

PALO VERDE COUNTY WATER DISTRICT

PROJECT MANUAL

NORTH BOLTED TANK REPLACEMENT AND FILTER INSTALLATION PROJECT

10/4/17



Requested by:
Palo Verde County Water District



PO Box 185
1065 Desert View
Palo Verde, CA 92226
Phone: (760) 854-3519

September 2017

Contact Person: David Dale, PE
Phone: 760-960-8500; email: daviddalePE@gmail.com

Bid Opening: Monday, November 13, 2017 at 10:00 A.M. (PST)

SPECIAL NOTICE

Pursuant to the requirements of Senate Bill 854 and California Labor Code section 1725.5, all contractors and subcontractors that wish to engage in public work through a public works contract must first register with the Department of Industrial Relation and pay all applicable fees.

Beginning March 1, 2015, no contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations, pursuant to Labor Code section 1725.5 (with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)).

Beginning April 1, 2015, no contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations, pursuant to Labor Code section 1725.5

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

For more information concerning Senate Bill 854 compliance, please visit: <http://www.dir.ca.gov/Public-Works/SB854.html>.

SPECIAL NOTICE NO. 1

NEW PUBLIC WORKS CONTRACTOR REGISTRATION LAW [SB 854] FACT SHEET

SB 854, a budget trailer bill that was signed into law on June 20, 2014, and became effective immediately, made several significant changes to laws pertaining to the administration and enforcement of prevailing wage requirements by the Department of Industrial Relations (DIR). Among other things, SB 854 established a new public works contractor registration program to replace prior Compliance Monitoring Unit (CMU) and Labor Compliance Program (LCP) requirements for bond-funded and other specified public works projects. The fees collected through this new program will be used to fund all of DIR's public works activities, including compliance monitoring and enforcement, the determination of prevailing wage rates, public works coverage determinations, and hearing enforcement appeals.

Essentials of public works contractor registration program:

- Contractors will be subject to a registration and annual renewal fee that has been set initially at \$300. The fee is non-refundable and applies to all contractors and subcontractors who intend to bid or perform work on public works projects (as defined under the Labor Code).
- Contractors will apply and pay the fee online and must meet minimum qualifications to be registered as eligible to bid and work on public works projects:
 - Must have workers' compensation coverage for any employees and only use subcontractors who are registered public works contractors.
 - Must have Contractors State License Board license if applicable to trade.
 - Must have no delinquent unpaid wage or penalty assessments owed to any employee or enforcement agency.
 - Must not be under federal or state debarment.
 - Must not be in prior violation of this registration requirement once it becomes effective. However, for the first violation in a 12 month period, a contractor may still qualify for registration by paying an additional penalty.
- The registration fee is not related to any project. It is more like a license that enables the registrant to bid on and perform public works.

- DIR will post a list of registered contractors and subcontractors on its website so that awarding bodies and contractors will be able to comply with requirements to only use registered contractors and subcontractors.
- Various protections are built in so that
 - A contractor won't be in violation for working on a private job that is later determined to be public work;
 - The inadvertent listing of an unregistered subcontractor on a bid won't necessarily invalidate that bid;
 - A contract with an unregistered contractor or subcontractor is subject to cancellation but is not void as to past work;
 - An unregistered contractor or subcontractor can be replaced with one who is registered;
 - A contractor whose registration lapses will have a 90 day grace period within which to pay a late fee and renew.
- Registrations will begin after July 1, 2014, once the registration system is ready to go online. The preferred method of payment will be by credit card.
- The requirement to list only registered contractors and subcontractors on bids becomes effective on March 1, 2015. The requirement to only use registered contractors and subcontractors on public works projects applies to all projects awarded on or after April 1, 2015.

Essentials of Public Works Enforcement Fund:

All contractor registration fees will go into the State Public Works Enforcement Fund and be used to fund the following items --

- administration of contractor registration requirement
- all DIR costs for administering and enforcing public works laws
- Labor Commissioner's enforcement of other Labor Code violations on monitored public works projects.

DIR will no longer charge awarding bodies for prevailing wage compliance monitoring and enforcement by the CMU. *(Note: DIR will continue to bill and collect fees from awarding agencies for CMU services provided through June 20, 2014.)*

Related changes in DIR’s administration and enforcement of public works requirements:

- Requirements to use CMU or specified alternative (labor compliance program or project labor agreement) for state bond-funded and other specified projects have been eliminated and replaced by requirements that apply to all public works projects (as defined under the Labor Code).
- Awarding bodies are *now* required to submit PWC-100 (contract award notice) for all public works projects. (*This requirement previously applied to about 90% of all projects.*)
- Contractors and subcontractors on *all* public works projects will be required to submit certified payroll records (CPRs) to the Labor Commissioner unless excused from this requirement.
 - This requirement will be phased in as follows:
 - Applies immediately to public works projects that have already been under CMU monitoring, *i.e.* contractors on ongoing projects that have been submitting CPRs to the CMU will continue doing so
 - Will apply to any new projects awarded on or after April 1, 2015
 - May apply to other projects as determined by Labor Commissioner
 - Will apply to all public works projects, new or ongoing, on and after January 1, 2016
 - The Labor Commissioner may make exception to this requirement for
 - Projects covered by qualifying project labor agreement
 - Projects undertaken by one of four remaining awarding bodies with legacy LCPs (Caltrans, City of Los Angeles, County of Sacramento, and Los Angeles Unified School District), so long as those LCPs remain approved by DIR
 - CPRs will be furnished online (as is done currently for CMU). DIR intends to continue making improvements to this process, including creating a means for general contractors to have online access to the CPRs submitted by their subcontractors.
- Requirements for awarding bodies to adopt and enforce a DIR-approved LCP are now limited to: (1) public works projects awarded prior to January 1, 2012 that were under a preexisting LCP requirement; and (2) projects funded in whole or in part by Proposition 84.

PALO VERDE COUNTY WATER DISTRICT – NORTH BOLTED TANK REPLACEMENT AND FILTER INSTALLATION PROJECT

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NOTICE TO CONTRACTORS CALLING FOR BIDS

NOTICE IS HEREBY GIVEN that the PALO VERDE COUNTY WATER DISTRICT, acting by and through its Board (hereinafter referred to as "DISTRICT"), will receive up to, but not later than **10:00 a.m. (PST) on Monday, November 13 2017**, sealed bids for the award of a contract for the proposed project:

PALO VERDE COUNTY WATER DISTRICT – NORTH BOLTED TANK REPLACEMENT AND FILTER INSTALLATION PROJECT

The Contractor shall possess a California Contractors License, Class A, at the time this contract is awarded. Bids shall be received in the office of the Imperial County Clerk of the Board, 940 W. Main Street, **Suite 209**, El Centro, CA 92243, and shall be opened publicly and read aloud at the County Board Chambers at 940 W. Main Street, El Centro CA 92243 above stated time.

Each bid package must conform and be responsive to the contract documents, bid sets are available starting on **Wednesday, October 4, 2017** at the following website <http://www.imperialcountyced.com/bids---rfps/> "Bids - RFPs" at no charge. The bid package is also available as a hard-copy for a one hundred dollar (\$100) non-refundable fee at Imperial County Community & Economic Development Department 940 W. Main Street, Suite 203 El Centro, CA 92243 Phone: (442) 265-1101 Fax: (442) 265-1118, Monday through Friday 8:00 AM - 5:00 PM (PST). Those desiring to pick up bid sets shall call to reserve a copy of bid documents to ensure the availability.

Any addendums that may be issued for this project prior to the bid opening date will be posted to the following website, <http://www.imperialcountyced.com/bids---rfps/> "Bids - RFPs". It is bidder's responsibility to check for any addendums.

Each bid shall be accompanied by the bid security referred to in the contract documents and the list of proposed subcontractors in the form of a certified or cashier check or a bid bond for ten percent (10%) of the maximum bid amount being proposed.

In contracts involving expenditure in excess of ten thousand dollars (\$10,000), the successful bidder shall file a payment bond in a penal sum at least equal to the full contract value as awarded. The bond shall be approved by DISTRICT and shall be in the form set forth in the contract documents. The successful bidder shall also file a performance bond in a penal sum at least equal to the full contract value as awarded.

A performance and payment bond must be filed for contracts involving expenditure in excess of twenty-five thousand dollars (\$25,000), and may be required for contracts involving smaller expenditures at the option of DISTRICT.

A Contractor's and Subcontractor's Mandatory Pre-Bid Conference will be held on the following date: **Friday, October 13, 2017 at 10:00 a.m. (PST) at:**

**Palo Verde County Water District Office
1065 Desert View
Palo Verde, CA 92266**

Contact Person(s): David Dale, PE
Email: DavidDalePE@gmail.com
Telephone: (760) 960-8500

Attendance at the Pre-Bid Conference is MANDATORY.

Before submitting a bid, ALL BIDDERS are required to examine the project site and fully inform themselves as to all existing site conditions and limitations. The bid proposal shall include the cost of all items necessary for the construction of the Project. Bidder shall not receive any additional compensation for costs resulting from conditions that Bidder could have discovered with due diligence prior to submitting a bid.

Disadvantage Business Enterprise: This project is subject to Disadvantaged Business Enterprise (DBE) Program requirements in accordance with State of California Clean Water State Revolving Fund (CWSRF) and Environmental Protection Agency (EPA) requirements of this Advertisement for Bids and other documents listed herein. All SRF/EPA funded or assisted projects performed in the United States, must comply with the "Good Faith Efforts" described in 40 CFR Part §33.301, and §33.211; whether by a recipient, sub-recipient, contractor, and/ or sub-contractor; for construction, equipment, services and supplies. The contractor is cautioned that whenever possible, posting solicitations for DBE bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date is required.

The Contractor acknowledges to and for the benefit of the Purchaser (District) and the State of California that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as "American Iron and Steel;" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contactor pursuant to this Agreement.

All information required by the bid forms must be completely and accurately provided. Numbers shall be stated in both words and figures where so indicated in the bid forms. In

case of discrepancies in the amounts bid, unit prices shall govern over extended amounts, and the accurate and mathematically correct summation of the total bid item amounts shall govern over the total for comparison summation figure and words listed on the bid forms.

Partially completed Bid Proposals, including bid forms with items left blank, or Bid Proposals submitted on other than the bid forms included herein are non-responsive and will be rejected. Bid Proposals not conforming to these instructions for bidders and the Notice to Contractors Calling for Bids may be deemed nonresponsive and rejected.

Pursuant to Section 20103.8 of the Public Contract Code: A local agency may require a bid for a public works contract to include prices for items that may be added to, or deducted from, the scope of work in the contract for which the bid is being submitted. Whenever additive or deductive items are included in a bid, the bid solicitation shall specify which one of the following methods will be used to determine the lowest bid. In the absence of a specification, only the method provided by subdivision (a) will be used:

- (a) The lowest bid shall be the lowest bid price on the base contract without consideration of the prices on the additive or deductive items.

A responsible bidder who submitted the lowest bid as determined by this section shall be awarded the contract, if it is awarded. This section does not preclude the local agency from adding to or deducting from the contract any of the additive or deductive items after the lowest responsible bidder has been determined. Nothing in this section shall preclude the prequalification of subcontractors.

DISTRICT hereby affirms and notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated on the grounds of race, sex, color, or national origin in consideration for an award.

Davis-Bacon and Related Acts: This project requires compliance with the Davis-Bacon and Related Acts and adherence to the current U.S. Department of Labor Wage Decision. The Contractor and subcontractors must comply with the minimum rates for wages for laborers and mechanics as determined by the Secretary of Labor in accordance with the provisions of the Davis-Bacon Act (DBA) CA140002, dated 08/08/2014, as specified in 29 CFR Parts 1, 3, 5, 6 and 7, and Related Acts.

This is a Public Works Project subject to the rate of prevailing wages as established by the California Department of Industrial Relations. Bidders are notified that the higher of either the Davis-Bacon or the State prevailing wage rate shall apply.

DISTRICT reserves the right to reject any or all bids or to waive any irregularities or informalities in any bids or in the bidding.

PALO VERDE COUNTY WATER DISTRICT
Imperial County, California

Approved for Construction



10/4/17

Palo Verde County Water District

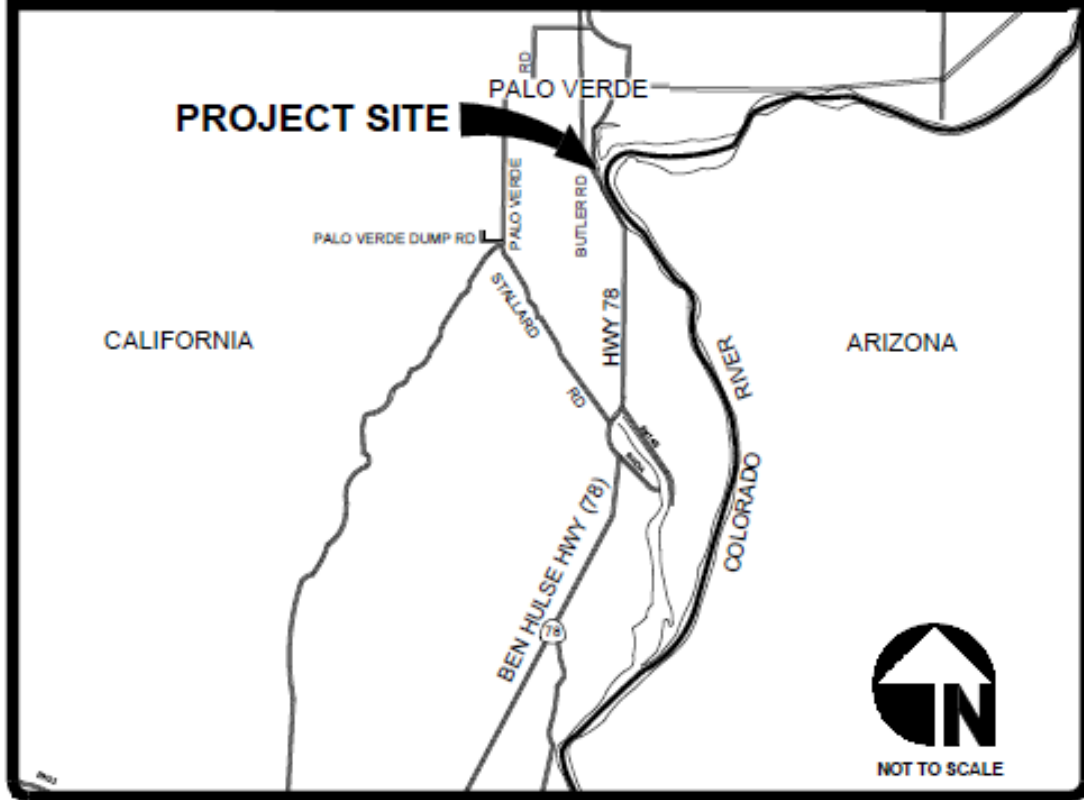
Date:

ENGINEER'S OPINION OF PROBABLE QUANTITY AND VALUE

ITEM NO.	<u>Description of Work</u>	Units	<u>Est. Quan.</u>	<u>Subtotal</u>
1	Mobilization/ Demobilization, Temporary Facilities, Construction Sign, Insurance, Performance & Payment Bond, Taxes, Permits, Preparation and processing of Submittal Documents, Preparation and processing of Operation and Maintenance Manuals, Fees and Similar Expenses	LS	1	\$45,000
	PRESSURE FILTER ITEMS			
2	Demolition of existing concrete sidewalk for new pressure filter concrete pad. Sawcut, remove and dispose of existing concrete.	LS	1	\$1,500
3	Relocate Existing 7'x5' wooden structure (Potassium Permanganate storage and system building). Relocate potassium permanganate system to Control Building. No existing concrete foundation.	LS	1	\$7,500
4	Installation of a new pressure filter concrete pad (20.5'x10.5'), with reinforcement and compacted class 2 base.	LS	1	\$17,500
5	Furnish an 8' diameter x 16' long welded steel horizontal pressure filter to treat 500 gpm (restricted to 350gpm). Vessel to include stainless steel backwash collection trough, dual media bed, PVC header-lateral air distribution grid, support gravels, PVC header-lateral underdrain, full factory finish paint on vessel interior, exterior prime painted and support skid. Provide electrically actuated wafer style butterfly valves (5), airwash blower package, loss of head pressure gauge panel, with pressure switch, backwash rate gauge panel, freight, taxes, and all field services consisting of installation inspection, media installation supervision, start-up and operator training, programming and Integration of Control Panel, Remote Terminal Unit and Monitoring and Control System.	LS	1	\$300,000
6	Install pressure filter on slab. Coat exterior of pressure filter. Install piping, pipe supports and valves per Detail I on sheet 5. Does not include replacement of existing air actuated valves.	LS	1	\$55,000
7	Install approximately four cubic yards of 2,500 psi concrete inside pressure filter per filter manufacturer requirements.	LS	1	\$2,000

8	Install filter media under the supervision of the filter manufacturer	LS	1	\$3,500
9	Replace (5) existing air valve actuators with (5) electric valve actuators.	EACH	5	\$7,500
	THM REDUCTION ITEMS			
10	Install 2.0 inch diameter schedule 40 PVC pipe and fittings underground, 2-foot cover per details L and M on Sheet 6 for THM removal system.	LF	150	\$3,000
11	Install 2.0 and 1.5 inch galvanized steel pipe and fittings above ground for THM removal system. Unistruts to secure pipe to tank.	LF	70	\$4,900
12	Install 50 gpm flow restrictor and 2.0 inch flow meter per Detail O on Sheet 4.	LS	1	\$4,500
14	Install THM reduction sprayer on tank per Detail D Sheet 4	EACH	2	\$1,000
	TANK REPLACEMENT ITEMS			
15	Demolish existing bolted steel tank installed in the year 2000. Remove and dispose of the tank. The existing foundation is to remain.	LS	1	\$12,500
16	Install 1/2" fiber expansion joint material on top of the existing tank pad and prior to installation of the tank floor panels to protect the bottom of the panels.	LS	1	\$1,500
17	Installation of new 125,000 gallon bolted steel tank, fusion powder coated, nominal dimensions 30; diameter and 24' high, including all accessories as shown on the plans. Connect tank to existing piping.	LS	1	\$125,000
18	After installation, complete holiday testing of the interior coating. Repair all holidays.	LS	1	\$2,500
19	Provide bacteria (Bac-T) and VOC sampling and testing by an approved lab.	LS	1	\$3,500
	DISTRIBUTION PUMPS REPAIR ITEMS			
20	Repair (4) Grundfos distribution pumps. Replace (4) Grundfos Bases with Stainless Steel bases, (Grundfos Part No. 96587695), Gasket Kit (Grundfos Part No. 96416599), Seal Kit (Grundfos Part No. 96417021).	EACH	4	\$18,000
21	Replace (5) Grundfos GNV 100 Series 4-inch diameter check valves with Flomatic 4-inch wafer check valves, Model 888 on the discharge of the distribution pumps.	EACH	5	\$8,750
	TOTAL			\$624,650

VICINITY MAP



INFORMATION FOR BIDDERS

1. **Preparation of Bid Form.** DISTRICT invites bids on the form attached to be submitted at such time and place as is stated in the form *Notice to Contractors Calling for Bids*. All blanks in the bid form must be appropriately completed, and all prices must be stated in words and figures as indicated. All bids must be submitted in sealed envelopes bearing on the outside the name of the bidder, the bidder's address, and the name of the project for which the bid is submitted. It is the sole responsibility of the bidder to see that the bid is received by DISTRICT prior to the date and time specified for opening bids. Any bid received after the scheduled closing time for receipt of bids will be returned to the bidder unopened.
2. **Bid Security.** Each bid shall be accompanied by a certified or cashier's check payable to DISTRICT or a satisfactory bid bond in favor of DISTRICT executed by the bidder as principal and a satisfactory surety company as surety, in an amount not less than ten percent (10%) of the maximum amount of the bid. The check or bid bond shall be given as guarantee that the bidder shall execute the contract if it be awarded to it in conformity with the contract documents and shall provide the surety bond or bonds as specified therein within ten (10) days after notification of the award of the contract to the bidder.
3. **Signature.** The bid must be signed in the name of the bidder and must bear the signature in longhand of the person or persons duly authorized to sign the bid.
4. **Modifications.** Changes in or additions to the bid form, recapitulations of the work bid upon, alternative proposals, or any other modification of the bid form which is not specifically called for in the contract documents may result in DISTRICT's rejection of the bid as not being responsive to the invitation to bid. No oral or telephonic modification may be considered.

Any proposed modifications of a bidder's bid must be in writing and received by DISTRICT prior to the date and time specified for opening bids.
5. **Erasures.** The bid submitted must not contain any erasures, inter-lineations, or other corrections unless each such correction is suitably authenticated by affixing in the margin immediately opposite the correction and the surname, or surnames of the person or persons signing the bid.
6. **Examination of Site and Contract Documents.** Each bidder shall visit the site of the proposed work and fully acquaint itself with the conditions relating to the construction and labor so that it may fully understand the facilities, difficulties and restrictions attending the execution of the work under the contract. Bidders shall thoroughly examine and be familiar with the drawings and specifications. The failure or omission of any bidder to receive or examine any contract documents, form, instrument, addendum or other document, or to visit the site and acquaint itself with existing conditions there, shall in no way relieve any bidder from obligations with respect to its bid or to the contract. The submission of a bid shall be taken as *prima facie* evidence of compliance with this section.

7. **Withdrawal of Bids.** Any bidder may withdraw its bid either personally, by written request, or by telegraphic request confirmed in the manner specified above at any time prior to the scheduled closing time for receipt of bids.

8. **Relief from Mistake in Bid.** The attention of bidders is called to Public Contracts Code sections 5100 to 5104, particularly the requirements of section 5103 which requires that grounds for relief from a mistaken bid require written notice to the public entity within five (5) working days after the opening of the bids of mistake and such notice shall detail how the mistake occurred. Please note that a bidder shall not be relieved of its bid unless the elements of Public Contract Code § 5103 are met and the written consent of DISTRICT is obtained and/or by order of a court of competent jurisdiction.

9. **Agreements and Bonds.** The agreement form which the successful bidder, as Contractor, will be required to execute, and the forms and amounts of the surety bonds which it will be required to furnish at the time of execution of the agreements, are included in the contract documents and should be carefully examined by the bidder. The required number of executed copies of the *Agreement*, the *Performance Bond*, and the *Payment Bond* for District Projects is as specified in the *Article 64 - Special Conditions within General Conditions*.

10. **Interpretation of Plans and Documents.** If any person contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of the drawings, specifications or other contract documents, or finds discrepancies in or omissions from the drawings and specifications, he or she shall submit to DISTRICT a written request for an interpretation or correction thereof no less than ten (10) days prior to the bid opening. The person submitting the request will be responsible for its prompt delivery. Any interpretations or correction of the contract documents will be made only by addendum duly issued, and a copy of such addendum will be mailed or delivered to each person receiving a set of the contract documents. No oral interpretation of any provision in the contract documents will be made to any bidder. The interpretation of Plans and documents upon bid award shall be addressed in accordance with Article 2 of the "General Conditions."

11. **Bidders Interested in More Than One Bid.** No person, firm or corporation shall be allowed to make, or file, or be interested in more than one bid for the same work unless alternate bids are specifically called for. A person, firm or corporation that has submitted a sub-proposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders or make a prime proposal.

12. **Award of Contract.** DISTRICT reserves the right to reject any or all bids, or to waive any irregularities or informalities in any bids or in the bidding. The award of the contract, if made by DISTRICT, will be to the lowest responsible bidder therefore. Award of the contract may be on **June 14, 2017** (tentative), and an Agreement shall be presented to the successful bidder at that time. Successful bidder shall then have ten (10) days to execute the Agreement and provide all payment and performance bonds required for this project. Please note that a posted tabulation may be a preliminary tabulation which has not been reviewed for responsiveness and responsibility. It is possible that the lowest bidder will not be awarded the contract because of non-responsiveness or non-responsibility.

13. **Alternates.** If alternate bids are called for, the contract may be awarded at the election of the governing board to the lowest responsible bidder on the base bid, or on the base bid and any alternate or combination of alternates

14. **Bidder Contact Information.** The bidder shall submit complete name, address and phone listings, (including fax), and contact person at bidder's company, provide a complete list of all personnel, sub-Contractors, and other agencies that will be assigned to this project and the responsibility that each will have.

15. **Listing Subcontractors.** Each bidder shall submit with its sealed bid a list of the proposed subcontractors on this project as required by the Subletting and Subcontracting Fair Practices Act (Pub. Cont. Code, § 4100, et seq.). Forms for this purpose are furnished with the contract documents.

16. **Substitution of Security.** Contractors may substitute securities in place of retained funds withheld by DISTRICT in accordance with the provisions of Cal. Pub. Contract Code section 22300.

17. **Contractor's Pre-Bid Conference.**

17.1 A Mandatory Pre-Bid Conference will be held on the following date: **October 13, 2017** at 10:00 a.m. (PST) at:

Palo Verde County Water District Office, located at 1065 Desert View, Palo Verde, CA 92266

**Contact Person(s): David Dale, PE
Email: DavidDalePE@gmail.com
Telephone: (760) 960-8500**

17.2 Attendance at the Pre-Bid Conference is **MANDATORY.**

17.3 Before submitting a bid, ALL BIDDERS are required to examine the project site and fully inform themselves as to all existing site conditions and limitations. The bid proposal shall include the cost of all items necessary for the construction of the Project. Bidder shall not receive any additional compensation for costs resulting from conditions that Bidder could have discovered with due diligence prior to submitting a bid.

17.4 In accordance with Paragraph 10 of the Information for Bidders, any questions to be presented at the Pre-Bid Conference must be in writing and received by DISTRICT from General Contractor or subcontractor submitting a Bid on or before **October 20, 2017 at 5:00 p.m. (PST).**

18. Calendar of Events.

19.1	Bid packages available	<u>October 4., 2017</u>
19.2	<u>MANDATORY</u> Pre-Bid Conference.	<u>October 13, 2017</u> at 10:00 a.m. (PST)
19.3	Return of Written Plans, Document Questions and Substitution Requests. <u>Please be advised that Substitution Requests submitted after the due date may render this bid unresponsive.</u>	<u>October 20, 2017</u> at 5:00 p.m. (PST)
19.4	Bid package, inclusive of completed bid forms, and bid bond required to be submitted hereunder must be received by DISTRICT on or before at: Imperial County Clerk of the Board 940 W. Main Street, Suite 209 El Centro, CA 92243	<u>November 3, 2017</u> at 10:00 a.m. (PST)
19.5	Bid Opening at County Board Chambers, 940 W. Main Street, El Centro CA 92243	<u>November 13, 2017</u> at 10:00 a.m. (PST)
19.6	Board review and consideration of award on approximately	<u>November 20, 2017</u> (Tentative)
19.7	Execution of Contract	<u>December 1, 2017</u> (Tentative)
19.8	First date of contract (begin submittals)	<u>December 5, 2017</u> (Tentative)
19.9	Completion of construction on	<u>April 22, 2018</u> (Tentative)

19. Labor Standards Requirements.

Notice is hereby given that, pursuant to 1773 of the Labor Code of the State of California, the Owner has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holidays and overtime work for each craft, classification, or type of worker required to execute the Contract. A copy of said prevailing rate of per diem wages is on file in the principal office of the Owner, to which reference is hereby made for further particulars. 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 each job site.

Prospective Bidders may obtain the general wage rates directly from the State of California Department of Industrial Relations at their web site at www.dir.ca.gov or by requesting a CD from the State. The Contractor shall keep an up-to-date listing of the general prevailing wage rates posted at the jobsite at all times.

This project is a multi-agency funded project and requires compliance with California's Department of Industrial Relations requirements and the California Labor Codes for a Public Works project and the federal, Davis Bacon and Related Acts. This includes the current wage decisions. The California lock in date for the wage decisions is the date of the bid advertising thus requiring compliance with California, Imperial County 2011-1 and various pre-determined increases.

Statutory Penalty for Failure to Pay Minimum Wage

- A. In accordance with 1775 of the California Labor Code, the Contractor shall as a penalty to the State of political subdivision on whose behalf a Contract is made or awarded, forfeit **fifty dollars (\$50.00)** for each calendar day or portion thereof, for each worker paid less than the stipulated prevailing rate for any public work done under the Contract by the Contractor or by any Subcontractor under the Contractor.

Statutory Penalty for Unauthorized Overtime Work

- A. In accordance with 1813 of the California Labor Code, the Contractor shall as a penalty to the State or political subdivision on whose behalf the Contract is made or awarded, forfeit **twenty-five dollars (\$25.00)** for each worker employed in the execution of the Contract by the Contractor or by any Subcontractor for each calendar day during which said worker is required or permitted to work more than eight hours in any one calendar day and forty hours in any one calendar week in violation of 1810-1815 of the California Labor Code.

Apprenticeship Requirements

- A. CONTRACTOR agrees to comply with 1777.5, 1777.6 and 1777.7 of the California Labor Code relating to the employment of apprentices. The responsibility for compliance with these provisions is fixed with the prime contractor for all apprenticeship occupations. Under these sections of the law, Contractors and Subcontractors must employ apprentices in apprenticeship occupations, where journeymen in the craft are employed on the public work, in a ratio of not less than one (1) apprentice hour for each five (5) journeymen hours (unless an exemption is granted in accordance with 1777.5) and Contractors and Subcontractors shall not

discriminate among otherwise qualified employees as indentured apprentices on any public work solely on the ground of race, religious creed, color, national origin, ancestry, sex, or age, except as provided in 3077 of the Labor Code. Only apprentices, as defined in 3077, which provides that an apprentice must be at least sixteen (16) years of age, who are in training under apprenticeship standards and who have signed written apprentice agreements will be employed on public works in apprenticeship occupations.

Payroll Records

- A. Contractor shall keep accurate payroll records on forms provided by the Division of Labor Standards Enforcement, or alternatively, the Contractor shall keep accurate payroll records containing the same information. Said information shall include, but not be limited to, a record of the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and actual per diem wages paid to each journeyman, apprentice, or worker employed by the Contractor. Such record shall be made available for inspection at all reasonable hours, and a copy shall be made available to employee or his authorized representative, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards in compliance with California Labor Code, Section 1776. Upon written notice from the OWNER or the Division of Labor Standards Enforcement, the Contractor shall, within **ten (10) days**, file with the Owner a certified copy of the payroll records. The Contractor shall cause an identical clause to be included in every subcontract for the Work.

Public Works Projects Required Bid Language

Required contract language for all state Public Works construction contracts between an awarding agency and the prime contractor; and subcontractor contracts with the prime contractor.

This Public Works project is funded by Agencies in California and requires compliance with the California Labor Standards, California Code of Regulations pertaining to Public Works projects, California Labor Codes and the California prevailing wage requirements with special attention to CLC 1720, CLC 1727, CLC 1729, CLC 1770, CLC 1777.5, CLC 1776, CLC 1810 through 1815 and CLC 3700.

CLC Section 1720; State prevailing wage rates shall apply when the State wage rate is higher than the Federal wage rate. All contractors and subcontractors are subject to the application of Section 1720 et seq. of the California Labor Code which details the regulations and procedures governing the payment of State prevailing wages.

CLC Section 1727; (a) Before making payments to the contractor of money due under a contract for public work, the awarding body shall withhold and retain there from all amounts required to satisfy any civil wage and penalty assessment issued by the Labor Commissioner under this chapter. The amounts required to satisfy a civil wage and penalty assessment shall not be disbursed by the awarding body until receipt of a final order that is no longer subject to judicial review.

CLC Section 1729; It shall be lawful for any contractor to withhold from any subcontractor under him sufficient sums to cover any penalties withheld from him by the awarding body on account of the subcontractor's failure to comply with the terms of this chapter, and if payment has already been made to the subcontractor the contractor may recover from him the amount of the penalty or forfeiture in a suit at law.

CLC Section 1770; The Director of the Department of Industrial Relations shall determine the general prevailing rate of per diem wages in accordance with the standards set forth in Section 1773, and the director's determination in the matter shall be final except as provided in Section 1773.4. Nothing in this article, however, shall prohibit the payment of more than the general prevailing rate of wages to any workman employed on public work. Nothing in this act shall permit any overtime work in violation of Article 3 of this chapter.

CLC Section 1777.5; All contractors and subcontractors are subject to the provisions of Section 1777.5 of the California Labor Code which requires that every employer employ registered apprentices and deduct training contributions from all journeymen and apprentices prevailing wage rates and submit these contributions to an approved apprenticeship training facility in accordance with the provisions of the code.

CLC Section 1776; (a) Each contractor and subcontractor shall keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work. Each payroll record shall contain or be 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 1771, 1811, and 1815 for any work performed by his or her employees on the public works project.

(b) The payroll records enumerated under subdivision (a) 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 subdivision (a) shall be made available for inspection or furnished upon request to a representative of the body awarding the contract, 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 subdivision (a) shall be made available upon request by the public for inspection or for copies thereof. However, a request by the public shall be made through either the body awarding the contract, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to paragraph (2), 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 may not be given access to the records at the principal office of the contractor.

CLC Sections 1810-1814; All contractors and subcontractors are subject to the provisions of Sections 1810-1814 of the California Labor Code which provide that the maximum hours a worker is to be employed is limited to eight hours a day and 40 hours a week and the contractor or subcontractor shall forfeit, as a penalty, \$25 for each worker employed in the execution of the contract for each calendar day during which a worker is required or permitted to labor more than eight hours in any calendar day or more than 40 hours in any calendar week and is not paid overtime.

CLC Section 1815 of the California Labor Code requires that notwithstanding the provisions of Sections 1810-1814, employees of contractors who work in excess of eight hours per day and 40 hours per week shall be compensated for all hours worked in excess of eight hours per day at not less than 1-1/2 times the basic rate of pay.

CLC Section 1860; The awarding body shall cause to be inserted in every public works contract a clause providing that, in accordance with the provisions of Section 3700 of the Labor Code, every contractor will be required to secure the payment of compensation to his employees.

CLC Section 1861; Each contractor to whom a public works contract is awarded shall sign and file with the awarding body the following certification prior to performing the work of the contract: "I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract."

CLC Section 3700; All contractors and subcontractors are subject to the provisions of Section 3700 of the California Labor Code which requires that every employer be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the code.

SB 854 Requirements

SB 854, made important changes to the requirements from California for the contractors bidding or awarded a 'Public Works' contract.

SB 854 was signed into law on June 20, 2014 and became effective immediately. All contractors and subcontractors who bid or work on a public works project must register and pay an annual fee to the State of California, Department of Industrial Relations (DIR). The phased-in timetable is as follows:

PUBLIC WORKS CONTRACTOR REGISTRATION PROGRAM

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

All contractors and subcontractors who bid on a public works project must register and pay an annual fee to the California Department of Industrial Relations. The phased-in timetable is as follows:

- July 01, 2014: the registration program became effective and all contractors may register on line and pay the required fee to the State of California, DIR. These early registrations will be valid through June 30, 2015.
- March 01, 2015: NO contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with DIR. Registration with DIR becomes mandatory on March 01, 2015 for bids on a public works contract.
- April 01, 2015: NO contractor or subcontractor may work on a public works project unless registered with DIR. Registration with DIR becomes mandatory on April 01, 2015 for

performing work on a public works contract.

No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

An awarding body may NOT accept a bid or enter into a contract for public works from an unregistered contractor.

The awarding body must post or require the prime contractor to post job site notices prescribed by regulation. (See 8 Calif. Code Reg. §16451(d) for the notice that previously was required for projects monitored by the CMU.)

All contractors and subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner (aka California Division of Labor Standards Enforcement).

Davis-Bacon and Related Acts

- A. This project requires compliance with the Davis-Bacon and Related Acts and adherence to the current U.S. Department of Labor Wage Decision. The Contractor and subcontractors must comply with the minimum rates for wages for laborers and mechanics as determined by the Secretary of Labor in accordance with the provisions of the Davis-Bacon Act (DBA) CA140002, dated 08/08/2014, as specified in 29 CFR Parts 1, 3, 5, 6 and 7, and Related Acts. The Contract provisions and related matters set forth in 29 CFR Part 5- Section 5.5 are hereby made a part of this Contract. Attention is called to the fact that not less than the minimum salaries and wages set forth in the Contract Documents must be paid on this project. The Wage Decision, including modification, must be posted by the Contractor on the job site.

The Recipient shall have the primary responsibility to maintain payroll records as described in Section 3(ii)(A), below and for compliance as described in Section 5.

