

NORTH KERN WATER STORAGE DISTRICT  
Kern County, California

CONTRACT DOCUMENTS FOR  
CONSTRUCTING & EQUIPPING TWO IRRIGATION WELLS

SPECIFICATION NO. 26-1

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**SECTION A**  
**NORTH KERN WATER STORAGE DISTRICT**

**Kern County, California**

**NOTICE INVITING  
BIDS FOR  
CONSTRUCTING  
IRRIGATION WELLS**

**NOTICE IS HEREBY GIVEN** that North Kern Water Storage District will receive sealed bids at the District's office at 33380 Cawelo Avenue, Bakersfield, California, 93308-9575, until 02:00 P.M., April 15th, 2026, at which time the bids will be opened and publicly read at said District's office. The bidding requirements and the work are more fully described in the Specifications and Drawings, referred to as Specifications No. 26-1, which are available for inspection during normal business hours without charge at the offices of the District and incorporated by reference into this Notice.

While the work is more fully described and detailed in the Specifications and Drawings, it includes the following:

Drill and Equip Two (2) agricultural water wells with 29½-inch bore and 18-inch casing to depths of approximately one thousand (1000) feet below ground surface.

Bids are required as specified in the documents, and the work will be let under written contract. The contract award will be made based on multiple bid scoring areas as explained in the specification.

Each bid shall be made on the proposal forms furnished by the District and shall be in accordance with the plans, specifications, general and special conditions, and other documents. The District reserves the right to reject any and all bids, and to waive any irregularities in said bids.

Bids shall be made in accordance with the prevailing hourly rate of per diem wages for this locality and project as determined by the Director of Industrial Relations pursuant to Labor Code section 1770 et seq., a copy of which wage rate schedule is on file at the office of the District and by this reference incorporated herein. The Contractor shall post a copy of the schedule at each job site. Further, the contractor and any and all subcontractors under them shall pay not less than the specified prevailing rate of per diem wages for general, holiday, and overtime work to all workers employed in the execution of this contract.

NORTH KERN WATER STORAGE DISTRICT

DATE: March 16, 2026

By: /s/ Kevin Andrew, President  
Board of Director

## SECTION B

### INSTRUCTIONS TO BIDDERS

#### **B-1 Form of Proposal and Signature**

The Proposal shall be submitted prior to the time set forth on the Notice Inviting Bids as determined by the official clock for such purpose. The Proposal shall be submitted only on the forms attached hereto or copies thereof, and shall be enclosed in a sealed envelope, marked and addressed as hereinafter directed. The bidder shall state in figures the unit prices or the specific sums, as the case maybe, for which he proposes to supply the labor, materials, supplies, or machinery, and perform the work required by the specifications. If the unit price and the total amount named by a bidder for any item are not in agreement, the unit price alone will be considered as representing the bidder's intention and the totals will be corrected to conform thereto. If the Proposal is made by an individual, it shall be signed by him and his full name and address shall be given; if it is made by a firm, it shall be signed with the co-partnership name by a member of the firm, who shall also sign his own name, and the name and address of each member of such firm shall be given; and if it is made by a corporation the name of the corporation shall be signed by its duly authorized officer or officers attested by the corporate seal, the names and titles of all officers of the corporation shall be given, and the address of the corporation and the state in which incorporated shall be stated. Proposals will be considered only from persons licensed as required under applicable provisions of the Contractors' State License Law (California Business and Professional Code, Section 7000 et seq.) and rules and regulations adopted pursuant thereto; and each bidder shall insert his license number in the place provided in the Proposal. No oral, telephonic or telegraphic proposal or modification of a proposal will be considered.

#### **B-2 Preparation of the Proposal**

Blank spaces in the Proposal shall be properly filled. The phraseology of the Proposal must not be changed and no additions shall have been made to the items mentioned therein. Unauthorized conditions, limitations, or provisos attached to a Proposal will render it informal and may cause its rejection. If erasures, interlineations or other changes appear on the form, each erasure, interlineation or change must be initialed by the person signing the Proposal. Alternative proposals will not be considered unless specifically provided for in the Bidding Schedule. Proposals may be withdrawn without prejudice by written or telegraphic requests received from bidder prior to the time for opening of bids, and proposals so withdrawn will be returned to bidders unopened when reached in the process of opening bids.

No Proposal may be withdrawn after the hour fixed for opening bids without rendering the accompanying cashier's check or bidder's bond subject to retention as liquidated damages in like manner as in the case of failure to execute the Contract after award, as in the Contract Documents herein provided. No Proposal received after the time fixed, or any place other than the place stated in the Notice Inviting Bids will be considered. All bids will be opened and read publicly. Bidders, their representatives and other interested parties are invited to be present at the opening where bonds are required, the bidder shall name in his Proposal the surety or sureties which have agreed to furnish said bonds.



### **B-3 Bidder Award Criteria**

In selecting the lowest responsible bidder, consideration will be given not only to the financial standing but also to the ability to start and complete construction in a timely manner, equipment and personnel capabilities, and general competency of the bidder for the performance of the work covered by the Proposal. To receive favorable consideration, a bidder must, if requested, submit additional statements and provide additional information (such as previous project details, contact information, references, etc.) regarding his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the work.

### **B-4 Local Conditions**

Before submitting a Proposal, the bidder shall carefully examine the drawings, read the Specifications and all other Contract Documents, visit the site of the work, and fully inform himself as to all conditions and limitations, including the character of equipment and facilities needed preliminary to and during the prosecution of the work, the uncertainty of weather, groundwater level and soil conditions along the line of work, and as to all other matters which can in any way affect the work to be done. Failure to do so will not release bidders from responsibility for estimating properly the difficulty or cost of successfully performing the work. The District makes no representation or warranty regarding the accuracy or interpretation of information derived from the maps, plans, specifications, profiles, drawings, borings or other investigations, and it will not be responsible for any understanding or representations concerning conditions made by any of its officers or agents, including the Engineer or his assistants, prior to the execution of the Contract. The quantities of work or materials stated in the unit price items of the Bidding Schedule are given only as a basis for the comparison of bids, and the District does not represent or warrant that the actual amount of work or material will correspond therewith, but reserves the right to increase or decrease the quantity of any unit price items of the work as may be deemed necessary or expedient by the Engineer.

### **B-5 Execution of Contract**

The District reserves the right to accept or reject bids for a period of 30 days after date of opening, and no bid can be withdrawn during said period. A bidder to whom award is made shall execute a written Contract with the District in the form attached hereto and obtain insurance and faithful performance and labor and material bonds of the types and character and in the amounts required in Paragraphs, B-6, B-7 and B-8, within fifteen days from the date of the mailing of a notice from the District to the bidder of the acceptance of his Proposal, or such additional time as may be allowed by the Engineer. If a bidder to whom award is made fails or refuses to so perform, his bid guarantee shall become the property of the District, as provided in the Notice Inviting Bids, and the award will be annulled, and in the discretion of the District an award may be made to the bidder whose Proposal is next most acceptable to the District; and such bidder shall fulfill every requirement hereof as if he were the party to whom the first award was made.

## **B-6 Bonds**

- (a) A bidder to whom Contract is awarded shall, within the time specified in B-5, furnish a surety bond conditioned upon the full and faithful performance of all obligations required to be performed under the Contract and full performance and verity of all warranties and guarantees therein contained. Said bond shall be in an amount equivalent to 100 percent of the Contract amount and shall be furnished on the form enclosed following the Agreement.
- (b) Also within the time specified in B-5, a bidder to whom Contract is awarded shall furnish a payment bond which shall contain the provisions and be in the sum required under Chapter 5 (commencing at Section 9550), Title 3, Part 6, Division 4 of the Civil Code of the State of California, as amended and shall be furnished on the form enclosed following the Agreement.
- (c) Said bonds shall be on the form provided herein or a similar form which is satisfactory to the Board and shall be obtained from a responsible corporate surety (or sureties) acceptable to the Board, which is an admitted California surety licensed by the State of California to act as surety upon bonds and undertakings and which maintains in said State at least one office for the conduct of its business. Said surety (or sureties) shall furnish reports as to its financial condition from time to time as requested by the District. The premiums for said bonds shall be paid by the bidder.
- (d) If any surety becomes unacceptable to the District or fails to furnish reports as to its financial condition as requested by the District, the Contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the District and of persons supplying labor or materials in the prosecution of the work contemplated by this Contract.
- (e) In the event of any conflict between the terms of the Contract and the terms of said bonds, the terms of the Contract shall control and said bonds shall be deemed to be amended thereby. Without limiting the foregoing, the District shall be entitled to exercise all rights granted to it by the Contract in the event of default, without control thereof by the surety, provided that the District gives the surety notice of such default at the time or before the exercise of any such right by the District, and, regardless of the terms of said bonds, the exercise of any such right by the District shall in no manner affect the liability of the surety under said bonds.
- (f) The District Board of Directors at its sole election may rescind this requirement for bonds and receive a credit as tabulated by contractor in the proposal form bidding schedule.

## **B-7 Workers' Compensation Insurance**

Prior to Contract execution as specified under C-22 and in conformance with Section 3700 of the California Labor Code, a bidder to whom Contract has been awarded shall sign and file with the District the following certification: "I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workmen's 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.” In addition, before the Contract is executed on behalf of the District, a bidder to whom Contract is awarded shall furnish satisfactory evidence that he has secured, in the manner required by law, the payment of the workmen's compensation provided for in the California Labor Code and all amendments thereto.

The requirements specified herein under B-7 do not apply to Contracts for furnishing materials and equipment only.

### **B-8 Public Liability and Property Damage Insurance**

The Contractor shall at his own expense maintain in effect at all times during the performance of the work, comprehensive liability insurance in the amounts given below, inform and with insurance companies satisfactory to the District. Such insurance shall contain endorsements as follows:

- (a) Including the District, the Engineer and their respective officers, consultants and agents as additional named insured;
- (b) Providing contractual liability coverage for the Contractor's obligations under C-27 of the Specifications;
- (c) Providing coverage for explosion, collapse and underground hazards;
- (d) Personal injury coverage, including injury to the Contractor's own employees;
- (e) Providing that the insurance not be canceled or reduced until 30 days after the District and the Engineer shall receive written notice of such cancellation or reduction;
- (f) Providing “cross liability” or "severability of interest" coverage for all named insureds; providing that the coverage afforded the additional named insureds shall not be prejudiced by any failure of the Contractor to comply with notice requirements of the policy;
- (g) Providing that any other insurance maintained by the District or the Engineer is excess and not contributing insurance with the insurance required herein. The amount of coverage shall be no less than the following:
  - (1) Automobile bodily injury and property damage - Two Million Dollars (\$2,000,000) per occurrence.
  - (2) General bodily injury and property damage - Two Million Dollars (\$2,000,000) per occurrence.

The Contractor shall, within the period stated in B-5 and as a condition precedent to execution of the Contract by the District, delivery the District a certificate of insurance issued by the insurer reflecting the existence of the required insurance, together with signed copies of the above- specified endorsements. If required by the District, the Contractor shall also furnish a complete copy of the policy and all endorsements. The Contractor shall also disclose the amount of the deductible under its policy(ies) and if the District determines that the deductible is excessive, may require the Contractor to post a bond guaranteeing payment of any losses and

defense costs within the deductible layer.

### **B-9 Subcontracts**

In accordance with the applicable provisions of the Civil Code and the "Subletting and Subcontracting Fair Practices Act" (Public Contract Code sections 4100 et seq.), each bidder shall set forth in his Proposal on the form provided therefor:

- (a) The name and the location of the place of business of each subcontractor who will perform the work of labor or render service to the general contractor or about the construction work or improvement in any amount in excess of one-half on one percent of the general contractor's total bid;
- (b) The portion of the work which will be done by each subcontractor.

### **B-10 Address and Marking of Proposal**

The envelope containing the Proposal shall be sealed and addressed to North Kern Water Storage District, 33380 Cawelo Avenue, Bakersfield, California, 93308-9575. The envelope shall be plainly marked in the upper left hand corner with the name and address of the bidder and bear the words "Proposal for" followed by the name of the work and the date and hour of opening bids. The certified cashier's check or bidder's bond shall be enclosed in the same envelope with the Proposal.

### **B-11 Bidder's Bond**

Each proposal must be accompanied by a certified or cashier's check drawn on a responsible bank or a bidder's bond made by a responsible corporate surety, payable to North Kern Water Storage District, as a guarantee that if the bid is accepted the bidder will, within the time specified in the Instructions to Bidders, enter into a written contract in the form hereinafter set forth and obtain insurance and faithful performance and labor and material payment bonds of the types and character and in the amounts as in said Instruction to Bidders requires. Said check or bid bond shall be for a sum not less than 5 percent of the aggregate sum of the proposal. Checks will be returned (a) to unsuccessful bidders as soon as practicable after the opening of bids, and (b) to the successful bidder as soon as he has executed the contract and obtained the required insurance and bonds provided he so performs in the manner and within the time stated in the Instructions to Bidders. Should the successful bidder fail to so perform, the District shall be entitled to retain the moneys represented by said check or bond as liquidated damages on account of the delay and inconvenience occasioned to the District, it being expressly agreed and understood that the amount of said check or bond constitutes reasonable damages and that it is impracticable or extremely difficult to ascertain actual damages. There is enclosed following, the Proposal for these specifications a form of Bidder's Bond, and all bidders submitting bonds as bid guarantees are required to make use of this form and to submit the complete form with submitted proposals.

## **B-12 Prevailing Wages**

Bids shall be made in accordance with the prevailing hourly rate of per diem wages for this locality and project as determined by the Director of Industrial Relations pursuant to Labor Code section 1770 et seq., a copy of which wage rate schedule is on file at the office of the District and by this reference incorporated herein. The Contractor shall post a copy of the schedule at each job site. Further, the Contractor and any and all Subcontractors under him shall pay not less than the specified prevailing rate of per diem wages for general, holiday, and overtime work to all workers employed in the execution of this Contract

Pursuant to Labor Code section 1776, the Contractor and all Subcontractors are required to comply with all requirements relating to records, their certification and their availability for inspection. Likewise, pursuant to Labor Code section 1777.5, the Contractor and all Subcontractors are required to comply with all statutory requirements relating to apprentices. The failure to abide by any and all the statutory provisions found in the Labor Code, especially those requiring the payment of prevailing wages and setting forth work hours, may result in the assessment of penalties against the Contractor, and/or Subcontractors, as the statutory provisions of the Labor code will be enforced.

## **B-13 Registration with Department of Industrial Relations**

Pursuant to Labor Code section 1725.5, Contractor and Contractor's subcontractors listed on the bid proposal shall be registered with the Department of Industrial Relations.

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**PROPOSAL  
FOR CONSTRUCTING & EQUIPPING  
IRRIGATION WELLS  
For the North Kern Water Storage  
District In Kern County, California  
Page 1**

**Proposals received until 2:00 p.m., April 15, 2026**

**To the Board of Directors  
North Kern Water Storage District  
33380 Cawelo Avenue  
Bakersfield, CA 93308-9575**

The undersigned hereby declares that the only persons or parties interested in this Proposal as principals are those named herein; that no director or officer of the District is in any manner interested, directly or indirectly, in this Proposal or in the profits to be derived from the Contract proposed to be taken; that this bid is made without any connection with any other person or persons making a bid for the same purpose; that the bid is in all respects fair and without collusion or fraud; that he has read the Notice Inviting Bids and the Instructions to Bidders hereto attached, and agrees to all the provisions thereof; that he has examined the site of the work, the form of agreement approved by the District, and the Specifications and drawings therein referred to, and he proposes and agrees that if this bid as submitted in the attached Bidding Schedule be accepted, he will contract in the form so approved to perform all the work mentioned in said approved form of Agreement and the Specifications and to complete the same within the time stipulated therein; and that he will accept in full payment therefor the process named in said Bidding Schedule. Said prices are to include and cover the furnishing of all materials except as otherwise provided in the Specifications, the performing of all labor requisite or proper, and the providing of all necessary machinery, tools, apparatus, and other means of construction, and the performance and completion of all the work in the manner set forth, described and shown in the Specifications or on the drawings for the work and in the form of Agreement. The undersigned has checked carefully all words and figures inserted in said Bidding Schedule and understands that the District will not be responsible for any errors or omissions on the part of the undersigned in making up this Proposal.

The undersigned hereby agrees to execute the Agreement and furnish the required bonds and insurance within fifteen (15) days from the date of mailing of notice of acceptance of this Proposal, or within such additional time as may be allowed by the Engineer. A certified or cashier's check or a bidder's bond made payable to North Kern Water Storage District in the amount of \_\_\_\_\_ (not less than five percent (5%) of the amount of the proposal, assuming a drill depth of 1000 feet) is attached hereto as a guarantee that the undersigned will so perform. It is understood and agreed by the undersigned that if he does not so perform, the District shall be entitled to retain the moneys represented by said check or bond.

The bidder further declares that the surety or sureties named in the spaces provided below have agreed to furnish bonds in the form and aggregate amounts set forth in Section B-6 of the Instructions to Bidders, in the event Contract is awarded on the basis of this Proposal.

**PROPOSAL FOR CONSTRUCTING & EQUIPPING  
IRRIGATION WELLS  
For the North Kern Water Storage District  
In Kern County, California  
Page 2**

The bidder further declares under penalty of perjury, in accordance with Business and Professions Code Section 7028.15(e), that the statements contained herein are true and correct.

Dated \_\_\_\_\_, 2026.

Bidder's Post Office Address:

\_\_\_\_\_  
\_\_\_\_\_

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

\_\_\_\_\_  
Title

\_\_\_\_\_  
(CORPORATE SEAL)

Names and addresses of all members of the firm or names and titles of all officers: Corporation organized under the laws of the State of

\_\_\_\_\_  
\_\_\_\_\_  
Contractor's License No.

\_\_\_\_\_  
\_\_\_\_\_  
Expiration Date

\_\_\_\_\_  
\_\_\_\_\_  
Surety or Sureties

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





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**INFORMATION REQUIRED OF BIDDER**

In conformance with requirements of Sections B and D of these Specifications, the bidder sets forth the following data:

(a) Listed below are two projects performed under the bidder's supervision during the past five (5) years involving work of size and complexity comparable to that to be installed under Contract specifications:

<b><u>Project Title</u></b>	<b><u>Bid Award Agency</u></b>	<b><u>Total Contract Cost</u></b>

The bidder shall herein set forth the name and the location of the place of business of each subcontractor who will perform the work or labor or render service to the general contractor in or about the construction of the work or improvement in an amount in excess of one-half (½) of one percent (1%) of the general contractor's total bid, and the portion of the work which will be done by each subcontractor. Attach additional sheets if necessary.

<b><u>Name of subcontractor</u></b>	<b><u>Location of place of business</u></b>	<b><u>Type of Work to be done</u></b>

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**PROPOSAL BOND  
KNOW ALL PERSONS BY THESE  
PRESENTS**

That we, \_\_\_\_\_ as Principal(s) (hereinafter called the Principal), and the \_\_\_\_\_ as Surety (hereinafter called the Surety), are held and firmly bound unto NORTH KERN WATER STORAGE DISTRICT (hereinafter called the Obligee) in the penal sum of five percent (5%) of the total of amount of accompanying Proposal Bidding Schedule (\$ \_\_\_\_\_) for the payment of which, well and truly to be made, we, Principal and Surety, bind ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, said Principal is submitting herewith a bid, or proposal for Specifications 26-1.

**NOW, THEREFORE**, if the bid or proposal is not withdrawn within sixty (60) days after the date set for the opening of bids, and notwithstanding the award of the Contract to another bidder, if the bid or proposal of said Principal shall be accepted, and the Contract for such work be awarded to the Principal thereupon by the said Obligee, and said Principal shall within the period specified in the Contract Documents enter into a written Contract and obtain insurance and faithful performance and labor and material bonds of the type and character and in the amount as may be specified, then this obligation shall be null and void; otherwise to be and remain in full force and effect.

In witness whereof, we hereunto set our hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 2026.

\_\_\_\_\_  
(Principal)

By \_\_\_\_\_

\_\_\_\_\_  
(Surety)

By \_\_\_\_\_

**NOTE:** This bond must be acknowledged before a Notary Public, and a legally sufficient power of attorney must be attached to the bond to verify the authority of any party signing on behalf of a surety.

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**FAITHFUL PERFORMANCE BOND**

**KNOW ALL MEN BY THESE**

**PRESENTS**

**THAT, WHEREAS,** the **NORTH KERN WATER STORAGE DISTRICT**, State of California, awarded a contract as of \_\_\_\_\_, 2026 to \_\_\_\_\_, hereinafter designated as the “Contractor,” for the Work pursuant to North Kern Water Storage District Specification No.26-1; and

**WHEREAS,** the said Contractor is required under the terms of said Contract to furnish a bond for the faithful performance of said Contract.

**NOW, THEREFORE, WE,** the undersigned Contractor, as Principal, and \_\_\_\_\_ (corporate surety), a corporation organized and existing under the laws of the State of \_\_\_\_\_ and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto **NORTH KERN WATER STORAGE DISTRICT** in the penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), lawful money of the united States, said sum being not less than 100 percent of the total Contract amount, for the payment of which sum will and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

**THE CONDITION OF THIS OBLIGATION IS SUCH, THAT,** if the above-bounded Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the said Contract and any alteration thereof made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the **NORTH KERN WATER STORAGE DISTRICT**, its officers and agents, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

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

As a condition precedent to the satisfactory completion of the said Contract, the above obligation shall hold good for a period of one (1) year(s) after the completion and acceptance of the said work, during which time if the above bounden Principal, his or its heirs, executors, administrators, successors or assigns shall fail to make full, complete and satisfactory repair and replacements or totally protect the said Owner, Engineer, and any design engineer from loss or damage made evident during said period of one (1) year(s) from the date of acceptance of said work and resulting from or caused by defective materials or faulty workmanship, in the prosecution of the work done, the above obligation shall be and remain in full force and virtue.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their seals this \_\_\_\_\_ day of \_\_\_\_\_, 2026, 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.

ATTEST:

\_\_\_\_\_  
(Principal Secretary)

\_\_\_\_\_  
(Principal)

(SEAL)

By \_\_\_\_\_

\_\_\_\_\_  
(Witness as to Principal)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Surety)

ATTEST:

\_\_\_\_\_  
(Witness to Surety)

\_\_\_\_\_  
(Attorney-in-Fact)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

If CONTRACTOR is a partnership, all partners must execute BOND.

NOTICE:

Sureties must be authorized to do business in and have an agent for service of process in California. A certified copy of Power of Attorney must be attached.



**PAYMENT BOND**

**KNOW ALL MEN BY THESE PRESENTS THAT, WHEREAS, THE NORTH KERN WATER STORAGE DISTRICT**, has awarded to \_\_\_\_\_ hereinafter designated as the “Contractor,” a Contract for constructing irrigation wells pursuant to NORTH KERN WATER STORAGE DISTRICT Specifications No 26-1; and

**WHEREAS**, said Contractor is required by the provisions of Division 4, Part 6, Title 3, of the Civil Code of the State of California, including, but not limited to Civil Code Sections 9550-9566, inclusive, to furnish a bond in connection with said Contract, as hereinafter set forth.

**NOW, THEREFORE, WE**, \_\_\_\_\_, the undersigned Contractor, as Principal, and existing under the laws of the State of \_\_\_\_\_, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto **NORTH KERN WATER STORAGE DISTRICT** in the sum of \_\_\_\_\_ and \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), said sum being not less than one hundred percent (100%) of the total Contract amount payable by the said NORTH KERN WATER STORAGE DISTRICT under the terms of the Contract, for which payment will and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

The condition of the foregoing obligations is such that, whereas the above bounden Principal has been awarded a Contract as \_\_\_\_\_ with NORTH KERN WATER STORAGE DISTRICT to do the following work, to-wit: THE CONSTRUCTION OF IRRIGATION WELLS AS PROVIDED FOR DISTRICT SPECIFICATIONS 26-1 .

**THE CONDITION OF THIS OBLIGATION IS SUCH, THAT**, if said Contractor, his or its heirs, executors, administrators, successors, assigns, or subcontractors shall fail to pay for any materials, provisions, implements, or machinery used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor as required by the provisions of Division 4, Part 6, Title 3, Chapter 5 of the Civil Code; and provided that the claimant shall have complied with the provisions of said Code, the surety or sureties hereon will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall be void. In case a suit is brought upon this bond, the said Surety will pay a reasonable attorney’s fee to be fixed by the court. This bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under Division 4, Part 6, Title 3 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond. And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alternation, or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the Specifications.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their seals this \_\_\_\_\_ day of \_\_\_\_\_, 2026, 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.

ATTEST:

\_\_\_\_\_  
(Principal Secretary)

\_\_\_\_\_  
(Principal)

(SEAL)

By \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
(Witness as to Principal)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Surety)

ATTEST:

\_\_\_\_\_  
(Witness to Surety)

\_\_\_\_\_  
(Attorney-in-Fact)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

If CONTRACTOR is a partnership, all partners must execute BOND.

NOTICE:

Sureties must be authorized to do business in and have an agent for service of process in California. A certified copy of Power of Attorney must be attached.

**NONCOLLUSION AFFIDAVIT**  
(To be executed by Bidder and submitted with Bid)

In accordance with Section 7106 of the State of California Public Contract Code, Bidders are required to execute the following Non collusion Affidavit.

State of California  
County of \_\_\_\_\_

I, \_\_\_\_\_ (name), being first duly sworn, deposes and says that he or she is \_\_\_\_\_ (owner, officer, etc.) of \_\_\_\_\_ 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, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid."

Executed on \_\_\_\_\_, 2026, in \_\_\_\_\_.

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

\_\_\_\_\_  
(Signature of Declarant)

\_\_\_\_\_  
(Printed Name of Declarant)

\_\_\_\_\_  
(Title)

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## AGREEMENT

**THIS AGREEMENT**, made and entered into this \_\_\_ day of \_\_\_\_\_, 2026, by and between the North Kern Water Storage District, a district organized under the California Water Storage District law, hereinafter called the “District” and \_\_\_\_\_ hereinafter called the “Contractor;” with respect to Specifications 26-1 (the “Agreement”).

**WITNESSETH:** That the District and the Contractor, for the consideration hereinafter named, agree as follows:

1. This Agreement is for Work (as that term is defined in the Contract) necessary to complete the items selected by the District from those described in the Contract Documents for Specifications 23-1 (the “Project”).
2. The Contract includes all of the Contract Documents, to wit: the Notice Inviting Bids, the Instructions to Bidders, the accepted Proposal and Proposal Bidding Schedules, the Contractor's Licensing Statement, the Information Required of Bidders, this Agreement, the Proposal Bond, the Faithful Performance Bond, the Payment Bond, the Non-Collusion Affidavits, the Notice of Award, the Notice to Proceed Checklist, Notice to Proceed Form, the General Conditions, the Special Conditions, the Plans and Specifications, Appendices, any change order or Addenda setting forth any modifications or interpretations of any of the Contract Documents, and Grant Agreement, including, but not limited to, their provisions, terms, conditions, and statements presented therein. All said Contract Documents are hereby incorporated in and made a part of this Agreement by reference thereto.
3. The Contractor shall furnish all labor, materials, equipment, and other facilities and perform in good and workmanlike manner all Work under the Contract for the District in strict conformity with the Agreement and the Contract documents, including but not limited to the Plans and Specifications, and to the approval and entire satisfaction of the Engineer and District.
4. The project to which the Work covered by the Contract Documents pertains is being funded in part by the following grant: WaterSMART Drought Response Program: Drought Resiliency Projects, which is being administered by the United States Bureau of Reclamation (Reclamation). Notwithstanding anything in this Agreement or the Contract Documents to the contrary, the Contractor hereby makes and shall obtain or caused to be obtained from all subcontractors and suppliers all certifications, stipulations and agreements required under this Agreement, the Contract Documents, and all applicable State and Federal laws, rules, and regulations, and shall ensure that Contractor and all subcontractors and suppliers comply with all applicable requirements of the Grant and Federal and State law including, but not limited to, as provided in the Grant Agreement. Contractor further agrees to furnish to District any further information or documentation that the District reasonably determines may be necessary for District to comply with the Grant Agreement or any applicable law. The Work shall conform to the requirements of all governmental agencies having jurisdiction over the Work. Contractor shall also comply with all federal, state and local laws, ordinances, rules, regulations and orders under the Contract, including all licensing requirements and occupational, health, safety, employment and environmental laws. Such applicable laws, ordinances, rules, regulations and orders shall include, without limitation, those that are specifically incorporated into any Grant Agreement pertaining to the Work, which Grant

Agreement and any amendments thereto the District will provide to Contractor following their execution. Contractor shall bear all costs, expenses and liabilities related to any changes in the Work to conform to such laws, ordinances, rules, regulations and orders.

5. The District will pay the Contractor in current funds for the performance of the Contract the sum stated in the Proposal Bidding Schedule, in the manner, at the time and upon the conditions as stated in the Contract Documents, and will otherwise fulfill its obligations as provided in the Contract.
6. All time limits stated in the Contract Documents are of the essence.
7. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto, as well as their heirs, successors, and assigns.
8. Unless otherwise ordered by the Engineer, the Contractor shall begin the Work within ten (10) calendar days after issuance of the Notice to Proceed and complete the Work in accordance with the schedule set forth in the Special Conditions. Pursuant to section 53069.85 of the Government Code, Contractor agrees that if the Work is not completed on or before the expiration of the completion time or times specified in the Special Conditions, or within such extensions of time as may be granted, the District may retain the sum set forth in the Special Conditions each day thereafter, Sundays and holidays included, that the Work remains uncompleted, which sum is agreed upon as the proper measure of liquidated damages which the District will sustain per day by the failure of the Contractor to complete the Work at the time stipulated, and this sum is not to be construed in any sense a penalty or forfeiture.

#### **9. Labor Certification**

Contractor states that it is aware of the provisions of Section 3700 of the Labor Code, which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with provisions of that Code, and Contractor agrees to comply with such provisions before commencing the performance of the Work of this Agreement.

#### **10. Contractor's License**

All Contractors and/or Subcontractors are required to be licensed under applicable provisions set forth in the Contractors' State License Law (see California Business and Professional Code section 7000 et seq.) at all times during the course of performance of Work hereunder, and shall comply with all rules and regulations adopted and applicable pursuant to the foregoing.

#### **11. Board of Industrial Relations Registration**

Pursuant to Labor Code section 1725.5, Contractor and/or Subcontractor is to be registered with the Department of Industrial Relations at all times during the course of performance of the Work set forth in the Contract Documents. Contractor agrees to comply with the provisions set forth in Labor Code section 1725.5 prior to and through performance of the performance of the Work as set forth under the Contract Documents and this Agreement.

#### **12. Indemnification**

To the fullest extent of the law, the Contractor shall assume the defense of and indemnify, hold, and save harmless the District, the U.S. Bureau of Reclamation, the California Department of Water Resources, the Landowners, the Design Engineer and the Engineer and their respective directors, officers, employees and agents from any and all loss, damage, liability, claims, or causes of action of every nature whatsoever for damage to or destruction of property, including the District's property, or for injury to or death of persons, including Contractor's employees, in any manner, arising out of or incident to the performance of this Agreement.

The Contractor shall at all times preserve and protect the Work installed and performed hereunder and assume full responsibility for the condition thereof until final acceptance by the District. Contractor shall be liable for any loss or damage to any of the Work performed, completed, and/or in place and to any materials on the Site that may be caused by Contractor, his employees, agents, or guests. Any such damage shall be immediately repaired by Contractor, and, upon failure to do so, the District may remedy the same and deduct the cost thereof from any amount due or to become due to the Contractor.

To the fullest extent of the law, the Contractor shall assume the defense of and indemnify, hold, and save harmless the District, the U.S. Bureau of Reclamation, the California Department of Water Resources, the Landowners, the Design Engineer and the Engineer and their respective directors, officers, employees and agents, against any and all liens, claims, demands, and costs, including attorneys' fees, for labor and material furnished to the Contractor or any of his subcontractors in connection with the performance of this Contract. In the event that the Contractor or any of his Subcontractors shall fail to pay for any material or labor used in the performance of this Agreement, or any lien is filed against the said property, or any claim is asserted or action is filed against the said property, or any claim is asserted or action filed on any bond, by any person claiming to have furnished labor or materials to the Contractor or any of his Subcontractors in connection with the performance of this Agreement, the District shall be entitled, at its option, to pay for said material or labor, or discharge any such lien, or to pay or settle any such claim or action and to deduct the amount so paid, together with any and all costs and attorney's fees incurred by or on behalf of the District in connection with any such payment, discharge, or settlement, from amounts due or to become due to the Contractor hereunder. The District may also deduct from any amounts due or to become due to the Contractor, any other amounts owing by the Contractor to the District, including the cost of any materials, labor, services, equipment or facilities supplied by the District as to which the Contractor has the obligation to supply the same hereunder. In the event that the balance that otherwise would be due the Contractor, shall be insufficient to so reimburse the District, the Contractor shall pay the District any deficiency upon demand.

The Contractor shall pay all royalties and license fees. He shall, at his own cost, expense and risk, defend any and all suits or claims for infringement of any patent rights and shall indemnify, hold, and save the District and its Directors, officers, employees and agents harmless from loss of account thereof.

If the District, the Landowners, the Design Engineer or the Engineer and/or their respective Officials, Officers, Employees, Agents, Consultants, and Engineers are required to testify or contribute time and expense in any other way, in any suit or enforcement action of any kind brought to recover alleged damages or remedy alleged violations resulting from the acts or omissions (including negligent acts or omissions) in connection with, or accidents arising from, the acts, operations, and responsibilities of the Contractor, its Subcontractors, or others

associated with or working under Contractor, in direct or indirect relation to the performance of the Work, they shall be reimbursed for any reasonable costs incurred by them for lost time, expert assistance, and incidental expenses in connection with their need to contribute time and expense, whether or not the suit or enforcement action proceeds to final judgment.

**IN WITNESS WHEREOF**, the parties hereto have executed this Agreement the day and year first above written.

NORTH KERN WATER STORAGE  
DISTRICT

BY:

\_\_\_\_\_  
President

BY:

\_\_\_\_\_  
Secretary

Contractor

\_\_\_\_\_

BY:

\_\_\_\_\_  
(Title)

And:

\_\_\_\_\_  
(Title)



**GOOD FAITH EFFORTS CHECKLIST  
FOR DISADVANTAGED BUSINESS ENTERPRISE (DBE)**

**(TO BE COMPLETED BY BIDDER AND SUBMITTED WITH BID)**

Please complete the checklist to determine if you have complied with the requirements to make good faith efforts to ensure that certified DBEs have the opportunity to compete for procurements funded by USBR financial assistance funds. Bidders/offerers must make good faith efforts prior to submission of bids/proposals.

1. Did you ensure that DBEs were made aware of the project to the fullest extent practicable?  
Yes No
2. Did you ensure to solicit DBEs that have been identified as potential sources?  
Yes No
3. Did you consider in the contracting process whether firms competing for large contracts could subcontract with DBEs? This will include dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises?  
Yes  
No
4. Did you establish delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises?  
Yes  
No
5. Did you use the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce to identify potential subcontractors?  
Yes  
No
6. List the potential DBE subcontractors that were contacted. Only list those whose line of work are consistent with the project's scope of work. If none were identified, please note that.

Name	How Contacted (e.g. letter, phone call, fax, e-mail)	Response (e.g. did not respond, not interested, not competitive)

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

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# SPECIFICATIONS

## SECTION C

### GENERAL CONDITIONS

#### C-1 Definitions

The following terms, as used in any of the Contract Documents, are respectfully defined as follows:

- (a) “District” - The North Kern Water Storage District with principal offices in Kern County, California.
- (b) “Board of Directors” or “Board” - The Board of Directors of the District.
- (c) “Engineer” - Unless otherwise stated, the District Staff Engineer/Deputy General Manager of the North Kern Water Storage District, acting either directly or through properly authorized agents.
- (d) “Contractor” - The bidder who submitted the accepted Proposal and who executed an Agreement to furnish articles or materials in accordance with these Specifications, and the legal representatives of said party.
- (e) Whenever in the specifications or upon the Drawings the words DIRECTED, REQUIRED, PERMITTED, ORDERED, DESIGNATED, PRESCRIBED, or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation or prescription of the Engineer is intended, and similarly the words APPROVED, ACCEPTABLE, SATISFACTORY, or words of like import, shall mean approved or acceptable to, or satisfactory to the Engineer, unless otherwise expressly stated.
- (f) “ASSHTO” - The American Association of State Highway and Transportation Officials.
- (g) “ACI” - The American Concrete Institute.
- (h) “AISC” - The American Institute of Steel Construction.
- (i) “AISI” - The American Iron and Steel Institute.
- (l) “ASME” - The American Society of Mechanical Engineers.

- (m) “ASTM” - The American Society for Testing and Materials.
- (n) “AWS” - The American Welding Society.
- (o) “AWWA” - The American Water Works Association.
- (p) "IEEE" (formerly AIEE) - The Institute of Electrical and Electronics Engineers.
- (q) “IPCEA” The Insulated Power Cable Engineers Association.
- (r) “NEMA” The National Electrical Manufacturers Association.
- (s) “SSPC” - The Steel Structures Painting Council.
- (t) “USAS” (formerly ASA) - The United States of America Standard Institute.
- (u) “State,” “DWR” - Respectively, the State of California and the State Department of Water Resources.
- (v) “State Standard Specifications” - Standard Specifications issued by the State of California, Department of Transportation, latest edition.
- (w) “County”- County of Kern, California.
- (x) The figures given in the Specifications or upon the drawings after the word ELEVATION, or an abbreviation of it, shall mean distances in feet above U.S. Coast and Geodetic Survey sea level datum, as established by the Engineer.
- (y) ”Application for Payment” – the form accepted by Engineer which is to be used by Contractor in requesting payments and which is to include such supporting documentation as is required by the Contract Documents.
- (z) “Certificate of Completion and Final Acceptance” – the certification and acceptance by Engineer of Work when it has been completed in all respects in accordance with the Contract Documents and any Modifications thereof previously approved. Such acceptance is constituted by a Certificate of Completion and Final Acceptance by Engineer to Contractor.
- (aa) “Change Order” – a written order to Contractor from Engineer authorizing a substitution, addition, deletion or revision in the Work, or an adjustment in the Contract Price or Contract Time issued after the effective date of the Contract.
- (bb) “Change Work” – a substitution, addition, deletion or revision in the Work within the general scope of the Contract necessary to the completion of the Work.
- (cc) “Construction Schedule” – an outline of construction activities showing the sequence and timeline for completing the components of the Work.
- (dd) “Contract” – the written agreement between District and Contractor covering the

Work; other Contract Documents are attached to the Contract and made a part thereof as provided therein.

- (ee) “Contract Documents” – the Notice Inviting Bids, the Instructions to Bidders, the accepted Proposal and Proposal Bidding Schedule, the Contractor’s Licensing Statement, the Information Required of Bidders, the Agreement, the Proposal Bond, the Faithful Performance Bond, the Payment Bond, the Non-Collusion Affidavits, the DBE Check List, the Notice to Proceed, General Conditions, Special Conditions, the Specifications, Plans, Appendices and any Change Order or Addenda, setting forth any modifications or interpretations of any of said documents, and Grant Agreement.
- (ff) “Contract Price” – the monies payable by District to Contractor under the provisions of the Contract Documents.
- (gg) “Contract Time” – the length of time stated in the Contract Documents for the completion of the Work.
- (hh) “Day” – a calendar day of 24 hours measured from midnight to the next midnight.
- (ii) “Defective” – an adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to Engineer's recommendation of final payment, unless responsibility for the protection thereof has been assumed by District.
- (jj) “Detail Drawings” – details of standard structures, devices, or installations referred to on the Project Drawings or in the other Contract Documents.
- (kk) “Effective Date of the Contract” – the date indicated in the Contract in which a fully executed Contract is delivered to the District.
- (ll) “Equipment” – products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, and other like items).
- (mm) “Extra Work” – Work outside the general scope of the Contract.
- (nn) “Field Order” – a written order issued to Contractor by Engineer which orders minor Change Work but which does not involve a change in the Contract Price or the Contract Time, or such an order issued when, as determined, the time required for development and execution of a Change Order would result in delay or stoppage of the Work or would allow a hazardous condition to exist.
- (oo) “Final Inspection” – determines if the Work has reached Final Completion.
- (pp) “Final Completion” – indicates that the Work has been fully completed in accordance with the Contract Documents and is ready for acceptance and final payment by the District.

- (qq) “Final Punch List” – contains items that remain uncompleted after Substantial Completion but that must be completed prior to Final Completion.
- (rr) “Grant Agreement” - any agreement entered into between the District and any federal or state agency that pertains to this Contract and the Work
- (ss) “Materials” – products which must be substantially cut, shaped, worked, mixed, finished, refined, or otherwise fabricated, processed, installed, or applied to form Work.
- (tt) “Modification” – a Written Amendment to the Contract signed by both parties, a Change Order or a Field Order. Any Modification involving a permit must be supported by the written agreement of the agency issuing the permit. A Modification may be issued only after the effective date of the Contract.
- (uu) “Notice of Award” – the written notice by District to the apparent successful Bidder of District’s intent to sign and deliver the Contract upon Contractor’s delivery of all Contract Documents.
- (vv) “Notice of Completion” – the written notice filed by District with the County Recorder certifying that the Work has been completed.
- (ww) “Notice to Proceed” – the written notice by District to Contractor fixing the date on which the Contract Time will commence to run and on which Contractor shall start to perform its obligation under the Contract Documents.
- (xx) “Plans” or “Drawings” – means and includes Project Drawings and Detail Drawings.
- (yy) “Preconstruction Conference” – a conference held before Contractor starts Work at the Site, attended by Contractor, Engineer and others as appropriate, to discuss the schedules provided, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a Working understanding among the parties as to the Work.
- (zz) “Products” - includes purchased items for incorporation into the Work regardless of whether specifically purchased for the Project or taken from Contractor’s stock of previously purchased products.
- (aaa) “Project” – see Work.
- (bbb) “Project Drawings” – the drawings developed by District or Engineer, or both, specifically for the Project which show the character and scope of the Work and are part of the Contract Documents.
- (ccc) “Release and Certificate of Final Payment” – the release by Contractor, in consideration of final payment, of District from all claims and obligations of every nature.
- (ddd) “Schedule of Values” – a statement furnished by Contractor to Engineer reflecting the portions of the Contract Price allotted for the various parts of the Work and used as the basis for reviewing Contractor's Application for Payment.
- (eee) “Semi-Final Inspection” – determines if the Work has reached Substantial Completion.

- (fff) “Shop Drawings” or “Submittals” – all drawings, diagrams, illustrations, schedules and other material which are specifically prepared by or for Contractor to illustrate some portion of the Work, samples, and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams, and other information prepared by a Supplier and submitted by Contractor to illustrate material or equipment for some portion of the Work.
- (ggg) “Site” – the location or locations where the Work is to be accomplished.
- (hhh) “Special Conditions” – specific clauses setting forth requirements peculiar to the Work and supplementary to the General Conditions.
- (iii) “Specifications” – the manual prepared by District or for District by the Engineer.
- (jjj) “State” – the State of California.
- (kkk) “Subcontractor” – an individual, firm or corporation having a direct subcontract with Contractor or with any other Subcontractor for the performance of a portion of the Work at the Site, or for the fabrication and installation of a portion of the Work in accordance with drawings contained in the Contract or furnished by Contractor under the Contract.
- (lll) “Substantial Completion” – means the Work has progressed to the point that the Work is ready for beneficial use and occupancy by the District for the intended purpose.
- (mmm) “Supplier” – a manufacturer, fabricator, supplier, distributor, materialman or vendor.
- (nnn) “Technical Conditions” – specific clauses setting forth conditions or requirements for materials, equipment, construction systems, standards, workmanship, measurement and payment.
- (ooo) “U.S. BUREAU OF RECLAMATION, USBR, RECLAMATION” – the United States Bureau of Reclamation Department of the Interior.
- (ppp) “Work” – the entire construction or the total of the separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.
- (qqq) “Written Amendment” – a written amendment of the Contract Documents, signed by District and Contractor on or after the Effective Date of the Contract.
- (rrr) “FWA” – Friant Water Authority
- (sss) All gender specific pronouns shall be interpreted to include all genders.

## **C-2 Correlation and Intent of Documents**

The Contract Documents are complimentary, and what is called for in any one shall be as binding as if called for in all. The intention of the Documents is to require a complete and finished piece of work including all labor, materials, equipment, facilities and

transportation necessary for the proper execution of the work, with the exception of such items as are definitely stated in the specifications or the drawings to be furnished by the District. Should there be a conflict between the Specifications and the drawings, the Specifications shall be controlling.

### **C-3 Assignment**

Neither party to the Contract shall assign the Contract nor sublet it as a whole without the prior written consent of the other, nor shall the Contractor assign any money due or to become due to him hereunder without prior written consent of the Engineer.

### **C-4 Subcontracts**

- a. The attention of the Contractor is directed to the provisions of Public Contract Code, Section 4100 et seq. as amended, and said provisions are by this reference incorporated herein and made a part hereof.
- b. Each subcontract shall contain a suitable provision for the suspension or termination of that subcontract should the Work be suspended or terminated or should the Subcontractor neglect or fail to conform to every provision of the Contract Documents insofar as such provisions are relevant. The Contractor shall be as fully responsible to the District for the acts or omissions of his Subcontractors and of the persons either directly or indirectly employed by them as he is for the acts or omissions of persons directly employed by him. Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and the District. If a legal action against the District is initiated by a subcontractor, the Contractor shall reimburse the District for the amount of legal expenses incurred by the District in defending itself in said action.
- c. A copy of each subcontract, if in writing, or if not in writing, then a written statement signed by Contractor, giving the name of the subcontractor, and the terms and conditions of such subcontract, shall be filed with Owner before the subcontractor commences performance of the Work. Each subcontract shall contain a reference to the agreement between Owner and Contractor, and the terms of that agreement and all parts thereof shall be made a part of such subcontract insofar as applicable to the Work covered thereby. Each subcontract shall provide for its annulment by Contractor at the order of Owner, if, in Owner's opinion, the subcontractor fails to comply with the requirements of the principal agreement insofar as the same may be applicable to his work. Nothing herein contained shall create any contractual relation between any subcontractor and Owner or relieve Contractor of any liability or obligation hereunder.
- d. Contractor is hereby alerted to provisions of Section 7107 of the Public Contract Code, requiring Contractor to pay to each of its subcontractors from whom retention has been withheld, each subcontractor's share of the retention received, within seven (7) days from receipt of all or any portion of such retention proceeds from Owner.
- e. Pursuant to Public Contract Code Section 6109, subcontractors who are ineligible



to perform work on a public works project as determined by the Department of Industrial Relations pursuant to Section 1777.1 or Section 1777.7 of the California Labor Code shall not perform any portion of the work contemplated herein. Any subcontract between the Contractor and an ineligible subcontractor shall be void as a matter of law, and the ineligible subcontractor shall not receive any payment for performing such work.

#### **C-5 Suspension of Work**

(a) The Engineer may at any time, by notice in writing to the Contractor, suspend any part of the work for such period of time as may be necessary to prevent improper execution of the work on the project, and the Contractor shall have no claim for damages or additional compensation on account of any such suspension.

