering, exposure, observation, testing and reconstruction, and a Change Order shall be issued for such additional work.

2.6 Coordination of City Building and other Inspections

The Contractor is responsible for notifying the Construction Manager to schedule other agency inspections in accordance with the agency requirements. The Contractor shall notify the Construction Manager of all building and other work component inspection notices and schedules. Failure of the Contractor to properly coordinate and schedule these inspections shall not be cause for time extensions.

2.7 Special Tests and Inspections

As provided for in the Contract Documents, laws and regulations, specialized tests and inspections shall be performed by special inspectors certified by the International Conference of Building Officials (ICBO). Unless otherwise stated in the Contract Documents, each of these tests will be performed and paid for by the Owner.

2.8 Inspections and Tests by Serving Utilities

Unless otherwise indicated in the Contract Documents, the Contractor shall cause, schedule and conduct inspections and tests by serving Utilities required for the Work under this Contract.

2.9 Inspections and Tests by Serving Manufacturers

Unless otherwise indicated in the Contract Documents, the Contractor shall cause all required tests and inspections to be conducted by materials, equipment or systems manufacturers. Additionally, all tests and inspections required by materials, equipment or systems manufacturers as conditions of warranty or certification of Work shall be made, the cost of which shall be included in the Contractor's bid.

Each manufacturer's representative shall furnish to Owner, through Contractor, a written report certifying that the equipment has been properly installed and lubricated; is in accurate alignment; is free from any undue stress imposed by connecting piping or anchor bolts; and has been operated under full load conditions and that it operated satisfactorily. A sample service report form is in Section 01999 Reference Forms.

All costs for these services shall be included in the Contract Price.

2.9.1 Services Furnished by Others

The System Supplier of material and equipment furnished under the procurement contract will provide technically qualified field-service engineers for a period, specified in the Procurement Documents, during the installation and startup of the procured system. The field service personnel's qualifications will be submitted, in resume format, 21 days prior to commencement of services. Travel time is not included in the time period. The Contractor shall be responsible for planning, supervising, and executing the installation of the work and shall plan for using the time of the System Supplier's field representatives as defined in the Procurement Documents.

Additional services and travel expenses necessary to correct defective materials or equipment furnished by the System Supplier will be paid for by the System Supplier.

Any additional services in connection with installation that are required by reason of Contractor's progress shall be paid for by Contractor at the rate indicated in the Procurement Documents.

Field representatives will observe, instruct, guide, and direct Contractor's erection and installation procedures and perform installation checks as required herein or as requested by the Owner. Installation of the membrane filtration system equipment must be accepted in writing by the System Supplier prior to startup and testing.

2.10 Offsite Inspection

When the Contract Documents require inspection of material or equipment during the production, manufacturing, or fabricating process, or before shipment, such services will be performed by Owner or an independent testing firm or inspection organization acceptable to Owner.

Contractor shall require the producer, manufacturer, or fabricator to arrange for and pay an independent organization to perform the inspection services specified herein the Contract Documents.

Owner shall arrange for and pay an independent organization to perform the inspection services specified herein the Contract Documents.

Owner shall send a representative to the factory or shop to review the assembly and witness the factory testing and performance for the equipment specified.

Contractor shall give appropriate written notice to Owner not less than 10 days before offsite inspection services are required, and shall provide for the producer, manufacturer, or fabricator to furnish safe access and proper facilities and to cooperate with inspecting personnel in the performance of their duties.

The inspection organization will submit a written report to Owner, with a copy to Contractor, at least once each week.

2.11 Transmittal of Test Reports

Written reports of tests and engineering data furnished by Contractor for Owner's review of materials and equipment proposed to be used in the Work shall be submitted as specified for Shop Drawings.

The laboratory retained by Owner will furnish four copies of a written report of each test. Three copies of each test report will be transmitted to the Owner and one copy to Contractor, within 3 days after each test is completed.

An experienced, competent, and authorized representative of the manufacturer of each item of equipment listed in the individual equipment section shall visit the Site of the Work and inspect, check, adjust if necessary, and approve the equipment installation.

In each case, the manufacturer's representative shall be present when the equipment is placed in operation. The manufacturer's representative shall revisit the jobsite as often as necessary until all trouble is corrected and the equipment installation and operation are satisfactory in the opinion of Owner.

Each manufacturer's representative shall furnish to Owner, through Contractor, a written report certifying that the equipment has been properly installed and lubricated; is in accurate alignment; is free from any undue stress imposed by connecting piping or anchor bolts; and has been operated under full load conditions and that it operated satisfactorily. A sample service report form is attached at the end of this section.

3.0 TEST WATER – NOT USED

***** END OF SECTION *****

SECTION 01510

TEMPORARY UTILITIES

1.0 ELECTRICAL SERVICE – NOT USED

2.0 WATER

The Contractor shall pay for and shall construct all facilities necessary to furnish water for its use during construction, including potable water service. Water used for human consumption shall be kept free from contamination and shall conform to the requirements of the State and local authorities for potable water. The Contractor shall pay for all water used for the Contractor's operations prior to final acceptance.

3.0 TEMPORARY LIGHTING

The Contractor shall provide temporary lighting in all work areas sufficient to maintain a lighting level during working hours not less than the lighting required by California OSHA standards. As permanent lighting facilities are completed they may be used in lieu of temporary facilities, provided however, that bulbs, lamps or tubes of such facilities used by the Contractor shall be replaced prior to final acceptance of the Work.

4.0 HEATING AND VENTILATION

The Contractor shall provide means for heating and ventilating all work areas as may be required to protect the Work from damage by freezing, high temperatures, weather, or to provide a safe environment for workers. Unvented direct fired heaters shall not be used in areas where freshly placed concrete will be exposed to the combustion gases until at least two hours after the concrete has attained its initial set.

5.0 SANITARY CONVENIENCES

The Contractor shall provide suitable and adequate sanitary conveniences for the use of all persons at the site of the Work, including sewer service. Such conveniences shall include chemical toilets or water closets and shall be located at appropriate locations at the site of the Work. All sanitary conveniences shall conform to the regulations of the public authority having jurisdiction over such matters. At the completion of the Work, all such sanitary conveniences shall be removed and the site left in a sanitary condition.

The Contractor's personnel are not allowed to use Owner's facilities.

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SECTION 01560

TEMPORARY CONTROLS

1.0 TEMPORARY FACILITIES

Construction hoists, elevators, scaffolds, stages, shoring, and similar temporary facilities shall be of ample size and capacity to adequately support and move the loads to which they will be subjected. Railings, enclosures, safety devices, and controls required by law or for adequate protection of life and property shall be provided.

2.0 STAGING AND FALSEWORK

Temporary supports shall be designed by a registered professional engineer with an adequate safety factor to assure adequate seismic and load bearing capability. If requested by the Construction Manager, the Contractor shall submit design calculations for staging and shoring prior to application of loads.

Excavation support shall be in accordance with Section 00700-4.7, Safety.

3.0 PROTECTION OF WORK, PROPERTY AND PERSONS

The Contractor shall be responsible for the care of all work until its completion and final acceptance; and the Contractor shall, at its own expense, replace damaged or lost material and repair damaged parts of the Work, or the same may be done by the Owner, and the Contractor and its sureties shall be liable therefor. The Contractor shall make its own provisions for properly storing and protecting all material and equipment against theft, injury, or damage from any and all causes. Damaged material and equipment shall not be used in the Work. The Contractor shall take all risks from floods and casualties, or for delays from such causes. The Contractor may, however, be allowed a reasonable extension of time on account of such delays, subject to the conditions hereinbefore specified. The Contractor shall remove from the vicinity of the completed work all plant, buildings, rubbish, unused material, concrete forms, sheeting or equipment belonging to the Contractor or used under its discretion during construction; and in the event of the Contractor's failure to do so, the same may be removed by the Owner at the expense of the Contractor, and the Contractor and its sureties shall be liable therefor.

The Contractor will be held responsible for and be required to make restitution, at its own expense, for all damage to persons or property caused by the Contractor or subcontractor, or the agents, or employees of either during the progress of the Work and until its final acceptance.

4.0 FENCES – NOT USED

5.0 TEMPORARY ENCLOSURES

When sandblasting, spray painting, spraying of insulation, or other activities inconveniencing or dangerous to property or the health of employees or the public are in progress, the area of activity shall be enclosed adequately to contain the dust, over-spray, or other hazard. In the event there are no permanent enclosures of the area, or such enclosures are incomplete or inadequate, the

Contractor shall provide suitable temporary enclosures.

6.0 ABOVE GRADE PROTECTION

On multi-level structures the Contractor shall provide safety protection that, as a minimum, shall meet the requirements of Title 8, California Code of Regulations.

7.0 WORKING HOURS

Construction shall be allowed only between the hours of 7 a.m. and 4:30 p.m. on weekdays. Normal Owner working hours are 7 a.m. to 4:30 p.m.

When approved in advance by the Owner, work on weekends or holidays will be limited to 9 a.m. to 6 p.m., unless otherwise approved by the Owner. Work on weekends and holidays may or may not be approved at the Owner's sole discretion. The Contractor shall request permission in writing from the Construction Manager at least 24 hours prior to any work to be performed outside the normal working hours defined above, on weekends or holidays.

The Contractor shall be responsible for any inspection and additional administration costs incurred by the Owner, or its agents and representatives for the following conditions:

- A. For work by the Contractor outside the hours defined above on weekdays, or any work on weekends or holidays recognized by the Owner.
- B. For overtime costs beyond ten (10) hours in any one workday shift, regardless if the ten (10) hours occur in the allowed working hours.

Such costs shall be withheld from the succeeding monthly progress payment. Any work in Section 01010, **SUMMARY OF WORK**, specifically required to be performed outside the normal working hours is excluded from the provisions of this paragraph.

8.0 DUST CONTROL

During the performance of all work under this Contract, the Contractor shall assume all responsibility for dust control and shall furnish all labor, equipment, and means required to carry out proper and efficient measures wherever and whenever dust control is necessary to prevent the Contractor's operations from producing dust damage and nuisance to persons and property.

Unless the construction and/or permits dictates otherwise, and unless otherwise approved by the Construction Manager, the Contractor shall furnish and operate a self-loading motor sweeper with spray nozzle to keep paved areas acceptably clean whenever construction, including restoration, is incomplete.

Any claims resulting from dust damage or nuisance shall be borne solely by the Contractor.

9.0 FIRE EXTINGUISHER

Sufficient number of fire extinguishers of the type and capacity required to protect the Work and

ancillary facilities, shall be provided and maintained by the Contractor in readily accessible locations.

10.0 USE OF EXPLOSIVES

The use of explosives is prohibited.

11.0 REMOVED MATERIALS

All concrete, paving, reinforcing steel, fencing materials, rock, soil, strips, and other waste material and construction debris shall be removed from the site by the Contractor and recycled in accordance with applicable ordinances, regulations and environmentally sustainable practices. All non-recyclable materials shall be disposed of in accordance with applicable regulations and laws.

12.0 CONSTRUCTION CLEANING

Throughout the period of construction the Contractor shall keep the Work site; including work, storage, parking, and employee areas; free and clean of all rubbish and debris, and shall promptly remove from the site, or from property adjacent to the site of the Work, all unused and rejected materials, surplus earth, concrete, plaster, and debris. In particular the Contractor shall keep the site clean to maintain safe access and to avoid fire hazard.

13.0 NOISE ABATEMENT

Operations at the Worksite shall be performed so as to minimize unnecessary noise. Special measures shall be taken to suppress noise during night hours. Noise levels due to construction activity shall not exceed limits as specified by local ordinance.

Internal combustion engines used on the Work shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated without said muffler.

14.0 DRAINAGE CONTROL

In excavation, fill, and grading operations care shall be taken to disturb the pre-existing drainage pattern as little as possible. Particular care shall be taken not to direct drainage water onto private property or into streets or drainage ways inadequate for the increased flow. Drainage means shall be provided to protect the Work.

15.0 EROSION CONTROL

- 15.1. All excavated areas shall be provided with temporary erosion control measures.
- 15.2. Temporary erosion control shall be required for all areas where natural ground cover is disturbed, all temporary excavation stockpiles, including structures and trench excavations.
- 15.3. Erosion control shall be by means of filter fabric fences or straw wattles placed to completely circumvent the downslope side of any excavated stockpile.

- 15.4. Protected areas shall be regularly inspected and maintained by the Contractor during the course of the work.
- 15.5. All excavations, spills, and waste materials shall not be placed in areas subject to washout, flooding or natural drainage.
- 15.6. See Section 01060-3.0 & 4.0, **STORM WATER QUALITY CONTROLS** for additional requirements.

16.0 WARNING DEVICES AND BARRICADES

The Contractor shall adequately identify and guard all hazardous areas and conditions by visual warning devices and, where necessary, physical barriers. Such devices shall, as a minimum, conform to the requirements of Cal/OSHA.

17.0 TRAFFIC REGULATIONS

17.1 General

The Contractor shall take all necessary steps to minimize inconvenience to the general public throughout all work under this Contract. No driveways or private roads shall be blocked without notifying the property owner and access must be restored during all non-working hours. Safe access must be maintained for pedestrian traffic throughout the work area at all times.

At least one lane of traffic in each direction must be kept open at all times unless prior approval is provided by the Owner and the Public Agency, which has authority for the right-of-way. No roads shall be blocked or made inaccessible, due to the Contractor's work, without prior written approval of the Owner and the affected agencies. More stringent requirements may be imposed in the right-of-way permits.

The Contractor shall not block or obstruct fire lanes at any time.

The Contractor shall adopt all practical means to minimize interference to traffic and inconvenience, discomfort, or damage. The Contractor shall protect against damage, any piling, duct or structures crossing trenching or encountered in the work and shall be responsible for any damage done to such structures or damage therefrom. The Contractor shall support or replace, any such structures without delay and without any additional compensation, to the entire satisfaction of the Construction Manager. All obstructions to traffic shall be guarded by flagmen as required and by barriers and illuminated at night. The Contractor shall be responsible for all damage to persons and property directly or indirectly caused by its operations, and under all circumstances the Contractor shall comply with the regulations of the City or County, and the laws and regulations of the State of California, relative to safety of persons and property and the interruption of traffic and the convenience of the public within the respective jurisdiction, and the Contractor shall be solely responsible for any damages caused by failure to provide proper safety.

17.2 Haul Routes

In addition to any haul routes designated in the Contract Documents, at the preconstruction

conference the Contractor shall furnish evidence that the Public Agency which has authority for the right-of-ways proposed to be utilized by the Contractor for haul routes has approved the proposed route(s) for all construction traffic on the Project. Upon approval, the Contractor shall strictly adhere to that route(s) only, unless written permission is obtained from such Public Agency to change the route(s).

17.3 Traffic Control

Traffic control shall be in accordance with the California Department of Transportation Traffic Manual. The Contractor shall submit for approval, by the Owner and any other applicable agency, its traffic control plans prior to work on public streets.

Traffic control shall include signs, warning lights, reflectors, barriers, and other necessary safety devices and measures, including sufficient flaggers to direct vehicular traffic through the construction areas.

No material or equipment shall be stored/parked where it will interfere with the free and safe passage of public traffic, and at the end of each day's work, and at other times when construction operations are suspended for any reason, the Contractor shall remove all equipment, materials and other obstructions from the public right-of-way.

Should the Contractor appear to be negligent in furnishing warning and protective measures, as above provided, the Construction Manager or representative permitting agency may direct attention to the existence of a hazard, and the necessary warning and protective measures shall be furnished and installed by the Contractor at its expense.

17.4 Temporary Signage – Not Used

18.0 ROADS AND FENCES

Roads subject to interference by the prosecution of the work covered by this Contract shall be kept open, and fences subject to interference shall be maintained by the Contractor during the Work and shall be replaced to their original condition unless specifically shown otherwise on the Drawings. Such signs and barricades as are required by local laws and as necessary for the safe prosecution of the Work shall be provided.

Excavated dirt shall not be stored on roads, paths, or planted areas. Care shall be taken to protect improvements.

19.0 PARKING AND STAGING AREAS

Contractor parking and staging within the Project area shall only be allowed within the areas, if any, designated for such use by the Owner. These areas are shown on the Project Drawings.

20.0 TREES AND SHRUBS

Except as noted on the plans, the Contractor shall not remove trees or shrubs without authorization of the Construction Manager. Injuries to tree roots and limbs shall be avoided. No roots shall be cut

or limbs pruned, without prior notification to and review of Contractors proposed methods by the Construction Manager.

21.0 OFFICE OF CONTRACTOR AT SITE – NOT USED

22.0 CONTRACTOR'S WORK AND STORAGE AREA

The Contractor shall make its own arrangements for staging, storage and shop areas necessary for the proper execution of the work. The Contractor shall obtain a written agreement between the Contractor and the property owner(s) prior to use. The Owner shall be specifically exempted in any agreement from any liability incurred from the use of private property for construction purposes. Use of portions of the Owner's site for materials and equipment storage may be permitted upon approval of the Owner.

The Contractor shall take all responsibility for storage of materials. No equipment for incorporation in the project may be stored in any area subject to natural or man-made flooding.

The Contractor's construction equipment, vehicles, and materials shall not remain in public streets or right-of-way during non-working hours. It shall be the responsibility of the Contractor to transport and store such items at the Contractor's own facility or within construction easements on non-public areas at the end of each workday.