Requirements under the Consolidated Appropriations Act, 2014

(P.L. 113-76) For Recipients That Are Governmental Entities:

If a Recipient has questions regarding when Davis-Bacon (DB) applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State Water Board.

The Recipient may also obtain additional guidance from DOL's web site at <http://www.dol.gov/whd/>

1. Applicability of the Davis- Bacon (DB) prevailing wage requirements.

Under the FY 2014 Consolidated Appropriation Act, DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If the Recipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the Recipient must discuss the situation with the State Water Board State before authorizing work on that site.

2. Obtaining Wage Determinations.

- (a) Recipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.
 - (i) While the solicitation remains open, the Recipient shall monitor www.wdol.gov weekly to ensure that the wage determination contained in the solicitation remains current. The Recipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the Recipients may request a finding from the State Water Board that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State Water Board will provide a report of its findings to the Recipient.
 - (ii) If the Recipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the State Water Board, at the request of the Recipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The Recipient shall monitor www.wdol.gov on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.
- (b) If the Recipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the Recipient shall insert the appropriate DOL wage determination from www.wdol.gov into the ordering instrument.
- (c) Recipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

- (d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a Recipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the Recipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the Recipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The Recipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

- (a) The Recipient shall insure that the Recipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project under the DWSRF financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal Agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or the FY 2014 Consolidated Appropriations Act, the following clauses:

- (1) Minimum wages.

- (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b) (2) of the Davis- Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a) (1) (iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such

laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. Recipients may obtain wage determinations from the U.S. Department of Labor's web site, www.dol.gov.

(ii)(A) The Recipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Recipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the Recipient (s) to the State award official. The State award official will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(c) In the event the contractor, the laborers or mechanics to be employed in the

classification or their representatives, and the Recipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The Recipient(s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b) (2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the Recipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the Recipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Recipient(s) for transmission to the State or EPA if

requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the Recipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a) (3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make

them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to

work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5

are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Recipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis- Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, U.S.C. 1001.

4. Contract Provision for Contracts in Excess of \$100,000.

(a) Contract Work Hours and Safety Standards Act. The Recipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each

individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The Recipient, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Recipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Recipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the USEPA, the Department of Labor, and the State Water Board, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification

(a) The Recipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The Recipient

must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

- (b) The Recipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. Recipients must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the contractor or subcontractor is not complying with DB. Recipients shall immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.
- (c) The Recipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The Recipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the Recipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Recipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the Recipient shall verify evidence of fringe benefit plans and payments there under by contractors and subcontractors who claim credit for fringe benefit contributions.
- (d) The Recipient shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.
- (e) Recipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <http://www.dol.gov/contacts/whd/america2.htm>.

This is a Public Works Project subject to the rate of prevailing wages as established by the California Department of Industrial Relations. Bidders are notified that the higher of either the Davis-Bacon or the State prevailing wage rate shall apply

20. **DISADVANTAGE BUSINESS ENTERPRISE (DBE) PROGRAM**

Bidders are advised that, as required by federal law and all recipients of federal funds from the U. S. Environmental Protection Agency (EPA), and State Water Resources Control Board (SWRCB), The Palo Verde County Water District is implementing Disadvantaged Business Enterprise (DBE) requirements.

The DBE Program is an outreach, education, and goaling program designed to increase the participation of DBEs in procurements funded by EPA assistance agreements. The EPA DBE Program encompasses many of the components of the former MBE/WBE Program and includes many new features. For further information on DBE Program, DBE certification, search for DBE, public information meetings, etc., refer to the following website:

http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/index.shtml

Bidder must coordinate and complete DBE forms and **submit with each Bid**, as per the following requirements.

BID FORM

TO: Acting by and through its District Board, hereinafter called DISTRICT.

1. Pursuant to and in compliance with your *Notice to Contractors Calling for Bids* and the other documents relating thereto, the undersigned bidder, having familiarized itself with the terms of the contract, the local conditions affecting the performance of the contract, and the cost of the work at the place where the work is to be done, and with the drawings and specifications and other contract documents, hereby proposes and agrees to perform, within the time stipulated by the contract, including all of its component parts and everything required to be performed, and to provide and furnish any and all of the labor, materials, tools, expendable equipment and all utility and transportation services necessary to perform the contract and complete it in a workmanlike manner, all of the work required in connection with the

PALO VERDE COUNTY WATER DISTRICT – NORTH BOLTED TANK REPLACEMENT AND FILTER INSTALLATION PROJECT

All in strict conformity with the drawings and specifications and other contract documents, including addenda nos., _____, _____, _____, and _____, on file at the office of Palo Verde County Water District, for the total sum of

_____ Dollars (\$ _____),
(In Words) (In Figures)

hereinafter called the *Base Bid Price*.

Warning- If an addendum or addenda have been issued by the Department and not noted above as being received by the bidder, this proposal may be rejected.

DISTRICT reserves the right to make award or any combination of base bid process plus deductive bid items as DISTRICT determines to be in its best interest.

BASE BID

ITEM NO.	<u>Description of Work</u>	Units	Est. <u>Quan</u> <u>n</u>	<u>Unit Cost</u>	<u>Subtotal</u>
1	Mobilization/ Demobilization, Temporary Facilities, Construction Sign, Insurance, Performance & Payment Bond, Taxes, Permits, Preparation and processing of Submittal Documents, Preparation and processing of Operation and Maintenance Manuals, Fees and Similar Expenses	LS	1	\$	\$
	PRESSURE FILTER ITEMS				
2	Demolition of existing concrete sidewalk for new pressure filter concrete pad. Sawcut, remove and dispose of existing concrete.	LS	1	\$	\$
3	Relocate Existing 7'x5' wooden structure (Potassium Permanganate storage and system building). Relocate potassium permanganate system to Control Building. No existing concrete foundation.	LS	1	\$	\$
4	Installation of a new pressure filter concrete pad (20.5'x10.5'), with reinforcement and compacted class 2 base.	LS	1	\$	\$
5	Furnish an 8' diameter x 16' long welded steel horizontal pressure filter to treat 500 gpm (restricted to 350gpm). Vessel to include stainless steel backwash collection trough, dual media bed, PVC header-lateral air distribution grid, support gravels, PVC header-lateral underdrain, full factory finish paint on vessel interior, exterior prime painted and support skid. Provide electrically actuated wafer style butterfly valves (5), airwash blower package, loss of head pressure gauge panel, with pressure switch, backwash rate gauge panel, freight, taxes, and all field services consisting of installation inspection, media installation supervision, start-up and operator training. Programming and Integration of Control Panel, Remote Terminal Unit and Monitoring and Control System.	LS	1	\$	\$

6	Install pressure filter on slab. Coat exterior of pressure filter. Install piping, pipe supports and valves per Detail I on sheet 5. Does not include replacement of existing air actuated valves.	LS	1	\$	\$
7	Install approximately four cubic yards of 2,500 psi concrete inside pressure filter per filter manufacturer requirements.	LS	1	\$	\$
8	Install filter media under the supervision of the filter manufacturer	LS	1	\$	\$
9	Replace (5) existing air valve actuators with (5) electric valve actuators.	EACH	5	\$	\$
	THM REDUCTION ITEMS				
10	Install 2.0 inch diameter schedule 40 PVC pipe and fittings underground, 2-foot cover per details L and M on Sheet 6 for THM removal system.	LF	150	\$	\$
11	Install 2.0 and 1.5 inch galvanized steel pipe and fittings above ground for THM removal system. Unistruts to secure pipe to tank.	LF	70	\$	\$
12	Install 50 gpm flow restrictor and 2.0 inch flow meter per Detail O on Sheet 4.	LS	1	\$	\$
14	Install THM reduction sprayer on tank per Detail D Sheet 4	EACH	2	\$	\$
	TANK REPLACEMENT ITEMS				
15	Demolish existing bolted steel tank installed in the year 2000. Remove and dispose of the tank. The existing foundation is to remain.	LS	1	\$	\$
16	Install 1/2" fibre expansion joint material on top of the existing tank pad and prior to installation of the tank floor panels to protect the bottom of the panels.	LS	1	\$	\$
17	Installation of new 125,000 gallon bolted steel tank, fusion powder coated, nominal dimensions 30; diameter and 24' high, including all accessories as shown on the plans. Connect tank to existing piping.	LS	1	\$	\$
18	After installation, complete holiday testing of the interior coating. Repair all holidays.	LS	1	\$	\$
19	Provide bacteria (Bac-T) and VOC sampling and testing by an approved lab.	LS	1	\$	\$

DISTRIBUTION PUMPS REPAIR ITEMS					
20	Repair (4) Grundfos distribution pumps. Replace (4) Grundfos Bases with Stainless Steel bases, (Grundfos Part No. 96587695), Gasket Kit (Grundfos Part No. 96416599), Seal Kit (Grundfos Part No. 96417021).	EACH	4	\$	\$
21	Replace (5) Grundfos GNV 100 Series 4-inch diameter check valves with Flomatic 4-inch wafer check valves, Model 888 on the discharge of the distribution pumps.	EACH	5	\$	\$
Total Bid (numerical in U.S. Dollars): \$					

TOTAL BASE BID (Items 1 through 21) in Figures _____

2. It is understood that DISTRICT reserves the right to reject this bid and that this bid shall remain open and not be withdrawn for the period specified in the Notice to Contractors Calling for Bids.
3. The required bid security is hereto attached.
4. The required list of proposed subcontractors is attached hereto.
5. The required Disadvantage Business Enterprise Program forms are attached hereto.
6. It is understood and agreed that if written notice of the acceptance of this bid is mailed, telegraphed or delivered to the undersigned after the opening of the bid, and within the time this bid is required to remain open, or at any time thereafter before this bid is withdrawn, the undersigned will execute and deliver to DISTRICT a contract in the form attached hereto in accordance with the bid as accepted, and that it will also furnish and deliver to DISTRICT the Performance Bond and Payment Bond for the Public Works as specified, all within ten (10) days after receipt of notification of award, and that the work under the contract shall be commenced by the undersigned bidder, if awarded the Contractor, on the date to be stated in DISTRICT's Notice to Contractors to Proceed, and shall be completed by the Contractor in the time specified in the contract documents.
7. Notice of acceptance or requests for additional information should be addressed to the undersigned at the address identified in Paragraph 8 below.
8. Print/type the names of all persons interested in the foregoing proposal as principals in the space provided below:

(IMPORTANT NOTICE: If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer and manager thereof; if a co-partnership, state true name of firm, also names of all individual co-partners composing firm; if bidder or other interested person is an individual, state first and last names in full.)

9. Licensed in accordance with act providing for the registration of Contractors:

License No. _____

Classification (s): _____

DIR Registration No. _____

Gross annual receipts for the firm: _____

Years in business: _____

Age of firm: _____

10. The undersigned certifies that he/she is now licensed in the appropriate trade in accordance with the provisions of the Contractor's License Law of the State of California, and the number of said license is _____ and that said license expires _____, 20____.

11. By my signature on this proposal I certify, under penalty or perjury under the laws of the State of California, that the foregoing questionnaire and statements of Public Contract Code Sections 10162, 10232 and 10285.1 are true and correct and that the bidder has complied with the requirements of Section 8103 of the Fair Employment and Housing Commission Regulations (Chapter 5, Title 2 of the California Administrative Code). By my signature on this proposal I further certify, under penalty or perjury under the laws of the State of California and the United States of America, that the Noncollusion Affidavit required by Title 23 United States Code, section 112 and Public Contract Code Section 7106; and the Title 49 Code of Federal Regulations, Part 29 Debarment and Suspension Certification are true and correct.

Date: _____

Proper Name of Bidder

By: _____

(Signature of bidder)

(Print/type signator's name)

(Print/type title)

NOTE: If bidder is a corporation, the legal name of the corporation shall be set forth above, together with the signatures of authorized officers or agents, and the document shall bear the corporate seal; if bidder is a partnership, the true name of the firm shall be set forth above, together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership; and if bidder is an individual, his/her signature shall be placed above.

Business Address: _____

Place of Residence: _____

Telephone: _____

Fax Number: _____

**NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER
AND SUBMITTED WITH BID**

State of California

County of Imperial

_____ [name of individual], being first duly sworn, deposes and says that he or she is _____ [title of individual] of _____ [name of business] 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 of 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, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Signature

DESIGNATION OF SUBCONTRACTORS

In compliance with the Subletting and Subcontracting Fair Practices Act (Ch. 4 (commencing at § 4100), div. 2, part 1 of the Cal. Pub. Cont. Code) and any amendments thereof, each bidder shall set forth below: (a) the name and the location of the place of business of each subcontractor who will perform work or labor or render service to the prime Contractor in or about the construction of the work or improvement to be performed under this contract or subcontract licensed by the State of California who, under subcontract to the prime Contractor, specialty fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications in an amount in excess of one-half of one percent (1/2%) of the prime Contractor's total bid and (b) the portion of the work which will be done by each subcontractor under this act. The prime Contractor shall list only one subcontractor for each such portion as is defined by the prime Contractor in this bid.

If prime Contractor fails to specify a subcontractor or if a prime Contractor specifies more than one subcontractor for the same portion of work to be performed under the contract in excess of one-half of one percent (1/2 %) of the prime Contractor's total bid, the bidder shall be deemed to have agreed that it is fully qualified to perform that portion itself, and that the bidder shall perform that portion itself.

No prime Contractor whose bid is accepted shall (a) substitute any subcontractor, (b) permit any subcontractor to be voluntarily assigned or transferred or allow it to be performed by any one other than the original subcontractor listed in the original bid, or (c) sublet or subcontract any portion of the work in excess of one-half of one percent (1/2 %) of the prime Contractor's total bid as to which his original bid did not designate a subcontractor, except as authorized in *Subletting and Subcontracting Fair Practices Act*. Subletting or subcontracting of any portion of the work in excess of one-half of one percent (1/2%) of the prime Contractor's total bid as to which no subcontractor was designated in the original bid shall only be permitted in cases of public emergency or necessity, and then only after a finding reduced to writing as a public record of the authority awarding this contract setting forth the facts constituting the emergency or necessity.

If all work is to be done without Subcontractors, write "None" in the following space:

Type of Work Subcontractor Will Do	Name under which Subcontractor is Licensed	Address of Office, and Telephone No.	Classification , License No. & DIR Registration No.

Type of Work Subcontractor Will Do	Name under which Subcontractor is Licensed	Address of Office and Telephone No.	Classification, License No. & DIR Registration No.

Suppliers

Name of Supplier	Address and Telephone No.	Type of Material

(Proper Name of Bidder)

By:

(Signature of bidder)

(Print/type signator's name)

(Print/type title)

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

In accordance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed or otherwise prevented from bidding on, or completing a federal, state or local government project because of a violation of law or a safety regulation?

Yes _____ No _____

If the answer is yes, explain the circumstances in the following space.

PUBLIC CONTRACT SECTION 10232 STATEMENT

In accordance with Public Contract Code Section 10232, the Contractor hereby states, under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

TITLE 23, UNITED STATES CODE, SECTION 112 NON-COLLUSION AFFIDAVIT

In accordance with Title 23, United States Code, Section 112, the bidder hereby states under penalty of perjury, that he has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this contract.

Note: The above Statement questionnaire, and Non-Collusion Affidavit are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute Signature of this Statement, Questionnaire, and Non-Collusion Affidavit.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT

In accordance with Public Contract Code Section 10285.1 (Chapter 376, Stat. 1985). The bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has _____, has not _____ been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the

Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1

NOTE: THE BIDDER MUST PLACE A CHECK MARK AFTER "HAS" or "HAS NOT" IN ONE OF THE BLANK SPACES PROVIDED.

THE ABOVE STATEMENT IS PART OF THE PROPOSAL. SIGNING THIS PROPOSAL ON THE SIGNATURE PORTION THEREOF SHALL ALSO CONSTITUTE SIGNATURE OF THIS STATEMENT.

BIDDERS ARE CAUTIONED THAT MAKING A FALSE CERTIFICATION MAY SUBJECT THE CERTIFIER TO CRIMINAL PROSECUTION.

CONTRACTOR'S CERTIFICATE REGARDING WORKERS COMPENSATION

Labor Code section 3700 in relevant part provides:

"Every employer except the State shall secure the payment of compensation in one or more of the following ways:

- (a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this State.
- (b) By securing from the Director of Industrial Relations a *Certificate of Consent to Self-Insure*, either as an individual employer, or as one employer in a group of employers, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to be self-insured and to pay any compensation that may become due to his or her employees."

I am aware of the provisions of section 3700 of the Labor Code which require every employer to be insured against liability for workers compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this contract.

(Proper Name of Bidder)

By:

(Signature of bidder)

(Print/type signator's name)

(Print/type title)

(In accordance with Article 5 (commencing at §1860), Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any work under this contract.)

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____ as Principal, and _____ as Surety, are held and firmly bound unto the District, hereinafter called DISTRICT, in the penal sum of TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID of the Principal submitted to DISTRICT for the work described below for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted the accompanying bid dated _____, 20 _____, for

PALO VERDE COUNTY WATER DISTRICT – NORTH BOLTED TANK REPLACEMENT AND FILTER INSTALLATION PROJECT

NOW, THEREFORE, if the Principal shall not withdraw said bid within the period specified therein after the opening of the same, or, if no period be specified, within sixty (60) days after said opening, and if the Principal is awarded the contract, and shall within the period specified therefore, or, if no period be specified, within five (5) days after the prescribed forms are presented to it for signature, enter into the written contract with DISTRICT in accordance with the bid as accepted and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract and for the payment for labor and materials used for the performance of the contract, or in the event of the withdrawal of said bid within the period specified or the failure to enter into such contract and give such bonds within the time specified, if the Principal shall pay DISTRICT the difference between the amount specified in said bid and the amount for which DISTRICT may procure the required work and/or supplies, if the latter amount be in excess of the former; together with all costs incurred by DISTRICT in again calling for bids, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alterations or addition to the terms of the contract on the call for bids, or to the work to be performed thereunder, or the specifications accompanying the same, shall in anywise affect its obligation under this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of said contract or the call for bids, or to the work, or to the specifications.

In the event suit is brought upon this bond by DISTRICT and judgment is recovered, Surety shall pay all costs incurred by DISTRICT in such suit, including reasonable attorneys' fees to be fixed by the Court.

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

(Corporate Seal)

(Proper Name of Principal)

By:

(Signature)

(Print/type signator's name)

(Print/type title)

(Corporate Seal)

(Proper Name of Surety)

By:

(Signature)

(Print/type signator's name)

(Print/type title)

(Attached Attorney-In-Fact Certificate)

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

WHEREAS, the Palo Verde County Water District (hereinafter designated as "DISTRICT") by resolution passed _____, 20 _____, has awarded to hereinafter designated as the "Principal," a contract for the work described as follows:

PALO VERDE COUNTY WATER DISTRICT – NORTH BOLTED TANK REPLACEMENT AND FILTER INSTALLATIONPROJECT

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 DISTRICT in the penal sum of _____ Dollars (\$ _____), lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the above-bound Principal, and its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by and well and truly keep and perform the covenants, conditions and agreements in the said contract and any alteration thereof made by therein provided, on its 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 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 a virtue.

And Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to terms of the contract or to the work to be performed thereunder, or the specifications accompanying the same, shall in anywise affect its obligation 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 suit is brought upon this bond by DISTRICT and judgment is recovered, Surety shall pay all costs incurred by DISTRICT in such suit, including reasonable attorneys' fees, to be fixed by the Court.

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

(Attached Attorney-In-Fact Certificate)

(Principal)

By:

(Signature of Principal)

(Print/type signator's name)

(Print/type title)

(Surety)

By:

(Signature of Attorney-in-Fact)

(Print/type signator's name)

(Print/type title)

PAYMENT BOND FOR PUBLIC WORKS

KNOW ALL MEN BY THESE PRESENTS: That

WHEREAS, the Palo Verde County Water District (hereinafter designated as "DISTRICT") by resolution passed _____, 20_____, has awarded to _____ (hereinafter designated as "Principal"), a contract for the work described as follows:

PALO VERDE COUNTY WATER DISTRICT – NORTH BOLTED TANK REPLACEMENT AND FILTER INSTALLATIONPROJECT

WHEREAS, said Principal is required by Chapter 5 (commencing at § 3225) and Chapter 7 (commencing at § 3247). Title 15, Part 4, Division 3 of the California Civil Code to furnish a bond in connection with said contract;

NOW, THEREFORE, we, the Principal, and _____ as Surety, are held and firmly bound unto DISTRICT in the penal sum of _____ Dollars (\$_____), lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THE OBLIGATION IS SUCH that if said Principal, and its subcontractors, heirs, executors, administrators, successors, or assigns, shall fail to pay any of the persons named in section 3181 of the California Civil Code amounts due under the Unemployment Insurance Code with respect to work labor performed under the contract, or for any amount required to be deducted, withheld and paid over to the Franchise Tax Board from the wages of employees of the Contractor and his subcontractors pursuant to California Unemployment Insurance Code Section 13020, et seq., with respect to such work and labor, the Surety will pay for the same, in an amount not exceeding the sum hereinabove specified, and also, in case suit is brought upon this bond, reasonable attorneys' fees to be fixed by the Court.

This bond shall insure to the benefit of any of the persons named in section 3181 of the California Civil Code, so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition, alteration or modification in, to or of any contract, plans specifications, or agreement pertaining or relating to any scheme or work of improvements hereinabove described or pertaining or relating to the furnishing of labor, materials or equipment therefore, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement hereinabove described, nor by any rescission or attempted rescission of the contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover

on the bond, and that this bond be construed most strongly against Surety and in favor of all persons for whose benefit such bond is given and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the DISTRICT and Contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in section 3110 or section 3112 of the California Civil Code, and has not been paid the full amount of his or her claim, and that Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned.

IN WITNESS WHEREOF this instrument has been duly executed by the Principal and Surety above-named, on the _____ day of _____, 20 _____.

(Name of Principal)

(Print/type name of Surety)

(Signature of Surety)

(Print/type title signator's name)

(Print/type signator's title)

By:

Attorney-in-Fact

(Print/type name)

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GENERAL CONDITIONS

Article 1. DEFINITIONS

- (a) DISTRICT and Contractor are those mentioned as such in the Agreement. They are treated throughout the Agreement as if they are of singular number and neuter gender.
- (b) Subcontractor, as used herein, includes those having direct contract with Contractor and one who furnishes material work to a special design according to plans and specifications of this work, but does not include one who merely furnishes material not so worked.
- (c) Surety is the person, firm or corporation that executes as surety the *Contractor's Performance Bond and Payment Bond for the Public Works*.
- (d) Provide shall include "provide complete in place," that is, "furnish and install."
- (e) As Shown, As Indicated, As Detailed, refer to drawings accompanying these specifications.
- (f) Work of the Contractor or subcontractor includes labor or materials, or both.

Article 2. DRAWINGS AND SPECIFICATIONS

Contract Documents are complementary, and what is called for by one shall be as binding as if called for by all. The intention of documents is to include all labor and materials, equipment and transportation necessary for the proper execution of work. Materials or work described in words which so apply have a well-known technical or trade meaning, and shall be deemed to refer to such recognized standards.

Interpretations. Figured dimensions on drawings shall govern, but work not dimensioned shall be as directed. Work not particularly shown or specified shall be the same as similar parts that are shown or specified. Large-scale details shall take precedence over smaller scaled drawings as to shape and details of construction. Specifications shall govern as to materials, workmanship and installation procedures. Drawings and specifications are intended to be fully cooperative and to agree. However, if Contractor observes that drawings and specifications are in conflict, it shall promptly notify the Architect/Engineer in writing, and any necessary changes shall be adjusted as provided in the contract for changes in work.

Misunderstanding of drawings and specifications shall be clarified by the Architect/Engineer, whose decision shall be final.

Standards, Rules, and Regulations referred to are recognized printed standards, and shall be considered as one and a part of these specifications within limits specified.

Article 3. COPIES FURNISHED

Contractor will be furnished, free of charge, copies of drawings and specifications as set forth in *Article 64 - Special Conditions within General Conditions*. Additional copies may be obtained at cost of reproduction.

Article 4. OWNERSHIP OF DRAWINGS

All drawings, specifications and copies thereof furnished by DISTRICT are its property. They

are not to be used on other work, and, with exception of signed contract sets, are to be returned to DISTRICT on request at completion of work.

Article 5. DETAIL DRAWINGS AND INSTRUCTIONS

(a) In case of ambiguity, conflict, or lack of information, Architect/Engineer shall furnish with reasonable promptness additional instructions, by means of drawings or otherwise, necessary for proper execution of work. All such drawings and instructions shall be consistent with contract documents, true developments thereof, and reasonably inferable therefrom.

(b) Work shall be executed in conformity therewith, and Contractor shall do no work without proper drawings and instructions.

Article 6. TIME FOR COMPLETION AND DAMAGES FOR DELAY

(a) The Parties recognize that time is of the essence of the Agreement and that DISTRICT will suffer financial loss if the Work is not completed by the date set forth in paragraph 19.9 of the Information to Bidders section of this Agreement. The Parties also recognize the delays, expense and difficulties involved with proving in a legal proceeding the actual loss suffered by DISTRICT if the Work is not completed on time. Accordingly, instead of requiring any such proof, the Parties agree that as damages for delay (but not as a penalty), Contractor shall pay DISTRICT the sum of **one thousand dollars (\$1,000)** for each calendar day the Work remains uncompleted after the time specified in this article or any written extension, whichever is later. Contractor agrees that the damages are not manifestly unreasonable under the circumstances and agree that such sum is not intended as a penalty against Contractor.

Article 7. PROGRESS SCHEDULE

Immediately after being awarded contract, Contractor shall prepare an estimated progress schedule (using the Critical Path Method ("CPM") through a software program selected by DISTRICT but at Contractor's sole expense) and submit the schedule for DISTRICT's approval. Schedule shall indicate graphically the beginning and completion dates of all phases of construction. An updated progress schedule shall be submitted to DISTRICT on a monthly basis.

Article 8. CONTRACT SECURITY

Unless otherwise specified, Contractor shall furnish a surety bond in an amount equal to one hundred percent (100%) of the contract price as security for faithful performance of this contract, and shall furnish a separate bond in an amount equal to one hundred percent (100%) of the contract price as security for payment of persons performing labor and furnishing materials in connection with this contract. Aforesaid bonds shall be in form set forth in these contract documents. Upon request of Contractor, DISTRICT will consider and accept multiple sureties on such bonds. DISTRICT may reject at its discretion any bond issued by a surety that to DISTRICT's satisfaction does not have a sufficient bond rating or history as a surety in the State of California to assure adequate security to DISTRICT for the default of Contractor.

Article 9. ASSIGNMENT

Contractor shall not assign this contract or any part thereof without prior written consent of

DISTRICT. Any assignment of money due to or to become due under this contract shall be subject to a prior lien for services rendered or material supplied for performance of work called for under said contract in favor of all persons, firms, or corporations rendering such services or supplying such materials to the extent that claims are filed pursuant to the Civil Code, the Code of Civil Procedure, Public Contract Code and/or the Government Code.

Article 10. PROHIBITED INTERESTS

No official of DISTRICT who is authorized in such capacity and on behalf of DISTRICT to negotiate, make, accept or approve, or to take part in negotiating, making, accepting or approving, any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with construction or project shall become directly or indirectly interested financially in this contract or in any part thereof. No officer, employee, architect/engineer, attorney, engineer or inspector of or for DISTRICT who is authorized in such capacity and on behalf of DISTRICT to exercise any executive, supervisory or other similar functions in connection with construction of project shall become directly or indirectly interested financially in this contract or in any part thereof.

Article 11. SEPARATE CONTRACTS

DISTRICT reserves the right to let other contracts in connection with this work. Contractor shall afford other Contractors reasonable opportunity for introduction and storage of their materials and execution of their work and shall properly connect and coordinates its work with theirs.

If any part of Contractor's work depends for proper execution or results upon work of any other Contractor, the Contractor shall inspect and promptly report to Architect/Engineer any defects in such work that render it unsuitable for such proper execution and results. Contractor's failure so to inspect and report shall constitute its acceptance of other Contractor's work as fit and proper for reception of Contractor's work, except as to defects which may develop in other Contractor's work after execution of Contractor's work.

To insure proper execution of its subsequent work, Contractor shall measure and inspect work already in place, and shall at once report to Architect/Engineer any discrepancy between executed work and contract documents.

Contractor shall ascertain to its own satisfaction the scope of the project and nature of any other contracts that have been or may be awarded by DISTRICT in prosecution of the project to the end that Contractor may perform its contract in the light of such other contracts, if any. Nothing herein contained shall be interpreted as granting to Contractor exclusive occupancy at site of project. Contractor shall not cause any unnecessary hindrance or delay to any other Contractor working on project. If simultaneous execution of any contract for the project is likely to cause interference with performance of some other contract or contracts, DISTRICT shall decide which Contractor shall cease work temporarily and which Contractor shall continue or whether work can be coordinated so that Contractors may proceed simultaneously. DISTRICT shall not be responsible for any damages suffered or extra costs incurred by Contractor resulting directly or indirectly from award or performance or attempted performance of any other contract or contracts on project, or caused by any decision or omission of DISTRICT respecting the order of precedence in performance of contracts.

Article 12. SUBCONTRACTING

(a) Contractor agrees to bind every subcontractor by terms of the contract as far as such terms are applicable to subcontractor's work. If Contractor shall subcontract any part of this contract, Contractor shall be as fully responsible to DISTRICT for acts and omissions of Contractor's subcontractor and of persons either directly or indirectly employed by Contractor's subcontractor as it is for acts and omissions of persons directly employed by itself. Nothing contained in the contract documents shall create any contractual relation between any subcontractor and DISTRICT.

(b) DISTRICT's consent to or approval of any subcontractor under this contract shall not in any way relieve Contractor of its obligations under this contract, and no such consent or approval shall be deemed to waive any provision of this contract.

(c) Substitution or addition of subcontractors shall be permitted only as authorized by California Public Contract Code sections 4100, et seq.

(d) Contractor represents and warrants that it and its subcontractors are not ineligible to work for DISTRICT due to violations of Labor Code Sections 1777.1 and 1777.7.

Article 13. DEFAULTS & REMEDIES

(a) Default. In the event that (i) Contractor files a petition requesting relief under any bankruptcy act, or is adjudged as bankrupt, or makes a general assignment for the benefit of creditors or has a receiver appointed on account of its insolvency, or (ii) Contractor refuses or is unable, for whatever reason, to supply enough properly skilled workers or proper materials to complete the Project, or (iii) Contractor fails to follow the directions of DISTRICT, or (iv) Contractor fails to make prompt payment to its subcontractors and suppliers for materials or labor supplied or permits any lien to be imposed upon all or any portion of the Project, or (v) Contractor disregards any laws or orders of any public or private authority having jurisdiction over the Work or the Project, or (vi) Contractor fails to perform in accordance with any of the terms of this Agreement or breaches any provision of this Agreement, DISTRICT may give notice of such failure or breach to Contractor, identifying the failure or breach of this Agreement. Should any such failure or breach continue for twenty-four (24) hours after delivery of notice without a good faith effort on the part of Contractor to commence all necessary corrective action, or should such a breach continue despite Contractor's efforts for forty-eight (48) hours, then at that time such failure shall be deemed a default by Contractor under this Agreement and DISTRICT shall have all rights and remedies available at law or in equity, including the right to terminate this Agreement. Without limiting its rights and remedies, DISTRICT may then proceed as follows:

(1) Without terminating this Agreement or the obligations of Contractor hereunder as to all of the Work required to be performed or furnished by Contractor pursuant to this Agreement, DISTRICT may require Contractor, at Contractor's expense, to cure such default(s) as may exist in the performance of Contractor's obligations hereunder within forty-eight (48) hours after such default(s) has/have occurred including but not limited to repairing, replacing and correcting material or Work determined by DISTRICT to be defective or not complying with the requirements of this Agreement. Should Contractor fail to timely repair, replace and/or correct non-complying or defective materials and workmanship or otherwise cure its default(s) hereunder, and in the case of emergencies in which case DISTRICT may act

immediately if Contractor is not available or is not responding, and without further notice, DISTRICT may make required repairs, replacements and other corrections or otherwise remedy the default by Contractor pursuant to Paragraph (2) below.

(2) Without terminating this Agreement or the obligations of Contractor hereunder as to all of the Work required to be performed or furnished by Contractor pursuant to this Agreement, DISTRICT may engage another contractor to perform such portion of Contractor's Work required pursuant to this Agreement or furnish any materials or other items required hereunder as DISTRICT in its sole discretion may deem necessary to avoid delay in the progress of the Work, and in connection therewith, DISTRICT may perform such Work or any portion thereof itself or have the same performed by others and DISTRICT may procure all necessary materials, equipment or other items required for the continued progress of such Work. The costs incurred by DISTRICT as a result of engaging another Contractor shall be deducted from the compensation payable pursuant to this Agreement and if DISTRICT's costs exceed or may reasonably be anticipated to exceed the balance of the compensation due to Contractor for such work, such excess, or anticipated excess, shall be immediately due and owing from Contractor to DISTRICT and may be withheld from any funds due to Contractor pursuant to this Agreement or any other agreement.

(3) DISTRICT may terminate Contractor's right to perform upon written notice and DISTRICT shall then have the option of completing the Work or any portion thereof by exercise of its interest under the performance bond issued in favor by Contractor, or having such Work in whole or in part be completed by others for Contractor's account. A calculation shall take place at the conclusion of the Project wherein to the degree the sum of DISTRICT's costs and any amounts paid to complete the Project exceed the compensation payable pursuant to this Agreement, then any such excess shall be immediately due and owing from Contractor to DISTRICT.

(b) Damages. Contractor shall be liable for all damages suffered by DISTRICT by reason of Contractor's default in any provision of this Agreement and the exercise of DISTRICT of its option to terminate this Agreement shall not release Contractor of such liability. Contractor shall have no right to receive any further payment after a default has occurred until such time as the Work to be performed by Contractor pursuant hereto has been completed and accepted by DISTRICT and damages suffered by DISTRICT, if any, ascertained. Damages shall include by way of illustration, but not of exclusion, DISTRICT's costs of completing the Work which exceeds the compensation payable pursuant to this Agreement, other general, liquidated, special or consequential damages, attorney fees and costs.

(c) Actions After Default. Should DISTRICT exercise any of its options, remedies or rights granted pursuant to the terms of this Agreement in the event of a default by Contractor, DISTRICT at its sole election may, but shall not be obligated to, use any materials, supplies, tools or equipment on the work site which belong to CONTRACTOR to complete the Work required to be completed by Contractor, whether such work is completed by DISTRICT or by others, and Contractor agrees that it shall not remove such materials, supplies, tools and equipment from the work site unless directed in writing by DISTRICT to do so.

(d) Limit on Force Majeure Damages. Contractor shall not be responsible for repairing or restoring damage to work caused by an act of God, provided that the work damaged is built in accordance with accepted and applicable building/construction standards and the plans and specifications of DISTRICT. In the event of such damage, DISTRICT may, at its option, elect to terminate this Agreement. For purposes of this Agreement, an “act of God” shall be defined as an earthquake in excess of 3.5 on the Richter scale and a tidal wave.

(e) Resolution of Claims of Three Hundred Seventy-Five Thousand Dollars (\$375,000) or Less. For claims of three hundred seventy-five thousand dollars (\$375,000) or less, DISTRICT and Contractor agree to follow and comply with the mediation, arbitration, claim, civil action procedure and trial de novo provisions set forth in California Public Contracts Code §§20104, 20104.2 and 20104.4.

(f) No Limitation of Rights. The options and rights granted to DISTRICT herein shall not be deemed as limitations upon the other rights and remedies of DISTRICT in the event of a failure of performance or breach by Contractor, and DISTRICT shall be entitled to exercise the rights and remedies hereinabove specified and all other rights and remedies which may be provided in this Agreement or by law or in equity, either cumulatively or consecutively, and in such order as DISTRICT in its sole discretion shall determine.

Article 14. WARRANTIES

(a) One Year Warranty. Contractor agrees to provide a one-year warranty for all of its work and component parts and guarantees that all work shall be performed in a professional and workman-like manner and be free from defects. Contractor guarantees to timely correct all work performed by it under this Agreement which DISTRICT determines to be defective in design, material and/or workmanship within a period of one (1) year from the date of the completion of the Work. The warranties set forth in this Agreement shall be in addition to, and not in lieu of, all other statutory and case law warranties and obligations of Contractor. Contractor expressly agrees that all warranties made by Contractor, all obligations under this Agreement and all remedies for breach of such warranties shall survive this Agreement in the event it is terminated or expires for any reason prior to the running of the full warranty periods listed above.

