BEAUMONT-CHERRY VALLEY WATER DISTRICT

WELL Nos. 10 and 18 PUMPING UNIT REPAIR AND WEL REHABILITATION
CONTRACT FOR PUBLIC WORK

1. Parties and Date

This Contract is entered into this ____ day of _____, 2022, between the BEAUMONT-CHERRY VALLEY WATER DISTRICT, a California Irrigation (Special) District ("District"), and ("Contractor"), for the Work described as follows: Removing, Refurbishing, Furnishing, and Installing "Well Nos. 10 and 18 Pumping Unit and Well Rehabilitation".

2. Consideration

In consideration of the mutual covenants hereinafter contained, District and Contractor agree to comply with the terms of this Contract and to faithfully perform their duties hereunder.

3. Duties of Contractor

3.1 Contractor agrees to furnish all labor, tools, and equipment necessary to complete the work hereinafter described. Contractor hereby guarantees that all work to be performed by it hereunder will be performed in a good and workmanlike manner. The Work to be performed by Contractor is described on Exhibit "A" and Exhibit "B" attached hereto and by this reference incorporated herein. Pursuant to Public Contract Code Section 3300, Contractor shall possess an active and current Contractor's License, Class A or C-57, which shall be maintained throughout the term of this Contract.

3.2 Contractor shall complete all work required herein on or before **April 28, 2022**.

3.3 Contractor shall furnish District with labor and material releases from all subcontractors performing work on, or furnishing materials for, the job prior to final payment by District.

3.4 Contractor hereby guarantees that all new materials and workmanship furnished by him under the Contract will meet fully all requirements thereof as to quality or workmanship and of materials furnished by him. Contractor hereby agrees to replace all materials and pay for all installation costs made necessary by defects in materials or workmanship supplied by him that become evident within twelve (12) months after the date of final payment and to pay for all work necessary to remove, restore, and replace the materials to full serviceability and to full compliance with the requirements of the Contract, including the test requirements for any part of the materials furnished hereunder which, during said twelve (12) month period, are found to be deficient with respect to any provision of the Contract. Contractor also agrees and does hereby hold District harmless from claims of

any kind which may arise from injury or damage due to said defects. Contractor shall replace all defective materials promptly upon receipt of written orders for same from District.

3.5 Copies of the prevailing rate of per diem wages for each craft, classification or type of worker needed to execute this Contract are available to interested parties upon request. If the total amount of this Contract is $1,000 or more, Contractor agrees to pay such prevailing rates to each workman needed to execute the work required under this Contract and further agrees to comply with the penalty provisions of Section 1775 of the Labor Code in the event of its failure to pay prevailing rates. Pursuant to Section 1727 of the Labor Code, all wages and penalties withheld for failure of Contractor to pay such per diem wages shall be transferred by District to the State Labor Commissioner for disbursement, should Contractor fail to bring suit for recovery within ninety (90) days after completion of the Contract or acceptance of the work.

3.6 Contractor shall pay travel subsistence payments to each workman needed to execute the work, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Section 1773.8 of the Labor Code.

3.7 When Contractor employs workmen in an apprenticeable craft or trade, Contractor shall comply with the provisions of Section 1777.5 of the Labor Code with respect to the employment of properly registered apprentices upon public works. The primary responsibility for compliance with said section for all apprenticeable occupations shall be with Contractor.

3.8 Contractor is advised that eight (8) hours labor constitutes a legal day's work. Pursuant to Section 1813 of the Labor Code, Contractor shall forfeit a penalty of $25.00 per worker for each day that each worker is permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week, except when payment for overtime is made at not less than one and one-half (1-1/2) times the basic rate for that worker.

3.9 In accordance with the requirements of Labor Code Section 1776, Contractor shall keep accurate payroll records on forms provided by the Division of Labor Standards Enforcement or keep payroll records containing the same information required by such forms and shall make any such records available for inspection.

3.10 Contractor shall keep himself fully informed of all laws and regulations in any manner affecting the performance of the Contract work and shall indemnify District and District's agents against any liability arising from violation of any such law or regulation.

3.11 Contractor shall at its own expense maintain at least the following insurance coverages throughout the performance of this Contract:

(a) Worker's compensation insurance coverages for all persons employed or to be employed in the performance of this Contract, which insurance shall at all times be maintained in strict accordance with the requirements of the current California Worker's Compensation Insurance Laws.

(b) General commercial liability insurance coverage of at least $1,000,000 per occurrence and $2,000,000 general aggregate insuring Contractor and naming District as an additional insured for all claims for bodily injury, personal injury and property damage, arising out of or in connection with any operations under this Contract.

(c) Automobile liability insurance coverage with a limit of liability of $1,000,000 per accident Combined Single Limit.

(d) Course of construction insurance with a limit of liability equal to the full contract amount, unless waived in writing by District.

Prior to commencement of any work under this Contract, Contractor shall obtain and furnish to District a Certificate of Insurance as to each type of insurance required, which certificate shall be on the form provided to Contractor by District.