(b) The District may at any time suspend any part or all of the work upon 10 days' written notice to the Contractor, who shall thereupon discontinue all work suspended except for all operations to prevent loss or damage to work already executed as may be directed by the Engineer. The Contractor shall be paid on the same basis as Extra Work for costs of work performed in accordance with such orders of the Engineer during such suspension, provided that this shall not include any costs pertaining to work not suspended by said notice. Work shall be resumed by Contractor after such suspension on ten (10) days' written notice from the District. In the event of suspension of the entire work by the District, the Contractor shall be paid the sum of One Hundred and Fifty Dollars (\$150.00) for each calendar day during which the entire work shall have been suspended. Said sum is hereby mutually agreed upon as fixed and liquidated damages in full settlement of all costs and expenses, losses and damages resulting to the Contractor from such suspension.

(c) In the event of any suspension of the Work in whole or in part, the Contractor shall be entitled to any extension of time to complete the Work in a length equal to the length of the suspension of the Work. Provided, however, that the Contractor shall not be entitled to an extension of time to complete the Work in the event that the Work is suspended by the Engineer to prevent or correct improper execution of the Work.

(d) In the event the entire work shall be suspended by order of the District, as hereinabove provided, and shall remain so suspended for a period of 60 consecutive days through no fault of the Contractor, and notice to resume the work shall not have been served on the Contractor as herein above provided, Contractor may, at his option, by written notice to the District, terminate the Contract in the same manner as if the termination had been initiated by the District, and the District shall have no claim for damages because of such termination of the Contract.

## **C-6 Time of Work - Termination for Delay - Damages for Delay Time Extensions**

(a) The Contractor shall at all times employ such force, plant, materials, and tools as will be sufficient, in the opinion of the Engineer, to prosecute the work at not less than the rates fixed under the terms of the Contract and to complete the work or any separable portions thereof within the time limits fixed therein. If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with such diligence as well insure its completion within the time specified in the Contract, or any extension thereof, or fails to complete said work within such time, the District may, by written notice to the Contractor, terminate his right to proceed with the work or such part of the work as to which there has been delay. In such event the District may take over the work and prosecute the same to completion, by contract or otherwise, and may take possession of and utilize in completing the work such materials, appliances, equipment and plant as may be on the site of the work and necessary therefor. Whether or not the Contractor's right to proceed with the work is terminated, he and his sureties shall be liable for all damages, including attorneys' fees, sustained or incurred by the District by reason of such default and in enforcing the provisions hereof against the Contractor.

(b) The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if:

- (1) The delay in the completion of the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to Acts of God, acts of the public enemy, acts of the District in either its governmental or contractual capacity, acts or another contractor in the performance of a contract with the District, fires, floods, excluding site flooding due to groundwater, epidemics, quarantine restrictions, strikes, lockouts, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of either the Contractor or such subcontractors and supplies; and
- (2) The Contractor, within ten (10) days from the beginning of any such delay (unless the Engineer grants a further period of time before the date of final payment under the Contract), notifies the Engineer in writing of the causes of delay and requests an extension of time.

The Engineer shall ascertain the facts and the extent of the delay and extend the time for completing the work when, in his judgment, the findings of fact justify such an extension, and his findings of fact shall be final and conclusive on the parties.

(c) The rights and remedies of the District provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

(d) A request for an extension of time, or the granting of an extension of time, shall

not constitute a basis for any claim against the District for additional compensation. The contractor shall be deemed to have waived any claim for additional compensation, and does hereby so waive any such claim.

#### **C-7 Termination for Reasons Other Than Delay**

(a) If at any time prior to the completion of the work, the District determines in its sole discretion that it is in the District's best interests to discontinue the work, or any portion thereof, the District shall provide written notice of the discontinuance to the Contractor and the work shall be terminated in accordance with that notice. The Contractor shall have no claim for damages for such discontinuance or termination nor any claim for anticipated profits on the work thus dispensed with.

(b) If the Contractor should be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed for the Contractor on account of his insolvency and not be discharged within ten (10) days after his appointment, or if the Contractor should fail to make prompt payment to subcontractors or for materials or labor, or should persistently disregard laws, ordinances, or the instructions of the Engineer, or otherwise be guilty of a substantial violation of any provisions of the Contract, then the District, upon the certification of the Engineer that sufficient cause exists to justify such action, may without prejudice to any other right or remedy, and after giving the Contractor ten (10) days written notice, terminate the employment of the Contractor and take possession of the premises and of all equipment, materials, tools and other facilities therein and finish the work by whatever method the District may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If upon completion of the work the total cost to the District, including attorneys' fees, in connection therewith shall be less than the amount which would have been paid if the work has been completed by the Contractor in accordance with the terms of the Contract, then said difference shall be paid to the Contractor in the same manner as the final payment under the Contract. If the expense, including attorneys' fees, incurred by the District on account of termination of employment of the Contractor and subsequent completion of the work by the District by whatever method the District may deem expedient shall, exceed said amount which the Contractor would otherwise have been paid, the Contractor and his sureties shall be liable to the District for the full amount of such excess expense.

(c) In addition to its rights under paragraph (a) and (b) hereof, and unemployment which are measured by wages, salaries or any enumeration paid to Contractor's employees, whether levied under existing or subsequently enacted laws, rules, or regulations. Contractor, if at any time before completion of the work under the Contract it shall be determined by the District that reasons beyond the control of the parties hereto render it impossible or against the interests of the District to complete the work, or if the work shall be stopped by an injunction of a court of competent jurisdiction or by order of any competent authority, the District may, upon ten (10) days written notice to the Contractor, discontinue the work and terminate the Contract. Upon service of such notice of

termination the Contractor shall discontinue the work in such manner, sequence, and at such times as the Engineer may direct, continuing and doing after said notice only such work until such time or times as the Engineer may direct. The Contractor shall have no claim for damages for such discontinuance or termination, nor any claim for anticipated profits on the work thus dispensed with, not any other claim except (1) for the work actually performed up to the time of complete discontinuance, including any Extra Work ordered by the Engineer to be done, and (2) for any liquidated damages due hereunder in accordance with the provisions relating to Suspension of Work.

### **C-8 Authority of the Engineer**

(a) The Engineer shall give all orders, lines, grades, and directions contemplated under the Contract. The Engineer may determine the adequacy of the Contractor's methods, tools, plant, equipment and appurtenances and he shall determine in all cases the quantity, quality, acceptability and fitness of the several kinds of work and materials which are to be paid for. The Engineer will have the authority to determine all questions in relation to said work and the construction thereof and decide in all cases questions which may arise relative to the fulfillment of this Contract on the part of the Contractor. The Engineer shall also have the authority to reject all work and materials which do not conform to the Contract and to stop the work when necessary to prevent its improper execution. Should any discrepancy appear or any misunderstanding arise as to the import of anything contained in the specifications or drawings, the matter shall be referred to the Engineer, who shall decide the same in accordance with the true intent and meaning. Any differences or conflicts which may arise between the Contractor and other contractors of the District in regard to their work will be adjusted and determined by the Engineer. All instructions, rulings and decisions of the Engineer shall be made promptly and in writing, if so requested, and they shall be final and bindings.

(b) If at any time the Contractor's work force, tools, plant or equipment appear to the Engineer to be insufficient, inefficient or inappropriate to secure the required quality of work or the proper rate of progress, the Engineer may order the Contractor to increase their efficiency, improve their character, to augment their number or to substitute other personnel, new tools, plant or equipment, as the case may be, and the Contractor shall comply with such order.

(c) The undertaking of inspections by the Engineer or the giving of instructions as herein authorized shall not be construed as supervision of the actual construction or make the Engineer or the District responsible for providing a safe place for the performance of work by the Contractor, subcontractor, or suppliers; or for access visits, use, work, travel or occupancy by any person.

### **C-9 Changes & Extra Work**

- a. Without invalidating the Contract, District may, at any time or from time to time, order Change Work or request Extra Work to be performed by the Contractor. Change Work may involve increasing or decreasing the quantity of an item or portion of the Work;

deleting any item, or items, of the Work; or adding items to the Work.

- b. Engineer will provide Contractor with a written description of the scope of Work involved. Unless otherwise required, Contractor shall, within 10 days after receipt of such written material, submit in writing to Engineer a proposal for accomplishing such Work.

The proposal shall reflect any change in cost to Contractor for performing the proposed Change Work or Extra Work under the Contract, in comparison to what the cost would have been otherwise. The proposal shall state the basis for compensation for such Work. Sufficient detail shall be given in the proposal to permit thorough analysis.

The proposal shall state also the basis for any change of Contract Time, or for a change in the time required for completion of any items of Work for which a specific completion time or date is set forth in the Contract, due to the Change Work or Extra Work. Sufficient detail shall be given in the proposal to permit thorough analysis.

The proposal shall state if the performance of such Change Work or Extra Work would result in any change in the time required for completion of any items of the Work as shown on Contractor's current construction schedule. A revised construction schedule shall be submitted with the proposal if any such changes are involved.

Engineer will analyze the proposal data, clarify as needed and, if necessary, attempt to reach agreement on the terms of the proposal through negotiations with Contractor.

Engineer will then determine one of the following:

1. A Change Order will be issued ordering Change Work or Extra Work, based upon the Contractor's proposal covering such Work, or on the proposal as modified by mutual agreement.
2. The proposed Change Work or Extra Work will not be performed under the Contract.

Change Work and Extra Work must be authorized through a Change Order or Field Order. Upon receipt of a Change Order, Contractor shall proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If, as determined by District, any Change Order causes a change in Contract Price or a change in Contract Time, an equitable adjustment will be made.

- c. Engineer may authorize minor Change Work not involving a change in Contract Price or Contract Time, which is consistent with the intentions of the Contract Documents. This will be accomplished by Field Order and shall be binding on District and on Contractor who shall perform the change promptly. If Contractor believes that Work under a Field Order justifies an increase in Contract Price or an extension of Contract Time, Contractor may make a claim as provided for in Paragraphs C-9 and C-20.

Engineer may also issue a Field Order for Change Work where, as determined, the time required for development and execution of a Change Order would result in delay or stoppage of the Work or would allow a hazardous condition to exist. In these cases, a Change Order will be developed as soon as possible to replace the Field Order.

Additional Work performed without authorization of a Change Order will not entitle Contractor to an increase in Contract Price or an extension of Contract Time.

It shall be solely the responsibility of Contractor to provide any notice to sureties of any change affecting the general scope of the Work or change in Contract Price or Contract Time.

- d. Any Change Work or Extra Work will be authorized by written orders to Contractor by Engineer, except that in the event of an emergency which Engineer determines endangers life or property and only in such an event, Engineer may issue oral orders to Contractor for any Work required by reason of such emergency. Any such oral orders will be confirmed in writing as soon as practicable. Such orders, whether written or oral, may be accompanied by drawings and data as are necessary to show the extent of such ordered Work.

Contractor shall commence such Work so that all current Contract Time requirements will be met, except that in the event of an emergency which Engineer determines endangers life or property, Contractor shall commence such Work as required by Engineer.

- e. If the time required for completion of any items for which a specific completion date is set forth in the Contract is changed because of the performance of Change Work or Extra Work, an adjustment in the time for completion for the affected items will be made. The construction schedule shall be revised to reflect such adjustment and resubmitted for approval.

#### **C-10 Right-of-way - Construction Roads**

- (a) The right-of-way for the work to be constructed under these specifications will be provided by the District. Nothing herein contained, however, and nothing marked on the drawings shall be interpreted as giving the Contractor exclusive occupancy of the territory provided. When two or more contracts are being executed at one time on the same or adjacent land in such manner that work on one contract may interfere with that of another, the Engineer shall decide which contractor shall cease work and which shall, continue, or whether the work on both contracts shall progress at the same time, and in what manner. When the territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of access or any other reasonable privilege may be granted by the Engineer to the contractor so desiring, to the extent, amount, in the manner, and at the time permitted. No such decision as to the method or time of conducting the work or use of territory shall be the basis of any claim for delay or damage.

- (b) Lands to be furnished by the District for construction operations will be specifically shown on the drawings or provided for in the Special Conditions. Should the Contractor find it necessary to use additional land for his purposes during the construction of the work, he shall provide for the use of such lands at his own expense. A copy of each written agreement between the Contractor and affected landowner(s) for the use of additional lands shall be filed with the Engineer prior to the use of land.
- (c) The Contractor shall construct and maintain all roads necessary to reach the various parts of the work and for the transportation thereto of construction material and personnel. The cost of constructing and maintaining such roads shall be borne by the Contractor.

### **C-11 Legal Address of Contractor**

The address given in the Contractor's Proposal on which the Contract is founded is hereby designated as the place to which all notices, letters, and other communications to the Contractor shall be mailed or delivered. The delivering at the above-named place or the depositing in a post-paid wrapper directed to the above place, in any post office mailbox regularly maintained by the post office, of any notice, letter or other communication to the Contractor, shall be deemed sufficient service thereof upon the Contractor and the date of said service shall be the date of such delivery or mailing. Such address may be changed at any time by written notice signed by the Contractor and delivered to the Engineer.

Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon the Contractor personally.

### **C-12 Personal Attention**

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

### **C-13 Survey Requirements**

The District will furnish all land surveys and will furnish information from basic surveys and monumented property corners necessary for locating the principal component parts of Contract work. In addition, the District will establish and furnish bench marks through the Contract work area. From the above information provided by the District, the Contractor shall, develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pipe locations and all other working points, lines and elevations as required for Contract construction. The Contractor shall carefully preserve

bench marks, reference points and stakes and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance. Contractor shall compile and maintain all survey notes in an approved form and shall furnish to the Engineer one copy of said notes as they are compiled and, upon completion of Contract work, Contractor shall furnish to the Engineer all original survey notes.

#### **C-14 Clean-up**

During the progress of the work, the Contractor shall maintain the site and related structures and equipment in a clean, orderly condition and free from unsightly accumulation of rubbish. Upon completion of the work and before the final estimate is submitted, the Contractor shall at his own cost and expense remove from the vicinity of the work all plants, buildings, rubbish, unused work materials, concrete forms, and temporary bridging and other like material, belonging to him or used under his direction during construction, and in the event of his failure to do so, the same may be removed by the District after ten (10) calendar days' notice to the Contractor, such removal; to be at the expense of the Contractor. Where the construction has crossed yards or driveways, they shall be restored by the Contractor to the complete satisfaction of the Engineer, at the Contractor's expense.

#### **C-15 Satisfaction of Liens**

If any liens or claims remain unsatisfied after final payment to the Contractor, the Contractor shall pay or refund to the District any money that the latter may be compelled to pay to discharge such liens and costs together with reasonable attorneys' fees incurred by the District in enforcing the Contractor's obligations hereunder.

#### **C-16 Claims Against the District**

##### **C-29.1 Compliance with Public Contract Code section 9204**

Contractor shall comply with Public Contract Code section 9204, the provisions of which are replicated immediately below:

- (a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.
- (b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.
- (c) For purposes of this section:



1. "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:
    - A. A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.
    - B. Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.
    - C. Payment of an amount that is disputed by the public entity.
  
  2. "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.
  
  3.
    - A. "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.
    - B. "Public entity" shall not include the following:
      - i. The Department of Water Resources as to any project under the jurisdiction of that department.
      - ii. The Department of Transportation as to any project under the jurisdiction of that department.
      - iii. The Department of Parks and Recreation as to any project under the jurisdiction of that department.
      - iv. The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.
      - v. The Military Department as to any project under the jurisdiction of that department.
      - vi. The Department of General Services as to all other projects.
      - vii. The High-Speed Rail Authority.
  
  4. "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.
  
  5. "Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.
- (d).
1.
    - A. Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity

and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

- B. The claimant shall furnish reasonable documentation to support the claim.
- C. If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.
- D. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

2.

- A. If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.
- B. Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.
- C. For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

- D. Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.
  - E. This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.
3. Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.
  4. Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.
  5. If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.
- (e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.
- (f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.
- (g) This section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2027, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2027, deletes or extends that date.

### **C-29.2 Compliance with Public Contract Code section 20104 *et seq.***

Following compliance with Public Contract Code section 9204 as provided in C-29.1, Contractor shall comply with Public Contract Code section 20104 *et seq.* if applicable.

The provisions of Public Contract Code §20104, et seq., apply to certain claims of \$375,000 or less. If a claim is subject to Public Contract Code §20104, et seq., the provisions thereof shall be followed. In accordance with Public Contract Code §20104, the provisions are replicated immediately below:

#### **Section 20104:**

(a)

1. This article applies to all public works claims of three hundred seventy- five thousand dollars (\$375,000) or less which arise between a contractor and a local agency.
2. This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2.

(b)

1. "Public work" means "public works contract" as defined in Section 1101 but does not include any work or improvement contracted for by the state or the Regents of the University of California.
2. "Claim" means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.

(c) The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.

(d) This article applies only to contracts entered into on or after January 1, 1991.

#### **Section 20104.2:**

For any claim subject to this article, the following requirements apply:

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

(b)

1. For claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.
2. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant. The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.

(c)

1. For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.
2. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.
3. The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.

(d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(e) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of

the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

(f) This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

#### Section 20104.4

The following procedures are established for all civil actions filed to resolve claims subject to this article:

(a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

(b)

1. If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

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

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

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

Section 20104.6:

- (a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.
- (b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.”

Notwithstanding the permissive language found in Public Contract Code section 20104.2(e), it is agreed and understood that the Contractor, and/or its agents, must file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

**C-17 Waiver of Interest in Certain Situations**

The District shall have no obligation to pay and the Contractor hereby waives the right to recover interest with regard to monies which the District is required to withhold by reason of judgment, order, statute or judicial process.

**C-18 Public Contract Code §7104**

Re: Notice of Discovery of Hazardous Waste or other Unusual Conditions

According to Public Contract Code section 7104, any public works contract of a local public entity that involves digging trenches or other excavations that extend deeper than four feet below the surface shall contain a clause that provides:

- (a) That the contractor shall promptly, and before the following conditions are disturbed, notify the public entity, in writing, of any:
  - (1) Material that the contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
  - (2) Subsurface or latent physical conditions at the site differing from those indicated.
  - (3) 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 contract.

- (b) That the public entity 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 the 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 the contract.
- (c) That, in the event that a dispute arises between the public entity and the contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the contractor's cost of, or time required for, performance of any part of the work, the contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

#### **C-19 Change of Contract Price**

- a. The Contract Price constitutes the total compensation payable to Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at its expense without change in the Contract Price.

The Contract Price may be changed only by a Change Order. Any claim by Contractor for an increase in the Contract Price shall be based on written notice delivered to Engineer within 15 days after the occurrence of the event giving rise to the claim. Failing such notice, the claim shall be deemed to have been waived by Contractor. Notice of the amount of the claim with supporting data, shall be delivered within 45 days after such occurrence unless Engineer agrees in writing to allow an additional period of time. Any change in the Contract Price will be determined by Engineer.

- b. The basis for change of Contract Price through a Change Order shall be either Contract unit or lump sum prices, if applicable, or new unit or lump sum prices, unless otherwise specified.

If the basis of compensation proposed by Contractor for Change Work, or any part thereof, is not acceptable, and if a basis of compensation for such Work, or any part thereof, cannot be agreed upon, the basis of compensation will be determined by Engineer and set forth in the Change Order.

In the event that an agreement cannot be reached for the basis of compensation, such basis of compensation will either be as developed by Engineer (considering the character, location and extent of the Change Work and Contract unit or lump sum prices) or cost-plus as provided in Paragraph C-9(c).



If at any time after Contractor commences such Change Work, another basis of compensation for such Work, or any part thereof, is agreed upon, compensation will be made in accordance with such agreement. In any event Contractor shall keep accurate records of its actual costs for such Change Work.

If the Change Order in a situation where a basis of compensation must be determined by the Engineer, involves deletion of an entire item, or items of Work, payment will be made to Contractor for Work performed prior to the date Contractor was notified by Engineer in writing of such deletion. If acceptable material for use in the deleted Work was ordered by Contractor prior to notification, and if the order for such material cannot be cancelled, as determined by Engineer, Contractor will be paid for such material. Upon such payment said material will become the property of District and District will arrange for its disposition at District expense. All payments to Contractor for material orders that cannot be cancelled will be on a cost-plus basis as provided in Paragraph C-9(c) below. If the order for said material can be cancelled, Contractor will be paid for only actual costs of ordering and canceling.

- c. Any Work performed under the Contract on a cost-plus basis shall be in accordance with the following:
  1. Direct Labor Cost - Payment shall be made for all manual classifications up to and including foremen, but shall not include superintendents, assistant superintendents, general foremen, surveyors, office personnel, time-keepers and maintenance mechanics. The direct labor cost for foremen shall be proportioned to all of their assigned work and only that portion applicable to cost-plus Change Work or Extra Work shall be paid for such Work. The time charged to Change Work or Extra Work shall be subject to daily approval and no charges shall be accepted unless evidence of such approval is submitted by Contractor with its billing. Labor rates used to calculate the direct labor costs shall be those rates in effect during the accomplishment of Change Work or Extra Work. In addition to the direct payroll costs, the direct labor costs shall include payroll taxes and insurance, vacation allowance, subsistence, travel time, overtime premium and any other payroll additives required to be paid by Contractor by law or collective bargaining agreements. Copies of certified pertinent payrolls shall be submitted to Engineer. Overtime shall not be worked without prior written approval by the Engineer. No time or charges will be allowed except when the employees are actually engaged in the proper, efficient, and diligent performance or completion of the Change Work or Extra Work as authorized.
  2. Equipment Costs - Payment for the rental and operation of the equipment furnished and used by Contractor shall be made for all construction and automotive equipment, except equipment or tools with a current new cost at point of origin of \$500 or less each.

Equipment time charged to Change Work or Extra Work will be subject to daily approval and no charges will be accepted unless evidence of such approval is submitted with Contractor's billing.

The equipment rental rates used shall be those rates listed in "Labor Surcharge and Equipment Rental Rates" as published by Caltrans, in effect as of the date of the Contract. These rates shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Such rates shall not include costs for operating labor, which will be paid as provided in Paragraph C-9(c), Item (1) Direct Labor Cost, or for transportation of equipment to and from the location of Change Work or Extra Work. For equipment proposed to be used for which rental rates are not set forth in said publication, the rental rates shall be negotiated with Engineer and agreed upon in writing before such equipment is used on any Change Work or Extra Work.

When the operated use of equipment is infrequent and, as determined, the equipment need not remain at the Site continuously, payment shall be limited to actual hours of use. Equipment not operating but retained at the location of Change Work or Extra Work at Engineer's direction shall be paid for at a rate equal to the rental rate times the right of way delay factor in the above-referenced Caltrans publication.

Transportation costs for bringing equipment that will be used exclusively for cost-plus Work to the Site and for returning equipment to the point of origin, will be reimbursed to Contractor based on invoices, provided that prior written approval for such transport has been given by Engineer to Contractor.

3. Material Costs - Payment for the cost of materials furnished and used by Contractor in performing any Change Work or Extra Work shall be made, provided such furnishing and use of materials was as specifically authorized in a Modification and the actual use was verified by Engineer. Charges shall be the net cost to Contractor for such materials delivered at the Site and vendor's invoice shall accompany the billing along with verification by Engineer of use of such materials.
4. Subcontract and Outside Service Costs - Payment for Work and services subcontracted by Contractor in the performance of Change Work or Extra Work will be allowed only when both the Subcontractor and the terms of payment to such Subcontractor have been approved in writing before the Subcontractor starts to Work on Change Work or Extra Work. Such charges will be allowed at net cost to Contractor on the same basis as provided in Items (1) through (3) above.
5. Tools, Supplies, Overhead, Supervision and Profit - Payment for use of

tools and equipment with a current new cost of \$500 or less each and for supplies, overhead, supervision and profit will be made in an amount determined as follows:

- a) For Work performed by Contractor an amount equal to the following percentages of Items (1), (2) and (3) above:

Direct Labor Costs            20

Equipment Costs                15

Material Costs                 15

- b) For Work performed by Subcontractor or through outside services an amount equal to the following percentages of Items (1), (2) and (3) above:

Direct Labor Costs            25

Equipment Costs                20

Material Costs                 20

No payment shall be made for cost-plus Work except as provided in Items (1) through (5) above. No payment shall be made for extended home office overhead costs. Any other costs for such Work shall be considered to be included in these payments.

**C-20 Change of Contract Time**

- a. All time limits stated in the Contract Documents are of the essence of the Contract. The Contract Time may be changed only by a Change Order.
- b. If any Change Work or Extra Work requires a change of Contract Time, or in the time required for the completion of any items of Work for which a specific completion time or date is set forth in the Contract, an adjustment shall be made by Change Order to allow sufficient time for the required Work to be efficiently performed by Contractor, as determined by the Engineer.
- c. If Contractor's performance is prevented or delayed by any cause, existing or future, which is beyond the reasonable control and without the fault or negligence of Contractor and which condition was not foreseeable by Contractor at the time the Contract was entered into, such as an act, omission or neglect of the District, or its representatives, or by acts of the public enemy, or by a war in which the United States of America is a participant, or by earthquakes affecting the Site or by area-wide strikes, fire, unusually severe weather, epidemics, or quarantine restrictions, Contractor shall, within ten (10) days after the commencement of any such delay, give to Engineer written notice thereof and of the anticipated results thereof.

Within seven (7) days after the termination of any such delay, Contractor shall file a written notice with Engineer specifying the actual duration of the delay and claim for increase of Contract Time. Failing to meet either of the above notice requirement the claim shall be deemed to have been waived by Contractor. If District determines that the delay was beyond the control and without the fault or negligence of Contractor and not foreseeable by Contractor at the time the Contract was entered into, the Contract Time will be extended in an amount equal to time lost due to such delay and the Contract will be modified by Change Order accordingly.

The Contract Time will not be extended if any such delay is attributed by Contractor to any Subcontractor(s) or Supplier(s) and District determines that the cause of the delay was not beyond the reasonable control or due to the fault or negligence of said Subcontractor(s) or Suppliers(s); or 1) the services, equipment or supplies involved were available in adequate time from other sources; 2) Engineer directed Contractor, in writing, to obtain such services, equipment or supplies from said other sources; and 3) Contractor failed to comply with such directions.

- d. When Contractor requests an increase of Contract Time for delay due to inability to obtain materials or equipment, its last written notice, as provided in Paragraph C-11(c), shall include the following:
1. Date Engineer was notified of delay.
  2. Date the delay began.
  3. Exact description of material or equipment causing delay.
  4. Documentation showing when and from whom ordered.
  5. Documentation of promised delivery schedule.
  6. Documentation of actual delivery schedule.
  7. Description of how late delivery caused delay (include current construction schedule).
  8. Documentation of measures taken to try and get prompt delivery.
  9. Documentation of attempts to get timely delivery from other sources.
  10. Description of steps taken to minimize effects of late delivery on progress of Work.
  11. Description of steps taken to stay within Contract Time after actual delivery.
  12. Statement of actual days lost as a result of late delivery.

## **C-21 Notice and Service Thereof**

Any notice required or given under the contract shall be in writing, be dated, and signed by the party giving such notice or his duly authorized representative, and be served as follows:

- a. If to the District or the Engineer, by personal delivery or by deposit in the United States mail;
- b. If to the Contractor, by personal delivery to the Contractor or to his authorized representative at the site of the project or by deposit in the United States mail;
- c. If to the surety or any other person, by personal delivery to said surety or other person or by deposit in the United States mail;
- d. All mailed notices shall be in sealed envelopes, shall be sent by certified mail with postage prepaid, and shall be addressed to the addresses in the Contract Documents or such substitute addresses which a party designates in writing and serves as set forth herein; and,
- e. Any notice served in accordance with this Section C-13, shall be deemed received by the addressee seventy-two (72) hours after deposited, postage prepaid, in the United States mail.

Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon the Contractor personally.

## **C-22 Construction Program (Schedule)**

**Post-Award Schedule** - Within five (5) days of award of Contract by the District, the Engineer will return the post-bid pre-award Construction Schedule to the Contractor. The Contractor shall modify the schedule to include any modifications, or changes and to reflect final phasing and scheduling of Work.

The Contractor shall complete these modifications within five (5) calendar days from date the schedule is returned to him and shall resubmit it for review. Upon receiving written notice from the Engineer that the schedule, as revised, has been accepted, it will then become the Construction Schedule by which the Contractor shall construct the Work and shall be subject to progress reporting, revision, and updating procedures implemented during the course of construction.

The initial Construction Schedule shall contain no Contract changes or delays which may have occurred during the interim submittal period. Changes shall be entered at the first update revision as specified under revisions to Construction Schedule produced below.

At any time during the progress of the project, if Contractor's progress has fallen behind the accepted Construction Schedule, Contractor shall take such corrective steps as may be required, including but not limited to, increasing the number of personnel, shifts, overtime operations, days of work, and amount of construction equipment until such time as the

Work is back on schedule, at no additional cost to the District. He shall also submit at the next weekly construction progress meeting such supplementary schedule or schedules as may be deemed necessary to demonstrate the manner in which the approved rate of progress will be regained.

Revisions to Construction Schedule - The Contractor shall submit a revised Construction Schedule within five (5) days of the occurrence of any of the following:

- a. When delay in completion of any activity or group of activities indicates an overrun of the Contract time by thirty (30) working days.
- b. Delays in submittals, deliveries, or work stoppage are encountered which make re-planning or rescheduling of the Work necessary.
- c. The schedule does not represent the actual prosecution and progress of the project as being performed in the field.

The revised Construction Schedule shall be submitted to the Engineer for review with a letter describing the reasons for submitting a revised Construction Schedule with any supporting documentation. The cost of revisions to the Construction Schedule resulting from Contract changes will be included in the cost for the change in the Work.

The cost of revision to the Construction Schedule not resulting from authorized changes in the Work shall be the responsibility of the Contractor.

### **C-23 Plans and Specifications**

Plans furnished herewith are for bidding purposes. The Engineer will furnish the Contractor, free of charge, all copies of working Plans and Specifications reasonably necessary for the execution of the Work. The Contractor shall have no claim for excusable delay on account of the failure of the Engineer to deliver necessary Plans or Specifications unless the Engineer shall have failed to deliver the same within two (2) weeks after receipt of written demand for the Plans and Specifications by the Contractor.

The Contractor shall keep one (1) copy of all current Plans and Specifications relating to the Work, in good order, available to the Engineer and his representatives, and convenient to the Site.

If the Contractor, in the course of the Work, finds any discrepancy between the Plans and the physical condition of the locality, or any errors or omissions in the drawings, or in the layout as given by points and instructions, it shall be his duty to inform the Engineer in writing, and the Engineer will promptly verify the same. Any Work done after such discovery, until authorized, will be done at the Contractor's risk. All Plans, Specifications, and copies thereof furnished by the Engineer shall not be reused on other Work and, with the exception of the signed Contract sets, are to be returned to him, on request, at the completion of the Work.

The Contractor shall not take advantage of any errors, discrepancies or omissions which may exist in the Plans and Specifications but shall immediately call them to the attention of the Engineer whose interpretation or correction thereof shall be conclusive.

It is intended that the information pertaining to conditions that may affect the cost of the Work will be shown on the contract drawings or indicated in the Specifications; however, the District does not warrant the completeness or accuracy of such information. The Contractor shall ascertain the existence of conditions that would affect the cost of the Work which would have been disclosed by a reasonable examination.

Existing improvements visible at the Site for which no specific disposition is made on the Plans but which could reasonably be assumed to interfere with the satisfactory completion of the improvements contemplated by the Plans shall be removed and disposed of by the Contractor.

When deemed necessary by the Engineer, additional Detailed Drawings will be furnished to the Contractor during the progress of the Work.

#### **C-24 Inspection of Work**

- a. The State of California, the California Department of Water Resources, the US Bureau of Reclamation, the District, the Engineer and their respective directors, officers, and their representatives shall at all times have access to the Work wherever it is in preparation or progress, and the Contractor shall provide safe and convenient facilities for such access and for inspection. If the Specifications, the Engineer's instructions, laws, ordinances, or any public authority require any material, equipment or Work to be specially tested or approved, the Contractor shall give the Engineer timely notice of its readiness for inspection, and if the inspection is by an authority other than the Engineer, of the time fixed for inspection. Inspections by the Engineer will be made promptly and, where practicable, at the source of supply.
- b. Work performed without inspection or proper testing may be required to be removed and replaced under proper inspection and testing and the entire cost of removal and replacing, including the cost of District-furnished materials used in the Work, shall be borne by the Contractor, regardless of whether or not the Work exposed is found to be defective. Examination of questioned Work may be ordered by the Engineer and, if so ordered, the Work must be uncovered by Contractor. If such Work is found to be in accordance with the Contract Documents, the District will pay the cost of reexamination and replacement. If such Work is found to be not in accordance with the Contract Documents, Contractor shall pay such cost, unless he shows that the defect in the Work was caused by another contractor, and in that event the District will assume responsibility for such costs.
- c. The inspection of the Work shall not relieve the Contractor of his obligation to fulfill the Contract as herein prescribed or in any way alter the standard of performance provided by Contractor. Defective Work shall be made good and

unusable materials may be rejected, notwithstanding that such Work and materials have been previously overlooked by the Engineer and accepted or estimated for payment. If the Work or any part thereof shall be found defective, Contractor shall, within ten (10) calendar days, make good such defect in a manner satisfactory to the Engineer. If the Contractor shall fail or neglect to make ordered repairs of defective Work or to remove the condemned materials from the Work within ten (10) calendar days after direction by the Engineer in writing, the District may make the ordered repairs, or remove the condemned materials, and deduct the cost thereof from any moneys due the Contractor.

- d. Contractor shall give Engineer timely notice of the Work for all required inspections, tests or approvals and shall cooperate with inspection and testing personnel to facilitate the required inspections or test.
- e. Testing of materials for construction (soils, concrete etc.) will be provided by the Contractor at the Contractor's expense. In the event of a failed test, the Contractor shall be responsible to pay for all costs associated with retesting.
- f. The Contractor shall furnish promptly, without additional charge, all facilities, labor and materials reasonably needed by the Engineer for performing all inspection and tests. Contractor shall be charged with any additional cost of inspection when material and workmanship are not ready at the time specified by the Contractor for its inspection.

#### **C-25 Conditions Affecting Work**

The Contractor shall be responsible for ascertaining the nature and location of the Work, and the general and local conditions which can affect the Work or the cost thereof. Any failure by the Contractor to do so will not relieve him from responsibility for successfully performing the Work without additional expense to the District. Except as expressly provided to the contrary in the Contract, the Contractor assumes all risk with respect to unforeseen difficulties which may be encountered in performance of the Work, including and without limiting the generality of the foregoing: obstacles, obstructions or adverse ground water conditions in or along the line of Work and variance of the quality or quantity of surface and subsurface materials from that which was assumed.

#### **C-26 Compliance with Laws – Permits – Taxes**

The Contractor is an independent contractor and shall, at his sole cost and expense, comply with all laws, rules, ordinances and regulations of all governing bodies having jurisdiction over the Work, obtain all necessary permits and licenses therefor, pay all manufacturers' taxes, sales taxes, use taxes, processing taxes, and all Federal and State taxes, insurance and contributions for Social Security and Unemployment which are measured by wages, salaries or any remuneration paid to the Contractor's employees, whether levied under existing or subsequently enacted laws, rules, or regulations. The Contractor shall also pay all property tax assessments on materials or equipment used until acceptance by the District. Without limitation, materials furnished and performance by the Contractor



hereunder shall comply with Safety Orders of the Division of Industrial Safety, State of California.

The Contractor, upon request, shall furnish evidence satisfactory to the Engineer and/or to the District that any or all of the foregoing obligations have been or are being fulfilled. The Contractor warrants to the District that he is licensed by all applicable governmental bodies to perform this Contract and will remain so licensed throughout the progress of the Work, and that he has, and will have, throughout the progress of the Work, the necessary experience, skill, and financial resources to enable him to perform this Contract.

#### **C-27 Indemnification**

- a. To the fullest extent permitted by law, the Contractor shall assume the defense of and indemnify and save harmless the State of California, the California Department of Water Resources, the United States, the U.S. Bureau of Reclamation, the District, the Design Engineer, the Engineer, and their respective directors, officers and agents from any and all loss, damage, liability, claims or causes of action of every nature whatsoever for damage to or destruction of property, including the District's property, or for injury to or death of persons, including Contractor's employees, in any manner, including that alleged to have been caused by the negligence of the indemnitees or any of them, arising out of or incident to the performance of this Contract; provided, however, that the Contractor shall have no such obligation with respect to such of the foregoing as are actually caused by the sole negligence or willful misconduct of the indemnitees or any of them; and provided further, that the Contractor shall not be liable for damages resulting solely from error or omission in design which were not due to or contributed to by negligence or fault of the Contractor, his subcontractors, agents or employees.
- b. The Contractor shall at all times preserve and protect the Work installed and performed hereunder, and assume full responsibility for the condition thereof until final acceptance by the District. The Contractor shall be liable for any loss or damage to any Work in place and to any materials on the Site which may be caused by the Contractor, his employees, agents or guests. Any such damage shall be immediately repaired by the Contractor, and, upon failure to do so, the District may remedy the same and deduct the cost thereof from any amount due or to become due the Contractor.
- c. The Contractor shall assume the defense of and indemnify and save harmless the State of California, the California Department of Water Resources, the United States, the U.S. Bureau of Reclamation, the District, the Design Engineer, the Engineer, and their respective directors, officers and agents against any and all liens, claims, demands and costs, including attorneys' fees, for labor and material furnished to the Contractor or any of his Subcontractors in connection with the performance of this Contract. In the event that the Contractor or any of his Subcontractors shall fail to pay for any material or labor used in the performance of this Contract, or any lien is filed against the said property, or any claim is asserted or action filed on any Bond, by any person claiming to have furnished labor or

materials to the Contractor or any of his subcontractors in connection with the performance of this Contract, the District shall be entitled, at its option, to pay for said material or labor, or discharge any such lien, or to pay or settle any such claim or action and to deduct the amount so paid, together with any and all costs and attorney's fees incurred by or on behalf of the District in connection with any such payment, discharge, or settlement, from amounts due or to become due the Contractor hereunder. The District may also deduct from any amounts due or to become due to the Contractor, any other amounts owing by the Contractor to the District, including the cost of any materials, labor, services, equipment or facilities supplied by the District as to which the Contractor has the obligation to supply the same hereunder. In the event that the balance which otherwise would be due the Contractor shall be insufficient to so reimburse the District, the Contractor shall pay the District any deficiency upon demand.

- d. The Contractor shall pay all royalties and license fees. Contractor shall, at his own cost, expense and risk, defend any and all suits or claims for infringement of any patent rights and shall save the District and its directors, officers, employees and agents harmless from loss on account thereof; except that the District shall be responsible for all such loss when a particular manufacturer is specified by it unless the Contractor has information that the process or article specified is or may be an infringement of a patent, in which case Contractor shall be responsible for such loss unless he promptly gives such information, in writing, to the Engineer.

#### **C-28 Protection of Work Site, Existing Structures, Roadways, Utilities, Vegetation, and Private Property**

- a. The Contractor shall effectively secure and protect adjacent property and structures, livestock, crops and other vegetation.
- b. The Contractor shall open fences on or crossing the right of way and install temporary gates of sound construction thereon so as to prevent the escape of livestock (if applicable). Adjacent fence posts shall be adequately braced to prevent the sagging or slackening of the wire. Before such fences are opened, the Contractor shall notify the District or tenant of the property and, where practicable, the opening of the fences shall be in accordance with the wishes of said District or tenant. The Contractor shall be responsible that no loss or inconvenience shall accrue to the District or tenant by virtue of his fences having been opened or the gate not having been either shut or attended at all times. Where special types of fences are encountered, the Contractor shall install temporary gates made of similar materials and of suitable quality to serve the purposes of the original fences. In all cases where the Contractor removes fences to obtain Work room, he shall provide and install temporary fencing as required, and on completion of construction shall restore the original fence to the satisfaction of the Engineer. All cost of providing, maintaining and restoring gates and fencing shall be borne by the Contractor.
- c. The Contractor shall use extreme care during construction to prevent damage from dust to crops and adjacent property. The Contractor, at his own expense, shall

provide adequate dust control for the right of way and take other preventive measures as directed by the Engineer.

- d. The Contractor shall be responsible for all damage to any property resulting from trespass by the Contractor or his employees in the course of their employment, whether such trespass was committed with or without the consent or knowledge of the Contractor.
- e. The Contractor shall see that the Site is kept drained and free of all ground water.
- f. The Contractor shall be responsible for any damage caused by drainage or water runoff from construction areas and from construction plant areas.
- g. In the event of an emergency or unusual conditions endangering life, the Work, or adjacent property, the Contractor may, without special instructions or authorization, act at his discretion to prevent or eliminate such danger. Should the Engineer deem an emergency condition to exist, the Contractor shall immediately do those things and take those steps ordered by the Engineer. The decision of the Engineer in this respect shall be final. Any claims for compensation made by the Contractor on account of emergency Work shall be determined by agreement.
- h. The Contractor shall be responsible for locating, removal, relocation and protection of all public and private utility facilities, including irrigation facilities, located on the site of the Project and the Contractor shall not be entitled to any extension of time or claim for damages or extra compensation in connection therewith. Provided however, if and to the extent that existing main or trunkline public utility facilities as defined by Government Code Section 4215 (“Public Utility Facilities”) are not identified in the Contract Documents, as between the Contractor and the District, the District will be responsible for the costs of locating, repairing damage not due to the failure of the Contractor to exercise reasonable care, and removing or relocating Public Utility Facilities not indicated in the plans and specifications with reasonable accuracy, and for equipment on the project necessarily idled during such Work regarding said Public Utility Facilities, as the case may be, but the Contractor shall perform any such Work in conformance with applicable provisions of Paragraphs C-28 if so directed by the Engineer. The Contractor will not be assessed liquidated damages for delay in completion of the project, when such delay was caused by the failure of the public agency or the District of the Public Utility Facilities to provide for removal or relocation of any Public Utility Facilities. If the Contractor, while performing the Contract Work, discovers utility facilities not identified by the District in the Contract Documents, he shall immediately notify the Engineer in writing.
- i. Subject to the provisions of Paragraph C-28(h), where the Work to be performed under the Contract crosses or otherwise interferes with existing streams, water courses, canals, farm ditches, pipelines, drainage channels, or water supplies, the Contractor shall provide for such water courses or pipelines and shall perform such construction during the progress of Work so that no damage will result to either

public or private interests, and the Contractor shall be liable for all damage that may result from failure to so provide during the progress of the Work.

## C-29 Workers and Wages

- a. **Character of Workers** – Only qualified, careful and efficient Workers shall be employed. When required in writing by the Engineer, the Contractor or any subcontractor shall remove from the Work any person who is, in the opinion of the Engineer, incompetent, unfaithful, disorderly, or otherwise unsatisfactory, and shall not again employ such person on the Work except with the consent of the Engineer. Such removal shall not be the basis for any claim for compensation or damages against the District, or any of its officers or agents.
- b. **Convicts** – No convict labor shall be directly employed by the Contractor or any subcontractor in the performance of any Work done under this Contract.
- c. **Hours of Work** – Eight (8) hours of labor shall constitute a legal day's work upon all the Work hereunder and the time of service of any worker employed by the Contractor or by any Subcontractor under him shall be limited and restricted to eight (8) hours during any one (1) calendar day, except that work performed by employees in excess of eight (8) hours per day and forty (40) hours in any one (1) calendar week will be permitted upon compensation for all hours worked in excess of said limitations at not less than one and one-half times the basic rate of pay or as otherwise may be required by applicable law. The Contractor and all Subcontractors under him shall keep record of hours worked as required by Section 1812 of the California Labor Code. As required by Section 1813 of the California Labor Code, the Contractor shall forfeit as a penalty to the District twenty-five dollars (\$25) for each worker employed in the execution of the Contract by him or by any Subcontractor under him for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one (1) calendar day and forty (40) hours in any one (1) calendar week in violation of the provisions of this subsection.
- d. **Compliance with State Requirements for Employment of Apprentices** – The Contractor's attention is directed to Section 1777.5 of the California Labor Code; provisions of said section pertaining to employment of registered apprentices are hereby incorporated by reference into these Specifications. As applicable, the Contractor or any Subcontractor employed by him in the performance of Contract Work shall take such actions as necessary to comply with provisions of said Section 1777.5.
- e. **Wage Rates** – Bids shall be made in accordance with the prevailing rate of per diem wages for this locality and project as determined by the Director of Industrial Relations pursuant to Labor Code Section 1770 et seq. and the Davis-Bacon Act, whichever is greater.

The Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Pursuant to Article 2 (commencing at Section 1770), of the California Labor Code, the Director of the State of California, Department of Industrial Relations has ascertained the generally prevailing rate of per diem wages and the generally prevailing rates for legal holiday and overtime work in the locality in which the work is to be performed, for each craft or type of worker needed to execute the Contract. The Contractor and all Subcontractors under him shall pay not less than said specified rates to all workers employed in the execution of the Contract, a copy of which wage rate schedule is on file at the office of the District and by this reference incorporated herein. The Contractor shall post a copy of said documents at each job site. As required by Section 1775 of the California Labor Code, the Contractor shall, as a penalty to the District, forfeit an amount determined by the Labor Commissioner, not more than fifty dollars (\$50), for each calendar day, or portion thereof, for each worker paid less than the specified prevailing rates for work done under the Contract by him or by any subcontractor under him. The Contractor and all subcontractors under him shall keep records of wages paid as required by Section 1776 of the California Labor Code. The Contractor and each Subcontractor shall furnish the record specified in section 1776 of the California Labor Code to the Labor Commission in the manner required by section 1171.4 of the California Labor Code. The Contractor and each Subcontractor shall pay travel and subsistence payments to each worker needed to execute the Work required by the Contract, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Section 1773.8 of the California Labor Code. The labor rates determined by the Department of Industrial Relations are set forth in a schedule located at the District office, and is available to any interested party upon request.

Prevailing wage schedules for Kern County are also available from the Department of Industrial Relations-Division of Labor Statistics & Research via the internet at [www.dir.ca.gov](http://www.dir.ca.gov). Davis-Bacon Act wages can be found at [www.wdol.gov](http://www.wdol.gov).

- f. **Worker's Compensation Insurance** – In accordance with the provisions of Section 3700 of the California Labor Code, every Contractor shall secure the payment of compensation to his employees. Prior to commencing Work, Contractor shall sign and file with the District a certification as follows: “I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker’s compensation or to undertake self insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work of this Contract.”
  
- g. **Labor Discrimination** – The Contractor’s attention is directed to Section 1735 of the California Labor Code. The Contractor agrees to comply with provisions of said section that read as follows:  
  
“No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical

handicap, mental condition, marital status or sex of such persons, except as provided in Section 12940 of the Government Code, and every contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter.”

The Contractor’s attention is further directed to Section 1777.6 of the California Labor Code, and the Contractor agrees to ensure compliance with the provisions of said section which provide as follows:

“It shall be unlawful for an employer or a labor union to refuse to accept otherwise qualified employees as registered apprentices on any public works, on the ground of the race, religious creed, color, national origin, ancestry, sex or age, except as provided in Section 3077, of such employee.”

### **C-30 Safety**

- a. Contractor shall be solely and completely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The duty of the Engineer to conduct construction review of the Contractor’s performance and the undertaking of inspections by the Engineer or the giving of instructions as authorized herein is not intended to include review of the adequacy of the Contractor’s safety measures in, on, or near the construction site and shall not be construed as supervision of the actual construction nor make the Engineer or the District responsible for providing a safe place for the performance of Work by the Contractor, Subcontractors, or Suppliers; or for access, visits, use, work, travel or occupancy by any person. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
  - 1. All persons on the Site or who may be affected by the Work;
  - 2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
  - 3. Other property at the Site or adjacent thereto, including crops, trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- b. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and/or underground facilities (including districts and utility districts) when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- c. All damage, injury, or loss to any property caused, directly or indirectly, in whole

or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor.