(b) Materials. All materials furnished by Contractor shall be new, manufactured during the current year, of first quality and carrying full manufacturer’s warranty. Contractor shall be responsible for any expiration of manufacturer or other warranties of material or equipment being supplied for this Agreement. Contractor guarantees that all warranties of material and equipment shall become effective when the project is accepted by DISTRICT’s Board, not at time of installation by Contractor.

(c) Manufacturers’ Warranty Information. Contractor agrees to promptly provide such information and maintenance recommendations to DISTRICT at the inception of Contractor’s work to the extent such information is reasonably available. In the event of failure of Contractor to comply with above-mentioned conditions within one (1) week after being notified in writing, DISTRICT is hereby authorized to proceed to have defects repaired and made good at expense of Contractor, who hereby agrees to pay costs and charges therefore immediately on demand.

Article 15. NOTICES AND REPORTS

(a) All notices and reports under this Agreement shall be in writing and may be given by personal delivery or by mailing by certified mail, addressed as follows:

DISTRICT

Palo Verde County Water District
Attention: Office Manager
PO Box 185
Palo Verde, CA 92266

CONTRACTOR

Business Name:

Address:

(b) Notices and reports under this Agreement may be given by personal delivery or by mailing by certified mail at such other address as either Party may designate in a notice to the other Party given in such manner. Any notice given by mail shall be considered given when deposited in the United States Mail, postage prepaid, addressed as provided herein.

Article 16. WORKERS

(a) Contractor shall at all times enforce strict discipline and good order among its employees, and shall not employ on work any unfit person or anyone not skilled in work assigned to that person. Contractor shall at all times enforce rules and standards regarding sensitive information. Contractor shall not permit workers to touch or otherwise touch, read, review, copy or access any sensitive or confidential information. Contractor shall be responsible for any worker violating sensitive information standards.

(b) Any person in the employ of the Contractor whom DISTRICT may deem incompetent or unfit shall be dismissed from work, and shall not again be employed on it except with written consent of DISTRICT.

(c) Contractor shall provide DISTRICT with a list of all current employees. Contractor shall notify DISTRICT of all new employees one week prior to their start date.

(d) All Contractor's employees shall be required to comply with the work rules established for the project site; and shall be identified while on the premises by picture identification card furnished at his/her expense, indicating their name or number; and by shirt, blouse or smock indicating the company name or logo in print large enough to be easily read. Contractor's

employees shall have effective communication skills to perform such tasks and communicate with the DISTRICT and its representatives.

(e) It shall be the responsibility of Contractor to ensure all workers do not access sensitive information. DISTRICT shall have the right to perform a background check and clearance requirements of all workers that have access to sensitive information. Notwithstanding anything in this agreement to the contrary, the Contractor must comply with background check and clearance requirements of the California Department of Justice ("DOJ") and the California Department of Motor Vehicles ("DMV") relating to any Contractor employee who has physical access to any area which is either connected to, or contains records from, the DOJ criminal computer database, including without limitation, the California Law Enforcement Telecommunications System and the Criminal Offender Record Information or the DMV computer database (collectively, "the Databases"). If requested by the DISTRICT, the Contractor must provide to the DISTRICT suitable documentation evidencing the Contractor's compliance with the policies, practices and procedures of the DOJ and the DMV regarding background check and clearance requirements relating to access to the Databases.

Article 17. PREVAILING WAGE AND PAYROLL RECORDS

(a) Contractor agrees to comply with §§1775 and 1776 of the California Labor Code relating to the payment of prevailing wage and the maintenance of certified payroll records and to make the certified payroll records available for inspection at all reasonable hours at Contractor's principal office. For those Public Works Projects that are subject to the State Department of Industrial Relations (DIR), Division of Labor Standards Enforcement (DLSE) compliance monitoring and enforcement it is the Contractor's responsibility to submit certified payroll records directly to the state Compliance Monitoring Unit (CMU). More information concerning state compliance can be found at <http://www.dir.ca.gov/dlse/cmu/cmu.html>. The responsibility for compliance with these provisions is fixed with Contractor. Contractor understands and agrees that it shall, as a penalty to DISTRICT, forfeit specific monetary fines for each worker paid less than the prevailing wage rates as determined by the Labor Commissioner for the work or craft in which the worker is employed for any Work done pursuant to this Agreement.

(b) Notwithstanding paragraph (a), Contractor is not liable for any penalties pursuant to paragraph (a) when a subcontractor on the Project fails to pay its workers the general prevailing rate of per diem wages unless:

(1) Contractor had knowledge of that failure of the subcontractor to pay the specified prevailing rate of wages to those workers; or

(2) Contractor fails to comply with all of the following requirements:

(A) The contract executed between Contractor and the subcontractor for the performance of Work on the Project shall include a copy of the provisions of California Labor Code §§1771, 1775, 1776, 1777.5, 1813 and 1815; and

(B) Contractor shall monitor the payment of the specified general prevailing rate of per diem wages by the subcontractor to the employees, by periodic review of the certified payroll records of the subcontractor; and

(C) Upon becoming aware of the failure of the subcontractor to pay his or her workers the specified prevailing rate of wages, Contractor shall diligently take

corrective action to halt or rectify the failure, including, but not limited to, retaining sufficient funds due the subcontractor for work performed on the public works project; and

(D) Prior to making final payment to the subcontractor for Work performed on the Project, Contractor shall obtain an affidavit signed under penalty of perjury from the subcontractor that the subcontractor has paid the specified general prevailing rate of per diem wages to his or her employees on the Project and any amounts due pursuant to California Labor Code §1813.

(c) See Instruction for Bidders for additional/supplemental requirements.

Article 18. APPRENTICES

(a) Contractor agrees to comply with Sections 1777.5, 1777.6 and 1777.7 of the California Labor Code relating to the employment of apprentices and to provide DISTRICT with copies of any contract award information and verified statements of the journeyman and apprentice hours performed pursuant to this Agreement as required by §1777.5(e). The responsibility for compliance with these provisions is fixed with Contractor for all apprenticeable occupations, where journeymen in the craft are employed on the public work, in a ratio of not less than one (1) apprentice for each five (5) journeymen (unless an exemption is granted in accordance with §1777.5) and Contractor and its subcontractors shall not discriminate among otherwise qualified employees as indentured apprentices on any public work solely on the ground of race, religious creed, color, national origin, ancestry, sex, or age, except as provided in California Labor Code §3077. Only apprentices, as defined in California Labor Code §3077, who are in training under apprenticeship standards and who have signed written apprentice agreements will be employed on public works in apprenticeable occupations. This section shall not be enforced if the not-to-exceed amount of this Agreement is less than thirty thousand dollars (\$30,000).

(b) If the Project falls within the jurisdiction of California Labor Code §1777.5, DISTRICT shall, within five (5) days of the award, send a copy of the award to the Division of Apprenticeship Standards. In addition, DISTRICT shall notify the Division of Apprenticeship Standards of a finding of any discrepancy regarding the ratio of apprentices to journeymen within five (5) days of the finding.

(c) See Instruction for Bidders for additional/supplemental requirements.

Article 19. HOURS OF WORK

Contractor agrees to comply with §§1810 through 1815 of the California Labor Code and, when applicable, the Contract Work Hours and Safety Standards Act (40 USC §327 et seq.; 29 CFR Part 5) which provide that Contractor's workers and its subcontractor's workers may not be required or permitted to work more than eight (8) hours in any one (1) calendar day and forty (40) hours in any one (1) calendar week. Further, work performed by employees of Contractor or its subcontractor in excess of eight (8) hours per day, and forty (40) hours during any one (1) week, shall be compensated for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1½) times the basic rate of pay. The responsibility for compliance with these provisions is fixed with Contractor. Contractor understands and agrees that it shall, as a penalty to DISTRICT, forfeit specific monetary fines to DISTRICT should Contractor or its subcontractors fail to comply with the provisions contained within this paragraph.

Article 20. INSURANCE COVERAGES

(a) Contractor hereby agrees at its own cost and expense to procure and maintain, during the entire term of this Agreement and any extended term therefore, insurance in a sum acceptable to DISTRICT and adequate to cover potential liabilities arising in connection with the performance of this Agreement and in any event not less than the minimum limit set forth as follows:

<u>Insurance</u>	<u>Minimum Limit</u>
<u>Risk of Loss</u>	To Be Determined by Scope of Work
<u>Worker's Compensation, Coverage A</u>	Statutory
<u>Employers Liability, Coverage B</u>	\$1,000,000.00 per accident for bodily injury or disease.

Commercial General Liability Including Contractual Liability

Operations, Products and Completed Operations:

Personal/Bodily Injury	\$ 2,000,000.00 / occurrence \$ 5,000,000.00 / aggregate
Property Damage	\$ 2,000,000.00 / occurrence \$ 5,000,000.00 / aggregate

Commercial Automobile Liability
(owned, hired & non-owned vehicles)

Personal/Bodily Injury & Property Damage	\$1,000,000.00
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Unemployment Insurance	To Be Determined by Scope of Work
Disability Insurance	To Be Determined by Scope of Work
Liability Insurance	To Be Determined by Scope of Work

Article 21. SPECIAL INSURANCE REQUIREMENTS

(a) All insurance required under Article 20 shall:

- (1) Be procured from an insurer authorized to do business in California.
- (2) Be primary coverage as respects DISTRICT and any insurance or self-insurance maintained by DISTRICT shall be in excess of Contractor's insurance coverage and shall not contribute to it.
- (3) Name DISTRICT as an additional insured on all policies, except Workers' Compensation, and provide that DISTRICT may recover for any loss suffered by DISTRICT by reason of Contractor's negligence.
- (4) State that it is primary insurance and regards DISTRICT as an additional insured and contains a cross-liability or severability of interest clause.
- (5) Not be canceled, non-renewed or reduced in scope of coverage until after thirty

(30) days written notice has been given to DISTRICT. However, Contractor may not terminate such coverage until it provides DISTRICT with proof that equal or better insurance has been secured and is in place. Cancellation or change without the prior written consent of DISTRICT shall, at the option of DISTRICT, be grounds for termination of this Agreement.

(b) Additional Insurance Requirements.

(1) Complete copies of certificates of insurance for all required coverages including additional insured endorsements and 30-day notice of cancellation clause endorsements shall be attached hereto as Exhibit C and incorporated herein as though fully set forth.

(2) DISTRICT is to be notified immediately of all insurance claims. DISTRICT is also to be notified if any aggregate insurance limit is exceeded.

(c) Nothing in this, or any other provision of this Agreement, shall be construed to preclude Contractor from obtaining and maintaining any additional insurance policies in addition to those required pursuant to this Agreement.

Article 22. INSURANCE ENDORSEMENTS, CLAUSES & INFORMATION

(a) The comprehensive/commercial general liability insurance shall contain a provision of endorsements stating that such insurance:

(1) Includes contractual liability.

(2) Does not contain a "pro rata" provision which looks to limit the insurer's liability to the total proportion that its policy limits bear to the total coverage available to the insured.

(3) Does not contain an "excess only" clause which requires the exhaustion of other insurance prior to providing coverage.

(4) Does not contain an "escape clause" which extinguishes the insurer's liability if the loss is covered by other insurance.

(5) Includes DISTRICT, architect/engineer and the construction manager as an additional insured.

(6) States that it is primary insurance and regards DISTRICT as an additional insured and contains a cross-liability or severability of interest clause.

(7) Does not contain any exclusion as to loss or damage to property caused by explosion or resulting from collapse of buildings or structures or damage to property underground, commonly referred to by insurers as the "XCU Hazards."

(b) Certificates and insurance policies shall include the following clause; "This policy shall not be canceled or reduced in required limits of liability or amount of insurance until notice has been mailed to DISTRICT stating date of cancellation or reduction. Date of cancellation

may not be less than thirty (30) days after date of mailing notice."

(c) Certificates of insurance shall state, in particular, those insured, extent of insurance, location and operation to which insurance applies, expiration date, and cancellation and reduction notice.

Article 23. PROOF OF INSURANCE

Contractor shall not commence work nor shall it allow any subcontractor to commence work under this Agreement until Contractor has obtained all required insurance, certificates and endorsements, including but not limited to, Additional Insured Endorsements and 30 days Notice of Cancellation Clause endorsements have been delivered in duplicate to and approved by DISTRICT. The above referenced insurance documents must be received by DISTRICT on or before the effective date of this Agreement and shall be sent to the following address:

Palo Verde County Water District
Attention: Director
PO Box 185
Palo Verde, CA 92226

Article 24. CHOICE OF LAW

The laws of the State of California shall govern this Agreement. This Agreement is made and entered into in Imperial County, California. Any action brought by either Party with respect to this Agreement shall be brought in a court of competent jurisdiction within said County.

Article 25. PERMITS AND LICENSES

Permits and licenses necessary for prosecution of work shall be secured and paid for by Contractor, unless otherwise specified.

Article 26. EASEMENTS

Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by DISTRICT, unless otherwise specified.

Article 27. SURVEYS

Surveys to determine location of property lines and corners will be supplied by Contractor. Surveys to determine locations of construction, grading and site work shall be provided by Contractor.

Article 28. EXCISE TAXES

If under federal excise tax law any transaction hereunder constitutes a sale on which a federal excise tax is imposed and the sale is exempt from such excise tax because it is a sale to a state or local government for its exclusive use, DISTRICT, upon request, will execute a certificate of exemption which will certify: (a) that DISTRICT is a political subdivision of the state for the purpose of such exemption; and (b) that the sale is for the exclusive use of DISTRICT. No excise tax for such materials shall be included in any bid price.

Article 29. PATENTS AND ROYALTIES

Contractor shall hold and save DISTRICT and its officers, agents and employees harmless

from liability of any nature or kind, including cost and expense, for or on account of any patented or unpatented invention, process, article or appliance manufactured or used in the performance of this contract, including its use by DISTRICT, unless otherwise specifically stipulated in the contract documents.

Article 30. MATERIALS

Except as otherwise specifically stated in this contract, Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary constructions of every nature, and all other services and facilities of every nature whatsoever necessary to execute and complete this contract within the specified time.

Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of good quality.

Materials shall be furnished in ample quantities and at such times as to insure uninterrupted progress of work, and shall be stored properly and protected as required. Contractor shall be entirely responsible for damage or loss by weather or other causes to materials or work under this contract. No material, supplies or equipment for work under this contract shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest herein or in any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies and equipment installed or incorporated in work, and agrees upon completion of all work to deliver premises, together with all improvements and appurtenances constructed or placed thereon by Contractor, to DISTRICT free from any claims, liens or charges. Contractor further agrees that neither Contractor nor any person, firm or corporation furnishing materials or labor for any work covered by this contract shall have any right to lien upon premises or any improvement or appurtenance thereon, except that Contractor may install metering devices or other equipment of utility companies or of political subdivisions title to which is commonly retained by utility company or political subdivision. In event of installation of any such metering device or equipment, Contractor shall advise DISTRICT as to owner thereof. Nothing contained in this Article, however, shall defeat or impair the right of persons furnishing material or labor under any bond given by Contractor for their protection or any rights under any law permitting such persons to look to funds due Contractor in hands of DISTRICT, and this provision shall be inserted in all subcontracts and material contracts, and notice of its provisions shall be given to all persons furnishing material for work when no formal contract is entered into for such material.

See Technical Specifications for material requirements.

Article 31. SUBSTITUTIONS

Whenever specifications for any material, product, thing, service, or process is indicated or specified by grade, patent or propriety name or by name of manufacturer, such specifications shall be deemed to be used for the purpose of facilitating the description of material, product, thing, service, or process desired, and shall be deemed to be followed by the words "or equal", and Contractor may, unless otherwise stated, offer any material, product, thing, service or process which shall be equal or better in every respect to that so indicated or specified. If the material, product, thing, service, or process offered by Contractor is not, in the opinion of DISTRICT and Architect/Engineer, equal or better in every respect to that

specified, then Contractor shall furnish the material, product, thing, service, or process specified. The burden of proof as to equality of any material, product, thing, service, or process shall rest with Contractor. Contractor shall only be authorized to substitute any designated material, product, thing, service or process required under this contract if such request, together with substantiating data for substitution of an "or equal" item is timely submitted in accordance with the Calendar of Events set forth under section 19 of the "INFORMATION FOR BIDDERS" form and approval thereof is authorized in writing by DISTRICT within the time frame set forth under Public Contract Code section 4104.5(a). Notwithstanding, in the event CONTRACTOR discovers after the stated substitution request filing deadline that a designated material, product, thing, service or process is no longer available and/or the use of the same is necessary to complete the project, CONTRACTOR may within thirty (35) days after award of the contract submit a "late substitution request", together with substantiating data for substitution of an "or equal" item for DISTRICT's review and consideration. However, DISTRICT shall have the sole discretion in granting such a late substitution request and shall not be required to accept the same even if the material, product, thing, service or process is equal or better in every respect.

It should be emphasized that a Contractor's request to substitute an "equal" material, product, thing or service for one designated in the contract specifications and/or DISTRICT's subsequent written approval thereof, shall not in any way authorize an extension of time for performance of this contract. Moreover, in event Contractor furnishes a material, product, thing or service that is more expensive than that specified, the difference in cost of such material, product, thing, service or process, so furnished shall be borne solely by Contractor.

Article 32. SHOP DRAWINGS

Contractor shall check and verify all field measurements, and shall submit with such promptness as to cause no delay in Contractor's own work or in that of any other Contractor three (3) copies, checked and approved by Contractor, of all shop or setting drawings, schedules and materials lists required for the work of various trades. Architect/Engineer shall check and approve within ten (10) working days such schedules and drawings only for conformance with design concept of project, and compliance with information given in contract documents. Contractor shall make any corrections required by Architect/Engineer; file with Architect/Engineer three (3) corrected copies, and furnish such other copies as may be needed for construction. Architect/Engineer's approval of such drawings or schedules shall not relieve Contractor from responsibility for deviations from drawings or specifications unless Contractor has in writing called Architect/Engineer's attention to such deviations at time of submission and secured Architect/Engineer's written approval, nor shall it relieve Contractor from responsibility for errors in shop drawings or schedule.

Article 33. SAMPLES

Contractor shall furnish for approval, within ten (10) days following award of contract, all samples as required in specifications together with catalogs and supporting data required by Architect/Engineer. This provision shall not authorize any extension of time for performance of this contract. Architect/Engineer will check and approve such samples, within five (5) working days from receipt of same, only for conformance with design concept of work and for compliance with information given in contract documents. Work shall be in accordance

with approved samples.

Article 34. COST BREAKDOWN AND PERIODICAL ESTIMATES

Contractor shall furnish on forms provided by DISTRICT:

(a) Within ten (10) days of award of contract, a detailed estimate giving complete breakdown of contract price.

(b) A periodical itemized estimate of work done for purpose of making partial payments thereon.

(c) Within ten (10) days of request by DISTRICT, a schedule of estimated monthly payments which shall be due Contractor under the contract.

Values employed in making up any of these schedules will be used only for determining basis of partial payments, and will not be considered as fixing a basis for additions to or deductions from contract price.

Article 35. PAYMENTS

(a) Each month, within fifteen (15) days after receipt of approved periodical estimate for partial payment, there shall be paid to Contractor a sum equal to ninety five percent (95%) of value of work performed up to last day of previous month, less aggregate of previous payments. Monthly payments shall be made only on basis of monthly estimates which shall be prepared by Contractor on a form approved by DISTRICT and filed before the fifth (5th) day of month during which payment is to be made. Work completed as estimated shall be an estimate only, and no inaccuracy or error in said estimate shall operate to release Contractor or any bondsman from damages arising from such work or from enforcing each and every provision of this contract, and DISTRICT shall have the right subsequently to correct any error made in any estimate for payment. Contractor shall not be entitled to have any payment estimates processed or be entitled to have any payment made for work performed so long as any lawful or proper direction concerning work, or any portion thereof given by DISTRICT or Architect/Engineer, shall remain uncomplished. The final payment of five percent (5%) of the value of work done under this contract, if unencumbered, shall be made thirty-five (35) days after acceptance of work by DISTRICT. Acceptance will be made only by action of the Board in session. Acceptance by Contractor of said final payment shall constitute a waiver of all claims against DISTRICT arising from this contract. At any time after fifty percent (50%) of the work has been completed, if DISTRICT, by action of its governing body, finds that satisfactory progress is being made, DISTRICT may make any of the remaining payments in full on actual work completed or may withhold any amount up to five percent (5%) thereof as DISTRICT may find appropriate based on the Contractor's progress.

(b) Contractor may elect to substitute or execute an escrow agreement (in the form prescribed by the Public Contracts Code) in place of retained funds held by DISTRICT pursuant to Public Contract Code Section 22300.

(c) DISTRICT shall pay interest at the legal rate set forth in Code of Civil Procedure 685.010 in the event payment is not made within thirty (30) days of an undisputed properly submitted request.

Article 36. PAYMENT WITHHELD

In addition to amount which DISTRICT may retain under article entitled "Payments," DISTRICT may withhold a sufficient amount of amounts of any payment or payments otherwise due to Contractor, as in DISTRICT's judgment may be necessary to cover:

- (a) Payments which may be past due and payable for just claims against Contractor or any subcontractors for labor or materials furnished in and about the performance of work on the project under this contract.
- (b) Defective work not remedied.
- (c) Failure of Contractor to make proper payments to subcontractors or for material or labor.
- (d) Completion of contract, if there exists a reasonable doubt that contract can be completed for balance then unpaid.
- (e) Damage to another Contractor.

When the above grounds are removed, payment shall be made for amounts withheld because of them.

DISTRICT may apply such withheld amount to payment of such claims or obligations at DISTRICT's discretion. In so doing, DISTRICT shall be deemed the agent of Contractor, and any payment so made by DISTRICT shall be considered as a payment made under contract by DISTRICT to Contractor, and DISTRICT shall not be liable to Contractor for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligations. DISTRICT will render Contractor a proper accounting of such funds disbursed on behalf of Contractor.

Article 37. CHANGES AND EXTRA WORK

All change orders shall be subject to the Public Contract Code, including but not limited to Sections 20137 and 20142, et seq.

(a) Change Orders. Contractor shall make no changes to the Work to be performed pursuant to this Agreement, including but not limited to additions, deletions, modifications or substitutions, nor shall Contractor perform any extra work (collectively, "Change Order Work") without the prior written consent of DISTRICT. If Contractor encounters conditions it considers different from those described in Exhibit A to this Agreement, Contractor may request a change order in conformance with DISTRICT's standard procedure ("Change Order"). If DISTRICT approves the request, Contractor will execute a Change Order and Contractor's execution of the Change Order shall confirm approval thereof. DISTRICT may order additional work, and Contractor shall perform such changes in the Work as directed by DISTRICT in any Change

Order prepared by Contractor. DISTRICT's rights to eliminate portions of the Work or to initiate a Change Order shall not be limited in any way. The Change Order shall be in writing and shall include:

(A) Any and all supporting documents and drawings depicting the source and location of the desired change, and explain in detail the field conditions and reasons for the requested change;

(B) Any change or adjustment to the compensation set forth in this Agreement in Article 3 as a result of changes in the Work based on a lump sum or time and material basis, as may be directed by DISTRICT; and

(C) Any request for adjustments to time for completion of the Project.

(b) Payment for Change Order Work. Contractor shall not be entitled to receive any compensation for work, labor, materials or changes of any kind, regardless of whether ordered by DISTRICT or any of its representatives, unless a Change Order has been submitted in writing and approved prior to the commencement of any Change Order Work as described above. If the changes are required by any inspecting governmental agencies or utility companies, or are otherwise required to comply with any codes, laws, rules or regulations, including those set forth in this Agreement, then Contractor shall not be entitled to any increases in the compensation set forth in this Agreement at Article 3 or other compensation as a result of the changes.

(c) Disputed Change Order Work. Any dispute concerning the performance of such Change Order Work or the amount of compensation to be paid to Contractor by DISTRICT shall not affect Contractor's obligation to perform such Change Order Work. Contractor agrees that it shall timely complete all Change Order Work even if there shall be a dispute between Contractor and DISTRICT over the amount or scope of the Change Order Work. Contractor shall have the right to be compensated for any undisputed Change Order Work amounts as determined to be undisputed in DISTRICT's sole discretion.

(d) Authorized Representative. No Change Order shall be valid or binding against DISTRICT unless such Change Order has been executed by DISTRICT's designated representative. DISTRICT shall notify Contractor in writing if the designated representative is changed. The authority to execute a Change Order on this project shall not exceed the amount allowed by law pursuant to Government Code sections 20137-20142 *et seq.*

Article 38. DEDUCTIONS FOR UNCORRECTED WORK

If DISTRICT deems it inexpedient to correct work injured or done not in accordance with contract, an equitable deduction from contract price shall be made therefore.

Article 39. PAYMENTS BY CONTRACTOR

Contractor shall pay:

(a) For all transportation and utility services not later than the twentieth (20th) day of the calendar month following that in which such services are rendered;

(b) For all materials, tools and other expendable equipment to the extent of ninety five percent (95%) of cost thereof, not later than the twentieth (20th) day of the calendar month following that in which such materials, tools and equipment are delivered at site of project

and balance of cost thereof not later than the thirtieth (30th) day following completion of that part of the work in or on which such materials, tools and equipment are incorporated or used; and

(c) To each of Contractor's subcontractors, not later than the fifth (5th) day following each payment to Contractor; the respective amounts allowed Contractor on account of work performed by respective subcontractor to the extent of such subcontractor's interest therein.

Article 40. CONTRACTOR'S SUPERVISION

Unless personally present on premises where work is being done, Contractor shall keep on the work, during its progress, a competent superintendent satisfactory to DISTRICT.

Contractor represents and warrants that any superintendent, employee, sub-contractor and agent who will be performing any of the duties and obligations of Contractor herein possess all required licenses and authorities, as well as the experience, training, and communication skills to perform such tasks and communicate with the DISTRICT and its representatives.

Superintendent shall not be changed except with consent of DISTRICT unless superintendent proves to be unsatisfactory to Contractor and ceases to be in his employ. Superintendent shall represent Contractor in Contractor's absence, and all directions given to superintendent shall be as binding as if given to Contractor. Other directions shall be so confirmed in written request in each case.

Contractor shall give efficient supervision to work, using Contractor's best skill and attention. Contractor shall carefully study and compare all drawings, specifications and other instructions, and shall at once report to Architect/Engineer any error, inconsistency or omission which Contractor may discover.

Article 41. INSPECTOR'S FIELD OFFICE (N/A)

~~Contractor shall provide for use of DISTRICT and its representative during construction working hours a temporary office of not less than seventy-five (75) square feet of floor area to be located as directed by DISTRICT and its representative and to be maintained until removal is authorized by DISTRICT and its representative. Office shall be of substantial waterproof construction with adequate natural light and ventilation by means of stock design windows. Door shall have a key, type walk or padlock hasp.~~

~~A table satisfactory for study of plans and two chairs shall be provided by Contractor. Contractor shall provide and pay for adequate electric lights, local telephone service, and adequate air conditioning and heating for the field office until authorized removal.~~

Article 42. DOCUMENTS ON WORK

Contractor shall keep one copy of all contract documents, including addenda and change orders which are a part of contract documents, on job at all times. Said documents shall be kept in good order and available to Architect/Engineer representatives. Contractor shall be acquainted with and comply with all California Administrative Code provisions relating to this project, including, but not limited to, Title 19.

Article 43. UTILITIES AND RELOCATION

(a) All utilities, including, but not limited to, electricity, water, gas and telephone used on work, shall be furnished and paid for by Contractor. Contractor shall furnish and install necessary temporary distribution systems, including meters if necessary, from distribution points to points on site where utility is necessary to carry on the work. Upon completion of work, Contractor shall remove all temporary systems.

If contract is for addition to existing facility, Contractor may, with written permission of DISTRICT, use DISTRICT's existing utilities by making prearranged payments to DISTRICT for utilities used by Contractor for construction.

(b) Contractor shall not be assessed damages for delay in completion of the project when such delay was caused by the failure of the awarding authority of this contract or the owner of the utility to provide for removal or relocation of the existing main or trunkline utility facilities; however, when the Contractor is aware that removal or relocation of an existing utility has not been provided for, Contractor shall promptly notify the awarding authority and the utility in writing, so that provision for such removal or relocation may be made to avoid and minimize any delay which might be caused by the failure to remove or relocate the main or trunkline utility facilities, or to provide for its removal or relocation.

In accordance with section 4215 of the Government Code, if the Contractor, while performing the contract, discovers any existing main or trunkline utility facilities not identified by the public agency in the contract plans or specifications, Contractor shall immediately notify the public agency and utility in writing. The public utility, where they are the owner, shall have the sole discretion to perform repairs or relocation work at a reasonable price. The Contractor shall be compensated for the costs of locating and repairing damage not due to the failure of the Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the plans and specification with reasonable accuracy and for equipment on the project necessarily idled during such work. Such compensation shall be in accordance with the extra work provisions set out at Article 37 hereof.

Article 44. SANITARY FACILITIES

Contractor shall provide a sanitary, temporary, portable toilet facility as directed by the DISTRICT and its representative for the use of all workers. The building shall be maintained in a sanitary condition at all times, and shall be left at the site until removal is directed by the DISTRICT and its representative.

Article 45. TRENCHES

(a) Trenching Requirements – Four Feet (4') Below the Surface. In the event the Project involves digging trenches or other excavations that extend deeper than four feet (4') below the surface, Contractor shall:

(1). Promptly, and before the following conditions are disturbed, notify DISTRICT, in writing, of any:

A. Material that Contractor believes may be material that is hazardous waste, as defined in Health & Safety Code §25117, 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 by information about the site made available to bidders prior to the deadline for submitting bids; and

C. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Agreement.

(2) In response to any written notice generated pursuant to paragraph (a) above, DISTRICT shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, shall issue a change order under the procedures described in paragraph 37 of the General Conditions.

(3) In the event that a dispute arises between DISTRICT and Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in Contractor's cost of, or time required for, performance of any part of the Work, Contractor shall not be excused from any scheduled completion date provided for by this Agreement, but shall proceed with all Work to be performed under this Agreement. 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 Parties.

(b) Trenching Requirements – Project in Excess of Twenty-Five Thousand Dollars (\$25,000) and Five Feet (5') Below the Surface. For projects involving both an estimated expenditure in excess of twenty-five thousand dollars (\$25,000) and the excavation of any trench five feet (5') or more in depth, Contractor shall submit 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. The plan must be accepted by DISTRICT (or by a registered civil or structural engineer, employed by DISTRICT, to whom authority to accept has been delegated) in advance of excavation. If such plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer. Nothing in this paragraph shall allow Contractor to use a shoring, sloping, or protective system less effective than that required by California Construction Safety Orders. Further, nothing in this paragraph shall be construed to impose tort liability on DISTRICT or any of its employees.

Article 46. PROTECTION OF WORK AND PROPERTY

Contractor shall be responsible for all damages to persons or property that occur as a result of Contractor's fault or negligence in connection with the prosecution of this contract, and shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance by DISTRICT. All work shall be solely at Contractor's risk. Contractor shall adequately protect adjacent property from settlement or loss of lateral support as provided by law and contract documents. Contractor shall take all necessary precautions for safety of employees on the work, and shall comply with all applicable safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to premises where work is being performed. Contractor shall erect and properly maintain, at all times, as required by conditions and progress of work, all necessary safeguards, signs, barriers, lights and watchmen for protection of workers and the public, and shall post danger signs warning against hazards created by such features in the course of construction. Contractor shall designate a responsible member of its organization on the work, whose duty shall be prevention of accidents. Name and position of person so

designated shall be reported to DISTRICT by Contractor.

In an emergency affecting safety of life or of work or of adjoining property, Contractor, without special instruction or authorization from DISTRICT and its representative, is hereby permitted to act, at Contractor's discretion, to prevent such threatened loss or injury, and Contractor shall so act, without appeal, if so authorized or instructed by DISTRICT and its representative. Any compensation claimed by Contractor on account of emergency work shall be determined by agreement.

Contractor shall provide such heat, covering and enclosures as are necessary to protect all work, materials, equipment, appliances and tools against damage by weather conditions. Contractor shall take adequate precautions to protect existing sidewalks, curbs, pavements, utilities, adjoining property and structures, and to avoid damage thereto, and repair any damage thereto caused by construction operations.

Contractor shall:

Enclose working area with a substantial dust reducing barrier and public safety barricade, and arrange work to cause minimum amount of inconvenience to public and DISTRICT Staff in their regular business activities.

Provide substantial barricades around any shrubs or trees indicated to be preserved.

Deliver materials to building area over route designated by Architect/Engineer.

When directed by DISTRICT, take preventative measures to eliminate objectionable dust.

Confine Contractor's apparatus, the storage of materials, and the operations of workers to limits indicated by law, ordinances, permits or directions of Architect/Engineer, and shall not unreasonably encumber premises with materials, and enforce all instructions of DISTRICT and Architect/Engineer regarding signs, advertising, fires, danger signals, barricades and smoking, and require that all persons employed on work comply with all regulations while on construction site. Hazardous materials of any kind are not allowed on site, without prior written approval from DISTRICT.

Take care to prevent disturbing or covering any survey markers, monuments or other devices marking property boundaries or corners. If such markers are disturbed by accident, they shall be replaced by a California-licensed Land Surveyor or Registered Civil Engineer authorized to practice land surveying at no cost to DISTRICT.

Article 47. LAY OUT AND FIELD ENGINEERING

All field engineering required for laying out Contractor's work and establishing grades for earthwork operations shall be furnished by Contractor at Contractor's expenses. Such work shall be done by a qualified civil engineer approved by Architect/Engineer. Any required "As-Built" drawings of site development shall be prepared by the approved civil engineer.

Article 48. CUTTING AND PATCHING

Contractor shall do all cutting, fitting or patching of work as required to make its several parts come together properly and fit it to receive or received by work of other Contractors showing upon, or reasonably implied by, the drawings and specifications for the completed structure, and Contractor shall make good after them as Architect/Engineer may direct. Contractor shall not endanger any work by cutting, excavating or otherwise altering work, and shall not cut or alter work of any other Contractor save with consent of Architect/Engineer.

Article 49. CLEANING UP

Contractor at all times shall keep premises free from debris such as waste, rubbish and excess materials and equipment caused by work; debris shall be removed from premises. Contractor shall not leave debris under, in or about the premises. Upon completion of work, Contractor shall clean any areas where debris has collected. Contractor shall remove temporary fencing, barricades and any temporary facilities from site.

Article 50. CORRECTION OF WORK

Contractor shall promptly remove from premises all work determined by DISTRICT as failing to conform to contract, whether incorporated or not. Contractor shall promptly replace and re-execute his own work to comply with contract documents without additional expense to DISTRICT, and shall bear the expense of making good all work of other Contractors destroyed or damaged by such removal or replacement.

If Contractor does not remove such work and materials within a reasonable time, fixed by written notice, DISTRICT may remove the work and materials and may store the material at Contractor's expense. If Contractor does not pay expenses of such removal within ten (10) days' time thereafter, DISTRICT may liquidate such work and materials upon private sale, and shall account for net proceeds thereof, after deducting all costs and expenses that should have been borne by Contractor.

Article 51. ACCESS TO WORK

DISTRICT and its representative shall at all times have access to work wherever it is in preparation or progress. Contractor shall provide safe and proper facilities for such access so that DISTRICT's representative may perform their functions under contract.

Article 52. OCCUPANCY

DISTRICT reserves the right to occupy buildings at any time before completion, and such occupancy shall not constitute final acceptance of any part of work covered by this contract.

Article 53. DISTRICT'S INSPECTOR

DISTRICT may assign a representative to oversee work. Such representative shall have access to Inspector's Field Office and shall be fully informed of all progress and manner of work and character of materials. Representative shall have authority to stop work whenever provisions of the contract documents are not being complied with and Contractor shall instruct Contractor's employees accordingly.

All work shall be under observation of said DISTRICT and its representative. Such personnel shall have free access to any or all parts of work at any time. Contractor shall furnish DISTRICT and its representative reasonable facilities "Inspector's Field Office" for obtaining

such information as may be necessary to keep DISTRICT and its representative fully informed respecting progress and manner of work and character of materials. Inspection of work shall not relieve Contractor from any obligation to fulfill Contractor's contract. DISTRICT and its representative shall have authority to stop work whenever provisions of contract documents are not being complied with, and Contractor shall instruct Contractor's employees accordingly.