3.12 Contractor shall be responsible for all loss and damage which may arise out of the nature of the work agreed to herein, or from the action of the elements, or from any unforeseen difficulties which may arise or be encountered in the prosecution of the work until same is fully completed and accepted by District. However, Contractor shall be responsible for damage proximately caused by an act of God within the meaning of Section 4150 of the Government Code only to the extent of five percent (5%) of the contract amount.

3.13 Contractor shall indemnify and hold harmless District, its agents and employees, from and against all claims, damages, losses and expenses, including attorney's fees, arising out of or resulting from performance of work under this Contract and which are attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom, caused in whole or in part by any negligent or willful act or omission of the Contractor or anyone directly or indirectly employed by him or for whose acts he may be liable.

3.14 Contractor shall be responsible for securing and paying for all permits and licenses necessary to perform the work described herein.

3.15 If the work entails trenching of five (5) feet or more in depth, Contractor shall make adequate provisions for shoring, bracing, sloping, or other protection from the hazard of caving ground.

3.16 As required by Public Contract Code Section 7104, Contractor shall promptly, and prior to disturbance of conditions, notify District of (a) any material discovered in excavation that Contractor believes to be a hazardous waste that is required to be removed to a Class I, Class II, or Class III disposal site; (b) subsurface or latent physical conditions at the site differing from those indicated by District; and (c) unknown physical conditions of an unusual nature at the site, significantly different from those ordinarily encountered in such contract work. Upon notification, District will promptly investigate the conditions to determine whether a change order is appropriate. In the event of a

dispute, Contractor shall not be excused from any scheduled completion date but will retain all rights provided by the Contract or by law for resolving the dispute.

4. District's Responsibilities

4.1 As consideration for performance of the work required herein, District agrees to pay Contractor the total contract amount of _____, provided that such amount shall be subject to adjustment pursuant to written change orders signed in advance by District.

4.2 Contractor shall submit progress payment invoices to District at the end of each calendar month during the term of the Contract. All progress payment invoices shall be subject to approval by the District prior to payment by the District. Such progress payment invoices shall be made in accordance with Section 20104.50 of the California Public Contract Code, requiring District to make a determination of suitability of the payment request within seven (7) days of receipt of such request and further requiring District to make payment on properly submitted progress payment invoices within thirty (30) days in order to avoid interest payments to the Contractor upon such amounts.

4.3 When the Contractor determines that he has completed the work required herein, Contractor shall so notify District in writing and shall furnish all labor and material releases required by Section 3.3 of this Contract. District shall thereupon inspect the work and, if acceptable, shall pay to Contractor the contract price, less any amount which District may be authorized or directed by law to retain. Payment of retention proceeds due to Contractor shall be made no later than sixty (60) calendar days after such final acceptance by District, in accordance with Section 7107 of the California Public Contract Code. Contractor is hereby alerted to provisions of Section 7107 of the California Public Contract Code, requiring Contractor to pay each of its subcontractors from whom retention has been withheld, each subcontractor's share of the retention received, within ten (10) calendar days from the time that all or any portion of such retention proceeds are received by Contractor from District. District will allow Contractor to substitute qualified securities, deposited with District or a qualified escrow agent, in lieu of contract retentions in accordance with provisions of California Public Contract Code, Section 22300. The escrow agreement used in such instance shall be substantially similar to that form set out in Section 22300 of the Public Contract Code. District will provide this form to the Contractor upon request.

4.4 To the extent required by Section 4215 of the Government Code, District shall compensate Contractor for the costs of locating and repairing damage to underground utility facilities not due to the failure of Contractor to exercise reasonable care and removing or relocating underground utility facilities not indicated in the construction drawings and for equipment necessarily idled during such work. Contractor shall not be assessed liquidated damages for delay caused by failure of District to provide for removal or relocation of such utility facilities.

5. Contractual Relationship

It is expressly agreed that Contractor is an independent contractor, and neither Contractor nor any of its employees shall be deemed employees of District. Contractor shall have full supervision over all workers on the job, including equipment, drivers, and operators, and neither District nor any of District's agents shall be held responsible for any action of Contractor under this Contract. Should any question arise regarding the meaning or import of any of the provisions of this Contract or written or oral instructions from District, the matter shall be referred to District's General Manager, whose decision shall be binding upon Contractor.

6. Assignment Forbidden

Contractor shall not assign or transfer this Contract or any right, title or interest herein without the prior written consent of District. If contractor attempts an assignment of this Contract or any right or interest herein, District may, at its option, terminate and revoke the Contract and shall thereupon be relieved from any and all obligations to Contractor or his assignee or transferee.

7. Time of Essence

Time is of the essence in the performance of this Contract. Contractor will be assessed liquidated damages in the amount of $200.00 per calendar day for each day of unauthorized delay in completing performance.