- d. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is fully completed and accepted. Such duties and responsibilities shall be extended, however, to include any time period in which warranty Work or other Work by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, remains in progress.
- e. The Contractor shall have at the Site, copies or suitable extracts of Construction Safety Orders, issued by Cal-OSHA. The Contractor shall comply with the provisions of these and all other applicable laws, ordinances and regulations.

The Contractor shall submit to the District a copy of his permit for the project issued by Cal-OSHA, within ten (10) calendar days after the mailing of the Notice of Award and before the commencement of any operations.

- f. If there is any non-compliance with the Cal-OSHA Construction Safety Orders, the Contractor shall stop forthwith all affected Work until there is compliance in the opinion of the State Division of Industrial Safety. The District, Engineer, officers, employees, consultants, and agents of the aforementioned, shall not be liable for costs incurred by the Contractor due to work stoppage. The Contractor will not be eligible for an extension of time to complete the Work within the time set forth in this Contract due to the Work stoppage.

### **C-31 Accidents**

The Contractor shall provide, at the site, such equipment and medical facilities as are necessary to supply first aid service to anyone who may be injured in connection with the Work. The Contractor must promptly report to the Engineer in a writing giving full details and statements of witnesses of all accidents whatsoever arising out of, or in connection with the performance of the Work, whether on or adjacent to the Site, which cause death, personal injury, or property damage. In addition, if death or serious injury or serious damage are caused, the accident shall be reported immediately by telephone or messenger to the Engineer. If any claim is made by anyone against the Contractor or any Subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Engineer, giving full details of the claim.

### **C-32 Guarantee**

In addition to warranties, representations and guarantees stated elsewhere in the Contract and in addition to any warranties implied by law, the Contractor unconditionally guarantees all Contractor furnished materials and workmanship furnished hereunder, and agrees to

replace at Contractor's sole cost and expense, and to the satisfaction of the Engineer and the District, any and all materials which may be defective or improperly installed, whether such defects of material and installation are of patent or latent nature.

### **C-33 Special Controls**

- a. Traffic Control – Contractor shall conduct his Work to interfere as little as possible with public travel, whether vehicular or pedestrian. Whenever it is necessary to cross, obstruct, or close roads, driveways and walks, whether public or private, Contractor shall provide and maintain suitable and safe bridges, detours, or other temporary expedients for the accommodation of public and private travel, and shall give reasonable notice to owners of private drives before interfering with them. Such maintenance of traffic will not be required when Contractor has obtained written permission from the owner and tenant of private property involved, to obstruct traffic at the designated point.

Where required by the authority having jurisdiction thereover that traffic be maintained over any construction Work in or around a public street, road, or highway, and the traffic cannot be maintained on the alignment of the original roadbed or pavement, Contractor shall, at his own expense, construct and maintain a detour around the construction Work. Each detour shall include all necessary barricades, guardrails, approaches, lights, signals, signs, and other devices and precautions necessary for protection of the Work and safety of the public.

- b. Surface and Stormwater Control – The Contractor shall divert or otherwise control surface water and waters flowing from existing projects or structures from coming onto its Work areas. The method of diversions or control shall be adequate to ensure the safety of stored materials and of personnel using these areas. Following completion of Work under the Contract, ditches, dikes, or other ground alterations made by the Contractor shall be removed and the ground surfaces shall be returned to their former condition, or as near as practicable, in the Engineer's opinion. Surface and storm water that enters the Contractor's Work area shall be controlled, treated, and disposed in a lawful manner.
- c. Dust Control – The Contractor shall provide effective measures to prevent operations from producing dust in amounts damaging to personnel, property, District plant operations, plants, or animals, and to prevent causing a nuisance to persons living or occupying buildings in the vicinity.

Areas used by the Contractor for construction roads or other purposes in connection with the Work shall be given an approved dust inhibiting surface treatment to avoid production of dust. This surface condition shall be continuously maintained during the entire construction period. The Contractor's construction facilities shall be operated in a manner ensuring minimum dust production.

Trucks transporting soil, or cement, or debris shall be covered or moistened with water to suppress the dispersion of dust.



d. Light Abatement – The Contractor shall exercise special care to direct floodlights to shine downward at an angle less than horizontal. These floodlights shall also be shielded to avoid a nuisance to the surrounding areas. No lighting shall include a residence in its direct beam. The Contractor shall correct lighting nuisance whenever it occurs.

e. Air Pollution Control – The Contractor shall not discharge smoke, dust, or other air contaminants into the atmosphere in a quantity that exceeds the legal limit.

The Contractor shall maintain equipment in proper mechanical adjustment to minimize the volume of exhaust emissions.

f. Noise Control – The Contractor shall conduct operations to abate noise wherever possible and to minimize noise where complete abatement is not possible.

To limit noise, construction vehicle equipment shall be kept in proper working order for the duration of the construction activities.

g. Restoration of Improvements – Upon completion of the Work, the Contractor shall reconstruct existing roads to a condition equivalent to that which existed before the start of Work.

h. Security – The Contractor shall prevent unauthorized personnel or vehicular entry into the project site.

The Contractor shall be responsible for providing security within the Site as the Contractor deems necessary for the protection of its own equipment, materials, or Work from vandalism or theft. District shall not be responsible for theft or damage to the Contractor's equipment, materials, or Work.

All staff working for or representing the Contractor, including Subcontractors, shall possess a valid California identification with a photograph of the staff member.

The Contractor shall provide the names of its lead persons, supervisors and all employees working on the project.

#### **C-34 Products, Material and Equipment**

a. General – The word "Products" as used in the Contract Documents, is defined to include purchased items for incorporation into the Work regardless of whether specifically purchased for the Project or taken from Contractor's stock of previously purchased products. The word "Materials" is defined as products which must be substantially cut, shaped, worked, mixed, finished, refined, or otherwise fabricated, processed, installed, or applied to form Work. The word "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, and other like items). Definitions in this Paragraph are not intended to negate the meaning of other terms used in the Contract Documents, including

"specialties", "systems", "structure", "finishes", "accessories" "furnishings", "special construction", and similar terms, which are self-explanatory and have recognized meanings in the construction industry.

Neither "Products" nor "Materials" nor "Equipment" includes machinery and equipment used for preparation, fabrication, conveying, and erection of the Work.

- b. Product Delivery and Storage – The Contractor shall deliver and store the Work in accordance with manufacturer’s written recommendations and by methods and means that will prevent damage, deterioration, and loss including theft.
- c. Transportation and Handling – Products shall be transported by methods to avoid damage and shall be delivered in undamaged condition in manufacturer's unopened containers and packaging. The Contractor shall provide Equipment and personnel to handle Products by methods to prevent soiling and damage. The Contractor shall provide additional protection during handling to prevent marring and otherwise damaging Products, packaging, and surrounding surfaces.
- d. Storage and Protection – Products shall be stored in accordance with manufacturer’s written instructions and with seals and labels intact and legible. Sensitive Products shall be stored in weather-tight climate controlled enclosures and temperature and humidity ranges shall be maintained within tolerances required by manufacturer's recommendations.

For exterior storage of Products, items shall be placed on sloped supports above ground. Products subject to deterioration shall be covered with impervious sheet covering and ventilation shall be provided to avoid condensation.

Storage shall be arranged to provide access for inspection. The Contractor shall periodically inspect to assure Products are undamaged and are maintained under required conditions.

Storage shall be arranged in a manner to provide access for maintenance of stored items and for inspection.

- e. Maintenance of Products in Storage – Stored Products shall be periodically inspected on a scheduled basis. The Contractor shall maintain a log of inspections and shall make the log available on request. The Contractor shall comply with manufacturer’s Product storage requirements and recommendations. The Contractor shall maintain manufacturer-required environmental conditions continuously. The Contractor shall ensure that surfaces of Products exposed to the elements are not adversely affected and that weathering of finishes does not occur.

For mechanical and electrical equipment, the Contractor shall provide a copy of the manufacturer’s service instructions with each item and the exterior of the package shall contain notice that instructions are included.

## **C-35 Payments to Contractor and Completion**

- a. Schedule of Values – Within fourteen (14) calendar days after receiving the Notice to Proceed, the Contractor shall submit a detailed Schedule of Values to the Engineer for approval. The Schedule of Values shall be used as a basis for determining progress payments on a lump sum contract or any designated lump sum bid item. The Schedule of Values shall be a schedule of cost loaded construction activities equal, in total, to the lump sum bid and shall be in such form and sufficient detail to correctly represent a reasonable apportionment of the lump sum.

Each lump sum bid item on the Bid Schedule must be broken down separately. The breakdown of each lump sum bid item must cover the cost of construction required by the Contract Drawings and Contract Documents for that item. The sum of the values for the construction activities, within a bid item, must equal the total bid amount for that item. The breakdown shall include subcontract amounts which shall not deviate from the amounts submitted in the Proposal Bidding Schedule. The Contractor shall provide certification from the Subcontractors certifying the subcontract amounts.

### **b. Applications for Payment**

1. An Application for Payment for each calendar month of Contract Work (but not more often than once a month), shall be submitted by the Contractor to Engineer no later than seven calendar days prior to District's Board of Directors meeting for review covering the Work completed as of the date of the Application for Payment and accompanied by all supporting documentation as is required by the Contract Documents.
2. Contractor may apply for payment for materials and equipment to be used in the Work but not yet incorporated therein, which have been delivered to, and are suitably stored, at the Site. The application shall be accompanied by data satisfactory to District to establish District's title to such materials and equipment or otherwise protect District's interest, and shall be subject to approval by Engineer. Payment for such materials and equipment will not include any amount for Contractor's overhead or profit, or relieve Contractor of its obligation to protect and install such materials and equipment in accordance with the Contract Documents, or to restore damaged or defective Work involving such materials and equipment.
3. Beginning with the second Application for Payment, each Application for Payment shall be submitted with all release forms confirming that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. As provided in Section 7201 of the Public Contract Code, a five percent (5%) retention of payment will be withheld on all progress payments.

5. The provisions pertaining to the withholding of specified percentages of the Contract price, may, at the Contractor's request and expense, be satisfied by depositing with the District or State or Federally chartered bank as escrow agent, securities equivalent to the amount to be withheld. Securities eligible for investment include those listed in California Government Code Section 16430 and bank and savings and loan certificates of deposit.

**c. Review of Applications**

1. Engineer will, within five (5) days after receipt of each Application for Payment, either prepare a recommendation of payment and present to the District or return the Application of Payment to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. If the Application for Payment has been returned to the Contractor, the Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will represent by Engineer to District, that:
  - a) The Work has progressed to the point indicated; and
  - b) The quality of the Work is generally in accordance with the Contract Documents.
3. Engineer may refuse to recommend the whole or any part of any payment for any of the following reasons:
  - a) Any claims are filed against Contractor by District, Engineer, or third parties, or if reasonable evidence indicates the probability that such claims will be filed;
  - b) Contractor is in default of any Contract condition;
  - c) The Work is defective, or completed Work has been damaged, which will require that the Work be corrected or replace;
  - d) District has been required to correct defective Work or complete Work; or
  - e) The Contractor has failed to provide the required waivers and releases.

**d. Payment Becomes Due**

1. Partial payments will be made as the Work progresses and following the District's monthly Board meeting, or as soon thereafter as practical.
2. The Contractor is hereby notified that because of the need for payments to be

reviewed by the District's Board of Directors and because the Board only regularly meets once a month, delays of as much as sixty (60) days may occur in Contractor's receipt of payment for progress pay estimates and the final pay estimate. The Contractor is urged to process his request for payment in a timely manner to minimize payment delays. The Contractor agrees that such a delay shall not entitle Contractor to any remedy provided for in the Contract Documents or law.

**e. Reduction in Payment**

1. The District may refuse to make payment of the full amount recommended by Engineer because:
  - a) Claims have been made against District on account of Contractor's performance;
  - b) Stop notices or liens have been filed in connection with the Work;
  - c) There are other items entitling the District to a set-off against the amount recommended;
  - d) Failure of the Contractor to make payment properly to Subcontractors or for material or labor;
  - e) A reasonable doubt that the Contract can be completed for the balance then unpaid;
  - f) Damage to another Contractor, Subcontractor, Supplier, or Individual;
  - g) Failure of the Contractor to keep his Work progressing in accordance with the time schedule; or
  - h) Where Work on unit price items is substantially complete but lack clean-up and/or correction ordered by the Engineer.
2. If District refuses to make payment of the full amount recommended by Engineer, District will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. District shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by District and Contractor, when Contractor corrects to District's satisfaction the reasons for such action.

**f. Substantial Completion and Final Review**

1. When the Work has been completed and ready for its intended use, Contractor shall notify District and Engineer in writing that the Work is

Substantially Complete and request that Engineer issue a certificate of Substantial Completion, which will be in the form of a letter.

2. When the Work has been Substantially Completed and the Contractor so notifies the Engineer in writing, the Engineer and Contractor will jointly make a Semi-Final Inspection and may prepare a Punch List. As a result of this inspection, the Engineer may determine that (1) the Work is not sufficiently complete to warrant a Semi-Final Inspection or the preparation of a Final Punch List, (2) the Work is sufficiently complete for the Engineer to prepare a Final Punch List but certain incomplete or Defective Work prohibits use of the Work for its intended purpose and therefore, the Work is not Substantially Complete, or (3) that the Work is Substantially Complete and usable for its intended purpose and the Engineer can prepare a Final Punch List. In preceding cases 1 and 2, the Contractor shall continue the Work and call for a second Semi-Final Inspection when the Work is ready. In case (3), the Engineer will prepare a Final Punch List and a notice of Substantial Completion which shall establish the date of Substantial Completion and shall state the time agreed to by the District and the Contractor (not to exceed 30 days) in which the Contractor shall complete all Work ready for Final Inspection. The date of Substantial Completion shall be revised if necessary such that it is no more than 30 days prior to the actual date of Final Completion. The Engineer shall attach a copy of the Final Punch List to the notice of Substantial Completion. If the Contractor does not achieve Substantial Completion on the second attempt, it shall reimburse the District the cost of the Engineer's services for additional inspections.
3. When the Contractor has completed or corrected all the items on the Engineer's Final Punch List, the Contractor shall give the Engineer written notice that the Work is ready for Final Inspection and acceptance and the Engineer shall make a Final Inspection. If the Engineer finds the Work is not fully complete, it shall notify the Contractor of items still requiring completion or correction. The Contractor shall immediately correct these deficiencies and call for a re-inspection. When the Engineer finds to the best of the Engineer's knowledge, information and belief, and on the basis of the Engineer's observations and inspections, the Work is acceptable and fully complete in accordance with the Contract Documents, the Engineer will recommend that the District issue and file a Notice of Completion, designating Final Completion, and accept the Work in accordance with the terms and conditions of the Contract Documents. The Notice of Completion will be file once the Final Completion has been achieved.
4. The District shall file the Notice of Completion with the Kern County recorder's office within 10 days of acceptance of the Work and Final Completion. This will be the date when the Contractor is relieved from responsibility to protect the Work.
5. Contractor is herein put on notice and acknowledges that the date of the

filing of the Notice of Completion is the date by which any liquidated damages will be computed for the Work as a whole and that the District is under no duty to place the Contractor on notice that Liquidated Damages are about to run, or have begun to run.

**g. Partial Utilization**

1. Prior to Substantial Completion of all the Work, District may use or occupy any Substantially Completed part of the Work which District and Engineer agree constitutes a separately functioning and usable part of the Work that can be used by District for its intended purpose without significant interference with Contractor's performance of the remainder of the Work.
2. When provided for in the Contract Documents or agreed to in writing by the District and the Contractor, the District may notify the Contractor and begin using a portion of the Work even though the overall Work is not Substantially Complete. The Contractor, the District and the Engineer shall agree on and document responsibilities for security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that portion of the Work being used by the District. The District, the Contractor and the Engineer shall inspect such portion of the Work and shall prepare a list of Work to be completed or corrected before final acceptance. The District's use of any portion of the Work shall not constitute final acceptance of that portion of the Work prior to Final Completion and acceptance of the Work as a whole. Provided, however, the warranty for such Work will commence upon Substantial Completion for that portion of the Work that is Substantially Complete. The District shall allow the Contractor reasonable access to complete or correct Work in areas being used by the District. Partial beneficial occupancy shall not relieve the Contractor of liquidated damages unless the Contract Documents expressly provide for and identify the portion of Work that may be considered Substantially Complete before the remaining portions of the Work.

**h. Final Payment**

**1. Application for Payment**

- a) After Contractor has, in the opinion of Engineer, satisfactorily addressed all items in the Final Punch List and has delivered, in accordance with the Contract Documents, all operation and maintenance manuals, warranties, record drawings, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents etc. and other documents, Contractor may make application for final payment following the procedure for progress payments.
- b) The final Application for Payment shall be accompanied (except as

previously delivered) by:

- 1) All documentation called for in the Contract Documents;
- 2) Consent of the surety, if any, to final payment;
- 3) A list of all claims against District that Contractor believes are unsettled; and
- 4) Complete and legally effective releases or waivers (satisfactory to District) of all lien rights arising out of or liens filed in connection with the Work.

## 2. **Engineer's Review of Application and Acceptance**

- a) If, on the basis of Engineer's observation of the Work during construction and Final Inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within five (5) days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to District for payment. At the same time Engineer will also give written notice to District and Contractor that the Work is acceptable. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- b) Neither the acceptance of the Work by the District nor the payment of all or part of the sum due the Contractor hereunder shall constitute a waiver by the District of any claim which the District may have against the Contractor or surety under this Contract or otherwise.

## 3. **Payment Becomes Due**

Final payment shall not be due until thirty-five (35) days after either the Notice of Completion has been recorded in compliance with the Code of Civil Procedure of the State of California or after such time as the Contractor has submitted all documents required in Paragraph C-30(h) and has addressed all items in the Final Punch List, whichever is later. The Contractor is hereby notified that because of the need for payments to be reviewed by the District's Board of Directors and because the Board only regularly meets once a month, delays of as much as sixty (60) days may occur in his receipt of payment for progress pay estimates and the final pay estimate. The Contractor is urged to process his request for payment in a



timely manner to minimize payment delays. The Contractor agrees that such a delay shall not entitle Contractor to any remedy provided for in the Contract Documents or law.

### **C-36 Project Meetings**

- a. Pre-Construction Conference – Upon receipt of the Notice to Proceed, or at an earlier time if mutually agreeable, the District will arrange a preconstruction conference to be attended by the Contractor, Contractor's superintendent, the District, the Engineer or his representative, and representatives of utilities, major Subcontractors, and others involved in the execution of the Work.

The purpose of this conference shall be to establish a working understanding between the parties and to discuss the Construction Schedule (Critical Path Method format required), Shop Drawing submittals and processing, applications for payment and their processing, and such other subjects as may be pertinent for the execution of the Work.

- b. Progress Meetings

1. The District may arrange and conduct progress meetings. These meetings shall be attended by the Engineer or his representative, Contractor, Contractor's superintendent and representatives of all Subcontractors, utilities, and others, that are active in the execution of the Work. The purpose of these meetings shall be to expedite the Work of any Subcontractor (if acceptable to the District) or other organization that is not up to schedule, resolve conflicts, and in general, coordinate and expedite the execution of the Work.
2. The agenda of progress meetings shall include review of progress and schedule, of payment request, of the latest Construction Schedule update, and of the record documents. To the maximum extent practicable, Contractor shall contact the District and Engineer at least twenty-four (24) hours in advance of the meetings regarding items the Contractor wishes to have added to the agenda.
3. Persons designated by the Contractor to attend and participate in project meetings shall have the authority to commit the Contractor to the resolution of problems as agreed upon in the project meetings.
4. A meeting will be held every week (unless the District determines otherwise) for the duration of the Project to review, evaluate, and discuss each Construction Schedule submittal. The location of the meetings shall be determined by the District prior to the first meeting.
5. The Contractor shall designate persons to attend these Construction Schedule review meetings who are familiar with the Construction Schedule and with the current construction problems and activities and with the logic

of the Work sequences used in preparing the schedule and the updates.

6. On the last working day of every week, Contractor shall submit to Engineer, Contractor's plan of activities for the following two (2) weeks (a "two-week look-ahead schedule"). The plan of activities shall describe the activity and location of the activity. Failure to submit a two-week look-ahead schedule, shall subject the contractor to withholding of monthly progress payment for month that the schedule(s) was not submitted.

c. Progress and Schedule Review

1. The progress of the Work and the Construction Schedule shall be reviewed to verify:
  - a) Actual start and finish dates of completed activities since the last progress meeting.
  - b) Durations and progress of all activities not completed.
  - c) Reason, time, and cost data for Change Order Work that is to be incorporated into the Construction Schedule or payment request form.
  - d) Payment due to the Contractor based on percentage complete of items in the submitted payment request.
  - e) Reasons for, and duration of, required revisions in the Construction Schedule.
  - f) After each progress meeting, upon request the Contractor shall submit to the Engineer three (3) prints of the last accepted Construction Schedule, revised in accordance with the progress review.
  - g) If the progress meeting coincides with the beginning of the month when Applications for Payment are due, the Contractor shall have his copy of the payment request form and all other data required by the Contract Documents completed prior to the progress meeting. The Engineer will process Contractor's payment request after satisfactory review of the schedule update.

**C-37 Record Drawings**

- a. The Contractor shall maintain one record set of drawings at the Site. On these, it shall mark all project conditions, locations, configurations, and any other changes or deviations which may vary from the information represented on the original Plans, including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to

recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the Plans. Said record drawings shall be supplemented by any detailed sketches as necessary or directed to fully indicate the Work as actually constructed. These master record drawings of the Contractor's representation of as-built conditions, including all revisions made necessary by addenda and change orders shall be maintained up-to-date during the progress of the Work. Red ink shall be used for alterations and notes. Notes shall identify relevant Change Orders by number and date. Record drawings shall be maintained up to date on a daily basis.

- b. Changes shall be marked directly on the drawings. Green color-coding shall be used when showing information deleted from Drawings. Red color-coding shall be used when showing information added to Drawings. Blue color shall be used for clouding an area or areas affected by the change(s). Information shall be legible and completely detailed. The level of detail shall be sufficient to allow a draftsman to incorporate the changes into a CAD file without reference to other documents besides the marked-up drawing(s). It is not acceptable to simply reference change directives or to mark drawings: "see RFI-XX" or "see survey notes". If there is insufficient space on a drawing to markup the change, the Contractor will be required to draw additional sketches to completely explain the change and attach the sketches to the drawing.
- c. The Engineer has the right to inspect the Contractor's marked-up drawings at any time to ascertain that they are being kept up to date and show sufficient details. The Engineer may require that all as-built records, survey field notes and other documentation be submitted at the completion of certain construction elements of the overall project. Should the Contractor's marked-up drawings, survey field notes, and other as-built documentation not be up to date or lack necessary details, the Engineer may withhold an additional five percent (5%) from each monthly progress payment, until the drawings, survey field notes and other as-built documentation are brought up to date and properly detailed.
- d. Copies of the record drawings shall be submitted on upon completion of all Work.
- e. In the case of those drawings which depict the detail requirement for equipment to be assembled and wired in the factory, such as motor control centers and the like, the record drawings shall be updated by indicating those portions which are superseded by Change Order drawings or final Shop Drawings, and by including appropriate reference information describing the change orders by number and the Shop Drawings by manufacturer, drawing, and revision numbers.
- f. Record drawings shall be accessible to the Engineer at all times during the construction period.
- g. Final payment will not be acted upon until the record drawings have been prepared and delivered to the Engineer. Said up-to-date record drawings shall be in the form of a set of prints with carefully plotted information overlaid.

- h. Prior to final acceptance of the Work, the Contractor shall finalize and deliver a complete set of record drawings to the Engineer for transmittal to the District, conforming to the construction records of the Contractor. This set of record drawings shall consist of corrected drawings showing the reported location of the Work. The information submitted by the Contractor and incorporated by the Engineer into the record drawings will be assumed to be correct, and the Contractor shall be responsible for the accuracy of such information, and for any errors or omissions which may appear on the record drawings as a result.
- i. Contractor shall refer to Paragraph C-38 for requirements regarding Contract Closeout.

### **C-38 Contract Closeout**

Prior to submitting the Final Application for Payment and issuance of the Final Payment, as described in Paragraph C-35(h), the Contractor must complete the Work described below.

- a. **Cleaning** – Throughout the period of construction the Contractor shall keep the Work site free and clean of all rubbish and debris, and shall promptly remove from the Site, or from property adjacent to the Site, all unused and rejected materials, surplus earth, concrete, plaster, and debris, excepting select material which may be required for refilling or grading.
- b. **Final Site Clean-Up** – Upon completion of the Work, and prior to final acceptance, the Contractor shall remove from the vicinity of the Work all surplus material, and equipment belonging to him or used under his direction during construction.
- c. **Waste Disposal** – The Contractor shall dispose of surplus materials, waste products, demolition materials, and debris. The Contractor shall transport and dispose of waste materials in accordance with applicable laws and regulations.
- d. **Project Record Documents** – The Contractor shall maintain at the Site, available to the District and Engineer, one copy of the Contract Documents, Plans, Change Orders, and other modifications in good order and marked to record all changes made during construction. These foregoing documents shall be delivered to the Engineer upon completion of the Work and will be known as Project Record Documents. Project Record Documents shall be reviewed during progress meetings to ascertain that all changes have been recorded. Contractor shall store Project Record Documents separately from other documents used for construction.
- e. **Touch-Up and Repair** – The Contractor shall touch-up or repair finished surfaces on structures, equipment, fixtures, or installations that have been damaged prior to final acceptance. Surfaces on which such touch-up or repair cannot be successfully accomplished shall be completely refinished or in the case of hardware and similar small items, the item shall be replaced. Such items shall include, but not be limited

to, the following:

1. Road surfaces (paved and unpaved)
  2. Structure concrete surfaces
  3. Equipment exposed surfaces
  4. Piping exposed surfaces
- f. Final Equipment Check – After test operation and before final acceptance, each piece of machinery shall be lubricated and all components and couplings checked for proper alignment and adjustment.

Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's and District's final review.

Provide submittals to District that are required by governing or other authorities.

Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

- g. Warranties
1. Provide Manufacturer's Equipment Warranties as required by these Specifications.
  2. Execute and assemble documents from Subcontractors, Suppliers, and manufacturers.
  3. Provide Table of Contents and assemble in binder with durable plastic cover.
  4. Submit prior to final Application for Payment.
  5. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten (10) days after acceptance, listing date of acceptance as start of warranty period.
- h. Record Drawings – **Refer to Section C-32.**
- i. Operation and Maintenance (O&M) Manuals
1. **Not Used.**

### **C-39 Claims Against the District and Payment of Attorneys' Fees**

In the event that any litigation of any nature between the District and the Contractor becomes necessary to enforce or interpret all or any portion of this Contract, it is mutually agreed that the prevailing party therein shall receive from the other, in addition to such sums as may be reduced to judgment, an amount sufficient to reimburse such prevailing party for reasonable attorneys' fees and litigation costs paid or owing as a result of such litigation.

### **C-40 Waiver of Interest in Certain Situations**

The District shall have no obligation to pay and the Contractor hereby waives the right to recover interest with regard to monies which the District is required to withhold by reason of judgment, order, statute or judicial process.

### **C-41 Assignments of Antitrust Actions**

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

In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.

### **C-42 Notice of Latent or Hazardous Conditions**

In accordance with Section 7104 of the Public Contract Code, where the Specifications require digging trenches or excavating deeper than four (4) feet below the surface, the Contractor shall promptly, and before the following conditions are disturbed, notify the District, in writing, of any:

- a. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law;
- b. Subsurface or latent physical conditions at the Site differing from those indicated

in the Plans and Specifications;

- 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 Specifications.

Upon receipt of written notice by the Contractor of such conditions, the District shall promptly investigate the conditions. If the District finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work, the District will issue a change order under the procedures described in the Contract.

In the event a dispute arises between the District and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause decrease or increase in the cost of or time required for performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, and Contractor shall retain any and all rights provided either under the Contract or by law which pertain to the resolution of disputes and protests between the District and the Contractor.

### **C-43 Claims**

Claims by the Contractor shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed with the District on or before the date of final payment. Nothing herein is intended to extend the time limit or supersede notice requirements otherwise provided by the Contract for the filing of claims.

For claims of less than fifty-thousand dollars (\$50,000), the District will respond in writing to any written claim within forty-five (45) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim any additional documentation supporting the claim or relating to defenses to the claim or claims the District may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the District and the Contractor. The District's written response to the claim, as further documented, shall be submitted to the Contractor within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

For claims greater than or equal to fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the District will respond in writing to all written claims within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim or claims the District may have against the Contractor. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the District and Contractor. The District's written response to the claim, as further documented, will be submitted to the Contractor within thirty (30) days after receipt of the further

documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or request documentation, whichever is greater.

If the Contractor disputes the District's written response, or the District fails to respond within the time prescribed, the Contractor may so notify the District, in writing, either within fifteen (15) days of receipt of the District's response or within fifteen (15) days of the District's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the District will schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

If following the meet and confer conference the claim or any portion remains in dispute, the Contractor may file a claim pursuant to Government Code Section 900 et seq. and a lawsuit on the claim may be filed in the appropriate state court.

The court shall submit the matter to non-binding mediation. The parties are to select a mediator within fifteen (15) days of submittal to mediation, and the mediation must be commenced within thirty (30) days of the submittal to mediation.

If the matter remains in dispute, the case shall be submitted to judicial (non-binding) arbitration pursuant to Code of Civil Procedure Section 1141.10 et seq. If either party objects to the arbitrator's award, the matter can then go to trial de novo in the trial court. Any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees as provided by applicable law, pay the attorney's fees of the other party arising out of the trial de novo.

#### **C-44 Contractor's License**

Contractor, including all Subcontractors and Specialty Contractors, shall possess a valid California Contractor's license, of the required class for the Work to be performed and completed as required by the Project, the Contract Documents, and the Specification, at the time the Bid/Proposal is submitted and during the entire course of performance under the Contract. The following statement, in pertinent part, shall be included in at least 10-point type on all written contracts with respect to which the person is a prime contractor in accordance with Section 7030 of the California Business and Professions Code:

**"Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within 10 years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, CA 95826."**

#### **C-45 Department of Industrial Relations Registration**



Pursuant to Labor Code Section 1725.5, all Contractors, including Subcontractors and Specialty Contractors, are to be registered with the Department of Industrial Relations in order to be qualified to bid on, be listed in a bid proposal, or engage in the performance of any public work contract. The foregoing are required to register with the Department of Industrial Relations prior to bidding, being included on a bid, or engaging in Work set forth herein. Said Registration shall be maintained by the Contractor at all times prior to and throughout the course of completion of the Project, and the cost and renewal thereof is to be the sole responsibility of the Contractor, Subcontractor, and/or Specialty Contractor.

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

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## **SECTION D SPECIAL CONDITIONS**

### **D-1 The Requirement**

It is required that the Project be constructed in accordance with the Contract Documents. The work is to be performed in Kern County, within the boundaries of the North Kern Water Storage District.

### **D-2 Description of Work**

The principal components of work to be performed under these Specifications are:

- (a) Construct two (2) water wells with depths of approximately one thousand (1000) feet below ground surface. Included for each well shall be the installation of approximately four hundred (400) feet of unperforated six hundred (600) feet of perforated 18-inch (18") diameter well casing and performance of well development operations.
- (b) Equipping of two (2) – 18” diameter irrigation water wells with depths of approximately one thousand (1000) feet below ground surface. Included for each well shall be the installation of a turbine pump bowl unit; 600’ column, tube and shaft; pump head & discharge head assembly; electric motor; control panel; meter panel; below and above ground electrical service for a complete operational installation.

### **D-3 Beginning and Completion of Work**

Unless otherwise ordered by the Engineer, as hereinafter provided, the Contractor shall begin work within 30 days after the Notice to Proceed. The Contractor shall complete two (2) wells within four (4) months following the notice to proceed.

### **D-4 Liquidated Damages for Delays**

It will be impractical or extremely difficult to fix the actual damages to the District which may result from any delays in completion of the work beyond the time agreed upon. It is, therefore, stipulated and agreed that if all of the work included in any schedule of the Contract is not completed on or before the expiration of the completion time or times specified therefor in D-3, or within such extensions of time as may be granted, the District may retain the sum of Five Hundred Dollars (\$500.00) for each day thereafter, Sundays and holidays included, that the work remains uncompleted, which sum is agreed upon as the proper measure of liquidated damages which the District will sustain per day by the failure of the Contractor to complete the work at the time stipulated and this sum is not to be construed in any sense a penalty or forfeiture.

## **D-5 Qualifications of Bidders**

The Contractor's attention is directed to Paragraph B-3 which requires that, in addition to certifying to financial ability to perform Contract Work, each bidder shall submit a statement verifying his experience in performing Work comparable to that required under the Contract. Bids will be considered only from general contractors who can demonstrate a record of experience satisfactory to the District. Under "Information Required of Bidder," each bidder shall submit with his proposal a listing of at least three projects constructed under the supervision of his organization during the past ten (10) years involving work of size and complexity comparable to that to be installed under these Contract Documents. In conformance with Paragraph B-12, it is further required that the Contractor shall perform with his own organization, work equivalent to at least sixty percent (60%) of the total Contract price. The cost of Contractor-furnished materials installed by labor carried on the Contractor's own payroll may be included in the above required sixty percent (60%).

## **D-6 Materials Furnished by the Contractor**

**General** - The Contractor shall provide and pay for all materials, labor, water, tools, equipment, lights, power, fuel, transportation and other facilities necessary for the execution and completion of the work. All materials shall be new and both workmanship and materials shall be of a good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials, including the furnishing of written manufacturers' certifications of compliance with applicable designated governing reference specifications.

**Use of District Water** – The District does not make any guarantees as to availability of water from its distribution facilities in November, December, January, or February. Use of District water for Contract Construction Work and testing shall be made available by the District at a rate of \$145/acre-feet, subject to verification by the Contractor and determination of exact details as to location of delivery; cost and methods of obtaining and conveying water shall be the responsibility of the Contractor. It is the responsibility of the Contractor to furnish all water necessary for Contract Construction Work, including sufficient water for earthwork, fire protection, dust abatement and testing requirements.

## **D-7 Temporary Use of Facilities**

Subject to the approval of the District, the Contractor will be permitted to make temporary use of any District-owned land available in the vicinity of a Contract work site for construction work sites or storage areas and all such areas shall be returned to a neat and presentable condition as approved by the Engineer, upon termination of such usage.

## **D-8 Protection of Utilities and Existing Structures**

(a) Utilities - The facilities to be constructed under this Contract may cross existing

underground pipelines and the District has made a determined effort to gather and incorporate into these specifications and drawings all available information regarding existing underground features. The District's investigation included utility-owner contracts, solicitation of available maps, field location of existing pipelines by electronic maps, field location of existing pipelines by electronic and mechanical means including actual exposing of major features. The Contractor shall proceed with caution and make every effort to further identify underground features during pipeline trenching and excavation procedures in order to minimize the hazard and damaging any unidentified underground feature. The responsibility for removal, relocation and protection of all public and private utilities, including irrigation and petroleum, facilities in the nature of utilities, shall be as specified under this paragraph and in C-21. Prior to construction activity Contractor shall confirm and mark utility locations. Unless otherwise specified or directed, all utilities shall be maintained in continuous service during all Contract operations. The Contractor shall not interfere with any roadway or utility system without the approval of the Engineer. At all times adequate access shall be provided for use of the utility owner or operating entity.

(b) Utility Relocation work - Any movement or relocation of utilities selected by the Contractor to facilitate his operations shall be arranged by the Contractor and all cost of such movement or relocation shall be borne by him. The Contractor shall extend full cooperation to all others performing utility relocation work within or adjacent to Contract work areas. Exact method of coordination of work involving the Contractor and others will be as determined by the Engineer, whose decision will be final. In no case shall the Contractor perform any utility relocation work except with the approval of the Engineer and authorized representatives of utility companies or other operating entities affected.

(c) Existing structures - At all locations where pipelines or other facilities to be constructed pursuant to this Contract intersect or cross existing structures of any nature, including pipelines, Contractor shall construct said pipelines or other facilities to be constructed under this Contract in such a manner as not to interfere in any way with the proper functioning or use of said existing structures for the purpose for which it was ended, or Contractor may, at his option and with the approval of the Engineer and the owner, relocate said existing structures or pipelines, all at Contractor's expense.

#### **D-9 Working Area**

As specified under C-10, the District will provide the necessary right-of-way for construction of the facilities covered by these Specifications. The limits of the temporary and permanent easement areas acquired for this purpose are shown on right-of-way drawings on file in the District's office, and said drawings are available at that location for examination by prospective bidders. Copies of these drawings are also on file at the office of the Engineer where they are available for inspection by prospective bidders.

#### **D-10 Responsibility for Repair of Facilities**

District facilities or other public or private facilities, including, but not limited to, pipelines, structures, telephone or power cables, roadways and driveways and embankments disturbed by the Contract construction shall be repaired and replaced to match existing. In addition, the Contractor shall be responsible for any settlement damage to such facilities or adjoining areas, for a period of one (1) year after District acceptance of such repaired facilities.

#### **D-11 Relief from Duty of Protecting Work**

The Contractor's responsibility for protection of, and liability for, damage to the work shall be as stated in the Contract Documents. However, the District may issue written permission to relieve the Contractor of the duty of maintaining and protecting portions of the Contract work which have been completed in all respects in accordance with applicable requirements of these Specifications. Relief from the duty of maintaining and protecting any portion of the Contract work shall not release the Contractor from his obligations under C-32 of the General Conditions.

#### **D-12 Guarantee and Maintenance Warranties**

In addition to any other warranties, representations and guarantees stated elsewhere in the Contract and any warranties implied by law, the Contractor guarantees the Work for a period of one (1) year after the date of acceptance of the work by the District. Acceptance of the Work by the District will be in the form of the fully-executed and recorded Notice of Completion, which will be filed with the Kern County Recorder's office.

The Contractor shall repair or remove and replace any and all such Work, together with any other Work which may be displaced in so doing, that is found to be defective in workmanship and/or materials within said one (1) year period, without expense whatsoever to the District, ordinary wear and tear and unusual abuse or neglect excepted. In the event of a failure to comply with the above-mentioned conditions within seven (7) days after being notified in writing, the District is hereby authorized to proceed to have the defects remedied and made good at the expense of the Contractor who hereby agrees to pay the cost and charges therefor immediately on demand. Such action by the District will not relieve the Contractor of the guarantees required by this Paragraph or elsewhere in the Contract Documents.

The performance bond and the payment bond shall continue in full force and effect for the duration of the guarantee period.

If, in the opinion of the District, defective Work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the District or to prevent interruption of operations of the District, the District will attempt to give the notice required by this Paragraph. If the Contractor cannot be contacted or does not comply with the District's request for correction within a reasonable time as determined by the District, the District may, notwithstanding the provisions of this Paragraph, proceed to make such

correction or provide such attention; the costs of such correction or attention shall be charged against the Contractor. Such action by the District will not relieve the Contractor of the guarantees required by this Paragraph or elsewhere in the Contract Documents.

No guarantee, whether provided in this Paragraph or elsewhere in the Contract, shall in any way limit the guarantee of any items for which a longer guarantee is specified, or any items for which a manufacturer or Supplier gives a guarantee for a longer period. The Contractor agrees to act as co-guarantor with such manufacturer or Supplier, and the Contractor shall furnish the District with all appropriate guarantee or warranty certificates upon completion of the Project. No guarantee period, whether provided in this provision or elsewhere, shall in any way limit the liability of the Contractor or his sureties or insurers under the indemnity.

In addition to any other warranties, representations and guarantees stated elsewhere in the Contract and any warranties implied by law, the Contractor agrees that, for a maintenance warranty period of three (3) years after the acceptance of the Work, the Contractor shall be responsible for the repair of all defects, leaks, or failures occurring in the pipe, pipe joints, and fittings (if applicable) from any cause whatsoever, except as hereinafter provided. The Contractor will be reimbursed the actual and necessary cost, plus twenty percent (20%) for profit and general expense of any Work or materials pertaining to repairs or replacements that are determined as not the responsibility of the Contractor.

The Contractor, upon notice from the District, shall promptly commence and diligently prosecute the repair of any defects, leaks, or failures that develop during the maintenance warranty period. The Work of repairing any defects, leaks, or failures includes the necessary excavation, pipe repair, backfill, and replacement of any appurtenances destroyed or disturbed by reason of such Work. Repairs as may be required shall be made by the Contractor in such a manner as to cause the least practicable interference with the use of the pipelines in service. The Contractor shall make necessary arrangements to have competent personnel and suitable equipment available so that repairs may be commenced within 48 hours after receipt of notice from the District.

The obligations of the Contractor under this Paragraph shall be enforceable against his surety or sureties for the Faithful Performance Bond under the Contract, and for one (1) year after final acceptance of all Work under the Contract. Prior to final payment under the contract, the Contractor shall furnish a maintenance warranty bond in the penal sum of five percent (5%) of the total original Contract price, to assure performance of the Contractor's obligations under this Paragraph after the expiration of the obligation under the Performance Bond, for the remainder of the maintenance warranty period.

The maintenance warranty bond or the extended Faithful Performance Bond shall contain a clause specifically incorporating the requirements of this paragraph by reference or otherwise.

- a. The cost of furnishing the maintenance warranty bond shall be included in the prices bid in the schedule for other items of Work.

- b. The District's remedies, whether provided in this part or elsewhere in the Contract, shall be in addition to any other available legal and equitable remedies.

### **D-13 Progress Estimates**

In conformance with C-35, within the first seven (7) days of each calendar month, the Contractor will prepare a progress estimate of all work performed under the Contract up to any including the 26th day of the preceding month. Any statement for material on hand or extra work must be submitted by said twenty eighth (28th) day if payment is to be included for that month. In computing partial estimates for payment, casing manufactured for or furnished by the Contractor will be included therein at the unit price stated in the Bidding Schedule in accordance with the following:

- (1) Fifty percent (50%) of said unit price upon casing manufacture and delivery to the work site.
- (2) Fifty percent (50%) of said unit price when casing has been installed.

Before casing will be included for partial payments, the Contractor shall submit evidence satisfactory to the Engineer that payment has been made in full for work and material incorporated therein, that title thereto has been vested in the Contractor and that no lien or encumbrance has been attached to said items; and the Contractor agrees not to encumber or permit the encumbrance thereof.

### **D-14 Cooperation with Others**

At all times the Contractor shall extend full cooperation to all other performing work authorized by the District within or adjacent to Contract work areas including all landholders performing necessary private work. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor or by District employees. The Contractor shall have no claim for damages on account of interference. Exact methods of coordination of work involving the Contractor and others will be as determined by the Engineer, whose decision will be final.

### **D-15 Fire Protection**

The Contractor shall use all precautions to prevent fires and shall provide adequate facilities and equipment for extinguishing fires at no cost to the District. Waste disposal by burning will not be allowed at any time.

### **D-16 Claims for Extra Cost**

If the Contractor claims that any instructions by drawings or otherwise that are issued after the Notice to Proceed involve extra cost under this Contract, he shall give the Engineer written notice thereof within ten (10) calendar days after the receipt of such



instructions. No such claim shall be valid unless so made.

#### **D-17 Survey Requirements**

General - In lieu of the survey information specified under C-15 of these Specifications, the District will furnish information obtained from basic surveys used for design purposes to the Contractor for locating the contract work. The horizontal and vertical control information used by the District is available to the Contractor and the location of control points is shown on the drawings. The Contractor is advised that alignments must be established with sufficient accuracy to ensure that all contract works are constructed within the rights-of-way acquired by the District. Based upon the above specified information, the Contractor shall develop and make all other detailed surveys as required for Contract construction, including, but not limited to, the stake-out for structures. At all times the Contractor shall be responsible for the preservation or resetting of all existing survey monuments. No separate payment will be made for survey work and the cost of all such work shall be borne by the Contractor.

#### **D-18 Field Verification of Existing Dimensions and Ground Profiles**

Layout dimensions shown on drawings are subject to change to meet field conditions and/or based upon the final in-place location of Contractor furnished and installed facilities, as determined by Engineer. It shall be the responsibility of the contractor to verify all pertinent dimensions, to effect satisfactory fitting of all existing facilities with new Contract materials and equipment, and to insure that the proper earth cover 15 provided over all new and existing buried pipe. Depth of existing buried utilities should be verified prior to construction and fabrication of pipe and specials.

#### **D-19 Quality Control**

All items specified under these Specifications and the Proposal Bidding Schedule shall be of the sizes, shapes and materials as specified herein. All materials shall be new, free from defects impairing strength, durability and appearance, shall be of the best commercial quality for the purposes specified and made with structural properties to withstand all stresses and strains to which they normally will be subjected. Items furnished, unless otherwise specified, shall be standard, approved products of recognized manufacturers and fabricated in accordance with the best shop methods. All incidental items and accessories not specified herein, but which are required to fully carry out the specified intent of the work, shall be furnished without additional cost. Welding shall be in accordance with the latest revision of the Standard Code for Arc and Gas Welding in Building Construction as issued by the AWS. At all times the manufacturer shall provide and maintain adequate inspection and quality control procedures for all items or work, whether manufactured or fabricated in manufacturer's plant to elsewhere. In order to insure that all items of work meet material quality and performance requirement of these specifications, if so directed by the Engineer, for those items of work manufactured or fabricated elsewhere than his plant, the manufacturer shall furnish written certification that adequate supervision, inspection and quality control procedures have been provided by him.

## **D-20 Damage to Growing Crops**

The right-of-way acquired by the District and described in C-10 as working area may at the time of construction be occupied by growing crops, either annual or permanent. Contractor shall have the right to make temporary use of the working area, and in this connection, to remove or cut back any vegetation growing within the working area; provided, that the Contractor shall make every reasonable effort to minimize damage to growing crops within the working area and if, in the judgment of the Engineer, Contractor shall have at any time caused unwarranted damage to such crops, the District may deduct from payments due the Contractor pursuant to these specifications the appraised value of crops judged by the Engineer to have been unnecessarily damaged. Nothing in this paragraph shall be construed as relieving the Contractor from his obligations under C-21 or other provisions of the Specifications. Specifically, the District reserves the rights to have its agents or designers prune or remove from and replace in the working area trees or other plantings for the purpose of minimizing damages. No permanent crop shall be disturbed or removed without prior approval of the Engineer. The Contractor shall attempt to schedule construction to minimize damage and loss of crops.

## **D-21 Right to Operate Unsatisfactory Equipment**

If, following installation of any equipment or facilities furnished by the Contractor, defects requiring correction by the Contractor are found, the District shall have the right to operate such unsatisfactory equipment and make reasonable use thereof until the equipment can be shut down for correction of defects without injury to the District.

## **D-22 Special Construction Conditions**

- (a) Existing uses of lands and roads. In addition to all other applicable provisions of these Specifications, the Contractor shall:
1. Effectively secure and protect adjacent property, structures, livestock, crops and other vegetation;
  2. Exercise extreme care during construction to prevent damage from dust to crops and adjacent property;
  3. Be responsible for all damage to any property resulting from trespass by the Contractor employees in the course of their employment, whether such trespass was committed with or without the consent or knowledge of the Contractor;
  4. See that the work site is kept drained and free of all surface and groundwater;
  5. Be responsible for any damage caused by drainage or water runoff from construction areas and from construction plant areas;

6. Maintain all existing roadways, roadway traffic, and irrigation or other water utilities and utility crossings, in an adequate and safe manner to meet all existing service requirements and shall not interfere with any roadway or utility system without prior written permission of the owner/operator thereof, and only for any time period permitted by said owner/operator; and
7. Provide for all water courses, ditches and pipelines and perform the construction work so that no damage will result to either public or private interests, and be liable for all damage that may result from failure to so provide during the progress of the work.