23.0 CONSTRUCTION MANAGER'S FIELD OFFICE – NOT USED

24.0 PUBLIC ACCESS AT TREATMENT PLANT

The existing facilities and the design of the facilities included in this project are based on the concept that the structures are not accessible to and usable by the handicapped and the general public. Consequently, stairs, landings, platforms, railings, ladders, exits, and the like were designed to conform only to the requirements for industrial use by authorized persons.

***** END OF SECTION *****

SECTION 01600

MATERIAL AND EQUIPMENT

1.0 SALVAGING AND STORAGE OF EQUIPMENT AND MATERIALS

Existing equipment, piping, materials, fittings and appurtenances, which are not stipulated by the Contract Documents to be reincorporated in the Work, shall be removed and properly disposed by the Contractor from the site.

2.0 HAZARDOUS MATERIALS

All hazardous materials shall be stored and handled in strict accordance with the Material Safety Data Sheets for the products. Material Safety Data Sheets shall be submitted to the Construction Manager prior to the delivery of materials to the project. The storage and handling of potential pollution causing and hazardous materials, including but not necessarily limited to, gasoline, oil and paint shall be in accordance with all local, state and federal requirements.

3.0 DISPOSAL OF EXCAVATED MATERIAL – NOT USED

***** END OF SECTION *****

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SECTION 01612

SEISMIC DESIGN CRITERIA

1.0 SUMMARY

Section includes seismic design criteria for the following:

1. Anchorage of mechanical and electrical equipment.
2. Seismic design of tanks and anchorage of tanks.
3. Other structures or items as specified or indicated on the Drawings.

2.0 REFERENCES

- A. International Conference of Building Officials (ICBO).
- B. Uniform Building Code (UBC).

3.0 SYSTEM DESCRIPTION

- A. Design Requirements: Design in accordance with the requirements of the Uniform Building Code.
- B. Uniform Building Code Seismic Zone: 4.
- C. Uniform Building Code Seismic Source Type: A.
- D. Uniform Building Code Soil Profile Type: D.
- E. Uniform Building Code Proximity to Measure Known Seismic Source: 3.4 miles.
- F. Uniform Building Code Seismic Importance Factor For Temporary Construction Bracing and Shoring: 1.00.
- G. Uniform Building Code Seismic Importance Factor for Anchorage of Mechanical and Electrical Equipment: 1.50.
- H. Uniform Building Code Seismic Importance Factor for the Design of Tanks and the Anchorage of Tanks: 1.50.
- I. Do not use friction to resist sliding due to seismic forces.
- J. Do not use more than sixty percent (60%) of the weight of the mechanical and electrical equipment for designing anchors for resisting overturning due to seismic forces.
- K. Do not use more than sixty percent (60%) of the weight of the tank for resisting overturning due to seismic forces.
- L. Use anchor bolts, bolts, or welded studs for anchors for resisting seismic forces. Anchor bolts

used to resist seismic forces shall have a standard hex bolt head. Do not use anchor bolts fabricated from rod stock with an L or J shape.

- M. Do not use concrete anchors, flush shells, chemical anchors, powder actuated fasteners, or other types of anchors unless indicated on the Drawings or accepted in writing by the Engineer.
- N. Seismic forces must be resisted by direct bearing on the fasteners used to resist seismic forces. Do not use connections, which use friction to resist seismic forces.

4.0 SUBMITTALS

- A. Shop Drawings and Calculations: Complete shop drawings and seismic calculations.
- B. Calculations shall be signed and stamped by a civil or structural Professional Engineer licensed to practice in the state where the Project is located.

***** END OF SECTION *****

SECTION 01660

TESTING AND TRAINING

1.0 TESTING

1.1 Contract Requirements

- A. The testing on the Project shall encompass at a minimum the following and shall be performed in the following sequence:
 - 1. Performance/Factory Testing: As specified in Section 01660-1.3 and Section 16100.
 - 2. Installation Testing: As specified in Section 011660-1.4 and
 - a. Electrical Testing (Division 16)
 - 3. Functional and Equipment Testing (8-Hour Test): As specified in Section 01660-1.5
 - 4. Operational Testing (5-Day Test): As specified in Section 01660-1.6
 - 5. Process Commission Testing: As specified in Section 01660-1.7
- B. Complete testing, training, and start-up, along with full and complete documentation of these activities, within the Contract Times.
- C. Testing, training, and startup shall be integrated across equipment and systems. The Contractor shall coordinate and integrate the documentation and efforts of manufacturers and subcontractors to achieve unified tests and test plans.
- D. Allow realistic duration in the Progress Schedule for testing, training, start-up, and documentation activities.
- E. The Contractor shall be responsible for system setup and installation of bypasses, bulkheads, temporary piping or other controls as necessary to allow the testing to be performed. Furnish labor, power, tools, equipment, instruments, and services required for and incidental to completing testing.
- F. Provide competent, experienced technical representatives of equipment manufacturers for assembly, installation and testing guidance, and operator training.
- G. The Contractor shall allow adequate time in the project schedule and provide adequate labor, equipment, overhead and other costs in the project bid to allow for the Owner to correct software problems with Owner-provided software during startup and testing.

1.2 Submittals – Start-up Plan

- A. Submit start-up plan for each piece of equipment and each system not less than 70 days prior to planned initial start-up of equipment or system.
- B. Include overall testing, training, and start-up activities on the project progress schedule specified in Section 01310, **PROGRESS SCHEDULES AND REPORTS**. Testing, training, and start-up shall be detailed in a sub-network of the overall project progress schedule with the following activities identified:

1. Manufacturer's services.
 2. Installation certifications.
 3. Operator training.
 4. Submission of Operation and Maintenance Manual.
 5. Electrical testing
 6. Instrumentation testing
 7. Installation Testing
 8. Functional testing.
 9. Operational testing.
 10. Process Testing
- C. Provide testing plan with test logs for each item of equipment and each system. Include testing of alarms, control circuits, capacities, speeds, flows, pressures, vibrations, sound levels, and other parameters.
- D. Contractor shall prepare functional testing plans and procedures for all project equipment and systems and for all modes of operation. Functional testing procedures shall be in the cause and effect format. The person conducting the operating test shall initiate an action (cause) and, upon the systems or subsystems producing the required result (effect), the specific test requirement will have been satisfied. A sample form illustrating this concept and which shows the level of detail required in the Contractor-developed functional testing form is appended to the end of this Section. Only computer-generated functional testing forms shall be submitted; handwritten forms are unacceptable.
- E. Submittal requirements for electrical testing are specified in Division 16.
- F. Provide summary of shutdown requirements for existing systems which are necessary to complete start-up of new equipment and systems.
- G. Revise and update start-up plan based upon review comments, actual progress, or to accommodate changes in the sequence of activities.
- H. Contractor is responsible for regulatory non-compliance and local area complaints for noise, odors, and other nuisance conditions resulting from start-up plan actions and activities.
- I. The Functional and Operational Testing Plans required for Sections 01660-1.5 and 1.6 shall list the personnel who will be present to assist with and witness the tests. This list shall include the Testing Coordinator, any Contractor personnel, subcontractors, manufacturer's representatives, Owner staff, Construction Manager, Design Consultant, and any other required personnel.
- J. The Startup Team shall jointly develop the startup plans for the Functional, Operational and Process Testing specified in Sections 01660-1.5, 1.6 and 1.7 at least 90 days before testing is scheduled at each area. The Owner will provide and designate other members of the Startup Team from the Design Consultant and Operations Staff. The Contractor's Testing Coordinator shall be a member of this

Startup Team working directly with the Startup Team in the development of these startup plans.

1.3 **Performance Testing**

- A. Test equipment for proper performance at point of manufacture or assembly when specified.
- B. When source quality control testing is specified:
 - 1. Demonstrate equipment meets specified performance requirements.
 - 2. Provide certified copies of test results.
 - 3. Do not ship equipment until certified copies have received written acceptance from Construction Manager. Written acceptance does not constitute final acceptance.
 - 4. Perform testing as specified in the equipment specification sections.

1.4 **Installation Testing**

- A. Electrical Systems: As specified in Division 16 specification section.
 - 1. Electrical testing shall be performed in two stages. The first stage shall consist of electrical equipment testing prior to energization and operation of electrical equipment. The following shall be submitted to Construction Manager for review prior to equipment startup and energization:
 - a. The following completed electrical equipment testing data forms required by Division 16:
 - 1) Low-Voltage Cables.
 - 2) Grounding Systems.Unsatisfactory equipment test results shall require that the equipment be repaired and re-tested until acceptable results are obtained at no additional cost to the Owner.
 - 2. The second stage of electrical testing shall occur after energization and start-up of equipment and shall consist of performing the complete testing of all other equipment as specified in Division 16.

1.5 **Functional Testing and Equipment Operation Test (8-Hour Test)**

- A. Functional testing and initial equipment operation test shall not begin until after the Installation Testing including the Electrical Testing specified in Section 01660-1.4 have been completed for individual systems or pieces of equipment.
- B. The functional stage of testing shall involve the completion of functional testing forms which include all possible operating scenarios, alarm conditions, prohibitive interlocks, and indication functions. Contractor shall perform a “dry run” for all functional tests to ensure that systems are working properly prior to witnessing by the Construction Manager. After the “dry run” is successfully completed, Contractor shall provide minimum 48 hours notice to the Construction Manager that systems are ready for witnessed functional testing. The Construction Manager will witness functional testing and will initial all functional testing forms upon successful operation of systems.

- C. The Contractor is responsible for all costs of the functional testing, including the supply of materials necessary for the performance of the tests.
- D. The Contractor is responsible for functional testing for all project equipment and systems in all modes of operation, including remote SCADA modes of operation. Verifying the required functional testing results for the SCADA modes of operation will be a joint effort between the Contractor and the Owner/Programmer as specified in Division 16 where the Owner provides the software programming and configuration.
- E. Demonstrate proper operation of each instrument loop function including alarms, local and remote controls, instrumentation and other equipment functions. Generate signals with test equipment to simulate operating conditions in each control mode as required.
- F. Conduct continuous 8 hour test under normal operating conditions. If any equipment or system does not meet all of the parameters defined in the Functional Test Plan, the Contractor shall correct the problem and shall repeat the test until it is successful.
- G. Functional test of electrical equipment required for operation of a process area shall be completed prior to performing the operational test for the process area.
- H. Certificate of Proper Installation:
 - 1. At completion of Functional Testing and prior to Operational Testing, furnish written report prepared and signed by manufacturer's authorized representative, certifying equipment:
 - a. Has been properly installed, adjusted, aligned, and lubricated.
 - b. Is free of any stresses imposed by connecting piping or anchor bolts.
 - c. Is suitable for satisfactory full-time operation under full load conditions.
 - d. Operates within the allowable limits for vibration.
 - e. Controls, protective devices, instrumentation, and control panels furnished as part of the equipment package are properly installed, calibrated, and functioning.
 - f. Control logic for start-up, shutdown, sequencing, interlocks, and emergency shutdown have been tested and are properly functioning.
 - 2. Furnish written report prepared and signed by the electrical and/or instrumentation subcontractor certifying:
 - a. Control logic that resides in motor control centers, control panels, and circuit boards furnished by the electrical and/or instrumentation subcontractor has been calibrated and tested and is properly operating.
 - b. Control logic for equipment start-up, shutdown, sequencing, interlocks and emergency shutdown has been tested and is properly operating.
 - 3. Co-sign the reports along with the manufacturer's representative and subcontractors.

1.6 **Operational Testing (5-Day Test)**

- A. The Operational Test shall demonstrate satisfactory operation of equipment and systems in actual operation. Refer to Section 01010 for additional operational acceptance testing requirements.
- B. Conduct operational acceptance test for 5 sequential workdays for 24 hours per day. The test shall simulate actual operating conditions to the greatest extent possible.
- C. The Contractor is responsible for all costs of the functional testing, including the supply of materials necessary for the performance of the tests.
- D. Immediately correct defects in material, workmanship, or equipment which become evident during operational test.
- E. Repeat operational test when malfunctions or deficiencies cause shutdown or partial operation of the facility or results in performance that is less than specified in the Contract Documents.
- F. Failure of any major process unit during the five (5)-day test will result in the abandonment of the test and the test procedures shall be restarted from the beginning.

1.7 **Process/Commission Testing**

- A. Cleanup: Following completion of an area Operational Test, the Contractor shall remove, clean and replace all permanent and temporary filters and strainers in all pipeline systems; replace all HVAC filters, dewater and clean sumps; and dewater, where directed by the Construction Manager, all process units for final inspection as a condition precedent to proceeding with Process Testing.
- B. Commissioning Team: The Contractor shall assemble under the direction of the Testing Coordinator a commissioning team. The commissioning team shall consist of representatives of the Contractor's mechanical, electrical, and instrumentation subcontractors, and others as appropriate. The commissioning team shall be available at the site of the work during normal working hours(8 hours a day, 5 days a week, Saturdays, Sunday and legal holidays excepted) and shall be available within 2 hours notice at all other times upon notice by telephone. The commissioning team shall at all times be equipped and ready to provide for emergency repairs, adjustments, and corrections to the equipment and systems installed and modified as a part of this Contract.
- C. Process testing of equipment and systems shall take place following Functional and Operational Testing at each process area and after the Owner's staff has acknowledged in writing that they have received the necessary training for the applicable equipment and systems. The Contractor shall remove all temporary piping, bulkheads, controls and other alterations to the permanent systems that may have been needed during the Functional and Operational Testing and shall perform the tasks necessary to make the improvements constructed under this Contract fully operational. Process Testing will be performed utilizing the intended process flows.

- D. The Owner will provide operations personnel for the Process Testing.

1.8 **Record Keeping**

Maintain and submit following records generated during start-up and testing phase of Project:

1. Daily logs of equipment testing identifying all tests conducted and outcome.
2. Logs of time spent by manufacturer's representatives performing services on the job site.
3. Equipment lubrication records.
4. Electrical phase, voltage, and amperage measurements.
5. Insulate resistance measurements.
6. Data sheets of control loop testing including testing and calibration of instrumentation devices and set points.

2.0 **TRAINING OF OWNER PERSONNEL**

2.1 **General**

- A. Operation and maintenance training of Owner's personnel shall be provided for all equipment identified in the technical specifications. Training content is to be tailored to the needs of the operations group and the maintenance group.
- B. Training shall be conducted by competent representatives who are certified by the manufacturer to be thoroughly familiar with the subject matter as well as instructional methods.
- C. These training services shall be conducted onsite by the manufacturer's representative and shall ensure that Owner's personnel are trained to perform equipment task requirements, including essential knowledge and skills. The Owner may conduct objective evaluations of its employees receiving this training to verify compliance with the requirement. In addition the Owner will have the trainees provide an evaluation of the trainer and the training materials. If either evaluation process determines that the training was deficient, the Contractor shall be required to have the manufacturer re-perform the training at a schedule to be defined by the Owner and with an approved representative from the factory.
- D. Training materials shall be submitted to the Owner for review. Training materials shall include a list of task statements which the Owner's employees may perform with the equipment, the learning objectives (derived from the task list and by which the training will be evaluated) and the training plan (or lesson plan) to demonstrate how the learning objectives will be achieved. Acceptance of training materials is required prior to start of training. The Contractor shall provide an adequate number of printed trainee materials for all persons being trained. One electronic copy of training material shall be provided to the Owner.
- E. The Contractor shall submit, within ninety (90) days of Notice To Proceed, a list of all equipment items or systems for which training will be provided in accordance with the specifications. The list shall include item number, specification section, description and required training in hours.

- F. The Owner shall have the right to videotape all training sessions, or may designate separate sessions or portions thereof for the sole purpose of videotaping.

2.2 Training Coordinator

The Contractor shall designate and provide one or more persons to be responsible for coordinating and expediting the training duties. The person or persons so designated shall be present at all training coordination meetings with the Owner.

2.3 Training Schedule

- A. The Contractor's coordinator shall coordinate the training periods with the Construction Manager and shall submit a training schedule and the training materials for each piece of equipment or system for which training is to be provided. Said training schedule and materials shall be submitted not less than sixty (60) calendar days prior to the time that the associated training is to be provided, and the training materials shall be approved at least twenty (20) calendar days before the associated training is provided.
- B. Equipment and/or systems shall be deemed suitable for use in training upon satisfactory completion of functional testing.
- C. Training sessions for each piece of equipment shall be four (4) hours total except as otherwise noted. Training sessions shall be scheduled on Tuesdays through Thursdays. Training sessions shall be provided during the day between the hours of 8 a.m. and 4 p.m.
- D. The Contractor shall schedule separate training sessions for both operations and maintenance personnel and meet the following criteria:
 - 1. Maintenance training shall be provided for each piece of equipment listed in the approved Operation and Maintenance manual submitted by the Contractor. Training shall emphasize theory of operations, troubleshooting, preventative maintenance, predictive maintenance, and repair procedures. The training shall encompass issues relating to instrumentation, electrical and mechanical systems.
 - 2. Operations training shall be provided for each piece of equipment listed in the approved Operation and Maintenance manual submitted by the Contractor. Training shall emphasize theory of operations, startup and shutdown instructions, normal operation, abnormal and emergency operations (where applicable), lockout procedures, troubleshooting, preventative maintenance and alarm and control logic including fail-safe mode of operation.
- E. The Contractor shall confirm each training period a minimum of three (3) working days prior to the scheduled time.
- F. The Contractor shall have the following listed equipment suppliers conduct follow-up training and "troubleshooting" consultation sessions(s) after the equipment has been installed and continually operated by the Owner for at least three (3) months but prior

to expiration of the one-year warranty period. The Owner shall contact the equipment supplier directly to coordinate the scheduling for this training. The suppliers shall include a minimum of eight (8) hours for this training.