Article 54. TESTS AND INSPECTIONS

If contract, DISTRICT's instructions, laws, ordinances or any public authority require any work to be specially tested or approved, Contractor shall give notice in accordance with such authority of its readiness for observation or inspection at least two (2) working days prior to being tested or covered up. If inspection is by authority other than DISTRICT, Contractor shall inform DISTRICT of the date fixed for such inspection. Required certificates of inspection shall be secured by Contractor. Observations by DISTRICT, its representative and other public authority shall be promptly made, and where practicable, at source of supply. If any work should be covered up without approval or consent of DISTRICT, its representative and public authority, it must, if required by DISTRICT, its representative and public authority, be uncovered for examination and satisfactorily reconstruction at Contractor's expenses in compliance with contract.

Costs of tests of any material found to be not in compliance with contract shall be paid for by Contractor.

See Technical Specifications for materials to be tested.

Where such inspection and testing are to be conducted by an independent laboratory or agency, such materials or samples of materials to be tested shall be selected by such laboratory or agency or DISTRICT's representative, and not by Contractor.

Contractor shall notify DISTRICT a sufficient time in advance of manufacture of materials to be supplied by Contractor under contract which must by terms of contract be tested, in order that DISTRICT may arrange for testing of same at source of supply. Any materials shipped by Contractor from source of supply prior to having satisfactorily passed such testing and inspection, or prior to receipt of notice from said representative that such testing and inspection will not be required, shall not be incorporated in work without prior approval of DISTRICT and subsequent testing and inspection.

Re-examination of questioned work may be ordered by DISTRICT, and, if so ordered, work must be uncovered by Contractor. If such work be found in accordance with contract documents, DISTRICT shall pay costs of re-examination and replacement. If such work be found not in accordance with contract documents, Contractor shall pay such costs.

Article 55. SOILS INVESTIGATION REPORT

~~When a soils investigation report obtained from test holes in site is available, such report shall not be part of this contract. Any information obtained from such report or any information given on drawings as to subsurface soil condition or to elevations of existing grades or elevations of underlying rock is approximate only and is not guaranteed, and does not form a part of the contract. Contractor is required to make a visual examination of site,~~

~~and must make whatever tests Contractor deems appropriate to determine underground condition of soil. Contractor agrees that it will make no claim against DISTRICT for damages in the event that, during progress of the work, Contractor encounters subsurface or latent conditions at site materially differing from those shown on drawings or indicated in specifications, or for unknown conditions of an unusual nature which differ materially from those ordinarily encountered and generally recognized as inherent in the work of the character provided for in plans and specifications.~~

Article 56. ARCHITECT/ENGINEER'S AND CONSTRUCTION MANAGER'S STATUS

The construction manager shall be DISTRICT's representative during the construction period, and shall observe the progress and quality of the work on behalf of DISTRICT. The construction manager shall have the authority to act on behalf of DISTRICT only to the extent expressly provided in the contract documents. The construction manager shall have authority to stop work whenever such stoppage may be necessary in construction manager's reasonable opinion to insure the proper execution of the contracts.

The Architect/Engineer shall be, in the first instance, the judge of compliance with the design intent of the contract documents.

Article 57. INDEMNITIES

(a) Contractor agrees to the fullest extent permitted by law to indemnify, defend, protect and hold DISTRICT and its representatives, officers, directors, designees, employees, agents, successors and assigns harmless from any and all claims, expenses, liabilities, causes of action, demands, losses, penalties, attorney's fees and costs, in law or equity, of every kind and nature whatsoever arising out of or in

connection with Contractor's negligent acts and omissions or willful misconduct under this Agreement ("Claims"), whether or not arising from the passive negligence of DISTRICT, but does not include Claims that are finally determined to be the result of the sole negligence or willful misconduct of DISTRICT.

(b) Contractor agrees to defend with counsel acceptable to DISTRICT, indemnify and hold DISTRICT harmless from all Claims, including but not limited to:

(1) Personal injury, including but not limited to bodily injury, emotional injury, sickness or disease or death to persons including but not limited to DISTRICT's representatives, officers, directors, designees, employees, agents, successors and assigns, subcontractors and other third parties and/or damage to property of anyone (including loss of use thereof) arising out of Contractor's negligent performance of, or willful misconduct surrounding, any of the terms contained in this Agreement, or anyone directly or indirectly employed by Contractor or anyone for whose acts Contractor may be liable;

(2) Liability arising from injuries to Contractor and/or any of Contractor's employees or agents arising out of Contractor's negligent performance of, or willful misconduct surrounding, any of the terms contained in this Agreement, or anyone directly or indirectly employed by Contractor or anyone for whose acts Contractor may be liable;

(3) Penalties imposed upon account of the violation of any law, order, citation, rule, regulation, standard, ordinance or statute caused by the negligent action or inaction, or willful misconduct of Contractor or anyone directly or indirectly employed by Contractor or anyone for whose acts Contractor may be liable;

(4) Infringement of any patent rights which may be brought against DISTRICT arising out of Contractor's work;

(5) Any violation or infraction by Contractor of any law, order, citation, rule, regulation, standard, ordinance or statute in any way relating to the occupational health or safety of employees; and

(6) Any breach by Contractor of the terms, requirements or covenants of this Agreement.

(c) The indemnification provisions of Paragraphs 57 (b) (1) through 57(b) (6) above shall extend to Claims occurring after this Agreement is terminated, as well as while it is in force.

Article 58. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in the contract shall be deemed to be inserted herein, and the contract shall be read and enforced as though it were included herein, and if, through mistake or otherwise, any such provision is not inserted, or is not correctly inserted, then upon application of either party, the contract shall forthwith be physically amended to make such insertion or correction.

Article 59. LABOR - EMPLOYMENT SAFETY

Contractor shall maintain emergency first aide treatment for Contractor's employees which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C.A. 651, et seq.).

Article 60. NOTICE OF TAXABLE POSSESSORY INTEREST

The terms of this document may result in the creation of a possessory interest. If such a possessory interest is vested in a private party to this document, the private party may be subjected to the payment of personal property taxes levied on such interest.

Article 61. ASSIGNMENT OF UNFAIR BUSINESS PRACTICES CLAIMS (CLAYTON ACT AND CARTWRIGHT ACT)

Contractor and its subcontractors offer and agree to assign to 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. §15) or under the Cartwright Act (Chapter 2 (commencing with §16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or materials pursuant to this Agreement. This assignment shall be made and become effective at the time DISTRICT tenders final payment to Contractor, without further acknowledgment by the Parties.

Contractor or subcontractor offers and agrees to assign to DISTRICT all rights, title and interest in and all causes of action it may have under section 4 of the Clayton Act (15 USC 15) or under the Cartwright Act, chapter 2 (commencing with § 16700) of part 2 of division 7 of the Business and Professions Code, arising from the purchase of goods, or services.

Article 62. SUBSTITUTION OF SECURITY

Upon Contractor's request, DISTRICT will make payment of funds withheld from progress payments to ensure performance under the contract pursuant to the requirements of California Public Contracts Code, section 22300, if the Contractor deposits in escrow with DISTRICT, or with a bank acceptable to DISTRICT, securities eligible for investment under Government Code section 16430 or bank savings and loan certificates of deposit, subject to the following conditions:

- (a) Contractor shall bear the expense of DISTRICT and the escrow agent, and DISTRICT and the bank, in connection with the escrow deposit made.
- (b) Securities or certificates of deposit to be placed in escrow shall be of a value at least equivalent to the amount of retention to be paid to the Contractor pursuant to this Article.
- (c) Contractor shall enter into an escrow agreement satisfactory to DISTRICT, which agreement shall include provisions governing, inter alias:
 - (1) the amount of securities to be deposited,
 - (2) the providing of powers of attorney or other documents necessary for the transfer of the securities to be deposited,
 - (3) conversion of cash to provide funds to meet defaults by Contractor including, but not limited to, termination of Contractor's control over the work, stop notice filed pursuant to law or other amounts to be kept or retained under the provisions of the contract,
 - (4) decrease in value of securities on deposit,
 - (5) the termination of the escrow upon completion of the contract.
- (d) Contractor shall obtain the written consent of the surety to such agreement.

Article 63. NON-DISCRIMINATION AND DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

(SEE DISADVANTAGED BUSINESS ENTERPRISE PROGRAM SECTION IN INFORMATION FOR BIDDERS)

~~(a) — During the performance of this Agreement, Contractor and its subcontractors shall not unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), age (over forty (40)), marital status and denial of family care leave. Contractor and its subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Contractor and its subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code §12990 (a-f) et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code §12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Agreement by reference and made a part hereof as if set forth in full.~~

~~The applicable regulations of Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. §794 (a)) are incorporated into this Agreement by reference and made a part hereof as if set forth in full. Contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. Contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform Work under this Agreement.~~

~~(b) Contractor and its subcontractors shall reference and abide by the guidance and Disadvantaged Business Enterprise specifications contained in the California Department of Transportation's Local Programs Procedures 06-01 (which has been approved and released at <http://www.dot.ca.gov/hq/LocalPrograms/>) when working pursuant to this Agreement.~~

Article 64. SPECIAL CONDITIONS

(a) The work shall be commenced on the date stated in DISTRICT's *Notice to the Contractor to Proceed* which date will be not greater than ten (10) consecutive calendar days from and after the date of execution of the contract, and shall be completed within **one hundred fifty (150) consecutive calendar days** from and after the date stated in such notice. (See Article 2 of *Agreement* and Article 6 of *General Conditions*.)

(b) The number of copies of drawings and specifications to be furnished to Contractor free of charge, per Article 3 of the *General Conditions* is three (3).

(c) The number of executed copies of the *Agreement*, the *Performance Bond*, and the *Payment Bond* for the *Public Works* required is six (6).

Article 65. CONTRACT CONSTRUCTION

This contract has been reviewed by legal counsel for both DISTRICT and Contractor, and no presumption or rule that ambiguities shall be construed against the drafting party shall apply to the interpretation or enforcement of this contract and/or any and all amendments thereto.

Article 66. COGNIZANCE OF VIOLATIONS BY DISTRICT

(a) Contractor understands and agrees that DISTRICT shall take cognizance of violations of Chapter 1 of Part 7 of Division 2 of the California Labor Code committed in the course of the execution of this Agreement, and shall promptly report any suspected violations to the Labor Commissioner.

(b) If DISTRICT determines as a result of its own investigation that there has been a violation of Chapter 1 of Part 7 of Division 2 of the California Labor Code and withholds payment to Contractor, the procedures in California Labor Code §1771.6 shall be followed.

(c) DISTRICT may bring an action in a court of competent jurisdiction to recover from Contractor the difference between the wages actually paid to an employee and the wages that were required to be paid to an employee pursuant to Chapter 1 of Part 7 of Division 2 of the California Labor Code, any penalties required to be paid pursuant to Chapter 1 of Part 7 of Division 2 of the California Labor Code, and costs and attorney's fees related to the action, if either of the following is true:

(1) DISTRICT previously affirmatively represented to Contractor in writing, in the call for bids, or otherwise, that the Work was not a “public work,” as defined in Chapter 1 of Part 7 of Division 2 of the California Labor Code; or

(2) DISTRICT received actual written notice from the Department of Industrial Relations that the Work is a “public work,” as defined in Chapter 1 of Part 7 of Division 2 of the California Labor Code, and failed to disclose that information to Contractor before the bid opening or award.

Article 67. LABOR STANDARDS COMPLIANCE REQUIREMENTS

(a) It is Contractor’s responsibility to provide all labor compliance documentation from its subcontractors completely and accurately in a timely manner. Contractor is responsible to review promptly and then forward on all required documentation to DISTRICT per the time schedules in the Labor Compliance Handout. Included with the Labor Compliance Handout, DISTRICT will provide training, documentation requirements, forms, etc., at the preconstruction conference or at a time designated by DISTRICT.

For those Public Works Projects that are subject to the State Department of Industrial Relations (DIR), Division of Labor Standards Enforcement (DLSE) compliance monitoring and enforcement it is the Contractor’s responsibility to submit certified payroll records directly to the state Compliance Monitoring Unit (CMU). More information concerning state compliance can be found at <http://www.dir.ca.gov/dlse/cmu/cmu.html>. The responsibility for compliance with these provisions is fixed with the Contractor.

(b) In the event, during the review process of labor compliance documentation from DISTRICT’s labor compliance monitor, inaccurate, missing or incomplete information was provided, the labor compliance monitor will request from Contractor the items, revisions and documentation needed. The cost of this additional labor compliance enforcement shall be borne by Contractor.

Article 68. CONFLICT OF INTEREST AND GRATUITIES

(a) Contractor agrees that it presently has no interest and shall not acquire any interest, direct or indirect, which could conflict in any manner or degree with the performance of services required to be performed under this Agreement. Contractor further agrees that in the performance of this Agreement, no person having any such interest shall be employed.

(b) Contractor agrees to designate such person or persons who have responsibility for carrying out the services under this Agreement and that such person or persons as may be designated shall take any and all actions necessary to comply with DISTRICT’s Conflict of Interest Code adopted pursuant to California Government Code §81000 to the extent required thereunder.

(c) If it is found, after notice and hearing by DISTRICT, that gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by Contractor, or any agent or representative of Contractor, to any officer, employee or agent of DISTRICT with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending or the making of any determinations with respect to the performance of this

Agreement, DISTRICT may, by written notice to Contractor, terminate the right of Contractor to proceed under this Agreement and/or may pursue such other rights and remedies provided by law or under this Agreement.

(d) In the event this Agreement is terminated as provided herein, DISTRICT shall be entitled (1) to pursue the same remedies against Contractor as it could pursue in the event of a breach of the Agreement by Contractor, and (2) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by DISTRICT) which shall be not less than three (3) nor more than ten (10) times the costs incurred by Contractor in providing any such gratuities to any such officer, employee or agent.

Article 69. FEDERAL CONTRACT REQUIREMENTS (N/A)

~~(a) Signage Requirements.~~

~~(1) Project Identity Signage. Contractor is required to provide and install the required project identity signage as detailed in the Plans and Specifications, in the size and at the location indicated by the District or his/her designee, and to maintain the signage in good condition for the duration of the Project. The signage may not be removed until the Notice of Completion is recorded or by written direction of the Director or his/her designee.~~

~~(2) Required Employee Signage and Posters. Contractor is required to provide and install the Federal and State required employee posters and the required material pertaining to the required labor standards provisions are posted (including, but not limited to, WH-1321, OSHA 3165 and OFCCP-English, EFCCP-Spanish) at the worksite in a prominent and accessible place.~~

~~(3) Section 3 Compliant Signage. If required by DISTRICT, Contractor is directed to provide and install the "Offer for Employment" signage as detailed in the Plans and Specifications in the size and at the location indicated by the Director or his/her designee and to maintain the signage in good condition for the duration of the Project. The signage may not be removed until the Notice of Completion is recorded or by written direction of the Director or his/her designee.~~

~~(b) Housing And Urban Development Act Compliance. When applicable, Contractor agrees to comply with Section 3 of the Housing and Urban Development Act of 1968 (42 U.S.C. 3601 et seq.) which provides that to the greatest extent feasible, Contractor shall provide job training, employment and contracting opportunities for low or very low income residents in connection with the Project. The responsibility for compliance with these provisions is fixed with Contractor.~~

~~(c) Copeland "Anti-Kickback" Act Compliance. When applicable, Contractor agrees to comply with the Copeland Act (18 USC §874 and 40 USC §276c; 29 CFR Part 3) which precludes Contractor and its subcontractors from in any way inducing an employee to give up any part of the compensation to which he or she is entitled under his or her contract of employment. Contractor and its subcontractors shall submit a weekly statement of the wages paid to each employee performing on covered work during the preceding payroll~~

~~period. Contractor understands and agrees that should Contractor its subcontractors induce an employee working on a covered contract to give up any part of the compensation to which he or she is entitled, the inducing party may be subject to a five thousand dollar (\$5,000) fine, or imprisonment for up to five (5) years, or both. Contractor also understands and agrees that willful falsification of the statement of compliance may subject the employer to civil or criminal prosecution and may be cause for contract termination or debarment. The responsibility for compliance with these provisions is fixed with Contractor.~~

~~(d) — Fair Labor Standards Act Compliance. When applicable, Contractor agrees to comply with the Fair Labor Standards Act of 1938 as amended (29 U.S.C. 201 *et seq.*) which establishes minimum wage, overtime pay, recordkeeping, and youth employment standards affecting full-time and part-time workers on the Project. The responsibility for compliance with these provisions is fixed with Contractor.~~

~~(e) — Certification Regarding Debarment, Suspension and Other Responsibility Matters. When applicable, Contractor agrees to execute a certification regarding debarment, suspension and other responsibility matters. The responsibility for compliance with this provision is fixed with Contractor.~~

~~(f) — Federal Equal Employment Opportunity Construction Contract Specifications. When applicable, Contractor agrees to incorporate the notice set forth in paragraph (d) of 41 C.F.R. 60-4.2 relating to the “Equal Opportunity Clause” and the “Standard Federal Equal Employment Specifications.” The responsibility for compliance with this provision is fixed with Contractor.~~

~~(g) — Clean Air Act and the Federal Water Pollution Control Act. When applicable, Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401 *et seq.*), the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 *et seq.*), Presidential Executive Order 11738 and Environmental Protection Agency regulations set forth at 40 C.F.R. Part 15. Contractor understands and agrees that violations shall be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency. The responsibility for compliance with these provisions is fixed with Contractor.~~

~~(h) — Prohibition on the Use of Federal Funds for Lobbying. When applicable, Contractor shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient. The responsibility for compliance with this provision is fixed with Contractor.~~

~~(i) — Federal Employment Eligibility Verification. Contractor shall verify name, date of birth and social security number, along with immigration information for non-citizens in~~

order to verify the identity and employment eligibility of both citizen and non-citizen new hires. The responsibility for compliance with this provision is fixed with Contractor.

~~(j) — The Civil Rights, HCD and Age Discrimination Act Assurances. During the performance of this Agreement, Contractor assures that no otherwise qualified person shall be excluded from participation or employment, denied program benefits or be subjected to discrimination based on race, color, national origin, gender, age or handicap, under any program or activity funded by this Agreement, as required by Title VI of the Civil Rights Act of 1964, Title I of the Housing and Community Development Act of 1974, as amended, and the Age Discrimination Act of 1975, and all implementing regulations. The responsibility for compliance with these provisions is fixed with Contractor.~~

~~(k) — Standard Equal Opportunity Clause.~~

~~(1) — Contractor hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following equal opportunity clause:~~

~~“During the performance of this contract, the Contractor agrees as follows:~~

~~———“1. — The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin or disabilities. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.~~

~~———“2. — The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin or disabilities.~~

~~———“3. — The Contractor will send to each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers’ representatives of the Contractor’s commitments under this~~

section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

~~“4. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.~~

~~“5. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.~~

~~“6. In the event of the Contractor's noncompliance with the discrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rules, regulations, or orders of the Secretary of Labor, or as otherwise provided by law.~~

~~“7. The Contractor will include the portion of the sentence immediately preceding paragraph “1” and the provisions of paragraphs “1” through “7” in every contract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 504 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each contractor or vendor. The Contractor will take such action with respect to any contract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a contractor or vendor as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.”~~

~~(2) Contractor further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work; provided that if Contractor so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality, or subdivision of such government which does not participate in work on or under the Agreement.~~

~~(3) Contractor agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of Contractors and subcontractors with the equal opportunity clause and the rules,~~

~~regulations, and relevant orders of the Secretary of Labor, that it will furnish the Department and HUD and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.~~

~~(4) Contractor further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, government contracts and federally-assisted construction contracts, pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, Contractor agrees that if it fails or refuses to comply with these undertakings, DISTRICT may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this funding commitment (contract, loan, grant, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such Contractor; and refer the case to the Department of Justice for appropriate legal proceedings.~~

Article 70. MISCELLANEOUS

(a) Entire Agreement. This Agreement contains the entire agreement between DISTRICT and Contractor relating to the transactions contemplated hereby and supersedes all prior or contemporaneous agreements, understandings, provisions, negotiations, representations, or statements, either written or verbal.

(b) Assignment. Neither this Agreement nor any duties or obligations hereunder shall be assignable by Contractor without the prior written consent of DISTRICT.

(c) Modification. No modification, waiver, amendment, discharge, or change of this Agreement shall be valid unless the same is in writing and signed by the Party against whom the enforcement of such modification, waiver, amendment, discharge, or change is or may be sought.

(d) Captions. Captions in this Agreement are inserted for convenience of reference only and do not define, describe or limit the scope or the intent of this Agreement or any of the terms thereof.

(e) Partial Invalidity. If any provision in this Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions will nevertheless continue in full force without being impaired or invalidated in any way.

(f) Gender and Interpretation of Terms and Provisions. As used in this Agreement and whenever required by the context thereof, each number, both singular and plural, shall include all numbers, and each gender shall include a gender. Contractor as used in this

Agreement or in any other document referred to in or made a part of this Agreement shall likewise include singular and the plural, a corporation, a partnership, individual, firm or person acting in any fiduciary capacity as executor, administrator, trustee or in any other representative capacity or any other entity. All covenants herein contained on the part of Contractor shall be joint and several if more than one person, firm or entity executes this Agreement.

(g) Waiver. No waiver of any breach or of any of the covenants or conditions of this Agreement shall be construed to be a waiver of any other breach or to be consent to any further or succeeding breach of the same or any other covenant or condition.

(h) Attorneys' Fees and Costs. If either Party herein brings an action to enforce the terms thereof or to declare rights hereunder, the prevailing Party in any such action, on trial or appeal, shall be entitled to reasonable attorneys' fees as fixed by the court and actual costs to be paid by the losing Party.

(i) Authority.

(1) Each individual executing this Agreement on behalf of Contractor represents and warrants that:

(A) He/She is duly authorized to execute and deliver this Agreement on behalf of Contractor;

(B) Such execution and delivery is in accordance with the terms of the Articles of Incorporation or Partnership, any by-laws or Resolutions of Contractor and;

(C) This Agreement is binding upon Contractor in accordance with its terms.

(2) Contractor shall deliver to DISTRICT evidence acceptable to DISTRICT of the foregoing within thirty days of execution of this Agreement.

(j) Counterparts. This Agreement may be executed in counterparts.

(k) Review of Agreement Terms. This Agreement has been reviewed and revised by legal counsel for both DISTRICT and Contractor, and no presumption or rule that ambiguities shall be construed against the drafting Party shall apply to the interpretation or enforcement of the same or any subsequent amendments thereto.

ATTACHMENT "A"
SPECIAL CONDITIONS

ATTACHMENT "B"
TECHNICAL SPECIFICATIONS

ATTACHMENT "C"

CONSTRUCTION DRAWINGS (Separate 24"x36" Sheets)

Attachment “D” – SAMPLE AGREEMENT FOR CONSTRUCTION SERVICES

Attachment "E" – WAGE DETERMINATIONS

**Attachment "F" – Guidelines and Forms for Meeting
DBE Requirements for CASRF**

ATTACHMENT “A” - SPECIAL CONDITIONS

SECTION	DESCRIPTION	
1	Scope	00900-2
2	Inspection of Work	00900-2
3	Surplus Native Material Export	00900-3
4	Air Pollution Control District Requirements	00900-3
5	Environmental Report Requirements	00900-19
6	Erosion Control Plan Requirements	00900-20
7	NSF/ANSI Standard 61	00900-20
8	Project Signs	00900-20
9	Submittal Documents	09000-23
10	Startup of the Pressure Filter	09000-25
11	Geotechnical Testing	09000-25

1. Scope

These Special Conditions supplement the General Conditions, Technical Specifications, and Plans. All requirements and provisions of the General Conditions, Technical Specifications and Plans apply. Where codes, procedures, conditions, specifications or requirements conflict, the more stringent shall apply. The scope includes but not limited to a new bolted steel tank with a THM reduction system, a pressure filter, and repairs to the distribution pumps. Some work may be under construction at the water treatment plant, namely the Chlorination System and Control Replacement Project. Contractor to coordinate the work with Contractor for said project.

2. Inspection of Work

2.1 All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the Contract Documents.

2.2 The Contractor shall provide all inspection and testing services unless specified to be provided by the Owner.

2.3 The Engineer shall provide at the Contractor's expense the testing and inspection services required by the Contract Documents if the Contractor fails or refuses to provide the required testing and inspection services.

2.4 If the Contract documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be inspected, tested, or approved by someone other than the Engineer, the Contractor will give the Engineer timely notice of readiness. The Contractor will then furnish the Engineer the required certificates of inspection, testing or approval.

2.5 Inspections, tests, or approvals by the Engineer or others shall not relieve the Contractor from the obligations to perform the work in accordance with the requirements of the Contract Documents.

2.6 The Engineer and the Engineer's representative will at all times have access to the work. In addition, authorized representatives and agents of any participating Federal or State agency shall be permitted to inspect all work, materials, payrolls, records on personnel, invoices of materials, and other relevant data and records. The Contractor will provide proper facilities for such access and observation of the work and also for any inspection or testing thereof.

2.7 If any work is covered prior to inspection by the Engineer it must, if requested by the Engineer, be uncovered for the Engineer's observation and replaced at the Contractor's expense.

2.8 If the Engineer considers it necessary or advisable that covered work be inspected or tested by others, the Contractor, at the Engineer's request, will uncover, expose or otherwise make available for observation, inspection or testing as the Engineer 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 the 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 any extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and construction and an appropriate change order shall be issued.

3. Surplus Native Material Export

Surplus native material excavated for the construction of the project shall be removed and disposed of by the Contractor.

4. Air Pollution Control District Requirements

The Contractor shall be responsible for abiding with the latest edition of Regulation VIII set forth by Imperial County Air Pollution Control District. A copy of Regulation VIII, June 2, 2009 edition follows this sheet.

The Contractor shall also be responsible for preparation and submission of a Construction Notification Form and Dust Control Plan to the County of Imperial Air Pollution Control District. The Construction Notification Form and Dust Control Plan shall also be posted at the Project Site. A copy of the Construction Notification Form and Dust Control Plan follow Regulation VIII within this document.

Imperial County Air Pollution Control District Construction Notification Form

Project Information	
Project Name:	_____
Project Address:	_____
Major X-Streets:	_____
City:	_____ County: _____
Expected Construction Start Date:	_____ Total project site area: _____ Acres
End Date:	_____ Total disturbed surface area: _____ Acres
The project is: <input type="checkbox"/> Residential <input type="checkbox"/> Non-residential (commercial, industrial, institutional, public, etc.)	
Construction activities on any site will include ten acres or more of disturbed surface area for residential developments, or five acres or more for non-residential developments, are required to submit a Dust Control Plan to the District prior to the start of any construction activity. The Construction Notification Form may not be used to circumvent any Dust Control Plan requirement.	

Contacts	
Property Owner:	_____
Address:	_____
City / State / Zip:	_____
Phone:	_____ Fax: _____ Cell: _____
Developer:	_____
Address:	_____
City / State / Zip:	_____
Contact Person:	_____
Phone:	_____ Fax: _____ Cell: _____
General Contractor:	_____
Address:	_____
City / State / Zip:	_____
Contact Person:	_____
Phone:	_____ Fax: _____ Cell: _____
Other Contact:	_____
Company:	_____
Address:	_____
City / State / Zip:	_____
Phone:	_____ Fax: _____ Cell: _____

**Mailing Address: 150 South 9th Street
El Centro, CA 92243
Office: (760) 482-4606
Fax: (760) 353-9904**



AIR POLLUTION CONTROL DISTRICT
150 S. 9th Street, El Centro, CA 92243
Ph. (760) 482-4606
Fax (760) 353-9904

SAMPLE FORMAT
CONSTRUCTION
DUST CONTROL PLAN

REGULATION VIII - Rules 800-805

PROJECT IDENTIFICATION

Project Name _____ Project CUP # _____
Legal Name/Company _____ City _____
Contact name _____ Contact Phone _____
Description of the location of the project; such as Address and major cross roads

PROJECT CONTACTS

In order to comply with the requirements of Regulation VIII all contacts responsible for the submittal and implementation of the Dust Control Plan shall be identified below with an explanation of the responsibility of each contact. If additional space is needed please attach a sheet. (Rule 801, subsection F.2.c.1)

NAME _____ TITLE _____
PHONE NUMBER _____ E-MAIL ADDRESS _____

Describe the association the named person above has to the identified project. What are that person's duties, responsibilities. Does the person named above have the primary responsibility for implementing the Dust Control Plan? Is this person responsible for the project site?

NAME _____ TITLE _____
PHONE NUMBER _____ E-MAIL ADDRESS _____

Describe the association the named person above has to the identified project. What are that person's duties, responsibilities. Does the person named above have the primary responsibility for implementing the Dust Control Plan? Is this person responsible for the project site?

Please identify any known contractors, names, phone contact person etc., hired to work on the project site on separate cover.



AIR POLLUTION CONTROL DISTRICT
150 S. 9th Street, El Centro, CA 92243
Ph. (760) 482-4606
Fax (760) 353-9904

SAMPLE FORMAT
CONSTRUCTION
DUST CONTROL PLAN

Project Name _____ Project CUP # _____

PROJECT CONSTRUCTION OPERATIONS

Provide pertinent information concerning the projects **construction operations** - include a **plot plan** (which may be a tract map, site map or topographic map) which identifies the boundaries of the project, existing roads (including but not limited to paved, unpaved road ways, highways and freeways), where new proposed roads will be constructed, where the staging areas will be located, easements, entry and exit points (include whether these entry points will be permanent or temporary), whether or not sensitive receptors are adjacent to the project (including but not limited to residential areas, schools, day cares, churches, hospitals, nursing facilities, commercial and/or retail), include the distance between the project and the sensitive receptors and any other information as to allow for the proper evaluation of dust generating point sources and their impact. (Rule 801, subsection F.2.c.2&5)

The following checklist is provided solely as a guide and is not meant to be all inclusive. During the Plot Plan review process the Air District may identify additional dust generating point sources. For those instances where additional sources, not listed, have been identified please list under other. (Rule 801 subsection F.2.c.2&5)

List all identified actual and potential sources of fugitive dust emissions

- Bulk material handling and storage areas.
- Paved and unpaved access roads, haul roads, traffic areas, and equipment storage yards.
- Exit points where carryout and trackout onto paved public roads may occur.
- Water supply locations if water application will be used for controlling visible dust emissions.
- Other list below.

Check or list the relative locations of sensitive receptors within ¼ mile of the project. (Rule 407, Nuisance)

- No sensitive receptors within ¼ mile of the project.
- Residential areas, schools, day care, churches, hospitals, nursing facilities, commercial, retail, etc.
- Freeways, roads, or traffic areas that may be affected by the dust generating activities.
- Other list below.



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Project Name _____ Project CUP # _____

DISTURBED SURFACE AREA

Report the total area of land surface to be disturbed, the daily throughput volume of earthmovement in cubic yards and the total area in acres of the entire project site. (Rule 801, subsection F.2.c.3&4)

Total area of project site _____ Acres Total surface area to be disturbed _____ Acres
 Total disturbed areas left inactive for more than seven days
 _____ Acres

Daily average throughput volume of earthmoving _____ Cubic Yards Daily maximum throughput volume of earthmoving
 _____ Cubic Yards

OTHER SITES

Identify whether any other locations should be included with this plan that are involved with this project. An example may include listing any site where materials will be imported from or exported to.

No other locations are included with this project

Location 1: _____

No Dust Control Plan Required Included with this plan Included with another plan

Location 2: _____

No Dust Control Plan Required Included with this plan Included with another plan

Location 3: _____

No Dust Control Plan Required Included with this plan Included with another plan

DUST GENERATING ACTIVITY DATES

EXPECTED CONSTRUCTION START AND END DATES

IF CONSTRUCTION IS NOT PHASED SIMPLY INCLUDE THE START AND END DATES UNDER THE PHASE 1 OPTION

Phase 1 Start Date _____	Phase 3 Start Date _____
Phase 1 End Date _____	Phase 3 End Date _____
Phase 2 Start Date _____	Phase 4 Start Date _____
Phase 2 End Date _____	Phase 4 Start Date _____



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SAMPLE FORMAT
CONSTRUCTION
DUST CONTROL PLAN

Project Name _____ Project CUP # _____

MINIMUM REQUIREMENTS

This section describes the minimum requirements for limiting visible dust emissions from activities that cause fugitive dust emissions. Each category must have one requirement check marked.

(Rule 801 section F) For Enhanced Measures check all that apply.

Structural Demolition

No demolitions are planned for this project explain below.

Asbestos NESHAP notification has been submitted to the ARB and copy to the District.
Date notification submitted _____

Pre-Activity (Rule 801 subsection F.1.a)

Not applicable for this project explain below.

The site will be pre-watered and work will be phased to reduce the amount of disturbed surface area at any one time. (Complete section M-1 beginning with page 7)

Active Operations (Rule 801, subsection F.1.b)

- Application of water or Chemical Stabilizers to earthmoving activities. (Complete sections M-1 and/or M-2)
- Construct & maintain wind barriers to limit visible dust emissions to 20%. (Complete section M-3)

Temporary stabilization: areas unused for seven or more days (Rule 801 subsection F.1.c)

Not applicable for this project explain below.

Vehicular access will be restricted and water or dust suppressants will be applied and maintained at all unvegetated areas. (Complete sections M-2 and/or section M-3)



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Project Name _____ Project CUP # _____

MINIMUM REQUIREMENTS CONTINUED

This section describes the minimum requirements for limiting visible dust emissions from activities that cause fugitive dust emissions. Each category must have one requirement check marked.

(Rule 801 section F) For Enhanced Measures check all that apply.

Unpaved Access, Haul Roads, Traffic & Equipment Storage Areas (Rule 805)

Not applicable for this project explain below.

Apply water or dust suppressants to unpaved haul and access roads. (Complete sections M-1 and/or M-2)

Method of restricting unauthorized vehicle access. (Complete section M-3)

Water or dust suppressants will be applied to vehicle traffic and equipment storage areas. (Complete sec M-1 and/or M-2)

Establish vegetation on all previously disturbed areas. (Complete section M-3)

Outdoor Handling of Bulk Materials (Rule 802)

No bulk materials will be handled during this project explain below.

Water or dust suppressants will be applied when handling bulk materials. (Complete sections M-1 and/or M-2)

Protection from wind erosion by sheltering or enclosing the operation and transfer line. (Complete section M-3)

Outdoor Storage of Bulk Materials (Rule 802)

No bulk materials will be stored during this project explain below.

Water or dust suppressants will be applied to storage piles. (Complete sections M-1 and/or M-2)

Storage piles will be covered with tarps, plastic or other suitable material and anchored in such a manner that prevents the cover from being removed by wind action. (Complete section M-3)



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Project Name _____ Project CUP # _____

MINIMUM REQUIREMENTS CONTINUED

This section describes the minimum requirements for limiting visible dust emissions from activities that cause fugitive dust emissions. Each category must have one requirement check marked. (Rule 801 section F) For Enhanced Measures check all that apply.

On-Site/Off Site Transporting of Bulk Materials

No bulk materials will be transported on the project site explain below.

- Haul trucks will be covered with a tarp or other suitable cover. *(Complete section M-5)*
- All haul trucks will be loaded such that the freeboard is not less than six inches when transported across any paved public access road. *(Complete section M-5)*
- Cargo compartments are maintained so that **no** spillage and loss of bulk material will occur from holes or other openings in the floor, side and/or tailgate. *(Complete section M-5)*
- Cargo compartment is to be cleaned and/or washed at delivery site after removal of Bulk Material. *(Complete section M-5)*

Enhanced Measures: *According to Regulation VIII stabilization must be met at all times. See Rule 801 subsection D.2*

- Cease dust generating activities when wind speeds exceed 25mph. *(Records of wind speeds and wind gusts must be maintained and provided to the APCD upon request.)*
- Application of water or dust suppressants once per hour when wind speeds exceed 15mph. *(Records of wind speeds and wind gusts must be maintained and provided to the APCD upon request.)*
- Apply water to maintain 12% soil moisture content when wind speed exceeds 15mph. *(Records of wind speeds and wind gusts must be maintained and provided to the APCD upon request.)*
- Construct fences 3-5 feet high with 50% or less porosity in conjunction with water application or dust suppressant when wind speeds exceed 15mph. *(Records of wind speeds and wind gusts must be maintained and provided to the APCD upon request.)*
- OTHER - If necessary attach separate sheet.



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SAMPLE FORMAT
CONSTRUCTION
DUST CONTROL PLAN

SECTION M-1

Project Name _____ Project CUP # _____

WATER APPLICATION

Complete this section if water application will be used as a control method for limiting visible dust emissions and stabilizing surface areas. Check and answer all sections that apply to this project. In addition, if there is no intention of applying water to any phase of the project explain below. (Rule 801 section F)

NO WATER APPLICATION - EXPLAIN?