(b) Costs - The costs of all work required by Section D-22 shall be included in the prices bid in the schedule for other work.

### **D-23 Specification Drawings**

The location of the work, its general nature and extent, and the form and general dimensions of all appurtenant works are shown on the following drawings attached to and made a part of these Specifications as listed following:

#### Drawing Title

Proposed Well Locations (Attachment 1)

Typical Well Detail (Attachment 2)

### **D-24 Water Conduits**

The Contractor shall supply the necessary conduits for conveyance of water supply to the site and for disposal of test pump water to and from a District canal.

### **D-25 Pump Bid Analysis Form**

In addition to the other items required to be turned in with the bid, the Pump Bid Analysis Form must be included with the bid at the time it is turned in for the bid to be considered complete.

### **D-26 Labor Compliance Program**

- a. The District will implement the provisions of a Labor Compliance Program (LCP) to monitor and enforce prevailing wage requirements. In this regard, by submission of this Bid or the execution of the Contract, or subcontract as appropriate, the Contractor, and Subcontractors, as appropriate, agrees to provide any and all information the District may need to be in compliance.
- b. The LCP will be implemented by a third-party consultant that will strictly be focused on enforcing labor compliance. Type of monitoring activities will include

but not be limited to the following: a) onsite inspections; b) visual monitoring of construction activities; c) interviews with field personnel; d) verification of Contractors and Subcontractors State License Board licensing and Workers Compensation Insurance; e) review and confirmation of monthly submittal/accuracy of certified payroll reports; f) inspection of time records and other source documents maintained by the Contractor and Subcontractors; and g) verification of compliance with LC 226 and other laws enforced by the Labor Commissioner.

- c. The Contractor and its Subcontractors will be required to submit all of their Certified Payroll Records (CPR) to the Engineer and the third-party consultant at least monthly, or more frequently if required. In addition, The Contractor and its Subcontractors will be required to register online with the Department of Industrial Relations Compliance Monitoring at the following website: <https://efiling.dir.ca.gov/PWCR/> . Once registered, the Contractor and its Subcontractor's will upload CPRs to the eCPR system.
- d. The District will provide the DIR Project ID # to the Contractor for the project. The Contractor and its Subcontractors will be required to submit all of their Certified Payroll Records (CPR) electronically to the Labor Commissioner using DIR's electronic certified payroll reporting system at least monthly, or more frequently if required.
- e. The Department will undertake those activities it deems necessary to monitor and enforce compliance.
- f. In the event of non-compliance, the District may withhold payment due to delinquent, inadequate, or untimely submission of CPR's. Additionally, if the DIR identifies any non-compliance, there may be some Civil wage and penalty assessments and BOFE citations that may be imposed by the regulating agencies.
- g. The Contractor shall be responsible for monitoring the payment of prevailing wages by its Subcontractors by periodic review of the CPR's. If the Contractor becomes aware of non-compliance, the Contractor shall take corrective measures to rectify the non-compliance.
- h. The Contractor shall be responsible for posting job site notices, as prescribed by regulation including per Labor Code Section 1771.4(a)(2) a copy of the prevailing wage determination for each craft, classification or type of worker needed to execute the Contract at the jobsite in accordance with Labor Code section 1773.2.
- i. The Contractor is directed to the following website for additional information regarding the public works contractor responsibilities: <http://www.dir.ca.gov/Public-Works/publicworks.html>. Not all of the requirements have been presented herein and it is the Contractor's responsibility to become informed about the requirements.

## D-27 Federal Grant Special Provisions

### (a) General

1. These special provisions shall apply to all Work performed on the Contract by the contractor's own organization and with the assistance of workers under the Contractor's immediate superintendence and to all Work performed on the Contract by piecework, station work, or by subcontract. The Work shall conform to the requirements of all governmental agencies having jurisdiction over the Work. Contractor shall also comply with all federal, state and local laws, ordinances, rules, regulations and orders under the Contract, including all licensing requirements and occupational, health, safety, employment and environmental laws. Such applicable laws, ordinances, rules, regulations and orders shall include, without limitation, those that are specifically incorporated into any Grant Agreement pertaining to the Work, which Grant Agreement and any amendments thereto the District will provide to Contractor following their execution. Contractor shall bear all costs, expenses and liabilities related to any changes in the Work to conform to such laws, ordinances, rules, regulations and orders.
2. Except as otherwise provided for in each section, the Contractor shall insert in each subcontract all of the stipulations contained in these special provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The special provisions shall not be incorporated by reference in any case. The prime Contractor shall be responsible for compliance by any Subcontractor or lower tier subcontractor with these special provisions.
3. A breach of any of the stipulations contained in these special provisions shall be sufficient grounds for termination of the Contract.

### (b) Disadvantaged Business Enterprises (DBE)

1. The Contractor will take all necessary affirmative steps to assure that minority firms, women business enterprises, and labor surplus area firms are used when possible. As part of the Bid Proposal, the Contractor shall complete and include the Good Faith Efforts Checklist for Disadvantage Business Enterprises (DBE).
2. **Affirmative steps shall include:**
  1. Placing qualified small and minority businesses and women's businesses enterprises on solicitation lists;
  2. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
  3. Dividing total requirements, when economically feasible, into smaller tasks or

quantities to permit maximum participation by small and minority business, and women's businesses enterprises;

4. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;
5. Using services and assistance of the Small Business Administration, and the Minority Business Development agency of the department of Commerce; and
6. Requiring the Subcontractors to take the affirmative steps listed in paragraphs a) through e) above.

**(c) Contract Provisions**

1. By submission of this bid, the execution of the Contract or subcontract, or the consummation of the Contract, as appropriate, the bidder, contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that it will comply with all applicable Contract provisions as described in this section below.
2. Federal agencies are permitted to require changes, remedies, changed conditions, access and records retention, suspension of work, and other clauses approved by the Office of Federal Procurement Policy.
3. Compliance with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR chapter 60). (All construction contracts awarded in excess of \$10,000 by grantees and their contractors or subgrantees).
  - a) During the performance of the 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, sexual orientation, gender identity, or national origin. 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, sexual orientation, gender identity, 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, sexual orientation, gender identity, or national origin.

(3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The contractor will send to each labor union or representative of workers with which he 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.

(5) 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.

(6) 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 his 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.

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of the Contract or with any of the said rules, regulations, or orders, the 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 rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract 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 subcontractor 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.

The applicant 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 the applicant 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 Contract.

The applicant 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 administering agency 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.

The applicant 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, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, 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 applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

4. Compliance with Copeland "Anti-Kickback" Act (40 U.S.C. 3145) as supplemented in Department of Labor regulations (29 CFR Part 3). (All contractors and subgrants for construction or repair).
5. Compliance with the Davis-Bacon Act (40 U.S.C. 3141-3148) as supplemented by Department of Labor regulations (29 CFR Part 5). (Construction contracts in excess of \$2000 awarded by grantees and subgrantees when required by Federal grant program legislation).
6. Compliance with 40 U.S.C. 3702 and 3704 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708) as supplemented by Department of Labor Regulations (29 CFR Part 5). (Construction contracts awarded by grantees and subgrantees in excess of \$100,000, and in excess of \$2500 for other contracts which involve the employment of mechanics or laborers).
7. Access by the grantee, the subgrantee, the Federal grantor agency, the Controller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of the contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions.



8. Retention of all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed.
9. Compliance with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). (Contracts, subcontracts, and subgrants of amounts in excess of \$150,000).
10. Mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and conservation Act (pub. L. 94-163, 89 Stat. 871).

**(d) Debarment and Suspension**

1. By submission of this bid, the execution of the Contract or subcontract, or the consummation of the Contract, as appropriate, the bidder, contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that they will comply with all standards and policies contained in the Department of the Interior regulations at 2 CFR 180, Subpart C.

**(e) Drug-Free Workplace**

1. By submission of this bid, the execution of the Contract or subcontract, or the consummation of the Contract, as appropriate, the bidder, contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that they will comply with all standards and policies contained in the Department of the Interior regulations at 2 CFR 1401-Government Requirements for Drug-Free Workplace, and 2 CFR 182.

**(f) Assurances and Certifications**

1. By submission of this bid, the execution of the Contract or subcontract, or the consummation of the Contract, as appropriate, the bidder, contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that they will comply with all of the Assurances, SF 424B or SF 424D as applicable. All antidiscrimination and equal opportunity statutes, regulations and Executive orders that apply to the expenditure of funds under federal Contracts.
2. The bidder, contractor, subcontractor, material supplier, or vendor, as appropriate, shall comply with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, The Age Discrimination Act of 1975, and any program-specific statutes with anti-discrimination requirements.
3. The bidder, contractor, subcontractor, material supplier, or vendor, as appropriate, shall comply with civil rights laws including, but not limited to, the Fair Housing Act, the Fair Credit Reporting Act, The Americans with Disabilities Act, Title VII of the Civil Rights Act of 1964, the Equal

Educational Opportunities Act, the Age Discrimination in Employment Act, and the Uniform Relocation Act.

**(g) New Restrictions on Lobbying**

1. Byrd Anti-Lobbying Amendment (31 U.S.C. 1352—Contractors that apply or bid for an award exceeding \$100,000 must 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 must 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 non-Federal award.
2. By submission of this bid, the execution of the Contract or subcontract, or the consummation of the Contract, as appropriate, the bidder, contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that they will comply with all standards and policies contained in the Department of the Interior regulations at 43 CFR 18-New Restrictions on Lobbying, including the following certification:
  - a) No Federal appropriated funds have been paid or will be paid, by or on behalf to any person for influencing or attempting to influence and officer of employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal Contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.
  - b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal Contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying” in accordance with its instructions.

**(h) Inspections**

Reclamation shall have the right to inspect the Work being performed at any and all reasonable times during the term of the project.

**(i) Nondiscrimination**

1. During the performance of this Project, the Contractors, its Subcontractors and Suppliers 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 40), marital status, and denial of family care leave. Contractors, its Subcontractors and Suppliers shall ensure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Contractors, its Subcontractors and Suppliers shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12990 (a-f) et seq.) and the applicable regulations promulgated there under (California Code of Regulations, Title 2, Section 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated by reference and made a part hereof as if set forth in full. Contractors, its Subcontractors and Suppliers shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. Contractors shall include the nondiscrimination and compliance provisions of this clause in all contracts to perform Work under the project.

**(j) Procurement of Recovered Materials**

The District and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

**(k) Domestic Preferences for Procurements**

(a) As appropriate and to the extent consistent with law, the District should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for Work or products under this award.

(b) For purposes of this section:

(1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

(2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

## **D-28 Submittals**

- a. **Schedule of Submittals** - Within ten (10) calendar days after the effective date of the Notice to Proceed, the Contractor shall submit a completed submittal schedule and list of products for all items requiring the Engineer's review and approval as follows:
1. Submittals, including description of the item and name of manufacturer, trade name, and model number.
  2. Specification section reference.
  3. Intended submission/resubmission dates.
  4. Order release date.
  5. Lead time to delivery/anticipated delivery date(s).
  6. Highlight any items that require expedited review to meet the project schedule.

These schedules shall be presented in a form acceptable to the Engineer in both electronic and hardcopy and shall be updated. Identify all submittals that are required by the Contract Documents and determine the date on which each submittal will be submitted in conformance with the schedule submitted.

b. **Technical Submittals – General**

2. Each submittal shall contain material pertaining to no more than one equipment or material item, and shall have the specification section and applicable paragraph number clearly identified. Each submittal shall be sequentially numbered starting with the first one delivered. Re-submittals shall include the number of the original submittal plus the suffix ".1" for the first re-submittal, ".2" for the second re-submittal, etc. (e.g. submittal 3.0, 3.1, 3.2, etc.) Submittals not conforming to these requirements will be rejected.

3. Designation of Work "by others," if shown on Shop Drawings, shall mean that the Work will be the responsibility of the Contractor rather than the Subcontractor or Supplier who has prepared the Shop Drawings.

4. Submittals shall be submitted at least 30 calendar days before the specified installation date. Submittals will be acted upon by the Engineer as promptly as possible, and returned to the contractor not later than the time allowed for in Paragraph D-9c.1 below. The Contractor shall provide in his Construction Schedule the time for this review. If the Contractor is required by the Engineer to resubmit data, then the time required for the Contractor to prepare and resubmit such data, and the required time for Engineer review, shall not be a cause for delay in Contract completion or a cause for an extension of Contract time delay shall be assigned solely to the Contractor.
5. Additional costs of the Engineer's review beyond the second submission shall be borne by the Contractor. This applies to all submittals including Shop Drawings.
6. After a submittal has been reviewed and accepted, no changes or substitutions in that submittal will be allowed.
7. Shop Drawings and submittals will be reviewed for general conformance with the Plans and Specifications. The intent of the review is to determine if the Contractor is submitting materials and equipment which are in general conformance with the Contract Documents. Detailed review of dimensions, sizes, space requirements, coordination with other equipment, and other construction details is not performed. Engineer's review of submittals shall not relieve Contractor from responsibility for errors, omissions, or deviations, nor responsibility for compliance with the Contract Documents. The Contractor shall indicate on the submittal transmittal form any deviation, the reasons, and how the submittal deviates from the Contract requirements.

**c. Submittal Procedures**

2. The Contractor shall submit to the Engineer for review one (1) electronic copy in pdf format of each submittal (Shop Drawings, electrical diagrams, and catalog cuts for fabricated items and manufactured items furnished under the Contract, etc.). Only an electronic copy of each submittal with review comments will be returned to the Contractor. Shop Drawings shall be submitted in sufficient time to allow the Engineer not less than fifteen (15) calendar days for examining the Shop Drawings.
3. Unless otherwise specified, submittals shall be delivered to:

**Ram Venkatesan**

Email: [ram@northkernwsd.com](mailto:ram@northkernwsd.com)

4. The Contractor shall prepare and maintain an accurate submittal log for the duration of the project. The log shall contain a listing of submittals and shall include the following information for each listed item:
  - a) Specification section reference
  - b) Projected submission date
  - c) Actual submission date
  - d) Projected need date for approval of the submittal
  - e) Actual return date from the Engineer
  - f) Notation of the Engineer's response
  - g) Notation if resubmittal or record copy is required
5. A separate letter of transmittal, in a form acceptable to the Engineer, shall be used to transmit submittals for each specific item or class of material or equipment. A sample letter of transmittal has been provided at the end of this Section.
6. Submittal of multiple items using a single letter of transmittal will be permitted only when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates review of the group or package as a whole. If multiple submittal items are transmitted under one transmittal letter, then the Contractor shall tab each individual submittal item in the package and provide a table of contents at the beginning of the submittal package.
7. The letter of transmittal for each submittal shall show the transmittal number, date of transmittal, project title, construction contract number, specifications section or drawing number to which the submittal pertains, brief description of the material or equipment submitted, and the company name or the originator of the submittal. Material descriptions shall include the following: type, size, trade name, manufacturer's/supplier's name, and other appropriate summarizing information. Submittal letters for Shop Drawing descriptions shall include the complete list of drawings/sheet numbers that are included in the submittal package. Each letter of transmittal shall be clearly marked to indicate the cases when the material is being submitted as a variation.
8. The transmittal number shall be indicated on every page of each copy of each submittal, and shall correspond to the number given in the letter of transmittal. Only the first sheet of a bound set of originally published or printed brochures or catalogs shall be numbered.
  - a) Submittals shall be consecutively numbered beginning with the number 1.

- b) Multiple-page submittals (more than 25 pages) shall be collated into sets, and each set shall be put in a folder or bound before transmittal to the Engineer.
  - c) When material or equipment is resubmitted for any reason, a new letter of transmittal shall have the original submittal number followed by a decimal and a number corresponding to the number of resubmittal. An example is 50.2, where 50 is the submittal number and 2 is the number of times submittal 50 has been resubmitted. The letter of transmittal shall indicate that it is a resubmittal.
9. Shop Drawings shall be accurate and complete, and shall contain all required information, including satisfactory identification of items in relation to the Plans and Specifications.
10. Shop Drawings shall be submitted only by the Contractor, who shall indicate by a signed stamp on the Shop Drawings, or other approved means, that Contractor has checked and approved the Shop Drawings, and that the Work shown is in accordance with Contract requirements and has been checked for dimensions and relationship with Work of all other trades involved. Incomplete Shop Drawings and Shop Drawings that have not been checked by the Contractor will be returned to the Contractor for resubmission in the proper form.
11. After review by the Engineer, the appropriate number of submittals will be returned to the Contractor appropriately marked. If major changes or corrections are necessary, the Shop Drawing shall be rejected and returned to the Contractor with the need for such changes or corrections indicated. The Contractor shall correct and resubmit rejected Shop Drawings in the same manner and quantity as specified for the original submittal. If changes are made by the Contractor (in addition to those requested by the Engineer) on the resubmitted Shop Drawings, such changes shall be clearly explained in a transmittal letter accompanying the resubmitted Shop Drawings.
12. The review of Shop Drawings and catalog cuts by the Engineer shall not relieve the Contractor from responsibility for correctness of dimensions, fabrication details, coordination with other Work, space requirements, or for deviations from the Plans or Specifications, unless the Contractor has called attention to such deviations in writing by a letter accompanying the Shop Drawings and the Engineer approves the change or deviation in writing at the time of submission; nor shall review by the Engineer relieve the Contractor from the responsibility for errors in the Shop Drawings.

13. The Contractor agrees that Shop Drawing submittals processed by the Engineer do not become Contract Documents and are not Change Orders; that the purpose of the Shop Drawing review is to establish a reporting procedure and to permit the Engineer to monitor the Contractor's progress and understanding of the design.
14. Submittals of substitutions, changes, and deviations shall be in accordance with this section and may be permitted subject to the following requirements:
  - a) The proposed substitution, change, or deviation is conspicuously marked on the Shop Drawings or data.
  - b) The corresponding line item on the letter of transmittal is conspicuously marked as a variation.
  - c) Proof shall be provided of the comparative quality and suitability of alternative equipment or materials for proposed substitutions. Description, information, performance data, and other information as may be required by the Engineer shall be submitted showing the equality of the materials or equipment offered to those specified.
  - d) A written explanation of the necessity for the proposed change or deviation shall be indicated in the Letter of Transmittal.
  - e) The Engineer will be the sole judge as to the comparative quality and suitability of alternative equipment or materials, and his decision will be final.
  - f) A sample substitution request form has been provided at the end of this Section.

**d. Shop Drawing Requirements**

1. General: Shop Drawings shall include catalog cuts, information schematic diagrams, and other submittals for both shop and field-fabricated items. The Contractor shall submit, as applicable, the following for all prefabricated or manufactured structural items, material, and equipment.
2. For structures, submit all shop, setting, equipment, miscellaneous iron and reinforcement drawings and schedules necessary for construction. The foregoing shall include detailed "pour drawings" which shall show the sequence of concrete placement, and the type, quantity and location of all embedment items (sleeves, anchor bolts, etc.).



3. For exposed and buried pipelines, submit a detailed layout of the pipeline with details of bends and fabricated specials, and furnish any other details necessary.
4. For electrical submittals, submit detailed information to show power supply requirements, MCC and control panel elevations, wiring diagrams, control and protection schematics, shop test data, operation and maintenance procedures, outline drawings, and manufacturer's recommendation of the interface/interlock among the equipment.
5. For mechanical equipment submit all data pertinent to the installation and maintenance of the equipment including Shop Drawings, anchorage requirements, manufacturer's recommended installation procedure, detailed installation drawings, performance data, test data and curves, operation and maintenance manuals, and other details necessary.
6. For architectural fabrication submit all data pertinent to the installation of the fabrications, including Shop Drawings, manufacturer's recommended installation procedure, detailed installation drawings, and other details necessary for operation and maintenance.
7. Installation or placing drawings for equipment, drives, and bases, include dimensions, size and location of connections to other Work, and weight of equipment.
8. Supporting calculations for equipment and associated supports, or hangers required or specified to be designed by equipment manufacturers. Include seismic restraint information and details.
9. Complete manufacturer's specifications, including materials description and paint system.
10. Seismic design calculations and restraint details for equipment and piping supports.
11. Samples of finish colors for selection.

e. **Review by Engineer**

1. One copy of each submittal will be returned to the Contractor marked with one of the following notations:
  - a) No Exceptions Taken
  - b) Make Corrections Noted
  - c) Revise and Resubmit
  - d) Rejected – Resubmit

Returned copies of submittals marked with either notation (a) or (b) authorize the Contractor to proceed with the fabrication, installation or construction, or any combination thereof, covered by such returned drawings, provided that such fabrication, installation or construction shall be subject to the comments, if any, shown on such returned copies. Although fabrication may proceed on a notation (b), Contractor shall incorporate the comments, resubmit, and obtain notation (a) before release for shipment can be granted.

Returned copies of submittals marked with notation (c) shall be corrected as necessary and revised drawings shall be submitted in the same manner as before. Returned copies of drawings marked with notation (c) shall be resubmitted not later than ten (10) calendar days after date of transmittal by Engineer of such copies of such drawings.

Returned copies of submittals marked with notation (d) are found not acceptable. Submittals shall be corrected as necessary and be resubmitted in its entirety in the same manner as before. Returned copies of drawings marked with notation (d) shall be resubmitted not later than 7 calendar days after date of transmittal by Engineer of such copies of such drawings.

2. Engineer will review with reasonable promptness Contractor's submittals, but Engineer's review will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The Engineer's review shall not extend to means, methods, techniques, sequences or procedures of construction, except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, or to safety precautions or programs incident thereto. Contractor shall make corrections required by Engineer.

Neither the Engineer's review or failure to review Contractor's submittals, nor the Engineer's authorization for Work to proceed, shall relieve Contractor of any of its obligations to meet all the requirements of the Contract, or relieve Contractor of the responsibility for the correctness of any items submitted, including full compliance with the Contract Documents, and the performance of the Work in a safe and satisfactory manner. Contractor shall, at its expense, make any changes in the design which are necessary to make the Work conform to the provisions and intent of the Contract.

**f. Requests for Information**

1. Requests for information about the Contract Documents shall be directed by Contractor to Engineer using a Request for information (RFI) form. Such requests will not be accepted by the Engineer from a Subcontractor or Supplier.

2. A separate RFI form shall be used for each specific item for which information is required. Requests for information for more than one item using a single RFI form will be permitted only when the items are so functionally related that expediency indicates review of the group of items as a whole.
  3. The Engineer will reply to the Contractor's request for information within seven (7) regular working days following receipt by the Engineer.
- g. **Operation and Maintenance Manuals** – Refer to Section C-38(i) of the Specifications for information.

**D-29 Trade Names or Approved Equals**

- a. Where shown in the Contract Documents, or whenever materials or other items are specified using the trade name or the name of a particular Supplier, the specification is intended to establish the type, function, appearance, craftsmanship and quality required. Unless the specification or description contains “Or-Equal” after the manufacturer/supplier name, no substitution is permitted, and the material must be supplied by the manufacturer or supplier as listed.
1. *“Or-Equal” Items:* A proposed item of material or equipment will be considered functionally equal to an item so named if:
    - a) It is at least equal in materials of construction, quality, durability, appearance, strength, craftsmanship and design characteristics;
    - b) It will reliably perform at least equally and achieve the results imposed by the design concept;
    - c) It has a proven record of performance and availability of responsive service; and
    - d) If approved and incorporated into the Work:
      - 1) There will be no increase in cost to the District or increase in Contract Time; and
      - 2) It will conform substantially to the detailed requirements of the item named in the Contract Documents.
  2. Substitute Items
    - a) If in the opinion of the Engineer an item of material or equipment does not qualify as an “or-equal” item, it will be considered a proposed substitute item. Below is a description of the steps that the Contractor must follow when submitting requests for substitution.

- b) Contractor shall submit sufficient information to the Engineer to allow the Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute. Requests for substitutions of material or proposed equipment will not be accepted by the Engineer unless it is submitted by the Contractor. Subcontractors or Suppliers shall not submit such requests.
- c) The Contractor shall submit a request to the Engineer requesting review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The written request:
  - 1) Shall demonstrate that the proposed substitute item will:
    - (a) Perform adequately;
    - (b) Be similar in substance to that specified; and
    - (c) Be suited to the same use as that specified.
  - 2) will state:
    - (a) Whether the use of such proposed substitute item require any changes in Contract price or Contract Time; and
    - (b) Whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents.
  - 3) And shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item.
  - 4. Contractor shall submit a Substitution Request Form as provided by the Engineer when requesting any substitutions. The form must be filled out entirely. This form can be found at the end of this Section.

**D-30 Underground Facilities**

- a. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing underground facilities at or contiguous to the site is based on information and data furnished to District or Engineer by the districts owners of such underground facilities, including District, or by others. Unless it is otherwise expressly provided in the Special Conditions:
  - 1. District and Engineer shall not be responsible for the accuracy or

completeness of any such information or data; and

2. The cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
  - a) Reviewing and checking all such information and data;
  - b) Locating all Underground Facilities shown or indicated in the Contract Documents;
  - c) Coordination of the Work with the districts of such underground facilities, including District, during construction; and
  - d) The safety and protection of all such underground facilities and repairing any damage thereto resulting from the Work.
3. The Contractor shall expose and demarcate, prior to staking, earthwork, and excavation, all existing utilities and existing facilities which could be damaged by or conflict with the Work. Two working days' notice shall be given to the Engineer prior to commencing this Work. The Contractor shall contact Underground Service Alert (USA) at 1-800-227-2600 at least two working days prior to any excavation work to identify any buried utilities within the proposed excavation area. Full compensation for all costs involved in locating, verifying, protecting, exposing, and otherwise providing for utilities shall be included in the amounts bid for the various items of work, and no separate payment shall be made therefore.
4. Protection - The Contractor shall not interrupt the service function or disturb the supporting base of any utility by disrupting any facility identified in the Plans and Specifications without authority from the District or order from the Engineer. Where protection of such facilities is required to ensure support of utilities, the Contractor shall, unless otherwise provided, furnish and place the necessary protection at the Contractor's expense. The Contractor shall develop and execute a workplan, subject to Engineer's approval to protect underground facilities. The Contractor shall be prepared at all times with labor, equipment, and materials to make repair on damaged mains or utility facilities. The Contractor shall immediately notify the Engineer and the utility district if he disturbs, disconnects or damages any utility. The Contractor shall bear the costs of repair or replacement of any utility facility described with reasonable accuracy in the Plans and Specifications which is damaged by the Contractor. No extra compensation will be made for the repair of any services or mains damaged by the Contractor, nor for any damage incurred if the neglect or failure of providing protective barriers, lights and other devices or means required to protect such existing utilities or facilities described with reasonable accuracy in the Plans and Specifications.
5. **Relocation** - When the Plans or Specifications provide for the Contractor

to alter, relocate or reconstruct a utility, or landowner facility (pipeline, fence, etc.) all costs for such work shall be absorbed in the Contractor's bid or paid for at the unit price indicated. Temporary or permanent relocation or alteration of utilities desired by the Contractor for the Contractor's own convenience shall be the Contractor's responsibility, and the Contractor shall make all arrangements and bear all costs. The Contractor may, for the Contractor's own convenience or to expedite the Work, agree with the District of any utility to disconnect and reconnect interfering service connections. The District shall not be involved in any such agreement, but the Contractor shall give the District written notice of such an agreement upon its execution.

**b. Not Shown or Indicated**

1. If an underground facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith, identify the district of such underground facility and give written notice to District and Engineer. Engineer will promptly review the underground facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the underground facility. During such time, Contractor shall be responsible for the safety and protection of such underground facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any underground facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If District and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, District or Contractor may make a Claim therefore as provided in the contract specification.
3. Contractor shall develop and execute a work-plan, subject to Engineer's approval to protect underground facilities.
4. The Contractor shall expose, prior to staking and trenching, all existing utilities and existing facilities which may control proposed facility grades, and alignment. Two (2) working days' notice shall be given to the Engineer prior to commencing this Work. Full compensation for all costs involved in locating, verifying, protecting, exposing, and otherwise providing for utilities

shall be included in the amounts bid for the various items of Work, and no separate payment shall be made therefore.

5. As specified in Government Code, Section 4215, the Contractor shall be compensated as Extra Work for the costs of locating, 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 Specifications with reasonable accuracy, and for equipment on the project necessarily idled during such work. As specified in Government Code, Section 4215, the Contractor shall not be assessed liquidated damages for delay in completion of the Project, when such delay was caused by the failure of the District or the district of the utility to provide for removal or relocation of such utility facilities.

- c. **Protection** - The Contractor shall not interrupt the service function or disturb the supporting base of any utility by disrupting any facility identified in the Plans and Specifications without authority from the District or order from the Engineer. Where protection of such facilities is required to ensure support of utilities, the Contractor shall, unless otherwise provided, furnish and place the necessary protection at the Contractor's expense.

The Contractor shall be prepared at all times with labor, equipment and materials to make repair on damaged mains or utility facilities. The Contractor shall immediately notify the Engineer and the Utility district if he disturbs, disconnects or damages any Utility. The Contractor shall bear the costs of repair or replacement of any utility facility described with reasonable accuracy in the Plans and Specifications that is damaged by the Contractor. No extra compensation will be made for the repair of any services or mains damaged by the Contractor, nor for any damage incurred if the neglect or failure of providing protective barriers, lights and other devices or means required to protect such existing utilities or facilities described with reasonable accuracy in the Plans and Specifications.

- d. **Relocation** - When the Plans or Specifications provide for the Contractor to alter, relocate or reconstruct a Utility, or landowner facility (pipeline, fence, etc.) all costs for such work shall be absorbed in the Contractor's Bid or paid for at the unit price indicated. Temporary or permanent relocation or alteration of utilities desired by the Contractor for his own convenience shall be his responsibility, and he shall make all arrangements and bear all costs. The Contractor may, for his own convenience or to expedite the Work, agree with the District of any utility to disconnect and reconnect interfering service connections. The District shall not be involved in any such agreement.

### **D-31 Access Roads and Staging Area**

- a. The Contractor shall maintain access roads to and on the Site to provide for delivery of material and for access to existing and operating plant facilities on the Site. For a road to be considered adequately maintained, it shall be reasonably dust free.

- b. Adequately maintained access roads shall be maintained to all storage areas and other areas to which frequent access is required. Similar roads shall be maintained to all existing facilities on the Site to provide access for maintenance and operation. Where such temporary roads cross, buried utilities that might be injured by the loads likely to be imposed, such utilities shall be adequately protected by steel plates or work planking, or bridges shall be provided so that no loads shall discharge on such buried utilities.
- c. The District will designate a storage area for Contractor's use while constructing the Project. It shall be the Contractor's responsibility and he shall bear all expense for any temporary fence and/or other security measures the Contractor may deem necessary for protection of the equipment and materials.
- d. The Contractor shall provide any additional temporary storage required for the protection of equipment and materials as recommended by manufacturers of such materials.
- e. Storage and protection:
  - 1. *Materials and equipment shall be stored in accordance with Supplier's written instructions, with seals and labels intact and legible. Exposed metal surfaces of valves, fittings and similar materials shall be coated in accordance with manufacturers' recommendations to prevent corrosion.*
  - 2. Storage shall be arranged to provide access for inspection. The Contractor shall periodically inspect to assure materials and equipment are undamaged and are maintained under required conditions.

### **D-32 Destruction of Boll Weevil Host Plants**

The Contractor shall be responsible for ascertaining the current regulations of the State Department of Agriculture relative to destruction of "host" plants capable of sustaining the pink boll worm and boll weevil. When required by said regulations, the Contractor shall be responsible for the disposal or destruction of "host" plants or residue of "host" plants remaining within Contract right of way; methods of disposal shall be as applicable prescribed in said State regulations and as approved by the Engineer. The cost of all Work and materials as required for disposal or destruction of "host" plants and residue shall be borne by the Contractor.

### **D-33 Prevention of Water Pollution and Prevention of Air Pollution**

The Contractor shall prepare and submit to the Engineer a Stormwater Pollution Prevention Plan (SWPPP) within 10 calendar days after the Notice to Proceed is issued. The Contractor shall maintain a copy of SWPPP onsite at all times and shall abide by the SWPPP throughout the duration of the Project. It will be the Contractor's responsibility to



1) obtain, on behalf of the District, a Construction Storm Water Permit from the State Water Resources Control Board online via their website; 2) submit all the reports to maintain compliance; and 3) close out the Permit upon completion of the Work. Additionally, the Contractor shall take measures as necessary to effect water pollution control. Construction operations shall be so conducted as to prevent discharge of wastes and pollutants into surface waters and underground water sources. Such water pollution control measures shall be directed toward eliminating discharge, or averting accidental spillage, of such industrial and domestic wastes as oils, gasses, fuels, sewage, toxic materials, and other substances which may be hazardous to public health and welfare or harmful to fish and wildlife. The Contractor shall be responsible for compliance with the applicable State and local regulations for prevention and abatement of pollution of surface and underground water. The Contractor's pollution control methods shall be subject to approval of the Engineer. The District shall have the right to require the Contractor, at his expense, to initiate and maintain such pollution control measures as deemed necessary to eliminate pollution of water caused by, or resulting from the contractor's operation. No separate payment will be made for prevention of water pollution, the costs for all Work and materials required under this paragraph shall be borne by the Contractor.

The Contractor shall prepare and submit to the Engineer and all appropriate parties, a Site dust control and PM-10 Dust Management Plan within 10 calendar days after the Notice to Proceed is issued. The Contractor shall maintain a copy of said plan onsite at all times. The Contractor shall take measures as necessary to effect air pollution control. Construction operations shall be so conducted as to prevent generation of fugitive dust and dispersion of pollutants into the air. Such air pollution control measures shall be directed toward eliminating particulates and potentially toxic or harmful materials from becoming airborne and polluting the air, as these airborne substances may be harmful to public health and/or harmful to wildlife. The Contractor shall be responsible for compliance with the applicable State, regional (APCD) and local regulations for prevention and abatement of pollution of the air and any associated reporting requirements. The Contractor's pollution control methods shall be subject to approval of the Engineer as well as applicable governmental entities with regulative power over air quality. The District shall have the right to require the Contractor, at his expense, to initiate and maintain such pollution control measures as deemed necessary to eliminate pollution of air (and/or nuisance or fugitive dust) caused by, or resulting from the contractor's operation. No separate payment will be made for prevention of air pollution, the costs for all Work and materials required under this paragraph shall be borne by the Contractor.

#### **D-34 Landscape Preservation**

- a. **General** – The Contractor shall exercise care to preserve the natural landscape and shall conduct his construction operations so as to prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the Work. Except where clearing is required for permanent works, for approved construction roads and for excavation operations, all trees, native shrubbery, and vegetation shall be preserved and shall be protected from damage which may be caused by the Contractor's construction operations and equipment. No special reseeded or replanting will be required under the Specifications; however, on

completion of the Work, and in addition to the requirements of Section C and E relative to site clean-up operations, all Work areas shall be smoothed and graded in a manner to conform to the natural appearance of the landscape. Where unnecessary destruction, scarring, damage, or defacing may occur as a result of the Contractor's operations, the same shall be repaired, replanted, reseeded, or otherwise corrected at the Contractor's expense.

- b. **Construction Roads** – The location, alignment, and grade of construction roads shall be subject to approval of the Engineer. When no longer required by the Contractor, construction roads shall be made impassable to vehicular traffic and the surfaces shall be scarified and left in a condition which will facilitate natural revegetation.
- c. **Contractor's Campsite** – The Contractor's camp, shop, office, and yard area shall be located and arranged in a manner to preserve trees and vegetations to the maximum practicable extent. On abandonment, all camp, storage, and construction buildings, including concrete footings and slabs, and all construction materials and debris shall be removed from the site. The camp area shall be left in a neat and natural appearing condition.
- d. **Borrow Areas and Quarry Sites** – The Contractor shall obtain locations of borrow areas for fill from District along with limits of borrow areas. Borrow pits and quarry sites shall be so excavated that water will not collect and stand therein. Before being abandoned, the sides of borrow pits and quarry sites shall be brought to stable slopes with slope intersections rounded and shaped to provide a natural appearance. All rubbish, Contractor's equipment and structures shall be removed from the Site. Waste piles shall be leveled and trimmed to regular lines and shaped to provide a neat appearance.
- e. **Blasting Precautions** – No blasting is allowed.
- f. **Costs** – No separate payment will be made for Work or materials specified under this Paragraph. All costs therefore shall be borne by the Contractor.

#### **D-35 Superintendence**

- a. The Contractor shall submit a statement of the qualifications of its proposed superintendent to the Engineer for review. The statement shall include the superintendent's name, the name of each project that is the basis of the qualifications, each project site location, a brief description of each project, and the name and mailing address of the owner for each project.
- b. The Contractor shall assign a duly authorized and competent person continually on the site during the Work. The superintendent shall have not less than 7 years' experience as a contractor's general superintendent on heavy engineering work with not less than 4 years as a superintendent on projects with complexity and configuration similar to the Work described in the contract documents.

- c. If the superintendent is not deemed qualified or if the superintendent's performance on the Work is determined to be unsatisfactory by the Engineer, the superintendent shall be immediately removed from the project.
- d. The Contractor shall furnish to the Engineer a written statement of the qualifications of the proposed substitute superintendent if a substitute superintendent is required.
- e. A substitute superintendent shall meet the same requirements and shall be subject to approval by the Engineer.

**D-36 Valley Fever – Notices to Employees**

A special biological problem of the Project area is the presence of tiny organisms living in the soil which can cause Valley Fever (coccidioidomycosis) in humans. As is typical of many desert areas in the southwestern United States, Valley Fever is endemic to Kern County. Although everyone living in the valley has some contact with the disease-causing organisms, the illness is especially hazardous to those whose work brings them into close contact with the soil, as for example, agricultural and construction workers. The Contractor and all his Subcontractors shall advise all their employees, in writing, of the dangers of Valley Fever, and of precautions which can be taken such as wearing dust masks while working under dusty conditions.

**D-37 Special Environmental Requirements**

- a. Cultural Resources Requirements
  - 1. The Contractor shall immediately stop work and provide an oral notification to the Engineer of the discovery of any and all antiquities or other objects of cultural, historic, or scientific interest. Objects under consideration include, but are not limited to, historic or prehistoric ruins, archaeological resources, tribal cultural resources, or artifacts discovered as the result of activities under the Contract. The Contractor shall cease activity, stabilize, and protect such discoveries until authorized to proceed by the Engineer.
  - 2. The Contractor shall immediately stop work and provide an oral notification to the Engineer of the discovery of human remains. The Contractor shall cease activity, stabilize, and protect such discoveries until authorized to proceed by the Engineer.
- b. Biological Resources Requirements
  - 1. A biological resource survey was conducted for the project and a report prepared. The results of the survey concluded that there is a reasonable potential for the Western spadefoot, Joaquin kit fox, and burrowing owl to occur on the project sites. All locations will need to be surveyed prior to construction activities and monitored during excavation, disturbance etc., under the supervision of a qualified Certified Biologist, which will be retained by the District. In this regard, a high level of coordination will be

required with the Engineer prior to and during construction to ensure that the proper monitoring is in place.

2. Additionally, a qualified wetland delineator shall survey the project site and determine the boundaries, if any, of wetlands within or directly adjacent to the project site. Any protective/avoidance measures and/or compensatory mitigation measures required by state and/or federal authorities on receipt of the jurisdictional waters delineation shall be implemented prior, during, and following project construction, including any post-construction regulatory reports required.
3. Environmental Requirements – In addition to all other applicable provisions of these Specifications, the Contractor shall:
  - a) All Contractor personnel that will be involved in the construction of the Work, shall be required to attend a Worker’s Environmental Awareness Program (WEAP) that will consist of a brief consultation by a qualified biologist. The training will consist of presenting the status, biology and protection measures associated the project to promote their awareness, and implementation measures if a species is encountered or impacted. The project proponent shall provide the WEAP training to all personnel working on the site during proposed project construction and operation. The program should include the following: A description of the species that may be affected by the project, including Western spadefoot, Joaquin kit fox, and burrowing owl, as well as their habitat needs; an explanation of the status of the species and its protection; and a list of measures being taken to reduce impacts to the species during proposed project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the proposed project site.
  - b) The following biological resource surveys shall be conducted prior to construction activities:
    - a) During the wet season before project implementation (approximately November-March within the project vicinity), a qualified biologist shall survey all areas of suitable habitat within the project site.
    - b) A take avoidance survey for burrowing owls shall be conducted within 14 days before on-site project activities begin in each portion of the site.
    - c) No more than 30 days prior to Contractor initiating Work, a certified biologist will conduct a preconstruction biological survey for San Joaquin kit fox and prepare a report of their findings.

- d) The Engineer will notify the Contractor when such environmental clearance has been obtained and the Contractor may initiate the Contract Work. Contractor shall notify the District when it proposes to commence with the Work so that it may arrange the survey to take place and minimize any impacts to the Contractor's schedule.
- c) The following measures shall be implemented during the course of construction to minimize impacts to Western spadefoot, Joaquin kit fox, and burrowing owl (Covered Species):
  - 1) If any life stage of western spadefoot (i.e. adult, eggs, larva) are observed during the preconstruction survey, the biologist shall notify the District. If the occupied waterbodies cannot be avoided during project implementation, the biologist shall carefully relocate egg masses, larva, juveniles, or adults to a predetermined relocation site—in consultation and with approval from CDFW.
  - 2) Prior to any western spadefoot relocation, a suitable aquatic relocation habitat shall be identified nearby and outside of project activity areas. Western spadefoots shall be protected in a suitable damp, shaded location (i.e., bucket with small amount of water, though not deep enough to overtop any individuals) during the biologist's monitoring shift. When the biologist is no longer monitoring active excavation, the biologist shall relocate any/all rescued western spadefoots to the predetermined relocation habitat.
  - 3) If any occupied burrows are observed, a qualified biologist shall establish and confirm implementation of an appropriate protective buffer around each occupied burrow until the biologist determines the burrow is no longer occupied. A qualified biologist shall monitor occupied burrows during project activities to confirm effectiveness of the buffer. The size of the buffer shall depend on type and intensity of project disturbance, presence of visual buffers, and other variables that could affect susceptibility of the owls to disturbance.
  - 4) If it is not feasible to implement a buffer of adequate size to avoid disturbance and it is determined, in consultation with CDFW, that passive exclusion of owls from the project site is an appropriate means of minimizing impacts, an exclusion and relocation plan shall be developed and implemented in coordination with CDFW. Passive exclusion shall not be conducted during the breeding season (February 1–August 31), unless a qualified biologist verifies through noninvasive means that either (1) the birds have not begun egg laying or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.
  - 5) If passive exclusion is conducted, each occupied burrow that is destroyed shall be replaced with at least one artificial burrow at a suitable location in similar habitat within or adjacent to the project alignment. The artificial burrow(s) shall be installed within 500 feet of the occupied burrow, if possible, and before passive relocation occurs.

- 6) If potential or known dens for San Joaquin kit fox are found during preconstruction surveys, exclusion zones will be established and maintained, in accordance with the Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox (USFWS 2011)
- 7) If project activity would occur within 50 feet of a potential den (i.e., a den that is not known to be occupied), monitoring will be conducted at the potential den for 4 consecutive days. If no San Joaquin kit fox activity is documented, project activities can proceed. If San Joaquin kit fox activity is documented, the appropriate exclusion zone will be established and maintained, in accordance with the Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox.
- 8) To prevent kit fox entrapment during construction, all excavated, steep-walled holes or trenches more than 2 feet deep will be covered with plywood or similar material at the end of each workday. If the trenches cannot be closed, one or more escape ramps of no more than a 45-degree slope will be constructed of earthen fill or created with wooden planks. All covered or uncovered excavations will be inspected at the beginning, middle, and end of each day. Before trenches are filled, they will be inspected for trapped animals. If a trapped kit fox is discovered, project activities will stop, and escape ramps or structures will be installed immediately to allow the animal to escape.
- 9) All construction pipes or similar structures with a diameter of 4 inches or greater that are stored on the ground at a construction site for one or more overnight periods will be thoroughly inspected for wildlife before the pipe is buried, capped, or otherwise used or moved in any way. Pipes laid in trenches overnight will be capped. If a potential San Joaquin kit fox is discovered inside a pipe, all project activities near the pipe will stop, and the animal will be allowed to leave the pipe voluntarily.
- 10) Dispose of all food-related trash in closed containers and regularly remove the trash from the worksite;

A biological monitor with documented experience monitoring construction projects for the protection of biological resources may be appointed if required after the applicable surveys have been completed. The biological monitor will be the contact source for the contractor who might inadvertently kill or injure a special-status species or who finds a dead, injured or entrapped species.

The biological monitor shall be present during all phases of construction in sensitive habitats, as required.

The biological monitor will possess any required permits or certifications to

recover and relocate special-status species as encountered during construction, including kit fox.

If an injured or dead special-status species is encountered during construction, the on-call biological monitor has the authority to stop work within the immediate vicinity until the issue has been resolved.

#### **D-38 Other Special Construction Conditions**

- a. **Groundwater Conditions** – The Contractor shall have full responsibility for evaluation of available data, including logs of exploration, and development of any necessary additional information on groundwater condition at construction site(s) and for draining and dewatering the sites of any groundwater or surface water during execution and completion of the Contract Work.
  
- b. **Existing Uses of Lands and Roads** – In addition to all other applicable provisions of these Specifications, the Contractor shall:
  - 1. Effectively secure and protect adjacent property, structures, livestock, crops and other vegetation;
  - 2. Exercise extreme care during construction to prevent damage from dust to crops and adjacent property;
  - 3. Be responsible for all damage to any property resulting from trespass by the Contractor or his employees in the course of their employment, whether such trespass was committed with or without the consent or knowledge of the Contractor;
  - 4. See that the Work site is kept drained and free of all surface and ground water;
  - 5. Be responsible for any damage caused by drainage or water runoff from construction areas and from construction plant areas;
  - 6. Maintain all existing roadways, roadway traffic, and irrigation or other water utilities and utility crossings, in an adequate and safe manner to meet all existing service requirements and shall not interfere with any roadway or utility system without prior written permission of the district/operator thereof, and only for any time period permitted by said district/operator; and
  - 7. Provide for all water courses, ditches and pipelines and perform the construction Work so that no damage will result to either public or private interests, and be liable for all damage that may result from failure to so provide during the progress of the Work.
  
- b. **Existing Facilities** – Existing facilities are owned, operated, and maintained by the District; Southern California Gas Company, Southern California Edison, PG&E,

Frontier Communications, and AT&T may have utilities located contiguous to the project site.

1. The Contractor shall not obstruct or inhibit the ability of any of the aforementioned utility companies to access, operate, and maintain their facilities on or adjacent to the project site.
2. The Contractor shall be responsible for contacting and coordinating with the appropriate party prior to conducting Work within 10' of existing facilities.
3. The Contractor shall, at all times, protect in place the existing facilities. The contractor shall be solely liable in any instance of physical or liquidated damages that occur during construction.

### **D-39 Noise During Construction**

In accordance with Kern County Code of Ordinances, title 8, Chapter 8.36, noise during construction is allowed between the hours of 6 a.m. and 9 p.m. during the weekdays, and between the hours of 8 a.m. and 9 p.m. on the weekends. Should the contractor work for extended hours during the week, or work weekends or holidays, prior written notice should be provided to the District.