1. Eaton Power Systems Controls (PSC) field technician familiar with the integration and operation of the new switchgear SWGR-DPA automatic transfer control system.

***** END OF SECTION *****

EQUIPMENT TEST REPORT FORM

NOTE: This example equipment test report is provided for the benefit of the Contractor and is not specific to any piece of equipment to be installed as a part of this project. The example is furnished as a means of illustrating the level of detail required for the preparation of equipment test report forms for this project.

DSRSD

PROJECT NAME

ABC Construction Company, Inc., General Contractor
XYZ, Inc., Construction Manager

EQUIPMENT TEST REPORT

Equipment Name: _____
Equipment Number: _____
Specification Ref: _____
Location: _____

	Contractor		Construction Manager	
	Verified	Date	Verified	Date

PREOPERATIONAL CHECKLIST

Mechanical

Lubrication	_____	_____	_____	_____
Alignment	_____	_____	_____	_____
Anchor Bolts	_____	_____	_____	_____
Seal water system operational	_____	_____	_____	_____
Equipment rotates freely	_____	_____	_____	_____
Safety guards	_____	_____	_____	_____
Valves operational	_____	_____	_____	_____
Hopper purge systems operational	_____	_____	_____	_____
Sedimentation tank/hopper clean	_____	_____	_____	_____
O& M manual information complete	_____	_____	_____	_____
Manufacturer's installation certificate complete	_____	_____	_____	_____

	Contractor		Construction Manager	
	Verified	Date	Verified	Date
<u>Electrical</u> (circuit ring-out and high-pot tests)				
Circuits:				
Power to MCC 5				
Control to HOA				
Indicators at MCC:				
Red (running)				
Green (power)				
Amber (auto)				
Indicators at local control panels				
Wiring labels complete				
Nameplates:				
MCC				
Control station				
Control panel				
Equipment bumped for rotation				
<u>Piping Systems</u>				
Cleaned and flushed:				
Suction				
Discharge				
Pressure tests				
Temporary piping screens in place				
<u>Instrumentation and Controls</u>				
Flowmeter FE2502F calibration				
Calibration Report No.				
Flow recorder FR2502G calibrated against transmitter				
VFD speed indicator calibrated against independent reference				
Discharge overpressure shutdown switch calibration				
Simulate discharge overpressure shutdown				

	Contractor		Construction Manager	
	Verified	Date	Verified	Date
FUNCTIONAL and EQUIPMENT OPERATION TESTS				
<u>Mechanical</u>				
Motor operation temperature satisfactory				
Pump operating temperature satisfactory				
Unusual noise, etc?				
Pump operation: 75 gpm/50 psig				
Measurement:				
Flow				
Pressure			Test gage number	
Alignment hot				
Doweled in				
O& Manual information complete				
Remarks:				
<u>Electrical</u>				
Local switch function:				
Runs in <i>HAND</i>				
No control power in <i>OFF</i>				
Timer control in <i>AUTO</i>				
Overpressure protection switch				
PS2502C functional in both <i>HAND</i> and <i>AUTO</i>				
Overpressure protection switch				
PS2502C set at 75 psig				
PLC 2500 set at 24-hour cycle, 25 min <i>ON</i>				
OPERATIONAL TEST				
Five (5) day continuous test. Pump cycles as specified, indicators functional, controls functional, pump maintains capacity, overpressure protection remains functional, hour meter functional				
RECOMMEND FOR BENEFICIAL OCCUPANCY				
Construction Manager		Date		
ACCEPTED FOR BENEFICIAL OCCUPANCY				
Owner's Representative		Date		

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SECTION 01710

FINAL CLEAN-UP

1.0 FINAL SITE CLEAN-UP

Upon completion of the Work, and prior to final acceptance, the Contractor shall remove from the vicinity of the Work all plant, surplus material, and equipment belonging to the Contractor or used under its direction during construction.

In addition to general broom cleaning of paved surfaces and rake cleaning of other surfaces of grounds, the following shall be performed at completion of the Work:

- A. Remove waste and debris from the entire site.
- B. Sweep paved areas.
- C. Clean/landscape areas.
- D. Clean storm drains.

2.0 FINAL BUILDING CLEAN-UP

On all building projects and wherever else applicable, besides final site cleanup, the following special cleaning shall be performed at completion of the Work:

- A. Putty stains and paint shall be removed from glass; glass shall be washed inside and outside. Care shall be exercised so as not to scratch glass.
- B. Marks, stains, fingerprints, and other soil and dirt shall be removed from all work.
- C. Waxed woodwork shall be cleaned and polished.
- D. Hardware shall be cleaned and polished of all traces; this shall include removal of stains, dust, dirt, paints, and blemishes.
- E. Spots, soil, paint, plaster, and concrete shall be removed from tile; tile work shall be washed afterwards.
- F. Fixtures, equipment, and visible piping and ducts shall be cleaned, and stains, paint, dirt, and dust shall be removed.
- G. Temporary floor protections shall be removed; floors shall be cleaned, waxed, and buffed.
- H. Dust, cobwebs, and traces of insects and dirt shall be removed.

Marred surfaces shall be repaired, patched, and touched up to specified finish to match adjacent surfaces.

All interior spaces including inside cabinets shall be vacuum cleaned.

Air handling filters and light bulbs shall be replaced if units were operated during construction. Ducts, blowers and coils shall be cleaned if air-handling units were operated without filters during construction.

***** END OF SECTION *****

SECTION 01720

PROJECT RECORD DOCUMENTS

1.0 RECORD DOCUMENTS

- 1.1 Maintain at the Project site, available to the Owner and Construction Manager, one (1) copy of the Contract Documents, shop drawings and other submittals, in good order.
- A. Mark and record field changes and detailed information contained in submittals and change orders.
 - B. Record actual depths, horizontal and vertical location of underground pipes, duct banks and other buried utilities. Reference dimensions to permanent surface features.
 - C. Identify specific details of pipe connections, location of existing buried features located during excavation, and the final locations of piping, equipment, electrical conduits, manholes, and pull boxes.
 - D. Identify location of spare conduits including beginning, ending and routing through pull boxes, and manholes. Record spare conductors, including number and size, within spare conduits, and filled conduits.
 - E. Provide schedules, lists, layout drawings, and wiring diagrams.
 - F. Make annotations with erasable colored pencil conforming to the following color code:

Additions:	Red
Deletions:	Green
Comments	Blue
Dimensions:	Graphite

- 1.2 Maintain documents separate from those used for construction. Label documents "RECORD DOCUMENTS."
- 1.3 Record Documents shall be updated at least once each week and shall be available to the Construction Manager for review. Keep documents current. Record required information at the time the material and equipment is installed and before permanently concealing.
- 1.4 Deliver Record Documents with transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor prior to request for Final Payment. The Contractor may transmit the drawings electronically in a format acceptable to the District.
- 1.5 Record documents shall be available for the Construction Manager to review to ascertain that changes have been recorded.
- 1.6 Failure of the Contractor to keep current with the updating of the Record Documents shall be grounds for withholding monies from partial payment estimates as specified in Section 00700-8.3.2, Other Withholds.

*** END OF SECTION ***

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SECTION 01730

OPERATION AND MAINTENANCE DATA

1.0 OPERATION AND MAINTENANCE MANUALS

1.1 Preliminary Manuals

Prior to the delivery and installation of any item of machinery or equipment the Contractor shall submit a preliminary Operation and Maintenance Manual and the Equipment Summary Form. The preliminary manuals will be reviewed by the Construction Manager for general content, and the Construction Manager will advise the Contractor within five days of receipt if the manual is acceptable in general content for the delivery and installation of the equipment or machinery. The preliminary manuals must at a minimum include the detailed manufacturer's requirements for storage and installation of the equipment. No equipment or machinery shall be delivered or installed if the general content and storage and installation instructions of the manual are found to be deficient.

1.2 Operation and Maintenance Manual Submittal

The final Operation and Maintenance Manuals must be submitted and favorably reviewed prior to the initiation of the Process Testing for such machinery or equipment. Two (2) copies of each favorably reviewed Operation and Maintenance Manual shall be provided.

All manuals shall be bound in a 3-ring binder with rigid covers, marked to indicate the specific equipment furnished for this project, and shall utilize tab sheets to organize the information. Operation and maintenance manuals shall include:

1. Cover Page: Equipment Name, equipment tag number, project name, Owner's name, and other data as appropriate.
2. Laminated Table of Contents: General description of information provided within each tab section.
3. Equipment Summary Form: Completed form in the format attached below. Insert Equipment Summary Form after the tab sheet of each equipment section. The manufacturer's standard form will not be acceptable. Manuals submitted without equipment summary form fully completed, including equipment identification number, will be rejected and returned.
4. The manufacturer warrantee certificate.
5. Lubrication Information: Required lubricants and lubrication schedules.
6. Control Diagrams: Internal and connection wiring, including logic diagrams, wiring diagrams for control panels, ladder logic for computer based systems, and connections between existing systems and new additions, and adjustments such as calibrations and set points for relays, and control or alarm contact settings.
7. Start-up Procedures: Recommendations for installation, adjustment, calibration, and troubleshooting.
8. Operating Procedures:
 - a. Step-by-step procedures for starting, operating, and stopping equipment under specified modes of operation.
 - b. Include safety precautions and emergency operating shutdown instructions.
9. Preventative Maintenance Procedures: Recommended steps and schedules for maintaining equipment.
10. Overhaul Instructions: Directions for disassembly, inspection, repair and reassemble of the

equipment; safety precautions; and recommended tolerances, critical bolt torques, and special tools that are required.

11. Parts List: Generic title and identification number of each component part of equipment; include bearing manufacturer, model and ball or roller pass frequencies for every bearing.
12. Spare Parts List: Recommended number of parts to be stored at the site and special storage precautions.
13. Drawings: Exploded view or plan and section views with detailed callouts.
14. Provide electrical and instrumentation schematic record drawings.
15. Source (Factory) Quality Control Test Results: Provide copies of factory test reports as specified in the Technical Specifications.
16. Field Quality Control Test Results: After field testing is completed, insert field test reports as specified in the Technical Specifications.

In addition, all operation and maintenance manuals for electrical equipment shall include:

- Equipment ratings
- Calibration curves and rating tables if appropriate
- Control Diagrams

Operation and maintenance manuals for complex equipment shall also include:

- Alternate specified operating modes
- Normal shutdown instructions
- Long term shutdown instructions

1.3 **Electronic Operation and Maintenance**

All final Operation and Maintenance Manuals and materials shall also be provided in electronic data format on CD-ROM in the following formats:

- All text portions of the Operations and Maintenance Manual specifically tailored for this project shall be provided in HTML format.
- All graphical portions of the Operations and Maintenance Manual specifically tailored for this project shall be provided in GIF (schematics, line drawings, etc.) with a minimum 400-bpi resolution or JPG (photos, etc.) format.
- All shop drawings shall be provided in AutoCAD format, version 10 or later.
- All forms that may be required for maintenance shall be provided in MS Word, version 2010 or later format.

Standards shall be provided in MS Word, version 2010 or later format, with tracked changes.

- All other documents including, but not limited to, brochures that need to be scanned that are not specifically tailored for this project shall be provided in searchable PDF format.

Equipment Summary Form

1. Equipment Item: _____
Is it a packaged unit, i.e. pump, motor, shaft? Yes ____ No ____
If yes, please detail. _____

2. How many: _____
3. Cost: _____
4. Manufacturer: _____
Address: _____
Phone #: _____ Fax: _____
Email: _____ Website: _____
5. Equipment Identification Numbers:
Serial Number: _____
Model: _____
Part #: _____
Equipment ID No. _____
6. Location of Equipment: _____
7. Weight of Individual Components (Over 100 Pounds): _____

8. Nameplate Data:
- | | | | |
|-------------------------|--------------|----------------|-------|
| Horsepower: | _____ | RPM: | _____ |
| Amperage: | _____ | Size: | _____ |
| Voltage: | _____ | Frame Size: | _____ |
| Service Factor (S.F.): | _____ | Seal Size: | _____ |
| Speed: | _____ | Seal Type: | _____ |
| Enclosure Type: | _____ | Bearings: | _____ |
| GPM: | _____ | Impeller Size: | _____ |
| Maximum Capacity @ | _____ ft TDH | Other: | _____ |
| Design Point Capacity @ | _____ ft TDH | | |
9. Manufacturer's Local Representative:
Name: _____
Address: _____
Telephone Number: _____

Email: _____ Website: _____

10. Maintenance Requirements (including schedules):

TASK	SCHEDULE

11. Lubricant List:

12. Spare Parts (with accurate part #'s):

13. Comments:

14. General Info:

Year Installed: _____

Expected Life: _____

Project Name & Number: _____

Design Engineer: _____

15. Warranty:

Start Date: _____

Expiration Date: _____

Prorated: _____

***** END OF SECTION *****

SECTION 01740

WARRANTIES AND BONDS

1.0 GUARANTEE OF WORK

The Contractor hereby agrees to make, at its own expense, all repairs or replacements necessitated by defects in materials or workmanship, supplied under terms of this Contract, and pay for any damage to other works resulting from such defects, which becomes evident within one (1) year after the date of acceptance of the project or the Substantial Completion date whichever is applicable or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents. The Contractor further assumes responsibility for a similar guarantee for all work and materials provided by subcontractors or manufacturers of packaged equipment components. The Contractor also agrees to indemnify, defend, and hold the Owner harmless from liability of any kind arising from damage due to said defects.

The Contractor shall execute and submit a completed Warranty Form in the format as appended to this section for the Work, and any portion of the Work possessed in accordance with Paragraph 00700-3.4, **Owner's Right to Use or Occupy**. The Warranty Form shall be submitted prior to the Substantial Completion date or the final acceptance of the project or within five (5) days of the occupancy or use of a portion of the Work, whichever is applicable. In addition the Contractor shall submit the other specified additional warranties, guarantees, and bonds from manufacturers and suppliers.

The Contractor shall, upon the receipt of notice in writing from the Owner, promptly make all repairs arising out of defective materials, workmanship, or equipment. The Owner is hereby authorized to make such repairs, and the Contractor and its Surety shall be liable for the cost thereof, if ten (10) days after giving of such notice to the Contractor, the Contractor has failed to make or undertake the repairs with due diligence. In case of emergency, where in the opinion of the Owner delay could cause serious loss or damage, repairs may be made without notice being sent to the Contractor, and the expense in connection therewith shall be charged to the Contractor, and its Surety shall be liable for the cost thereof.

Prior to the expiration of the Warranty period, the Owner reserves the right to hold a meeting and require the attendance of the Contractor. The purpose of the meeting is to review warranties, bonds and maintenance requirements and determine required repair or replacement of defective items.

For the purpose of this paragraph, acceptance of the Work or a portion of the Work by the Owner, shall not extinguish any covenant or agreement on the part of the Contractor to be performed or fulfilled under this Contract which has not, in fact, been performed or fulfilled at the time of such acceptance. All covenants and agreements shall continue to be binding on the Contractor until they have been fulfilled.

The Owner and the Contractor agree that warranty on the parts of the work possessed and used by the Owner in accordance with Paragraph 00700-3.4, **Owner's Right to Use or Occupy**, shall commence on the date that the Owner takes possession of such work and so notifies the Contractor in writing. The Owner and the Contractor further agree that such possession, and use of the work shall not be deemed as Substantial Completion or acceptance of any other part of the Work.

If, after installation, the operation or use of the materials or equipment furnished under this Contract

proves to be unsatisfactory to the Construction Manager or Owner, the Owner shall have the right to operate and use such materials or equipment until it can, without damage to the Owner, be taken out of service for correction or replacement. Such period of use of the defective materials or equipment pending correction or replacement shall in no way decrease the guarantee period required for the acceptable corrected or replaced items of materials or equipment. Warranty Period for equipment shall be extended by the number of days from the date the equipment is found by the Owner to be non-functional or defective to the date the contractor repairs and makes fully operational the same equipment.

Nothing in this Section shall be construed to limit, relieve or release the Contractor's, subcontractor's and equipment supplier's liability to the Owner for damages sustained as the result of latent defects in the equipment furnished caused by the negligence of the supplier's agents, employees or subcontractors. Stated in another manner, the warranty contained in this Section shall not amount to nor shall it be deemed to be a waiver by the Owner of any rights or remedies (or time limits in which to enforce such rights or remedies) it may have against the supplier of the equipment to be furnished under these Specifications for defective workmanship or defective materials under the laws of this State pertaining to acts of negligence.

WARRANTY FORM

Warranty For

DSRSD

WWTP Electrical Improvements – Phase 1 (CIP 24-P044)

We hereby guarantee the WWTP Electrical Improvements – Phase 1 (CIP 24-P044) that we have constructed for a period of one (1) year from _____ the date of acceptance of the work/substantial completion by DSRSD.

The following are excluded from the provisions of this warranty:

We agree that if any of the equipment should fail due to any reason other than improper maintenance or improper operation, if any pipe or appurtenances should develop leakage, or if any settlement of fill or backfill occurs, or should any portion of the work fail to fulfill any of the requirements of the Specifications, we will, within ten (10) days after written notice of such defects, commence to repair or replace the same together with any other work which may be damaged or displaced in so doing.