WATER APPLICATION SUPPLY - THE LOCATION OF EACH MUST BE IDENTIFIED ON THE PLOT PLAN

Fire hydrants

Number of hydrants available On-Site _____ Off-Site _____

Approval granted by the owner or public agency to use their fire hydrants for this project.

Owner or Agency granting approval _____

Contact Name and phone number _____

Storage tanks Number of tanks _____ Capacity of each _____

Wells Number of wells _____ Flow rate of each well _____

Canal, River, Pond, Lake etc.

Approval granted by the owner or public agency to use their water source for this project

Owner or Agency granting approval _____

Contact Name and phone number _____

Other explain



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SAMPLE FORMAT
 CONSTRUCTION
 DUST CONTROL PLAN

SECTION M-1 CONTINUED

Project Name _____ Project CUP # _____

WATER APPLICATION CONTINUED

Complete this section if water application will be used as a control method for limiting visible dust emissions and stabilizing surface areas. Check and answer all sections that apply to this project. In addition, if there is no intention of applying water to any phase of the project explain above. (Rule 801 section F)

WATER APPLICATION EQUIPMENT: THE LOCATION OF EACH MUST BE IDENTIFIED ON THE PLOT PLAN

Sprinklers

Describe the activities that will utilize sprinklers

Minimum treated area _____ Square Feet Frequency _____

Acres

Maximum treated area _____ Square Feet Frequency _____

Acres

Water Truck Other explain _____

Describe the activities that will utilize the equipment

Number of application equipment to be used _____ Hours of operation _____

Application equipment capacity _____

Application frequency must be once per day or more explain frequency below

Water application equipment is available to operate after normal working hours, on weekends and holidays

Name of contact after hours _____ Phone No. _____

Name of contact after hours _____ Phone No. _____



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SAMPLE FORMAT
CONSTRUCTION
DUST CONTROL PLAN

SECTION M-2

Project Name _____ Project CUP # _____

DUST SUPPRESSANT PRODUCTS

Complete this section if a dust suppressant product will be used. These materials include but are not limited to: hygroscopic suppressants (road salts), adhesives, petroleum emulsions, polymer emulsions and bituminous materials (road oils).

Not Applicable - The only control method will be the application of water *(Complete section M-1)*

Application Area; Explain where the dust suppressant will be applied below

Product (Manufacturer) Name _____

Name of contractor _____ Phone No. _____

Explain the rate of application including the amount of gallons of undiluted material per mile or per acre below.

Explain the application frequency; type and number of equipment; capacity including the amount of gallons of undiluted material per mile or per acre below.

Utilizing the checklist below attach each of the following pieces of information that fully describes the product to be used. All information must be submitted with this plan.

- Product Specifications. (MSDS, Product Safety Data Sheet, etc.)
- Manufacturer's Usage Instructions. (method, frequency and intensity of application)
- Environmental impacts and approvals or certifications related to the appropriate and safe use for ground application.
- Check here if more than one dust suppressant will be utilized and include the necessary copies of this page with the information for each dust suppressant to be used.



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SAMPLE FORMAT
CONSTRUCTION
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SECTION M-3

Project Name _____ Project CUP # _____

OTHER DUST CONTROL METHODS

Check below all other types of dust control methods that will be employed at the construction site.

- Physical barriers for restricting unauthorized vehicle access
 - Fences Gates Posts Berms Concrete Barriers
 - Other explain below

- Wind barriers describe below.

- Re-establish vegetation for temporarily stabilizing previously disturbed surfaces explain below.

- Apply Gravel- for the application of gravel identify where application will occur such as haul road, access roads, equipment storage yards (areas), vehicle traffic areas etc explain below.

- Apply pavement - explain where paving will occur.

- Other explain below.



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SAMPLE FORMAT
CONSTRUCTION
DUST CONTROL PLAN

SECTION M-4

Project Name _____

Project CUP # _____

TREATMENTS FOR PREVENTING TRACKOUT

Select the control devices that will be used for preventing trackout from occurring onto paved public roads. Trackout is any material that adheres to vehicle tires and is deposited onto a paved public road or the paved shoulder of a paved public road. Check all that apply to this project below.

- Grizzly:** Rails, pipes, or grates used to dislodge debris off of vehicles before exiting the site. Extends from the intersection with the paved public road surface for the full width of the unpaved exit surface for a distance of at least 25 feet. **Describe below**

- Gravel Pad:** A layer of washed gravel at least three (3) inches deep which extends from the intersection with the public paved road surface for the full width of the unpaved exit surface for a distance of at least 50 feet. Identify gravel size in inches, the pad width in feet, including the length and depth of the gravel below.

- Paved Surface:** Extends from the intersection with the paved public road surface for the full width of the unpaved access road for at least 50 feet to allow mud and dirt to drop off of vehicles before exiting the site. Identify the width and length of the paved surface below in feet.

Mud and dirt deposits within an urban area shall be cleaned immediately when trackout or carryout extends a cumulative distance of 50 linear feet or more otherwise clean up must be at the end of the workday.

- Wheel Washer:** Uses water to dislodge debris from tires and vehicle undercarriage. If utilizing a wheel washer describe the location, type and operation of the wheel washer below.

- Other** - describe any other measure utilized to prevent trackout below.



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SAMPLE FORMAT
CONSTRUCTION
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SECTION M-5

Project Name _____ Project CUP # _____

TREATMENTS FOR PREVENTING CARRYOUT

Report the required treatments that will be used for preventing carryout from occurring on paved public roads. Carryout occurs when materials from emptied or loaded haul trucks, vehicles, or trailers fall onto a paved public road or paved shoulder of a paved public road. Check all that apply.

No haul trucks will be routinely entering or leaving the project site explain below.

Emptied Haul Trucks:

Interior cargo compartments will be cleaned before leaving the project site. Explain below how emptied haul truck will be washed and the source of the water supply.

Cargo compartment will be covered with a tarp or suitable cover before leaving the project site.

Loaded Haul Trucks:

Spillage or loss of materials from holes or other opening(s) in the cargo compartment will be prevented when material transported onto any paved public access road.

Haul trucks will be loaded such that the freeboard is not less than six inches.

Other describe below.



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SAMPLE FORMAT
CONSTRUCTION
DUST CONTROL PLAN

SECTION M-6

Project Name _____ Project CUP # _____

CLEANING UP CARRYOUT AND TRACKOUT

Check and report below the methods and frequency for cleaning up carryout and trackout from the surface and paved shoulder of paved public roads. All material tracked or carried out onto paved road must be removed. Check all that apply.

The project is located in

An Urban Area

Identify the urban area by location, description etc. below.

Minimum cleanup frequency will be at the end of the workday and removed immediately if carryout and trackout, extends beyond 50 feet.

Non Urban Area

Identify the non urban area by location, description etc. below.

At the end of the workday

Optional - Clean up Method

Manually sweeping and picking up.

Mechanical sweeping with a rotary brush or broom accompanied or preceded by water.

Describe types of equipment that will be used.

The use of blower devices, or dry rotary brushers or brooms, for removal of carryout and trackout from paved public roads is not recommended.



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SAMPLE FORMAT
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Project Name _____ Project CUP # _____

RECORD KEEPING

Records and/or any other supporting documents used for the demonstration of compliance must be maintained for two years and provided to the Air Pollution Control District upon request.

CERTIFICATION

I certify that all information contained herein and information submitted in the attachments to these documents are true and correct.

Print Name

Title

Signature

Date

Phone Number

Fax Number

Cell Number

5. Environmental Report Requirements

Environmental Documents have been prepared for this Project. The Documents satisfy the National Environmental Policy Act (NEPA). Mitigation, Monitoring and Reporting Program, as attached, were prepared as a part of the Environmental Documentation. The Contractor is responsible for implementing the Mitigation, Monitoring and Reporting Programs.

The Project has been categorically exempted from the California Environmental Quality Act (CEQA).

The Mitigation, Monitoring and Reporting Program for is project follows:

Mitigation Measures:

Noise

MM N-1

Construction noise from a single piece of equipment, or a combination of equipment shall not exceed 70 dB when averaged over an 8 hour period and measured at the nearest sensitive receptor.

MM N-2

Construction Equipment operation is limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday and 9:00 a.m. to 5:00 p.m. Saturday. No construction shall take place on Sundays.

Cultural Facilities:

CF-1

In the event that archaeological/paleontological resources are discovered during demolition or construction activities, all grading and construction work on the project site shall be suspended until the significance of the features can be determined by a qualified archaeologist/paleontologist meeting the Secretary of the Interior's Professional Qualifications Standards. Identified cultural resources should be recorded on DPR 523 (A J) historic resource recordation forms. Prehistoric resources include chert or obsidian flakes, projectile points, and other flaked stone artifacts; mortars, grinding sticks, pesties, and other groundstone tools; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or adobe foundations or walls; structures and remains with square nails; mine shafts, tailings, or ditches; and refuse deposits or bottle dumps, often located in old wells or privies. The

qualified archaeologist/paleontologist shall make recommendations for measures necessary to protect any unique archaeological or paleontological resource or shall undertake data recover, excavation, analysis, and curation of archaeological/paleontologist materials. County staff will consider such recommendations and implement them where they are feasible in light of project design as previously approved by the County.

CF-2

If human remains are discovered, all work shall be halted immediately and the County Coroner must be notified, according to Section 5097.98 of the California Public Resources Code and Section 7050.5 of the California Health and Public Safety Code. If the remains are determined to be Native American, the Coroner will notify the Native American Heritage Commission, and the procedures outlined in the CEQA Guidelines of Title 14 of the California Code of Regulations, Section 1504.5(d).

6. Erosion Control Plan Requirements

The total soil disturbance area for the project is less than one (1) acre; therefore, the project is exempt from the General Construction Permit requirements regulated by the State Water Resources Control Board (SWRCB). Stormwater Pollution and Prevention Plan (SWPPP) is not required for this project. Contractor shall include Best Management Practices (BMPs) for erosion control as necessary. The Contractor shall include the costs of implementing and maintaining the Erosion Control BMPs.

7. NSF/ANSI Standard 61

Piping, fittings, and appurtenances in contact with potable water or water that will be treated to become potable shall be listed in NSF / ANSI Standard 61 as being suitable for contact with potable water.

8. Project Signs

Contractor will place temporary construction project signs at locations designated by the Construction Engineer/Manager. These signs measuring 3' x 4', will be made of 3/4" exterior grade plywood and adhere to the format and details given on the sheet included at the end of this section. The sign will be prepared by a professional sign painter.

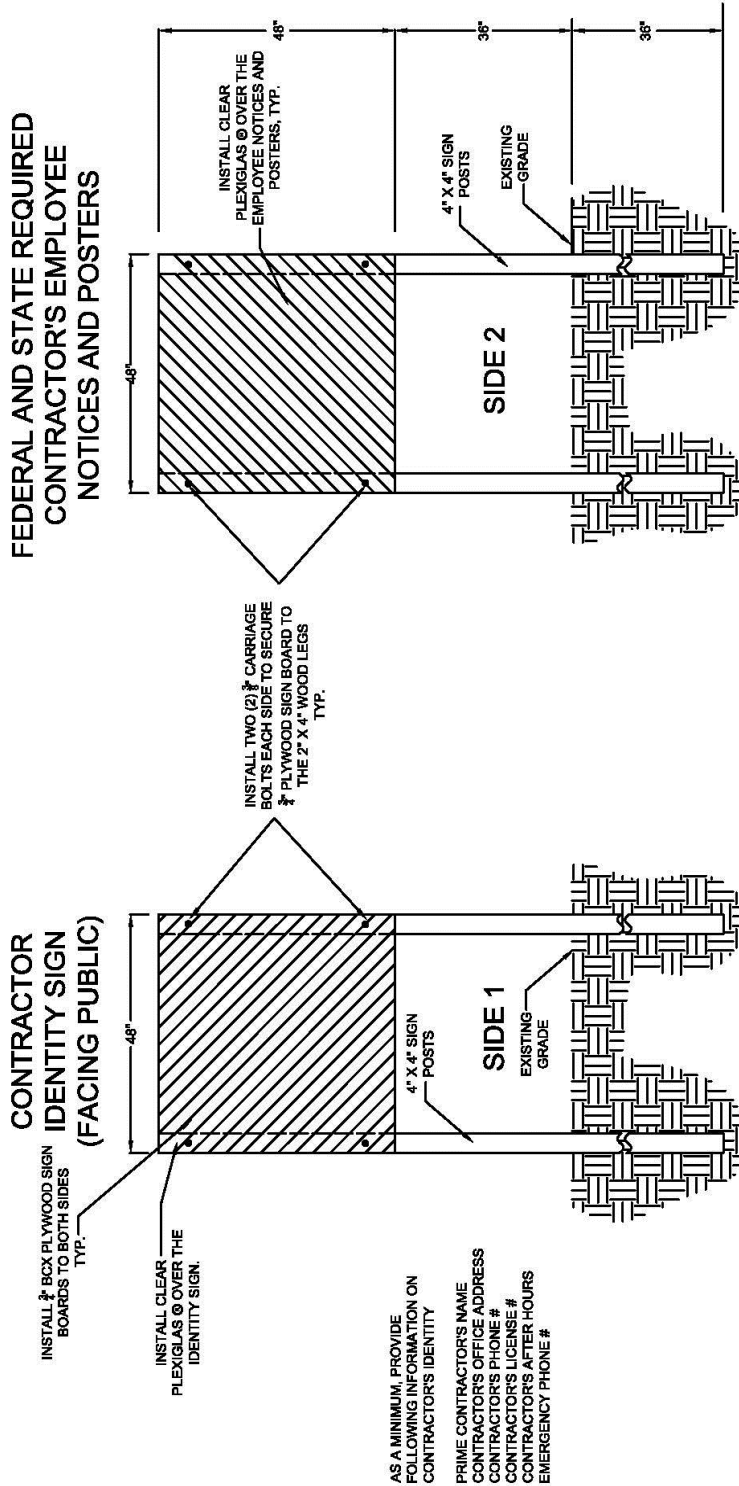
California requires a Prime Contractor Identity Sign for all construction projects in the State of California. At a minimum, this sign shall contain the Prime Contractor's name, address, telephone number, State Contractor's License

number, and an after-hours' emergency telephone number in the event of an emergency.

California and Federal labor laws require that employee notices and posters be posted at all project sites that employ workers. Federal labor laws for Public Works Projects require that current Federal Wage Decisions be posted and maintained at the project site for the duration of the construction project. California labor laws for Public Works projects require that current State Wage Decisions be posted and maintained at the project site for the duration of the construction project. In addition, there are EEO, OSHA and other required information to be posted and maintained at the project site for the duration of the construction project.

The Prime Contractor Identity Sign and California Labor Law/EEO and OSHA Sign requirements are illustrated by the drawing on the previous page.

The contract price paid for Temporary Construction Project Signs and Prime Contractor Identity Signs shall be considered included in the Mobilization bid item and shall include full compensation for furnishing, erecting and maintaining the signs, as shown on the plans, as specified in the Standard Specifications and these Special Conditions, and as directed by the Engineer.



NOT TO SCALE

NOTE: THE CONTRACTOR SHALL INSTALL TWO (2) SEPARATE CONTRACTOR IDENTITY AND CONTRACTOR'S EMPLOYEE NOTICE SIGNS OR USE ONE SET OF SIGN POSTS AND MOUNT THE CONTRACTOR IDENTITY AND THE CONTRACTOR'S EMPLOYEE NOTICES ON OPPOSITE SIDES OF THE SIGN POST. THE CONTRACTOR IDENTITY SIGN MUST FACE THE PUBLIC AT THE LOCATION DESIGNATED BY THE AWARDED AGENCY. IF TWO (2) SEPARATE SIGNS ARE INSTALLED, PLACE THOSE SIGNS IN CLOSE PROXIMITY.

TEMPORARY CONSTRUCTION SIGN FOR PROJECT

9. Submittal Documents

9.1 General

The Contractor shall submit electronic or hard copy submittal documents to the County of Imperial Public Works Department, Construction Manager or Design Engineer as determined by the County of Imperial Public Works Director. Submittal Documents shall be forwarded by the Contractor within 16 calendar days of the issuance of the Notice to Proceed. Submittals shall be reviewed by the Construction Manager within 10 calendar days after receipt of the submittal documents. Submittals shall be reviewed and designated as follows:

1. Approved with no exceptions taken.
2. Approved as noted.
3. Revise and Re-Submit.
4. Rejected.

Submittals returned to the Contractor in the “revise and re-submit” or “rejected” category shall be revised or re-prepared and returned to the County of Imperial Public Works Department within 7 calendar days after the receipt by the Contractor. Iterative submittal reviews by the County of Imperial and subsequent revisions by the Contractor shall be completed within 5 calendar days.

9.2 Submittal Document Listing

The following submittal documents are to be forwarded to the Construction Manager for review:

1. Contractor’s Superintendent. Include name and cell phone.
2. PCC Concrete Submittal – one page vendor printout.
3. Class 2 Base – Sieve Gradation and Sand Equivalent.
4. PVC piping, fittings and valves.
5. Reinforcing Steel. Conformance with Buy American or Buy America provisions shall accompany submittal documents as applicable.
6. Flow meter and flow restrictor for the THM reduction system
7. 125,000 gallon bolted steel tank

- a. Conformance with Buy American or Buy America Provisions shall accompany submittal documents as applicable.
- b. Fittings and pipes
- c. Conformance with AWWA D103.
- d. Powder Coating System for the tank steel.
- e. Full drawings of the tank.
- f. Structural Calculations for the tank Structure prepared by a California Registered Civil or Structural Engineer

8. Pressure Filter

- a. Full drawings of the filter.
- b. Conformance with Buy American or Buy America Provisions shall accompany submittal documents.
- c. Coating system.
- d. Components and accessories.
- e. Piping and valves.
- f. Structural Calculations for the filter and anchorage prepared by a California Registered Civil or Structural Engineer.

9. Electrical Conduit.

10. Electrical Conductors.

11. Electrical Breakers.

12. Operation and Maintenance Manuals.

The Contractor shall review the submittal and miscellaneous requirements section of each Technical Specification section. All items listed in the Submittal and Miscellaneous requirements of the Technical Specifications Sections are to be included in addition to the items listed above. In addition, Operation and Maintenance Manuals shall be supplied for all equipment for this project, including but not limited to, the pressure filter and automatic valves.

10. Start-Up of the Pressure Filter

The Contractor shall coordinate the start-up of the new Pressure Filter. It shall be connected to the Control Panel, SCADA Monitoring and Alarm System. On-site start up services provided separately by the filter Manufacturer and Supplier. The Contractor, Electrical Subcontractor, Chief Plant Operator, and CM shall be present during the start-up. The cost for the start-up personnel shall include all travel, lodging, meals and miscellaneous expenses.

11. Geotechnical Testing

The following Geotechnical Tests shall be required for this project:

1. Two (2) compaction tests for the Class 2 Base beneath the pressure filter concrete pad. The exact location of the tests shall be determined by the CM.
3. No compaction test required for the 2.0” THM reduction piping.
4. One (1) set of concrete cylinders and slump test for the pressure filter slab. A set of cylinders consists of four (4) cylinders.

ATTACHMENT "B" - TECHNICAL SPECIFICATIONS

DIVISION 1 - GENERAL REQUIREMENTS

- 01660 MECHANICAL EQUIPMENT -
 INSTALLATION AND START-UP
- 01730 OPERATION AND MAINTENANCE MANUALS
- 01810 FUNDAMENTAL COMMISSIONING
 REQUIREMENT

DIVISION 9 – FINISHES

- 09800 FINISHES

DIVISION 11 - EQUIPMENT

- 11540 PRESSURE FILTER
- 11660 FACTORY POWDER COATED BOLTED
 STEEL TANK
- 11670 ELECTRIC ACTUATORS AND BUTTERFLY
 VALVES

DIVISION 13 – SPECIAL CONSTRUCTION

- 13320 COATING EXTERIOR OF THE PRESSURE
 FILTER

SECTION 01660 - MECHANICAL EQUIPMENT -
INSTALLATION AND START-UP

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section contains general information required to install mechanical equipment as shown on the Plans and specified within the various individual specifications. The plans show equipment and general layout based on certain commercially available equipment. It shall be the responsibility of the Contractor to ascertain the compatibility of all equipment and utilization of available space to do the work to the intent of these Contract Documents.
- B.. Included shall be all supervision, labor, materials, tools, equipment and services as required for the furnishing, installation, testing and operation of equipment including the services of manufacturer service engineers, receiving, unloading, storage, protection, installation and complete erection of all mechanical equipment required in these Contract Documents.
- C. Installation shall include, but not be limited to placing, core drilling, shimming, anchoring, grouting, cleaning, painting, lubricating, assembling, testing and adjusting of all mechanical equipment. Installation shall also include providing all required miscellaneous parts and appurtenances.

1.02 RELATED WORK SPECIFIED ELSEWHERE (NOT USED)

1.03 DESCRIPTION

- A. General:
 - 1. The Contractor shall be liable for all damage to the equipment which is to be furnished and installed under this Contract, as well as for any damage to the building structures, existing equipment or other property, real or personal, resulting from the movement of equipment or installation work. This liability shall continue until the installed equipment is accepted by the Owner.
 - 2. The Contractor shall cause the equipment to be furnished under this division to be the product of firms regularly engaged in the design and manufacture of the type of item

specified, possessing the required technical competence, skill, resources and ability to complete the work specified herein with the requisite degree of quality and in a timely and efficient manner. The Contractor shall be prepared to adequately document the qualification of the manufacturers nominated to provide equipment specified under this division. All documentation shall be submitted to the Engineer for review and acceptance prior to design, fabrication and shipment of any component specified herein. Nothing contained within these provisions shall be construed as relieving the Contractor of his responsibility for any portion of the work covered by this division.

B. Arrangement:

1. This arrangement of equipment shown on the Plans is based upon the best information available to the Engineer at the time of design and is not intended to show exact dimensions peculiar to any specific manufacturer unless otherwise shown or specified. The Plans are, in part, diagrammatic, and, therefore, it is to be expected that some features of the illustrated equipment installation may require revision in order to conform adequately to actual equipment installation requirements. The Engineer will review all equipment installations to assure compliance with these requirements. It is to be anticipated that structural supports, equipment pads, foundations, connected piping and valves shown, in part or in whole, may have to be altered in order to accommodate the equipment furnished. Equipment pads shall be increased or reduced in size to properly suit the actual equipment. No additional payment will be made for such changes. All necessary calculations and drawings shall be submitted to the Engineer prior to beginning the work.

1.04 QUALITY ASSURANCE

- A. Equipment and appurtenances shall be designed in conformity with the specified standards as listed herein. Equipment shall be constructed of materials for the conditions of exposure and of such strength to withstand all stress which may occur during testing, installation, all conditions of operation, including start-up, shut-down and power failure.
- B. All equipment shall be installed true and level and to the locations shown on the Plans. All work shall be performed to the satisfaction

of the Owner. Precision gauges and levels shall be used in setting all equipment.

- C. The Contractor shall be responsible for installation of the equipment in a manner consistent with the requirements of performance warranties and equipment workmanship of the manufacturer.
- D. Machinery parts shall conform exactly to the dimensions shown on the Shop Drawings. The corresponding parts of identical machines shall be made interchangeable. Clearance shall be provided for repairs, inspection and adjustment.
- E. Exposed surfaces shall be finished in appearance. All exposed welds shall be ground smooth at the corners for personnel protection.
- F. All machinery and equipment shall comply in all respects with the provisions of the Occupational Safety and Health Act of 1970, and other applicable Federal, State and local laws and regulations.
- G. Conformance to Performance Guarantee.
 - 1. Contractor shall guarantee all equipment provided under this Contract in accordance with the Contract Documents.

1.05 SUBMITTALS AND MISCELLANEOUS REQUIREMENTS

A. General:

- 1. All mechanical equipment provided per the contract documents shall be submitted for review by the Engineer. The submittal package for each individual equipment or groups of related equipment shall be complete and in accordance with the Special Conditions – Contractor Submittals.

B. Required Submittal Data:

- 1. The following information shall be submitted for each item of equipment. Additional data, specific to individual equipment items, are listed under individual specifications sections.
 - a. The proposed equipment shall be identified as shown in the Contract Documents.

- b. Any exceptions to these Specifications along with justification of each exception.
- c. Manufacturer and manufacturer's type designation.
- d. Manufacturer's catalog data confirming rated capacity, horsepower, efficiency and electrical requirements.
- e. Shop drawings.
- f. Predicted performance curves developed for the specific application. In the case of rotating equipment, performance curves shall show speed, capacity, pressure, efficiency, NPSH required and power for all specified conditions.
- g. Motor submittal data including efficiency, torques, power factors, winding resistances, full load locked rotor and running amperes, motor dimensions, insulation type.
- h. Cross-sectional views of machines showing details of construction.
- i. Data and calculations required to justify selection of size of components such as shafts, bearings and peripheral equipment necessary to conform to these Specifications.
- j. Parts, lists, with materials of construction.
- k. Installation requirements showing clearances required for maintenance purposes.
- l. Details of all appurtenances to be furnished with the specified item, including list of spare parts.
- m. Warranty and Maintenance Contract documentation shall be included.

PART 2 - PRODUCTS

2.01 ANCHORS AND SUPPORTS

- A. The Contractor shall furnish, install and protect all guides, bearing plates, anchor and attachment bolts, and all other appurtenances required for the installation of equipment. Anchors and supports shall be of ample size and strength for the purpose intended and shall be approved by the Engineer.
- B. Anchor bolts shall be furnished and set in concrete foundations where required. All anchor bolts, studs and fasteners shall be Class 316 stainless steel.
- C. Anchor bolts, flange bolts, and other fasteners using nuts and threaded bolts shall have no more than 1 ½ to 2 threads extending beyond the nut when fully tightened.
- D. The Contractor shall obtain and use shop drawings and suitable templates when required for installation of equipment.

2.02 LUBRICATION

- A. The Contractor shall thoroughly lubricate all equipment in accordance with the equipment manufacturer's instructions. Lubricating oils and greases shall be of the type and viscosity recommended by the equipment manufacturer.
- B. All lubricants shall be furnished with flushing oils as recommended by the manufacturer. This includes, but is not limited to, all gearing and bearings, regardless of whether they have been shipped with or without oil soluble protective coatings.
- C. Following flushing, oil lubricating systems shall be filled with "run-in" oil as recommended by the equipment manufacturer. The equipment shall be "run-in" at the no load condition for a minimum of two (2) hours. Following "run-in" and inspection, the equipment is to be drained and flushed again with flushing oil and refilled with lubricant as recommended by the manufacturer.
- D. The grease fittings on all mechanical equipment shall be such that they can be serviced with a single type of grease gun. Grease fittings shall be standard zirt type.
- E. Where locally mounted grease fittings would be difficult to service, the fitting shall be extended by adequately sized 316 stainless steel tubing to a point that shall provide accessibility for normal maintenance. Such points shall be located and installed as per the Engineer's directive.

2.03 PROTECTIVE COATING AND PAINTING

- A. All equipment and materials shall be shop painted. Particular attention shall be directed to wetted surfaces and other areas exposed to corrosive, extreme temperature or other hazardous environments.
- B. Painting shall be in strict accordance with Section 09800 unless otherwise indicated in the detailed equipment specifications. If there is no Section 09800, coating shall be as follows:
 - 1. Ferrous Metals: Exterior Exposure (Non-submerged and non-buried)
 - a. Surface preparation: SSPC-SP 6.
 - b. Product: Devoe:
 - (1) Primer: Bar Rust 231 - 2 coats (3-5 mils DFT)
 - (2) Intermediate: Devran 224 HS (4-5 mils DFT)
 - (3) Finish: Devthane 378H - 1 coat (3-5 mils DFT)or approved equal.
 - c. Color to be selected by the Owner.
 - 2. All Piping and Valves that have a factory epoxy coating shall receive a final coating in the field with a product compatible with the existing coating.
 - a. Color to be selected by the Owner.
- C. All machined surfaces and shafting shall be cleaned and protected from corrosion by the proper type and amount of coating necessary to assure a minimum protection for two (2) years after shipment.
- D. Oil lubricated gearing, bearings, and other lubricated components shall be shipped with an oil soluble protective coating as recommended by the manufacturer. The coating shall be selected to provide protection for two (2) years.
- E. Motors, reducers and electric controls shall have the standard factory finish prior to delivery except where specific exception is noted in the individual equipment specifications.

- F. Provide two (2) gallons of paint compatible with the equipment finish coat for field touch-up and provide blend numbers for primer coat and finish coat paints.

2.04 COUPLINGS

- A. Unless otherwise specified, mechanical equipment with a driver greater than ½ horsepower, and where the input shaft of a driven unit is directly connected to the output shaft of the drive, shall have its two shafts connected by a flexible coupling which can accommodate angular misalignment, parallel misalignment and end float, and which cushions shock loads and dampens torsional vibrations. The flexible member shall consist of a tire with synthetic tension members bonded together in rubber. The flexible member shall be attached to flanges by means of clamping rings and cap screws, and the flanges shall be attached to the sub shaft by means of taperlock bushings which shall give the equivalent of a shrunk-on fit. There shall be no metal-to-metal contact between the driver and the driven unit.
- B. Coupling sizes shall be as recommended by the manufacturer for the specific application, considering horsepower, speed of rotation, and type of service, and shall be installed as recommended by the manufacturer.

2.05 GUARDS

- A. All exposed moving parts shall be provided with guards in accordance with the requirements of CAL/OSHA. Guards shall be fabricated of 14 gage steel, ½-13-15 expanded metal screen to provide visual inspection of moving parts without removal of the guard. Guards shall be galvanized after fabrication and shall be designed to be readily removable to facilitate maintenance of moving parts. Reinforced holes shall be provided.

2.06 NAMEPLATES

- A. A nameplate shall be provided on all items of equipment and shall contain approved equipment name or abbreviation and equipment number. Equipment nameplates shall be engraved or stamped on stainless steel and fastened to the equipment in an accessible location with No. 4 or larger oval head stainless steel screws or drive pins. Nameplates for motor-driven equipment shall include capacity, head, horsepower, bearing data, model number and serial

number of pump, blower, compressor and motor. The main sewage pump nameplates shall also include the impeller diameter.

2.07 TOOLS AND ACCESSORIES

- A. The Contractor shall supply one (1) complete set of any special wrenches or other special tools necessary for the assembly, adjustment, and dismantling of the equipment. Special tools shall include any type of tool that has been specifically made for use on an item of equipment for assembly, disassembly, repair, and maintenance or is not available in current Snap-On Catalogue or Proto Professional Tools Full-Line Catalogue. When special tools are provided, they shall be marked or tagged, and a list of such tools shall be included with the maintenance and operation manuals describing the use of each marked tool. All wrenches and spanners shall be of best quality, hardened steel forgings with bright, finished heads and with work faces dressed to fit nuts. Each set of tools shall be neatly mounted in a toolbox of suitable design provided with a hinged cover.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. The Contractor shall cause each item of equipment provided as a part of the Contract Documents to be installed, aligned and tested by skilled workmen to the tolerances recommended by the equipment manufacturer. In addition, the equipment shall be installed, aligned and tested under the direction of installation engineers who have been factory trained by the equipment manufacturer. Upon completion of the Work and as a condition precedent to final acceptance, the Contractor shall furnish written certification from each equipment manufacturer that each item has been installed, aligned and tested correctly and that the installation meets all the manufacturer's requirements for efficient, trouble-free operation. This provision, however, shall not be construed as relieving the Contractor of his overall responsibility for the Work.

3.02 NOISE REQUIREMENTS

- A. All equipment specified shall be tested for noise generation after installation. When tested, equipment shall include the complete driver and driven equipment. Three (3) certified copies of the test

shall be submitted to the Owner for approval prior to final acceptance.

3.03 SHOP INSPECTION AND SHOP TESTING

- A. The Owner shall be granted reasonable access to the production and shop test areas of the equipment manufacturer's facility during manufacturing and testing.
- B. The Contractor shall notify the Owner in writing, at least ten (10) working days prior to commencement of shop tests, of the time and place of all shop tests.
- C. Inspection by the Owner will not relieve the Contractor of his responsibility for workmanship, materials and Plans and Specification requirements.
- D. Manufacturer's standard test procedures shall be required and the manufacturer shall demonstrate that equipment meets all the requirements of these Plans and Specifications.

3.04 SHIPPING AND IDENTIFICATION

- A. All shipments shall be "tagged" by the Contractor with "wired-on" metal or plastic tag clearly stenciled or lettered with paint or waterproof ink. The information on the tags and cartons shall include Contractor's order number, purchase order number, manufacturer's number, and equipment number. Any expense incurred by the Owner due to the Contractor's failure to do so will be backcharged or deducted from his Contract.
- B. Each piece of equipment shall be provided with a substantial stainless steel nameplate, securely fastened in a conspicuous location and clearly inscribed with the manufacturer's name, year of manufacturer, serial number, principal rating data and equipment item number.
- C. The equipment covered in these Specifications shall be fabricated in the minimum number of sub-assemblies necessary for transportation. Small components or assemblies shall be adequately boxed or crated to prevent damage during shipment.
- D. Each assembly or package shall be identified with a durable shipping tag securely attached and plainly marked with the Contractor's order number, manufacturer's purchase order number and equipment number.

- E. All openings shall be covered with plywood, plastic or wood plugs or shields to prevent debris from entering the assemblies. Each assembly or sub-assembly shall have lifting lugs to facilitate erection and subsequent removal when necessary.

3.05 OPERATION AND MAINTENANCE MANUALS

- A. Operation and Maintenance manuals shall be furnished in accordance with Section 01730.

3.06 OPERATION AND MAINTENANCE INSTRUCTION

- A. The Contractor shall provide instruction time in accordance with the detailed equipment specifications, after the equipment has been accepted by the Owner. The time shall be used to instruct the Owner's personnel in the proper operation and maintenance of the equipment. The manufacturer shall provide technical personnel familiar with the operation and maintenance of the equipment in making this presentation.
- B. Training shall consist of on-site operation training, classroom training, operational, safety and emergency drills.

3.07 INSTALLATION OF EQUIPMENT

- A. The Contractor's work procedure shall conform to the manufacturer's installation instructions unless expressly directed otherwise by the Owner.
- B. Equipment shall be erected level and plumb on the existing foundations and supports at the locations and elevations shown on the Plans, unless otherwise directed, in writing, by the Owner and Resident Project Representative during installation. Any additional pads, plates and other appurtenances necessary for the installation shall be provided by the Contractor.
- C. The equipment shall be brought to proper level with leveling nuts. After the machine has been leveled and aligned, the nuts on the anchor bolts shall be tightened to anchor the machine firmly into place against the leveling nuts.
- D. The grout shall be installed in accordance with the manufacturer's instructions.

- E. All equipment shall be installed in such a manner as to provide access for routine maintenance and lubrication as specified in Section 2.02 of this specification.
- F. Equipment of a portable nature which requires no installation shall be delivered to a location designated by the Owner.

3.08 MECHANICAL START-UP

- A. Once the equipment has been installed, complete with all auxiliary and support systems, and is ready for operation, the Contractor shall mechanically check out the equipment to verify that the equipment functions correctly under “non-process” conditions. The equipment shall be fine-tuned, adjusted, water tested, where applicable, and completely checked out before the equipment and support systems are considered ready for process start-up.
- B. The Contractor will be responsible for coordinating this effort and providing all support services and facilities necessary for this work effort.
- C. The equipment will not be considered ready for process start-up until the Owner is satisfied that the equipment has been satisfactorily checked out and successfully passed leakage and non-process test runs and appropriate training has been completed per the detailed equipment specifications.

3.09 FIELD SERVICE

It is understood that the Contractor and manufacturer share a joint responsibility in this Work. The Contractor shall provide the Manufacturer’s qualified field representative and supporting personnel as required for the equipment furnished and installed under this Contract to perform the following:

- A. Assistance during equipment installation shall be provided to align the equipment or check the alignment of pre-aligned equipment prior to making connections to or anchoring of the equipment.
- B. Inspection during equipment installation work shall be provided to determine compliance with equipment erection methods and procedures recommended by the manufacturer.
- C. Conduct the process start-up necessary to operate, adjust, calibrate and tune the equipment and systems into operating

service in accordance with the design criteria described in each detailed equipment specification.

- D. Conduct performance tests to demonstrate compliance with design criteria and performance guarantee set forth in the Specifications.