8. Termination

This Contract may be terminated by District at any time by giving Contractor seven (7) days advance written notice. In the event of termination by District for any reason other than the fault of the Contractor, District shall pay Contractor for all work performed up to that time as provided herein. In the event of breach of the Contract by Contractor, District may terminate the Contract immediately without notice, may reduce payment to the Contractor in the amount necessary to offset District's resulting damages, and may pursue any other available recourse against Contractor.

9. Dispute Resolution

Any separate demand by Contractor for the payment of money or damages shall be resolved in accordance with Public Contract Code Sections 20104 et seq., if they apply. Copies of those sections are available upon request and by this reference are incorporated herein.

10. Attorney's Fees and Costs

If any action is necessary to enforce or interpret the terms of this Contract, the prevailing party shall be entitled to recover from the losing party attorney's fees in an amount determined to be reasonable by the court, together with costs and necessary disbursements.

11. Notices

Any notice required to be given under the terms of this Contract shall be sufficient and complete upon depositing the same in the United States mail, with postage prepaid and addressed as follows:

DISTRICT	**Contractor**
Beaumont-Cherry Valley Water District P.O. Box 2037560 Magnolia Avenue Beaumont, CA 9223	

12. Counterparts

This Contract shall be executed in two (2) counterparts, each of which shall constitute an original.

13. Certification of License

Contractor certifies that as of the date of execution of this contract, Contractor has a current contractor's license of the classification indicated below Contractor's signature hereto.

IN WITNESS WHEREOF, each of the parties has caused this Contract to be executed on the day and year first above written.

ATTEST:

_____ _____

(Contractor) Secretary

By: _____

Title: _____

_____

Contractor's License Number & Classification

BEAUMONT-CHERRY VALLEY WATER DISTRICT **ATTEST:**

By: _____ _____

Daniel K. Jaggers
General Manager

David Hoffman
Secretary to the Board

CERTIFICATION

LABOR CODE – SECTION 1861

I, the undersigned Contractor, am aware of the provisions of Section 3700 et seq. of the Labor Code which requires every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of the Code, and I, the undersigned Contractor, agree to and will comply with such provisions before commencing the performance of the work of this Contract.

_____
Contractor

By: _____

Title: _____

Exhibit "A"

Well 10 Pumping Unit Repair Work
Scope of Work Fee Schedule I

Well 18 Pumping Unit Repair Work
Scope of Work Fee Schedule II

EXHIBIT "A"

BEAUMONT-CHERRY VALLEY WATER DISTRICT
WELL PLANT 10 and 18 WELL AND WELL PUMPING UNIT REPAIR WORK

SCHEDULE I – WELL 10

SCOPE OF WORK-FEE SCHEDULE

The undersigned hereby proposes to furnish all labor, materials, equipment and methods necessary for constructing all Work specified in the Scope of Work-Fee Schedule amounts set forth below and commence work within one (1) week of Notice to Proceed. The undersigned also acknowledges that all prices include sales tax and all other applicable taxes and fees. See attached data sheets for details related to well and pumping plant.

BID SCHEDULE I (BASIS OF AWARD – BASIC BID)

Item	Description	Qty	Unit	Unit Cost	Amount
101	Permits, insurance, and management.	1	L.S.	N/A	$
102	Mobilize and demobilize well pump removal crew and equipment necessary to remove and reinstall existing well pumping unit, and motor.	1	L.S.	N/A	$
103	Remove and inspect 4" diameter pump column and column check valve. Tag well to determine presence/amount of fill. Haul column from well 10 site to vendor's yard for evaluation (as necessary). Inspect and provide comments and/or recommendations regarding conditions and serviceability of pump column.	140	L.F.	$	$
104	Remove existing Submersible Vertical Turbine Pumping Unit and Motor Assembly.	1	L.S.	N/A	$
105	Haul Well 10's 5 hp pumping unit and electric motor to the contractor's yard for evaluation.	1	L.S.	N/A	$
106	Disassemble and inspect pump bowl assembly. Measure and record wear and damage. Provide report and recommendations to Owner. Return disassembled bowl to Owner's Well 2 site location for storage (if not rebuilt as part of this contract).	1	L.S.	N/A	$
107	Bail well clean. Payment will be based on actual time required to remove fill.	8	Hrs	$	$

EXHIBIT "A"

BEAUMONT-CHERRY VALLEY WATER DISTRICT
WELL PLANT 10 and 18 WELL AND WELL PUMPING UNIT REPAIR WORK

SCHEDULE I – WELL 10

SCOPE OF WORK-FEE SCHEDULE

The undersigned hereby proposes to furnish all labor, materials, equipment and methods necessary for constructing all Work specified in the Scope of Work-Fee Schedule amounts set forth below and commence work within one (1) week of Notice to Proceed. The undersigned also acknowledges that all prices include sales tax and all other applicable taxes and fees. See attached data sheets for details related to well and pumping plant.