In the event of our failure to comply with the above with the above mentioned conditions within a reasonable time after being notified, or should the exigencies of the case require repairs or replacements to be made before we can be notified or respond to notification, we do hereby authorize the DSRSD to proceed to have the defect repaired and made good at our expense, and we will pay the cost therefor upon demand.

The warranty provided herein shall not be in lieu of, but shall be in addition to any warranties or other obligations otherwise imposed by the Contract Documents and by law.

Contractor: _____

Signed: _____

Titled: _____

Date: _____

***** END OF SECTION *****

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SECTION 01750

SPARE PARTS AND MAINTENANCE MATERIALS

1.0 RESPONSIBILITY FOR SPARE PARTS AND TOOLS

Where equipment, special repair tools, safety equipment, or other loose parts are specified to be furnished, they shall be stored by the Contractor until permanent building storage areas are complete, secure, and lockable.

The Contractor shall inventory such parts and transmit the inventory, using the form appended to this section, the Construction Manager at an agreed upon time. All spare parts and tools shall be labeled and neatly packed into boxes with contents of each box labeled and secured to the box. Any items over fifty (50) pounds shall be in wooden crates with hinged and lockable lids, placed on pallets and delivered to the Owner at a location to be defined.

All safety related items shall be provided prior to testing. Specified spare parts shall be transferred for related equipment prior to the use or occupancy of equipment as provided in Section 00700-3.4, Owner's Right to Use or Occupy, and Section 00700-8.6, Substantial Completion.

*****END OF SECTION*****

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DSRSD
WWTP Electrical Improvements – Phase 1
(CIP 24-P044)

Transfer of Spare Parts

No. _____

Equipment: _____

Manufacturer: _____

Specification Section: _____

Spare Parts

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Part #</u>

Reviewed by Construction Manager: _____ Date: _____

Transferred by Contractor: _____ Date: _____

Accepted by DSRSD: _____ Date: _____

*****END OF SECTION *****

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DIVISION 16 – ELECTRICAL

SECTION 16100

ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Electrical requirements.
- B. Referenced Sections:
 - 1. It is the Contractor's responsibility for scheduling and coordinating the Work of subcontractors, suppliers, and other individuals or entities performing or furnishing any of Contractor's Work.
 - 2. The following Sections are referenced to the Work described in this Section:
 - a. Section 01010 – Summary of Work.
 - b. Section 01010A – Suggested Work Sequence.
 - c. Section 01026 – Allowances.
 - d. Section 01340 – Shop Drawings, Product Data and Samples.
 - e. Section 01400 – Quality Control.
 - f. Section 01510 - Temporary Utilities.
 - g. Section 01612 – Seismic Design Criteria.
 - h. Section 01720 – Project Record Documents.
 - i. Section 01730 – Operation and Maintenance Data.
- C. Overview of Electrical Work:
 - 1. See Specification Sections 01010 and 01010A for additional electrical requirements. Section 01010A includes a proposed, sequential work procedure, equipment shutdown constraints and a description of temporary system power requirements. The requirements of Section 01010 are intended to complement electrical requirements specified in this Section and indicated on the Drawings.
 - 2. See Specification Section 01026 for allowances related to the new work.
 - 3. The Work shall include electrical system improvements in several areas within the existing Main Treatment Plant facility (Plant) including, but not limited to, the following:
 - a. Replacement of an existing, indoor, low-voltage power switchgear line-up with a new, indoor, custom-integrated 480-volt low-voltage power switchgear SWGR-DPA line-up.
 - b. Provide a new 48-volt, direct-current (DC) control power battery system including associated new DC panelboard and battery charger.
 - c. Replacement of an existing, indoor 480-volt motor control center with a new, indoor 480-volt motor control center MCC-E.
 - d. Removal of an existing, fix-mounted 480-volt power circuit breaker presently installed within existing 480-volt switchboard SWGR-DPB.

- e. Installation of a new, District-furnished, fixed-mounted, 480-volt power circuit breaker within existing 480-volt switchboard SWGR-DPB.
 - f. Provide a new molded-case feeder circuit breaker within existing switchboard SWGR-DPB.
 - g. Provide a new custom, indoor termination panel for capturing existing motor control center MCC-E field conductors.
 - h. Provide a new, temporary outdoor splice termination box for temporary power conductor connections utilized during replacement of the existing switchgear equipment.
 - i. Provide a temporary, custom-integrated temporary automatic transfer controller panel.
- 4. Work shall be performed sequentially as specified in Section 01010.
 - 5. Provide new and temporary raceway systems, cables and conductors as required by the Contract Documents.
 - 6. Provide equipment manufacturer personnel and third-party, independent testing of new equipment and installations as specified in this Section.
 - 7. Power distribution system short circuit, coordination and arc flash hazard studies shall be performed by the Contractor as specified herein. Upon acceptance of the studies by the Engineer, Contractor's third-party testing firm shall implement the recommended protective device settings prior to field testing of protective devices. Contractor shall include bid price for performing power system studies as a separate bid item per Section 00310.
 - 8. Programming modifications to existing Plant programmable logic controllers (PLCs) and programming modifications to the existing Plant SCADA system and graphics screens shall be performed by the District's Programmer.

1.02 GENERAL ELECTRICAL REQUIREMENTS

- A. Provide a tested and working electrical system as indicated in the Contract Documents. System includes all items not specifically mentioned in these Specifications or indicated on the Drawings or accepted Shop Drawings, but which are obviously necessary to make a complete and working installation, and shall be deemed to be included herein.
- B. Immediately notify District, in writing, of discrepancies within the Contract Documents and discrepancies between the Contract Documents and actual field conditions.
- C. The Contract Documents indicate or specify minimum sizes of equipment, electric devices, and other components of the electrical system, but the Contract Documents do not indicate every offset and fitting, or every structural or mechanical difficulty that may be encountered during the execution of the Work.
- D. Install equipment at locations indicated on the Drawings as closely as field conditions permit. Obtain accepted equipment submittal dimensions prior to installing pads and conduit.
- E. Make minor variations to alignment of equipment and/or installation of raceway systems to avoid conflict with other portions of the Work or existing infrastructure.

- F. Contractor shall schedule pre-installation field meetings with the District prior to installing temporary and new conductors, raceways and electrical equipment for each separate phase of the work. During these field meetings, Contractor shall provide an overview of the intended temporary equipment locations and temporary raceway and conductor routing paths and new equipment placement locations at each work location to ensure that proper clearances and equipment access will be maintained after installation of the new equipment. Immediately following these field meetings, the Contractor shall prepare written meeting summary notes summarizing each field meeting discussion. The field meeting notes shall be submitted to the District for review and acceptance prior to installing temporary and new equipment and materials at each work location.
- G. Contractor shall develop and submit complete interconnection wiring diagrams as specified herein for all systems provided which require connections of all new power, control signal and communication conductors. Interconnection wiring diagrams shall be submitted for review by the District. No field wiring terminations shall be performed until after acceptance of the Contractor's interconnection wiring diagrams by the District.
- H. Temporary Utilities:
1. Provide and maintain temporary utilities in accordance with Section 01 50 00.
 2. Install temporary wiring in as indicated on the Drawings and in accordance with NEC Article 590 with Type SOOW (SO cord) portable cable and diesel locomotive cable (DLO cable), watertight connections, and ground fault interrupting equipment. After construction is completed, remove all temporary systems.
 3. Temporary DLO cable shall be RoHS Compliant, MSHA accepted, UL listed as Type RHH-RHW-2 per UL 44, CSA listed as type RW90 1kV per C22.2 No.38-95 and meet FT-4 and VW-1 Flame Tests. Manufacturer shall be Southwire or accepted equal.
 4. Temporary SOOW and Type W cord shall be rated 600 volts, 90 degrees Celsius, black jacket, NEC rated Extra-Hard Usage, RoHS Compliant, UL listed. Manufacturer shall be Southwire or accepted equal.
 5. Provide temporary cable protector ramps for installation locations indicated on the Drawings and as specified herein. Ramps shall be heavy-duty type, 5 cable routing channels, yellow color, polyurethane construction, 40,300 pounds per vehicle axle load capacity, hinged lid, 2.31-inch height, 1.35-inch channel width (each channel), 1.35-inch channel height (each channel). Manufacturers: electriduct "Heavy Duty Linebacker" or accepted equal.
 6. During the course of the Work at each location, it will be necessary to de-energize existing panelboards which supply power to area lighting and receptacles. During such panelboard outages, the Contractor shall be responsible for providing temporary power for tools and equipment and also providing temporary lighting necessary for performing the Work. Pending District written approval, the Contractor may be permitted to obtain temporary power from alternate locations within the treatment plant.
 7. Temporary utilities and installations shall be provided in a manner which does not impede normal facility access, operation and maintenance. Temporary utilities and conductors shall not create personnel tripping or fall hazards. Temporary conductor ramps shall be provided for normal walking paths both indoors and

outdoors. Warning tape and physical barriers shall be provided to prevent personnel ingress into work areas that include potential personnel hazards.

8. Additional temporary electrical conductors and installations not indicated on the Contract Documents but required during the course of the Work shall be provided.

I. Upon delivery of new indoor-rated electrical power distribution and control equipment to the Project site, temporary storage of equipment until placed in final installation location shall be indoors in a heated, climate-controlled building or structure. Temporary outdoor storage of indoor-rated electrical equipment is prohibited. Equipment stored outdoors in this manner is not acceptable and shall be replaced by the Contractor at no additional cost to the District. No overall construction schedule time extension shall be granted for replacement of improperly stored electrical equipment.

J. The District has allocated a temporary indoor storage location within the treatment plant site for new switchgear SWGR-DPA and new motor control center MCC-E equipment should the Contractor elect to utilize this storage location.

K. Existing, embedded conduits that are abandoned as part of the work shall have all existing conductors completely disconnected and removed with each abandoned conduit cut flush at existing stub-up locations and filled with non-shrink grout, made smooth with existing concrete stub-up location.

1.03 PERFORMANCE REQUIREMENTS

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

1.04 SUBMITTALS

A. See Specification Section 01340 for additional requirements.

B. Product Data: Include catalog data for all new electrical materials, power distribution equipment, control system equipment, conduits, conductors, pullboxes and hardware specified herein and indicated on the Drawings. Catalog data shall be "arrowed" to indicate exact proposed sizes, catalog numbers, etc. for each item.

C. Provide custom integration shop drawings for new 480 volt switchgear equipment, new 480 volt motor control center equipment, temporary motor starter panel and temporary splice termination box. Shop drawings shall be specific to this Project. Submittal of "generic" drawings that are not specific to this Project are not acceptable.

D. Interconnection Diagrams: Electrical interconnection diagrams shall be submitted which include all provided, new power, control, signal and communication conductors and cables. Diagrams shall include all new field wiring and cables provided to interconnect all new and existing power distribution equipment, generator equipment, motor control centers, PLCs and all connections to field devices and instrumentation. Control schematic diagrams for new power distribution equipment and motor control center equipment, in addition to indicating internal equipment connections and circuit devices and logic, shall also indicate all field wiring interconnections and terminations, including connections to field-mounted devices and each specific terminal block number for all new field wiring termination locations. For interconnections between different pieces of equipment,

continuation references shall be included on each individual diagram which identifies the equipment and specific submitted drawing number for continuation of the interconnection conductor. Raceway system information shall not be indicated on interconnection diagrams. Development of a separate set of system interconnection wiring diagrams intended to only show conductor terminations and field wiring shall not be submitted unless a provided new field connection is not associated or connected to new power distribution or motor control center equipment. It is intended that complete field interconnection wiring information only be shown on one set of documents. Interconnection field wiring diagrams which show "redundant" field conductor information required to be shown on equipment submittal drawings shall not be developed. Additional requirements for interconnection diagrams are as follows:

1. Prior to the Contractor's development of interconnection diagrams, the Contractor shall organize either a virtual or site meeting with the District and the Engineer to clarify interconnection diagram requirements and review sample diagrams proposed by the Contractor. The Contractor shall present representative interconnection diagram samples to the District and clarify any questions regarding the development of interconnection diagrams during this meeting.
2. Prior to commencing with any field conductor termination, connection or splice work, interconnection diagrams shall be accepted by the District with a submittal designation of "Accepted - No Exceptions Taken". At all times during the course of the Work, the interconnection diagrams being utilized by the Contractor shall identically match the accepted version of the interconnection diagrams submitted to the District.
3. The Contractor shall propose unique conductor tag numbers for each field conductor termination location. In general, the developed tagging scheme shall utilize unique, individual conductor tags that are based upon the circuit schedules indicated on the Drawings.
4. The District shall review the Contractor's initial, proposed interconnection diagram tagging scheme and provide markups that modify the initially proposed tagging scheme and return the markups to the Contractor for incorporation and resubmittal of the interconnection wiring diagrams.
5. Submitted interconnection wiring diagrams with incomplete or missing conductor or cable tag number information shall be rejected without review.
6. During the course of the Work, the Contractor shall note any modifications to the accepted interconnection diagrams that may occur during installation. Upon completion of installation in a work area, a single, neatly hand-marked set of accepted interconnection diagrams shall be submitted to the District for review. After acceptance of this hand-marked set of "As Built" interconnection diagrams by the District, the Contractor shall electronically incorporate the hand markups and submit a final set of "As Built" interconnection diagrams to the District for review.
7. It is acceptable to submit a single, complete set of interconnection diagrams for the entire Project or "sets" of interconnection diagrams that are pertinent to each unrelated, separate work area. If the Contractor elects to submit separate

interconnection diagrams for each work area then upon completion of construction, the Contractor shall submit a final, single, compiled set of "As Built" interconnection diagrams to the District for review.

- E. Structural Calculations: Perform structural calculations in accordance with Section 01612. Anchoring requirements for new electrical equipment and installations shall be verified with structural calculations performed, stamped and signed by a licensed California Structural or Civil Professional Engineer. Calculations shall include the following areas of work:
 - 1. Anchoring provisions for new SWGR-DPA.
 - 2. Anchoring provisions for new MCC-E.
- F. Structural calculations shall summarize the adequacy of proposed supports and anchoring for each work location and provide any recommendations for additional support provisions based on the results of the structural calculations. New equipment requiring structural calculations shall not be installed until the structural calculations have been accepted by the District.
- G. Cutting and Patching Requests: Notify District of cutting and patching work planned for existing equipment, roadways, sidewalks and structures prior to performing such work.
- H. Submit field X-ray or scan photos for all locations where penetration of existing concrete walls, floors and ceilings are planned. Locations required to be x-ray or scan photographed include core drills, window cut-outs and drilling for conduit supports. X-ray or scan photos shall clearly show existing wall reinforcing steel and embedded conduits with overlay of planned core drill, saw cutting and anchor drilling locations that confirm no existing reinforcing steel or embedded electrical will be hit during drilling or cutting.
- I. Project Record Documents: The Contractor shall maintain a neat and orderly set of as-built record drawings, specifications, shop drawings and wiring diagrams for power distribution and motor control center equipment which reflect any deviations from the Contract Documents, accepted shop drawings and submittal data in accordance with the requirements specified in Section 01720. Documents shall be updated a minimum of once per week to reflect any field installation changes.
- J. Acceptance Testing Information and Documents: Testing shall be performed in accordance with the requirements specified in Section 01660 and as specified herein:
 - 1. Factory witness testing specified for new equipment shall be witnessed by the Engineer and the District and shall be successfully completed prior to shipment of the equipment to the Project site.
 - 2. Contractor shall retain the services of an independent, third-party independent testing firm to perform all field electrical testing specified herein. Provide the services of one of the following testing firms or accepted equal:
 - a. Pacific Power Testing.
 - b. Power Systems Testing.
 - 3. Proposed Third-Party, independent testing firm qualifications including "NETA Accredited Company" certification and resumes for all proposed field technicians.
 - 4. Pre-testing submittal:

- a. Provide a comprehensive list of all equipment and components included in the field testing scope of work.
 - b. Provide a complete set of “blank” equipment and system testing forms for all equipment and materials to be tested as specified in Part 3.00.
5. Equipment Pre-Energization Testing: Equipment and materials shall be tested in accordance with InterNational Electrical Testing Association (NETA) ANSI/NETA ATS-2025 “Standard for Acceptance Testing Specifications” as specified herein prior to energization of equipment or materials.
6. Pre-Energization Post-Testing Submittals (for testing performed prior to equipment energization): Complete set of individual equipment and system field testing data sheets indicating test values, summary evaluation of equipment, initially identified repair recommendations and follow-up testing results with confirmation that successful repairs have been implemented. Forms shall be electronically completed upon completion of testing and submitted to the District for review and acceptance prior to equipment energization or performing system functional testing. Testing forms shall clearly indicate any deficiencies or repair recommendations noted during testing along with follow-up testing results to confirm that deficient conditions have been resolved. For equipment and installations found to have deficiencies during field testing, Contractor shall make the necessary repairs and the equipment/installation shall be re-tested until acceptable results are obtained. Repeated testing shall be performed as required at no additional cost to the District.
7. Functional Test Plan – Motor Control Center Equipment Factory Witness Testing: Prior to factory witness testing of new motor control center (MCC) equipment, the Engineer shall provide the Contractor with a detailed functional test plan narrative and “check-off” form. The functional test plan shall be requested, in writing, by the Contractor no less than three (3) weeks prior to the scheduled date(s) for factory witness testing for new MCC equipment. The test plan shall describe, in narrative format, “cause and effect” tests for each control, alarm and indication function for each mode of operation for each piece of equipment/system included as part of the Work.
8. Functional Test Plan – Switchgear Equipment Factory Witness Testing: Prior to factory witness testing of new switchgear SWGR-DPA, the Contractor shall submit a detailed functional test plan narrative and “check-off” form developed by the switchgear manufacturer for review and acceptance by the Engineer. The functional test plan shall be submitted by the Contractor no less than three (3) weeks prior to the scheduled date(s) for factory witness testing for new SWGR-DPA equipment. The test plan provided by the Contractor shall describe, in narrative format, “cause and effect” tests for each control, alarm and indication function for each mode of operation for each piece of equipment/system included as part of the Work.
9. Functional Test Plan – Field Testing: Similar functional test plan narratives to those utilized during factory witness testing for new switchgear and motor control center equipment shall be utilized for field functional testing. The field functional test plan narrative for new MCC equipment shall be provided from the Engineer to the Contractor after successful completion of pre-energization

testing and after field-installation of the equipment is complete, including anchoring of equipment and connection of all field power and signal conductors and cables. The field functional testing plan for new SWGR-DPA shall be provided by the switchgear manufacturer's field commissioning technician. Field functional testing shall be successfully completed prior to start-up of the new equipment.