### **D-40 Permits, Licenses, Approvals, and Legal Obligations**

1. Contractor shall be responsible for obtaining any and all permits, licenses, and approvals required for performing its obligations under this Project.
2. Without limiting the foregoing, Contractor shall keep informed of and take all measures necessary to ensure compliance with California Labor Code requirements, including but not limited to Section 1720 et seq. of the California Labor Code regarding public works, limitations on use of volunteer labor (California Labor Code Section 1720.4), labor compliance programs (California Labor Code Section 1771.5), and payment of prevailing wages for work done under this project.

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



**SECTION E**  
**TECHNICAL SPECIFICATIONS & ADDITIONAL TERMS**  
**FOR REVERSE CIRCULATION ROTARY WELL CONSTRUCTION**

**E-1 Scope of Work**

Furnish all materials, labor, equipment, transportation and services required to construct a minimum 29.5" rotary drilled gravel envelope 18" diameter mill slot casing wells, using reverse circulation method. This shall include a 50' deep, 36" conductor. Target production is 2,500 gpm.

**1. Work Summary**

The general Work required for construction, development and testing at each well site shall include, but may not be limited to, the following:

- a) Move on and off the well site.
- b) Setup and maintain temporary electrical service and sanitary facilities.
- c) Provide mud tanks or pit for settlement of solids from drilling and development water prior to removal to discharge area for additional settlement before conveying clean water to the point of discharge.
- d) Provide temporary pipeline and appurtenances required to convey well development and testing water to the point of discharge.
- e) Install permanent conductor casing and sanitary seal.
- f) Drill and sample pilot borehole.
- g) Conduct E-log in the pilot borehole.
- h) Ream the pilot borehole to the specified final diameters and depths.
- i) Conduct caliper log in the reamed borehole.
- j) Install blank and perforated well casing, tubing, gravel pack, annular seals, and annular grout seal in accordance with these Detailed Technical Specifications, and the final well design specified by the District Representative and approved by the District.
- k) Complete initial well development by airlift swabbing (mechanical development). Install a test pump at a capacity and intake depth specified by the District Representative.

- l) Complete well development by pumping and surging.
- m) Conduct well production tests (step-drawdown and constant rate discharge tests).
- n) Conduct a color video survey of the completed well if requested by District.
- o) Conduct a well alignment test by gyroscopic methods.
- p) Complete final site cleanup and restoration to the satisfaction of the District Representative.
- q) Provide all records required by the specifications and requested by the District.

**a. Contractor Site Supervision and Communication**

1. The Contractor shall provide a qualified and experienced foreman and drilling superintendent, one of whom shall be constantly in attendance throughout drilling, construction, development, and testing of the well. In addition to directing all well drilling, construction, development and testing, the foreman shall be capable of coordinating the work with all personnel, subcontractors, the District Representative and the District so that the overall project is successfully executed and completed without undue conflicts or delays. No changes in key Contractor personnel will be allowed without approval of the District Representative. Approval may be granted provided the qualifications and experience of the replacement worker are equivalent or better than the initial worker.
2. At all times the Contractor shall have at the work site the means for communicating (i.e. cellular telephones) between all workers at the site, their office and the District Representative. Two-way radios are not an acceptable form of communication. The telephone numbers for all workers shall be provided to the District Representative at the pre-construction meeting so that the Contractor's personnel are available at all times for status updates. Telephones with a vibrating mode shall be made available to crewmembers so that the incoming calls may be detected above the noise at the work site.

**b. Contractor Responsibilities**

1. The Contractor is solely responsible for making all necessary provisions for mobilizing onto and demobilizing from the well sites with their equipment, tools, supplies, materials, and personnel.
2. The Contractor shall satisfy himself of all local conditions affecting his work. The Contractor is responsible to have inspected the well sites prior to submitting a bid and commencing construction activities.
3. The Contractor shall remove from the work area all drill cuttings and drilling fluids and dispose of them as directed by the District Representative. All costs associated with collecting, removing, and disposing of drill cuttings shall be incorporated into the Contractor's bid and paid for solely by the Contractor.

4. The Contractor shall convey all water discharged during development and testing in a closed pipe to a discharge point as directed by the District Representative.
5. The Contractor shall submit all required reports and data to the District Representative and other appropriate agencies.
6. The Contractor shall keep the District Representative continuously informed of the on-site work schedule so that drilling, construction and testing activities can be monitored as required by the District Representative.
7. The Contractor shall restrict ingress, egress, and Work activities at each well site to the established roads and well pads as designated by the District. The Contractor is responsible for any damage to properties adjacent to the well sites caused by Contractor activities associated with the Work described herein and shall restore these properties to their original condition.

**c. Well Construction Standards**

The new well shall be constructed in compliance with (1) the latest edition or supplement(s) of: *State of California Water Well Standards, Bulletin No. 74-81* dated December 1981 and *Bulletin No. 74-90* dated June 1991, (2) local modifications to these Standards, (3) Sections 13800 through 13806 of the California Water Code, and (4) American Water Works Association (AWWA) Standard for Water Wells (AWWA A100-97 or later).

**d. Contractor Equipment**

**1. General**

- a) The Contractor shall provide all equipment, tools, supplies, materials, power and personnel required to complete the work.
- b) All equipment supplied by the Contractor shall be in good working condition and available for inspection by the District Representative prior to the beginning of the Work. If, in the opinion of the District Representative, any of the equipment is not suitable for well drilling, construction, development and testing operations, either because of mechanical problems, excessive noise, deviation from the specifications, or the build-up of substances which could cause well contamination (i.e., from oil, diesel, hydraulic leaks or exhaust residue, etc.), the Contractor shall adjust, replace or decontaminate it with suitable equipment at the Contractor's expense.

**2. Drilling Equipment**

- a) Each new well shall be drilled using a reverse circulation rotary drilling method in which the uncased wall of the drill borehole is held in place at all times with a circulating fluid. The Contractor shall provide a complete drilling unit with all tools,

accessories, power, lighting, water, other equipment and experienced personnel necessary to conduct efficient drilling operations at the site.

- b) The drilling equipment shall be in good condition and of sufficient mast capacity to drill each borehole required by these specifications to a depth specified on the Plans. All drilling equipment including mast and draw-works, air compressors, drilling fluid pumps, drill pipe, etc., must be of requisite size, sufficient capacity, and in suitable condition to drill and set casing to the anticipated depths in each well. The mast and all running gear (hoists, cables, etc.) shall have sufficient and demonstrated capacity to lift two (2) times the buoyant weight of either the drill string or the blank and perforated well casing assembly (whichever is greater). The drill rig utilized must have the ability to fully lift and land the anticipated casing loads without the use of cranes, float plugs, or other similar methods. Minimum rig lift capacity shall be 180,000 lb pull.
  
- c) The Contractor shall submit, upon request, detailed information documenting the capacity and type of required equipment including, but not limited to:
  - 1) Derrick/mast height and load capacity
  - 2) Total available rig horsepower
  - 3) Drill pipe type and rating
  - 4) Deviation survey mechanical drift indicator
  - 5) All line and hook load capacities
  - 6) Air compressor rating (minimum capacity rating of 750 cfm @ 200psi)
  - 7) Specifications for single and dual swab tools
  - 8) Specifications for discharge water storage tanks
  - 9) Specifications and calibration information for the inline flow meter
  - 10) Types and manufacturers of all drilling fluids and other chemicals to be used
  - 11) Mud pump capacity
  - 12) Variable speed test pumping equipment
  - 13) Size and type of bowl and column assembly

All drill pipes and tremie pipes must utilize flush threaded or upset tool joints, or equal, as approved by the District Representative.

Drilling equipment shall be disinfected on site prior to use. The methods, chemicals and dosages employed shall be approved by the District Representative.

### **3. Mud Tanks**

Excavated mud pits will only be allowed at locations with adequate area to accommodate them; otherwise, portable tanks are required, which allow the drill cuttings to settle. The tanks will have a minimum of three chambers and have sufficient capacity to allow for proper settling of drill cuttings as approved by the District Representative. The tanks will be cleaned periodically to ensure that the drilling fluid remains clean prior to its re-entry into the borehole. At no time shall the height of the material settled in the tanks exceed two feet. Drilling fluid re-circulated to the borehole shall not contain in excess of one percent sand. Materials cleaned from the tanks shall be properly disposed of at the Contractor's expense. Drill cuttings may be disposed of within general proximity of site at the approval and direction of the District Representative.

### **4. Containment of Heavy Fluid**

As required by the District, the contractor shall berm up an area adjacent to each well site (sites to be approved by the District Representative) sufficient to contain the Heavy Fluids to prevent discharge outside of the designated area. Upon completion of each well and when containment area has dried sufficiently for all fines to be removed from the containment area, said fine materials from well construction operations shall be removed and disposed of as directed by the District Representative.

### **5. Discharge Piping**

The Contractor shall provide temporary discharge piping of adequate capacity and length to convey water pumped during well development and testing to the point of water discharge specified by the District Representative.

#### **e. Discharge of Water Generated During Well Drilling, Construction, Development, and Testing**

1. Water generated during the Work that is not contained within the Containment Area shall be discharged to a point as directed by the District Representative.
2. Any water related to the Work that is not contained in the Mud Tanks or storm water runoff during the Work shall be contained on each well site. As necessary, the Contractor will provide sand bags or other means for containing water onsite.
3. At the completion of the Work, residual solids within the area of discharge shall be transported to the site designated by the District Representative for proper disposal at the Contractor's expense.

#### **f. Work Hours**

1. Work at each site shall be continuous from the start of the drilling of the pilot borehole to the placement of the casing, screen, filter pack material and annular seals (except for the time spent waiting for the final well design), unless otherwise approved by the District Representative. Continuous drilling shall minimize both the risk of borehole collapse and the time that the formations are in contact with the drilling fluid.
2. No work shall be performed on major holidays, unless otherwise agreed to by the District.

**g. Dust Control**

The Contractor shall take all measures necessary to control the generation of dust during all Work. Dust control measures could include (but not be limited to) periodic application of water to the unpaved areas on and immediately adjacent to each work site, providing a gravel cover for access points to each work site, modification of operations to prevent dust generation, or other. In the event that the District Representative identifies a dust control problem, the Contractor shall take immediate steps to mitigate the dust.

**h. Required Permits**

1. The Contractor shall be required to obtain the necessary number of well construction permits from the Kern County Public Health Services Department, Environmental Health Division, prior to beginning the Work. A copy of the well permits shall be kept on the work sites at all times during the Work. The Contractor shall be responsible for all costs necessary to comply with the well permits.
2. Upon completion of each well, the Contractor shall be responsible to file well completion reports with the California Department of Water Resources (CDWR). A copy of the well completion reports shall be provided to the District upon completion.

**i. Records**

1. The Contractor shall keep a daily log and progress record at each site readily available for inspection during drilling of the pilot borehole, construction and testing of each new well.
2. In general, the Contractor shall keep records providing the following information for each well site:
  - a) Driller's description of formation materials penetrated at 10-foot intervals and at each major change of formation (from both the conductor casing borehole and pilot borehole).
  - b) Log of drill bit types, diameters and changes.
  - c) Log of drilling penetration rate.

- d) Drilling fluid properties at 4-hour intervals including mud weight, Marsh funnel viscosity, sand content, solids content, water additions and mud additives used.
- e) Borehole deviation measurements at 100-ft intervals.
- f) Results of downhole geophysical surveys completed in the pilot borehole. (where applicable)
- g) Results of downhole alignment survey of the pilot borehole. (where applicable)
- h) Well construction activities including final schedule and diagram of installed blank and perforated well casing, gravel feed tube, air vent tube, sounding tube(s) and annular fill materials.
- i) Installation of test pump and appurtenances including summary descriptions of pump type, diameter, intake depth, make, model, horse power, rated capacity, flow control valves, flow meter and discharge piping.
- j) Records of well development by mechanical methods (swabbing and airlift pumping) and pumping methods using a test pump.
- k) Records of pumping test results using a test pump. Records shall be maintained at the time intervals requested showing static water level, production rate, pumping water level, drawdown, gravel pack settlement and additions, water clarity, depth interval developed and other information requested by the District Representative.
- l) Sand production test results from development and test pumping.
- m) Results of well alignment and deviation surveys. (where applicable)
- n) Results of the downhole color video survey of the completed well. (where applicable)
- o) Schedule of well destruction, if applicable.

## **E-2 Well Pad Construction**

Well Pads are to be constructed by others and are not included in this contract.

## **E-3 Well Drilling and Construction**

General requirements, materials and execution for construction of the District wells are presented in the following sections. The well locations and construction drawings are shown on the Plans.

### **a. Mobilization, Demobilization, and Temporary Facilities**

## 1. **General**

- a) Mobilization shall include: (1) transportation of personnel, equipment, and operating supplies to and from the well sites, (2) establishment of temporary field office, power and portable sanitary facilities, (3) obtaining an adequate source of fresh water (4) setup of temporary water storage facilities, discharge line and appurtenances, and (5) other preparatory work required to complete construction of a new well or wells including equipment and related facilities. Other preparatory work may include (but not necessarily limited to) traffic control, noise control measures, signs, ramps, dust control, and earthworks.
- b) Demobilization shall include removal of all equipment, materials, and temporary facilities installed during mobilization, well drilling, completion, and development phases of the Work. Demobilization will also include restoration of the site to its original condition to the satisfaction of the District Representative and the District.

- c) Submittals

Well Driller's Permits from the Kern County Public Health Services Department, Environmental Health Division.

- d) Measurement and Payment

Payment for mobilization and demobilization shall be at the lump sum price bid.

## 2. **Materials**

Requirements for Contractor equipment are specified in Section E-1d.

## 3. **Execution**

- a) At no time shall equipment, tanks and/or facilities, for performing the work, be allowed to encroach on the adjacent field areas unless authorized by District Representative.
- b) The Contractor shall secure and maintain temporary water service for the work.
- c) The Contractor shall provide portable sanitary facilities for use by all personnel connected with the well construction project. These facilities shall remain in place during all phases of the work.
- d) The Contractor shall keep the well sites free from accumulations of waste materials, rubbish, and other debris resulting from the work. At completion of the work, the Contractor shall remove all waste materials, rubbish, and debris from and about the well sites as well as all tools, construction equipment, fuel tanks, machinery, temporary structures, and surplus materials. The Contractor shall leave each site clean and



ready for use by the District. The Contractor shall restore all temporary work areas at each site to their original condition.

- e) The Contractor shall prevent damage to the well sites and adjacent properties associated with pumping water during drilling, development, or testing or due to interruption or diversion of storm or wastewater during execution of the work.
- f) Dirt and sediment shall be kept out of water disposal/drain lines at all times. The Contractor shall properly dispose of all drilling, waste, and nuisance water.
- g) The Contractor shall perform necessary work to contain/control leaking equipment. Generation of hazardous materials by the Contractor during the course of work caused by his negligence (e.g., oil, and/or hydraulic spills or leaks) shall be cleaned, removed, and properly disposed of at the sole cost of the Contractor. Any materials suspected by the District Representative of being contaminated due to ambient conditions will be analyzed by the Contractor for potential contaminants, at his/her expense. Any sample that contains levels of contaminants in excess of Federal and State disposal standards shall be properly disposed of by the Contractor. The Contractor, not the District, shall be listed as the generator of the hazardous waste on all manifests. The Contractor shall provide the District with a copy of the initial manifest and the final manifest, which indicates waste receipt by the disposal site.
- h) Well development and testing water for each well site shall be conveyed to the discharge location as designated by the District Representative.
- i) Drill cuttings shall be disposed of in accordance with all local and state laws prior to demobilization to the satisfaction of the District Representative. An approved disposal site on District property may be designated by the District Representative.
- j) The Contractor shall provide all equipment and personnel to restore each site as required by the individual site conditions. Demobilization and site restoration will include, but not be limited to grading restoration, etc. All restoration and resurfacing work will be deemed acceptable upon approval of the District Representative. Payment for site clean-up will not be made until the site restoration has been approved by the District Representative. If each site is not accepted, the Contractor will make the necessary adjustments to make the site(s) acceptable.
- k) The Contractor shall repair or replace all existing improvements that are damaged or removed as a result of his operations. Such improvements include curbs, gutters, sidewalks, pavements, utility installations, structures, berms, levees, etc. Repair and replacements will be at least equal to existing improvements and will match them in finish and dimension. All cuts in asphalt and concrete shall be repaired by saw cutting around the damaged area and replacing it with the appropriate patching material. Repair or replacement of asphalt, concrete, or other existing features damaged due to Contractor's negligence (i.e., diesel or hydraulic leaks or spills) shall be the sole responsibility of the Contractor. Damaged asphalt will be properly repaired as required by governing city or county agency.

## **b. Conductor Borehole, Casing and Sanitary Seal**

### **1. General**

- a) For each site, this item includes drilling a conductor borehole, installation of conductor casing and installation of a cement grout sanitary seal in the annulus between the borehole and conductor casing to 50 ft.
- b) Each sanitary seal installed shall meet the requirements of California Department of Water Resources Bulletins 74-81 and 74-90, and all requirements of the Kern County Public Health Services Department, Environmental Health Division.
- c) Submittals and Notifications
  - 1) Certified test reports to show compliance with both the physical and chemical properties of the steel.
  - 2) Cement weight or batch tickets.
  - 3) The Contractor shall notify the District Representative and the Kern County Public Health Services Department, Environmental Health Division (PHSD) at least 48 hours in advance of drilling and setting the conductor casing and cement grout sanitary seal around the conductor casing. Unless pre-approved, installation shall not proceed without the District Representative, and PHSD inspectors being present at each site.
- d) Measurement and Payment
  - 1) Payment for this work item will be based on the unit price bid for the vertical feet of continuous grout seal placed adjacent to the conductor casing measured from the ground surface, excluding any lower portions of the annulus backfilled with non-grout materials. Payment shall include all materials, labor, tools, and equipment required to drill the conductor borehole, collect formation samples, protect the borehole from collapse, supply and install conductor casing, and supply and install the cement grout sanitary seal at each site.
  - 2) Any conductor casing and/or sanitary seal installed to a depth less than the minimum specified in the bid schedule will not be accepted for payment and shall be replaced by the Contractor at the Contractor's expense.

### **2. Materials**

#### **a) Conductor Casing**

- 1) Each conductor casing shall be constructed of mild steel in accordance with ASTM Specification A53, Grade B. The casing shall have an outside diameter as

indicated on the plans with a minimum 3/8-inch wall thickness.

- 2) A minimum of 50 feet of conductor casing shall be installed in each conductor borehole. Each conductor casing shall not be fabricated in less than 20-foot lengths. It shall be spiral welded or contain one longitudinal seam parallel to the casing axis and not more than one circumferential seam in 10 feet, or as otherwise approved by the District Representative. All spiral or longitudinal and circumferential seams shall be butt-welded with shielded arc electrodes to assure full fusion with the parent metal and complete penetration.
- 3) The ends of each joint shall be machine-beveled.
- 4) All joints in each conductor casing shall be securely welded in continuous passes and shall be watertight. All welding shall be done with shielded arc electrodes and shall be performed in accordance with American Welding Society Standards.
- 5) All casing material shall be new.

b) Sand-Cement Grout

- 1) The grout used to fill the annulus between the conductor borehole and conductor casing shall consist of a 10.3-sack sand-cement mixture. The cement shall consist of standard brand Portland Type II cement (ASTM C150). Unless specified otherwise, there shall be not more than two parts by weight of sand to one part by weight of cement. The water cement ratio shall be about 7 gallons per sack of cement (94 pounds). All on-site water additions shall be metered.
- 2) The seal installed shall meet the requirements of *California Department of Water Resources Bulletins 74-81 and 74-90*, and all requirements of the Kern County Public Health Services Department, Environmental Health Division.
- 3) Water used for cement and grout mixtures shall be clean and of potable quality.
- 4) Materials used as additives for Portland cement mixtures in the field shall meet the requirements and latest revisions thereof, ASTM-C494, Standard Specifications for Chemical Admixtures for Concrete.
- 5) Special quick-setting cement, retardants to setting, and other additives, including hydrated lime to make the mix fluid (up to 10 percent of the volume of cement), and bentonite (up to 5 percent) to make the mix more fluid and to reduce shrinkage, may be used.

3. **Execution**

a) Conductor Casing Borehole

- 1) Each borehole shall be drilled at a location confirmed in the field with the District Representative. Drilling shall not commence without the District Representative on-site unless previously agreed by the District Representative.
- 2) The Contractor shall drill each conductor borehole to a diameter as indicated on the Plans using a bucket auger or other drilling method approved by the District Representative.
- 3) During drilling, the Contractor shall collect and preserve representative samples of formation materials at 10-foot intervals and each major change in formation, in accordance with sampling procedures specified in Section E-3c. - Pilot Borehole.
- 4) Upon completion of drilling, the Contractor shall condition each borehole and take whatever steps are necessary to maintain and prevent collapse of any borehole prior to and during placement of the conductor casing and cement grout sanitary seal.

b) Installation of Conductor Casing

- 1) When the drilling operation has been completed to the satisfaction of the District Representative at each site, the conductor casing shall be installed. The MINIMUM length of the conductor casing installed below the ground surface shall be 50 ft. The final length shall be approved by the District Representative. Each conductor casing shall extend to the ground surface, be held in plumb position and shall be placed on the bottom of the borehole.
- 2) All field joints shall be properly butt-welded to assure complete penetration during welding with a minimum of two passes. All joints shall be watertight. Special care shall be exercised to ensure that the casing is straight. All field welding shall be performed in accordance with American Welding Society Standards by a certified welder.
- 3) Centering guides shall be securely welded to each conductor casing with a minimum of two sets of guides installed (one near the bottom and one near the top). Each set shall consist of three guides equally spaced circumferentially. The guides shall be fabricated and placed as shown on the Plans.

c) Installation of the Grout Seal

- 1) After each conductor casing is installed and aligned, the annular space between the conductor casing and the conductor casing borehole shall be filled with cement grout from the bottom of the borehole to the ground surface. **The MINIMUM depth of each grout seal shall be 50 ft.** Prior to grouting, the Contractor shall fill the inside of the conductor casing with water to balance the hydrostatic pressure between the inside and outside of the casing during placement

of the grout.

- 2) The grout shall be pumped into each annular space through a tremie pipe installed to the bottom of the borehole. The bottom of the tremie pipe shall remain submerged in the grout throughout the placement of the grout. The placement procedure shall be approved by the District Representative prior to installation of the grout seal. The Contractor shall take all precautions to prevent the collapse of any conductor casing and borehole during placement of the grout.
- 3) Each grout seal shall be placed in one continuous pour.
- 4) The Contractor shall not operate any equipment on-site during the 24-hour period immediately after the grout has been placed at any site.
- 5) In the event any borehole or part of any borehole collapses prior to completion of grouting, the Contractor shall take whatever steps are necessary to reopen the borehole, reset the casing and place the grout as required. Any such remedial action shall be conducted at the Contractor's expense.

### **c. Pilot Borehole**

#### **1. General**

a) This item includes drilling a 17.5-inch diameter pilot borehole by the approved drilling method to a total depth as shown on the Plans or as directed by the District Representative.

b) Related Work Specified Elsewhere

Drilling Fluid – Section E-3d

c) Submittals

- 1) Daily activity report.
- 2) Samples of formation materials.
- 3) Lithologic log.
- 4) Drilling rate log.

d) Measurement and Payment

Payment for pilot borehole drilling at each site will be based on measurement of vertical feet of pilot borehole drilled from below the bottom of the conductor casing to the bottom of the borehole (as verified by the downhole geophysical logs). Payment shall include all materials, labor, tools, and equipment required to drill each pilot borehole, collect formation samples, maintain circulation, and protect the pilot borehole from collapse.

## 2. Materials

### a) Drilling Fluid

- 1) The Contractor shall maintain controlled drilling fluid characteristics during the entire drilling operation as specified in Section E-3d Drilling Fluids.

## 3. Execution

### a) Pilot Borehole Drilling

- 1) Each nominal 17.5-inch diameter pilot borehole shall be drilled from the bottom of the conductor casing to a total depth as shown on the Plans or as directed by the District Representative. The Contractor shall take all measures necessary to protect the borehole from caving or raveling.
- 2) Deviation surveys shall be conducted at 100-ft intervals as the drilling proceeds at each site using either Eastman, Totco, or Martin-Decker mechanical drift indicators, or as otherwise approved. Three-degree (3°) targets shall be used. A maximum deviation of 1/2° from vertical per 100 ft. will be allowed at any site. If this amount is exceeded at any site, the Contractor will be required to correct the deviation at that time. **If the deviation is not corrected, the borehole will be abandoned and will be re-drilled at the Contractor's expense.**
- 2a) Contractor should have all necessary means of performing deviation surveys prior to commencing borehole drilling.
- 3) The Contractor shall maintain a record showing any variation in the addition and amount of approved clays or chemical products or water required during drilling at each site. The depths at which such changes are required shall be shown in the daily reports.

### b) Formation Sampling

- 1) The Contractor shall collect, preserve and label one (1) set of representative samples of drill cuttings at 10-foot intervals and at each major change in formation as drilling proceeds to the full depth of each pilot borehole. The method of collection shall be discussed with and approved by the District Representative at the Pre-construction Conference. **Samples collected off a shaker screen are not acceptable unless specifically approved by the District Representative.** Samples shall be placed in one-gallon size, heavy (freezer) weight, zip-lock type, plastic bags and shall be labeled to indicate the well name, date, time, and depth interval. Collected samples shall be stored in a manner to prevent breakage or loss.

2) Upon completion of each pilot borehole, downhole geophysical logs shall be run.

d. **Drilling Fluid**

1. **General**

a) Description

This section describes requirements for fluids used during drilling. The Contractor may use fresh water or a combination of fresh water, bentonite clay, and polymer (both drilling mud additives) during well construction. If the Contractor elects to use a drilling mud additive at any time during well construction, the fluid properties shall conform to standards set forth in this Specification. This section describes requirements for optional fluids used during drilling. **The use of drilling mud additives shall result in no additional cost to the District, and shall not be classified for payment.**

b) Submittals

Concurrently with contract submittals, the Contractor shall provide a description of the drilling method and fluids to be used. The drilling fluid program described shall include: (1) information regarding the types of fluid to be used, (2) intended fluid weights, viscosities, sand and solids contents, (3) name of the supplier of the drilling fluid additives, and (4) name and qualifications of the mud engineer the Contractor would intend to use, if required.

c) Measurement and Payment

**Payment for maintaining, testing, and disposal of drilling fluids shall be included in the unit prices bid for drilling (see Bidding Sheets).** The cost associated with the use of bentonite, drilling gel, or any other additive to fresh water not specified herein (at the Contractor's option) shall be included in the appropriate line items for the base bid and District-Option bid (i.e. Drilling, Reaming, Swabbing and Airlifting, Chemical Development, etc.).

2. **Materials**

a) Fresh Water

1) All water used during construction shall meet standards for irrigation water as determined by the Engineer.

b) Drilling Fluid

- 1) Only fresh water shall be used in the drilling fluid whether employed alone or in combination with drilling additives. All water used during drilling shall meet California State Department of Public Health standards for irrigation water. Only high grade approved commercial clays or commercial chemical products in common usage in Kern County for water well drilling shall be used in the make-up of any drilling fluid. **Organic drilling additives shall not be used unless previously approved by the District Representative.** Drilling with a mixture of water and unprocessed mud, clay or other material will not be permitted.
- 2) The drilling fluid shall possess such characteristics as are required to (a) adequately maintain the walls of the borehole to prevent caving, (b) permit recovery of representative samples of drill cuttings, (c) prevent the swelling of clay zones, (d) prevent loss of shear strength or other borehole stability problems, and (e) allow the fluid and mud cake to be readily removed from the borehole and borehole wall during placement of the gravel pack and development of the well. All drilling fluid test equipment and procedures shall be equal to those used in the oil well drilling industry.
- 3) The drilling fluids shall have the following properties in accordance with API Code RP 13B (or recent modification), "Recommended Standard Procedure for Testing Drilling Fluids." In the event the Contractor cannot attain these properties, drilling shall be halted and the mud replaced.
- 4) Weight - a maximum of 9.5 pounds per gallon during pilot borehole drilling, a maximum of 9.5 pounds per gallon during pilot borehole reaming, and a maximum of 8.5 pounds per gallon during well construction and gravel packing.
- 5) Marsh Funnel Viscosity - a maximum of 38 seconds during pilot borehole drilling and pilot borehole reaming, and a maximum of 29 seconds during well completion and gravel packing.
- 6) Filter Cake - a maximum of 2/32 inches.
- 7) Sand Content of Mud Entering the Pump - a maximum of one (1) percent by volume during all stages of drilling.
- 8) pH – seven (7) to nine (9) units.

### 3. Execution

- a) The Contractor shall provide adequate baffled above ground tanks with solids control equipment, for the collection and removal of drill cuttings/solids from the fluid before re-circulation to each borehole. The mud tank or mud pit capacity shall be sufficient to effectively separate drill cuttings from the fluid and keep sand and solids contents below the specified amounts. Sediment shall be removed periodically from the tanks in order to maintain tank volume and keep drilling fluid properties within specifications.



- b) The Contractor shall maintain controlled drilling fluid characteristics during the entire operation of well construction. If proper control of the drilling fluid is not maintained to the satisfaction of the District Representative, the Contractor shall be required to retain at the Contractor's own expense a qualified drilling fluid engineer during all operations to supervise and maintain drilling fluid properties.
- c) The Contractor shall maintain the minimum viscosity of the drilling fluid that will raise cuttings and adequately condition the wall of the borehole. The Contractor shall remove all mud cake on the wall of the borehole during the development of the well or placing of the gravel.
- d) The sand content of the drilling fluid shall be measured and recorded a minimum of every four (4) hours during drilling or circulation. The sand content of the fluid returning to the borehole shall be maintained at one (1) percent (by volume), or less, at all times.
- e) In the event that drilling additives are used, the Contractor shall maintain careful mud control. Procedures must be adopted to ensure removal of these additives during the development process. The Contractor shall maintain a continuous log of mud weight, funnel viscosity, wall cake thickness, pH and sand content. Fluid checks shall be taken at a minimum of every four (4) hours during drilling, whenever conditions appear to have changed, or if difficulties arise.
- f) The Contractor shall provide a District Representative-approved device or system for collection of whole representative samples of formation materials drilled. **Samples collected off a shaker screen are not acceptable unless previously approved by the District Representative.**
- g) All drill cuttings and drilling mud shall be removed from each work site and disposed of in accordance with applicable ordinances and regulations of governmental agencies having jurisdiction. No additional compensation will be paid to the Contractor for fluid disposal or treatment prior to disposal.
- h) After each borehole has been reamed, and before the caliper survey is run, the drilling fluid shall be appropriately thinned in preparation for installation of the well casing and gravel pack.

## e. Downhole Geophysical Surveys

### 1. General

#### a) Description

This item includes completion of downhole geophysical logs to be conducted in each pilot borehole by a logging firm retained by the Contractor and approved by the

District Representative. Geophysical surveys to be completed in each pilot borehole shall include:

- 1) Gyroscopic borehole alignment survey
  - 2) Resistivity (including curves for spontaneous potential, point resistance, 16-inch normal resistivity, 64-inch normal resistivity, and focused guard resistivity or lateralog)
- b) Submittals
- 1) Within ten (10) days of Notice of Award, the Contractor shall submit to the District Representative the name and qualifications of the firm proposed for completing geophysical surveys.
  - 2) The Contractor shall provide four (4) field copies of the surveys to the District Representative for interpretation upon completion. The Contractor shall also provide the District Representative with an electronic copy in pdf format.
- c) Measurement and Payment
- 1) Payment for geophysical surveys will be based on the lump sum price bid (see Bidding Sheets). Payment shall include full compensation for fluid circulation, removal of drill string, operation of the drilling rig and other equipment, furnishing and operating geophysical surveying equipment as specified, field and final copies of the surveys, digital copies of the surveys, and providing whatever assistance may be required to complete the surveys.
  - 2) There will be no additional payment for rig time and idle time while waiting for the surveying firm to arrive or while the surveys are being conducted.
  - 3) Upon receipt of copies of geophysical surveys, the District Representative may require an evaluation period of up to 72 hours, excluding weekends and holidays, to interpret the data, prepare a final well design, and obtain county approval for the well seal, as applicable. No standby time will be paid during the evaluation period. The evaluation period begins after receipt of geophysical logs and Contractor's lithologic log of drill cuttings for each site. Standby time will be paid for each hour after the specified evaluation period for which the Contractor waits to receive instructions.

## **2. Materials**

Geophysical logging equipment shall have the capability of producing representative borehole resistivity logs (16-inch and 64-inch normal) and spontaneous potential.

## **3. Execution**

- a) Upon completion of each pilot borehole, downhole geophysical surveys shall be conducted. Before conducting geophysical surveys, the Contractor shall cease drilling and circulate fluid for not less than one (1) hour.
- b) The geophysical surveys shall be conducted in the presence of the District Representative. The surveys shall become the property of the District Representative at the time the surveys are completed.
- c) The logging speed for all surveys shall be 40 feet per minute, unless otherwise approved by the District Representative.
- d) If a survey probe fails to descend to the completed depth of any borehole, the Contractor shall at the Contractor's own expense, re-condition that borehole to permit the probe to descend to the maximum depth drilled or other depth approved by the District Representative. No additional payment will be made for time required to clean or condition the borehole for logging.
- e) The Contractor shall provide whatever assistance may be necessary to complete the geophysical surveys.
- f) The Contractor shall ensure the stability of each pilot borehole during the analysis period following completion of the geophysical surveys.
- g) Within the 72-hr evaluation period, the District Representative will submit a schedule for the final well design. Schedules submitted will be based upon an evaluation of formation samples, results of sieve analyses and the downhole geophysical surveys.
- h) If available information indicates well completion is not warranted at a particular site, the District reserves the right to terminate further work at that site under the contract. In this event, the borehole will be destroyed in accordance with Section E-7b of these Technical Specifications.

**f. Final Reamed Borehole**

**If the Contractor elects to use a drilling mud additive at any time during well construction, refer to section E-3d.**

**1. General**

**a) Description**

This item includes enlarging (reaming) the pilot borehole to the final borehole diameter and depth specified by the District Representative for each final well design. Each pilot borehole will be enlarged from a minimum of 17.5-inch diameter to the diameter shown on the Plans from 50 ft. below ground surface to the total depth specified by the District Representative. For bidding purposes, the total ream

depth will be as shown on the Plans and indicated on the bid sheets. Enlargement of borehole shall not commence until casing, tubing, and gravel materials are on site and approved by Engineer.

b) Related Work Specified Elsewhere

Drilling Fluid – Section E-3d

Contractor Equipment – Section E-1d.

c) Submittals

Daily activity reports.

d) Measurement and Payment

Payment for reaming operations at each site shall be for the number of linear feet of pilot borehole reamed to the specified diameter(s) (see Bidding Sheets). Measurement for payment for borehole reaming shall be from the bottom of each conductor casing to the bottom of the interval reamed as verified by the caliper survey and approved by the District Representative.

2. **Materials**

a) Drilling Fluid

The Contractor shall maintain controlled drilling fluid characteristics during the entire reaming operation at each site as specified in Section E-3d.

3. **Execution**

a) Upon receipt of a written final well design from the District Representative and only after all well materials are present on site and approved by the District Representative, the Contractor shall ream each pilot borehole to the depths and maximum diameters specified.

b) A record shall be kept showing any variation in the addition and amount of drilling fluid or water required during the drilling operation. The depths at which such changes are required shall be shown in the daily reports.

c) Upon completion of the reaming operations, a caliper survey shall be run to verify the final diameters and depths reamed.

g. **Well Casing and Accessory Tubing**

## 1. General

### a) Description

- 1) This item includes the supply and installation of blank and perforated well casing, end cap, cover plate, gravel feed tube, sounding tube (if installed), and air vent tube required by the final well design at each site. For bidding purposes, tentative schedules of completion (quantities) for the Wells are indicated on the Bid Sheets.
- 2) A final schedule of well casing and tubing will be prepared by the District Representative for each site and submitted to the Contractor upon completion of analyses of the lithologic log, sieve analyses of drill cuttings, and downhole geophysical surveys.
- 3) Materials and material quantities specified in this section are summarized in the Bidding Sheets. The actual quantities installed will be specified in the final well design submitted by the District Representative after evaluation of the lithologic log, sieve analyses of drill cuttings, and downhole geophysical surveys from each successive well site.

### b) Submittals

The Contractor shall submit certified test reports and other documentation necessary to demonstrate compliance with (1) the physical and chemical properties of the steel used in the manufacture of blank and perforated well casing, and all accessory tubing delivered on-site, and (2) diameter, wall thickness and slot dimensions (as applicable) of blank and perforated well casing, and accessory tubing specified in the final well design for each site.

### c) Measurement and Payment

- 1) Payment for installation of blank well casing at each site will be based on measurement of the vertical feet of well casing installed, complete and in place, exclusive of perforated well casing (see Bidding Sheets).
- 2) Payment for installation of perforated well casing at each site will be based on measurement of the vertical feet of perforated well casing installed, complete and in place, exclusive of the blank well casing (see Bidding Sheets).
- 3) Payment for the permanent gravel feed tube at each site will be based on the vertical feet of tubing installed from the ground surface, complete and in place (see Bidding Sheets).
- 4) Payment for the blank and perforated well casing, air vent tube and permanent gravel feed tube at each site shall include supply and installation of welding

collars, centralizers, cover plate, end cap, tubing caps and all equipment, materials and labor required for successful installation at the specified depths.

## 2. Materials

### a) Blank Well Casing

- 1) All blank well casing shall have the same I.D., thickness, physical and chemical properties as the perforated well casing at each site.
- 2) All casing shall be fabricated in lengths of 10, 20 or 40 feet. Random lengths of casing are not permitted.
- 3) The ends of all casing joints shall be machined perpendicular to the casing axis to ensure the straightness of each assembled section. Joints shall be furnished with collars for welding. Collars shall be of the same thickness and have the same physical and chemical properties as the corresponding casing section. The collars shall be rolled to fit the outside diameter of the casing and factory welded to one end. Three equally spaced 5/16-inch diameter alignment holes shall be provided in each collar to ensure proper matching of the ends upon assembly.
- 4) All welding shall be done with shielded arc electrodes compatible with the casing material and shall be performed by certified welders in accordance with American Welding Society Standards.
- 5) All casing materials shall be new.

### b) Perforated Well Casing

- 1) The perforated well casing shall have the same I.D., thickness, physical and chemical properties as the blank well casing at each site.
2. a) “Mill Slot” - all perforated well casing shall consist of 18-inch 5/16-inch wall casing with vertical saw-cut, 1/8" x 2 1/2", (1 row per diameter inch) perforations.
2. b) “Shutter/Louvered Screen” - all perforated well casing shall consist of 18-inch 5/16-inch well casing, Standard Flo Shutter/Louvered Screen with 10 holes/circle, 60 holes per foot. Slot length of 2 5/8" and slot size of 1/8". Please note that Standard Flo casing should have a minimum of 10 holes/circle, evenly spaced around the circumference of the casing. “Shutter/Louvered Screen” Perforated Well Casing to be included in Bid Detail Schedule for District review & consideration. Please note the standard casing for this project and bid should reflect Mill Slot Casing.
- 3) All perforated well casing shall be provided with welded collars attached.

- 4) The ends of all casing joints shall be machined perpendicular to the casing axis to ensure the straightness of each assembled section. Joints shall be furnished with collars for welding. Collars shall be of the same thickness and have the same physical and chemical properties as the corresponding perforated well casing section. The collars shall be rolled to fit the outside diameter of the perforated well casing and factory welded to one end. Three equally spaced 5/16-inch diameter alignment boreholes shall be provided in each collar to ensure proper matching of the ends upon assembly.
  - 5) All perforated well casing shall be factory assembled in 10-foot, 20-foot or 40-foot lengths as specified by the District Representative.
  - 6) The Contractor shall ensure the inside diameter of all perforated well casing is the same as the inside diameter of the blank well casing.
  - 7) All welding shall be done with shielded arc electrodes compatible with the casing material and shall be performed by certified welders in accordance with American Welding Society Standards.
  - 8) All perforated well casing materials shall be new.
- c) Casing Centralizers and Bottom End Cap
- 1) Casing centralizers and bottom end cap shall be provided as shown on the Plans. All centralizers and bottom end cap shall be of the same physical and chemical properties as the well casing.
- d) Gravel Feed Tube
- 1) One (1) 3-inch I.D. Schedule 40 gravel feed tube shall be provided at each well as shown on the Plans. The gravel feed tube shall be fabricated of mild steel in accordance with ASTM Standard A53 Grade B.
  - 2) The final depth of the gravel feed tube at each site will be specified in the final well design provided by the District Representative. For bidding purposes, the depth of the gravel feed tube is 435 ft.
- e) Casing Vent Tube
- 1) One (1) 3-inch I.D. Schedule 40 casing vent tube shall be provided at each well as shown on the Plans. The casing vent tube shall be fabricated of mild steel in accordance with ASTM Standard A53 Grade B.
- f) Welding Electrodes

The following electrode shall be used for welding all grades of casing specified in the Bid Sheets and the Specifications herein:

E-7018 ( E-7024 may be used on casing with collars)  
E-6011 may be used only for the root pass on the casing and for the centralizers and gravel fill tube.

The following electrode sizes shall apply: Wall

Thickness	Electrode Size
Over 1/4-inch	3/16- to 1/4-inch

### 3. Execution

#### a) General

- 1) Installation of well casing shall commence upon completion of a District Representative-approved caliper survey of the reamed borehole and after all well construction materials delivered on site have been examined and approved by the District Representative for compliance with the final well design at each site.
- 2) The final arrangement of the accessory tubing (sounding tube, gravel feed tube and air vent tube) and temporary tremie pipe around each well casing shall be approved by the District Representative prior to installation of well casing.

#### b) Joints

**All field joints shall be properly lap or butt-welded during installation with a minimum of two continuous passes per circumference.** All field welding shall be performed in accordance with American Welding Society Standards by a certified welder.

#### c) Centralizers

Three centralizing guides shall be welded to each well casing string 120 degrees apart at intervals of not more than 80 feet to centralize and hold the casing in the proper position until the gravel is in place. The first set of guides shall be placed 5 feet from the bottom of the casing. Guides shall be fabricated and placed as shown in the Plans. Only like metals shall be welded on the casing.

#### d) Gravel Feed Tube

A permanent gravel feed tube shall be installed in each reamed borehole prior to installation of the well casing. The bottom of the tube shall be placed below the planned top of the gravel pack as specified in the final well design. The top of the gravel feed tube shall extend above the ground surface as shown on the Plans.



After well construction, Contractor shall demonstrate, to the satisfaction of the Engineer, that the gravel tube is free of blockage and takes water freely prior to well development with the development pump. During well development, the gravel tube must be kept free of obstructions and while pumping water must flow freely down the gravel tube and not back up and overflow. If at any point the gravel tube is found to be obstructed, the Contractor shall clear all blockage prior to continuing well development, to the Engineer's satisfaction and at the Contractor's expense.

e) Construction Tremie Pipe

A temporary flush-threaded tremie pipe shall be installed in the reamed borehole prior to installation of well casing. The tremie pipe shall be used to install gravel pack, annular seal and sanitary seal materials in the annulus between the well casing and borehole. The tremie pipe shall be completely removed after placement of the upper annular seal.

f) Air Vent Tube

An air vent tube shall be welded to a cut port in each well casing as shown on the Plans.

g) Blank and Perforated Well Casing

- 1) Prior to casing installation at each site, the Contractor shall inspect for and remove any tags, labels or other deleterious material attached to the interior or exterior of the blank and perforated well casing.
- 2) Each assembled well casing string shall be suspended in tension from the surface by means of an appropriate hanger or clamp. Steel bars (clamp anchors) pre-welded to the casing to hold the casing clamp in place during casing installation, shall be removed prior to lowering a new casing section into the borehole. The use of float plugs to land and set any casing will not be permitted. All casing strings shall be plumb and centered in the borehole. The bottom of the casing shall not rest on the bottom of the borehole.
- 3) If for any reason the entire casing cannot be landed in the correct position at any site, or at a depth acceptable to the District Representative, the Contractor shall rectify the situation by either (1) removing the casing, re-reaming the borehole and re-installing the casing, or (2) constructing another well in accordance with the

specifications, plans and final well design at a location immediately adjacent to the original well. All such remedial work shall be at no additional cost to the District. The borehole of the abandoned well shall be properly destroyed at the Contractor's expense in accordance with Section E-7b.

- 4) If any of the casings should collapse or be damaged prior to well completion, they shall be withdrawn and replaced at the Contractor's expense.
- 5) All work required to be repeated, and all additional materials, labor and equipment required, shall be furnished at the expense of the Contractor and no claim for additional compensation shall be made or be allowed therefore, except as specifically provided herein.
- 6) Alignment holes in all collars at casing joints shall be welded completely closed to prevent the entry of water from outside the casing.
- 7) The top of the well casing string shall extend at least 24 inches above the ground surface.
- 8) The bottom of each permanent gravel feed tube shall be placed approximately 5 feet below the top of the gravel pack at each site. The top of each gravel feed tube shall extend at least 12 inches above ground surface.
- 9) Following casing installation, the tops of all well casings shall be covered with a welded steel plate at all times when personnel are not on the site.

#### **h. Gravel Pack**

##### **1. General**

###### **a) Description**

This item covers the supply and installation of gravel pack materials in the annulus adjacent to the blank and perforated well casing at each site.

###### **b) Submittals**

- 1) Initial description and recent certified sieve analysis of gravel pack materials to be used for well construction. The sieve analysis shall be submitted to the District Representative for approval at least three (3) days prior to the anticipated date of gravel shipment from the supplier.
- 2) Copies of weigh tickets for gravel delivered on-site.
- 3) Measurement of the total volume of gravel installed in the well

annulus. c) Measurement and Payment

Payment for the gravel pack will be based on measurement of the vertical feet of gravel installed in the annulus from the bottom of the borehole up and includes payment for any consolidation of the gravel pack which occurs during well development (see Bidding Sheets).

**2. Materials**

a) Gravel Pack

1) Gravel shall be composed of sound, durable, well rounded particles, not containing deleterious material. Gravel shall be well graded within the following limits with minor variations as approved by the District which may be required due to the gradation of material in strata encountered.

**PERCENTAGES PASSING SCREENS NOS.**

$\frac{3}{8}$ "	$\frac{3}{4}$	$\frac{4}{10}$	$\frac{8}{20}$	$\frac{16}{30}$	$\frac{30}{60}$
100%	90-100%	65-80%	10-20%	1-0.5%	0%

2) At the request of the District Representative, the Contractor shall complete up to three (3) sieve analyses of gravel pack materials delivered on-site. Gravel re-delivered or re-mixed to replace any rejected material shall be sampled and tested at the District Representative’s request and Contractor’s expense.

3) The gravel shall be delivered on-site and shall be protected and kept free of all foreign matter.

**3. Execution**

- a) Prior to placement of the gravel pack, the drilling fluid shall be thinned with clean water (freshwater down the gravel feed tube).
- b) Muddy borehole fluid displaced during gravel packing at each site shall be conveyed to the on-site settling area for clarification prior to discharge.
- c) Tanks used for fluid clarification shall be setup prior to commencing well construction.
- d) Contractor shall provide gravel tremie pipe in lengths sufficient to ensure the drop during placement of the gravel is acceptable to the District Representative. Five and ten feet lengths of pipe shall be available as needed.
- e) The gravel pack at each site shall be installed in the annular space between the reamed borehole and well casing through a construction tremie pipe from the bottom

of the borehole. A circulating system with one or more positive displacement pumps utilizing fresh water shall be used for the purpose of introducing the gravel into the annulus. Under no circumstances will the gravel pack be allowed to “free-fall” down into the annular space.