3.10 PROCESS START-UP

- A. Once the equipment has been considered ready for process start-up and the support system can deliver the process material, the Contractor shall start up the equipment under process conditions and conduct performance tests to verify compliance with the Specifications. The Contractor shall give the Engineer forty-eight (48) hours written notice of his intent to start up equipment under process conditions and conduct performance testing.
- B. The Contractor shall provide the necessary supervision and technical personnel and services required to perform the work. The Owner shall coordinate this phase of the work with the Contractor and provide all necessary support services and facilities to assist the Contractor in performing the work.
- C. The equipment shall be considered ready for a performance test only after the Contractor has demonstrated to the Owner that the equipment can operate continuously, without mechanical interruption under the process flow conditions for up to three (3) days, or such time as may be mutually agreeable to the Owner and Contractor.
- D. After it has been determined that the equipment will operate satisfactorily under process conditions, the performance test shall be made by the Contractor to verify that the equipment can meet the requirements outlined in the Specifications. The performance test shall be based on maintaining the design requirements for a time period mutually agreeable to the Owner and the Contractor, or such period as is stipulated in the General Provisions.

3.11 OWNER FURNISHED EQUIPMENT

- A. The Contractor shall notify the Engineer when Owner furnished equipment is completely installed in accordance with the Owner furnished manufacturer's instruction and requirements of the Contract Documents and ready for operation testing. The Engineer will schedule the manufacturer's representative to visit the site of the Work and inspect, check adjust if necessary and approve the

equipment installation. If the manufacturer's representative cannot complete the testing and startup services due to the Contractor's negligence in installing the equipment, the Contractor shall be responsible for the costs of the service representatives' revisit to the site of the Work.

3.12 PERFORMANCE TESTS

- A. Performance test procedures shall be prepared by the Contractor and approved (in writing) by the Engineer/Owner a minimum of fourteen (14) days before performance tests are conducted.
- B. Costs of all inspections, field service, mechanical start-up, run-in work, process start-up and performance tests shall be borne by the Contractor and shall be included in the total price bid for the Work.
- C. The Contractor shall also agree to repay the Owner installation costs for any rejected equipment. The installation costs will be derived by the Owner based on actual costs charged for the installation of the equipment.

3.13 ACCEPTANCE OF EQUIPMENT BY THE OWNER

After all the conditions of the Specifications have been satisfied, the Owner will designate in writing that the equipment is accepted, and at such time the Owner will be responsible for all further maintenance and operation of same. The warranty period for all equipment shall start on the date of final acceptance by the Owner.

END OF SECTION 01660

SECTION 01730 - OPERATION AND MAINTENANCE MANUALS

PART 1 - GENERAL

1.01 DESCRIPTION

The Contractor shall furnish to the Engineer six (6) identical sets of operation, maintenance and technical manuals for the new Control Panel, Turbidimeter, Chlorine Analyzers, and Chemical Dosing Skids. The Contractor shall include in the manuals for each item of mechanical, electrical and instrumentation equipment the following:

1. Complete operating instructions, including recommended troubleshooting and start-up procedures; tabulation of proper settings for all pressure relief valves, pressure switches and other related equipment protection devices; detailed test procedures to determine performance efficiency of equipment; list of all electrical relay settings including alarm and contact settings.
2. Preventive maintenance procedures and schedules, including required lubricants, filters, adjustments and special tools.
3. Parts lists, by generic title and identification number, complete with exploded views of each assembly. Spare parts information shall be included for each mechanical, electrical and instrumentation equipment. The spare parts list shall include the current list price of each spare part. The spare parts list shall be limited to those spare parts which each manufacturer recommends be maintained by the Owner in inventory at the plant site. Each manufacturer or supplier shall indicate the name, address and telephone number of its nearest outlet for spare parts to facilitate the Owner in ordering.
4. Disassembly and reassembly instructions, including required special tools.
5. Record drawings including diagrams and schematics as required under the electrical and instrumentation portions of these specifications.

1.02 OPERATIONS AND MAINTENANCE MANUALS

A. General:

1. The "Operating and Maintenance Manual" is a bound compilation of drawings and data required for each project. These manuals, complete with drawings and data, shall be furnished to the Owner.
2. The Contractor has overall responsibility to obtain the necessary data from and compile the data as set forth in this specification, including items or equipment purchased by the Owner and delivered to the Contractor for installation.
3. The number of binders (or "volumes") required for each individual project will depend on the amount of information to be catalogued.
4. All information included shall be legible and sufficiently marked to indicate the exact size, model, type, etc., of equipment furnished and installed.

B. Purpose: The Operating and Maintenance Manual is prepared to provide a ready reference to all important mechanical, electrical and instrumental equipment components installed at the project. It is also to provide the necessary operating and maintenance data for use by service personnel. It is also to provide information required for checking equipment performance or for planning of plant expansion or redesign.

C. Quantity and Preparation (Submit through Engineer):

1. Operation and Maintenance Manuals shall be prepared for the project.
 - A. Three (3) sets to the Engineer.
 - B. Three (3) sets to Owner.
2. The quantities of drawings, manufacturer's literature, or other data required for these manuals are in addition to those otherwise required for normal distribution for approval during the construction period.

PART 2 - MATERIALS AND METHODS

2.01 PAGE SIZE

- A. All pages shall be standard 8-½ x 11 inches size or approximate multiples (preferably 11 x 17 inches) folded to 8-½ x 11-inch manila pockets, which shall have standard three-ring side punching for insertion in the binders. The equipment name, drawing description and number shall be written on the face of each manila pocket.

2.02 DRAWINGS

- A. All drawings larger than 8-½ x 11" shall be folded and inserted in individual 8-½" x 11" manila pockets, which shall have standard three-ring side punching for insertion in the binders. The equipment name, drawing description and number shall be written on the face of each manila pocket.

2.03 BINDERS

- A. Binders shall be Buckram binders with block lettering for sheet size 8-½ x 11 inches with 2" to 3-½" expandable metal capacity as required for the project. The number of binders, however, shall be based on not filling them beyond 4".
- B. The following information shall appear on the front cover and backbone:
 - 1. "Operation and Maintenance Manual"
 - 2. Project Name (Holtville Water System Improvement Project) and volume number if more than one volume
 - 3. Owner's name
 - 4. Engineer's name
 - 5. General Contractor's name

Item 5 need not be printed on the backbone.

2.04 CONTENTS AND INDEXING

- A. Manuals shall contain descriptions of the plant systems in sufficient detail to adequately indicate the type of systems installed and the basic details of their operation.

- B. All purchased equipment data shall be used to designate the sections. Within each section additional indexing of component parts may be required.
- C. Operation and Maintenance Manuals shall contain to the fullest extent all possible information pertinent to the equipment. The arrangement and type of information to be filed shall be as follows:
1. Copy of purchase order change (if any).
 2. Outline drawings, special construction details, "as built" electrical wiring and control diagrams for all major and supplementary systems.
 3. Manufacturer's test or calculated performance data and certified test curves.
 4. Installation, operating and maintenance instructions, including a complete parts list and sectional drawing with parts identification numbers. Mark with model, size and plan number.
 5. Manufacturer's brochure marked to indicate exact equipment purchased. Brochures on component parts supplied by a manufacturer with his equipment, but not manufactured directly by him, shall also be included.
 6. The serial numbers of each item of equipment installed are to be listed with the model numbers and plan symbols.
 7. Written warranties.
 8. Include a Table of Contents. The contents shall be divided with tabbed index dividers into the following suggested parts:

Part I	Treatment Plant and System Descriptions
Part II	Purchased Equipment Data
Part III	Test Reports and Valve Charts
Part IV	Start-Up and Operation
Part V	Preventative Maintenance Recommendations

9. A copy of the approved submittals for each piece of equipment.
10. A copy of all testing, adjusting and balancing reports.
11. Wiring diagrams marked with model and size and plan symbol.
12. Operating and Maintenance Manuals data for Part I shall be obtained directly from the mechanical and electrical consultants. (All consultant preparation cost.)
13. The index shall contain the name and address of the manufacturer and, if different, where replacement and repair parts may be obtained.

2.05 EQUIPMENT SUMMARY DATA FORMS INFORMATION SHEET

Equipment Summary Data Forms are intended to provide the Maintenance Department with sufficient information to catalogue newly purchased equipment items installed at the project site. This information is used for inventory purposes as well as for equipment performance tracking purposes. Each item of equipment installed at the facility must be documented on Equipment Summary Data Form. Examples of the form is attached. Additional requirements regarding submittal format, quantities, etc, are found elsewhere in this Specification.

1. Equipment item (included industry-accepted nomenclature).
2. Manufacturer address, phone/fax numbers
3. Supplier address (if different than above), phone/fax numbers
4. Equipment serial and model numbers
5. Size
6. Capacity
7. Rated output
8. Drive motor data (as appropriate).

In addition, information specific to the item described shall be provided as indicated on the following form.

**EQUIPMENT SUMMARY
DATA FORM**

EQUIPMENT ITEM: _____

EQUIPMENT COST: _____

EQUIPMENT SUPPLIER: _____

COMPONENT INFORMATION:	
NAMEPLATE DATE:	MANUFACTURER:
EQUIPMENT MODEL NO.:	EQUIPMENT SERIAL NO.:
EQUIPMENT MODEL DESIGNATION:	TYPE:
SIZE:	RATED OUTPUT:
CAPACITY:	SERVICE:
COMPONENT INFORMATION: DRIVE MOTOR DATA	
MANUFACTURER:	
SERIAL NO.:	HORSEPOWER:
MODEL:	FRAME:
TYPE:	VOLTAGE:
ENCLOSURE:	AMPERAGE:
PHASE: HERTZ:	SERVICE FACTOR:
LUBRICATION REQUIREMENTS: MOTOR	
COMMENTS:	

2.06 INFORMATION SHEET FOR EQUIPMENT MAINTENANCE SUMMARY FORMS

Equipment Maintenance Summary forms are intended to provide the Maintenance Division with information sufficient to properly diagnose (troubleshoot, repair, check-out, and return an item of equipment to service. Standard information contained in each Form shall be as follows:

In addition, Maintenance information required to troubleshoot, repair, and return electrical/electronic equipment to service (including set point, derivatives, etc.) shall be included as required. The Maintenance Summary Form attached is intended to serve as a (minimum) guide to the information required per item of equipment. Additional requirements regarding submittal format, quantities, etc. are found elsewhere in this Specification.

1. Equipment item (include industry-accepted nomenclature)
2. Manufacturer address, phone/fax numbers
3. Equipment serial number(s)
4. Weight of individual components (over 100 pounds)
5. Nameplate data (including voltage, horsepower, lubrication requirements, speed, etc.)
6. Manufacturer's local representative address, phone/fax numbers
7. Maintenance operation(s) required. Listing shall include (1) Maintenance Operation to be performed. (2) frequency of said Maintenance Operation based on actual service conditions of installed equipment (i.e., type of duty, environmental factors). Reference shall be made to the appropriate section of the manufacturer's technical literature.
8. Lubricant list. List shall include a primary and two secondary manufacturer-approved lubricants.
9. Spare parts required for a minimum of one (1) year of equipment operation based on anticipated actual service conditions. Also the name, address, and phone number of the recommended source of spare parts shall be included if different than manufacturer's representative.

TYPICAL MAINTENANCE SUMMARY FORM

NOTE: SUPPLEMENTARY INFORMATION SHALL BE INCLUDED AS APPROPRIATE

1. EQUIPMENT ITEM: _____
2. MANUFACTURER: _____
 ADDRESS: _____
 TELEPHONE NO.: _____ FAX NO.: _____
3. EQUIPMENT SERIAL/IDENTIFICATION NUMBERS: _____
4. WEIGHT OF INDIVIDUAL COMPONENTS (OVER 100 POUNDS): _____
5. NAMEPLATE DATA: _____
6. MANUFACTURER'S LOCAL REPRESENTATIVE: _____
 ADDRESS: _____
 TELEPHONE NO.: _____
 FAX NO.: _____
7. MAINTENANCE OPERATION(S) REQUIRED: (attach separate sheet if required).

<u>OPERATION</u>	<u>FREQUENCY</u>	<u>COMMENTS</u>

8. LUBRICANT LIST. Provide Reference symbol used in items recommended.

SHELL	STANDARD OIL	GULF	ARCO	EQUAL

9. RECOMMENDED SPARE PARTS LISTS FOR MINIMUM OF ONE (1) YEAR UNINTERRUPTED SERVICE. (Attach separate sheet if required).

ITEM	PART NO.	QUANTITY REQUIRED (per unit)	UNIT COST	COMMENTS

END OF SECTION 01730

SECTION 01810 – FUNDAMENTAL COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes administrative and procedural requirements as well as a detailed description of the commissioning process. This section applies to the new Control Panel and Sections in Divisions 11 that specify testing of components and systems.
- B. Basic Commissioning is intended to achieve the following objectives:
 - 1. Verify that applicable equipment and systems are installed according to the manufacturer's recommendations and to industry accepted minimum standards and that they receive adequate operational checkout by installation contractors.
 - 2. Verify and document proper performance of equipment and systems.
 - 3. Verify that Operations and Maintenance (O&M) data is complete.
 - 4. Verify that the plant's operating and maintenance personnel are trained in accordance with the specifications.

1.02 RELATED WORK SPECIFIED ELSEWHERE

The following section contains requirements that relate to this section:

- A. Division 11 "Equipment"

1.03 SUBMITTALS

- A. Provide submittal documentation relative to commissioning as described in Contractor Submittals in the Special Conditions.

1.04 COORDINATION

Items listed below require the Contractor to coordinate between the sub-contractors, Design Engineer, CM, LPA, ICCED or Imperial County Public Works Representatives and the Plant Supervisor. Note that Commissioning Authority (CA) shall include the Design Engineer, Plant Supervisor, LPA, ICCED or Imperial County Public Works Representatives

and Construction Manager. Details regarding each item are given elsewhere in this Section and/or other commissioning sections of the specifications.

- A. Pre-Commissioning Meeting: Conducted by the CM during which the review of the commissioning process is conducted with the commissioning team members.
- B. Coordination Meetings: Attend meetings throughout construction, scheduled by the CM, to plan, coordinate, schedule future activities, and resolve problems.
- C. Start-up Plans: Work with the CM to develop startup plans and startup documentation formats, including prefunctional checklists.
- D. Equipment Start-up: Utilize start-up plans to coordinate equipment start-up, manufacturers' testing, and other required testing to minimize duplication of work.
- E. Testing, Adjusting, and Balancing: Coordinate testing, adjusting, and balancing with the Commissioning Authority so that the CA can witness the processes.
- F. Functional Testing: Coordinate functional testing with the CM so that they can witness testing.
- G. Training: Coordinate training of owner's staff so that the CM can verify that training is conducted per commissioning requirements.

1.05 SYSTEMS TO BE COMMISSIONED

- A. The following systems will be commissioned in this project:
 - 1. Control Panel
 - 2. Turbidimeter
 - 3. Chlorine Analyzers
 - 4. Chemical Dosing Pump Skid
 - 5. Monitoring and Control System including SCADA, RTU, Antenna and Communication Systems.

PART 2 – PRODUCTS

2.01 TEST EQUIPMENT

- A. Provide all testing equipment required for testing of the units to be commissioned.
- B. Provide any special equipment, tools, and instruments that are only available from the equipment supplier, which are specific to the equipment, and which are required for testing.

PART 3 – EXECUTION

3.01 MEETINGS

- A. Commissioning Pre-Construction Meeting: Within 5 days of commencement of construction, the ENGINEER will schedule a commissioning pre-construction meeting with the commissioning team in attendance. CM shall distribute meeting minutes to commissioning team. Attendance is mandatory for the following team members, if applicable:
 - 1. Commissioning Authority (CA) – Design Engineer, Plant Supervisor, Construction Manager, LPA and ICCED or Imperial County Public Works Representatives
 - 2. Contractor's Site Supervisor
 - 3. Contractor's Project Scheduling personnel
 - 4. Mechanical sub-contractor
 - 5. Electrical sub-contractor
 - 6. Plant Operator representative
- B. Miscellaneous Meetings. The ENGINEER will schedule other meetings, generally in conjunction with regularly scheduled site meetings as construction progresses. Meetings will cover coordination, deficiency resolution, and planning issues with particular subcontractors.

3.02 START-UP AND PREFUNCTIONAL CHECKLISTS

- A. Perform a full pre-functional checkout of each piece of equipment. The pre-functional testing for a given system must be successfully completed prior to formal functional testing.
- B. Equipment shall not be “temporarily” started (for heating and cooling) until the Start-Up Plan is completed.
- C. The Contractor shall prepare start-up plans for equipment to be commissioned. Subcontractors responsible for pre-functional checklists and startup will be identified at the pre-commissioning meeting. Submit start-up plans to the Engineer for review and approval; start-up plans shall consist of, but not be limited to:
 - 1. The manufacturer’s standard written start-up procedures copied from the installation manuals, with check boxes by each procedure and a signature block at the end.
 - 2. Field checkout sheets normally used by the sub-contractor.
 - 3. Forms normally issued by the sub-contractor to document tests required in the specifications.
 - 4. Final pre-functional checklists (drafts are included in the specifications).
 - 5. Schedule that includes equipment installation, contractor start-up, manufacturer start-up, and other tests required by the specifications. Schedule shall state when documents in the start-up plan will be completed.
- D. At least 10 days prior to the start of commissioning, the Contractor shall submit a commissioning package for the equipment to be commissioned. This package shall include the following information:
 - 1. Equipment manufacturer’s operating & maintenance instructions.
 - 2. Equipment manufacturer’s installation and start-up manual.
 - 3. Start-up plans as required in this section.

3.03 REQUIREMENTS FOR FUNCTIONAL TESTING

- A. Complete the following prior to functional testing:
 - 1. Arrange for commissioning observations to be performed by the Commissioning Authority.
 - 2. Complete and approve the Start-up Plan.
 - 3. Correct deficiencies identified during start-up.
 - 4. Record pretest set points.

3.04 FUNCTIONAL TESTING

- A. Perform functional testing after the testing requirements listed in Paragraph 3.03 are completed.
- B. Perform functional testing under the observation of the commissioning authority who will record the results of the functional test procedures.
- C. Perform all specified tests according to approved testing procedures.
 - 1. Verify and test performance using actual conditions whenever possible.
 - 2. Simulate conditions by imposing an artificial load when it is not practical to test under actual conditions and when written approval for simulated conditions is received from Commissioning Authority. Before simulating conditions, calibrate testing instruments. Set and document simulated conditions and methods of simulation. After test, return settings to normal operating conditions.
 - 3. Alter set points when simulating conditions is not practical and when written approval to do so is received from Commissioning Authority.
 - 4. Overwrite sensor values with a signal generator when actual or simulated conditions and altering set points are not practical. Do not use the sensor to act as the signal generator to simulate conditions or overwrite values.
- E. The Commissioning Authority will review and approve functional testing results. Deficiencies found during testing shall be corrected by the Contractor and retested. Where there is a dispute over a deficiency, the Engineer shall be the final authority.

- F. Problem Solving: The CM will recommend solutions to problems found, however, the burden of responsibility to solve, correct and retest problems is with the contractor and design team.

3.05 COST OF RETESTING

- A. Costs for retesting beyond one retest will be the responsibility of the Contractor, if the Engineer determines that the contractor is responsible for the deficiency. These costs shall include charges for the CA's time, Design Engineer and Inspector.
- B. For a deficiency identified during functional testing but not included in the approved Start-up Plan: The CM will direct the retesting of the equipment once the deficiencies are corrected.
- C. Retesting will not be considered a reason for a claim of delay or for a time extension by the contractor.

3.06 DEFERRED TESTING

- A. Unforeseen Deferred Tests: Checks or tests not completed due to unforeseen condition may be delayed upon approval of the Engineer. These tests will be conducted in the same manner as the seasonal tests as soon as possible.
- B. Seasonal Testing: Complete seasonal testing (tests delayed until weather conditions are closer to the system's design conditions) during the warranty period, as part of this contract. The Engineer will coordinate this activity. Tests shall be executed, documented and deficiencies corrected by the appropriate Subs, with facilities staff and the CM witnessing. The Contractor shall make adjustments to the Operations and Maintenance Data, as necessary.

END OF SECTION 01810

SECTION 09800 - PROTECTIVE COATINGS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Contractor shall furnish all tools, equipment, materials, and supplies and shall perform all labor required to complete the protective coating of all specified surfaces including all surface preparation, pretreatment, continuous dehumidification, coating application, touch-up of factory-coated surfaces, protection of surfaces not to be coated, cleanup, and appurtenant work, all in accordance with the requirements of the Contract Documents.
- B. The following surfaces shall not be protective coated hereunder unless shown or specified herein or elsewhere in the Contract Documents.
 - 1. Concrete
 - 2. Stainless steel
 - 3. Machined surfaces
 - 4. Grease fittings
 - 5. Glass
 - 6. Equipment nameplates
- C. The coating system schedules summarize the surfaces to be coated, the required surface preparation, and the coating systems to be applied. Coating notes on the Plans are used to show exceptions to the schedules, to show or extend the limits of coating systems, or to clarify or show details for application of the coating systems.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Division 5 — 05500 — Miscellaneous Metals
- B. Division 13 — 13290 — Rehabilitation of Existing Steel Tank

1.03 REFERENCES

- A. The following standards (including the most recent update or version) shall govern the work unless specified otherwise in these specifications:
- B. References herein to "SSPC Specifications" or "SSPC" shall mean the published standards of the Steel Structures Painting Council, 4400 Fifth Avenue, Pittsburgh, PA 15213.
 - 1. SSPC-Vol.1, Steel Structures Painting Manual, Good Painting Practice.

2. SSPC-Vol.2, Steel Structures Painting Manual, Systems and Specifications.

SSPC-SP5	White Metal Blast Cleaning
SSPC-SP6	Commercial Blast Cleaning
SSPC-SP7	Brush-Off Blast Cleaning
SSPC-SP10	Near White Blast Cleaning
SSPC-SP11	Power Tool Cleaning to Bare Metal
S SPC-AB1	Mineral and Slag Abrasives
SSPC-PA1	Shop, Field and Maintenance Painting
SSPS-PA2	Measurement of Dry Paint Thickness with Magnetic Gages
SSPS-PA Guide 3	Guide to Safety in Paint Application
SSPC-Guide to Vis 1-89	Visual Standard for Abrasive Blast Cleaned Steel
SSPC-V15 (3-93)	Visual Standard for Power and Hand-Tool Cleaned Steel

C. References herein to "NACE" shall mean the published standards of the National Association of Corrosion Engineers, P.O. Box 986, Katy, TX 77450.

D. Comply with the reference specifications of the General Requirements – Division 1.

E. Comply with the current provisions of the following Codes and Standards.

1. Commercial Standards:

ANSI A 13.1	Scheme for Identification of Piping Systems
ANSI/AWWA C 105	Polyethylene Encasement for Ductile Iron Piping for Water and Other Liquids
ANSI/AWWA C 203	Coal-Tar Protective Coatings and Linings for Steel Water Pipelines - Enamel and Tape-Hot-Applied
ANSI/AWWA D 102	Painting Steel Water-Storage Tanks

2. Federal Specifications:

TT-P-28F	Paint, Aluminum, Heat Resisting (1200F)
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F. All applicable OSHA and safety standards.

1.04 CONTRACTOR SUBMITTALS

- A. Submittals shall be made in accordance with the General Requirements.
- B. Samples: The Contractor shall submit samples of all paint, finishes, and other coating materials specified herein, in accordance with the General Requirements. Paint or coating samples shall be submitted on 8-1/2 inch by 11 inch sheet metal. Each sample shall be completely coated over its entire surface with one protective coating material, type, and color.
- C. Coating Materials List: The Contractor shall provide eight (8) copies of a coating materials list which indicates the manufacturer and the coating number, keyed to the coating systems herein, prior to or at the time of submittal of samples.
- D. Paint Manufacturer's Information: For each paint system to be used the Contractor shall submit the following listed data at least thirty (30) days prior to painting.
 - 1. Paint manufacturer's data sheet for each product used, including statements on the suitability of the material for the intended use.
 - 2. Paint manufacturer's instructions and recommendations on surface preparation and application.
 - 3. Colors available for each product (where applicable).
 - 4. Compatibility of shop and field applied coatings (where applicable).
 - 5. Material safety data sheet for each product used.
 - 6. Two (2) sets of color samples to match each color selected by the Engineer from the manufacturer's standard color sheets. If custom mixed colors are required by this Section, the color samples shall be made using color formulations prepared to match the color samples furnished by the Engineer. The color formula shall be shown on the back of each color sample.
- E. Manufacturer's Certification: For submerged and severe service coating systems, the Contractor shall require the paint manufacturer to certify to the following:
 - 1. The manufacturer's representative has provided at least six (6) hours of on-site instruction in the proper surface preparation, use, mixing, application, and curing of the coating systems.

2. The manufacturer's representative has personally observed the start of surface preparation, mixing, and application of the coating materials.
- F. The Contractor shall submit all such certificates to the Engineer within seven (7) days of completion of each paint system.
- G. Applicator's Certificate and Report: For submerged and severe service coating systems, the Contractor shall require the applicator of the protective paint coatings to certify to the following:
1. Immediately before painting, surfaces conformed to the specified preparation; they were in the specified condition; and were clean, dry, and free of dust, rust, and mill scale.
 2. Surface preparation and coating use, mixing, application, and curing were accomplished in accordance with the current printed instructions and recommendations of the protective coating manufacturer, and these Specifications.
 3. The products specified were used and a listing of the names of the products and their manufacturer.
 4. The products were used within the shelf-life dates, stating the shelf-life dates of each container of each product used.
 5. The specified dry film thickness of coatings is on the items.
 6. The quantities of each product used with copies of paint manufacturer's invoice.
 7. Compatible paints were used where shop or field applied coatings are applied over previously-applied coatings.
 8. The applicator's certificate shall list the dates and locations that the coating work was completed for the various surfaces coated, and shall also list the dry film thickness obtained for each coat. The Contractor shall submit said paint applicator's certificates to the Engineer within seven (7) days after completion.
- H. Air Pollution Control District Permitting: The Contractor shall obtain and provide permit documentation as retained from the County of Imperial Air Pollution Control District, such as Sandblasting Permit.

1.05 QUALITY ASSURANCE

- A. General: The Contractor shall give the Engineer a minimum of three (3) days advance notice of the start of any field surface preparation work of coating

application work, and a minimum of seven (7) days advance notice of the start of any shop surface preparation work.

- B. All such work shall be performed only in the presence of the Engineer, unless the Engineer has granted prior written approval to perform such work in its absence.
- C. Inspection by the Engineer, or the waiver of inspection of any particular portion of the work, shall not relieve the Contractor of its responsibility to perform the work in accordance with these Specifications.
- D. Where protective coatings are to be performed by a subcontractor, said subcontractor must possess a valid state license as required for performance of the painting and coating work called for in this specification and must provide five (5) references which show that the painting subcontractor has previous successful experience with the specified or comparable coating systems. Include the name, address, and the telephone number for the owner of each installation for which the painting subcontractor provided the protective coating.
- E. Quality Control:
 - 1. The Contractor shall provide adequate lighting, without shadows, during all phases of work to insure that work is performed as specified and that the entire work area is illuminated.
 - 2. The Contractor shall provide ground supported scaffolding and lighting, as determined by the Inspector, to facilitate visual and instrument inspection by the Inspector of each phase of the work and of the completed work, as so placed as directed to minimize glare and shadows.
 - 3. The Contractor shall provide personnel to move scaffolding and furnish other assistance to Owner's Inspector as required.
 - 4. The Owner's Coating Inspector will examine surfaces after blast cleaning to verify that all deposits of contaminants have been removed. The Contractor shall blow down, or vacuum all surfaces prior to Owner's inspection.
 - 5. The Contractor shall verify at a minimum of two times daily that air supply is free of oil and moisture contamination. The Contractor shall use effective oil and water separators in all main compressor airlines and shall be placed as close as practicable to the equipment. Prior to using compressed air, the Contractor shall test the quality of air downstream of the separators at suitable outlets by blowing the air on

clean white blotter for 2 minutes to check for any contamination, oil, or moisture.

6. The Contractor shall daily: measure air temperature, humidity, relative humidity, and metal surface temperature, and determine dew point and relative humidity prior to abrasive blasting or painting; provide portable temperature / humidity recorders to provide continuous permanent hard copy of the reservoir conditions; and, repeat measurements and determination of dew point as often as the Owner's Inspector deems necessary but not less often than every four hours.
 7. The Contractor shall maintain a written record of measurements and dew points, and time that measurements were taken, keep such record on-site, and make records available to Owner's Inspector on request.
 8. The Contractor shall furnish 4 rolls of Testex tape 1.5 to 2.5 mils X-course prior to the start of abrasive blasting. The Owner's Coating Inspector may evaluate surface preparation using field abrasive blasting standards, and Testex tape. Evaluation may include inspection of blasted surfaces for dust and abrasive residue, using clear adhesive coated tape. Evaluation will be made immediately prior to coating application.
 9. The Contractor shall verify cleanliness of all spray application equipment prior to, or no later than, time of mixing coating material.
 10. The Contractor shall measure wet film thickness during coating application of coating to ensure adequate coating thickness, taking at least one measurement for each 100 square feet of application area.
- F. Inspection Devices: The Contractor shall furnish, until final acceptance of such coatings, inspection devices in good working condition for the detection of holidays and measurement of dry-film thicknesses of protective coatings. Dry-film thickness gauges shall be made available for the Engineer's use at all times while coating is being accomplished, until final acceptance of such coatings. The Contractor shall provide the services of a trained operator of the holiday detection devices until the final acceptance of such coatings. Holiday detection devices shall be operated only in the presence of the Engineer.
- G. Holiday Testing: The Contractor shall holiday test all coated ferrous surfaces inside a steel reservoir, or other surfaces which shall be submerged in water or other liquids, or surfaces which are enclosed in a vapor space in such structures and surfaces coated with any of the submerged and severe service coating systems. Areas which contain holidays shall be marked and repaired or recoated in accordance with the coating manufacturer's printed instructions and then retested.

1. Coatings with thickness exceeding 20 Mils: For surfaces having a total dry film coating thickness exceeding 20 mils: pulse-type holiday detector such as Tinker & Razor Model AP-W, D.E. Stearns Co. Model 14/20, or equal shall be used. The unit shall be adjusted to operate at the voltage required to cause a spark jump across an air gap equal to twice the specified coating thickness.
 2. Coatings with thickness of 20 Mils or Less: For surfaces having a total dry film coating thickness of 20 mils or less: Tinker & Razor Model M1 non-destructive type holiday detector, K-D Bird Dog, or equal shall be used. The unit shall operate at less than 75 volts. For thicknesses between 10 and 20 mils, a non-sudsing type wetting agent, such as Kodak Photo-Flo, or equal, shall be added to the water prior to wetting the detector sponge.
- H. Film Thickness Testing: On ferrous metals, the dry film coating thickness shall be measured in accordance with the SSPC "Paint Application Specification No. 2" using a magnetic-type dry film thickness gauge such as Mikrotest model FM, Elcometer model 111/1EZ, or equal. Each coat shall be tested for the correct thickness. No measurements shall be made until at least 8 hours after application of the coating. On non-ferrous metals and other substrates, the coating thicknesses shall be measured at the time of application using a wet film gauge.
- I. Surface Preparation: Evaluation of blast cleaned surface preparation work will be based upon comparison of the blasted surfaces with the standard samples available from the NACE, using NACE standard TM-01-70.
- J. Abrasives: The Contractor shall use abrasive grit for field blast cleaning conforming to the following:
1. Produce a surface profile of 1.5 to 2.5 mils
 2. New, clean and free of contaminants, and containing no hazardous materials.
 3. Certified by California Air Resources Board, Executive Order G-565.
 4. Conform to all applicable requirements of the Sacramento Air Quality District.
 5. Copper slag will not be allowed.
- K. The Contractor shall comply with the following conditions in collection and analysis of wastes:

1. All testing of spent abrasive blast media and removed coating materials to classify these wastes as hazardous or non-hazardous shall be performed by a laboratory that complies with and is certified under the Environmental Laboratory Accreditation Program (ELAP) of the California Department of Health Services.
2. Any laboratory performing analysis shall provide for comparison to TTLC, STLC, TCLP limits, and RCA limits, and to all other applicable regulatory limits. Laboratory shall retain samples at least ninety (90) calendar days after all analyses are complete.
3. The Contractor shall ensure collection of as many representative samples as-required-by-the -representative-of the disposal facility, but not less than four (4) total.
4. The Contractor shall ensure the following: each sample shall have an identifying sample number assigned when the sample is taken; each sample number shall be included on the sampling chain of custody and in all reports, correspondence, and other documentation related to the sample; each sample shall have a sampling chain of custody; and each chain of custody show the name and organization of each person having custody of the sample, and also show the sample number, job name and location, time of day and date sample was taken, material sampled, and tests to be performed.
5. The Contractor shall notify the Engineer at least twenty-four (24) hours prior to sampling collection for the purpose of Engineer verification of samples collected.

1.06 MANUFACTURER REPRESENTATIVE

- A. The Contractor shall require the protective coating manufacturer to furnish a qualified technical representative to visit the project site for technical support as specified in the paragraph entitled "Manufacturer's Certification", herein, and as may be necessary to resolve field problems attributable or associated with the manufacturer's products furnished under this Contract or the application thereof.

1.07 WARRANTY

- A. Anniversary inspection requirements and failure criteria shall be in accordance with the most current edition of AWWA D-102 except as modified herein.
- B. The Owner will conduct a first anniversary warranty inspection approximately eleven (11) months year following final acceptance of the work, including inspection of the interior and exterior of the tank. The

Owner will establish the date of the inspection and will notify the Contractor at least thirty (30) calendar days in advance of the inspection.

- C. The Contractor shall furnish all ventilation, scaffolding, and lighting equipment as necessary for any warranty inspections. The Contractor and a Representative of the Coating Manufacturer shall be present for such inspections.
- D. The Owner will provide an inspection report to the Contractor detailing the number and types of failures observed, the percentage of surface area where failures have occurred, and the names of the persons making the inspections.
- E. The Owner shall consider any location where coating has delaminated, peeled, blistered, or cracked; and any location where rusting is evident as failure of the coating system. In addition, the Owner shall consider photographs or reports of the coating imperfections or failures as acceptable evidence of failure.
- F. The Contractor shall be liable for all remedial work including repair of all failures by removing the deteriorated coating, cleaning the surface, and recoating with the same system in accordance with this Section. The Owner may allow surface preparation of small failures (areas less than 1 sq ft.) by cleaning to bare metal in accordance with appropriate SSPC-SP standards, however, the method of repair is at the sole discretion of the Owner.
- G. The Owner will prepare a schedule for remedial work completion, to be no more than thirty (30) calendar days after the submittal of the inspection report to the Contractor. Upon failure of the Contractor to commence remedial work within ten (10) calendar days after the starting date established by the Owner, the Owner may at its option perform the remedial work, and the Contractor shall be liable for actual cost of all such remedial work, plus a twenty (20) percent Owner administrative cost.
- H. The Contractor shall bear the expense of all warranty inspections of the remedial work required by the Owner.

PART 2 – PRODUCTS

2.01. GENERAL

- A. Definitions: The term "paint", "coatings", or "finishes" as used herein, shall include surface treatments, emulsions, enamels, paints, epoxy resins, and all other protective coatings, excepting galvanizing or

anodizing, whether used as a pretreatment, primer, intermediate coat, or finish coat. The term "DFT" means minimum dry film thickness.