10. Post-testing submittals (for testing performed after system start-up): Comprehensive thermographic survey report with thermographic color photographs of each location specified herein submitted. Photographs of all scanned locations with observed "hot spots" shall be submitted. Contractor shall make any necessary component replacement or repair work to resolve "hot spots" and perform a follow-up thermographic survey of the location to verify that the "hot spot" no longer exists. Follow-up scanning and associated submittals shall be submitted to the District for review and acceptance. All required follow-up scanning and submittals shall be provided by the Contractor at no additional cost to the District.
- K. Final "As Built" shop drawings developed for this Project including, but not limited to, new switchgear SWGR-DPA and new motor control center MCC-E shall be provided to the District in both Adobe .pdf and Autodesk .dwg file formats.
- L. Following final acceptance of the Contractor's power system studies, Contractor shall provide the SKM system model and backup electronic files to the District in native SKM format.
- M. Operation and Maintenance Data: Submit in accordance with Section 01730 and as specified herein.

1.05 QUALITY ASSURANCE

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

- B. Materials and equipment used in performance of electrical work shall be listed or labeled by Underwriter's Laboratories (UL) for the class of service intended. Custom-integrated equipment (i.e. power distribution, motor control center and terminal box equipment) shall be fabricated in compliance with applicable UL requirements.
- C. Quality control shall be in accordance with the requirements specified in Section 01400.

PART 2 - PRODUCTS

2.01 SUPPORT CHANNELS AND ASSOCIATED HARDWARE

- A. Provide supports and hardware as required and in accordance with the requirements indicated on the Drawings.
- B. All interior and exterior locations: 316 stainless steel.
- C. Manufacturers: The following or accepted equal:
 - 1. Cooper Industries.
 - 2. Unistrut.

2.02 ANCHOR BOLTS AND HARDWARE

- A. 316 stainless steel for all locations.
- B. Provide epoxy anchors for all floor, wall and slab-mounted equipment and supports.
- C. Provide wedge anchors for ceiling-mounted equipment and supports and for anchoring temporary equipment.
- D. Anchor embedment minimum depth shall be as indicated on the Drawings. Where not indicated on the Drawings, embedment depth shall be as recommended by the epoxy anchor manufacturer's recommendations based on the accepted anchor material submittal information.
- E. Sizes: As indicated on the Drawings, modified as required by the Contractor's accepted structural calculations.

2.03 NAMEPLATES

- A. Black lamacoid with 1/2" high white letters fabricated from minimum 1/8" thick, two-ply phenolic lamacoid.
- B. Fastened with 316 stainless steel screws to all locations except for new switchgear and motor control center equipment cabinet exteriors. Nameplates for this type of equipment shall be fastened with equipment manufacturer's or supplier's recommended adhesive.
- C. Submittals: Include comprehensive nameplate engraving legend for all nameplates provided. Nameplate engraving legend shall be included with submittal information for all new power distribution and motor control center equipment.

2.04 TEMPORARY 480 VOLT OUTDOOR SPLICE TERMINAL BOX

- A. Provide custom-integrated splice terminal box by one of the following or equal:
 - 1. Advanced Integration & Control.

2. Primex.
 3. Technical Systems, Inc.
 4. Telstar Instruments.
- B. Provide new terminal box as specified in this Section and as indicated on the Drawings.
- C. Temporary termination box shall be free-standing with anchoring as indicated on the Drawings.
- D. Enclosure:
1. Rated NEMA 3R for outdoor installation.
 2. Fabricated from 12-gauge, painted steel.
 3. Provide an interior enclosure backpan for mounting of internal enclosure bussing and conductor termination lugs, fabricated from 12-gauge painted steel with two (2) coats of white epoxy paint.
- E. The temporary terminal box shall be rated minimum 3,000 amperes, 480 volts, 3-phase, 65kA symmetrical interrupting rating with adequate lugs for connection of temporary conductors indicated on the Drawings.
- F. Internal panel bussing shall be copper, provided on insulated supports attached to the enclosure internal backpan.

2.05 CONDUIT AND CONDUCTOR IDENTIFICATION

- A. Conduit tags: 316 stainless steel, 12 gauge thickness tags with conduit number stamped into tag, attached to conduit with 316 stainless steel, 18 gauge tie wire.
- B. Conductor and cable markers:
1. Machine printed, heat-shrink type. Manufacturer: Brady IDExpert or accepted equal.
- C. Conductor Color Scheme:
1. 480 Volt Power:
 - a. Phase A: Brown.
 - b. Phase B: Orange.
 - c. Phase C: Yellow.
 2. 208 and 240 Volt Power: Black and Red.
 3. 120 Volt Power:
 - a. Phase: Black.
 - b. Neutral: White.
 4. Field Control Wiring:
 - a. 120VAC: Red.
 - b. 24VDC: Blue.
 5. Internal PLC Panel Wiring:

- a. Discrete Input 120VAC: Red.
 - b. Discrete Input 24VDC: Blue.
 - c. Discrete Output 24VDC and 120VAC: Yellow.
- 6. Signal Cable:
 - a. Positive Conductor: Clear.
 - b. Negative Conductor: Black.
- 7. Communication Cable: Blue.
- 8. Ground: Green.
- D. Conductor tagging scheme shall be based upon the circuit numbers indicated on the Drawings with a unique suffix identifier for each individual conductor (e.g. C-DPBGEN-1, C-DPBGEN-2, C-DPBGEN-3, etc.). Identical conductor tags shall be provided at each conductor termination location.
- E. Conduit tagging scheme shall be based upon the circuit numbers contained within the conduit (e.g. for a conduit that contains circuit P-MCCE, conduit tag shall be P-MCCE).
- F. Submittals: Submit proposed wire tags (in accordance with the interconnection diagram requirements specified herein) for all new conductors provided. Additionally, submit identification materials and conductor color scheme summary table for District review and acceptance.

2.06 600 VOLT WIRE

- A. General:
 - 1. Conductors: ASTM B8, soft drawn tinned copper, maximum 12 months old, minimum 97% conductivity, AWG and kcmil sizes as indicated on the Drawings, Class B.
 - 2. Insulation thickness: Minimum specified by article 310 of the National Electrical Code, latest edition.
- B. Power and control wire:
 - 1. Insulation: Type THHN/THWN-2 for all conductors.
 - 2. Multiconductor Cable Jacket: PVC.
 - 3. Provide single conductors for all new power and control wiring, sizes and quantities as indicated on the Drawings. Multi-conductor cables shall be provided where specifically identified on the Drawings with a “#/C” designation.
 - 4. Rated for cable tray installation where routed within cable trays as indicated on the Drawings.
 - 5. Solid conductor wire: Use of solid conductor for all installations is prohibited.
 - 6. Tinned-copper conductors for all new conductors.
 - 7. Multi-conductor Manufacturers: Houston Wire and Cable, HW158/HW159 or accepted equal.
- C. Pulling Lubricant: Polywater J or accepted equal.

2.07 INSTRUMENTATION CABLE

- A. Analog single-pair and single triad signal cable:
 - 1. Approved for cable tray installation in accordance with the National Electrical Code.
 - 2. Voltage rating: 600 volts.
 - 3. Cable type: TC.
 - 4. Temperature rating: 90 degrees Celsius for dry locations, 75 degrees Celsius for wet locations.
 - 5. Class B, 19-strand concentric in accordance with ASTM B8, tinned conductors.
 - 6. Conductor insulation: Flame-retardant PVC, 15 mils nominal thickness, with nylon jacket 4 mils nominal thickness.
 - 7. Group shielding: Minimum 1.35 mil double-faced aluminum/synthetic polymer-backed tape overlapped to provide 100 percent coverage.
 - 8. Drain wire: 7-strand tinned copper, 2 sizes smaller than conductor.
 - 9. Conductor size: 16 AWG.
 - 10. Manufacturers: The following or equal:
 - a. Belden Cable, #9342 – Single-Pair Cables.
 - b. Belden Cable, #3091A – Single-Triad Cables.
 - c. The Okonite Company, Okoseal-N Type P-OS.

2.08 ETHERNET COMMUNICATION CABLE (COPPER)

- A. Ethernet Communication Cable: Category-6, 600V rated, 4-pair, 23 AWG, copper conductors, polypropylene insulation, FRPE spline center member, inner PVC jacket, overall shield (100%), PVC outer jacket, suitable for industrial use in harsh environments.
- B. Provide RJ-45 male connectors on each new cable end after installation of new communication cable within conduit and equipment.
- C. Manufacturers: Belden 7953A or accepted equal.

2.09 SPLICES BETWEEN EXISTING 600 VOLT CONDUCTORS AND NEW 600 VOLT CONDUCTORS

- A. Where specifically indicated on the Drawings, splices shall be provided between new and existing 600-volt conductors.
- B. Proposed conductor splice locations not indicated on the Drawings shall be submitted for review and acceptance by the District. Conductor splices not accepted in writing by the District are not acceptable and shall be replaced with continuous conductors at no additional cost to the District.
- C. Permanent splices shall consist of a mechanical crimp-type butt splice with an overall cold-shrink tubing jacket unless otherwise indicated on the Drawings.
- D. Temporary splices for conductors #8 AWG and larger shall be made with insulated, set-screw splice blocks, "2 into 1" where required, Polaris or accepted equal. Temporary

splices for conductors smaller than #8 AWG shall be made with in-line splice kits, 3M Scotchcast, 72-N Series or accepted equal.

- E. All splices shall be completely water-proof once completed and rated for prolonged submergence in water.
- F. Provide required termination ferrules for terminating temporary DLO cable to new and existing equipment and conductors.
- G. Splicing of new lighting and receptacle field conductors shall be permitted utilizing wire nuts within junction boxes.

2.10 CONDUIT

- A. PVC-coated galvanized rigid steel: 40 mils thick PVC coating, interior coated with nominal 2 mils thick corrosion-resistant urethane finish, bond between plastic coating and conduit stronger than tensile strength of plastic coating, threads factory coated with clear urethane finish.
- B. PVC-coated galvanized rigid steel conduit tools: Tools used for cutting, bending and threading PVC-coated galvanized rigid steel conduit shall be approved for use by the conduit manufacturer. Damaged conduit coating resulting from the use of tools not recommended by the conduit manufacturer is not acceptable and shall be replaced at no additional cost to the District.
- C. Galvanized rigid steel: Domestic raw steel, made smooth, clean and free of burrs and rough spots to enhance wire pulling; interior and exterior surfaces coated with solid, unbroken layer of zinc; threads hot dip galvanized after cutting; entire surface finish coated with secondary bichromate treatment applied over galvanizing to prevent oxidation; threads protected by end caps, UL6 listed.
- D. Electrical Metallic Tubing and Fittings: Not permitted.
- E. Liquidtight flexible metal conduit and fittings: Grounding type, weatherproof, watertight, PVC jacket, maximum 60 inch lengths, rated for installation in a Class I, Division 2 Hazardous Location as defined in National Electrical Code Article 501, conforming to National Electrical Code Article 350, Type LFMC.
- F. Couplings, connectors, condulets, and fittings: Manufactured with the same materials and processes as corresponding conduit (e.g. provide galvanized rigid steel fittings for connections to galvanized rigid steel conduit).

2.11 METALLIC WIREWAYS

- A. Provided at locations indicated on the Drawings.
- B. Fabricated from minimum 14 gauge painted steel.
- C. Enclosure rating: NEMA 1 rated for indoor installations.
- D. Minimum dimensions: As indicated on the Drawings. Where dimensions are not indicated on the Drawings, Contractor shall provide box with minimum dimensions in accordance with National Electrical Code requirements.
- E. Manufacturers: Hoffman or accepted equal.

2.12 METALLIC PULLBOXES, JUNCTION BOXES AND TERMINAL BOXES

- A. Provided at locations indicated on the Drawings.
- B. Indoor, NEMA 1 enclosure, fabricated from painted 14-gauge steel, minimum.
- C. Dimensions: Custom-fabricated to match dimensions indicated on the Drawings. Where dimensions are not indicated on the Drawings, Contractor shall provide box with minimum dimensions in accordance with National Electrical Code requirements.
- D. Provide terminal boxes with internal backpan for mounting of lug-type power, control and grounding terminal blocks. Terminal boxes shall be provided as a UL Listed complete assembly.
- E. Terminal blocks and lugs shall be rated minimum 65kA symmetrical interrupting rating.
- F. Manufacturers: Saginaw or accepted equal.

2.13 DRY-TYPE TRANSFORMER

- A. Voltage, phase and kVA ratings as indicated on the Drawings.
- B. Type: Meets or exceeds Department of Energy 2024 efficiency standards.
- C. Enclosure: Rated for indoor installation, NEMA 2, suitable for floor-mounting.
- D. Windings: Copper.
- E. Minimum Efficiency: 97.5%.
- F. Provide with 2-1/2% taps, two (2) above and two (2) below nominal voltage rating.
- G. Temperature Rise: 80 degrees Celsius.
- H. Provide with sound level reduction option for -0.5dB operation below standard transformer sound levels.
- I. Manufacturers: Eaton Cutler-Hammer, Allen-Bradley or accepted equal.

2.14 SAFETY DISCONNECT SWITCH

- A. Heavy-duty type, non-fused.
- B. Switch shall be 100% load-break and 100% load-make rated.
- C. Visible double break rotary blade mechanism with two points of contact to provide positive open and closed positions.
- D. Triple padlocking capability to accommodate up to three (3) 3/8 inch shank locks.
- E. Interlocking mechanism to prevent door opening when the handle is in the "On" position with built-in defeater mechanism to allow access.
- F. Provide with de-ionizing arc chutes.
- G. Enclosure: NEMA 1, rated for indoor installation.
- H. Ratings: Ampere rating as indicated on the Drawings , 600VAC, 3-poles.
- I. Manufacturers: The following or equal: Eaton Cutler-Hammer, Heavy-Duty Type "DH".
- J. Submittals: Clearly indicate specific options and ratings.

2.15 480 VOLT POWER SWITCHGEAR SWGR-DPA

- A. Manufacturers: The following (no equal to match District's similar, existing installed equipment):
 - 1. Eaton "Magnum PXR Switchgear" with Magnum PXR power circuit breakers.
- B. New switchgear nominal depth shall be 72 inches. Equipment depth that is less than or more than this specified depth is not acceptable.
- C. Switchgear shall be mounted indoors within existing Building A.
- D. Contractor shall coordinate new switchgear shipping splits as required for installation in existing Building A.
- E. Type: Deadfront, drawout type, rear-accessible, low voltage metal-enclosed switchgear, utilizing drawout power circuit breakers.
- F. The low-voltage metal-enclosed switchgear assembly and all components shall be designed, manufactured and tested in accordance with the latest applicable following standards:
 - 1. ANSI/IEEE-C37.20.1 – Metal-Enclosed Low-Voltage Power Circuit Breaker Switchgear.
 - 2. ANSI/IEEE-C37.13 – Low-Voltage Power Circuit Breakers.
 - 3. ANSI/IEEE-C37.17 – Trip Devices.
 - 4. ANSI/IEEE C57.13, IEEE Standard Requirements for Instrument Transformers.
 - 5. NEMA SG-3 – Low-Voltage Power Circuit Breakers.
 - 6. NEMA SG-5 – Switchgear Assemblies.
 - 7. ANSI/UL 857 - Busways.
 - 8. UL 1066 – Power Circuit Breakers up to 1000VAC and 1500VDC Used in Enclosures.
 - 9. UL 1558 – Standard for Metal-Enclosed Low-Voltage Power Circuit Breaker Switchgear.
- G. Pre-Fabrication Submittals: Submit the following for Engineer's review and acceptance prior to fabrication of new switchgear equipment:
 - 1. Master drawing index.
 - 2. Front, side and rear elevation drawings including nameplate legend, compartment door devices, infrared (IR) window locations and dimensions.
 - 3. Location of new switchgear line-up shipping splits.
 - 4. Top plan view (looking down onto top of switchgear) and bottom plan view (looking down from inside of switchgear equipment). Plan views shall indicate dimensions along with conduit entry locations.
 - 5. Three-line diagram including potential transformers and current transformers.