- f) A device approved by the District Representative shall be used to sound the level of the gravel during its placement.
- g) During placement, the gravel shall be disinfected with liquid sodium hypochlorite at the rate of one gallon per cubic yard.
- h) After the gravel pack has been placed to the depth specified by the District Representative, all rock, sand, gravel, and foreign materials shall be removed from the casing by bailing.
- i) The Contractor shall record the volume of gravel installed. The volume shall not be less than the calculated volume of the annular space between the casing and the borehole wall based on the caliper survey at each site. A significant discrepancy may be grounds for rejection of the well by the District Representative.
- j) After installation of the gravel pack, an upper annular grout seal shall be installed as specified in the final well design and shown on the Plans.

**i. Annular Grout Seal**

**1. General**

a) Description

- 1) This item includes installation at each site of a grout seal in the upper portion of the annulus between the blank well casing and borehole wall or blank well casing and conductor casing from the top of the gravel pack to the ground surface.
- 2) For bidding purposes, a tentative seal depth of 300 feet below ground surface is to be used. The final depth of the seal will be specified in the final well design submitted by the District Representative after evaluation of the lithologic log and sieve analyses of drill cuttings, and geophysical surveys. Minimum seal depth shall be in conformance with Section 14.08.260 of the Kern County Water Well Ordinance.

b) Submittals

- 1) Daily activity logs.
- 2) Cement weight tickets.
- 3) Record of depth of placement and volume of grout placed in the annulus.

c) Measurement and Payment

Payment for the sanitary seal at each site will be based on measurement of the vertical feet of seal installed (see Bidding Sheets). No standby time shall accrue or be paid for a 24-hour idle period following seal placement required to allow the grout seal to set.

2. **Materials**

- a) The material used for the grout seal shall consist of standard brand Portland cement conforming to ASTM C150, Type II.
- b) The grout shall be a 10.3-sack sand-cement mix. There shall be not more than two parts by weight of sand to one part by weight of cement. The water-cement ratio shall be about 7 gallons per sack of cement (94 pounds). All on-site water additions shall be metered. Up to 5 percent bentonite gel may be added.
- c) Clean fine-grained sand shall be used to separate the gravel pack from the annular seal.

3. **Execution**

- a) The grout seal at each site shall be installed in the annulus **in a sufficient number of pours to preclude collapse of the well casing**. Prior to installing the seal, a 5-foot thick layer of clean washed and graded, fine grained sand, 5' bentonite seal (or other approved sand or seal approved or specified by the District Representative) shall be pumped into place at the top of the gravel pack using a tremie pipe
- b) The grout for the seal shall be pumped into the annulus between the blank well casing and borehole wall using a tremie pipe. The pipe shall extend from the ground surface to the bottom of the zone to be grouted. Grout shall be placed from bottom to top in a continuous operation unless determined by the Contractor that a staged placement is required to prevent casing collapse. The grout pipe shall be raised slowly as grouting proceeds. **The Contractor shall provide grout (tremie) pipe sections in incremental lengths sufficient to ensure the discharge end of the pipe remains continuously submerged in the grout at all depths during placement.**
- c) Installation of the tremie pipe required for grouting and placement of the seal shall not commence until the District Representative is on-site.
- d) The Contractor shall be responsible for determining the collapse potential of each well casing during grouting and shall take whatever precautions are necessary to prevent casing collapse. In the event a casing collapses prior to completion of seal installation, the Contractor shall take whatever steps are necessary to reopen that casing and place the seal as required by the final well design. Any such remedial action shall be conducted at the Contractor's expense.

- e) The Contractor shall keep a record of the actual depth and volume of grout installed at each site. The volume shall not be less than the calculated volume of the annular space between the conductor casing or reamed borehole and the pump house casing.
- f) The Contractor shall supply to the District Representative adequate evidence showing that the cement seal has been completed to the surface.
- g) The Contractor shall not operate any heavy equipment on-site during a 24-hour period immediately following placement of the seal.

#### **E-4 Well Development**

##### **a. Initial Development by Airlifting and Swabbing**

###### **1. General**

###### **a) Description**

This item includes development of each new well by simultaneous airlifting and swabbing using a double swab tool. The Contractor shall swab and airlift the entire perforated section of the well starting from the top of the uppermost perforated section and working down. Multiple passes up and down the perforated section may be necessary to acceptably remove sediment from the well and clear the discharge.

###### **b) Submittals**

The Contractor shall maintain a **daily** record of development activities at each site. The record shall include: (1) depth interval and time developed, (2) measurements of settlement of the gravel pack, (3) volume of gravel added through the gravel feed tube, (4) volume of sediment bailed from the bottom of the well, (5) static water level, (6) approximate well discharge during air-lifting, and total hours developed daily.

###### **c) Measurement and Payment**

- 1) Payment for well development will be made at the unit price bid per hour (see Bidding Sheets)
- 2) The time required for well development will be recorded by the hour with 15-minute intervals as the smallest unit of recorded time. The time recorded for payment shall commence when the equipment installed in the well is placed in operation and shall end when development is stopped at the direction of the District Representative. No additional payment will be made running equipment into or out of the well. The time required to run equipment into and out of the well shall be anticipated by the Contractor and included in the hourly rates bid for well development (see Bidding Sheets). Billable swab and airlift time is only accrued when the compressor is actively airlifting material out of the well. No

additional payment will be made for running equipment into and out of the well, this includes single joint changes.

- 3) No payment will be made for delays resulting from: (a) equipment stuck in the borehole, (b) equipment breakdown, (c) arranging major drilling, pumping or testing apparatus, or (d) failure to conduct the operations in a diligent and workmanlike manner by which the desired results could ordinarily be expected.
- 4) No additional payment shall be made for gravel added to the annulus as the gravel pack settles.

## 2. Equipment and Materials

### a) Swab Tool

A double swab tool capable of simultaneous airlifting and swabbing shall be employed for the initial development of the well. The swab tool shall be constructed with two rubber disks that are spaced 10 feet apart and mounted on a pipe that is perforated between the disks. The bottom of the perforated pipe shall be capped. The rubber swabs shall have an outer diameter of not less than 1/8-inch smaller than the inner diameter of the well casing.

### b) Air Compressor

The Contractor shall provide an air compressor, airline and educator pipe that are capable of airlifting a **minimum** of 300 gpm during initial redevelopment by airlifting and swabbing. (Minimum air compressor size shall be **750 cfm @ 200 psi**)

## 3. Execution

- a) Contractor shall not commence development until solids settlement, discharge and sound control (where applicable) facilities are installed at each site to the satisfaction of the District Representative.
- b) Mechanical development by simultaneous airlifting and swabbing shall commence within 24 hours after completion of the idle period following placement of the upper annular grout seal at each site. During all swab and airlifting, the Contractor shall airlift a **minimum** of 300 gpm. Development shall be completed in two stages as described below.
- c) Stage One - Initial Development with Single Swab
  - 1) Initial mechanical development shall be completed with an open-ended single

swab attached to the end of the drill pipe.

- 2) Swabbing shall be completed to remove sediment and heavy fluids from the well casing.
- 3) The tool shall be moved up and down three to four times in a section of perforated well casing while airlifting. After working the tool to the bottom of the well, airlifting shall continue until all sediment is removed.
- 4) **If drilling mud has been added during well construction, refer to Chemical Development (E-4. b.)**

d) Stage Two - Development with a Double Swab

- 1) Development with a double swab at each site shall commence immediately following completion of development with a single swab.
- 2) Simultaneous airlifting and swabbing using the double-swab tool shall commence in the upper-most perforated interval and proceed to the lower-most perforated interval. Each perforated interval shall be swabbed and airlifted in 10-ft increments until the discharge water becomes substantially clear as determined by the District Representative.
- 3) Development in each 10-ft increment of perforated well casing shall include raising and lowering the double swab tool three to four times or more in a shorter section of the perforated well casing as needed to produce sediment-filled discharge water while airlifting continues. Air-lift swabbing shall be followed by a period of airlifting without swabbing until the discharge water clears. This process shall be repeated until water produced from the 10-ft section of perforated well casing becomes substantially clear and no additional settlement of the gravel pack is observed. Upon completion, the dual-swab tool shall be moved to the next 10-ft section of perforated well casing and the process repeated until all perforated intervals have been fully developed.

Swabbing and air lifting shall not exceed the bid amount without written authorization from the Engineer. Tool handling time, to include all trips and time spent adding or removing joints during swab and airlift shall not be classified as mechanical development (swab and airlift) hours, nor shall they be classified for payment.

- 4) Upon completion of mechanical development at each site, the well shall be accurately sounded in the presence of the District Representative to determine the level of accumulated sediment in the well. The sediment level shall be recorded on the Driller's daily activity log. All accumulated sediment shall be bailed from the well prior to installing the temporary test pump.



b. **Chemical Development (Mud Dispersant) – Required if drilling mud is added during the drilling process.**

1. **General**

If the Contractor elects to use a drilling mud additive at any time during well construction, **additional** chemical development over and above and prior to the chemical development described in Section E-4a. when only clean water is used as a drilling fluid, will be required. This additional chemical development shall be conducted during the mechanical well development phase (swab/airlift) as directed by the Engineer.

- a. Introduction of an approved Clay-dispersing Agent during mechanical well development (swab/airlift) development of the well.
- b. Introduction of the Clay-dispersing Agent shall commence when directed by the Engineer. The approved Clay-dispersing Agent shall be introduced and swabbed into the well without airlifting, at a rate recommended by the manufacturer per foot of well screen. Introduction of the calculated amount Clay-dispersing Agent will take place through the double swab tool, followed by flushing the drill pipe with sufficient water to move the Clay-dispersing Agent into the well screen. The pipe shall then be stroked 3-4 times to agitate the zone. Upon completion, the Clay-dispersing Agent shall be allowed to stand in the well for a period of not less than 12 hours and not more than 24 hours, or other period recommended by the manufacturer and approved by the District Representative.
- c. After the idle period, mechanical well development using a double-swab tool shall continue in accordance with Section E-4a. Clay-dispersing Agent idle time does not count toward mechanical development hours.

a) Description

This item includes introduction of chemicals to augment initial (mechanical) development of the well (Section E-3a) A clay dispersing agent shall be introduced and swabbed into the well and gravel pack in successive stages.

b) Submittals

- 1) Daily activity log.
- 2) Descriptions and quantities of chemicals added to the well during development.

c) Measurement and Payment

- 1) Payment for chemicals introduced into each well, if conducted, shall be included in the unit price for chemical development.
- 2) Payment for time required to swab the chemicals into the well shall be included in the unit price bid for chemical well development. No standby time shall accrue or be paid for idle time required to allow the chemicals to remain in well for the periods specified.

## 2. Materials

### a) Dispersant Polymer

Dispersant polymer (NW-220®, AQUA-CLEAR PFD®, or equivalent) shall be added to the well, as appropriate during mechanical development and at the direction of the District Representative, at a dose of approximately one (1.5) gallon per 20 feet of well perforations. See Bidding Sheets for estimated total quantity.

## 3. Execution

Chemical development shall be conducted in two stages and shall be integrated with mechanical well development.

### a) Introduction of Clay-dispersing Agent (NW-220) or approved equal

- 1) As prescribed in section E-4.b. or at the option of the District Representative, introduction of NW-220, or approved equal, shall commence immediately upon completion of stage 1 initial development with a single swab. NW-220 shall be introduced and swabbed without airlifting, as called out in section E-4.b.
- 2) After the idle period, mechanical well development using a double-swab tool shall continue in accordance with Section H-3a.

## c. Mobilization and Demobilization of Test Pump and Appurtenances

### 1. General

#### a) Description

This item includes mobilization and demobilization of equipment, materials and personnel for pumping development and well production tests at each site. For bidding purposes, the pump intake shall be installed to a depth of 600 ft. below ground surface. A final depth will be specified in the final well design submitted by the District Representative after evaluation of the lithologic log, sieve analyses of drill cuttings, and geophysical logs, as applicable. **Well development using the test pump shall commence within 10 days after completion of initial development by swabbing and airlifting.**

b) Submittals

- 1) Daily activity log.
- 2) Record of pump type, diameter, capacity range, intake depth, number of bowls.
- 3) Certification of the accuracy of the flow meter, completed within 6 months of delivering the meter to the site.

c) Measurement and Payment

No separate Payment shall be made for mobilization and demobilization. All costs therefore shall be included in the unit price stated in the Bidding Schedule for the Chemical Development of which it is a part.

**2. Materials**

a) Test Pump

- 1) Installation of equipment for development pumping and testing shall commence immediately upon completion of development by swabbing and airlifting at each site.
- 2) The Contractor shall furnish, install and upon completion of testing remove a deep well turbine pump powered by diesel or gasoline. The prime mover shall be a variable-speed type equipped with suitable throttling devices to control the well discharge. The prime mover shall meet all noise control requirements during development and test pumping.
- 3) The pump shall have a minimum pumping capacity of 4,000 gpm at 600' TDH and higher flow rates at heads less than 600'. (Unless specified otherwise by District Representative)
  - a) Contractor shall provide the District or its representative a Pump Data Sheet (pump curve) for review and approval prior to installation of test pump.
- 4) The pump shall not be equipped with a foot valve.
- 5) The pump intake shall be set at a depth specified by the District Representative prior to installation of the test pump.
- 6) The pumping unit and engine shall be capable of continuous operation without interruption for a period of at least 72 hours.

b) Discharge Piping and Appurtenances

The Contractor shall provide adequate discharge piping to convey well development

water from each well to the designated heavy fluids settlement area and from the temporary water storage tanks to the point of discharge. The discharge piping shall include at least one water sampling port for the purpose of collecting groundwater quality samples.

c) In-Line Flow Meter

The Contractor shall provide a flow control (butterfly) valve and dual-reading flow meter or other approved device to accurately control, maintain and measure the accurate rate of well discharge at each site. The flow meter shall provide instantaneous flow measurements in gallons per minute and shall be equipped with a totalizer that provides measurements in gallons x 100. Prior to mobilization, the Contractor shall provide certification of the accuracy of the flow meter, completed within 6 months of delivering the meter to the site.

d) Centrifugal Sand Separating Meter

The Contractor shall provide a meter for measuring the sand content of the discharge water at each site. Sand production shall be measured using a centrifugal sand separating meter (Rossum Centrifugal Sand Sampler, or equivalent) as described in the Journal of American Water Works Association, Volume 46, No. 2, February 1954.

e) Turbidity Meter

The Contractor shall provide a turbidity meter capable of measuring turbidity in the discharge in the range of 0 to 1,000 Nephelometric Turbidity Units (NTUs).

f) Water Level Sounder

The Contractor shall furnish an electrical depth gauge capable of indicating changes in the well water level to the nearest one-tenth foot. The Contractor shall provide whatever assistance may be required by the District Representative for monitoring well water levels at each site.

**3. Execution**

- a) Prior to installing the test pump, the bottom of each well shall, in the presence of the District Representative, be bailed or pumped clean of any sediment.
- b) The Contractor shall install a deep well turbine test pump to a depth specified by the District Representative in the final well design for each site.
- c) The Contractor shall furnish, install and connect all aboveground discharge piping, complete with valves, inline flow meter, and a water sampling port.
- d) Upon completion of testing and after removal of the test pump, the Contractor shall,

in the presence of the District Representative, remove any oil (e.g., pump lubricating oil) from the water surface at each site. An acceptable method of removal shall be to lower, via a cable, an oil absorbent “sock” or similar material designed to absorb spilled oil.

- e) After removal of the test pump and any lubricating oil from the well, the Contractor shall, in the presence of the District Representative, sound the depth of each well and record the depth to which sediment has accumulated as a result of test pumping. The well shall be then bailed or pumped clean of all sediment and debris.

**d. Final Development By Pumping**

**1. General**

a) Description

This item includes development of each new well by surge pumping using a test pump.

b) Submittals

Daily log of pumping development including static water level, totalizer readings, well discharges, pumping water levels, specific capacities, sand content, description of water discharged and hours pumped at each site.

c) Measurement and Payment

- 1) Payment for pumping development will be made at the unit price per hour bid (see detail bid form for additional items billable by Contractor).
- 2) The time required for well development will be recorded by the hour with 15-minute intervals as the smallest unit of recorded time. The time recorded for payment shall commence when the equipment installed in the well is placed in operation and shall end when pumping is stopped. Time required to run equipment into and out of the well shall be included in the unit price stated in the Bidding Schedule for the Development Pumping of which it is a part and no separate payment shall be made therefore.
- 3) No payment will be made for delays resulting from: (a) equipment stuck in the borehole, (b) equipment breakdown, (c) arranging major drilling, pumping or testing apparatus, or (d) failure to conduct the operations in a diligent and workmanlike manner by which the desired results could ordinarily be expected.
- 4) No additional payment shall be made for gravel added to the annulus as the gravel pack settles during development.

**2. Materials**

Requirements for the test pump, discharge line, and other equipment for pumping development at each site are described in Section E-4c Mobilization and Demobilization of Test Pump and Appurtenances.

### 3. Execution

- a) Well development using the test pump shall commence within 10 days after completion of initial development by swabbing and airlifting at each site. Once started, development pumping shall proceed on a schedule approved by the District Representative.
- b) Each new well shall be developed by intermittent pumping and surging at an initial rate approved by the District Representative and the District and continued until the water is clear. Surging shall allow water to flow back through the bowls with free backspin and through the casing perforations. The pump shall then be started and stopped several times and then pumped at the current rate until the water is clear. The procedure shall be repeated at District Representative approved discharge increments up to the maximum pump or well capacity, as specified by the District Representative.
- c) During initial pumping development, water clarification may be required in on-site water storage tanks to allow for settling of sediment prior to conveying the water to the specified point of discharge.

### 4. Chemical development shall be conducted by the contractor and shall be integrated with the surge development procedure.

- a) Contractor must submit and receive approval for brand and type of Clay-dispersing Agent intended to be used during surge development of the well.
- b) Introduction of the approved Clay-dispersing Agent shall commence when directed by the Engineer. The approved Clay-dispersing Agent (such as Mud Nox) shall be introduced and surged into the well without discharging, at a rate recommended by the manufacturer per foot of well screen for a period of not less than one (1) hour. Upon completion, the Clay-dispersing Agent shall be allowed to stand in the well for a period of not less than 12 hours and not more than 24 hours, or other period recommended by the manufacturer and approved by the Engineer.
- c) Measurement and Payment
  - 1) Payment for chemicals introduced into each well, if conducted, shall be included in the unit price for chemical development.
  - 2) Payment for time required to surge the chemicals into the well shall be included in the unit price bid for chemical well development. No standby time shall accrue or be paid for idle time required to allow the chemicals to remain in well for the periods specified.

## **5. Surge Development Procedure**

- a) Development records shall be maintained on at least a half-hour basis showing production rate, pumping level, drawdown, specific capacity, sand production, and all other pertinent information concerning well development at each site. A representative static water level shall be measured and recorded at least once a day.
- b) The rate of sand production at each site shall be measured using the centrifugal sand separating meter. The results of all sand production tests shall be expressed in parts per million at 5-minute intervals and shall be provided to the District Representative immediately. The final sand production test shall be conducted in the presence of the District Representative.
- c) Clean water shall be added continuously down the gravel feed tube during development.
- d) If during development operations the gravel pack settles, more gravel shall be added as needed and the quantity recorded and reported to the District Representative.
- e) Development shall continue at each discharge rate until the following conditions have been met:
  - 1) No further settlement of gravel pack.
  - 2) Well specific capacity (gpm/ft. drawdown) remains relatively constant over an approximate 4-hour period or as specified otherwise by the District Representative.
  - 3) Sand content at the end of development pumping is no greater than 10 ppm measured 15 minutes after beginning a surge cycle.
  - 4) The duration of development pumping shall not exceed the bid amount without prior District Representative authorization.
- f) Upon completion of development pumping, the Contractor shall (in the presence of the District Representative) measure the depth of each new well to determine the amount of sediment deposited in the bottom. If the sediment level extends into the perforated interval of any well, the Contractor shall pull the pump, clean the well of all accumulated sediment and foreign material, and reinstall the test pump prior to running the production tests.

### **E-5 Pumping Tests**

**a. Step Drawdown and Constant Rate Pumping Tests**

**1. General**

a) Description

This item includes a step-drawdown test and constant-rate discharge test, as applicable, in each new well.

The step-drawdown test shall include pumping the well at stepped rates of discharge for specified periods. The long-term pumping test shall include pumping the well at a fixed rate of discharge continuously as directed by the District Representative.

b) Submittals

Daily test pumping records.

c) Measurement and Payment

- 1) Payment for testing will be made at the unit price per hour bid (see Bidding Sheets).
- 2) The time required for test pumping will be recorded by the hour with one-half hour intervals as the smallest unit of recorded time. The time recorded for payment shall commence when the equipment installed in the well is placed in operation and shall end when a test is stopped at the direction of the District Representative.
- 3) No payment will be made for delays resulting from: (a) equipment stuck in the borehole, (b) equipment breakdown, (c) arranging major drilling, pumping or testing apparatus, or (d) failure to conduct the operations in a diligent and workmanlike manner by which the desired results could ordinarily be expected.
- 4) No payment will be made for tests aborted due to the malfunction of testing equipment or inability of the Contractor to maintain the well discharge, as specified by the District Representative, within the limits described herein.
- 5) No additional payment shall be made for gravel added to the annulus as the gravel pack settles.
- 6) The costs of labor and equipment associated with providing assistance during the recovery period following a pumping test shall be included in the unit prices bid for test pumping (see Bidding Sheets).
- 7) No additional payment shall be made for measuring water level in the well during the recovery period after completion of step drawdown testing and long term testing.



## 2. Equipment and Materials

Requirements for the test pump, discharge line, and other equipment for pumping tests are described in Section E-4c Mobilization and Demobilization of Test Pump and Appurtenances.

## 3. Execution

### a) General

- 1) Within 48 hours after the completion of well development with a test pump in each new well, the Contractor shall commence well pumping tests. Unless authorized otherwise by the District Representative, there shall be a period of at least 24 hours of non-pumping conditions prior to the start of the step-drawdown test to allow groundwater levels to stabilize at a static condition. The Contractor shall schedule all tests sufficiently in advance so that the District Representative can be on-site throughout the testing period.
- 2) The Contractor shall provide qualified personnel on a 24-hour basis during both the step-drawdown and constant rate tests to assure proper operation of the pumping and testing equipment and assist the District Representative when necessary.
- 3) When production tests are complete, the Contractor shall remove the pump and clean the well of all accumulated sediment, foreign material and lubricating oil. The Contractor shall demonstrate the well has been properly cleaned by measuring the depth of the well in the presence of the District Representative.

### b) Step-Drawdown Test

- 1) The well shall be tested at up to four (4) discharge rates (steps) with step durations of two (2) to three (3) hours pumping at each rate. The number of steps, pumping rate at each step, and duration of each step will be specified by the District Representative after review of pumping development results.
- 2) The rate of discharge shall be controlled by both a butterfly valve and engine throttle. The rate shall be controlled and maintained at the desired discharge for each step with an accuracy of at plus or minus five percent (+/- 5%).
- 3) Prior to starting the test, the Contractor shall record the static water level in the well. During the test, the Contractor shall record the time, pumping level, drawdown, discharge rate, specific capacity and rate of sand production.
- 4) The rate of sand production shall be measured by the Contractor at 30-minute intervals using a centrifugal sand separating meter such as Rossum Sand Tester or approved equal. The results shall be expressed in parts per million.

- 5) At the end of the Step Drawdown test, water level (recovery) measurements shall be taken at 5, 10, 15, 30, 60 minute and 24 hr. intervals, or other intervals requested by District Representative.

c) Long Term Continuous-Rate Discharge Test

- 1) A constant-rate discharge test shall be conducted for a period as specified by the District Representative in each well.
- 2) The continuous constant rate discharge test (aquifer test) shall commence not less than 12 hours and not more than 48 hours after completion of the step-drawdown test. The well static water level shall be allowed to recover after the step-drawdown test to a level acceptable to the District Representative, prior to starting the constant rate test.
- 3) The test shall include a period of continuous constant-rate pumping followed by a period of recovery after the pump is stopped. The groundwater level recovery duration shall be up to 48 hours, or as specified by the District Representative. The temporary test pump shall not be removed from the well until the specified recovery period has elapsed.
- 4) During pumping, the Contractor shall record the pumping rate, pumping water level, drawdown and specific capacity at 15-minute intervals. The well static water level shall be recorded prior to starting the test.
- 5) Throughout the test, the Contractor shall ensure the pumping rate remains within plus or minus 5 percent (+/- 5%) of the pumping rate specified by the District Representative. When necessary, adjustments in the pumping rate shall be made using the in-line butterfly valve rather than engine throttle.
- 6) District Representative may elect to collect its own measurements during testing using either manual or automated measurement equipment. The Contractor shall assist the District Representative, as requested, with equipment installation and measurements during both the pumping and recovery periods.
- 7) During pumping, final sand content testing shall be conducted by the Contractor. The sand content shall be determined by averaging the results of samples collected at the following times during the pumping test:
  - 10 minutes after start of the test
  - After  $\frac{1}{4}$  of the total planned test time has elapsed
  - After  $\frac{1}{2}$  of the time has elapsed
  - After  $\frac{3}{4}$  of the time has elapsed

□ Near the end of the pumping test

- 8) The District Representative may measure the pH, electrical conductivity (EC), temperature, oxidation reduction potential (ORP), and dissolved oxygen in the discharge during the constant-rate pumping test. Field measurements will be obtained at approximate 1-hr intervals. The Contractor shall provide a sampling port in the discharge line for collecting water quality samples. The Contractor shall also provide whatever assistance may be required by the District Representative for monitoring water quality parameters.
- 9) During the pumping test, the Contractor shall assist the District Representative in the collection of representative samples of discharge water for water quality testing, as requested by the District Representative. Water samples shall be delivered by the District Representative to the District's approved laboratory.
- 10) At the end of the Continuous Rate test, water level (recovery) measurements shall be taken at 5, 10, 15, 30, 60 minute and 24 hr. intervals, or other intervals requested by District Representative
- 11) During the recovery portion of the test after the pump is stopped, the temporary test pump shall remain in the well, undisturbed, for the full recovery period.

d) Aborted Tests

- 1) Whenever continuous pumping at a uniform rate has been specified, failure of pumping operations for a period greater than one percent of the elapsed pumping time shall require suspension of the test until the water level in the pumped well has recovered to its original level. Recovery shall be considered "complete" after the well has been allowed to rest for a period at least equal to the elapsed pumping time of the aborted test, except that if any three successive water level measurements spaced at least 20 minutes apart show no further rise in the water level in the pumped well, the test may be resumed immediately. The District Representative shall be the sole judge as to whether this latter condition exists. The Contractor will not be paid for any re-testing done if the specified time or recovery requirements of the District Representative for the aborted test are not first met. These tests are invalid and will not be construed as a test.
- 2) No payment will be made to the Contractor for pumping tests interrupted by the malfunction or failure of pumping equipment or failure to maintain the rate of pumping within the prescribed limits (as defined by the District Representative). If a test is interrupted, the well water level will be allowed to fully recover, after which the test will be restarted.

e) Discharge Water

Discharge water shall be conveyed from the pump to the discharge point designated by the District Representative. The Contractor shall ensure that no damage by

flooding or erosion is caused to the point of discharge.

f) Records

- 1) The Contractor shall keep accurate records of all pumping tests and furnish copies of all records to the District Representative upon completion of the tests. The records shall be available also to the District Representative for inspection at any time during a test. For each test, the records shall include physical data describing the construction features such as, but not limited to: well depth and diameter, complete screen description, length and setting, a description of the measuring point and its measured height above land surface and/or mean sea level, the methods used in measuring water levels and pumping rates.
- 2) The Contractor shall also keep records on the type of pumping equipment used including engines, drive components, bowls, lines, and shafts. The Contractor will keep records of operation of equipment during the test including engine rpm and horsepower, fuel use, and other essential information that will be useful in designing a pump system.
- 3) The Contractor will, upon completion of testing, deliver a copy of development and testing records to the District. At the completion of test pumping, all sand and debris shall be removed from the bottom of the well.
- 4) Upon completion of all work with development and test pumping, the well shall be capped by welding a ¼ inch steel plate over the top of the casing.

**E-6 Finish Work**

a. **Color Video Camera Survey**

**1. General**

a) Description

This item includes completion of a downhole color video camera survey over the full depth of each new well. The survey shall be conducted (1) after all sediment accumulating in the well from test pumping has been removed, (2) after fresh water has been introduced from the surface to clarify water standing in the well, and (3) before final disinfection of the well. Video survey results will serve as a final inspection document for each new well. The survey shall be conducted by a firm retained by the Contractor and approved by the District.

b) Submittals

- 1) Within ten (10) days of Notice of Award, the Contractor shall submit the name and qualifications of the firm retained to perform the camera survey.

2) Three (3) copies of the survey results shall be provided to the District Representative in DVD format immediately upon completion at the well site.

c) Measurement and Payment

1) Payment for the video survey shall be at the lump sum price bid (see Bidding Sheets).

2) There will be no additional payment for rig time or idle time while the survey is being run.

**2. Materials**

a) Camera

The camera used for the survey shall be equipped with vertical- and side-view cameras (dual-cam) and with centralizers. The equipment used to complete the video survey shall produce a tape with an automatic depth indication (to the nearest 0.1 feet).

b) Recordings

The Contractor shall provide the District Representative with recordings of the survey results as specified above.

**3. Execution**

a) The video survey shall be conducted before final disinfection of the well.

b) Prior to conducting the survey, the test pump shall be pulled, the well bailed clean of lubricating oil, sediment and debris, and allowed to remain idle for at least 24 hours.

c) The video equipment shall be disinfected prior to lowering into the well.

d) Prior to conducting the survey, the Contractor shall introduce clear water into the well for a sufficient period and at sufficient quantity to produce clear viewing conditions during the survey to the satisfaction of the District Representative. Should the survey fail to produce a clear picture of the internal casing conditions, additional clear water shall be introduced and additional surveys conducted until a clear video is obtained to the satisfaction of the District Representative. All such remedial work and re-surveys shall be conducted at the Contractor's expense.

e) The Contractor shall provide whatever assistance may be required to accomplish the camera survey and shall take whatever steps are necessary to ensure the well water clarity is adequate to produce acceptably clear video images of internal casing conditions.

- f) The video survey shall be conducted throughout the entire length of the well casing and screen. The video equipment shall include a real-time monitor, which records the camera depth readout superimposed on the video picture.
- g) The survey shall become the property of the District at the time the survey is completed.

**b. Gyroscopic Alignment/Deviation Tests**

**1. General**

a) Description

- 1) The Contractor shall conduct alignment/deviation tests through the entire length of each casing and screen using a gyroscopic tool to determine the plumbness and straightness of the well casing conforms to the limits from AWWA Standard Specifications 100-06.
- 2) Alignment tests shall be performed after the downhole color video survey (if done) has been completed and prior to final disinfection.

b) Submittals

- 1) Within ten (10) days of Notice of Award, the Contractor shall submit to the District Representative the name and qualifications of the firm proposed for completing the alignment/deviation tests.
- 2) Report of deviation and directional survey measurements and interpretation of well plumbness and alignment.

c) Measurement and Payment

Payment for the alignment tests shall be at the lump sum price bid (see Bidding Sheets).

**2. Materials**

a) Gyroscopic Tool

The deviation and direction survey shall be performed with a gyroscopic-type tool or a similar type tool as approved by the District Representative.

**3. Execution**

- a) Alignment/deviation testing shall be conducted in the presence of the District

Representative.

- b) The alignment/deviation test shall be conducted from the top of well casing to the full depth of the well.
- c) The well shall be constructed in such vertical alignment that a line drawn from the center of the well casing at ground surface to the center of the well casing at the bottom of the alignment test interval shall not deviate from the vertical more than 6 inches in 100 feet of length and shall be no closer to the inside wall of the casing than 5 inches.
- d) Testing shall be conducted using a gyroscopic tool as specified above.

## **E-7 Final Clean up and Grading**

Upon completion of all construction the Contractor shall remove all temporary structures, fences, equipment and all drilling mud from the site. All excavation or pits dug by the Contractor shall be backfilled with dirt. The premises shall be graded to original elevation and left in neat condition.

## **E-8 Other**

### **a. Standby Time**

#### **1. General**

##### **a) Description**

During the progress of well construction, it may be necessary for the District Representative to perform work that will require the drilling crew and equipment to stand idle. In such event, the District will request in writing the Contractor cease operations and will state the anticipated extent or duration of the idle period. The Contractor shall promptly cease operations.

##### **b) Submittals**

- 1) Daily log summarizing idle resources (description, basis of claim and hours).
- 2) Written claim for standby time.

##### **c) Measurement and Payment**

- 1) Payment for standby time shall be based upon the hourly rate bid and the number of hours approved by the District Representative.
- 2) As indicated in various sections of these detailed technical specifications, idle periods associated with specific work items are known to be required and shall be incorporated in the unit prices bid for these items. Idle time incurred during

these periods shall not be the basis for a claim of standby time.

d) Prescribed Idle Periods **NOT** Covered by Standby Time:

- 1) District Representative's review of downhole geophysical logs: up to 72 hours (excluding weekends and holidays).
- 2) Idle period following placement of upper annular grout seal: 24 hours.
- 3) Idle time between step drawdown test and constant rate test: minimum 12 hours.
- 4) Idle time to clarify well water prior to video survey: as needed.
- 5) Idle time in excess of the maximum period specified for a particular work item, shall accrue if specified Contractor obligations have been met and the District Representative exceeds the specified time period through no fault of the Contractor. Payment for this idle time shall be at the unit price bid for standby time.

2. **Material (NOT USED)**

3. **Execution (NOT USED)**

b. **Destruction Of New Well**

1. **General**

a) Description

This item includes destruction of the borehole or casing for any new well. Destruction may be initiated due to actions of the Contractor or at the request of the District Representative.

b) Submittals

- 1) Daily activity log.
- 2) Final schedule of destruction.

c) Measurement and Payment

- 1) Payment for destruction at the request of the District Representative shall be at the unit price per foot bid (see Bidding Sheets).
- 2) No payment will be made for destruction required due to actions of the



Contractor.

## 2. Materials

### a) Sealing Materials

- 1) Acceptable impervious sealing materials that may be employed in the destruction of the borehole or well include neat cement or sand-cement grout.
- 2) A neat cement mixture shall be composed of one 94-pound sack of Portland cement and 5 to 6 gallons of clean water. Bentonite may be used to a total of 5 percent of the volume of cement to make the mix more fluid and reduce shrinkage.
- 3) Sand-cement grout shall be composed of not more than 188 pounds of sand and one 94-pound sack of Portland cement (2 parts sand to 1 part cement by weight) to about 7 gallons of clean water. This is equivalent to a 10.3 sack mix. Bentonite, to make the mixture more fluid and reduce shrinkage, may be used to a total of 5 percent of the volume of cement.
- 4) Quick setting cement, retardants to setting, hydrated lime and additives to make the mix more fluid may be used up to a total of 10 percent of the volume of the cement. Bentonite, to make the mix more fluid and reduce shrinkage, may be used to a total of 5 percent of the volume of cement.

### b) Filler Material

Suitable filler materials include clay, silt, sand, gravel, crushed stone and those described in the previous section. Material containing organic matter shall not be used.

## 3. Execution

### a) Destruction Prior to Installation of Casing

- 1) Destruction Due to Actions of the Contractor. If destruction of the borehole is by reason of any actions of the Contractor, including but not limited to such causes as losing tools, damaging the well, misalignment, or any other cause attributed to careless or poor workmanship, the borehole shall be completely filled with bentonite, cement or other impervious earth materials in accordance with applicable State and County Standards. No payment will be made for drilling and filling the borehole so destroyed or for mobilization and demobilization of this procedure. The Contractor shall drill a new borehole as specified in the Plans within fifty (50) feet of the original location, or as specified by the District Representative.

### b) Destruction at Request of the District.

- 1) If destruction of the drilled borehole is specifically requested by the District in

writing, including but not limited to such causes as a total lack of potential aquifers, insufficient number of potential aquifers, or unacceptable quality, the borehole shall be filled completely with bentonite, cement, or other impervious materials in accordance with applicable State and County Standards. In this event, the Contractor will be paid for mobilization and demobilization at the site, as well as for the footage of drilling completed. The Contractor may then be requested to re-mobilize at a second site selected by the District. No payment for standby time will be made while awaiting a second site.

- 2) Destruction hereunder also shall include payment for destruction of any remaining or unused portion of the pilot borehole that is not being used for final well completion.
  - 3) Payment for destruction of the borehole, if required and specifically requested by the District as set forth above, shall be made on a unit price per foot and shall be considered full compensation for all time, materials, and equipment required to complete the destruction (see Bidding Sheets).
- c) Destruction During or After Installation of Casing
- 1) Necessity to destroy the cased borehole shall be deemed caused by the actions of the Contractor or the Contractor's negligence. In the event the borehole is destroyed after installation of casing or screen, the Contractor shall at their discretion, pull or leave the installed casing sections in place. In either case, the borehole shall be destroyed in accordance with State law by backfilling the casing and/or borehole with bentonite, cement or other impervious material.
  - 2) No payment shall be made for lost or damaged casings and/or their installation in a well destroyed by reason of any action of the Contractor. The Contractor shall be required to drill a new well as shown on the Plans within 50 feet of the original site.

**\*\* END of SECTION \*\***

## SECTION F

### VERTICAL TURBINE PUMPS

#### F-1 General Requirements

The Contractor shall provide all labor, materials and equipment and perform all operations required to furnish and install deep well vertical turbine pumps, complete with all other specified accessories, all in conformance with details specified herein and shown on the Drawings. It shall be the responsibility of the Contractor to insure that all pumps and other pumping unit components furnished under this Contract shall be operationally compatible with each other and compatible with other specified equipment supplied by others.

#### F-2 Scope

Furnish all materials, labor, equipment, transportation and services required to construct a well pump and discharge assembly - including motor, electrical panel and associated above and below ground wiring.

#### F-3 Quality Control

- a. **General** – All manufactured items furnished under these Specifications shall be of the sizes, shapes and utilize materials as specified herein. All materials shall be new, free from effects impairing strength, durability and appearance, and shall be of the best commercial quality for the purposes specified and made with structural properties to withstand all stresses and strains to which they are normally will be subjected. Items furnished, unless otherwise specified, shall be standard approved products of recognized manufacturers and fabricated in accordance with the best shop methods. All incidental items and accessories not specified herein, but which are required to fully carry out the specified intent of work, shall be furnished without additional cost. Welding shall be in accordance with the latest revision of the ASME Boiler and Pressure Vessel Code, Section VIII, Unfired Pressure Vessels. All welding shall be performed by certified welders qualified under the standard qualification procedures of the AWS.
- b. **Equipment as Listed with Bid Proposal** – All equipment furnished in conformance with the technical provisions of Sections A shall be identical in type and manufacture to that listed by the Contractor with his bid proposal. All equipment and accessories furnished under the categories of pumps and related accessories shall be provided solely by one source specializing in the furnishing of that applicable equipment category. Contractor shall submit specification sheets, drawings, brochures and/or any other information needed to provide District with sufficient information to verify that the equipment being provided and installed is of the appropriate type, size, quantity, quality and compatibility to meet the District's requirements. When requested by the District, the manufacturer(s) shall submit for review certified drawings showing the weights, principal dimensions, general construction and materials used for all equipment. The District reserves

the right to reject any material or fabricated unit at any time prior to final acceptance of Contract work if, in the opinion of the Engineer, the materials and workmanship of such work do not conform to any or all requirements of the Specifications.

- c. **Instruction Books** – The Contractor shall furnish three complete identical sets of instruction books for pumping units. These books shall contain all cuts and illustrations, with parts shown numbered for identification and instructions necessary for operating and maintaining the equipment. All information contained therein shall apply specifically to the equipment furnished and shall not include instructions not applicable. Instruction books shall contain complete laboratory test data and field test data. Delay in supplying revisions, which are necessary to make the instruction books conform to the completed installation, will be cause for delay in acceptance of the equipment.

#### F-4 General Requirements for Pumps and Motors

- a. **General** – Except as otherwise specified under these Specifications, materials, fabrication, inspection and testing of all pumps and motors (where applicable) shall be in conformance with AWWA E101, Part A and the Appendix to said Specifications, all as applicable to oil lubricated line shaft vertical turbine pumps with vertical, hollow shaft motor equipped with self-release coupling. Design and construction of all motors shall be in conformance with NEMA Standard MG-1. All pump equipment provided under this Contract shall be designed for outdoor pumping of good-quality, non-potable irrigation water with neutral pH (a range of 5 to 9), low dissolved solids content, low to moderate turbidity and temperatures between 40°F and 90°F. Pump terminology and nomenclature used in these Specifications will be as used and defined in the Hydraulic Institute Standards and in AWWA E101. b. **Design Requirements – Operating Conditions** – Each vertical pump furnished under these Specifications shall be required to operate continuously with no evidence of cavitation, excessive noise, vibration or damage to impellers, in conformance with the following listed requirements:

## 500 HP Pump Motor Requirements

(1)	Required operating range of pump total head	650 ft maximum 400 ft minimum 550 ft design
(2)	Required range of pump capacities (Minimum)	@ design = 2,600gpm 2,400gpm to 3,200 gpm
(3)	Required minimum allowable bowl assembly efficiency for all values of bowl assembly head range (340' to 550')	75 percent
(4)	Required minimum allowable bowl assembly efficiency at design head and flowrate	82 percent
(5)	Required minimum allowable overall efficiency for any operating condition within the pump total head range	65 percent
(6)	Requirement rated nameplate horsepower of pump motors	500 hp
(7)	Required rated nameplate voltage of pump motors	480 volts – 3 phase
(8)	Required discharge column pipe-inner diameter	12 inches
(9)	Diameter of well casing	18 inches
(10)	Required nominal motor/pump speed	1760 rpm
(11)	Approximate bowl setting	600 feet
(12)	Minimum diameter of pump shaft and pump line shaft	2-3/16 inches
(13)	Nominal diameter of pump line shaft enclosing the tube (3" (RH 10thd) x 1-15/16" (10thd) tube, shaft w/5' bearing centers)	3.5 inches
(14)	Diameter and Weight of Column Pipe (12" x .330 x 20' – 3/4 taper)	12 inches, 0.330 min. wall thickness, 12.75 O.D., 43.77 lb/ft.

In addition to those requirements set forth above, the following performance requirements shall be satisfied:

- Friction losses to be used are defined on the included pump bid analysis form.
- Peak efficiency is not required for pumping units when operating with pump total heads greater than 550 feet; however, in no case at any value within the required operating range of pump total head, shall brake horsepower requirement of the pump exceed the nameplate horsepower rating of the pump motor.

- Motor bearing loading shall be considered to include the total pump line shaft thrust for the design condition specified under F-7(c); provisions for reduced thrust resulting from hydraulic “thrust balancing” of impellers will not be allowed.
- Unless otherwise directed, design of each impeller and design of each impeller bowl shall be identical to insure interchangeability of parts for all pumps.

## F-5 Pump Design and Testing

- Pump Design** – Pump bowl assemblies shall be of the multi-stage type with totally enclosed impellers for counterclockwise rotation. Bowl assemblies shall be of the type normally provided by the pump manufacturer of use with oil-lubricated type pumps with enclosed line shafts. Pump bowls shall be of cast iron coated with vitreous enamel. Pump impellers shall be of cast bronze. The use of hydraulic balancing rings for hydraulic “thrust balancing” will not be allowed. Bowl bearings shall be Vesconite. The impeller pump shafts and pump top shafts shall be of stainless steel. Approved manufacturer shall be: Peerless, Floway, Layne & Bowler, IDP or Goulds.
- Pump Lubrication System** – Each pumping unit shall be equipped with an electrically operated lubricating system which shall supply lubricant to the line-shaft bearings. The auto-oiler shall be designed for outdoor operation and shall have a metal oil pot reservoir with a capacity of not less than one gallon, complete with tubing, fittings, and ASCO oil shutoff valve, Model 8262 or approved equivalent. A manual dripper shall also be provided for pre-lubrication of shaft prior to motor startup.
- Pump Discharge Heads** – In conformance with details shown on the drawings, for all pumping units, the Contractor shall furnish and install cast iron or fabricated steel discharge heads for surface discharge; cast iron if utilized shall be in conformance with ASTM A48, Class 30. Steel shall be in conformance with ASTM A283, Grade C. Pump and discharge assembly should accommodate a 500 HP, standard efficiency vertical, hollow shaft motor with self-release coupling. Each pump discharge head shall be provided with a right-angle flanged discharge elbow connected to branch piping and a flanged base. Approved manufacturer shall be: Peerless, Floway, Layne & Bowler or IDP.

Discharge heads are to be provided complete with the following items included:

1. 2’ long x 12” diameter suction nipple
  2. 12” discharge flange w/2’ long nipple, gasket bolts, 3” Waterman AV-150 air vent w/nipple.
  3. One gallon (minimum) oil pot w/auto oiler, complete with fittings.
- Laboratory Performance Tests for Pumps** – As directed by the District, bowl assemblies for all pumping units shall be successfully subjected to the performance

test and to the hydrostatic tests of discharge head and bowl assembly as specified under AWWA E101, Section A6. Any tests may be witnessed by the District at District's sole discretion. Test methods, testing equipment and requirements for recording of test readings and results shall be in conformance with the requirements of AWWA E101, Section A6. Each pump bowl assembly shall be operated at bowl assembly heads over the required range of operating head without signs of cavitation or malfunction. Each complete pump bowl assembly shall meet or exceed the performance requirements as indicated in section F-4.b to successfully pass the laboratory performance test. Pump performance curves shall be submitted to the District for review and approval.

- e. **Painting** – Unless otherwise shown or directed, all exposed metal surfaces of pumps and pump lubrication system components shall be finished and coated as recommended by the manufacturer, and as accepted by the District.

#### **F-6 Column, Tube and Shaft**

- a. Pump line shafting shall be of ground carbon steel in conformance with AISC-1045 with nominal ultimate tensile strength of 100,000 psi, minimum. Line shaft spacer bearings shall be of bronze at five (5) feet spacing. The distance between line shaft joints shall be 20 feet minimum. Discharge column piping shall be of nominal 12-inch diameter and shall weigh 43.77 pounds per linear foot (minimum) in conformance with AWWA E101, Table 2.
- b. Column, tube & shaft are to be provided complete with the following items included per well:
  - 1. 600' of 12" x .330 x 20' – ¾ taper column pipe
  - 2. 600' of 3" (RH 10thd) x 1-15/16" (10thd) tube, shaft w/collars, w/5' bearing centers.
  - 3. 11 – 12" x 3" spiders.
  - 4. 550' of 1-1/4" Schedule 40 PVC pipe with cap on bottom, bottom joint to be perforated.