BID SCHEDULE I (BASIS OF AWARD – BASIC BID)

Item	Description	Qty	Unit	Unit Cost	Amount
108	Clarify water in preparation for initial video log. Perform color video log of well and provide video inspection comments to District. Camera shall be capable of lateral (side) as well as axial viewing. Provide DVD disk (2 copies) to District.	1	L.S.	N/A	$
109 (Optional)	Wire brush 10" diameter well from ground surface to 147' (total depth of 10" diameter well from 0' to 147' below ground surface) and bail well clean. Optional, District approved work based on results of initial video log.	15	Hrs.	$	$
110 (Optional)	Mechanically develop (swab) perforated area of well. Optional, District approved work based on results of initial video log.	18	Hrs.	$	$
111 (See 111 Alternative Bid Item Below)	Furnish new replacement Bowl assembly per requirements set forth in Specification Section 11325. Bowl assembly shall be Flowserve, Goulds, or District approved equal.	1	L.S.	N/A	$
112	Inspect and refurbish existing 4" diameter pump column and coupling assembly.	140	L.F.	$	$
113 (Optional)	Clarify water and perform optional, District approved post brushing color video log of well and provide video inspection comments to District. Camera shall be capable of lateral (side) as well as axial viewing. Provide DVD Disk (2 copies) to District.	1	L.S.	N/A	$
114	Inspect and refurbish existing pump discharge elbow assembly as necessary, as required.	1	L.S.	N/A	$
115	Install new (or refurbished) pumping unit bowl assembly and submersible motor, and all related work.	1	EA.	$	$
116	Install 140' of 4" column pipe and discharge elbow, power cable, and appurtenances including leveling pumping unit (as required) and all related work.	1	L.S.	N/A	$

EXHIBIT "A"

BEAUMONT-CHERRY VALLEY WATER DISTRICT
WELL PLANT 10 and 18 WELL AND WELL PUMPING UNIT REPAIR WORK

SCHEDULE I – WELL 10

SCOPE OF WORK-FEE SCHEDULE

The undersigned hereby proposes to furnish all labor, materials, equipment and methods necessary for constructing all Work specified in the Scope of Work-Fee Schedule amounts set forth below and commence work within one (1) week of Notice to Proceed. The undersigned also acknowledges that all prices include sales tax and all other applicable taxes and fees. See attached data sheets for details related to well and pumping plant.

BID SCHEDULE I (BASIS OF AWARD – BASIC BID)

Item	Description	Qty	Unit	Unit Cost	Amount
117	Provide coordination (as necessary) with District Staff of installation of District furnished piping and/or hose for well water clarification (prior to off - site discharge). District to furnish temporary fire hose and/or piping as required.	1	L.S.	N/A	$
118	Remove existing Model 777 Motor Saver from existing motor control circuit and install (replace) with a new Grundfos MP 204 Motor Saver	1	L.S.	N/A	$
119	Provide start up and performance testing of all new and existing equipment, controls and instrumentation for the lump sum of;	1	L.S.	N/A	$
120	Disinfect well in accordance with Specification Section 11320, State of California Department of Health Service requirements and in accordance with AWWA procedures for the lump sum of;	1	L.S.	N/A	$

TOTAL BID SCHEDULE I BASE BID AMOUNT (Sum of Fee Items 101 through 120):

_____ Dollars $_____
(words) (figures)

Vendor hereby acknowledges that all bid prices include any amounts payable by District for taxes which may result from this proposal.

Vendor's Authorized Representative

_____ _____
Vendor (Company Name) Signature

_____
Name (Print)

_____
Title (Print)

ALTERNATIVE SCHEDULE I
BID ITEM 111

Item	Description	Qty	Unit	Unit Cost	Amount
111 (See 111 Base Bid Item Above)	Refurbish and rebuild existing pump bowl assembly pumping unit. Contractor shall anticipate that pumping unit rebuild will require new impellers, bearings, etc.	1	L.S.	N/A	$

ADDITIVE FEE SCHEDULE I: SONAR JETTING AND CHEMICAL WELL REHABILITATION

Item	Description	Qty	Unit	Unit Cost	Amount
201	Provide Well Sonar Jetting treatment in accordance with Specification Section 11330.	1	L.S.	N/A	$
202	Provide chemical well rehabilitation in accordance with Specification Section11330.	1	L.S.	N/A	$

ADDITIVE FEE SCHEDULE I: PROJECT BOND

Item	Description	Qty	Unit	Unit Cost	Amount
301	Project Performance Bond equal to 100% of Full Contract Amount.	1	L.S.	N/A	$
302	Project Payment Bond equal to 50% of Full Contract Amount.	1	L.S.	N/A	$
303	Project Maintenance Bond equal to 100% of Full Contract Amount for a period of 30 months.	1	L.S.	N/A	$

ADDITIVE FEE SCHEDULE I: MISCELLANEOUS EQUIPMENT (TO PROVIDE AS REQUIRED)