6. DC schematic diagrams for each circuit breaker compartment. Schematic diagrams shall include respective DC panelboard power supply circuit number.
 7. Communication diagrams indicating communication connections between automatic transfer system equipment, individual circuit breaker compartments, power monitoring equipment and District's Plant SCADA system.
 8. Automatic transfer system equipment input/output (I/O) schedules including spare I/O points.
 9. Bill of Materials list that includes all components and devices comprising the complete, integrated switchgear assembly.
 10. Assembly ratings including short circuit rating, voltage and continuous current rating.
 11. Catalog data sheets for all components comprising the complete, integrated switchgear equipment. Catalog data sheets shall be clearly "arrowed" to indicate specific model numbers, ratings, etc.
 12. Narrative description and "state table" for automatic transfer scheme operation including "responses" to changing power source availability.
 13. Human-machine interface (HMI) screen shots indicating proposed graphical programming for the switchgear HMI.
 14. Complete switchgear equipment seismic certification.
 15. Operation and Maintenance manual including recommended maintenance tasks and intervals, circuit breaker rack-in/rack-out instructions, automatic transfer scheme human-machine interface (HMI) screen definitions, etc.
- H. Automatic Transfer Control System Workshop:
1. Switchgear manufacturer shall submit a preliminary "Automatic Transfer Control System" submittal including narrative description of the automatic transfer control system, "Initial State/Action/Response" matrix and HMI screen shots for Engineer's review.
 2. After review by the Engineer, a workshop shall be scheduled by the Contractor with the District, Engineer and switchgear manufacturer in attendance (either in-person or virtual conference is acceptable) to review the preliminary submittal. During this workshop, the District and the Engineer shall provide comments regarding the preliminary submittal and have the opportunity to add, delete or modify automatic control system features and graphical displays.
 3. Following this workshop, the switchgear manufacturer shall revise the "Automatic Transfer Control System" submittal per the workshop discussion and resubmit for Engineer's review to ensure that all features and comments discussed during the workshop have been included and addressed.
- I. Factory Witness Testing:
1. After new switchgear equipment manufacturing and integration is completed and prior to shipment of the new switchgear equipment from the manufacturer's facility, the Contractor shall notify the District no less than three (3) weeks prior

- to planned factory witness testing in order to schedule factory witness testing at a date mutually agreeable to the District, Engineer, switchgear manufacturer and Contractor.
2. The District and Engineer shall be required to witness the factory testing at the switchgear manufacturer's facility.
 3. The switchgear manufacturer shall provide all necessary power sources, simulation signals and test equipment to demonstrate full functional operation of the new switchgear equipment.
 4. New switchgear equipment shall not be shipped from the manufacturer's facility until factory witness testing is successfully completed and the results accepted by the District.
- J. Post-Fabrication Submittals: Accepted "Pre-Fabrication" submittals shall be provided with the switchgear equipment upon delivery to the project site, modified to reflect any changes or adjustments incurred during the manufacturing and factory witness testing process.
- K. Structural Calculations: Contractor shall provide structural calculations for anchoring the complete switchgear equipment to the existing building floor. Structural calculations shall include anchoring recommendations for 316 stainless steel bolts with maximum diameter matching switchgear equipment anchor bolt holes and locations. Recommendations for anchor bolt diameters that require "drilling out" switchgear equipment anchor bolt holes is not acceptable. Structural calculations shall be performed, stamped and signed by a Registered Professional Civil or Structural Engineer.
- L. The manufacturer of the assembly shall be the manufacturer of the major components within the assembly unless otherwise specified herein.
- M. For the equipment specified herein, the manufacturer shall be ISO 9001 or 9002 certified.
- N. Seismic certification of the complete, integrated switchgear equipment shall meet the requirements of Section 01612.
- O. The complete, integrated switchgear equipment line-up shall bear a UL label.
- P. Minimum bus short circuit rating: 85,000 amperes for up to 60 cycles.
- Q. Switchgear Construction:
1. The switchgear shall consist of the required number of vertical sections indicated on the Drawings, bolted together to form a rigid assembly. The sides shall be covered with removable bolt-on covers. All edges of front covers or hinged front panels shall be formed. Provide ventilators located on the top of the switchgear over the breaker and bus compartments to ensure adequate ventilation within the enclosure. Provide hinged rear doors, complete with provisions for padlocking. Switchgear enclosure rating shall be NEMA 1 for indoor installation within existing Building A. Finish shall be minimum 2 coats of ANSI 61 Gray.
 2. Each vertical steel unit, forming part of the switchgear line-up, shall be a self-contained housing having one or more individual breaker or instrument compartments, a centralized bus compartment, and a rear cabling compartment. Each individual circuit breaker compartment, or cell, shall be segregated from

adjacent compartments and sections, including the bus compartment, by means of steel barriers. It shall be equipped with drawout rails and primary and secondary disconnecting contacts. Removable hinge pins shall be provided on the breaker compartment door hinges. Current and potential transformers (including fuses and test switches) for power monitoring instrumentation shall be located within the cell housing the power monitoring equipment.

3. The stationary part of the primary disconnecting devices for each power circuit breaker shall consist of a set of contacts extending to the rear through a glass polyester insulating support barrier; corresponding moving finger contacts, suitably spaced, shall be furnished on the power circuit breaker studs which engage in only the connected position. The assembly shall provide multiple silver-to-silver full floating high-pressure point contacts with uniform pressure on each finger maintained by springs. Each circuit shall include the necessary three-phase bus connections between the section bus and the breaker line side studs. Load studs shall be equipped with insulated copper load extension buses terminating in solderless type terminals in the rear cable compartment of each structure. Bus extensions shall be tin-plated where outgoing terminals are attached.
4. The secondary disconnecting devices shall consist of floating fingers mounted on the removable unit and engaging flat contact segments at the rear of the compartment. The secondary disconnecting devices shall be silver-plated, and sliding contact engagement shall be maintained in the CONNECTED and TEST positions.
5. Each removable power circuit breaker element shall be equipped with disconnecting contacts, wheels and interlocks for drawout application. It shall have four positions, CONNECTED, TEST, DISCONNECTED and REMOVED, all of which permit closing the compartment door. Each breaker drawout element shall contain a worm gear levering "in" and "out" mechanism with removable lever crank. Mechanical interlocking shall be provided so that the breaker is in the tripped position before levering "in" or "out" of the cell. The breaker shall include a provision for padlocking open to prevent manual or electric closing. The padlocking shall also secure the breaker in the connected, test, or disconnected position by preventing levering.
6. An insulating flash shield shall be mounted above each circuit breaker to prevent flashover from the arc chutes to ground.
7. Provide a rear compartment steel barrier between the cable compartment and the main bus to protect against inadvertent contact with main or vertical bus bars.
8. Provide in the cell, when the circuit breaker is withdrawn, a safety shutter which automatically covers the line and load stabs and protects against accidental contact.
9. Provide a metal barrier full height and depth between adjacent vertical structures in the cable compartment.
10. Provide a glass polyester full height and depth barrier between adjacent vertical structures in the bus compartment with appropriate slots for main bus.

11. Provide each switchgear section rear access door with infrared scanning port windows as indicated on the Drawings, located to allow for infrared scanning of all new and potential future interior conductor connections without the need to de-energize or open the switchgear. Scanning port windows shall be Fluke Model CV300, Flir or equal.

R. Bus Construction:

1. All bus bars shall be tin-plated copper. Main horizontal bus bars shall be mounted with all three phases arranged in the same vertical plane. Bus sizing shall be based on ANSI standard temperature rise criteria of 65 degrees C over a 40 degrees C ambient (outside the enclosure).
2. A copper ground bus shall be furnished firmly secured to each vertical section structure and shall extend the entire length of the switchgear. The ground bus short-time withstand rating shall meet that of the largest circuit breaker within the assembly.
3. All hardware used on conductors shall be high-tensile strength and zinc-plated. All bus joints shall be provided with Belleville-type washers.
4. Exposed bussing located within the switchgear rear section compartments shall be insulated with non-conductive jacketing material, secured with plastic tie-wraps to facilitate removal.

S. Wiring and Terminations:

1. Small wiring, necessary fuse blocks and terminal blocks within the switchgear shall be furnished as required. Control components mounted within the assembly shall be suitably marked for identification corresponding to the appropriate designations on manufacturer's wiring diagrams.
2. All control wire shall be type SIS. Control wiring shall be #14 AWG for control circuits and #12 AWG for shunt trip and current transformer circuits. Wire bundles shall be secured with nylon ties and anchored to the assembly with the use of pre-punched wire lances or nylon non-adhesive anchors. All current transformer secondary leads shall first be connected to conveniently accessible shorting terminal blocks before connecting to any other device. Four (4) shorting screws for each terminal block with provisions for storage shall be provided. All groups of control wires leaving the switchgear shall be provided with terminal blocks with suitable numbering strips. Each control wire shall be marked to the origin zone/wire name/destination zone or over the entire length of the wire using a UV cured ink process. Provide wire markers at each end of all control wiring. Plug-in terminal blocks shall be provided for all shipping split wires. Terminal connections to remote devices or sources shall be front accessible via removable trays above each circuit breaker. Control fuses for each electrically-operated circuit breaker shall also be located in these trays.
3. NEMA 2-hole crimp-type lugs shall be provided for all line and load terminations suitable for copper or aluminum cable rated for 75 degrees Celsius of the size indicated on the drawings.

4. A termination system shall be provided such that no additional cable bracing, tying or lashing is required to maintain the short circuit withstand ratings of the assembly through 100 kA.
 5. Lugs shall be provided in each incoming line section for connection of the main grounding conductors. Additional lugs for connection of other grounding conductors shall be provided as indicated on the drawings.
- T. Power Circuit Breakers:
1. All protective devices shall be drawout low-voltage power circuit breakers. Frame and trip ratings shall be as indicated on the Drawings. All breakers shall be UL listed for application in their intended enclosures for 100% of their continuous ampere rating.
 2. All circuit breakers shall be electrically-operated.
 3. Electrically operated breakers shall be complete with 48 VDC motor operators, OPEN/CLOSE pushbuttons plus red and green indicating lights to indicate breaker contact position. Control power 48VDC source shall be supplied from a remote DC panelboard/battery system specified herein.
 4. Each SWGR-DPA power circuit breaker shall be supplied from 48VDC power circuits from the remote DC panelboard as indicated on the Drawings.
 5. Each provisioned, equipped cell indicated on the Drawings shall be complete with OPEN/CLOSE pushbuttons plus red and green indicating lights to indicate breaker contact position. Control power 48VDC source shall be supplied from remote DC panelboard as indicated on the Drawings.
 6. Each power circuit breaker shall be equipped with a field-adjustable electronic trip unit (rating as indicated on the Drawings) that includes long time, short time, instantaneous and ground fault protection (ALSIG). Electronic trip units shall be provided with remote signal contacts, 24-character LED display, trip log (up to 3 events), waveform capture capability, breaker health monitor and programmable relay functions. Trip units shall be the following (no equal):
 - a. Eaton Cutler-Hammer, PXR35.
 7. Circuit breakers shall be connected for zone selective interlocking protection.
 8. Circuit breakers shall be connected via Modbus RTU for connection to the automatic transfer control system equipment specified herein.
 9. Provide each switchgear circuit breaker with the following minimum quantity of contacts, wired to switchgear control section, for remote connection to protection, monitoring and indication equipment:
 - a. Six (6) 52a mechanism-operated (MOC) contacts.
 - b. Six (6) 52b mechanism-operated (MOC) contacts.
 - c. Four (4) Form C truck-operated (TOC).
 - d. Two (2) Form C overcurrent trip switch (OTS) contacts.

10. Provide remote, hand-held circuit breaker testing unit. Contractor's Third-Party testing firm shall be permitted to use the testing unit. Testing unit shall be provided to the District upon completion of field testing.
 11. Each cell provided with a power circuit breaker and each equipped cell provided for future installation of circuit breaker shall be equipped with an arc flash reduction system including 2-position selector switch for manual selection between "Normal" and "Maintenance" operating modes and blue indicating light which shall illuminate when the arc flash maintenance mode is active. Arc flash reduction system shall be the following or equal:
 - a. Eaton Cutler-Hammer "ARMS".
- U. Automatic Transfer Controls and Accessories:
1. Automatic transfer control system shall be configured with the following devices. Automatic transfer control equipment shall consist of the following:
 - a. Device 27/59 Under/Over Voltage Relays: Basler ES-27/59 or equal.
 - b. Device 47 Negative Sequence Voltage Relay: Basler ES-47N or equal.
 - c. Device 81O/U Over/Under Frequency Relay: Basler ES-81O/U or equal.
 - d. SEL-751 Feeder Protection Relay: Schweitzer Engineering Laboratories, Part No. 751002C1C0X7C85BD01 (no equal).
 - e. Control System: SEL-2240 Axion, 19-inch wide, 10-slot chassis, Part No. 2242S1X1. Manufacturer: Schweitzer Engineering Laboratories (no equal).
 - f. Control system rack shall include the following modules (Schweitzer Engineering Laboratories, no equal):
 - i. SEL-2243 Power Coupler Module, Part No. 224321X1.
 - ii. SEL-2241-2 RTAC Module, Part No. 2241#JW1N.
 - iii. SEL-2244-2 Digital Input (24DI) Modules, Part No. 22442222X1.
 - iv. SEL-2244-3 Digital Output (16DO) Modules, Part No. 22443131X1.
 - g. Human-Machine Interface (HMI)/Computer: Elo Touch Solutions, Model E427316 with i7 processor, 16GB memory, 256GB storage (no equal).
 - h. GPS Satellite Clock: SEL-2407, Part No. 240700133 (Schweitzer Engineering Laboratories, no equal).
 - i. 11-Port managed Ethernet Switch: Cisco, Model IE-3500-8T3S-E, DIN rail mounted (no equal).
 2. Power supply to automatic transfer control system equipment shall be derived from the external 48VDC battery system. Provide 48VDC to 24VDC power supply converter within switchgear as required. Manufacturer: Phoenix Contact or accepted equal.
 3. Automatic transfer scheme shall be based on customized system programming which responds to differing power supply conditions present at new switchgear SWGR-DPA and at existing switchgear SWGR-DPB. Graphical HMI programming

shall be provided to display power source and feeder circuit breaker positions and status. In general, automatic transfer scheme shall include the following features:

- a. "Normal" operating mode shall be plant power supplied from the utility (PG&E) supply.
- b. For initial commissioning of new SWGR-DPA as part of this Project, all transfers between incoming power sources shall be "break before make" or "open-transition". At no time shall incoming power sources be paralleled. The automatic transfer control scheme shall be configured with adequate time delays between breaker operations to allow voltage decay on the main switchgear bus before commanding a source breaker to close. Provided automatic transfer scheme shall include the ability for "close-transition" when transferring between incoming power sources. Selection of "Open-Transition" or "Close Transition" mode of operation shall be via a selector icon on the switchgear HMI. Aside from demonstration of the "Close-Transition" mode during factory acceptance testing, "Close-Transition" mode of operation shall not be used during field testing and commissioning. "Close-Transition" functionality shall be utilized as part of a future project that includes coordination with the serving utility company (PG&E).
- c. In the event of a "normal" source loss, the switchgear automatic transfer control system shall command the standby generator to start (i.e. dedicated dry contact closure hardwired to the generator source; dry contact located at the switchgear automatic transfer control section) and then, upon sensing proper voltage and frequency at the generator source circuit breaker line side, the utility main shall be commanded to open and the generator source breaker shall be commanded to close.
- d. The automatic transfer control system shall be designed by the switchgear manufacturer such that a "best source" of incoming switchgear power is detected and corresponding automatic power supply main circuit breaker opening/closing operation is obtained based on the presence of any combination of the switchgear power sources. A comprehensive "Initial State/Action/Response" matrix shall be developed by the switchgear manufacturer for Engineer's review/acceptance prior to implementing the switchgear automatic transfer controls.
- e. Permissive interlocks shall be included in the automatic transfer control system to prevent any two or more sources of power from being electrically connected to one another either by manual or automatic system operation unless commanded by the control system when operating in the "Automatic" and "Close-Transition" modes.
- f. HMI input fields shall be configured with multiple levels of password protection. District shall provide switchgear supplier with personnel credentials during system testing and commissioning.
- g. Graphics screen shall include a "Standby Power System Test" pushbutton icon which initiates testing of the standby power system. Upon depression of the icon, a pop-up window shall appear which asks the

Operator to verify that initiation of a standby power system test is desired. Once confirmed by the Operator, the automatic transfer control system shall command the standby generator to start. Upon sensing acceptable standby power source voltage and frequency conditions, automatically disconnect the utility power source from the switchgear (by opening the respective main circuit breaker) and then automatically close the standby power source circuit breaker for power supply to the facility solely from the standby power source. The graphics screen shall have an input field to allow the Operator to input a time duration for the standby power system test along with a "Stop Standby Test" icon which, if depressed before the timer expires, shall immediately and automatically initiate re-transfer back to the available utility power source.

V. Power Monitoring Instrument:

1. Power monitoring instrumentation shall be provided for switchgear incoming power source. Power monitoring equipment shall be provided complete with one (1) ANSI Metering Accuracy Class 0.6 current transformer (CT) per phase, individually fused 480 volt connections and three (3) potential transformers (one per phase, configured "Wye-Wye", ANSI 1.2 Z Accuracy Class) for 120V line-to-neutral input to each power monitor, externally mounted test switches (accessible via front of switchgear compartment cell door), Ethernet communication capability, flush-mounted in compartment door indicated on the Drawings.
2. Power monitor manufacturer shall be Schweitzer Engineering Laboratories, SEL-735 Advanced Model with 5-inch color touchscreen display, Part No. 0735LX20922EXXXXXX16102XX (no equal).
3. Test switches shall be ABB Type FT or accepted equal.