#### **F-7 Motor Design and Testing**

- a. **General Motor Design** – Except as otherwise specified herein, design and construction of motors shall be in conformance with NEMA Standard MG-1. Motors shall be vertical hollow-shaft squirrel cage induction type, similar to NEMA Design B, Standard Efficiency, (Per NEMA MG-1 parts 30 and 31) suitable for three (3)-phase, 60-cycle power operation at full load speed of approximately 1,800 rpm, with the locked rotor torque approximately 100 percent and the breakdown torque approximately 200 percent of full load torque. Motors shall have nameplate rating of 500 horsepower with a service factor of 1.15. Rated voltage shall be 480 volts. Motors shall be capable of continuous operation at nameplate rated load without exceeding a motor winding temperature rise of 60°C by thermometer (70°C by resistance); this

requirement shall be verified by the witness test specified under F-5(e). Motors shall operate continuously at nameplate rated load with a minimum efficiency of 92.5 percent, not including hydraulic thrust losses. Motors shall have a minimum power factor of 85 percent. Motors shall be enclosed in an outdoor weather protected NEMA Type 1 enclosure with internal corrosion proofing and with corrosion resistant screens to prevent the entrance of rodents. In accordance with applicable provisions of NEMA MG-1, each motor shall be balanced after assembly to an overall vibration amplitude of one (1) mil, maximum, when measured at the machine bearing housing. Motors shall be equipped with a non-reversing ratchet. Motors shall be manufactured in the USA by U.S. Motors, General Electric or approved equal.

b. **Service Conditions**

1. **Unusual Environmental Conditions** – Exposure to ambient temperatures in the range of -10°C to 50°C and exposure to direct solar radiation.
2. **Usual Service Conditions** – All other environmental and operating conditions are normal as stipulated in NEMA standard MG-1-14.02.

c. **Bearing Design** – Design of motor thrust bearings shall be such as to continually handle the total pump line shaft thrust developed with a 3-year minimum and 15-year average life (provision of 144 percent of extra-thrust capability for the above design conditions); in addition, motor thrust bearings shall be capable of handling increased momentary thrust equivalent to the total pump line shaft thrust developed under a closed valve or shut-off condition.

d. **Insulation and Thermal Protection Systems** – Each motor shall be furnished with an approved, form-wound, waterproof insulation system utilizing NEMA Class B materials. The insulation system shall be equivalent to General Electric “Custom Polyseal,” Westinghouse “Thermalastic Epoxy,” U.S. Motors “Everseal,” Insulife 1000 system or approved equal.

e. **Required Factory Tests for Motors** – Upon request by the District, one of the motors to be furnished, as selected by the District, shall successfully be subjected to a complete factory test conducted in accordance with the requirements of NEMA MG-1 Part 12 & ANSI/IEEE 114, including the following individual tests:

1. No-load readings of current and speed.
2. Locked-rotor current.
3. High-potential test.
4. Heat run at full load with temperature rise as measured by either the resistance or thermometer method.



5. Efficiency test at ½ load, ¾ load and full load. All tests will be witnessed by the Engineer. Three (3) certified copies of the results of all tests shall be furnished.

f. **Electrical Motor Control Panel**

It is expected that the electrical motor control panel to be used will be a 800 Amp, 500 HP Type 3R Soft Starter and Panel complete with fuses, manufactured by Eaton or an approved equivalent manufactured by Allen Bradley, Square D or Cutler Hammer.

g. **Electrical Meter Panel – for PG&E Service**

PG&E electrical service is anticipated to be 800 amp, 480 volt, 3 phase, 500 HP service. Contractor is to supply a precast or cast-in-place concrete foundation accepted and approved by PG&E for installing their 500 HP (PG&E) ground-mounted transformer. All materials should be made up and ready to install in the field.

h. **Painting** – Unless otherwise shown or directed, all exposed metal surfaces of motor parts shall be finished and coated as recommended by the manufacturer, and as accepted by the District.

**F-8 Nameplates**

a. **Pumps** – Each pump shall be provided with a nameplate of corrosion-resistant metal securely fastened to the unit. Each pump shall have the plate installed at a point diametrically opposite the discharge nozzle. Each nameplate shall show the following data in engraved or stamped legible characters:

1. Name of pump manufacturer
2. Pump serial number
3. Year built
4. Design capacity in c.f.s or gpm.
5. Maximum pump total head at design capacity in feet
6. Number of pump stages
7. Overall efficiency at the best efficiency point
8. Type of impeller

b. **Motors** – Each motor shall be provided with a nameplate of corrosion-resistant metal securely fastened to the unit. The nameplates shall be engraved or stamped to show the minimum data listed under NEMA MG-1-10.39.

## **F-9 Payment**

Payment for all labor, materials, and equipment specified under these Specifications, as required to furnish and install complete pumping unit installations will be made at the unit price stated in the Bidding Schedule for the applicable pumping units. Included in each unit price is the cost of furnishing a vertical turbine pump, column, tube, shaft and spiders, pumphead and related appurtenances and precast foundation for ground-mounted transformer, motor, control panel, meter panel, underground and above ground wiring, all items and appurtenances related to the electrical service (including start-up testing) for a complete, operational well pumping unit.

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

## SECTION G

### GENERAL INSPECTION STEPS

#### G-1 Scope

The district may conduct the following inspections prior to and during the construction phase. Other inspections may be added at the sole discretion of the District.

#### G-2 Well Drilling and Developing:

- a. Review Driller's Qualifications and ability to perform and drill, case and develop wells as contemplated by the district (Including but not limited to past performance, equipment capability, bonding capability, etc.)
- b. Verify that materials to be used to construct the well are as specified and as per approved submittals.
- c. Verify USA and well permits are correct and have been acquired prior to start of drilling.
- d. Verify water source, access and/or any special conditions (timing, coordination with adjacent landowners, restrictions, etc.).
- e. Observe/Verify Conductor is installed properly and to minimum required depth.
- f. Observe drilling of pilot hole to assure that hole is drilled straight and samples are taken properly for logging and determining perf locations.
- g. Choose samples for sieve test for gravel pack and perforation design. (This is in the event that the District has not already determined this prior to drilling the pilot hole).
- h. Observe and evaluate elog along with District and driller to determine/verify perforation intervals/design & coordinate with County on design and well seal.
- i. Observe the reaming of the pilot hole to make sure that it is straight and that the driller maintains strict control of the drilling fluid (doesn't get too thick and seals off the well) to make sure that the well can be developed properly.
- j. Observe the installation of casing, sounding tube, gravel tube (full time) verifying the perforations and casing is correct, that it is being installed per the design.
- k. Observe the installation of the gravel pack (including verification that the gravel is per design via a sieve analysis) and the installation of the well seal (County Inspector will witness too).

- l. Observe the swabbing and airlifting of well for development, chemical development (where applicable), bailing of well and development pumping, chemical development /surging.
- m. Observe and evaluate the test pumping and step drawdown curve for the design of the bowls and pumping equipment. Verify fluids are being contained as required by the District.
- n. Observe and verify removal and disposal of drilling fluid and cuttings.
- o. Verify site cleanup and restoration of site as required by the specifications.
- p. Assure that driller files well reports with the County and that water quality samples are taken, tests are conducted and filed.
- q. Verify final cleanup of site.

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

## SECTION H

### AQUIFER ISOLATION ZONE CONSTRUCTION & TESTING

#### H-1 GENERAL

This section includes the products, materials, and procedures associated with aquifer isolation zone construction and testing for four wells. Aquifer isolated zones shall be created within the nominal 17.5-inch diameter pilot borehole at the approximate depths specified in Table 1 to facilitate collecting samples that will characterize water quality of the aquifer system. The **OWNER'S REPRESENTATIVE** will conduct field analysis for turbidity during the zone development process to verify when representative laboratory samples can be collected from each interval.

#### H-2 MEASUREMENT AND PAYMENT

##### Measurement

- a. The unit for this work/service is EACH service and includes any incidentals thereof.
- b. The **OWNER** or **OWNER'S REPRESENTATIVE** shall be present to witness the aquifer isolation zone aquifer test(s) and to collect the water quality samples. It is the **CONTRACTOR'S** responsibility to notify the **OWNER** 12 hours before zone development and testing commences.
- c. Measurements of the service provided shall be per aquifer isolation zone test as recorded by the **OWNER'S REPRESENTATIVE**. As shown in Table 1, two (2) to four (4) aquifer isolation zone tests will be required per well. The measurement shall include up to 12 hours of development time, excluding time for placement of equipment.
- d. The **OWNER'S REPRESENTATIVE** will provide final well design specifications within 10 days of completing zone sampling. There will be no additional payment for rig time or idle time while testing and final well design are being performed within the 10 day period upon completing zone sampling.

##### Payment

- a. The unit price shall include compensation for furnishing all materials, labor and equipment and up to 12 hours of development time, excluding time for placement of equipment.

#### H-3 PRODUCTS

##### MATERIALS

- A. The gravel pack used to surround the sampling tool shall have a gradation as outlined in Section E, E-3 Well Drilling and Construction, h. Gravel Pack of the Specifications.

- B. Common pea gravel can be used to fill the annular space between the sampling tool (temporary casing) and the borehole where testing is not required.
- C. The bentonite seals shall be Holeplug 3/8” by Baroid or approved equivalent.

#### EQUIPMENT

- A. A drill rig to drill the nominal 17.5-inch diameter borehole via the reverse circulation rotary drilling method.
- B. The drill rod shall have a minimum I.D. of 4 inches or of sufficient diameter to accept a submersible pump capable of producing up to 50 gpm. The drill rod shall be provided in standard lengths as well as several 5- and 10-foot lengths.
- C. A gravel pump or gravity feed system will be required to install the gravel pack, common gravel, and bentonite through a tremie pipe.
- D. A tremie pipe in standard lengths of 20 feet with assorted 5- and 10-foot lengths shall be provided.
- E. The sampling tool for the test shall consist of 4-inch-diameter, 20-foot length of steel well screen with 0.090-inch mill slot perforations, having an open area of at least 12 square inches per foot. The well screen shall be attached to a minimum of 20 feet of blank, 4-inch-diameter casing. The blank casing shall be threaded to connect to conventional drill rods.
- F. A device approved by the **OWNER’S REPRESENTATIVE** shall be used to sound the gravel levels throughout the placement of the envelope.
- G. A bailer and swab to develop the sampling tool interval shall be used.
- H. A submersible pump capable of producing a maximum of 50 gpm with a total dynamic head of 940 feet and capable of fitting inside the drill rods shall be used. The riser pipe shall be outfitted at the surface with a flowmeter gate valve to control the flow and a sampling port. The pump flow shall be controllable from 10 to 50 gpm.

#### SOURCE QUALITY CONTROL

- A. The **CONTRACTOR** shall submit copies of product information for materials to be used including the gravel pack gradation, bentonite, and a dimensioned sketch of the isolation zone aquifer tool to be used to the **OWNER’S REPRESENTATIVE** at the preconstruction meeting.

### **H-4 EXECUTION**

#### ISOLATED AQUIFER ZONE CONSTRUCTION

- A. The sampling tool, submersible pump, and riser pipe shall be thoroughly pressure-washed prior to placement to avoid cross contamination.
- B. The Engineer will determine the sampling zones (20-ft of perforations) and the interval ranges for constructing the isolated zones subsequent to the completion and review of the e-log. These proposed intervals will be verified based on soils logging during pilot hole reaming. The **OWNER’S REPRESENTATIVE** will verify the final sections for isolation zones testing based on lithology observed during the pilot hole reaming.

- C. Prior to placement of any filler material in the boring, the drilling fluid shall be thinned with clean water. Initial circulation of fluid will be accomplished through the tremie pipe. The drilling fluid viscosity must be 26 to 31 sec./qt. Marsh funnel viscosity and the drilling fluid density must be below 8.9 lbs./gal. before gravel packing commences.
- D. The gravel pack, common gravel and bentonite shall be installed in the annular space between the borehole wall and the sampling tool (temporary casing) through a tremie pipe from the bottom of the borehole.
  - a. At no time shall the bottom of the tremie pipe be greater than 40 feet above the top of the gravel pack, common gravel or bentonite during installation.
- E. The **CONTRACTOR** shall backfill the bottom of the borehole with pea gravel to the bottom of the lowermost zone selected. The top of the backfill material shall be "tagged" and recorded to verify its depth. The depth measurement shall be recorded in the Driller's Daily Report. The **CONTRACTOR** shall then place on top of the pea gravel a 10-foot-thick bentonite seal (this seal is necessary to isolate aquifers occurring below the zone selected for testing). The depth to the top of the seal shall be tagged and recorded.
- F. The sampling tool will be positioned about 10 feet above the bentonite or at the depth specified by the **OWNER'S REPRESENTATIVE**. After the sampling tool has been positioned, it shall be surrounded by the approved gravel pack. The gravel pack shall extend about 10 feet above the top of the perforations. The top of the gravel pack shall be tagged and recorded.
- G. After the gravel pack has settled, a second 10-foot-thick bentonite seal shall be placed over the gravel pack. The bentonite seal shall be allowed to hydrate for a minimum of 3 to 4 hours before commencing airlift operations, completing the isolation process. The top of the upper bentonite seal shall be tagged and recorded.
- H. **OWNER'S REPRESENTATIVE** will allow for up to 75 feet of gravel and seal material above the top of any given zone tool during selection of depth intervals for isolated aquifer zone testing. Should additional materials be required by the **CONTRACTOR** to provide an acceptable seal, and that seal material encroaches on the selected locations of subsequent zones (including recommended seal intervals), the **CONTRACTOR** shall be required to re-drill portions of the backfilled borehole. All costs associated with that re-drill shall be borne by the **CONTRACTOR**.
- I. Placement of all materials in the borehole and their quantities shall be recorded in the **CONTRACTOR** daily log.

#### ZONE AIRLIFT DEVELOPMENT AND SEAL VERIFICATION

- A. Once the top seal of each test interval has been adequately hydrated, the **CONTRACTOR** shall begin airlifting from within the drill pipe to initially develop the isolated zone and verify adequate seal. The airlifting shall begin at a low flow rate, increasing with time as the aquifer zone will allow. After approximately two hours of airlifting, if it is determined that there is not an adequate seal, the **CONTRACTOR** must, at his own expense, reset the tool and verify that an adequate seal has been obtained.
- B. A seal will be considered adequate when the following criteria are met:

1. The water level in the conductor casing and mud pit, which are properly isolated from return flow, maintains a stable level as determined by the **OWNER'S REPRESENTATIVE**; and
  2. Water discharged from the zone improves with respect to clarity; and
  3. Following airlifting, a stable (i.e., static) ground water level is established.
- C. Following the initial two (2) hours of airlifting, the **CONTRACTOR** shall allow for up to one (1) hour of recovery to verify an adequate seal. Should the seal not be adequate, the **CONTRACTOR** must take steps to repair or replace the seal before resuming airlifting. If it is determined by the **OWNER'S REPRESENTATIVE** that that there is not an adequate seal, the **CONTRACTOR** must, at his own expense, reset the tool and verify that an adequate seal has been obtained.

#### ZONE PUMPING DEVELOPMENT AND TESTING

- A. Once each zone test interval has been determined to be adequately constructed, and the seal is verified by the initial two (2) hours of airlifting development, the **CONTRACTOR** shall mobilize and install a submersible pump for zone sampling. The discharge line shall include a calibrated flowmeter (equipped with a totalizer reading in tens of gallons) and a valve for accurate measurement and control of the flow rate during zone testing. In addition, a sampling port that consists of a ¾-inch steel downturned tap shall be installed at an accessible location on the discharge line to facilitate the **OWNER'S REPRESENTATIVE** collecting water quality samples.
- B. The **CONTRACTOR** shall pump the test interval for up to 8 hours to further remove fines from the borehole wall. The **OWNER'S REPRESENTATIVE** shall collect water from the discharge every 30 minutes for the first four hours and hourly thereafter and measure and record the depth to water, turbidity, instantaneous discharge rate (gpm), flowmeter totalizer, pH, specific conductance, temperature, and exact time (hours and minutes) of each reading.
- C. The timing of water quality sampling, as well as acceptable levels of turbidity prior to sample collection shall be as directed by the **OWNER'S REPRESENTATIVE**. It is anticipated that zones will be pumped for a minimum of three (3) hours after turbidity has stabilized below 10 nephelometric turbidity units (NTU). Water samples will be collected by the **OWNER'S REPRESENTATIVE** and delivered to the Certified Laboratory for analysis. Zone samples will not be collected if the Certified Laboratory will be unable to analyze the samples within approved method hold times. Sample analyses will be expedited as much as allowed by the approved method; results are expected within 5 days of sampling.
- D. Upon completion of testing of each zone, the submersible pump shall be removed from the zone testing tool and the static water level shall be measured and recorded. The **CONTRACTOR** shall then pull the sampling tool free from the borehole and remove any accumulated gravel and sediment and any bentonite which may have become lodged within the slots. The **OWNER'S REPRESENTATIVE** shall inspect the zone testing tool before it is re-installed to test the next selected interval.
- E. The procedures shall be repeated as described above for each zone interval, but first, the **CONTRACTOR** shall add additional bentonite to fill the hole left when the sampling tool was lifted.

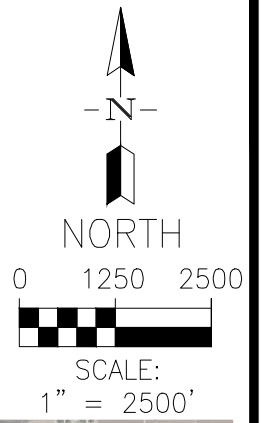


- F. Within 10-days of completion of the last isolation zone test interval the **OWNER'S REPRESENTATIVE** will provide the **CONTRACTOR** with a final well design.

**END OF SECTION**

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**Attachment 1 – Well Locations**

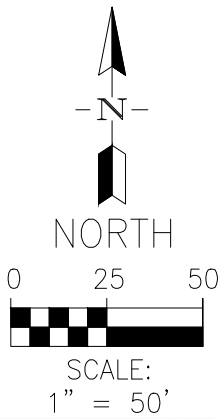


NORTH KERN  
 WATER STORAGE DISTRICT  
 33380 CAWALO AVENUE  
 BAKERSFIELD, CA 93308  
 (661) 393-2696

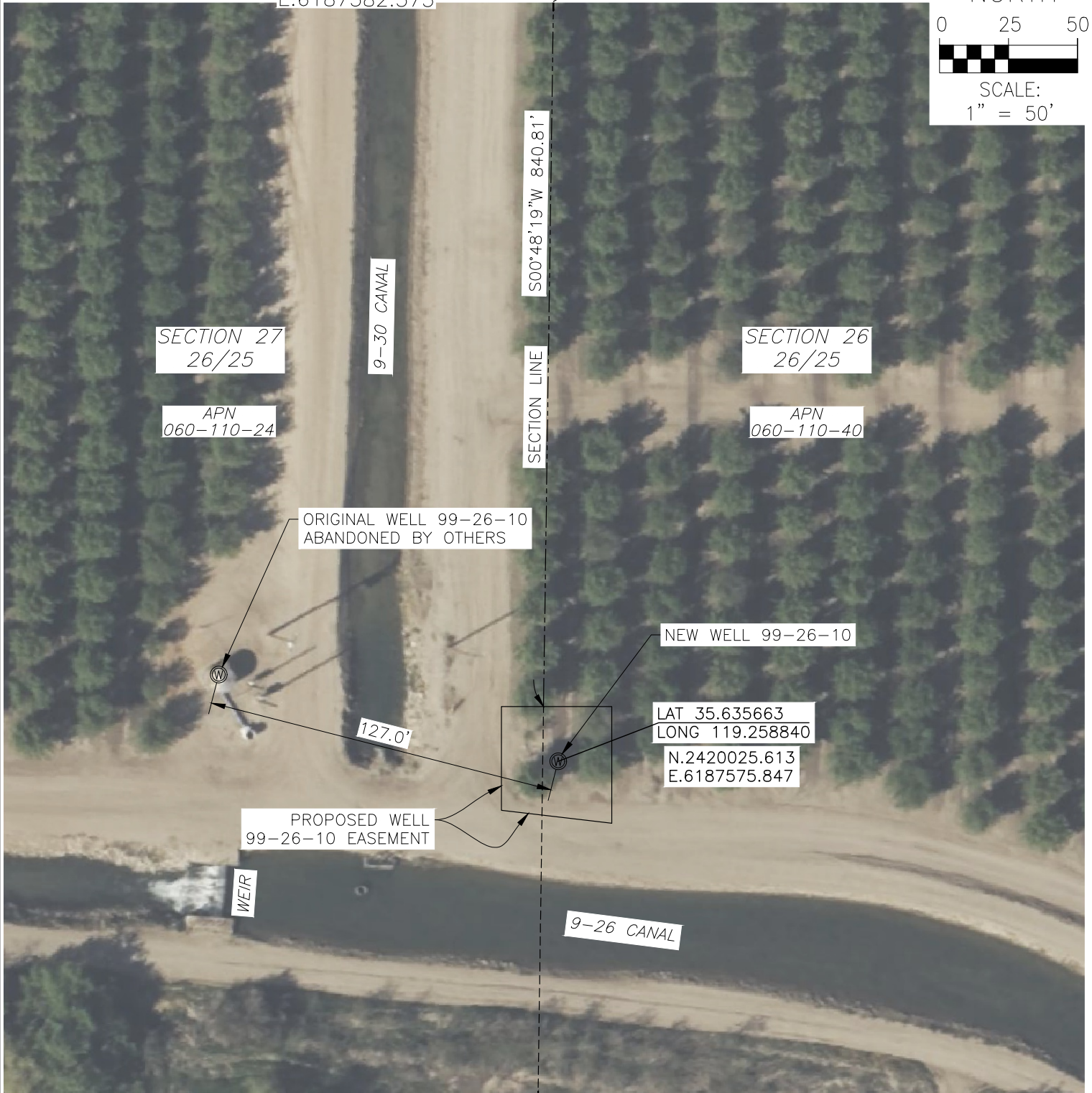
N.K.W.S.D.  
 2026 WELL DRILLING PROJECT  
 NEW WELL LOCATIONS  
 PAGE 1 OF 3

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 CHECKED BY: W. ZEIDERS  
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 E.6187582.375

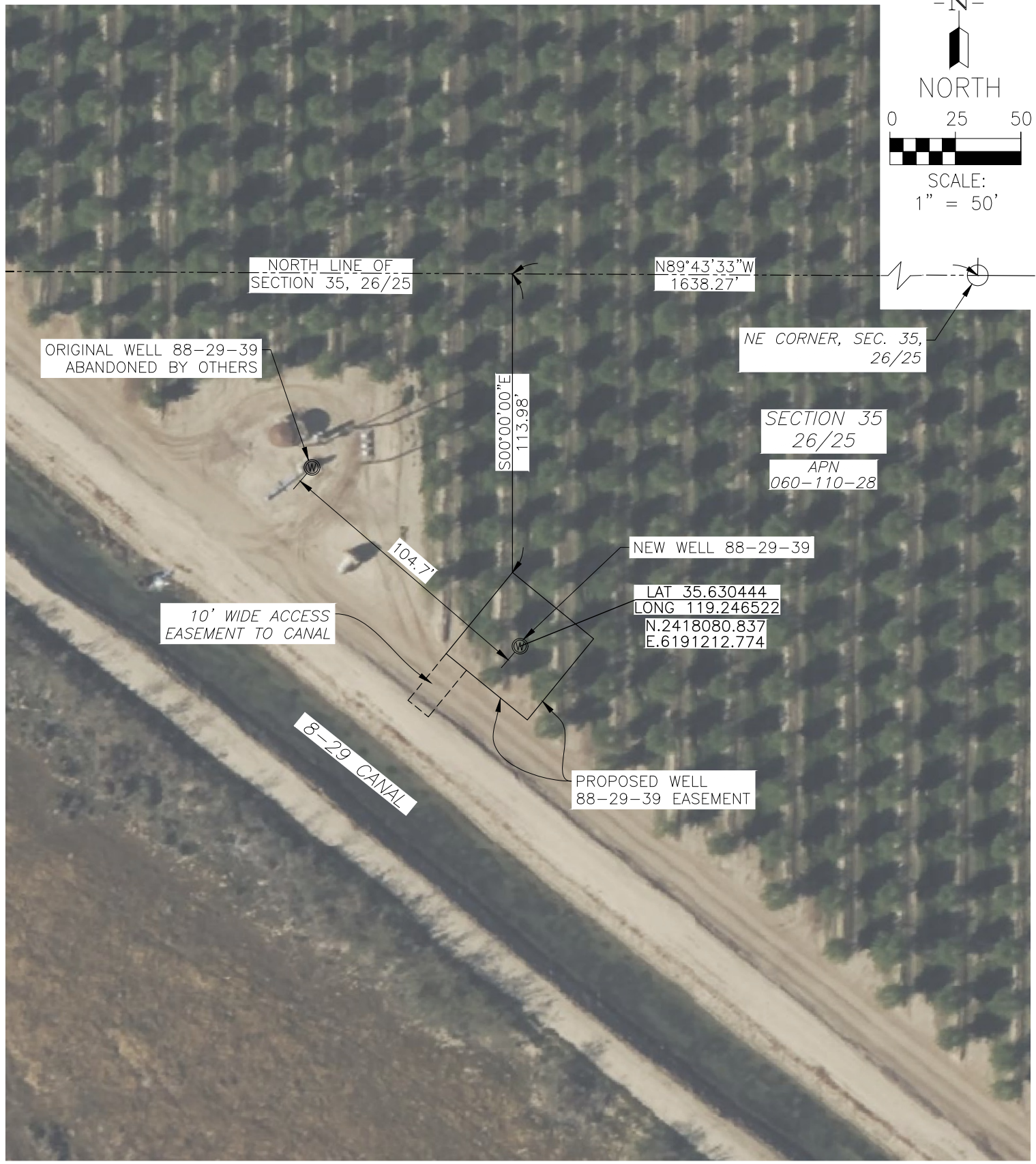
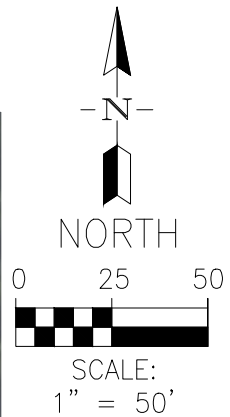


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N.K.W.S.D.  
 2026 WELL DRILLING PROJECT  
 WELL 99-26-10 LOCATION  
 PAGE 2 OF 3

DATE: 02/27/2026
SCALE: 1" = 50'
DRAWN BY: W. FREY
CHECKED BY: W. ZEIDERS
FILE NAME: NKWSD 26-01 2 WELLS.DWG



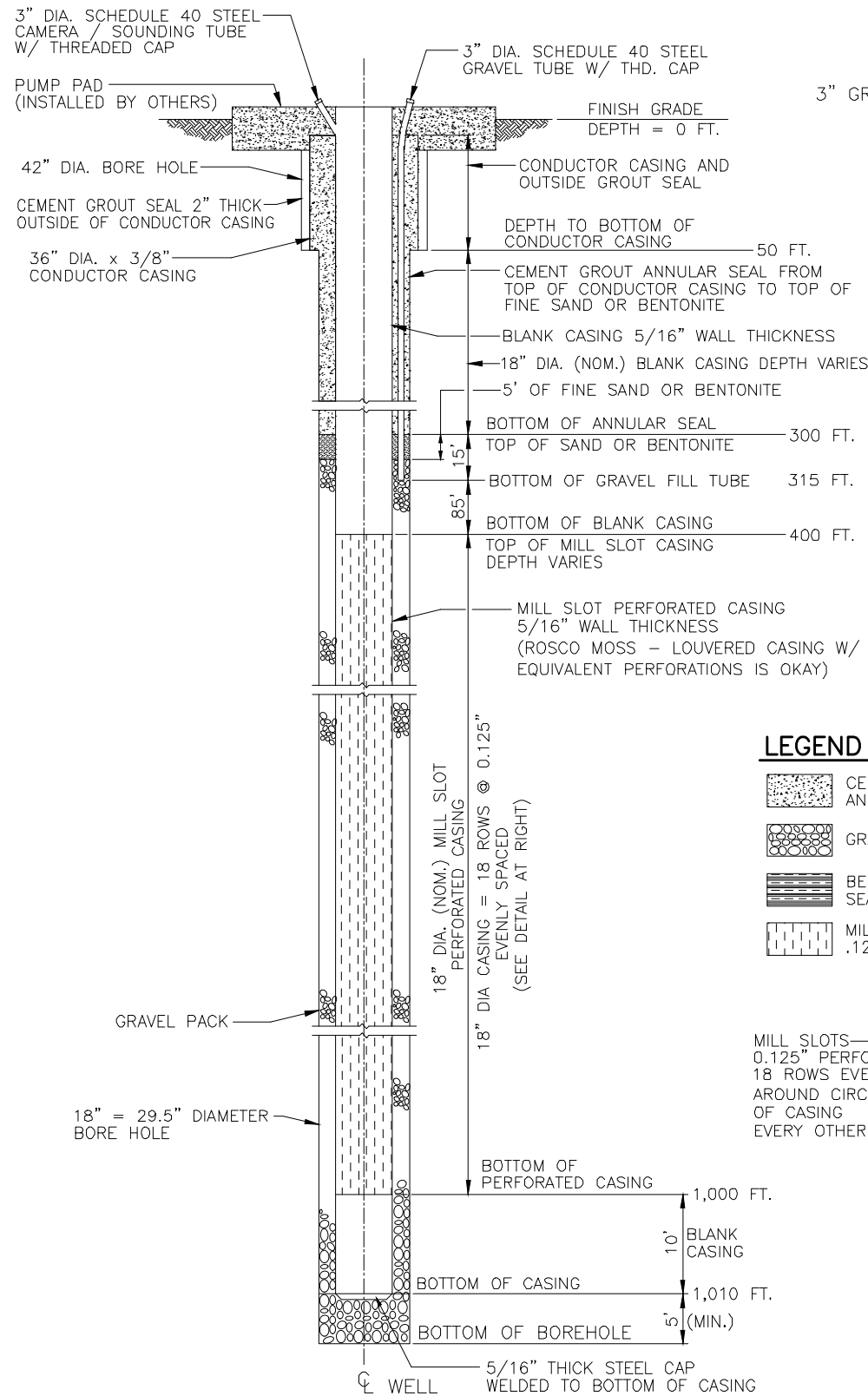


NORTH KERN  
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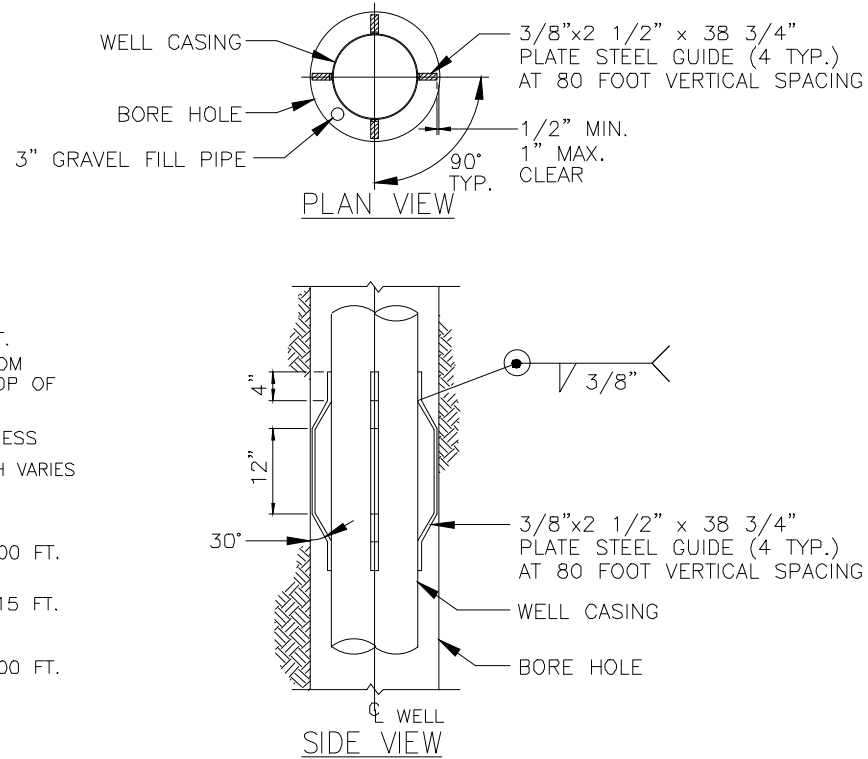
N.K.W.S.D.  
 2026 WELL DRILLING PROJECT  
 WELL 88-29-39 LOCATION  
 PAGE 3 OF 3

DATE: 02/27/2026
SCALE: 1" = 50'
DRAWN BY: W. FREY
CHECKED BY: W. ZEIDERS
FILE NAME: NKWSD 26-01 2 WELLS.DWG

**Attachment 2 – Typical Well Detail Drawings**







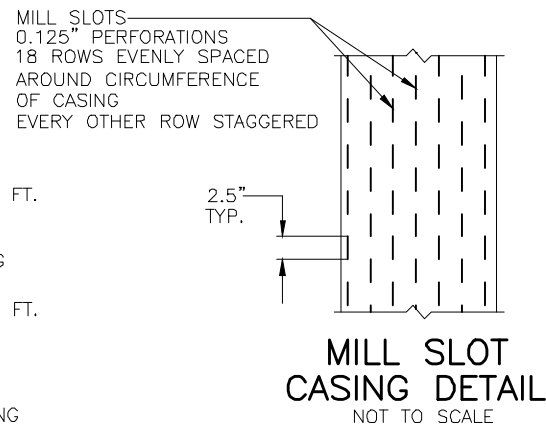
**A**  
1 TYPICAL WELL DETAIL - MILL SLOT OPTION  
MILL SLOT PERFORATED CASING NOT TO SCALE



**B**  
1 CASING GUIDE DETAIL  
NOT TO SCALE

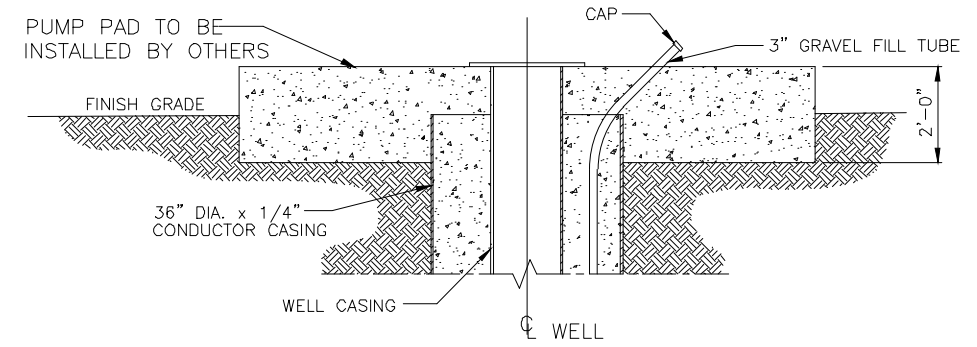
**LEGEND**

-  CEMENT GROUT ANNULAR SEAL
-  GRAVEL
-  BENTONITE SEAL
-  MILL SLOT CASING .125\"/>

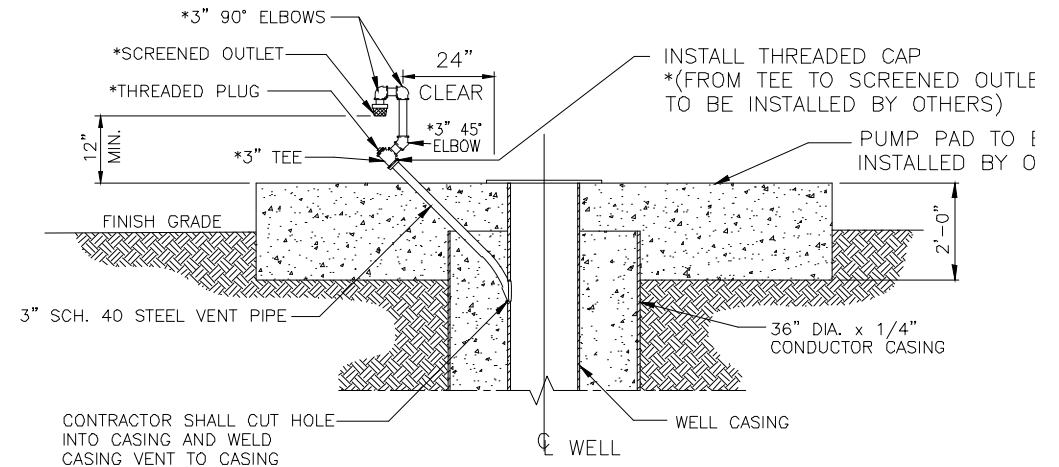


MILL SLOTS  
0.125\"/>

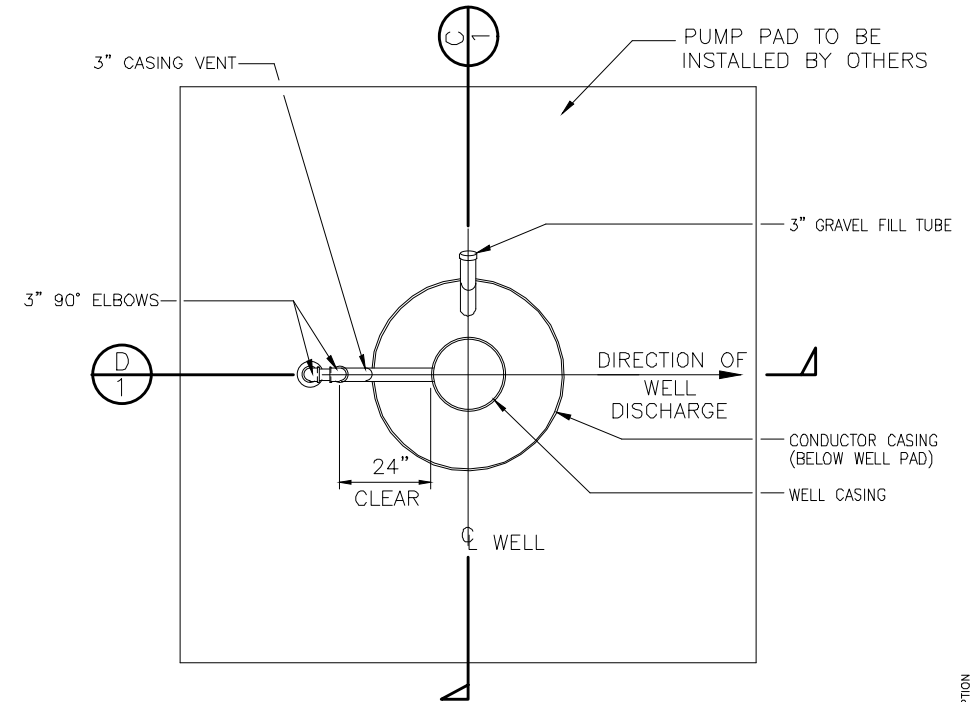
**MILL SLOT CASING DETAIL**  
NOT TO SCALE



**C**  
1 GRAVEL FILL TUBE DETAIL  
SIDE VIEW NO TO SCALE



**D**  
1 CASING VENT DETAIL  
SIDE VIEW NO TO SCALE



CONTRACTOR SHALL COORDINATE WITH THE DISTRICT REPRESENTATIVE FOR THE ORIENTATION OF THE CASING VENT AND GRAVEL FILL PIPE

**E**  
1 TYPICAL WELL LAYOUT  
TOP VIEW SCALE: 1\"/>

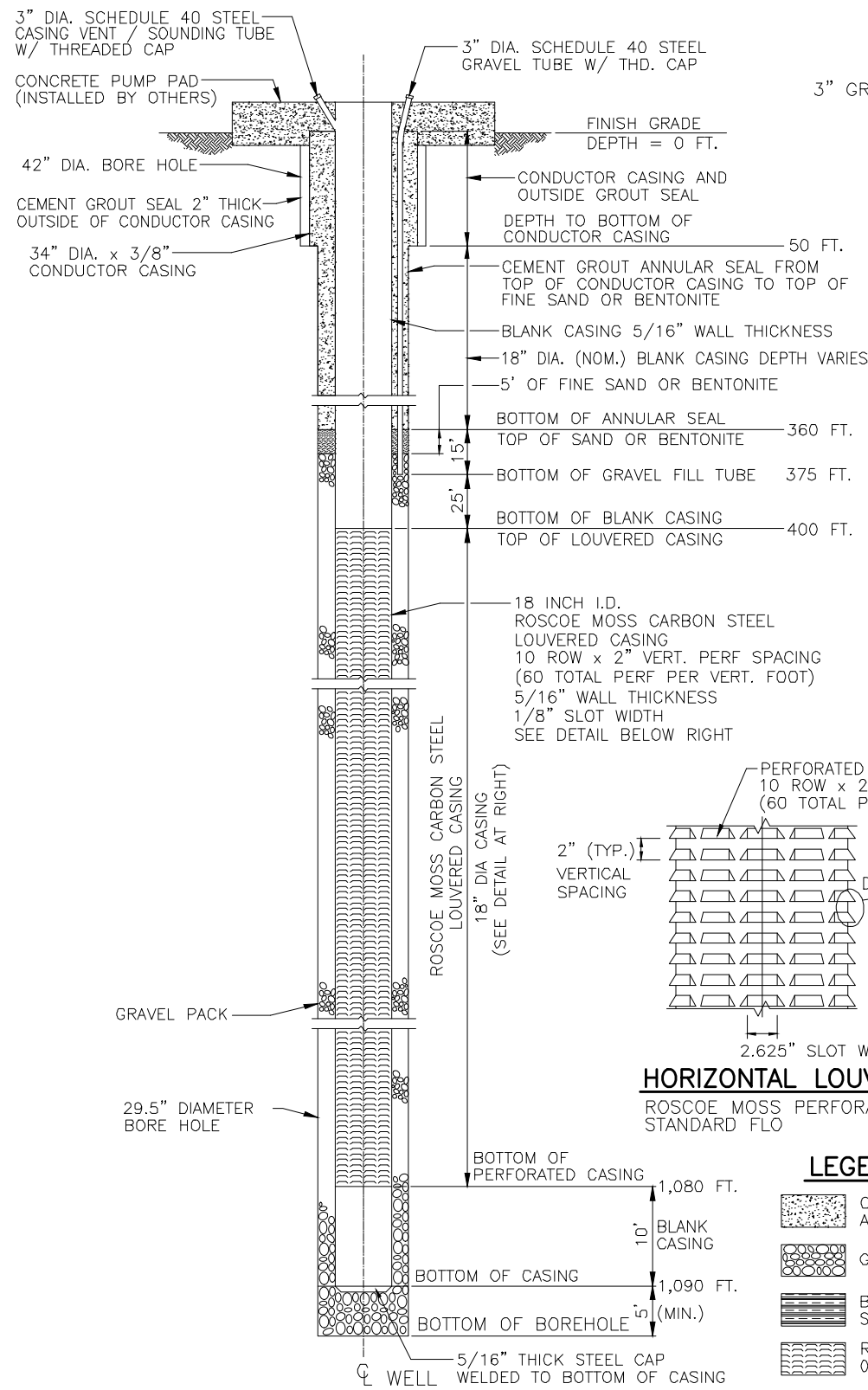
REV.	DATE	DESCRIPTION

DATE: FEBRUARY 26, 2026  
SCALE: AS NOTED  
DRAWN BY: W. FREY  
CHECKED BY: W. ZEIDERS  
FILE NAME: NKWSD 26-01

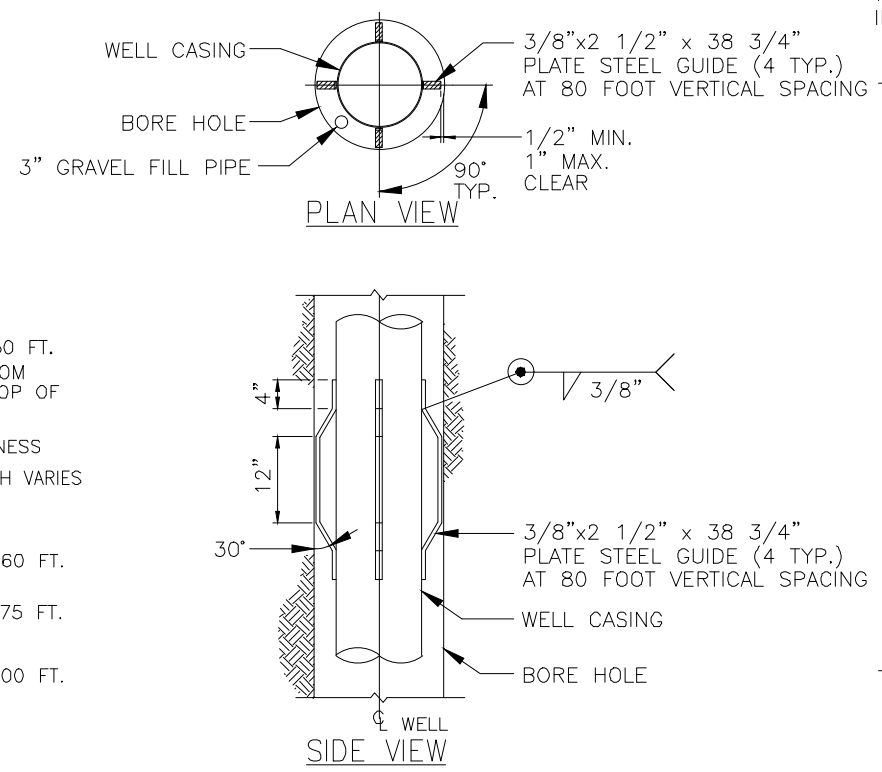
**WELLS 88-29-39 AND 99-26-10**  
NORTH KERN WATER DISTRICT  
NEW WELL DRILLING  
TYPICAL WELL DETAILS