Item	Description	Qty	Unit	Unit Cost	Amount
401A	4" Column, 0.237 wall, 10' length	29	EA.	$	$
401B	5" Column, 0.258wall, 10' length	29	EA.	$	$
401C	6" Column, 0.280 wall, 10' length	29	EA.	$	$
402A	4" Column Coupling	1	EA.	N/A	$
402B	5" Column Coupling	1	EA.	N/A	$
402C	6" Column Coupling	1	EA.	N/A	$
403	Furnish and install submersible power supply cable for 5 Hp Submersible, 460 volt, 3 phase, 60 cycle pumping	150'±	L.F.	$	$
407A	½" PVC chlorination/sounding tube and stainless steel straps	150'±	L.F.	$	$
407B	¾" PVC chlorination/sounding tube and stainless steel straps	150'±	L.F.	$	$

EXHIBIT "A"

BEAUMONT-CHERRY VALLEY WATER DISTRICT
WELL PLANT 10 and 18 WELL AND WELL PUMPING UNIT REPAIR WORK

SCHEDULE II – WELL 18

SCOPE OF WORK-FEE SCHEDULE

The undersigned hereby proposes to furnish all labor, materials, equipment and methods necessary for constructing all Work specified in the Scope of Work-Fee Schedule amounts set forth below and commence work within one (1) week of Notice to Proceed. The undersigned also acknowledges that all prices include sales tax and all other applicable taxes and fees. See attached data sheets for details related to well and pumping plant.

BID SCHEDULE II (BASIS OF AWARD – BASIC BID)

Item	Description	Qty	Unit	Unit Cost	Amount
101	Permits, insurance, and management.	1	L.S.	N/A	$
102	Mobilize and demobilize well pump removal crew and equipment necessary to remove and reinstall existing well pumping unit, and motor.	1	L.S.	N/A	$
103	Remove and inspect 4" pump column and column check valve. Tag well to determine presence/amount of fill. Haul column from well 18 site to vendor's yard for evaluation (as necessary). Inspect and provide comments and/or recommendations regarding conditions and serviceability of pump column.	130	L.F.	$	$
104	Remove existing Submersible Vertical Turbine pumping unit and Motor Assembly.	1	L.S.	N/A	$
105	Haul Well 18's 5 hp pumping unit and electric motor to the contractor's yard for evaluation.	1	L.S.	N/A	$
106	Disassemble and inspect pump bowl assembly. Measure and record wear and damage. Provide report and recommendations to Owner. Return disassembled bowl to Owner's Well 2 site location for storage (if not rebuilt as part of this contract).	1	L.S.	N/A	$
107	Bail well clean. Payment will be based on actual time required to remove fill.	6	Hrs	$	$

EXHIBIT "A"

BEAUMONT-CHERRY VALLEY WATER DISTRICT
WELL PLANT 10 and 18 WELL AND WELL PUMPING UNIT REPAIR WORK

SCHEDULE II – WELL 18

SCOPE OF WORK-FEE SCHEDULE

The undersigned hereby proposes to furnish all labor, materials, equipment and methods necessary for constructing all Work specified in the Scope of Work-Fee Schedule amounts set forth below and commence work within one (1) week of Notice to Proceed. The undersigned also acknowledges that all prices include sales tax and all other applicable taxes and fees. See attached data sheets for details related to well and pumping plant.

BID SCHEDULE II (BASIS OF AWARD – BASIC BID)

Item	Desc	Qty	Unit	Unit Cost	Amount
108	Clarify water in preparation for initial video log. Perform color video log of well and provide comments and recommendations to District. Camera shall be capable of lateral (side) as well as axial viewing. Provide DVD disk (2 copies) to District.	1	L.S.	N/A	$
109 (Optional)	Wire brush 10" diameter well from ground surface to 147' (total depth of 10" diameter well from 0' to 147' below ground surface) and bail well clean. Optional, District approved work based on results of initial video log.	15	Hrs.	$	$
110 (Optional)	Mechanically develop (swab) perforated area of well. Optional, District approved work based on results of initial video log.	18	Hrs.	$	$
111 (See 111 Alternative Bid Item Below)	Furnish new replacement Bowl assembly per requirements set forth in Specification Section 11325. Bowl assembly shall be Flowserve, Goulds, or District approved equal.	1	L.S.	N/A	$
112	Inspect and refurbish existing 4" pump column and coupling assembly.	130	L.F.	$	$
113 (Optional)	Clarify water and perform optional, District approved post brushing color video log of well and provide video inspection comments to District. Camera shall be capable of lateral (side) as well as axial viewing. Provide DVD Disk (2 copies) to District.	1	L.S.	N/A	$

EXHIBIT "A"

BEAUMONT-CHERRY VALLEY WATER DISTRICT
WELL PLANT 10 and 18 WELL AND WELL PUMPING UNIT REPAIR WORK

SCHEDULE II – WELL 18

SCOPE OF WORK-FEE SCHEDULE

The undersigned hereby proposes to furnish all labor, materials, equipment and methods necessary for constructing all Work specified in the Scope of Work-Fee Schedule amounts set forth below and commence work within one (1) week of Notice to Proceed. The undersigned also acknowledges that all prices include sales tax and all other applicable taxes and fees. See attached data sheets for details related to well and pumping plant.