W. Provide the following spare electronic trip unit modules in original equipment manufacturer sealed packaging which correspond to the model and manufacturer of the new circuit breakers provided with the new switchgear equipment:

1. One (1) 3200 ampere rating Eaton PXR35.
2. One (1) 2000 ampere rating Eaton PXR35.
3. Two (2) 800 ampere rating Eaton PXR35.

X. Provide switchgear-mounted, trolley type overhead circuit breaker lifting mechanism, manually operated.

Y. Provide portable, motorized circuit breaker racking tool as recommended by Eaton for new SWGR-DPA equipment.

Z. Warranty: Provide 1-year manufacturer's warranty from date of final acceptance.

2.16 480 VOLT POWER SWITCHGEAR CONTROL POWER BATTERY SYSTEM

- A. Provide a rack-mounted battery system, complete with batteries, battery charger and DC panelboards for supplying 48 volts direct-current (VDC) power to new main switchgear

SWGR-DPA via new DC panelboard . DC panelboard shall be Eaton Model Pow-R-Line 2a or equal with circuit breaker quantities and ratings as indicated on the Drawings.

- B. Battery system Supplier shall perform battery and charger sizing calculations based on “worst-case” electrical loading information obtained from the SWGR-DPA supplier. Sizing calculations shall be performed using the battery manufacturer’s sizing software. Sizing calculations utilizing software other than the battery manufacturer’s sizing software is not acceptable.
- C. Batteries shall be utility-grade NiCd batteries, monoblock (i.e. multiple cells in a jar) type manufactured by Saft or Alcad (no equal). Car, deep-cycle marine batteries and VRLA batteries are not acceptable.
- D. Battery rack loading shall comply with IEEE 693 “High”.
- E. Provide removable, clear plexiglass safety cover over installed batteries and terminals.
- F. Battery system sizing shall comply with IEEE Standard 485-1997 or IEEE Standard 1115-2000 with minimum eight (8) hours discharge rate, aging factor of 1.25 and design margin of 1.1. Charger sizing calculation shall be based on a recharge time of twelve (12) hours assuming charger will support the continuous load and recharging of the batteries simultaneously.
- G. Battery Charger Power Supply: 120VAC.
- H. Battery Charger Remote Alarming and Indication: Provide two (2) normally-open contacts with battery charger; one for “Low Voltage Alarm” and “Battery Charger Trouble”.
- I. Submittals:
 - 1. Catalog data for batteries, battery charger, DC panelboard and battery rack.
 - 2. DC system interconnection diagram.
 - 3. DC panelboard schedule.
 - 4. Battery and battery charger sizing calculations.
 - 5. Battery rack dimensioned drawings with mounting requirements.
 - 6. Recommended battery system testing procedures and frequency, replacement procedures and safety measures.
- J. Battery System Supplier: The following or equal:
 - 1. Nor-Cal Battery Company
Mr. Phil Estrada
Email: Phil.Estrada@norcalbattery.com
Phone: (209) 603-9292

2.17 600 VOLT MOTOR CONTROL CENTERS

- A. The Work includes the following new motor control center equipment:
 - 1. MCC-E (Building A).
- B. Standards:

1. NEMA ICS-2 – Industrial Control Devices, Controllers and Assemblies.
 2. UL 845 – Motor Control Centers.
 3. NEC Article 430 – Motors, Motor Circuits and Controllers.
- C. Unit Responsibility:
1. Motor control center fabricator shall be the manufacturer of the major components therein: Manufacturer shall be the following (no equal to match District's similar installations):
 - a. Eaton Cutler-Hammer, Freedom 2100 Series.
 2. New motor control center shall be custom-integrated in accordance with the following requirements. New motor control center may be rejected at the District's sole discretion if any one of the following criteria is not met for the Contractor's proposed motor control center integrator. Contractor to submit documentation to verify the following criteria:
 - a. Panel integration shop shall be within 150 miles of the Project site.
 - b. Panel integration shop facilities shall include all necessary provisions for factory witness testing of each new integrated motor control center at the panel integration shop.
 - c. Panel integration shop shall be UL certified, shall construct new integrated motor control centers in compliance with UL-845 requirements.
 - d. Panel integrator shall have a minimum of ten (10) years of experience in the custom integration of motor control centers.
 - e. At the time of bid, panel integrator shall have completed and currently have in operation a minimum of ten (10) low voltage motor control centers.
 - f. Acceptable Motor Control Center Integrators: One of the following or equal:
 - 1) Advanced Integration & Control.
 - 2) Primex.
 - 3) Technical Systems, Inc.
 - 4) Telstar Instruments.
- D. Factory Witness Testing: After new motor control center (MCC) equipment manufacturing and integration is completed and prior to shipment of new MCC equipment from the MCC Integrator's facility, the Contractor shall notify the District no less than three (3) weeks prior to planned factory witness testing for new line-up provided in order to schedule factory witness testing at dates mutually agreeable to the District, Engineer, MCC Integrator and Contractor. The District and Engineer shall be required to witness factory testing at the MCC Integrator's facility. The MCC Integrator shall provide all necessary power sources, simulation signals and test equipment to demonstrate full functional operation of new MCC equipment. New MCC equipment shall not be shipped from the Integrator's facility until factory witness testing is successfully completed and the results accepted by the District.

E. Submittals:

1. Plan, front and side view drawings, including overall dimensions of each new motor control center provided. Identify shipping splits and show allowable conduit/conductor stub-up locations with dimensions. Submit written verification that proposed shipping splits have been coordinated with the building access requirements and project construction sequencing requirements.
 2. Control schematic wiring interconnection diagrams for each plug-in unit. Wiring interconnection diagrams shall include internal MCC compartment wire identification numbers and field wiring terminal block numbers. Wiring diagrams shall include all circuit devices including field-mounted devices and equipment interconnections, with external motor control center wiring indicated with a "dashed" line. Match as closely as possible all relay and contact numbers as those indicated on the Contract Documents. Identify each equipment name and tag number on each respective wiring diagram. Where field wiring is routed to a vendor-supplied equipment local control panel, switchgear line-up, generator, PLC panel or local control panel, the diagrams shall indicate a continuation reference for the interconnected equipment and associated equipment submittal drawing number.
 3. Field wire tag numbers for each field wire indicated on the control schematic wiring interconnection diagrams shall be based on circuit numbers indicated on the drawings with a unique suffix identifier for each conductor.
 4. Single line diagrams for each motor control center showing circuit breakers, motor circuit protectors, motor starters, variable frequency drives, panelboards, transformers, power monitors and other equipment comprising the complete assembly. Proposed ratings for all devices shall be indicated.
 5. Bill of material list for each motor control center plug-in compartment and each new motor control center complete assembly. Bill of material list shall indicate quantities, manufacturer and model number for each device and component provided with each new motor control center system.
 6. Nameplate schedule for each motor control center.
 7. Manufacturer's Operation and Maintenance data and installation instructions.
 8. Motor control center Integrator shall deliver complete set of electronic Adobe .pdf and AutoCAD .dwg files to the District upon completion of final as-built motor control center shop drawings.
- F. Quality Assurance: Each component, as well as the complete motor control center assembly shall be constructed and tested in accordance with the latest NEMA ICS-2 standards. A complete factory testing report indicating successful passage of all factory testing shall be submitted for review and acceptance by the District prior to shipment of the motor control centers to the project location.
- G. Starter Compartment Wiring Uniformity: Upon delivery to the site, each motor control center starter compartment will be inspected to confirm agreement between the accepted control schematic wiring diagrams and actual equipment wiring. Also, "similar" starter compartments will be inspected to verify that internal wiring has been identically

implemented. In the event that inconsistencies are found, the Contractor shall immediately notify the MCC Integrator in order to obtain a field technician to make any necessary compartment wiring corrections prior to installing the new motor control center equipment.

H. Warranty: Provide 1-year manufacturer's warranty from date of final acceptance.

I. Enclosures:

1. In accordance with NEMA Standards, as indicated on the Contract Documents and as specified.
2. NEMA Type 1 with closed cell neoprene gasketing, provided indoors within either a new or existing structure or building as indicated on the Drawings and as specified herein.
3. Rigidly form each vertical section that holds the units of minimum 12 gauge, cold-rolled steel.
4. Provide vertical front-of-board construction with a 21-inch depth and 90-inch height. Section width shall be 20 inches unless otherwise indicated on the Drawings.
5. Wiring: NEMA Class II, Type B-T.
6. Provide each motor control center plug-in combination starter compartment with an off-gassing corrosion inhibitor sponge, Hoffman Model AHCI10E or accepted equal.

J. Unit Doors:

1. Mount on stationary structure and hinge on side away from vertical wireway, with slotted thumb screws to hold in closed position.
2. Provide positive action linkage with disconnect operating mechanism. Design mechanism so that it can be locked in the OFF position with up to three (3) padlocks. When handle is not padlocked, door to open by release of door interlock with a small tool.
3. When unit door is closed, operating mechanism shall indicate ON or OFF position, and door interlock shall automatically become effective. Design disconnect operating mechanism against inadvertent operation when door is open.
4. Provide each unit door with nameplate that indicates load name and equipment tag number. Attach nameplates to unit doors with motor control center manufacturer recommended epoxy adhesive.

K. Motor Controller Units:

1. Plug-in type, sized to accommodate up to six (6) NEMA Size 1 units in one (1) vertical section.
2. Completely enclosed with sheet metal.
3. Provide a wireway inside of each unit to accommodate wiring without removing barriers or plates.

4. Control wiring within each unit shall be copper Type MTW, 90 degrees Celsius, 600 volt rated, #14AWG minimum.
 5. Power wiring shall be sized to suit maximum horsepower rating of unit, #12AWG minimum.
 6. Provide heat-shrinkable wiring tags at each wire termination point (same tag number at each wire endpoint) in accordance with tagging information provided on accepted shop drawings.
- L. Wiring Troughs:
1. Provide continuous horizontal wiring troughs at both top and bottom of each vertical section. The troughs shall line up to form a continuous wireway for full length of the motor control center.
 2. Provide continuous, full-height vertical wiring trough along the right side of each vertical section.
- M. Terminal Strips:
1. Terminate compartment wiring (both power and control wiring) and external field wiring on terminal strips provided in each unit.
 2. Provide split-type terminal strips, rated to accept conductor sizes as indicated in the Contract Documents.
 3. Provide minimum of 25 percent spare terminals for each plug-in starter unit.
- N. Bus:
1. Horizontal Bus Bars: Tin-plated insulated copper, ampacity rating as indicated on the Contract Documents.
 2. Vertical Bus Bars: Tin-plated copper, effectively isolated from accidental contact by plastic insulating medium in units, including spaces.
 3. Bus Bar Supports: High impact strength, non-carbonizing insulating material mounted on padded steel brackets to provide adequate dielectric strength and creepage distance.
 4. Short Circuit Rating: Rated not less than 65,000 RMS amperes in accordance with NEMA Standards.
 5. Vertical bus ampacity ratings shall be determined by the motor control center manufacturer based on constructed arrangement of units. Minimum vertical bus rating shall be 300 amperes.
 6. Provide tin-plated copper horizontal grounding bus continuous across full length of motor control center. Provide tin-plated copper vertical grounding bus which is solidly connected to the horizontal grounding bus for each vertical section. Provide vertical grounding bus with provisions for connecting individual grounding conductors at each plug-in unit.
- O. Painting:
1. Finish metal surfaces and structural parts with a phosphatizing treatment prior to painting. Paint motor control centers with gray undercoat equal to zinc chromate.

2. Finish interior surfaces including bus support angles, control unit back plates and top and bottom unit barrier plates with baked white enamel.
 3. Finish exterior of enclosures with ANSI 61 Gray.
- P. Space Requirements:
1. Provide spaces for future installation of combination starter and circuit breaker plug-in units. Provide spaces with hardware to accommodate future plug-in units without modification of vertical sections.
 2. Provide spaces as indicated on the Contract Documents.
 3. Extend horizontal and vertical bus to service all space compartments.
- Q. Molded-case circuit breakers shall be rated minimum 65,000 amperes interrupting capacity (symmetrical), continuous ampere ratings and quantities as indicated on the Drawings.
- R. Circuit breakers provided with electronic trip units shall be equipped with a field-adjustable electronic trip unit (rating as indicated on the Drawings) that includes long time, short time, instantaneous and ground fault protection (ALSIG), Eaton Digitrip 310+ (no equal).
- S. Circuit breakers shall comply with NEMA Standard AB1 and UL 489.
- T. Circuit breaker handle operation shall be up/down or side-to-side. Use of rotational operating handles is not acceptable.
- U. Motor control center circuit breaker and motor starter compartments shall be minimum of 12 inches high. Use of 6 inch compartments for circuit breakers is not acceptable.
- V. Motor Starter Contactors: NEMA size as indicated on the Drawings. Where not indicated on the Drawings, minimum starter size shall be NEMA Size 1.
- W. Overload Heaters: Electronic type, rating as required for existing motor equipment full-load ampere rating. Contractor shall record existing motor nameplate data for all existing motorized equipment and provide new and existing equipment motor nameplate data to the motor control center integrator for proper sizing of overload heaters.
- X. Control and Timing Relays: Provide plug-in type relays and associated bases, IDEC or accepted equal.
- Y. Switches and Pushbuttons: Heavy-duty type, rated NEMA 4X, 30.5mm.
- Z. Pilot Lights: LED, push-to-test type, rated NEMA 4X, 30.5mm, lens colors as indicated on the Drawings.

2.18 CUSTOM-INTEGRATED TEMPORARY AUTOMATIC TRANSFER CONTROL SYSTEM PANEL

- A. Provide a new, factory-integrated temporary automatic transfer control (ATC) system panel as specified herein and indicated on the Drawings. New ATC panel shall be custom-integrated and supplied by one of the following Integrators or equal:
- 1) Advanced Integration & Control.
 - 2) Primex.
 - 3) Technical Systems, Inc.

4) Telstar Instruments.

- B. Complete, integrated ATC panel shall be UL listed.
- C. Enclosure: 14 gauge steel, NEMA 1, minimum dimensions as indicated on the Drawings. Exterior shall be painted with minimum 2 coats of ANSI 61 Gray epoxy powder coated paint. Interior shall be minimum 2 coats of white epoxy paint. Enclosure door shall be lockable, three-point latch type with full-length piano hinges.
- D. Provide 12 gauge steel interior back panel, coated with 2 coats of white epoxy paint for mounting of all interior components. Components shall be attached to interior back panel with 316 stainless steel screws and hardware.
- E. Automatic Transfer Controller: Eaton Model ATC-300+ (no equal).
- F. Switches and Pushbuttons: Heavy-duty type, rated NEMA 4X, 30.5mm.
- G. Provide potential transformers with ratings as required.
- H. Panel Wiring: Minimum #14 AWG, MTW or SIS insulation.
- I. Feed-Through Terminal Blocks: Phoenix Contact, Cipline "UT 4" Series (no equal to match Owner's existing installations), double-bridge shaft for connection of adjacent terminal blocks via plug-in bussing, gray for signal conductors, green for grounding and shield conductors, DIN rail mounted.

2.19 NEW FEEDER CIRCUIT BREAKER AT EXISTING SWGR-DPB

- A. Provide a new molded-cases feeder circuit breaker and associated new metal panels at existing switchboard SWGR-DPB as indicated on the Drawings for supply to existing transformer TFR-K disconnect switch.
- B. New feeder circuit breaker shall be Eaton, Type HFD, 65kAIC at 480V (no equal).

PART 3 - EXECUTION

3.01 PREPARATION

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

3.02 GENERAL INSTALLATION REQUIREMENTS

- A. Corrosion Protection:
 - 1. Isolate dissimilar metals, except conduit and conduit fittings, that may come into contact with neoprene washers, 9 mil polyethylene tape, or gaskets.
 - 2. Restore factory finishes which are damaged or rusted to their original new condition in accordance with manufacturer's surface preparation and coating instructions.
- B. Install embedded electrical work prior to placing equipment pads. Provide all sleeves and openings through floors and walls required for passage of all conduits and other

raceways. Sleeves shall be rigidly supported and suitably packed or sealed to prevent ingress of wet concrete or water.

- C. Provide all insets and hangers required to support raceways and other electrical equipment.
- D. Field-verify dimensions indicated on the Drawings. Actual locations, distances and levels shall be governed by actual field conditions.
- E. Anchor electrical equipment to structure floors and walls and electrical equipment foundations utilizing epoxy-fastened bolts. Sizes and quantities of fasteners shall be as indicated on the Drawings and in accordance with the Contractor's accepted structural calculations.
- F. After installing and before energizing electrical equipment, torque each bolted bus and cable connection in accordance with manufacturer's recommendations with calibrated torque wrenches.
- G. Provide channels and associated hardware as required for support of raceways, device enclosures and other electrical equipment.
- H. Separate iron or steel supports from aluminum with 1/4 inch neoprene or other non-metallic gasketing.
- I. Provide engraved lamaroid nameplates to each new switchgear line-up, motor control center, new panelboards, terminal boxes, junction boxes, local control panels and local control stations. Engraving shall include equipment tag numbers and names as indicated on the Drawings.
- J. Provide grounding bushings at each end of metallic conduit runs. Grounding bushings shall be bonded to the grounding electrode system.