**ZEIDERS CONSULTING**  
1655 GREELEY ROAD  
BAKERSFIELD, CA. 93314  
(661) 589-8366

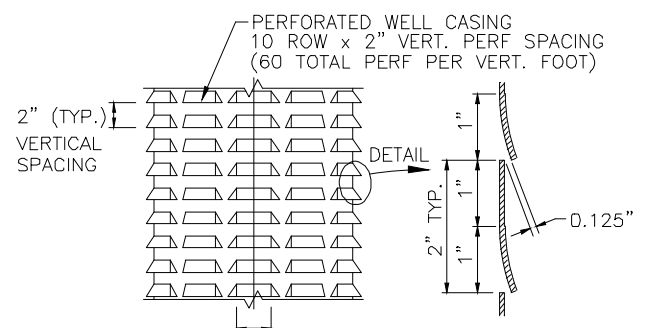




**A**  
**2** **TYPICAL WELL DETAIL - LOUVER OPTION**  
LOUVER PERFORATED CASING NOT TO SCALE

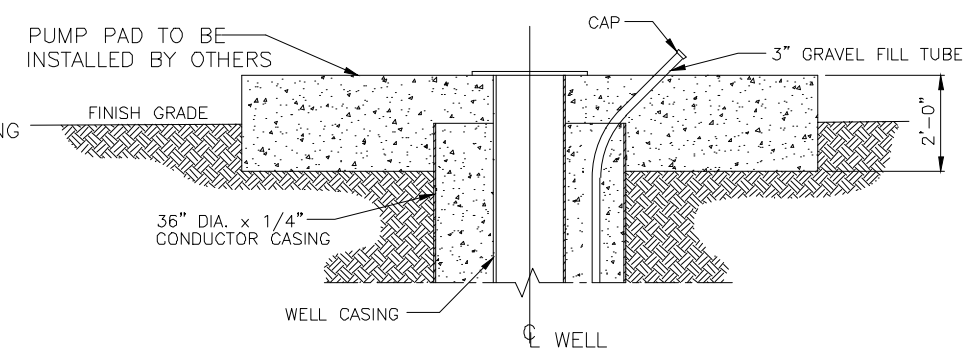


**B**  
**2** **CASING GUIDE DETAIL**  
NOT TO SCALE

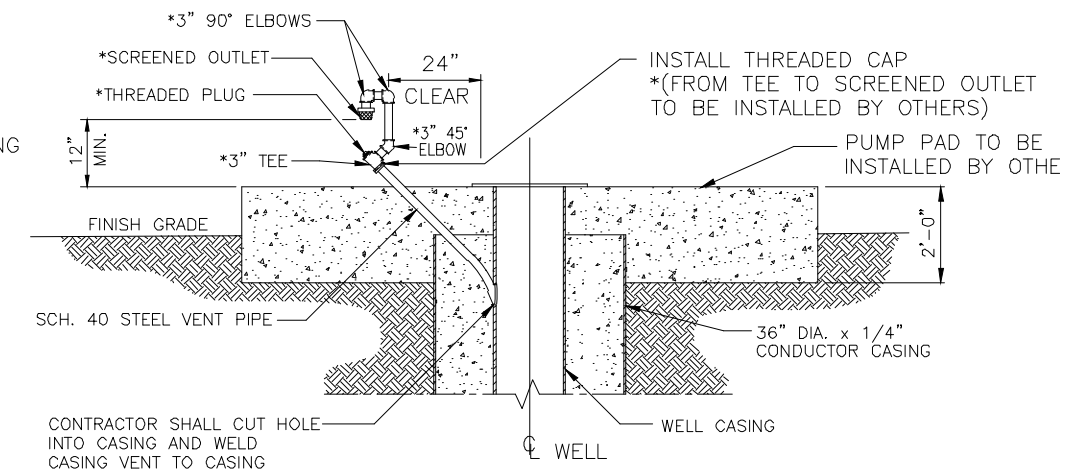


**HORIZONTAL LOUVERED SCREEN**  
ROSCOE MOSS PERFORATED CASING  
STANDARD FLO NOT TO SCALE

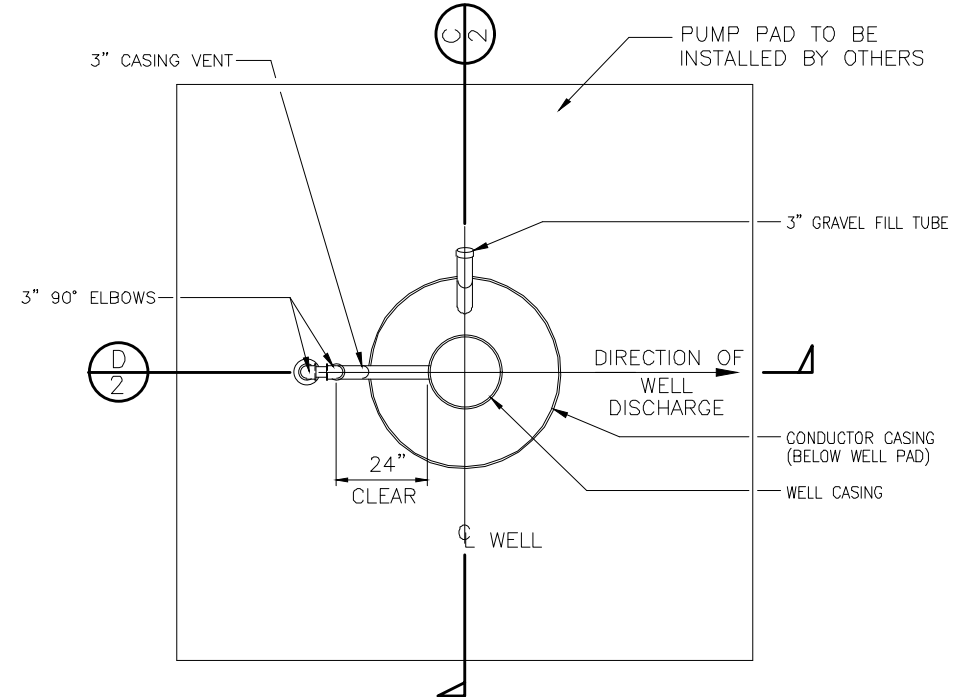
- LEGEND**
- CEMENT GROUT ANNULAR SEAL
  - GRAVEL
  - BENTONITE SEAL
  - ROSCOE MOSS CASING 0.125\"/>



**C**  
**2** **GRAVEL FILL TUBE DETAIL**  
SIDE VIEW NO TO SCALE



**D**  
**2** **CASING VENT DETAIL**  
SIDE VIEW NO TO SCALE



CONTRACTOR SHALL COORDINATE WITH THE DISTRICT REPRESENTATIVE FOR THE ORIENTATION OF THE CASING VENT AND GRAVEL FILL PIPE

**E**  
**2** **TYPICAL WELL LAYOUT**  
TOP VIEW SCALE: 1\"/>

REV.	DATE	DESCRIPTION

DATE: FEBRUARY 26, 2026  
 SCALE: AS NOTED  
 DRAWN BY: W. FREY  
 CHECKED BY: W. ZEIDERS  
 FILE NAME: INWSD 26-01

**WELLS 88-29-39 AND 99-26-10**  
 NORTH KERN WATER DISTRICT  
 33380 CAWELO AVENUE  
 BAKERSFIELD, CALIFORNIA, 93308

NEW WELL DRILLING  
 TYPICAL WELL DETAILS

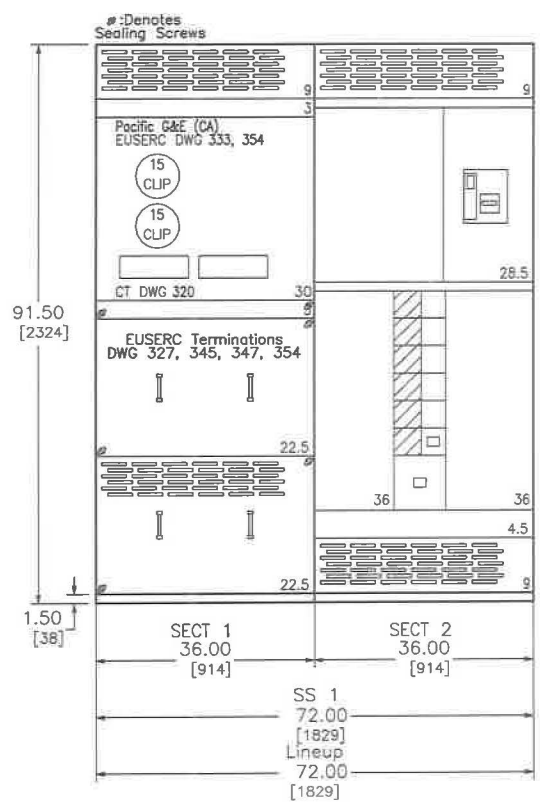
**ZEIDERS CONSULTING**  
 1655 GREELEY ROAD  
 BAKERSFIELD, CA. 93314  
 (661) 589-8366

**Attachment 3 – 800 Amp Meter Panel**  
**(Switchboard)**

REV	DESCRIPTION	BY	DATE						
-									

T-bus  
19.5 in

T-bus  
19.5 in



**SWITCHBOARD GENERAL NOTES**

**PRODUCT DESCRIPTION & RATINGS**

**Power System Data**

480Y/277V 3Ph 4W 60Hz / 3 Phase Wye  
Solidly Grounded  
System Short Circuit Current Rating: 65kA RMS  
Incoming Section 1 Cable Through the Bottom Left of Lineup

**Bus System Data**

800A Tin/Aluminum & Silver/Copper Main Bus  
(2) .25x2.00 IN/6x51 mm Al Bus Bar Per Phase/Neutral  
(1) .25x1.50 IN/6x38 mm Al Ground Bus

**Enclosure Data**

Type 3R Free Standing  
Exterior Paint Color: ANSI 49  
Front Accessibility Only Required  
Handling: Rollers  
Rodent barriers  
1.5H Corrosion Resist Base Channels  
Steel Bottom Closure Plate  
Base channels cannot be removed from EUSERC switchboard line-up  
Utility sealing hardware installed for unmetered bus compartments

**Estimated Shipping Weight**

Shipping Split 1 1749.00 lbs / 793.35 kgs  
Complete Lineup 1749.00 lbs / 793.35 kgs

**Code Standards**

U.L. Deadfront and suitable for use as Service Entrance  
when not more than six (6) disconnecting means are provided.

**Rating Nameplates**

ST1- Deadfront - Section Bus 800A  
ST2- Service Entrance - Section Bus 800A

**PRODUCT INFORMATION**

**Wiring**

All wiring to be Machine Tool Wire type

**Instruction Bulletins**

Reference 80043-055 For Handling, Installation,  
Anchoring, Inspection And Maintenance Information

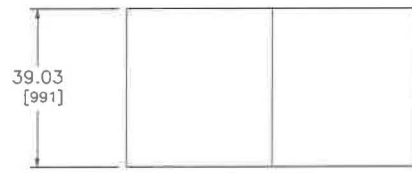
**Product Accessories/Options**

Seismic Qualified

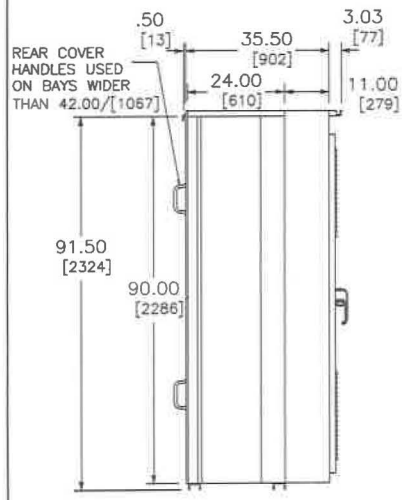
DUAL DIMENSIONS: INCHES  
MILLIMETERS

JOB NAME: North Kern	EQUIPMENT DESIGNATION:
JOB LOCATION:	EQUIPMENT TYPE: OED-2 Switchboard
DRAWN BY: (Q2C)	DRAWING TYPE: GENERAL NOTES
ENGR:	<b>SQUARE D</b> by Schneider Electric
DATE: February 03 2022	DWG# FQ-308448-86116196-01
DRAWING STATUS: QUOTE	PG 1 OF 2 REV -

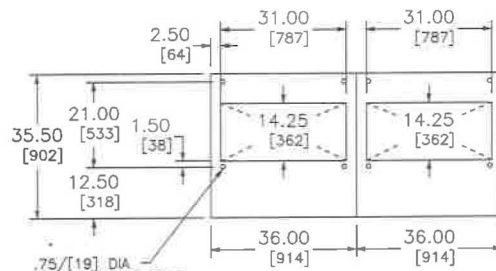
REV	DESCRIPTION	BY	DATE						
-									



TOP VIEW - FRONT



LEFT SIDE VIEW



FLOOR PLAN - FRONT

NOTE:  
A MINIMUM OF 2.00/[51]  
CLEARANCE BEHIND THE  
SWITCHBOARD IS REQUIRED  
FOR TOP COVER OVERHANG.

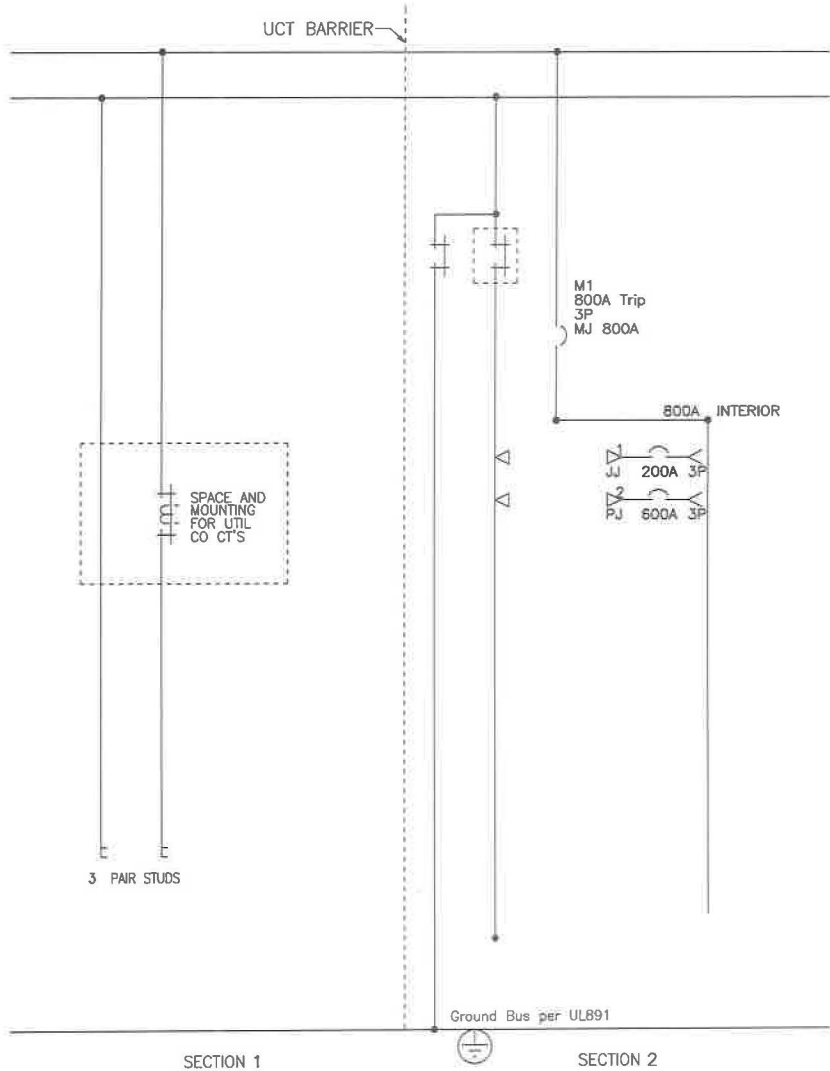
NOTE: ALL DEVICES REQUIRING DRILLING OR INSERTION IN MOUNTING PAD  
SUCH AS CONDUIT, ANCHORING STUDS, SLEEVE INSERTS, ETC.  
SHOULD BE INSTALLED BEFORE SETTING EQUIPMENT IN PLACE.

DUAL DIMENSIONS: INCHES  
MILLIMETERS

JOB NAME:	North Kern	EQUIPMENT DESIGNATION:	OED-2 Switchboard
JOB LOCATION:		EQUIPMENT TYPE:	
DRAWN BY:	(Q2C)	DRAWING TYPE:	SIDE, TOP VIEW & FLOOR PLAN
ENGR:			
DATE:	February 03 2022		
DRAWING STATUS:	QUOTE	DWG#	FQ-3084448-86116196-01



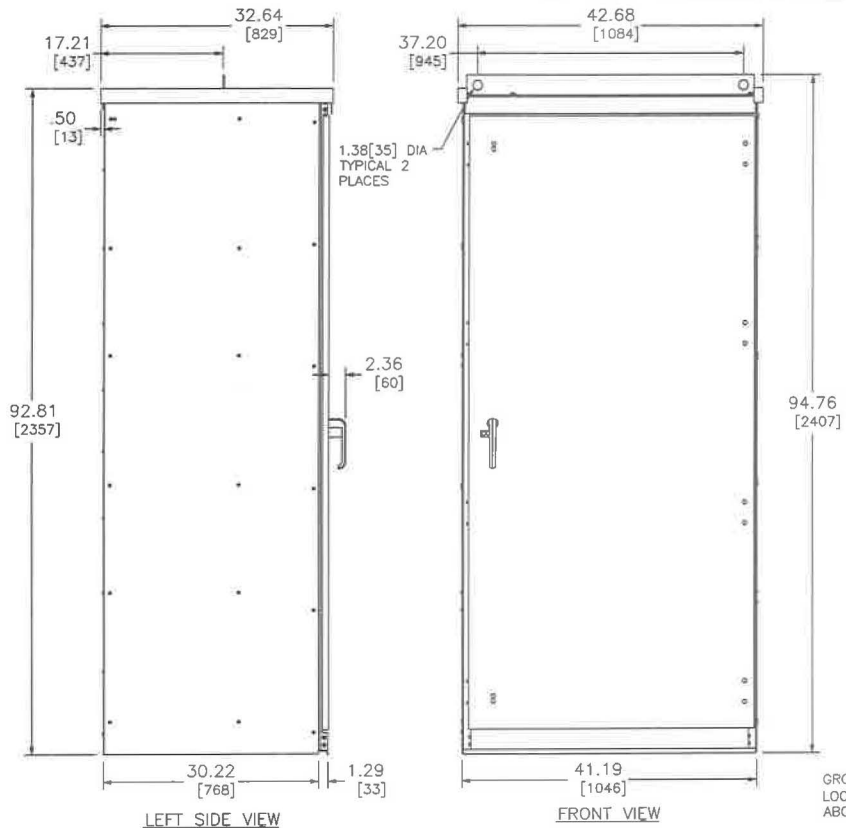
REV	DESCRIPTION	BY	DATE						
-									



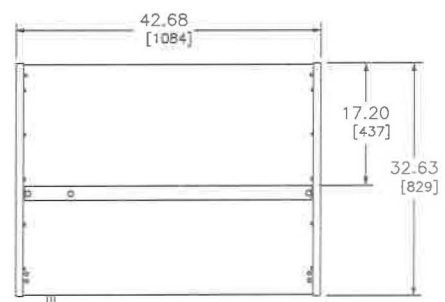
JOB NAME:	North Kern	EQUIPMENT DESIGNATION:	
JOB LOCATION:		EQUIPMENT TYPE:	QED-2 Switchboard
DRAWN BY:	(Q2C)	DRAWING TYPE:	ONE LINE
ENGR:		<b>SQUARE</b> <small>by Schneider Electric</small>	
DATE:	February 03 2022	DWG#	0Q-3084448-86116196-01
DRAWING STATUS:	QUOTE	PG	1 OF 2 REV -



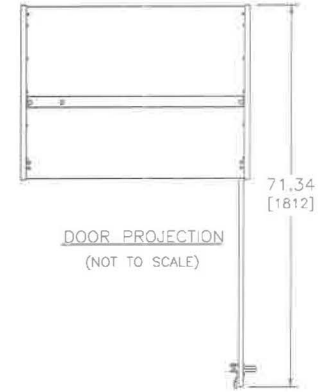
REV	DESCRIPTION	BY	DATE						



LEFT SIDE VIEW

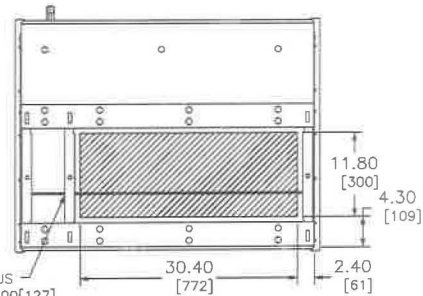


TOP VIEW



DOOR PROJECTION  
(NOT TO SCALE)

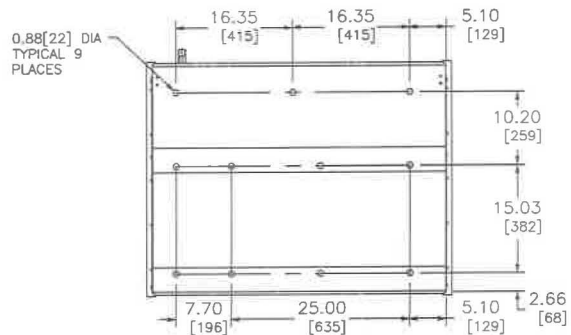
CONDUIT ENTRY SHOWN AS CROSS-HATCHED AREA



BOTTOM VIEW

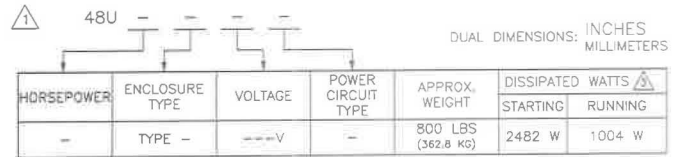
NOTES:

- REFER TO CONTROLLER NAMEPLATE TO COMPLETE P/N.
- 2.36[59.9] MAXIMUM PROJECTION OF DOOR-MOUNTED DEVICES.
- USE FOR ESTIMATING COLLING REQUIREMENTS ONLY. LOSSES SHOWN FOR CONTINUOUS OPERATION IN SHORTING MODE.
- A MINIMUM OF 12.00[304.8] CLEARANCE IS REQUIRED ABOVE THE ENCLOSURE TO MAINTAIN PROPER COOLING. DURING OPERATION THE TEMPERATURE OF THE AIR SURROUNDING THE ENCLOSURE SHOULD BE MAINTAINED BETWEEN 0°C AND 40°C.



PLAN VIEW

ENCLOSURE OUTLINE & GENERAL ARRANGEMENT FOR CONTROLLER P/N

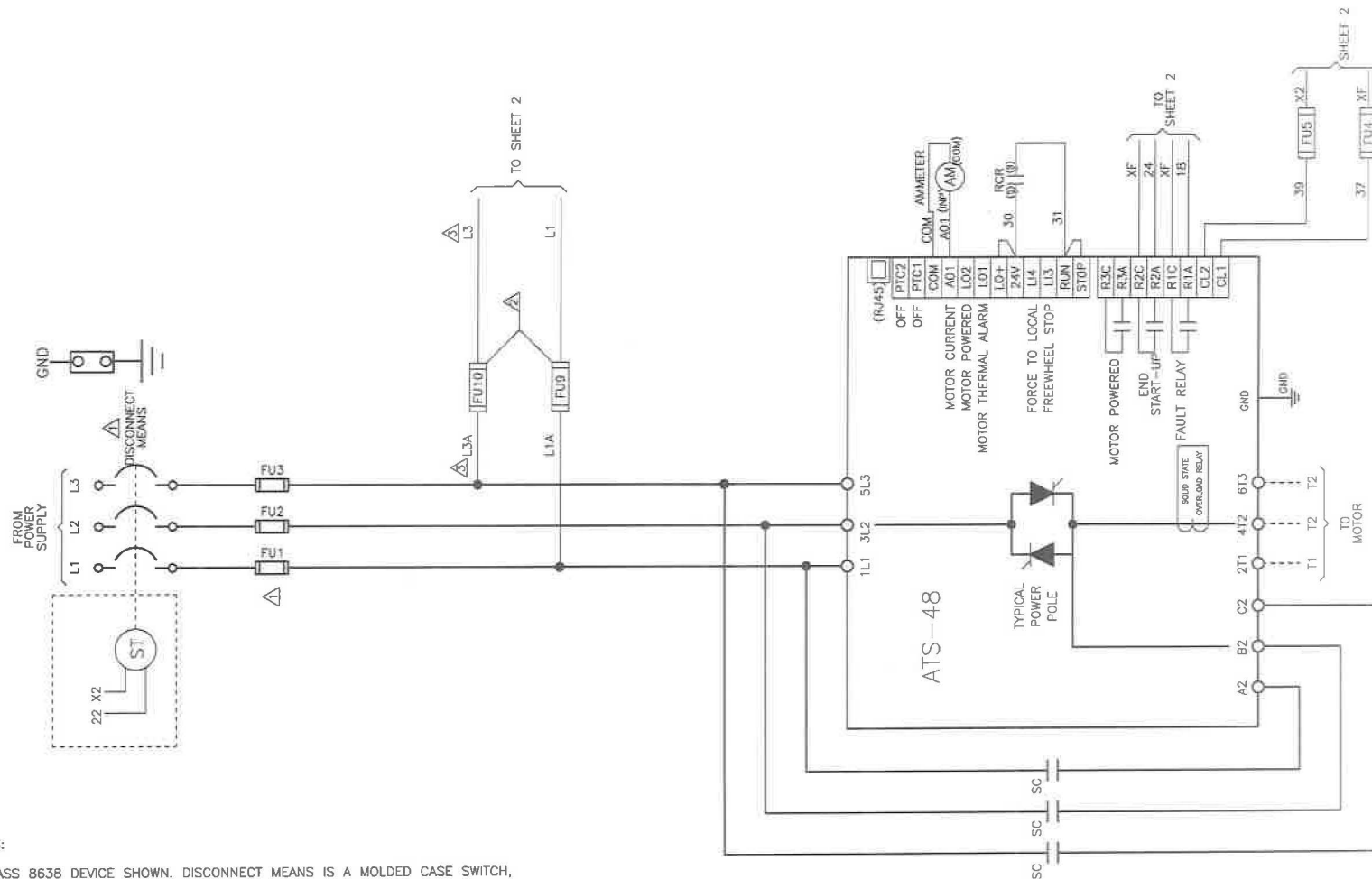


SEISMIC LABEL ( MOD Y10)

JOB NAME: North Kern	EQUIPMENT DESIGNATION:
JOB LOCATION: (O2C)	EQUIPMENT TYPE:
DATE: February 03 2022	DRAWING TYPE:
DRAWING STATUS: QUOTE	DWG# FQ-3084448-86116280-01



REV	DESCRIPTION	BY	DATE



NOTES:

- ⚠ CLASS 8638 DEVICE SHOWN. DISCONNECT MEANS IS A MOLDED CASE SWITCH, AND FUSES FU1, FU2 AND FU3 ARE USER SUPPLIED. FUSE HOLDERS ARE CLASS J FOR FRAME SIZES A-D AND CLASS L FOR FRAME SIZE E.
- FOR THE CLASS 8639 DEVICE THE DISCONNECT MEANS IS A CIRCUIT BREAKER, AND THE FUSE HOLDERS FOR FU1, FU2 AND FU3 ARE NOT SUPPLIED.
- ⚠ FUSES FU9 AND FU10 ARE ONLY SUPPLIED ON FRAME SIZE D AND E.
- ⚠ FOR FRAME SIZE B, 8639 DEVICES CONTROL POWER TAKE OFF IS L1 & L2 FOR ALL OTHER DEVICES CONTROL POWER TAKE OFF IS FROM L1 & L3.
- 4. ( ) INDICATES DEVICE TERMINALS UNLESS OTHERWISE NOTED.

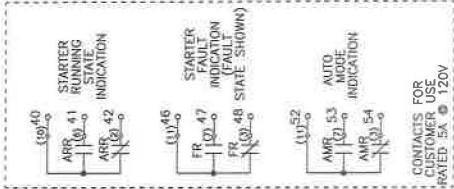
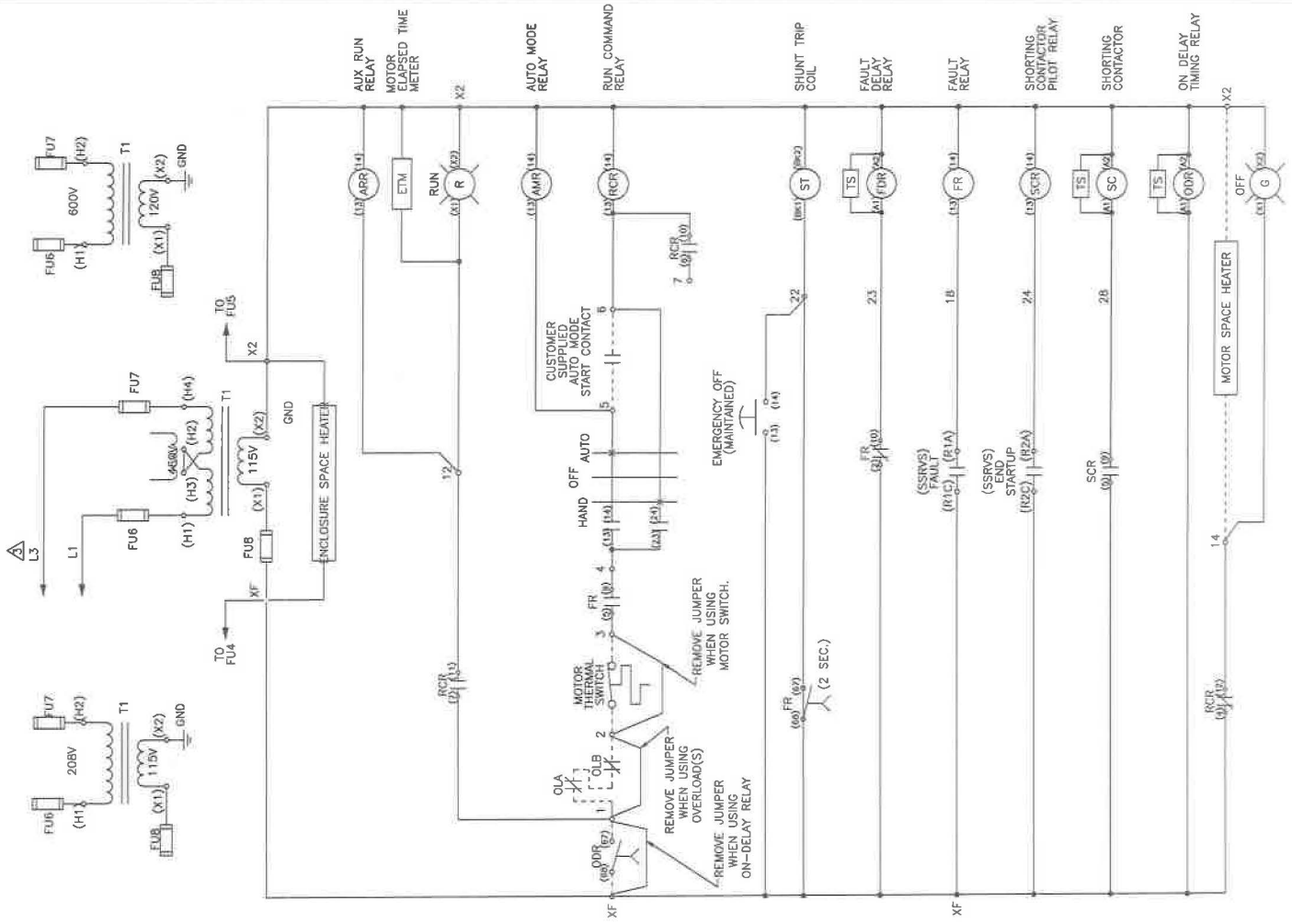
ENCLOSED FACTORY CONFIGURATION  
(VARIATIONS FROM ATS-48 FACTORY DEFAULTS)

MENU	PARAMETER	SETTING	DESCRIPTION
			USE ATS-48 FACTORY DEFAULTS

JOB NAME: North Kern	EQUIPMENT DESIGNATION:
JOB LOCATION:	EQUIPMENT TYPE:
DRAWN BY: (Q2C)	DRAWING TYPE:
ENGR:	<b>SQUARE D</b> by Schneider Electric
DATE: February 03 2022	
DRAWING STATUS: QUOTE	DWG# FQ-3084448-8611628D-01



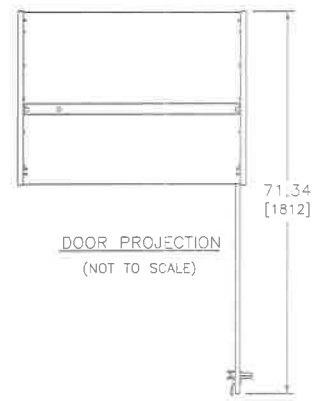
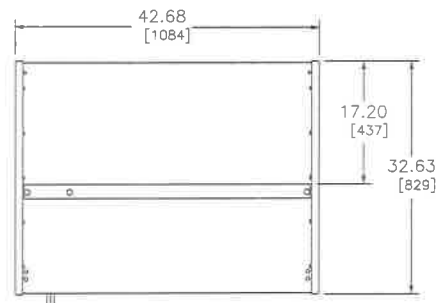
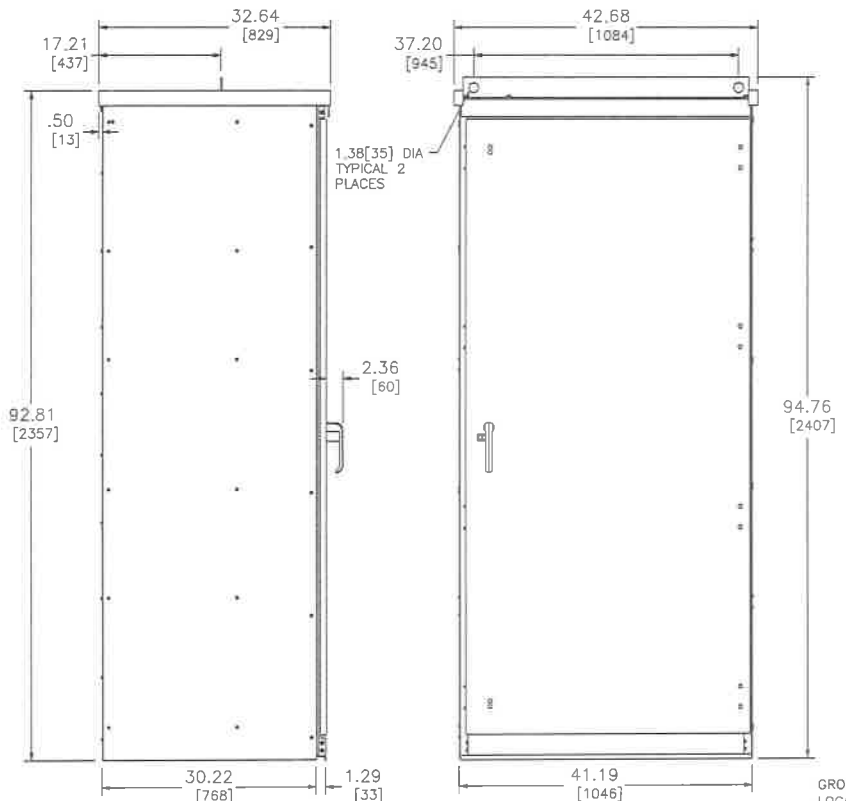
REV	DESCRIPTION	BY	DATE
1			



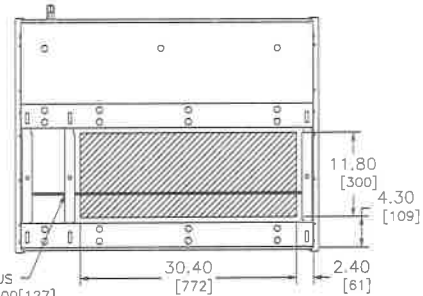
JOB NAME:	North Kern	EQUIPMENT DESIGNATION:	
JOB LOCATION:		EQUIPMENT TYPE:	
DRAWN BY:	(Q2C)	DRAWING TYPE:	
ENGR:		<b>SQUARE D</b> by Schneider Electric	
DATE:	February 03 2022	DWG# FQ-3084448-86116280-01	PG 3 OF 3 REV -
DRAWING STATUS:	QUOTE		

**Attachment 4 – 500 HP Motor Control Panel**

REV	DESCRIPTION	BY	DATE						



CONDUIT ENTRY SHOWN AS CROSS-HATCHED AREA

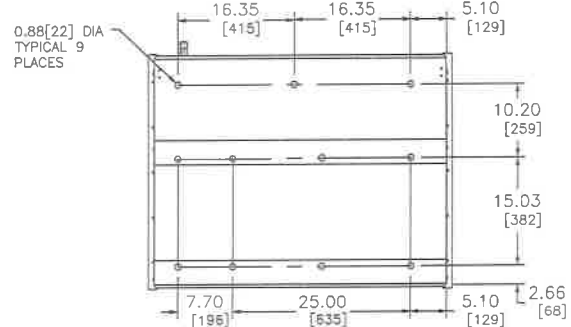


- NOTES:
- REFER TO CONTROLLER NAMEPLATE TO COMPLETE P/N.
  - 2.36[59.9] MAXIMUM PROJECTION OF DOOR-MOUNTED DEVICES.
  - USE FOR ESTIMATING COLLING REQUIREMENTS ONLY. LOSSES SHOWN FOR CONTINUOUS OPERATION IN SHORTING MODE.
  - A MINIMUM OF 12.00[304.8] CLEARANCE IS REQUIRED ABOVE THE ENCLOSURE TO MAINTAIN PROPER COOLING. DURING OPERATION THE TEMPERATURE OF THE AIR SURROUNDING THE ENCLOSURE SHOULD BE MAINTAINED BETWEEN 0°C AND 40°C.

LEFT SIDE VIEW

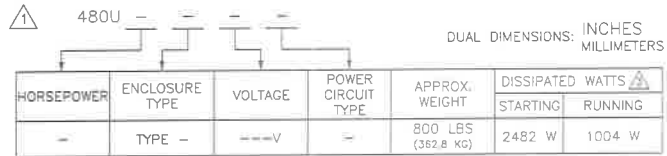
FRONT VIEW

BOTTOM VIEW



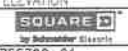
PLAN VIEW

ENCLOSURE OUTLINE & GENERAL ARRANGEMENT FOR CONTROLLER P/N



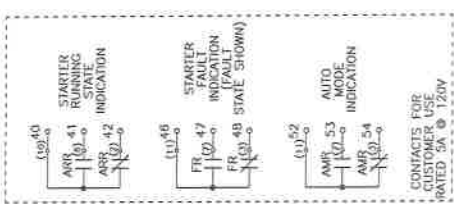
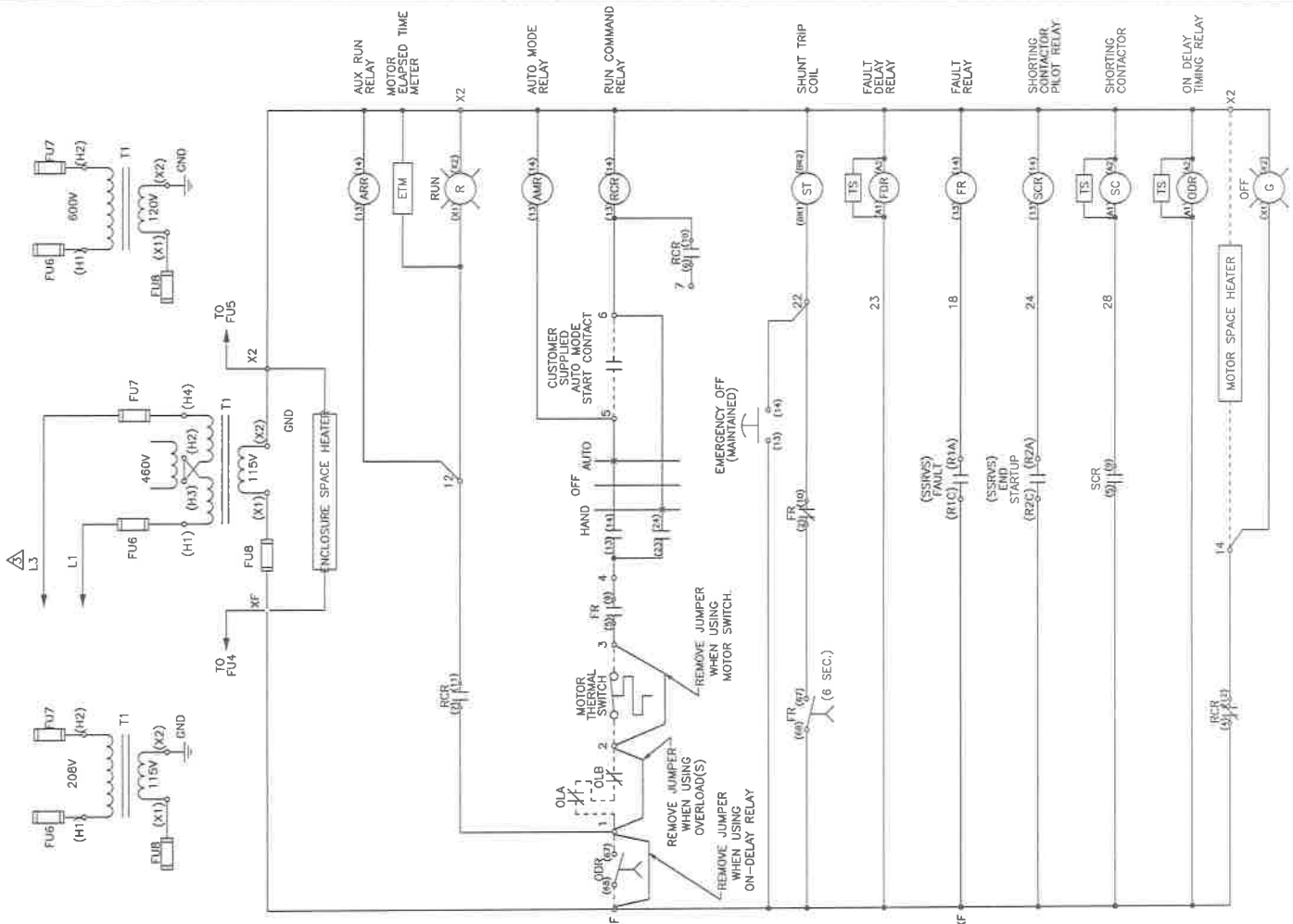
SEISMIC LABEL ( MOD Y10)

JOB NAME: North Kern Water Storage Dist 500hp	EQUIPMENT DESIGNATION:
JOB LOCATION: (02C)	EQUIPMENT TYPE: 8630-480UXH4S
DATE: July 10 2023	DRAWING TYPE: ELEVATION
DRAWING STATUS: QUOTE	DWG# FQ-4240720-122755392-01





REV	DESCRIPTION	BY	DATE						



JOB NAME:	NorthKern Water Storage Dist 500hp	EQUIPMENT DESIGNATION:	
JOB LOCATION:		EQUIPMENT TYPE:	8539-480UXH4S
DRAWN BY:	(Q2C)	DRAWING TYPE:	ELEMENTARY
ENGR:		<b>SQUARE D</b> by Schneider Electric	
DATE:	July 10 2023	DWG#	EQ-4240720-122755392-01
DRAWING STATUS:	QUOTE	PG 2	OF 2

**Attachment 5 – Bid Schedule**  
**(Well Construction)**

## Bid Detail Schedule For Primary Well Construction

### Bidder Information

Bidding Company Name:

Bidding Company Address:

Bidding Company Phone:

Bidding Company Email:

Bidding Company Contact Person Information:

Date of Bid:

### Fixed Cost Detailed Bid (For Each Well)

Line Item	Quantity	Unit of Measure	Item Description	Unit Price	Extended Price
			<b>Permits &amp; Bonds</b>		
1	1	Ea	County Drilling Permit and Paperwork		
2	1	Ea	Other Permit Related		
3	1	Ea	Bond Charges		
			<b>Drilling</b>		
4	1	Ea	Mobilize/Demobilize Equipment and Personnel/Water Supply		
5	1	Ea	Daily Log Entry & Core Sample Collection, Archiving		
6	1100	Ft	Drilling Per Foot (Adjustment to bid to be made based upon actual drilling depth during construction based upon the per foot price)		
7	1	Ea	E-log (includes rig time)		
8	1	Ea	Deviation Survey (includes rig time)		
9	6	Ea	Zone Testing (3 Zones per Well) - Unit Price per Zone		
10	1000	Ft	Reaming Per Foot (Adjustment to bid to be made based upon actual drilling depth during construction based upon the per foot price)		
11	1	Ea	Other (Describe)		
			<b>Casing &amp; Other</b>		
12	50	Ft	Furnish & Install 36" Conductor Casing (any additional, if required and authorized to be at unit price)		
13	400	Ft	Furnish & Install 18" Blank Casing (any additional, if required, to be at unit price)		
14	600	Ft	Furnish & Install 18" Perforated (Mill Slot) Casing (any additional, if required, to be at unit price)		
15	700	Ft	Furnish & Install Gravel & Sand (sand to be installed between gravel and seal)		
16	300	Ft	Furnish & Install Annular Seal (any additional, if required, to be at unit price)		
17	315	Ft	Furnish & Install Gravel Tube		
18	1	Ea	Furnish & Install Air Vent/Sounding Tube Stickup		
19	1	Ea	Furnish & Install Casing Guides and Rounded Closed Shoe for Bottom of Casing String		

20	1	Ea	Well Alignment (Gyro) Survey		
21	48	Hr	Swab & Airlift		
22	600	Ft	Chemical Development with Swab and Airlift (PFD - Required if drilling mud additives used) Not required if only fresh water with no mud additives is used in drilling pilot hole and reaming process.		
23	1	Ea	Freight Charges		
			<b>Test Pumping</b>		
24	1	Ea	Mobilize Pump Rig and Personnel		
25	1	EA	Install & Remove Develop/Test Pump		
26	60	Hr	Develop & Test Well		
27	200	Ft	Discharge Piping		
28	2	Ea	Mud Dispersant Treatment during pump development process (Mud-Nox)		
29	1	Ea	Deviation Survey (includes rig time)		
30	1	Ea	Video Log		
31	1	Ea	Weld Steel Plate At Top Casing After Completion If Required		
32	1	Ea	Other (Describe)		
			<b>Site Cleanup</b>		
33	1	Ea	General Cleanup, Restore Fencing, Roadways, and All Other Public & Private "Facilities"		
34	1	Ea	Other (Describe)		
				<b>Total</b>	

Variable Cost Items, Optional Bid Items & "If Required" Item Prices (For Each Well)					
Line Item	Quantity	Unit of Measure	Item Description	Unit Price	Extended Price
35	1	Ea	Disposal of Cuttings and Drilling mud residue, restore cuttings and drilling mud holding site.		
36	1	Hr	High Speed Bailing of well for well development (as directed by District Representative)		
37	1	Hr	Rock Bit Charge Per Hour If Required (Actual hours to be added to bid during drilling phase at the per hour price)		
38	1	Hr.	Standby rate per hour if authorized		
39	1	Ea	Other (Describe)		
40	600	Ft	Furnish & Install 18" Perforated (Louvered Screen) Casing (any additional, if required, to be at unit price)		

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

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**Attachment 6 – Bid Schedule**

**(Well Equipping)**

Bidder Information					
Bidding Company Name:					
Bidding Company Address:					
Bidding Company Phone:					
Bidding Company Email:					
Bidding Company Contact Person Information:					
Date of Bid:					
Detailed Bid (For Each Well)					
Line Item	Quantity	Unit of Measure	Item Description	Each Price	Extended Price
<b>Permits &amp; Bonds</b>					
1	1	Ea	Permits		
2	1	Ea	Bond Charges		
<b>Column, Tube &amp; Shaft</b>					
3	1	Ea	Mobilize/Demobilize Pump Rig and Personnel		
4	600	LF	Furnish & Install Column, Tube & Shaft (Line Shaft: 3-1/2" x 2-3/16)		
5	550	LF	Furnish and install 1-1/4" Schedule 40 PVC, with cap and perforated bottom joint		
<b>Bowls &amp; Pump Head</b>					
6	1	Ea	Furnish & Install Bowls		
7	1	Ea	Furnish & Install Pump Head		
8	1	Ea	Other (Describe)		
<b>Discharge Head</b>					
9	1	Ea	Furnish & Install Complete Discharge Head Assembly		
10	1	Ea	Other (Describe)		
<b>Motor</b>					
11	1	Ea	Furnish & Install 500 HP Electric Motor		
12	1	Ea	Other (Describe)		
<b>Electrical</b>					
13	1	Ea	Furnish & Install 500 HP Soft Start Control Panel		
14	1	Ea	Furnish & Install Meter Panel		
15	1	Ea	Furnish and Install Underground and Above ground Electrical(conduits, wiring, etc.)		
16	1	Ea	Furnish & Install Transformer Pad		
17	1	Ea	Other (Describe)		
				<b>Total</b>	

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

Notes: \_\_\_\_\_

**Attachment 7 – Bid Summary and Certification**



**Experienced with well pump construction**

- Yes
- No
- Number completed \_\_\_\_\_

**Agree to NKWSD Terms and Conditions, meet all specifications**

- Yes
- No
- Agree but with exceptions
- Exceptions attached

**Proposed Start Date**

- \_\_\_\_\_
- Detailed project plan attached

**Proposed Completion Date**

- \_\_\_\_\_
- Number of concurrent drill rigs to be used \_\_\_\_\_

**Bid Price, each well drilling & Equiping**

- \_\_\_\_\_
- Cost detail form completed

**Bidder Certification**

**Bidder certifies that the information above and all other information included with this bid is accurate and complete.**

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Printed Name**

\_\_\_\_\_  
**Company Name & Signer Title**