BID SCHEDULE II (BASIS OF AWARD – BASIC BID)

Item	Description	Qty	Unit	Unit Cost	Amount
114	Inspect and refurbish existing pump discharge elbow assembly as necessary, as required.	1	L.S	N/A	$
115	Install new (or refurbished) pumping unit bowl assembly and submersible motor, and all related work	1	L.S	N/A	$
116	Install 130' of 4" column pipe and discharge elbow, power cable, and appurtenances including leveling pumping unit (as required) and all related work	1	L.S.	N/A	$
117	Provide coordination (as necessary) with District Staff of installation of District furnished piping and/or hose for well water clarification (prior to off-site discharge). District to furnish temporary fire hose and/or piping as required.	1	L.S.	N/A	$
118	Remove existing Model 777 Motor Saver from existing motor control circuit and install (replace) with a new Grundfos MP 204 Motor Saver.	1	L.S.	N/A	$
119	Provide start up and performance testing of all new and existing equipment, controls and instrumentation for the lump sum of;	1	L.S.	N/A	$
120	Disinfect well in accordance with Specification Section 11320, State of California Department of Health Service requirements and in accordance with AWWA procedures for the lump sum of;	1	L.S.	N/A	$

TOTAL BID SCHEDULE II BASE BID AMOUNT (Sum of Fee Items 101 through 120 – Basis of Award):

_____ Dollars $_____
(words) (figures)

Vendor hereby acknowledges that all bid prices include any amounts payable by District for taxes which may result from this proposal.

Vendor's Authorized Representative

_____ _____
Vendor (Company Name) Signature

_____
Name (Print)

_____
Title (Print)

ALTERNATIVE SCHEDULE
II: BID ITEM 111

Item	Description	Qty	Unit	Unit Cost	Amount
111 (See 111 Base Bid Item Above)	Refurbish and rebuild existing pump bowl assembly pumping unit. Contractor shall anticipate that pumping unit rebuild will require new impellers, bearings, etc.	1	L.S.	N/A	$

ADDITIVE FEE SCHEDULE II: SONAR JETTING AND CHEMICAL WELL REHABILITATION

Item	Description	Qty	Unit	Unit Cost	Amount
201	Provide Well Sonar Jetting treatment in accordance with Specification Section 11330.	1	L.S.	N/A	$
202	Provide chemical well rehabilitation in accordance with Specification Section 11330.	1	L.S.	N/A	$

ADDITIVE FEE SCHEDULE II: PROJECT BOND

Item	Description	Qty	Unit	Unit Cost	Amount
301	Project Performance Bond equal to 100% of Full Contract Amount.	1	L.S.	N/A	$
302	Project Payment Bond equal to 50% of Full Contract Amount.	1	L.S.	N/A	$
303	Project Maintenance Bond equal to 100% of Full Contract Amount for a period of 30 months.	1	L.S.	N/A	$

ADDITIVE FEE SCHEDULE II: MISCELLANEOUS EQUIPMENT (TO PROVIDE AS REQUIRED)

Item	Description	Qty	Unit	Unit Cost	Amount
401A	4" Column, 0.237 wall, 10' length	20	EA.	$	$
401B	5" Column, 0.258wall, 10' length	20	EA.	$	$
401C	6" Column, 0.280 wall, 10' length	20	EA.	$	$
402A	4" Column Coupling	1	EA.	N/A	$
402B	5" Column Coupling	1	EA.	N/A	$
402C	6" Column Coupling	1	EA.	N/A	$
403	Furnish and install submersible power supply cable for 5.0 Hp Submersible, 460 volt, 3 phase, 60 cycle pumping	130'±	L.F.	$	$
407A	½" PVC chlorination/sounding tube and stainless steel straps	130'±	L.F.	$	$
407B	¾" PVC chlorination/sounding tube and stainless steel straps	130'±	L.F.	$	$

EXHIBIT "B"

Well 10 And 18 Pumping Unit Rehabilitation
And Well Rehabilitation
Special Requirements

EXHIBIT "B"

WELL 10 AND 18 WELL AND WELL PUMPING UNIT REHABILITATION AND REPAIR

SPECIAL REQUIREMENTS

1. The Work

The Work shall include all labor, materials, equipment, and methods required for inspection and repair or replacement of the District's existing Well 10 and 18 domestic water well pumping units and rehabilitation of Well 10 and 18 in accordance with the Scope of Work-Fee Schedule. The Owner reserves the right to award Schedule I and/or Schedule II as part of the well rehabilitation contracts as shown in Exhibit "A". Specific work to be performed identified in Exhibit "A" includes the following general items for each well as follows:

I. Well 10

Remove, inspect, rehabilitate, and refurbish the existing submersible well pumping unit and motor assemble or furnish a new submersible pumping unit and motor assembly (based upon existing equipment inspection), and bail well clean, perform video inspection of well, and re-install the existing or new equipment for Well 10. Bidder (Contractor) shall complete all items included in Exhibit "A" Schedule I – Well 10, Scope of Work Fee Schedule. The Work will include all work listed in the Scope of Work-Fee Schedule and Alternate Work-Fee Schedule (as approved by District) and as described herein.