3.03 CLEANING

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

3.04 ELECTRICAL IDENTIFICATION

- A. Wire colors: As specified herein.
- B. Provide unique wire tagging at each individual conductor termination endpoint. Conductor tags shall match at each conductor endpoint. Conductor tags shall be developed in accordance with the accepted submittal interconnection information. In general, tagging convention shall be based on circuit numbers indicated on the Drawings with a unique conductor circuit number suffix (e.g. C-DPBGEN-1, C-DPBGEN-2, C-DPBGEN-3, etc.).
- C. Provide stamped conduit tags at each conduit system endpoint and at each floor/ceiling/wall penetration location to indicate circuits routed within conduit (e.g. P-MCCE) based on the circuit schedules indicated on the Drawings.
- D. Tag spare conduits with the word "SPARE".
- E. The Contractor, with District personnel assistance, shall include the following minimum time in the bid for each individual item listed below to perform on-site field investigation

of all existing conductors and terminations within existing equipment panels and enclosures. As part of this investigation effort, the Contractor shall provide temporary identification of existing circuit conductors (i.e. adhesive tape with ink pen notation is acceptable which notes the circuit purpose, related equipment number, conductor termination endpoints, etc.). Temporary tagging of existing circuit conductors shall be completed prior to disconnecting any existing circuit conductors that are presently in-service. Existing circuit conductors found to be permanently out of service shall be disconnected and removed in entirety:

1. Existing Switchgear SWGR-DPA: 16 working hours.
2. Existing Motor Control Center MCC-E: 16 working hours.

3.05 CONDUCTORS

- A. Provide continuous power and control circuit conductors from source to load termination locations without splices or terminations in raceway system pullboxes or junction boxes unless splices are specifically indicated on the Drawings.
- B. Utilize pulling lubricant in accordance with the lubricant manufacturer's instructions for all new conductors routed via new below-grade electrical ductbanks.
- C. Ethernet communication cables routed within new power distribution equipment shall be kept physically separated from 480V power conductors as is practical.

3.06 CONDUITS

- A. Install conduit runs in accordance with schematic representations indicated on the Drawings. Adjust routing of conduit runs as required to suit actual field conditions.
- B. Install straight and true conduit runs with uniform and symmetrical elbows, offsets, and bends. Make changes in direction with long radius bends or with conduit fittings.
- C. Provide flexible conduit connections for short lengths required to facilitate connections between rigid conduit and vibrating equipment and instrumentation.
- D. Support conduits on walls and ceilings with minimum 1-5/8 inch channel. Minimum support spacing shall be in accordance with National Electrical Code requirements unless otherwise indicated on the Drawings.
- E. Install conduit runs between pullboxes, junction boxes, panels and equipment with total bends equaling not more than 270 degrees.
- F. Provide pull tape in spare conduits.
- G. Prior to installation of conductors, new and existing conduits 2 inches and larger shall be snaked with a cleaning mandrel.
- H. Provide PVC-coated galvanized rigid steel conduit for installation locations listed below:
 1. All exterior, exposed conduit runs.
 2. Through structure walls (extending a minimum of 6 inches on each side of wall penetration), floor and ceiling penetrations (extending a minimum of 6 inches beyond exposed portion of ceiling and floor penetrations).
- I. Provide galvanized rigid steel conduit for installation locations listed below:

1. New exposed conduit runs entirely routed within the interior of Building A.
 - J. Provide flexible sealing putty at all conduit stub-up and stub-out locations for conduits that originate from below grade.
 - K. Provide separate grounding conductor in each conduit run as indicated on the Drawings. Where not indicated on the Drawings, provide minimum size grounding conductor in accordance with National Electrical Code requirements.
- 3.07 BOXES
- A. Where not indicated on the Drawings, size junction boxes in accordance with National Electrical Code requirements.
- 3.08 INSTALLATION OF NEW DISTRICT-FURNISHED POWER CIRCUIT BREAKER
- A. Contractor shall retain the services of Eaton Field Services for the removal of existing 480-volt, fixed-mounted power circuit breaker and installation of new District-furnished 480-volt, fixed-mounted power circuit breaker at existing switchboard SWGR-DPB.
- 3.09 POWER SYSTEM STUDIES
- A. Short circuit, protective device coordination and arc flash system studies shall be performed by the Contractor:
 1. Contractor shall perform studies utilizing SKM Software (no equal).
 2. The District shall provide the Contractor with existing SKM Plant power system software model backup files. Contractor shall update the SKM model to reflect the replacement of SWGR-DPA and MCC-E.
 3. Existing Plant software model that shall be provided to the Contractor includes all new and existing electrical power distribution and power generation equipment including the upstream PG&E system source system impedance and PG&E system protective device information.
 4. Contractor is responsible for all field-investigation to obtain all new and existing equipment nameplate data, feeder circuit lengths and power system configuration information as required to update the Plant software model supplied by the District.
 5. Analysis scenarios shall include the following for short circuit, coordination and arc flash hazard studies, assuming all electrical loads in operation:
 - a. Utility plus cogeneration sources simultaneously operating.
 - b. Standby generator source only.
 6. Coordination studies and arc flash hazard studies shall be performed to provide optimal protective device coordination while minimizing arc flash hazard.
 7. Submittals:
 - a. Power system studies shall be stamped and signed by a Professional Electrical Engineer.
 - b. Software model single line diagram.

- c. Equipment evaluation table (based on worst-case calculated short circuit values for the scenarios specified herein).
 - d. Time-current coordination (TCC) curves and associated recommended protection settings for all new power distribution equipment, recommended adjustments to existing power distribution equipment settings, all adjustable circuit breakers included with new SWGR-DPA, new MCC-E adjustable circuit breakers and all new MCC-E motor circuit protectors and motor overload protection.
 - e. Arc flash hazard summary table for all power system buses included in the studies.
 - f. Proposed arc flash hazard labels for each power system bus included in the studies for review and acceptance by the Engineer prior to printing final adhesive labels.
- 8. Protective device settings for all new and existing circuit breakers, motor circuit protectors and motor overloads shall be implemented by the Contractor's testing firm prior to performing field testing.
 - 9. After acceptance of the power system studies by the Engineer, Contractor shall provide arc flash hazard warning labels at field locations consistent with the software study.

3.10 ELECTRICAL FIELD TESTING AND EQUIPMENT CONFIGURATION

- A. Electrical equipment field testing shall be performed after new equipment has been factory witness tested (as specified herein) and has been delivered to the project site.
- B. Electrical conductor field testing shall be performed after new conductors have been completely installed and prior to splicing new conductors to existing conductors.
- C. Contractor shall be responsible for retaining field testing services from both Eaton and accepted third-party, independent testing firm. A summary of field testing responsibility is provided below:
 - 1. New switchgear SWGR-DPA, including, but not limited to, installation inspection, switchgear bus insulation and resistance testing, testing of all power circuit breakers and testing of protective relaying: Eaton Field Services (no equal).
 - 2. New District-furnished, Contractor-installed power circuit breaker for installation in existing switchboard SWGR-DPB: Eaton Field Services (no equal).
 - 3. New motor control center MCC-E including, but not limited to, installation inspection, motor control center bus insulation and resistance testing, testing of all molded-case circuit breakers, testing of all motor overload heaters and testing of all motor circuit protectors: Accepted third-party independent testing firm.
 - 4. New transformer TFR-M: Accepted third-party independent testing firm.
 - 5. New panelboard PNL-M disconnect switch: Accepted third-party independent testing firm.
 - 6. Power circuit conductors: Accepted third-party independent testing firm.
 - 7. Thermographic Surveying: Accepted third-party independent testing firm.

- D. Electrical field testing shall be performed in three (3) stages; i) Pre-Energization Testing, ii) Functional Testing and iii) Thermographic Surveying of electrical materials and equipment. Functional testing shall be performed jointly by the District's Programmer, Engineer and Contractor.
- E. All electrical field testing shall be witnessed by the District or the District's representative.
- F. All new power and molded-case circuit breakers and motor circuit protectors operating at 480 volts shall be tested, regardless of ampacity rating. New circuit breakers rated 50 amperes and larger operating at 120 volts, 208 volts or 240 volts shall be tested.
- G. Protective device settings shall be implemented by the Contractor's retained testing personnel prior to performing field pre-energization testing.
- H. Pre-Energization Testing: The first stage of electrical field testing shall consist of electrical equipment testing and conductor testing prior to energization and operation of electrical equipment. Completed equipment and conductor testing data forms shall be submitted for District's review prior to equipment start-up and energization. Unsatisfactory equipment or conductor test results shall require that the equipment and/or conductors be repaired and re-tested until acceptable results are obtained at no additional cost to the District.
- I. Contractor shall provide the services of Eaton Field Services for initial energization and field commissioning of the new SWGR-DPA equipment. SWGR-DPA commissioning shall commence after the new SWGR-DPA installation is complete and ready for energization.
- J. Functional Testing: The second stage of testing shall involve the completion of functionality testing forms which include "cause and effect" tests for all control, alarm and indication functions for all possible operating scenarios. Contractor shall perform a "dry run" for all functionality tests to ensure that systems are working properly prior to scheduling witness testing by the District. As part of the "dry run" testing, Contractor shall utilize specified functional test plan forms with each test "item" initialed by the Contractor to confirm observed proper system operation. After the "dry run" is successfully completed, the District shall be required to witness functionality testing and shall initial all functionality testing forms upon witnessing successful operation of all systems. Facility start-up shall not commence until successful completion of all functional testing.
- K. Thermographic Surveying: The third stage of testing shall involve thermographic surveying of locations specified herein. Thermographic surveying shall be performed for each individual location only after the respective load has been in continuous operation at maximum possible loading conditions for no less than 30 minutes.
- L. Equipment to be tested and configured as part of Pre-Energization Testing:
 - 1. New 480V switchgear SWGR-DPA: Testing shall be performed in accordance with NETA 7.1 recommendations with all new power circuit breakers tested in accordance with NETA 7.6.1.2 recommendations including primary current injection testing (secondary injection testing of power circuit breakers is not acceptable). Settings for new circuit breakers shall be implemented by the Eaton Field Services technician in accordance with the Contractor's accepted protective device coordination study.

2. New motor control center MCC-E: Testing shall be performed in accordance with NETA 7.16.2.1. All 480 volt circuit breakers and motor circuit protectors shall be tested in accordance with NETA 7.6.1.1 recommendations. Settings for new circuit breakers, motor circuit protectors and overload heaters shall be implemented by the Contractor's third-party testing firm in accordance with the Contractor's accepted protective device coordination study.
 3. New transformer TFR-M: Testing shall be performed in accordance with NETA 7.2.1.1 recommendations.
 4. New panelboard PNL-M disconnect switch: Testing shall be performed in accordance with NETA 7.5.1.1 recommendations.
 5. Megger testing of all new power conductors #12AWG and larger. Where new conductors are spliced to existing conductors, new conductors shall be tested after installation but prior to connection/splicing to existing conductors. Testing shall be performed phase-to-phase and each phase-to-ground in accordance with NETA 7.3.2 recommendations.
- M. Equipment to be tested as part Thermographic Surveying:
1. All new conductor terminations at new switchgear SWGR-DPA.
 2. Each new MCC-E compartment.
 3. New transformer TFR-M.
 4. New panelboard PNL-M disconnect switch.
 5. Existing transformer TFR-K disconnect switch.

3.11 ELECTRICAL EQUIPMENT TRAINING

- A. General: Training sessions shall be scheduled on Tuesdays, Wednesdays and Thursdays during normal District working hours (recognized District holidays excluded).
- B. SWGR-DPA: Three (3) separate training sessions shall be provided by a certified training technician employed by Eaton on non-consecutive days at dates mutually agreeable to the District, Contractor and certified training personnel. Training shall include overview of the switchgear automatic transfer system features, circuit breaker rack-in/rack-out procedure and demonstration, recommended operation and equipment preventative maintenance procedures and operational training for power monitoring equipment.
- C. New Motor Control Center MCC-E: Two (2) separate training sessions shall be provided by a certified training technician employed by the motor control center Integrator/Supplier on non-consecutive days at dates and times mutually agreeable to the District, Contractor and certified training personnel. Training shall include overview of the motor control center operational features, recommended equipment preventative maintenance procedures and operational training for power monitoring equipment.

**** END OF SECTION ****

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APPENDICES

Dublin San Ramon Services District

Appendix A

Forms

The following forms are part of the Contract Documents

Daily Extra Work Report..... 1 Page

Progress Payment Request 1 Page

**Dublin San Ramon Services District
Daily Extra Work Report**

Job Title:	Contract No.:	DEWR Report No.:	Sheet No. ____ of ____
Contractor:		Field Order No.:	Job No.:
Description of Work (Check one: ____ Extra Work, ____ R/W Delay)		Date Reported:	Date Performed
		Contractor's Job No.:	
		Contractor's Report No.:	

Equipment*			Hours	Hourly Rate	Delay Factor	Extended Amounts	Labor*		Hours	Hourly Rate	Extended Amounts
Model	Code	Description									
					1.00	\$0.00		OT			\$0.00
					1.00	\$0.00		Reg			\$0.00
					1.00	\$0.00		OT			\$0.00
					1.00	\$0.00		Reg			\$0.00
					1.00	\$0.00		OT			\$0.00
					1.00	\$0.00		Reg			\$0.00
					1.00	\$0.00		OT			\$0.00
					1.00	\$0.00		Reg			\$0.00
					1.00	\$0.00		OT			\$0.00
					1.00	\$0.00		Reg			\$0.00
					1.00	\$0.00		OT			\$0.00
					1.00	\$0.00		Reg			\$0.00
Total Cost of Equipment - Regular Hours						B.	\$0.00	Subtotal - Overtime Hours	OT		\$0.00

Material and/or Work done by Others**					Subtotal - Regular Hours		Reg			\$0.00
Description	No. Units	Unit Cost		Extended Amounts	Description	Ltr.	% Markup	Total Costs		
				\$0.00	Total Cost of labor (Regular + OT)	A.		\$0.00		
				\$0.00	Total Cost of Equipment	B.		\$0.00		
				\$0.00	Material and/or Work done by Others	C.		\$0.00		
				\$0.00	Markup on Labor (A.)		15%	\$0.00		
				\$0.00	Markup on Equipment (B.)		15%	\$0.00		
				\$0.00	Markup on Materials and Work (C.)		10%	\$0.00		
Total Cost of Materials and Work - Regular Hours				C.	\$0.00	Total This Report				\$0.00

* Includes Equipment and Labor of Subcontractors and Owner-Operators.

** Section is used to report work for which labor rates as described in the specifications are unavailable.

Contractor's Authorized Field Representative

DSRSD Field Representative

Receipt does not constitute acceptability for payment or acceptance of "Extra Work" status for work.

1. List Model, Code & Description of Equipment as it appears in the equipment rental rates booklet published by Caltrans.
2. List labor as it appears in the labor rate breakdown as described in the specifications.
3. Attach photocopies of applicable labor rate breakdown and equipment rental sheets with DEWR force's highlighted.
4. Consult District's specifications for method of payment calculation for extra work or R/W delay.
5. List operator on same line as equipment.

DUBLIN SAN RAMON SERVICES DISTRICT

PROGRESS PAYMENT REQUEST

pprform

PP #1	From	Thru		
Contractor:		NTP Date		
Proj. Manager/Const. Manager		Completion Date		
Proj. Name:		Completion Date Rev		
CIP NO.		Contract Days	Days Expended	% Time Elapsed
P.O. Number:		#VALUE!	#VALUE!	#VALUE!
Description	Authorized Amount	(Previous Earned to Date + Current.) Earned To Date	(Prior Mo. Earned to Date) Previous Earned To Date	Current Earned This Period
Contract Award				
Contract Amount		-		
1		-		
2		-		
3		-		
4		-		
5		-		
6		-		
7		-		
8		-		
9		-		
Total Authorized Contract Amount	-			-

Percent Earned & Paid

#DIV/0!

#DIV/0!

#DIV/0!

A. Total Work Earned to Date			
Materials Currently in Storage (not subject to retention)	-	-25%	-
C. Previous Retentions Withheld			
D. Total Work Earned and Materials in Storage (A + B + C)			-
E. Less Previous Total Payment to Contractor to Date			
F. Total less Previous/Current Misc. Amts. Withheld			
G. Current Retention (F X %)	5%		-
H. Total Retention Withheld to Date			
I. Sub Total of Payment Due			0
J. Less special amts withheld or add special amts released.	(description required)		-
1	Amount \$	-	
2	Amount \$	-	
3 Cumulative Total of Add'l Amounts Withheld to Date			0
K. % of Retention to Release	0%		-
L. Net Payment to Contractor			
M. Total Payment to Contractor to Date			
N. Retention and Special Instructions:	(Escrow Agreements, CD's)		
Escrow Admin Fees (- 375.00) set up (-30.00) account transaction			

900.1.410.00

Total Payment Due this Period

I certify to the best of my knowledge that the payment requested is a fair and accurate representation of the value of the work completed.

Contractors Request for Approval		Date	
Const. Mgr. Recommended Approval		Date	
Project Mgr. Recommended Approval		Date	
District Approval by:		Date	

ENGINEERING MANAGER

%	Account Code Information	Project No.	Amount	Accounting Original
			#VALUE!	☐
			#VALUE!	☐
			-	☐
100.00%			-	Less Retention

#VALUE!