- B. General: Coating materials shall be sealed in containers that plainly show the designated name, formula or specification number, batch number, color, date of manufacture, manufacturer's directions, and name of manufacturer, all of which shall be plainly legible at the time of use.
- C. The Contractor shall use coating materials suitable for the intended use and recommended by their manufacturer for the intended service.
- D. Compatibility: In any coating system only compatible materials from a single manufacturer shall be used in the Work. Particular attention shall be directed to compatibility of primers and finish coats. If necessary, subject to the approval of the Engineer, a barrier coat shall be applied between existing prime coat and subsequent field coats to ensure compatibility.
- E. Colors: All-colors and-shades of colors of all coats -of paint-shall-be as selected or specified by the engineer. Each coat shall be of a slightly different shade to facilitate inspection of surface coverage of each coat. Finish colors shall be as selected from the manufacturer's standard color samples by the Engineer. Finish colors shall be custom mixed to match color samples furnished by the Engineer.
- F. Protective Coating Materials: Products shall be standard products produced by recognized manufacturers who are regularly engaged in production of such materials for essentially identical service conditions. Where requested, the Contractor shall provide the Engineer with the names of not less than ten (10) successful applications of the proposed manufacturer's products demonstrating compliance with this specification requirement.
- G. Substitute or "Or-Equal" Submittals: Unless otherwise specified, materials are from the catalogs of the companies listed herein. Materials by other manufacturers are acceptable provided that they are established as being compatible with and of equal quality to the coatings of the companies listed. The Contractor shall provide satisfactory documentation from the firm manufacturing the proposed substitute or "or-equal" material that said material meets the specified requirements and is equivalent or better than the listed materials in the following properties:
 - 1. Quality
 - 2. Durability
 - 3. Resistance to abrasion and physical damage

4. Life expectancy
 5. Ability to recoat in future
 6. Solids content by volume
 7. Dry film thickness per coat
 8. Compatibility with other coatings
 9. Suitability for the intended service
 10. Resistance to chemical attack
 11. Temperature limitations in service and during application
 12. Type and quality of recommended undercoats and topcoats
 13. Ease of application
 14. Ease of repairing damaged areas
 15. Stability of colors
- H. The cost of all testing and analyzing of the proposed substitute materials that may be required by the Engineer shall be paid by the Contractor. If the proposed substitution requires changes in the contract work, the Contractor shall bear all such costs involved and the costs of allied trades affected by the substitution.

2.0.2 INDUSTRIAL COATING SYSTEMS

- A. Material Sources: Each of the following manufacturers is capable of supplying many of the industrial coating materials specified herein. Where manufacturers and paint numbers are listed, it is to show the type and quality of coatings that are required. Proposed substitute materials must be shown to satisfy the material descriptions and to equal or exceed the properties of the listed materials as required in the paragraph entitled "Substitute or Or-Equal Submittals" herein.

1. Tnemec

2. Devoe

- B. System 5 - Organic Zinc/Epoxy/Polyurethane: The organic zinc primer shall be a solvent based, organic zinc rich coating which contains at least 83 percent of metallic zinc by weight in the dried film, and is recommended by the coating manufacturer as a primer for this system. The organic zinc-rich primer for the exterior shall comply with SSPC-Paint 20, Type II. The organic zinc-rich primer may be single package or multiple packages. The intermediate coat shall be a high-build two component epoxy with a solids content of at least 68 percent by volume. Finish coats shall be a 2- component aliphatic acrylic or polyester polyurethane coating material that provides superior color and gloss retention, resistance to chemical fumes and severe weathering, and a minimum solids content of 58 percent by volume.

1. Prime coat (DFT = 3 mils)

Tnemec Series 94-H2O Hydro-Zinc, Devoe Cathacoat 316 or an approved equal.

2. Intermediate coat (DFT = 5 mils)

Tnemec Series V69F Epoxoline II, or V140F, Devoe Bar-Rust 231, or an approved equal.

3. Finish coats (one or more, DFT = 4 mils)

Tnemec Series 1075 Endura-Shield II, Devoe Devthane 378H, or equal.

4. Total system DFT = 12 mils

5. One or more than one finish coat shall be applied as necessary to produce a finish with uniform color and texture.

- A. System 6 - Epoxy Mastic/Polyurethane: The epoxy primer shall be a solvent based, two component surface tolerant epoxy mastic designed for application over existing paints. Finish coats shall be a 2-component aliphatic acrylic polyurethane coating material that provides superior color and gloss retention, resistance to chemical fumes and severe weathering, and a minimum solids content of 58 percent by volume.

6. Prime coat (DFT = 4 mils)

Tnemec Series 135 Chembuild, Devoe Bar-Rust 231, or an approved equal.

7. Finish coats (one or more, DFT = 4 mils)

Tnemec Series 1075 Endura-Shield II, Devoe Devthane 378H, or equal.

8. Total system DFT = 8 mils

9. One or more than one finish coat shall be applied as necessary to produce a finish with uniform color and texture.

B. System 105 - Organic Zinc/Epoxy:

1. Organic Zinc Primer: Solvent based, Organic Zinc Rich coating shall contain a minimum of 83 percent metallic zinc by weight in the dried film and is recommended by the coating manufacturer as a primer for the epoxy material. The organic zinc-rich primer for the interior of the reservoir shall be NSF-61 Certified and comply with SSPC-Paint 20, Type II. The organic zinc-rich primer may be single package or multiple packages with the zinc dust pre-packaged or packaged separately.

2. Polyamidoamine Cured Epoxy: High build polyamide cured epoxy coating shall have a solids content of at least 68 percent by volume and a finish coat color of white. The material shall be capable of achieving at least 4 mils dry film thickness per coat.
3. Polyamine Cured Epoxy: High build polyamine cured epoxy coating shall have a minimum volume solids content of 80 percent by volume and with a finish coat color of white or ivory. The material shall be capable of achieving at least 5 mil dry film thickness per coat.
4. The epoxy coating material shall be a straight epoxy resin and shall be either a polyamide-cured epoxy or an amine-cured epoxy suitable for long-term immersion service in potable water. The material shall be certified to NSF-61 standards and local health regulations. The Contractor shall submit a written certification that the proposed materials meet the above regulatory agency standards and regulations.

5. Part A: Products shall be as listed, or equal:

- a. Primer. (DFT = 3 mils)

Devco Cathacoat 316, Tnemec Series 94-H20 Hydro-Zinc, or an approved equal.

- b. Finish Coats (2 or more) (DFT = 10 mils)

Devco Bar-Rust 233H, Tnemec Series V140F Pota-Pox Plus, or an approved equal.

- c. Total system DFT = 13 mils

- 1) All edges, nuts, bolts, lap joints, weld seams and the roof rim angle shall receive one brush-applied coat of the 1st finish coat prior to the application of the complete spray coat.

6. Part B: Products shall be as listed, or equal:

- a. Primer. (DFT = 3 mils)

Devco Cathacoat 316, Tnemec Series 94-H20 Hydro-Zinc, or an approved equal.

- b. Finish coats (1 or more coats to achieve a DFT = 20 to 25 mils)
Tnemec Series 22 Epoxoline, Devco Devran 133, or an approved equal

- c. Total system DFT = 23-28 mils.
- 7. Curing Period: Prior to immersion, the completed system shall be as listed on the manufacturer's product data sheet.
- 8. Volatile Organic Compound Testing: The completed interior reservoir coating system shall be tested for volatile organic compounds as specified herein.

PART 3 – EXECUTION

3.01 STORAGE, MIXING, AND THINNING OF MATERIALS

- A. Manufacturer's Recommendations: Unless otherwise specified herein, the coating manufacturer's printed recommendations and instructions for thinning, mixing, handling, applying, and protecting its coating materials, for preparation of surfaces for coating, and for all other procedures relative to coating shall be strictly observed. The Contractor shall supply the Engineer with copies of each manufacturer's instructions in accordance with the General Requirements.
- B. All protective coating materials shall be used within the manufacturer's recommended shelf life.
- C. Storage and Mixing: Coating materials shall be protected from exposure to cold weather, and shall be thoroughly stirred, strained, and kept at a uniform consistency during application. Coatings of different manufacturers shall not be mixed together

3.02 DEHUMIDIFICATION

- A. The Contractor shall provide all labor, materials, equipment, power, and incidentals for dehumidification as required to establish and maintain the specified temperature and relative humidity inside the reservoir. The Contractor shall complete any blasting, coating and testing operations within the duration of time as specified in the "Project Schedule". The Owner shall not provide a time extension for weather delay. The Contractor shall bear all cost and liability for work resulting from dehumidification equipment failure, breakdown, or down time.
- B. The Contractor shall provide dehumidification continuously from start of white metal (SP #5) abrasive blasting, until a minimum of seven (7) days after application of final coat and all repairs are completed, or for a longer period as recommended by the coating system's manufacturer.
- C. The Contractor shall provide dehumidification equipment consisting of a solid desiccant (not liquid, granular, or loose lithium chloride) design having a single rotary desiccant bed capable of continuous operation, fully

automatic with drip-proof electrical controller. Air heaters (only) are not acceptable as dehumidification units.

- D. The Contractor shall ensure that relative humidity of processed air from dehumidification unit not exceed forty (40) percent.
- E. The Contractor shall ensure dehumidification equipment provides a minimum of two (2) complete air changes inside the reservoir every sixty (60) minutes.
- F. The Contractor shall ensure areas adjacent to the surface that is to be blasted and coated are not exposed to a relative humidity greater than forty-five (45) percent at any time during blasting, cleaning, coating, or curing.
- G. The Contractor shall ensure that during blast cleaning and coating, and for forty-eight (48) hours after final coat and all repairs are completed, dehumidification units maintain an air temperature of 60°F minimum inside the reservoir.
- H. The Contractor shall ensure dehumidification equipment is placed as close to reservoir manhole as possible.
- I. The Contractor shall ensure cleaning of dehumidification filters prior to start of dehumidification and weekly cleaning thereafter.
- J. The Contractor shall ensure dehumidification tubing is maintained as follows:
 - 1. Mechanically connected and sealed with duct tape at joints.
 - 2. Extended to the center of the Reservoir and attached to a diffuser that will distribute air equally throughout Reservoir.
 - 3. Have no dust or other foreign matter inside tubing.
- K. The Contractor shall provide and maintain twenty-four (24) hour strip chart recorder for humidity and temperature and place humidity and temperature measuring devices inside reservoir.

3.03 PREPARATION FOR COATING

- A. General: All surfaces to receive protective coatings shall be cleaned as specified herein prior to application of said coatings. The Contractor shall examine all surfaces to be coated, and shall correct all surface defects before application of any coating material. All marred or abraded spots on

shop-primed and on factory-finished surfaces shall receive touch-up restoration prior to any coating application.

- B. Protection of Surfaces Not to be Coated: Surfaces which are not to receive protective coatings shall be protected during surface preparation, cleaning, and coating operations.
- C. All hardware, lighting fixtures, switch plates, machined surfaces, couplings, shafts, bearings, nameplates on machinery, and other surfaces not to be painted shall be removed, masked or otherwise protected. Drop cloths shall be provided to prevent coating materials from falling on or marring adjacent surfaces. The working parts of all mechanical and electrical equipment shall be protected from damage during surface preparation and coating operations. Openings in motors shall be masked to prevent entry of coating or other materials.
- D. Care shall be exercised not to damage adjacent work during blast cleaning operations. Spray painting shall be conducted under carefully controlled conditions. The Contractor shall be fully responsible for and shall promptly repair any and all damage to adjacent work or adjoining property occurring from blast cleaning or coating operations.
- E. Protection of Painted Surfaces: Cleaning and coating shall be so programmed that dust and other contaminants from the cleaning process shall not fall on wet, newly-coated surfaces.

3.04 SURFACE PREPARATION STANDARDS

- A. The following referenced surface preparation specifications of the Steel Structures Painting Council shall form a part of this specification:
 - 1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, dirt, soil, salts, and contaminants by cleaning with solvent, vapor, alkali, emulsion, or steam.
 - 2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mill scale, and loose paint to degree specified, by hand chipping, scraping, sanding, and wire brushing.
 - 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mill scale, and loose paint to degree specified by power tool chipping, descaling, sanding, wire brushing, and grinding.
 - 4. White Metal Blast Cleaning (SSPGSP5/NACE1): Removal of all visible rust, mill scale, paint, and foreign matter by blast cleaning by wheel or nozzle (dry or wet) using abrasive, grit, or shot.

5. Commercial Blast Cleaning (SSPC-SP6/NACE3): Blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.
 6. Brush-Off Blast Cleaning (SSPC-SP7/NACE4): Blast cleaning of all except tightly adhering residues of mill scale, rust, and coatings, exposing numerous evenly distributed flecks of underlying metal.
 7. Near-White Blast Cleaning (SSPGSP10/NACE2): Blast cleaning nearly to White Metal Cleanliness, until at least 95 percent of each element of surface area is free of all visible residues.
- B. The Contractor shall note that the definition of Near White Metal Blast Cleaning, SSPC-SP10, is from the 1995 version of the SSPC standard, and requires that 95 percent of "each element" of surface area be free of all visible residues. The other surface preparation standards shall be the most recent versions published by the SSPC.

3.05 METAL SURFACE PREPARATION (UN GALVANIZED)

- A. The minimum abrasive blasting surface preparation shall be as specified in the coating system schedules included at the end of this Section. Where there is a conflict between these specifications and the coating manufacturer's printed recommendations for the intended service, the higher degree of cleaning shall apply.
- B. Workmanship for metal surface preparation shall be in conformance with the current SSPC Standards and this Section. Blast cleaned surfaces shall match the standard samples available from the National Association of Corrosion Engineers, NACE Standard TM-01-70.
- C. All oil, grease, welding fluxes and other surface contaminants shall be removed by solvent cleaning per SSPC-SP1 prior to blast cleaning.
- D. All sharp edges shall be rounded or chamfered and all burrs, and surface defects and weld splatter shall be ground smooth prior to blast cleaning.
- E. The type and size of abrasive shall be selected to produce a surface profile that meets the coating manufacturer's recommendation for the particular coating and service conditions.
- F. The abrasive shall not be reused unless otherwise approved by the Engineer. For automated shop blasting systems, clean oil-free abrasives shall be maintained.

- G. The Contractor shall comply with the applicable federal, state, and local air pollution control regulations for blast cleaning.
- H. Compressed air for air blast cleaning shall be supplied at adequate pressure from well-maintained compressors equipped with oil/moisture separators which remove at least 95 percent of the contaminants.
- I. Surfaces shall be cleaned of all dust and residual particles of the cleaning operation by dry air blast cleaning, vacuuming or another approved method prior to painting.
- J. Enclosed areas and other areas where dust settling is a problem shall be vacuum cleaned and wiped with a tack cloth.
- K. Damaged or defective coating shall be removed by the specified blast cleaning to meet the clean surface requirements before recoating.
- L. If the specified abrasive blast cleaning will damage adjacent work, the area to be cleaned is less than 100 square feet, and the coated surface will not be submerged in service, then SSPC-SP2, hand tool cleaning or SSPC-SP3, power tool cleaning, may be used.
- M. Shop applied coatings of unknown composition shall be completely removed before the specified coatings are applied. Valves, castings, ductile or cast iron pipe, and fabricated pipe or equipment shall be examined for the presence of shop-applied temporary coatings. Temporary coatings shall be completely removed by solvent cleaning per SSPC-SP1 before the abrasive blast cleaning work has been started.
- N. Shop primed equipment shall be solvent cleaned in the field before finish coats are applied.

3.06 SURFACE PREPARATION OF FERROUS SURFACES WITH EXISTING COATINGS

- A. General: All grease, oil, heavy chalk, dirt, or other contaminants shall be removed by solvent or detergent cleaning prior to abrasive blast cleaning. The generic type of the existing coatings shall be determined by laboratory testing.
- B. Abrasive Blast Cleaning: The Contractor shall provide the degree of cleaning specified in the coating system schedule for the entire surface to be coated. If the degree of cleaning is not specified in the schedule, deteriorated coatings shall be removed by abrasive blast cleaning to SSPC-SP10 - Near-White Blast Cleaning Areas of tightly adhering coatings shall be cleaned to SSPGSP7, Brush-off Blast Cleaning, as approved by

the Engineer, with the remaining thickness of existing coating not to exceed 3 mils.

- C. Incompatible Coatings: If coatings to be applied are not compatible with existing coatings the Contractor shall apply intermediate coatings per the paint manufacturer's recommendation for the specified coating system or shall completely remove the existing coating prior to abrasive blast cleaning. A small trial application shall be conducted for compatibility prior to painting large areas.
- D. Unknown Coatings: Coatings of unknown composition shall be completely removed prior to application of new coatings.
- E. Water Abrasive or Wet Abrasive Blast Cleaning: Where specified or where job site conditions do not permit dry abrasive blasting for industrial coating systems due to dust or air pollution considerations, water abrasive blasting or wet abrasive blasting may be used. In both methods, paint-compatible corrosion inhibitors shall be used, and coating application shall begin as soon as the surfaces are dry. Water abrasive blasting shall be accomplished using high-pressure water with sand injection. In both methods, the equipment used shall be commercially produced equipment with a successful service record. Wet blasting methods shall not be used for submerged and severe service coating systems unless specified.

3.07 WORKMANSHIP

- A. Skilled craftsmen and experienced full time supervision shall be used on all work.
- B. Clean drop cloths shall be used. All damage to surfaces resulting from the work hereunder shall be cleaned, repaired, and refinished to their original condition.
- C. All coatings shall be applied under dry and dust-free conditions. Coating shall be accomplished in a workmanlike manner so as to produce an even film of uniform thickness. Edges, corners, crevices, and joints shall receive special attention to insure that they have been thoroughly cleaned and that they receive an adequate thickness of coating material. The finished surfaces shall be free from runs, drops, ridges, waves, laps, brush marks, and variations in color, texture, and finish. The hiding shall be so complete that the addition of another coat would not increase the hiding. Special attention shall be given to insure that edges, corners, crevices, welds and similar areas receive a film thickness equivalent to adjacent areas, and installations shall be protected by the use of drop cloths or other approved precautionary measures.

3.08 SHOP COATING REQUIREMENTS

- A. All items of equipment, or parts of equipment which are not submerged in service, shall be shop primed and then finish coated in the field after installation with the specified or approved color. The methods, materials, application equipment and all other details of shop painting shall comply with this section. If the shop primer requires topcoating within a specified period of time, the equipment shall be finish coated in the shop and then touch-up painted after installation.
- B. All items of equipment, or parts and surfaces of equipment which are submerged or inside an enclosed hydraulic structure when in service, with the exception of pumps and valves, shall have all surface preparation and coating work performed in the field. The interior surfaces of steel reservoirs shall have all surface preparation and coating work performed in the field.
- C. For certain pieces of equipment it may be undesirable or impractical to apply finish coatings in the field. Such equipment may include engine generator sets, equipment such as electrical control panels, switchgear or main control boards, submerged parts of pumps, ferrous metal passages in valves, or other items where it is not possible to obtain the specified quality in the field. Such equipment shall be shop primed and finish coated and touched up in the field with the identical material after installation. The Contractor shall require the manufacturer of each such piece of equipment to certify as part of its shop drawings that the surface preparation is in accordance with these specifications. The coating material data sheet shall be submitted with the shop drawings for the equipment.
- D. For certain small pieces of equipment the manufacturer may have a standard coating system which is suitable for the intended service conditions. In such cases, the final determination of suitability shall be made during review of the shop drawing submittals. Equipment of this type generally includes only indoor equipment such as instruments, small compressors, and chemical metering pumps.
- E. Shop painted surfaces shall be protected during shipment and handling by suitable provisions including padding, blocking, and the use of canvas or nylon slings. Primed surfaces shall not be exposed to the weather for more than six (6) months before topcoated, or less time if recommended by the coating manufacturer.
- F. Damage to shop-applied coatings shall be repaired in accordance with this Section and the coating manufacturers printed instructions.
- G. The Contractor shall make certain that the shop primers and field topcoats are compatible and meet the requirements of this Section. Copies of

applicable coating manufacturer's data sheets shall be submitted with equipment shop drawings.

3.09 APPLICATION OF COATINGS

- A. The application of protective coatings to steel substrates shall be in accordance with "Paint Specification No. 1, (SSPC-A-1)", Steel Structures Painting Council.
- B. Cleaned surfaces and all coats shall be inspected prior to each succeeding coat. The Contractor shall schedule such inspection with the Engineer in advance.
- C. Blast cleaned ferrous metal surfaces shall be painted before any rusting or other deterioration of the surface occurs. Blast cleaning shall be limited to only those surfaces that can be coated in the same working day.
- D. Coatings shall be applied in accordance with the manufacturer's instructions and recommendations, and this Section, whichever has the most stringent requirements.
- E. Special attention shall be given to edges, angles, weld seams, flanges, nuts and bolts, and other places where insufficient film thicknesses are likely to be present. Use stripe painting for these areas.
- F. Special attention shall be given to materials which will be joined so closely that proper surface preparation and application are not possible. Such contact surfaces shall be coated prior to assembly or installation.
- G. Finish coats, including touch-up and damage repair coats shall be applied in a manner which will present a uniform texture and color matched appearance.
- H. Coatings shall not be applied under the following conditions:
 - 1. Temperature exceeding the manufacturer's recommended maximum and minimum allowable.
 - 2. Dust or smoke laden atmosphere.
 - 3. Damp or humid weather.
 - 4. When the substrate or air temperature is less than 5 degrees F above dew point.

5. When air temperature is expected to drop below 40 degrees F or less than 5 degrees F above the dew point within 8 hours after application of coating.
 - I. Dew point shall be determined by use of a sling psychrometer in conjunction with U.S. Dept. of Commerce, Weather Bureau psychrometric tables.
 - J. Steel piping shall be abrasive blast cleaned and primed before installation.
 - K. The finish coat on all work shall be applied after all concrete, masonry, and equipment installation is complete and the work areas are clean and dust free.

3.10 CURING OF COATINGS

- A. The Contractor shall provide curing conditions in accordance with the conditions recommended by the coating material manufacturer or by this Section, whichever is the highest requirement, prior to placing the completed coating system into service.
- B. In the case of enclosed areas, forced air ventilation, using heated air if necessary, may be required until the coatings have fully cured.
- C. Forced Air Ventilation of Steel Reservoirs and Enclosed Hydraulic Structures: Forced air ventilation is required for the application and curing of coatings on the interior surfaces of steel reservoirs and enclosed hydraulic structures. During curing periods continuously exhaust air from a maintenance hole in the lowest shell ring, or in the case of an enclosed hydraulic structure, from the lowest level of the structure using portable ducting. After all interior coating operations have been completed provide a final curing period for a minimum of ten (10) days, during which the forced ventilation system shall operate continuously. For additional requirements, refer to the specific coating system being used in the paragraph entitled "Submerged and Severe Service Coating Systems" herein.

3.11 SOAKING PERIOD AND TESTING FOR VOLATILE ORGANIC COMPOUNDS IN POTABLE WATER RESERVOIRS

- A. General: The Contractor shall provide the following services to ensure that the interior reservoir coatings or linings do not convey volatile organic compounds to the potable water.
- B. Selection of Coating or Lining Material: The Contractor shall provide a coating or lining system that has a successful record in meeting the national, regional, and local regulations and policies pertaining to leaching of volatile organic compounds into potable water.

- C. Before the coating or lining materials are used, the Contractor shall by letter notify the regulatory agency having jurisdiction. The letter shall describe the proposed materials, including brand names, catalog numbers, catalog technical data, application and curing instructions, and material safety data sheets.
- D. The Contractor shall provide curing time, temperature and ventilations as specified by the manufacturer or this Section, whichever is the highest requirement. In some cases, the Contractor may find it necessary to extend the curing time or ventilation time beyond the requirements in order to comply with the regulatory agency requirements or to reduce the leached organic compounds to the required levels. All costs in connection with any extended curing times shall be borne by the Contractor.
- E. Following the curing or ventilation period, the Contractor shall clean, disinfect and fill the reservoir to the overflow level.
- F. A seven (7) day soaking period shall follow the initial filling to determine the presence of any leached organics. If Bacteriological test is negative, then VOC testing time may be completed in conjunction. Before the tank is placed into service, samples of the water in the tank shall be taken by the Contractor, under the direct supervision of the Owner, and analyzed by a laboratory approved by the State or the EPA. Analyses shall be for volatile organic compounds by EPA Method 524.2 or equivalent (this test includes TCE, PCE, xylenes, toluene, ketones, carbon tetrachloride, similar compounds, or other organic chemicals from MSDS sheets). The costs of testing shall be borne by the Contractor.
- G. If the test results are above the CDPH's Maximum Contaminant Level Limits, the Contractor shall drain the water from the tank and flush, refill, and retest at no additional cost to the Owner. The Contractor shall provide as many curing, soaking, and flushing cycles as necessary to reduce the leached volatile organic compounds to levels below the requirements.
- H. The Owner will evaluate and determine acceptability as a condition of final acceptance of the work. Acceptance criteria will be in conformance with state and federal regulations.

3.12 DISPOSAL OF EXISTING COATINGS AND SPENT ABRASIVE BLAST MEDIA

- A. The Contractor shall dispose of spent abrasive blast media and removed coating materials in accordance with an Owner approved disposal plan. The Contractor shall include the following data in the disposal plan submittal:

1. Certification that the materials disposal plan complies with all applicable requirements of the Federal Resource Conservation and Recovery Act: Title 22 and Title 26 of the California Administrative Code; and other applicable regulations of local, State and Federal agencies having jurisdiction over the disposal of spent abrasive blast media, removed coating materials, and other waste, whether hazardous or non-hazardous.
 2. The name and Environmental Laboratory Accreditation Program Certificate number of laboratory that will sample and test spent abrasive blast media and removed coating materials. Include statement of the laboratory's certified testing areas and analyses that the laboratory is qualified to perform.
 3. Written permission to dispose of material from disposal site representative. Include name, address, and telephone number of disposal site and of representative.
 4. The Owner shall provide written acceptance of the disposal plan prior to disposal of any wastes.
- B. The Contractor shall coordinate and pay all costs for sampling and testing of spent abrasive blast media and removed coating materials in order to document waste class.
- C. Prior to removal of hazardous wastes off-site, the Contractor shall allow adequate time for Owner to review laboratory test results and report submittal, as well as the time required to obtain a Hazardous Waste Generator's U.S. EPA ID Number if required.
- D. The Contractor shall include the following data in the laboratory test results and report submittal:
1. Actual weight of blast cleaning abrasive used for field abrasive blast cleaning, submitted within twenty-four (24) hours after blasting is completed.
 2. Quantity of coating material used for each coat, submitted within twenty-four (24) hours after completion of each coat.
 3. Name of laboratories proposed to be used to test wastes and reservoir water prior to testing any materials.
 4. Laboratory test results for representative waste samples prior to removing any waste materials from the job site. At a minimum, the samples shall be tested for total concentrations of the 17 metals identified in Title 22, for comparison to Total Threshold Limit Concentrations (TTLC) values. The California Waste Extraction Test (WET) shall be performed for each analyte of each sample for which the total concentration exceeds 10 times

the Soluble Threshold Limits Concentrations (STLC) value, if any, as specified in Title 22. ToxiDistrict Characteristic Leaching Procedure (TCLP) testing shall be performed for each analyte of each sample for which the total concentration exceeds 20 times the TCLP values, if any, specified in the Federal Resource Conservation and Recovery Act. Reactivity, Corrosivity, and Ignitability testing shall be performed as required by Title 22 and/or the Owner or representative of the disposal facility.

5. Receipts from disposal site for all wastes. Receipts shall identify disposed material and source, show quantity of disposed material in tons or cubic yards, and show method used for final disposition as buried, incinerated, and chemically treated and/or by other means.
- E. The Contractor shall be responsible for all costs associated with accumulating, transporting, and disposing of spent abrasive blast media and removed coating materials.

3.13 CLEAN UP

- A. Upon completion of the work, the Contractor shall make a detailed inspection of all work.
- B. The Contractor shall be solely responsible for all paint over-spray or dust fallout claims.
- C. The Contractor shall remove all spattering, spits, and blemishes.
- D. Upon completion, of work, the Contractor shall remove all staging, tarps, scaffolding, and containers from the site, including but not limited to: paint and thinner containers and excess paint and thinner (to be disposed of in conformance to all current regulations); paint spots removed and the entire job site cleaned; all damage to surfaces resulting from the work from this section to be cleaned, repaired or refinished to the complete satisfaction of the Owner. All clean up shall be completed within seven (7) calendar days starting at the last day of holiday testing of the reservoir. The Contractor shall allow adequate time for Owner for review of laboratory test results, as well as the time required to obtain a Hazardous Waste Generator's U.S. EPA ID Number if required.
- E. The Owner will provide the Contractor with written notice to dispose of all or a portion of the spent abrasive blast media and/or removed coating materials, as required.
- F. The Contractor shall bear all costs associated with the site cleanup.

3.14 PROJECT SPECIFIC COATING SYSTEM SCHEDULE

DESIGNATION	DESCRIPTION	SURFACE PREPARATION	SYSTEM NO.
SR-1	All interior surfaces beginning one foot above the high water level, including all plates, roof structural members, fittings and vents.	Near-White Metal Blast Cleaning SSPCSP10/ NACE2	(105) Part A, inorganic zinc/epoxy
SR-2	All Interior surfaces exclusive of surfaces in SR-1	Near-White Metal Blast Cleaning SSPCSP10/ NACE2	(105) Part B, Organic zinc/epoxy

3.15 COATING SYSTEM SCHEDULES – FERROUS METALS

- A. Coating System Schedule, Steel Reservoir Interior: The interior of surfaces of steel reservoirs shall have all surface preparation and coating work performed in the field.

SURFACE	ITEM DESIGNATION	SURFACE PREPARATION	SYSTEM NO.
Outside Tank Shell Wall, Cast Iron, Ductile Iron Piping and Fittings, etc.	FM-1	Hydroblast	(5) inorganic zinc/epoxy/ polyurethane
Tank Roof	FM-1	Hydroblast	(5) inorganic zinc/epoxy/ polyurethane
Interior of Storage Reservoirs	SR-1	Near-White Metal Blast Cleaning SSPCSP10/ NACE2	(105) Part A, inorganic zinc/epoxy
Interior of Storage Reservoirs	SR-2	Near-White Metal Blast Cleaning SSPCSP10/ NACE2	(105) Part B, inorganic zinc/epoxy

Interior of Storage Reservoirs	SR-3	Near-White Metal Blast Cleaning SSPCSP10/ NACE2	(105) Part B, inorganic zinc/epoxy
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3.16 HAZARDOUS SUBSTANCES

- A. The Contractor shall exercise extreme care when handling or disposing of materials or substances listed in Section 8-339 of Division 4 (California Code of Occupational Safety and Health Regulations) of Title 26 (Toxics) of the California Code of Regulations, or as evidenced by the M.S.D.S.
- B. The Contractor shall immediately notify the Owner of any spill of material that is a hazardous substance in accordance with the appropriate jurisdiction.

3.17 COATING OVERSPRAY ON VEHICLES/FACILITIES AND UTILITIES

- A. Contractor shall assure that all vehicles in the vicinity of the project site are relocated away from any coating overspray areas prior to initiation of coating activities. Contractor shall be responsible for any damage of vehicles, facilities and utilities caused by coating overspray. Contractors or Contractor insurance company shall promptly evaluate and asses any complaints regarding coating overspray rectify and remedy any damages resultant from coating overspray in an expeditious fashion.
- B. The Contractor shall provide adequate dust and over-spray control from the coating and surface preparation operations to prevent damage or nuisance to property or persons.
- C. The Contractor shall be solely responsible for all claims resulting from dust and over- spray control from the coating and surface preparation operations or any damage or nuisance to property or persons.

3.18 STEEL TANK ONE (1) YEAR INSPECTION

- A. At the time of tank acceptance for service, the Owner/Engineer shall schedule the first anniversary inspection provided for in AWWA D102. The inspection of the tank shall be scheduled for a date between the first day of the eleventh month and the thirtieth day of the thirteenth month following acceptance. This schedule for the inspection shall be considered tentative and the Contractor will be notified of the inspection schedule no later than the first day of the tenth month following acceptance of the tank. In scheduling this inspection, the Contractor shall notify the tank manufacturer and the coating Sub-Contractor.
- B. Upon completion of this inspection, the inspecting firm will prepare a report that includes but is not limited to, the methods used in the inspection, the equipment

and personnel on hand at the time of the inspection, a summary of findings, photographs of all deficiencies found, and any other information relevant to the condition and maintenance of the tank.

- C. The Contractor shall have a representative on site at the time of inspection to authorize any minor repairs the inspection subcontractor is willing to perform during or directly after the inspection.

END OF SECTION 09800

SECTION 11540

HORIZONTAL PRESSURE FILTER SYSTEM SPECIFICATION

PART 1 - GENERAL

1.1 GENERAL

- A. This specification describes a complete operational system to be furnished by a single responsible equipment manufacturer.
- B. It is the intent of this specification that the filter manufacturer assume system and process responsibility for the filtration equipment and appurtenances. Therefore the filtration equipment manufacturer shall provide the filtration equipment and all appurtenances described in this section of the specification including but not limited to; facepiping, valves, blowers, compressors, controls, etc.
- C. This specification has been prepared on the basis of the specific requirements for this application. These specifications require modification of manufacturer's standard equipment design. It will be mandatory that all equipment manufacturers meet all requirements of this specification. Equipment manufacturer shall modify their standard designs and recommended operational parameters to meet all requirements of this specification.

1.2 QUALITY ASSURANCE

- A. Reference Standards. AWWA, ANSI, ASME, FDA, and NSF
- B. Qualification of Manufacturers.
 - 1. All bidding contractors shall base their bids on systems and equipment manufactured by Tonka Water, Pureflow Filtration Division, or approved equal.
 - 2. Contractors wishing to pre-qualify manufacturers as alternate suppliers shall submit the following information, in triplicate, to the engineer at least 14 days prior to the published bid date and time. Submission of pre-qualification materials by equipment manufacturers rather than Bidding Contractors will not be considered.

the processes and methods specified herein, including simultaneous air/water backwashing for sustained durations.

- b. Detailed equipment drawings, to scale, and complete detailed information covering equipment, processes and methods specified.
 - c. A minimum of six months' operation data from three of the above reference installations.
 - d. Proof that the manufacturer has been active in the manufacturing of sustained simultaneous backwash troughs for at least five (5) years.
 - e. A detailed description of manufacturer's backwash procedure including flow rates and durations, including a calculation of backwash waste volumes based on the backwash production template found in the Equipment Schedule. Manufacturers shall guarantee in writing that their system will not produce a backwash waste volume in excess of the amount indicated in their submitted calculations.
 - f. Proof that the manufacturer has expert knowledge in the science of combined air/water backwash systems using collapse-pulsing action as described in "Optimum Backwash of Dual Media Filters and GAC Filter-Adsorbers with Air Scour," ISBN 0-89867-576-6, © American Water Works Association. Submerged orifice designs, or designs incorporating surface penetrating baffles which trap scum and/or floatables are not acceptable. Proof of manufacturer's capability is necessary in the overall evaluation of the manufacturer's qualifications.
 - g. Evidence of manufacturer's engineering staff experience necessary to complete this project. Included shall be the resume of the supervisory P.E. who will affix his or her stamp on the submittal drawings.
3. Failure to submit the pre-qualification documents as described above shall cause rejection of the contractor's bid if such bid indicates a manufacturer other than those pre-approved by the engineer.
 4. Engineer Review. The above submittal information will be reviewed by the engineer. Contractors submitting requests for alternate manufacturer approval will be notified by contract addendum 5 days before receipt of bids. All such decisions shall be final.

1.3 SUBMITTALS/SHOP DRAWINGS

- A. Shop Drawings: Submit complete set electronically for approval prior to fabrication.
- B. O&M manuals: Provide 1 printed copy and 1 digital media copies.

PART 2 - PRODUCTS

2.1 MATERIALS/EQUIPMENT

- A. All components of the system herein described shall be fabricated and manufactured from new, unused materials, free from defects, of the highest quality possible.
- B. The materials and equipment shall be of the configuration, quantity and design features as described on the Equipment Schedule found in this specification.

2.2 DETAILS OF CONSTRUCTION

A. Vessel

1. All pressure vessels shall conform to the Equipment Schedule and be constructed in accordance with Section VIII of the ASME code requirements for cold fired pressure vessels, and shall bear the ASME stamp. Minimum thicknesses shall be furnished in accordance with ASME code requirements. Verification of ASME code design to include calculated head and shell thicknesses. They shall be submitted with the first submittal drawing and be approved by the engineer prior to authorization of fabrication. Vessels shall be fabricated in a facility holding a current ASME U-stamp. Facilities holding an ASME R ("repair") or other certification shall not be considered acceptable for vessel fabrication.
2. All flanges, plates, angles, channels, beams, etc., shall be joined by fillet welds, all sides continuous welded per AWS D1.1. Flanges shall be factory welded on split centers prior to shipment.

B. Vessel Interior Construction

1. Simultaneous Air/Water Backwash Collection System
 - a. The required number of simultaneous air/water backwash troughs shall be installed in each filter and be specifically designed to accept a sustained backwash flow of air and water simultaneously without loss of media and without inhibiting the removal of suspended solids. Sustained is defined as a single duration greater than 10 minutes at specified air and water rates achieving a collapse-pulse action while backwash water overflows the trough.