District will notify Contractor of acceptance of total Project Amount with a "Notice to Proceed" letter for Well 10 and/ or Well 18 work items.

A. The Contractor shall furnish all materials, labor, equipment, tools, transportation and services for the removal of the District's existing Well 10 submersible pumping unit, inspection of said pumping unit, rehabilitation of pumping unit, submersible motor and pumping unit and power cable (or re-equipping with new pumping unit and motor assembly and/or column pipe, as required).

Well 10 is located in an existing masonry wall building with a removable wood roof hatch which is located within Edgar Canyon approximately 750 feet northeast of 12303 Oak Glen Road, Yucaipa, CA. A location map, plan view of the site, and site photographs are attached in Appendix "C" for Well 10.

B. The Well 10 Work includes all work set for on the Schedule I– Well 10 Scope of Work-Fee Schedule and generally as described in the following items:

<u>Well 10 Work to be Performed by Contractor</u>

- Provide temporary facilities as necessary for removal of pumping facilities.
- Remove existing Well 10 submersible pumping unit equipment including 5 horsepower 480 volt 3 phase electric motor, discharge elbow, 145'± of column (including couplings) for submersible pumping unit. Tag well to determine presence of fill.
- Inspect and provide comments and/or recommendations regarding serviceability of existing pump column and column couplings.

- Haul column, couplings, submersible pumping unit and electric motor assembly to Contractors yard for evaluation regarding condition and serviceability of the column, submersible pumping unit and electric motor assembly.
- Inspect existing column and couplings removed from Well 10. Provide written report and recommendations to District of column and coupling conditions and serviceability.
- Recondition (as required) existing pump column and discharge elbow.
- Disassemble and inspect submersible pumping unit and electric motor assembly. Provide report and recommendations to District of submersible pumping unit and electric motor assembly conditions and refurbishment options (this work is to be completed in order for the District to access the existing submersible pumping unit and electric motor assembly condition only, upon completion of this work, the District will then make the decision whether to rebuild the existing bowl assembly or replace said existing submersible pumping unit and electric motor assembly with a new bowl assembly). In the event the District elects to replace the existing bowl assembly, said existing bowl assembly shall be delivered from the Contractors place of disassembly to the District's Well 2 site for storage subsequent to disassembly and inspection.
- Bail well clean.
- Provide chemical coagulant to clarify water in preparation for initial (pre cleaning) video log. Perform color video log of well and provide comments and recommendations to District. Camera shall be capable of lateral (side) as well as axial viewing. Provide DVD disk (2 copies) to District. (Survey shall be conducted by an independent party approved by District). District staff shall be present during video inspection.
- Wire brush well.
- Mechanically develop (swab) well.
- If District elects to sonar jet and/or chemically rehabilitate the well, the Contractor shall sonar jet and/or chemically and mechanically rehabilitate the well as set forth in the specifications. Fee shall be based upon actual work performed.
- If District selects to replace the submersible pumping unit bowl assembly and motor, the Contractor shall furnish a new replacement submersible pumping unit motor. Bowl assembly and motor shall be furnished and installed to meet pumping unit and motor requirements set forth in Specification Section 11325. Fee shall be based upon replacing the existing bowl assembly with a new Flowserve, Goulds, or approved equal bowl assembly.
- Refurbish existing pump discharge elbow as necessary.
- Install new or existing submersible pumping unit including refurbished or new pumping unit/motor 145'± of column, pump power cable and megger pumping unit after installation.
- Coordinate installation of any appurtenances necessary to flush well. Owner will furnish and install discharge hoses or piping for well startup water clarification prior to startup of Well 10.
- Remove existing motor saver Model 777 from the existing pump control panel and replace with a new Grundfos MP 204 motor saver and test circuit.
- Start up and performance test new and existing equipment, controls and instrumentation; Contractor shall operate pump as required.
- Disinfect well in accordance with Specification Section 11320, State of California Department of Health Service requirements and in accordance with AWWA procedures

- Clean up well site.

Well 10 Work to be Performed by District's Staff

- Assist Contractor with disassembly and assembly of Well 10 building's removable roof hatch. Contractor shall provide truck crane for actual removal activity.
- District will provide water for well clarification prior to each video log.
- District will perform bacteriological testing and assist Contractor with pumping unit startup and testing.
- District will install temporary discharge hose or piping for rehabilitation (if performed) and for well startup and testing water clarification prior to discharge.