- b. Simultaneous air/water backwash collection troughs shall be constructed of minimum 12 gauge Type 304 stainless steel. All mounting hardware shall be stainless steel.
- c. The simultaneous air/water collector troughs shall be designed to simultaneously accept 3 cfm/sq. ft. of air and 3-5 gpm/sq. ft. of water during the combined air/water mode, and 18 gpm/sq. ft of water without air (all ratings per square foot of filter area).
- d. The simultaneous air/water collector troughs shall be designed with weir edges along the entire length of trough to allow for equal distribution and collection of water. Pipe collectors with submerged or semi-submerged orifice collection points shall not be acceptable due to the inherent plugging.
- e. The simultaneous air/water backwash collection troughs shall be of the overflow type without deep, overlapping baffles and shall include a quiescent zone for media/solids separation and a return chute for continuous return of settled media to the filter bed. The return chute shall be a separate area and not impede the flow of water being sent to the trough. Systems utilizing the same area for media return and water collection shall not be allowed due to inherent fouling issues. In order to allow surface solids removal, combined air and water backwash collection systems that have surface penetrating baffles that impede the natural horizontal flow of water to the trough edge are not permitted. Systems using hung settling tubes or Lamella-type plates shall be unacceptable due to their increased maintenance requirements. Filter backwashing with water only, air followed by water, or combined air and water for short periods, limited by filter geometry, (freeboard combined air/water backwash using upturned elbows) shall not be acceptable or considered equal.
- f. The backwash collection trough design is critical to preventing media loss during the simultaneous air/water backwash. Manufacturer shall guarantee media loss of less than one inch per year when backwashing in accordance with the methods described herein.
- g. Alternative backwash methods that do not incorporate simultaneous air and water for a sustained duration are not acceptable. Sustained is defined as an uninterrupted duration of 10 minutes, minimum. Filter backwashing with air followed by water, or air and water for short periods limited by filter geometry, shall not be acceptable.

2. Underdrain System

HEADER-LATERAL, CAST IN CONCRETE

- a. The underdrain shall be of the header-lateral design. It shall be amply designed to ensure uniformity of flow in both the backwash and treatment modes of operation. The underdrain shall be of PVC pipe construction and shall be structurally supported. The underdrain systems shall incorporate a header pipe with laterals. The laterals shall be provided with openings to accept the underdrain diffuser nozzles. The header lateral underdrain shall be constructed of PVC with all joints solvent welded. No threaded joints will be allowed.
- b. The header-lateral underdrain piping shall be factory installed by the equipment manufacturer. Installation of header-lateral piping in the field by the installing contractor is unacceptable. Concrete fill shall be installed in the field by the contractor up to the bottom of the underdrain diffuser nozzle connections. Care shall be taken so as not to introduce foreign material into the underdrain piping during the installation process. The laterals will be plugged until the installation process has been complete after which the plugs shall be removed and the underdrain diffuser nozzles shall be installed by the contractor.
- c. The underdrain diffuser nozzles shall be non-metallic underdrain nozzles with orifice control area of the underdrain diffuser nozzle equal to 0.3% of the total cross sectional area measured at the surface of the media. The underdrain area is critical to the success of the treatment system and particular attention will be paid to diffuser nozzle design, layout and function. Diffuser nozzles using pressed or crimped sheet metal shall not be acceptable due to poor tack weld strength, distribution and "dead spot" characteristics. Toggle-bolted designs are not permitted due to their inherent loosening potential.

C. Vessel Miscellaneous Components

1. Each filter cell shall be equipped with a 14" x 18" manway and a 6" x 8" handhole, rated for the working pressure of the vessel. . One manway shall be placed in each cell near the top of the vessel for access into the filter for purposes of media loading, the 6" x 8" handhole for observation of Simul-Wash™ functions.
2. A 14" x 18" manway shall be placed below the underdrain plate of the filter/ each cell to allow for access during painting, welding and inspection.
3. 1/2" diameter, full couplings shall be provided as described in the Equipment Schedule for sample taps.

4. Structural saddles shall be provided for support of the vessels.
5. Contractor shall furnish anchor bolts as shown on the Plans.
6. Pipe nozzles shall be of the size as shown on the Equipment Schedule and shall consist of Sch. 40 steel pipe, projecting and terminating in a flange 6" from the outside face of the sideshell. Flanges shall be standard ANSI pattern, welded on split centers and shall be true and plumb.
7. A 2" drain with ball valve and plug shall be provided at the bottom head center consisting of a half coupling. A 2" air release half coupling shall be provided in the top center of the shell. Gauge taps shall be furnished in the influent and effluent nozzle connections (1/2" NPT tap with plug).

2.3 SUPPORT GRAVELS AND FILTRATION MEDIA

- A. The support gravel shall consist of hard rounded stones with an average specific gravity of not less than 2.5. It shall not contain more than 2% of weight of pieces in which the length is three times the width. The gravel shall be free of shale, mica, clay, sand, dirt and organic impurities.
- B. The support gravels shall be placed in the tank as follows:

Layer	Depth	Size
Bottom	3"	3/4" x 1/2"
Second	3"	1/2" x 1/4"
Third	3"	1/4" x 1/8"
Top	3"	0.8 - 1.2 mm torpedo sand

- C. The bottom layer of the screened support gravel shall be placed by hand to avoid damage to the diffuser assemblies. Each layer shall be placed and leveled before the addition of the next layer is started. A gravel-less underdrain shall not be acceptable.
- D. The filter media shall be placed on top of the support gravel and shall consist of the material, size and uniformity coefficient as shown on the attached Equipment Schedule.
- E. The support gravels and filter media shall be procured from a manufacturer that complies with AWWA B-100 standards. Installation of support gravels and filter media shall be under the direct supervision of an employee of the filter manufacturer experienced in this procedure.
- F. Provide media quantities to account for skimming requirements.

2.4 AIRWASH SYSTEM

A. Grid

1. The airwash system shall be a header-lateral system located at the media/gravel interface for complete scouring of filtration media. Vertical penetrations through the media shall be avoided and limited to one per header in those retrofit applications that preclude air pipe entrance into the filter cell laterally. Air header pipes shall generally enter the filter cells at the media/gravel interface elevation.
2. Materials. The system construction shall be Sch. 80 PVC pipe and fittings with headers being supported at not greater than 4 ft. intervals using stainless steel U-bolts, steel angles, and stainless steel anchorage. Laterals shall be shop fabricated from Sch. 80 PVC, minimum 3/4" diameter and solvent welded in place by the installing contractor. Laterals shall be evenly spaced at not more than 12" lateral to lateral spacing along the entire length of the header, each side. Laterals shall be supported at not greater than 2' intervals using steel angles, vertical supports, base plates, and anchorage. Supports shall be adjustable in two directions.
3. Lateral Design. Each lateral shall be secured using a double wrap at each support with polypropylene ties, two required per lateral. Each lateral shall be fitted with an end cap and a specially machined Sch. 80 male adapter for screwing or solvent welding into the airwash header. A specially sized air metering slot shall be placed parallel to the axis of the lateral at 6" intervals. Multiple slots and slots that are cut perpendicular to the axis of the lateral are not considered equal and are not allowed due to the potential for weakening of the lateral, leading to failure under typical operating conditions. Each slot shall be installed at a 45° angle, alternating from the vertical axis of the installed airwash lateral. The slots shall be water jet cut. Slots that are laser cut are not considered equal due to excessive heat transfer to the pipe during manufacturing process leading to potential slot width deformation, and potential media loss or slot plugging. The slot width and length shall be designed to reject all media it comes in contact with. The slots shall allow the proper range of air per square foot of area, based on operating conditions. Systems are not allowed which use clamping or other friction type fits.
4. Configuration. Systems utilizing multiple penetrations into the filter cells shall be prohibited due to the high potential for hydraulic short circuiting. Systems utilizing flexible piping or hoses (rubber, polyethylene, polypropylene, etc.) shall be prohibited due to their inherent movement in the filtration bed and their inability to remain rigid during normal filter operation. Calculations verifying adequate air distribution design including orifice headloss calculations, shall be submitted to the engineer for approval upon request.

REGEN BLOWER

B. Airwash Blower and Accessories

1. The filter manufacturer shall furnish an airwash blower with accessories as described below.
2. The airwash blower shall be the regenerative type, as manufactured by FPZ or engineer pre-approved equal, and sized in accordance with the Equipment Schedule. The blower and motor shall be direct drive and mounted on a common baseplate.
3. The blower motor shall be TEFC and UL listed.
4. Miscellaneous components shall be furnished to include:
 - a) Inlet air filter
 - b) Discharge check valve
 - c) Weighted pressure relief valve with silencing enclosure
 - d) Lever-type isolation valve
 - e) Discharge pressure gauge (0-10 psi)
5. Components shall be installed by the Contractor where shown or directed by the engineer. Standard piping, filters and other components not listed above shall be furnished and installed by the Contractor where required. Electrical starters and disconnect switches shall be furnished and installed by the Contractor. A weep hole shall be drilled in the piping downstream of the blower to ensure moisture drainage.
6. The blower shall have bearings outside the compression chamber and be of oil-free design.
7. The blower shall be rated for 80dB at 3'.
8. Sound enclosure
 - a. The sound enclosure shall not interfere with accessing accessories of the blower package and shall not require disassembly of the piping or the use of tools.
 - b. Sound enclosure shall cover the entire blower package including the blower, drive motor, inlet silencer, and discharge silencer. The sound

enclosure must be designed for easy inspection and maintenance of all blower package components.

- c. The enclosure and the blower package must be both mounted on a skid / oil-drip pan designed for meeting environment protection standards and for easy transportation and installation.
- d. A grounding strap shall be installed between the blower base and the package skid to bypass any vibration isolating mounts.
- e. Quick release panels, each less than 50 lb (as mandated by MSHA) must provide easy and quick access for routine maintenance of the blower and the package components. Should the panels be heavier than 50 pounds, hinged doors must be supplied, with an appropriate frame, reinforcements, and supporting elements.
- f. A shaft-mounted or motor driven ventilation fans cooling fan for sufficient heat removal from the sound enclosure shall be provided.
- g. Electrical components, instrumentation and instrument connections shall not be mounted or interface with moving panels of the sound enclosure.
- h. Overall noise level from assembled blower and silencers shall not exceed 80 dB(A) at 3.0 feet from sound enclosure.

2.5 FACEPIPING

- A. All piping and fittings shall be Class 53 cement mortar lined and asphaltic coated ductile iron. Flanges on all welded piping shall be slip-on weld type of ANSI construction and bolt pattern. Air scour supply piping shall be unlined.
- B. Filter facepiping shall be provided by the filter manufacturer to the limits shown on the plans.
- C. Orifice plates are required as shown in the plans to limit pressure drop across rate set valves. Orifice plates shall be constructed of 304 stainless steel.

2.6 VALVES

VALVES (Electric)

- A. Filter function valves shall be electrically actuated and shall be provided by the filter equipment manufacturer. Valve size shall be as specified on the attached Equipment Schedule.

- B. All filter function valves shall be wafer style butterfly valves, and shall have a one piece through-stem direct drive requiring no disc screws or pins to connect stem to disc, to ASTM A126 Class B, polyester coated, for mounting between two bolted flanges without the need for gaskets. Resilient seats shall be tongue and groove design with primary hub seal and secondary seal, to prevent line media from contacting stem or body, and a molded O-ring suitable for weldneck and slip-on flanges. Valves shall have bi-directional pressure ratings of 175 psi through 12" and 150 psi from 14" through 20" sizes and tested to 110% of full rating. Disc construction shall be aluminum bronze ASTM B148-954 or ductile iron ASTM A536 Gr. 65-45-12 with Nylon 11 coating. Valve shaft shall be one piece stainless steel, supported on non-corrosive, heavy duty acetal bushing, and be mechanically retained in body neck, with no part of stem or body exposed to line media. Seat shall be EPDM. Valves supplied shall be Bray Series 31 or engineer approved equal.
- C. Where specified on plans, an electric motor operator shall be supplied on butterfly valves. Motor operators shall be quarter turn type and have a cast aluminum NEMA 4 water tight housing, auxiliary open and closed limit switches 24vdc for PLC feedback, open and closed torque switches, end of travel mechanical stops, declutching handwheel manual override, self-locking worm gears, position indicator, and anti-condensation heater. Operators shall use 120VAC single phase power. Valves used for modulating service shall include a 4-20 mA input modulating card. Electric motor operators shall be Bray Series 70 or engineer pre-approved equal.
- D. Where manual actuators are specified in the Equipment Schedule they shall be handwheel type gear with cast iron housing and handwheel and position indicator.
- E. Valves shall be powered by breakers supplied by others, outside of the scope of the filter control panel.

2.7 INSTRUMENTATION

GAUGE PANEL

- A. Loss of Head Gauge Panel
 - 1. The Contractor shall furnish and install an aluminum loss of head gauge panel completely factory fabricated from 3/16" brushed aluminum plate having a textured finish, with minimum dimensions of 18" x 22".
 - 2. The gauge panel shall have the following 4-1/2" flush-mounted gauges:
 - a. Inlet header (0-100 psi)
 - b. Effluent header (0-100 psi)

- c. Loss of head - between influent and effluent headers (0-10 psi differential pressure gauge with switch)
3. Each panel shall be equipped with the following components:
 - a. Phenolic nameplates identifying gauges and sample taps.
 - b. Two flush mounted sample taps for influent and effluent locations.
 - c. Manufacturer nameplate, aluminum construction.
4. Manufacturer shall furnish mounting hardware (brackets, U-bolts, nuts, washers, etc.) for affixing to facepiping. Installation of panel shall be by Contractor.

B. Backwash Flow Meter

1. A flanged in-line bi-directional magnetic flow meter shall be used to measure backwash flow rate. The meter shall be fabricated from carbon steel and internally lined with polyurethane or Ebonite hard rubber. The meter housing shall be rated for a pressure of 200 psi or higher. The meter shall include one (1) stainless steel ground ring, shipped loose for installation on one side of the meter. Full face gaskets shall be installed between grounding ring and the flanged ends of the meter. The meter shall be furnished with a local or remote mount converter housed in a NEMA 4 enclosure with readout display. The meter shall be fitted with an integral transmitter capable of producing pulse and analog output signals. Acceptable manufacturers are Rosemount, Siemens, or equal.

2.9 AUTOMATIC FILTER CONTROLS

- A. General. The filter manufacturer shall furnish an automatic control system consisting of a PLC-based control panel with OIT, necessary hardware, components, timers, operator interface terminal, enclosure, relays, switches, alarms, I/O, and other items necessary for a complete operational system. The automatic filter control system shall be essentially as described below.

B. Hardware

1. PLC. The automatic control panel shall be PLC-based using Allen-Bradley Series PLC's with Allen-Bradley I/O modules and network communication hardware (as necessary). SCADA contractor will be responsible for communications hardware and driver to interface with the filter PLC.

Manufacturer to provide 10% spare I/O capacity including digital and analog I/O.

2. Components. All HOA switches, lights, and indicators shall be NEMA 4 rated, Allen-Bradley or equal. Nameplates shall be black Phenolic with white lettering indicating all functions, displays, indication, etc.
3. Operator interface terminal (OIT) shall be Series 1000 Panel-View Plus OIT color touch screen by Allen-Bradley or engineer approved equal. The OIT shall be panel-mounted and shall indicate the following, via a series of a minimum of ten custom designed screens:
 - a) Filter system status (flows, levels, turbidities, etc.)
 - b) Backwash sequence
 - c) Bar graph and Digital Displays of Times In Backwash Monitor Screen.
 - d) Alarms/alarm acknowledges and alarm history
 - e) Event log indicating backwash time, date and how backwash was initiated
 - f) Status of exterior signals (backwash holding tank level, clearwell level, etc.)
 - g) Individual filter status (service, backwash, alarm, etc.)
 - h) Graphics to indicate water flow and valve status during each backwash step.
 - i) Other functions, indication and information as required for a complete operating system
4. Panel shall include one 15 minute UPS (uninterruptible power supply), UL rated, and shall be furnished to automatically trickle charge. Adequately sized NiCad batteries shall be included to insure PLC and OIT function and indication for an uninterrupted power outage of 15 minutes duration. The UPS will not include power to filter function valves.
5. Valves shall be powered by breakers supplied by others, outside of the scope of the filter control panel.
5. Enclosure. UL/NEMA 4 rated enclosure, suitable for either pedestal or wall mounting, containing space for separate back panel mounting of PLC, power supply, I/O racks, wiring terminal blocks properly labeled and numbered,

circuit breakers, switches, recorders, communication modem, etc., all as required for a complete operating system. Enclosure shall be UL rated and bear the 508 UL stamp prior to shipment.

6. Timers. Countdown timers shall be part of the OIT to indicate the following:
 - a. Draindown
 - b. Simultaneous air/water
 - c. Refill / Purge
 - d. Backwash
 - e. Filter to waste

C. Functional Control Description

1. General. During automatic operation the PLC shall control the filter functions and shall indicate and communicate filter status to the OIT and remote SCADA system as required.
2. Filtration consists of opening filter influent and effluent valves, which are their normal positions. As filter develops headloss throughout the filter run, differential pressure will be sensed.
3. At a pre-selected differential pressure, as sensed by the differential sensing device, the filter backwash panel shall automatically indicate backwash required on the appropriate OIT screen. Backwash will be either manually initiated by the operator at the OIT or automatically as programmed. Automatic backwash initiation shall be based on head-loss with a 7-day timer over-ride. The backwash procedure will automatically sequence through the pre-set backwash procedure without operator action.
4. The system shall utilize air and water simultaneously to create a sustained collapse-pulse action in the filter bed for a minimum of 10 minutes, followed by a short high-rate water-only backwash for media reclassification. Filter backwashing with air followed by water wash or simultaneous air and water for short periods limited by filter geometry shall not be acceptable.
5. The simultaneous air and water backwash step shall incorporate air at 3 cfm/ft² and water at approximately 3-5 gpm/ft². Backwash rates will vary based on water temperature and media type. Rates shall be set at startup to ensure proper collapse-pulse action and optimal media cleansing. Proper collapse-pulse in accordance with the parameters described herein shall be verified by performance testing at the time of start-up.

6. Following the air/water backwash step, a water-only step shall be incorporated at the low flow rate for a duration as necessary to purge air from the media bed.
 7. Following the air purge step, a water-only backwash step shall be incorporated at rate sufficient for media fluidization for a duration as necessary to ensure proper reclassification of the filter media.
 8. Separate rate set valves shall be used to attain the proper low and high backwash rates necessary for simultaneous air/water backwashing and media reclassification. Rate set valves shall be set in the field at the time of start-up by the manufacturer's field technician.
 9. After the backwash procedure is complete, the filter shall be placed into a filter to waste mode. The filter shall be placed back into service automatically. There shall be provided a watch dog timer programmed into the PLC to place the filter back into service after a pre-selected time for filter to waste.
- C. Power Failure. If power to the PLC is lost, the uninterruptible power supply shall engage and shall continue automatic operation of the filter control panel (all function and indication) for a minimum of 15 minutes. If after 15 minutes power has not been restored to the filter control panel, then all valves shall fail to "service" condition, meaning that all filters shall be placed into normal service mode. If a filter is in backwash then the backwash process will be placed in hold until the return of power at which time it will resume and complete the process.
- D. Alarms. If required, the following alarms shall be indicated on the alarm OIT screen: backwash required; backwash abort; high clearwell water level; high NTU; high wash water waste holding; filter to waste watch dog timer; backwash hold; and other alarm conditions affecting filter operation.
- E. Communications Modem. The filter control panel shall contain capability for use of a communication modem allowing remote access to the filter control panel PLC and OIT to monitor and troubleshoot the filter and to effect program changes remotely from the factory.
- F. Shop Testing Prior to Shipment. Prior to shipment the filter control panel shall be fully tested with all alarms, indication and I/O fully simulated at the factory prior to shipment. All screens shall be tested along with all alarm functions and other control parameters, verified by factory certification as to inspector and date inspected. Testing shall be subject to verified witnessing by the engineer if required.

2.10 PAINTING

- A. The interior of the vessels above and below the underdrain shall be sandblasted and protected from corrosion by proper application of approved coatings for potable water. The exterior of the vessels shall be sandblasted and prime painted at the factory.
- B. Surface preparation:
 - 1. Interior - Sandblast to near white blast cleaning (SSPC-SP10).
 - 2. Exterior - Sandblast to commercial blast cleaning (SSPC-SP6).
- C. Coating:
 - 1. Interior
 - a. Stripe coating: hand-apply one coat Tnemec Series N140-15BL tank white to all welds and hard to reach areas using high quality natural or synthetic bristle brush, to a dry film thickness of 3-5 mils.
 - b. Prime coating: Tnemec Series N140-1255 Beige primer to a dry mil thickness of 3-5 mils before any rust can form.
 - c. Finish coating: Tnemec Series N140-15BL tank white to a dry mil thickness of 4-6 mils for a total dry film thickness of 7-11 mils.
 - 2. Exterior
 - a. Stripe coating: hand-apply one coat Tnemec Series N140-15BL tank white to all welds and hard to reach areas using high quality natural or synthetic bristle brush, to a dry film thickness of 3-5 mils.
 - b. Prime coating: Tnemec Series N140-1255 Beige primer to a dry mil thickness of 3-5 mils before any rust can form.
 - c. Finish coating: The exterior finish coat shall be applied by others with compatible system.
- D. The total paint system shall be the product of and be applied in accordance with the recommendations of one manufacturer. Alternate paint systems must be pre-approved by engineer. Contractor shall purchase an adequate amount of touch-up paint, if required.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Delivery and Storage

1. Upon delivery of the equipment to the jobsite, the contractor shall take inventory of the shipment and immediately report to the equipment manufacturer any discrepancies between the equipment manufacturer's packing lists and shipping documents.
2. The contractor shall be responsible for off-loading and protection of all equipment against damage and during on-site storage and installation. All media must be stored on pallets in a manner that protects it from UV, radiation and weather. Damaged equipment and materials will be replaced by the contractor at the contractor's expense.

B. Manufacturer's Instructions. Installation shall be as shown on the plans and in accordance with the manufacturer's recommendations, installation instructions and assembly drawings. Manufacturer's installation instructions and assembly drawings shall be submitted and approved by the engineer prior to shipment of equipment. Installation of the filtration system shall be in strict accordance with the details shown on the drawings and in complete conformance to manufacturer's instructions and procedures.

3.2 FACTORY SERVICES AND START-UP

A. Installation Supervision. The contractor shall coordinate with the treatment equipment manufacturer to provide factory supervision (as outlined on the Equipment Schedule) or direction during critical phases of installation. Critical phases will include setting of equipment, installation of internals, installation of controls, wiring instrumentation and other components critical to the successful operation of the system.

B. Media Installation. Installation of support gravels and filter media shall be under the direct supervision of an employee of the filter manufacturer experienced in this procedure, in accordance with the Equipment Schedule.

C. System Start-Up and Training

1. The contractor will verify in writing that the project is ready for manufacturer's field services. Copies of written verification shall be given to the manufacturer, engineer and owner prior to scheduling field services.
2. The contractor shall provide the services of a factory representative during start-up of the treatment equipment. The contractor shall provide the number of days on site for start-up supervision as outlined in the Equipment

Schedule. At a minimum, the equipment manufacturer's technician shall perform the following start-up functions:

- a. Inspect the final installation to assure proper installation, connection and wiring of all equipment of the manufacturer's supply.
- b. Start-up of the equipment in the presence of the Contractor and Owner's operating personnel.
- c. Training of Owner's operating personnel in proper operation and maintenance procedures, start-up/shutdown procedures, response to emergency conditions, and troubleshooting. The responsibility of the Contractor and the factory service representative with regard to start-up shall be fulfilled when the start-up is complete, the equipment is functioning properly, operating personnel have been trained and the equipment has been accepted by the Owner.

3.1 WARRANTY

A. Combined Air/Water Backwash Process Verification

1. For filter optimization, the backwash process shall incorporate collapse pulse action during the backwash process as described in "Optimum Backwash of Dual Media Filters and GAC Filter-Adsorbers with Air Scour," ISBN 0-89867-576-6, © American Water Works Association. These specifications incorporate the backwash flow rates in accordance with this research in order to minimize the wastewater production and maximize the cleaning of the filter bed.
2. Manufacturers shall provide certification following start-up that the unit will be run within accepted collapse-pulse ranges during backwash. These ranges are identified in Section 2.9.C of the specification. A representative of the Owner will witness and verify in writing that the system is operating according to specified collapse-pulse rates at the time start-up is completed, and that they have been trained in this operation. A copy of the start-up report containing this owner verification shall be provided to the engineer and shall be required before final payment to the contractor can be made.
3. Guarantee media loss of less than 1 inch per year.

B. Effluent Performance Warranty

1. During start-up, the equipment manufacturer's representative shall perform raw water and filtered effluent field tests to confirm performance of the equipment. Analytical methods employed for field testing shall be performed by a digital colorimeter. Color comparators are unacceptable. Laboratory

testing for conformance must be measured by an independent analytical laboratory at the cost of the Contractor.

2. The equipment shall be warranted for a period of one year from the date of placing it on-line. The treatment water effluent during this period of time shall be as detailed in the Equipment Schedule.
3. Sampling for conformance shall be taken during the middle of a filter run. All adjustments necessary to comply with this guarantee shall be made at the Contractor's expense.

EQUIPMENT SCHEDULE
HORIZONTAL PRESSURE FILTER SYSTEM

PROJECT: Palo Verde County Water District

Materials and/Equipment

Design Flow Rate:	500 gpm
Filter Surface Loading Rate:	4.2

Vessel Construction

Number of Vessels:	1
Vessel Diameter:	8'
Overall Length:	16'
Overall Height:	9' 8"
Number of Cells/Vessel:	1
Design Working Pressure:	100 psi
Hydrostatic Test Pressure:	130 psi
Surface Area per Vessel:	117.8 sqft

Media Loss Guarantee: 1" per year or less

Vessel Misc. Components

1/2" Sample Taps per cell (5 required as follows):

- Influent
- Effluent
- 3" above top of media
- Interface of Anthracite and sand media
- Half Way into the Depth of the IMAR media

Nozzle Sizing:

Influent	8"
:	
Effluent	8"
:	
Drain:	2"
Air	2"
Release:	

Filter Media

The filter media shall be placed on top of the support gravel and shall consist of (see the following options).

A 30" depth of IMAR media. The media shall have a uniformity coefficient less than 1.65.

Airwash Blower

Capacity: 353
 Operating Pressure: 5 psi

Valves

Function:

Raw Water Influent (RWI):
 Filtered Water Effluent (FWE):
 Backwash Effluent (BWE):
 Simul-Wash™ Influent (SWI):
 Simul-Wash™ Rate Set (SRS):

 Backwash Rate Set (BWR):
 Airwash Influent (AWI):
 Filter to Waste (FTW):
 Combination Air Release (ARV):

Size (in.)	Quantity	Actuator
8	1	Electric
8	1	Electric
8	1	Electric
4	1	Electric
4	1	Electric
8	1	Manual-Handwheel
3	1	Electric
N/A	0	Electric
2	1	Automatic

Factory Services & Start-Up

Equipment Installation Supervision:	1 day
Media Installation Supervision:	1 day
Start-up & Operator Instruction:	1 day

++ END OF SECTION ++

SECTION 11660 - FACTORY POWDER COATED BOLTED STEEL TANK

PART 1 GENERAL

1.01 SCOPE

- A. This specification covers the furnishing of all labor, material, equipment, tools, services and erection of a Factory Powder Coated Bolted Steel water storage tank, as manufactured by Superior Tank Co., Inc., Rancho Cucamonga, CA or approved equal.
- B. The bolted steel tank shall conform to the requirements of American Water Works Association (AWWA) D103-09 Standard for Factory-Coated Bolted Carbon Steel Tanks for Water Storage.

1.02 SUBMITTALS

- A. Shop Drawings: Submit shop drawings of the bolted steel reservoir and all accessories for review and approval by the engineer prior to beginning any related shop fabrication or erection. Include sufficient data to show that the reservoir and accessories conform to the requirements to these Specifications.

Submittals shall include:

- 1. Design calculations, signed by a civil or structural engineer registered in the State of California.
- 2. Fabrication and erection drawings and details for the reservoir and all accessories.
- 3. Certified mill tests on steel plate and structural members demonstrating that the physical and chemical requirements of this Specification have been met.

PART 2 PRODUCTS

2.01 GENERAL DESCRIPTION

- A. The Manufacturer shall furnish, erect and test the tank, as required by AWWA.D103-09. The Manufacturer shall be completely responsible for the construction and satisfactory performance of the tank during the guarantee period. The tank shall conform to AWWA 0103-09, to the latest edition Building Code, and to the requirements of the plans and these Specifications. The supplier shall submit for approval complete and detailed plans for the tank and appurtenances.

- B. The Factory Powder Coated, bolted steel tank shall have a nominal capacity of 120,000 gallons. It shall have a nominal diameter of **30 feet** and a nominal height of **24 feet**. A cone roof, sloped to drain toward the shell, shall be provided. Provide the reservoir complete with all pipe connections, access openings, nozzles, taps, drains, ladders, vent, and other accessories as shown on the plans or required herein.

2.02 DESIGN DATA

- A. The following data and information are supplied as a basis for design and erection of the tank and appurtenances:
1. Tank Capacity & Dimensions

a.	Nominal Capacity	<i>120,000 gallons</i>
b.	Usable Capacity	<i>105,000 gallons</i>
c.	Inside Diameter	<i>30 feet</i>
d.	Tank Height	<i>24 feet</i>

 2. Seismic Design Criteria

a.	Seismic Use Group	III
b.	Seismic Importance Factor, I _E	1.5
c.	Site Class	D
d.	S _s	0.50
e.	S ₁	0.2
f.	F _a	1.4
g.	F _v	2.0

 3. Design Wind Loading

a.	Design Wind Speed, V	<i>90mph</i>
b.	Gust Factor, G	<i>1.0</i>
c.	Importance Factor, I	<i>1.15</i>
d.	Exposure Category	C

 4. Roof Design Loading

a.	Roof Live Load	<i>15 lb/sf</i>
b.	Ground Snow Load	<i>25 lb/sf</i>

 5. Liquid to be stored *Potable water*

 6. Allowable Soil Bearing Pressure *Pad to remain*

2.03 MATERIALS

- A. Plates and Sheets. Plates and sheets shall conform to appropriate ASTM designation as set forth in Section 4.4, AWWA D103-09, and shall have a minimum yield strength of 30,000 psi.
- B. Structural Shapes. Structural shapes shall conform to the requirements and ASTM designations of AWWA D103-09 section 4.5
- C. Bolts. Tank joint bolting shall be minimum ½" diameter, shall meet the requirements of AWWA D103-09 section 4.2.1. and have tensile strength of at least 120,000 pounds per square inch.
- D. Gaskets and Sealant. All gaskets and sealants used on this tank shall conform to the requirements of AWWA D103-09 section 4.10.

2.04 ACCESSORIES

- A. Shell Manhole: Provide a 24"x36" flush shell manway located as shown on the drawings. The center of the manhole shall be located 30 inches above the bottom of the tank.
- B. Pipe Connections:
 - 1. Provide inlet nozzle, outlet nozzle with antivortex plate and overflow and drain outlets as shown on the plans.
 - 2. Provide a 1-inch NPT tank connection as shown on the plans for sampling connection.
- C. Overflow and inlet pipe: Provide steel internal overflow and inlet pipe, and supports as shown on the plans. Overflow and inlet pipe assembly shall be powder epoxy lined and coated for corrosion protection.
- D. Ladders:
 - 1. Provide a galvanized steel welded exterior ladder with backguard as shown on the plans. The ladder shall have a lockable closure at the bottom.
 - 2. Provide a galvanized steel welded interior ladder.
- E. Roof Openings:

1. A 20 inch screened vent shall be provided on the roof. The vent shall be fabricated to provide removable screened openings between the vertical support members of the vent. The screened openings of the vent shall be sized by the manufacturer to all venting of a 3,000 gpm pumping rate. An effective area of 75% of screen opening shall be assumed. The screen shall consist of one layer of Type 316 stainless steel: 16 x 16 x 0.018 wire mesh insect screen.
 2. The tank roof shall have a curbed, upward opening 24-inches square, minimum hatch located near the ladder. The curb shall extend at least 4 inches above the tank. The hatch cover shall be hinged and shall have locking provisions. The hatch cover lip shall extend for a distance of 2-inches down on the outside of the curb.
- F. Provide a Superior Tank Model # 2400 or approved equal, Liquid Level Indicator with Type 316 stainless steel internals and complete with float and target board assembly.
- G. Gaskets and sealants shall meet or exceed AWWA, FDA, and EPA standards for potable water.
- H. Anchor bolts and stirrups, if required, to be furnished by the tank manufacturer.

PART 3 EXECUTION

2.04 PROTECTIVE COATING

- A. General: All metal plates, supports, members and miscellaneous parts, except bolts, shall be Factory Powder Coated in accordance with AWWA D103, Section 12.6 and this Section. Field coating, other than touch-up, will not be permitted.
- B. Surface Preparation:
1. All steel surfaces shall be shot blasted to equivalent of a SP 10 or better near white metal finish. The surface anchor pattern shall be no less than 1.5 mils.
 2. Spray a final Deionized water rinse with Silica-Zirconium (Si-Zr) sealer to prevent rusting prior to the powder coating application and provide additional level of corrosion protection

3. All steel surfaces shall drip dry for seven (7) minutes prior to entering the dry off oven for eight (8) minutes at 425 degrees F.
- C. Coating:
1. All interior steel surfaces, support members and miscellaneous parts shall receive 5 mils minimum average dry film thickness using *Dupont/Axalta* "Appliance White" or approved equal (An NSF 61 Approved, Thermal Set Epoxy Powder Coating).
 2. All exterior steel surfaces, support members and miscellaneous parts shall receive minimum 2 mils average dry film thickness "Tank Tan" primer under 3 mils minimum average dry film thickness using *Dupont* "Sky White" or approved equal (A Thermal Set TGIC-Polyester Powder Coating) **VERIFY COLORS WITH OWNER DURING SUBMITTAL PROCESS.**

3.02 CONSTRUCTION

- A. Field erection of Factory Powder Coated bolted steel tanks shall be in strict compliance with manufacturer's recommendations and performed by manufacturer's employees or certified erection crew to alleviate any potential disputes in coating quality or erection thereof. Particular care shall be exercised in handling and bolting of the tank plates, supports, and members to avoid abrasion or scratching the coating. Prior to placing water in the tank, a "holiday" inspection of the entire tank, corners included, will be provided and performed by the manufacturer in the presence of the owner. Touch-up coating shall be done per the manufacturer's recommendations where needed and as directed to achieve 100% holiday-free surface.

3.03 TESTING AND INSPECTION

- A. General: Test storage tank after erection. Floor shall be clean and free from dirt, foreign substance and debris.
- B. Bottom: Vacuum test seams in floor plates.
- C. Shell: Test by filling with water to elevation of overflow. Completed storage tank shall show no leaks at end of 24 hour test period. No charge will be made for water required to fill tank.
- D. Disinfection:
1. General: After testing has been satisfactorily completed, tank shall be disinfected.

2. Standards: Disinfecting of interior surfaces shall be performed in accordance with AWWA C652-86. After disinfection, the Owner shall take a water specimen for bacteriological test, as prescribed at Code 40 of the Federal Regulations, Sections 141.21 through 141.30, 141.41 and 141.42.
3. After disinfection, the tank shall be filled to the overflow level and allowed to stand for 5 days minimum. After 5 days, the Owner shall take water specimens for V.O.C. test per EPA 502.2. The tank may be placed into service once acceptable test results are received.

3.04 WARRANTY

- A. The tank manufacturer, shall warrant the tank against any defects in workmanship and materials for a period of one (1) year from the date of shipment. An inspection will occur with the contractor shall attend. In the event any such defect should appear, it should be reported in writing to the manufacturer during the warranty period, and all defects shall be timely corrected at no expense to the owner.

3.05 FOUNDATION

- A. Existing tank foundation is ¾-inch gravel (one foot thick) with ¼" galvanized grade band ring retainer. The existing foundation shall remain. The contractor shall install ½" fibre expansion sheet material conforming to ASTM D 1751 on top of the existing foundation and prior to the installation of the floor panels.

END OF SECTION

SECTION 11670 – ELECTRIC ACTUATORS AND BUTTERFLY VALVES

The following are the specifications and drawings for the Bray Butterfly Valves and Electric Actuators. These are for reference only; contractors may submit equal as approved by the engineer.