II. Well 18

Remove, inspect, rehabilitate, and refurbish the existing submersible well pumping unit and column and possibly refurbish the existing bowl assembly or furnish a new bowl assembly (based upon existing equipment inspection), and bail well clean, re-install the existing or new equipment for Well 18. Bidder (Contractor) shall complete all items included in Exhibit "A" Schedule II Well 18, Scope of Work Fee Schedule. The Work will include all work listed in the Scope of Work-Fee Schedule and additive Work-Fee Schedules (as approved by District) and as described herein.

District will notify Contractor of acceptance of total Project Amount with a "Notice to Proceed" letter for Well 10 and/or Well 18 work items.

A. The Contractor shall furnish all materials, labor, equipment, tools, transportation and services for the removal of the District's existing Well 18 submersible pumping unit, inspection of said pumping unit, rehabilitation of pumping unit, submersible motor and pumping unit and power cable (or re-equipping with new pumping unit and motor assembly and/or column pipe, as required).

Well 18 is located within an existing wood wall building with a removable wood roof structure located within Edgar Canyon approximately 550 feet southeast of 12303 Oak Glen Road, Yucaipa, CA. The entrance to Well 18 is made via an existing District access road located at 12303 Oak Glen Road, Yucaipa, CA. A location map, Plan view of the Site, and Site Photographs are attached in Appendix "C" for Well 18.

B. The Work includes all work set for on the Scope of Work-Fee Schedule and generally as described in the following items:

Well 18 Work to be Performed by Contractor

- Provide temporary facilities as necessary for removal of pumping facilities.
- Remove existing Well 18 submersible pumping unit equipment including 5 horsepower 480 volt 3 phase electric motor, discharge elbow, 130'± of column (including couplings) for submersible pumping unit. Tag well to determine presence of fill.
- Inspect and provide comments and/or recommendations regarding serviceability of existing pump column and column couplings.
- Haul column, column couplings, and submersible motor/pumping assembly to

Contractor yard for evaluation regarding condition and serviceability of the column, and couplings.

- Recondition (as required) 130'± of existing pump column.
- Disassemble and inspect submersible pumping unit and electric motor assembly. Measure and record wear and damage. Provide report and recommendations to District of bowl conditions and refurbishment options (this work is to be completed in order for the District to access the existing bowl condition only, upon completion of this work, the District will then make the decision whether to rebuild the existing bowl assembly or replace said existing bowl assembly with a new submersible pumping unit and electric motor assembly). In the event the District elects to replace the existing assembly, said existing submersible pumping unit and electric motor pump assembly shall be delivered from the Contractors place of disassembly to the District's Well 2 site for storage subsequent to disassembly and inspection.
- Provide report and recommendations to District of column and column coupling conditions and serviceability.
- Bail well clean.
- Provide chemical coagulant to clarify water in preparation for initial (pre cleaning) video log. Perform color video log of well and provide comments and recommendations to District. Camera shall be capable of lateral (side) as well as axial viewing. Provide DVD disk (2 copies) to District. (Survey shall be conducted by an independent party approved by District).
- Wire brush well.
- Mechanically develop well.
- If District elects to sonar jet and/or chemically rehabilitate the well, the Contractor shall sonar jet and/or chemically and mechanically rehabilitate the well as set forth in the specifications. Fee shall be based upon actual work performed.
- If District selects to replace the submersible pumping unit bowl assembly and motor, the Contractor shall furnish a new replacement submersible pumping unit motor. Bowl assembly and motor shall be furnished and installed to meet pumping unit and motor requirements set forth in Specification Section 11325. Fee shall be based upon replacing the existing bowl assembly with a new Flowserve, Goulds, or approved equal bowl assembly.
- Refurbish existing pump discharge elbow as necessary.
- Install new or existing submersible pumping unit including refurbished or new pumping unit/motor 130'± of column, pump power cable and megger pumping unit after installation.
- Coordinate installation of any appurtenances necessary to flush well. Owner will furnish and install discharge hoses or piping for well startup water clarification prior to startup of Well 18.
- Remove existing motor saver Model 777 from the existing pump control panel and replace with a new Grundfos MP 204 motor saver and test circuit.
- Start up and performance test new and existing equipment, controls and instrumentation; Contractor shall operate pump as required.
- Disinfect well in accordance with Specification Section 11320, State of California Department of Health Service requirements and in accordance with AWWA procedures
- Clean up well site.

Well 18 Work to be Performed by District's Staff

- Assist Contractor with disassembly of Well 18 building's removable roof hatch. Contractor shall provide truck crane for actual roof activity.
- District will provide water for well clarification prior to each video log.
- District will perform bacteriological testing and assist Contractor with pumping unit startup and testing.
- District will install temporary discharge hose for rehabilitation (if performed) and for well startup and testing water clarification prior to discharge.

1. Disposal of Rehabilitation (if required), Disinfection and Testing Water

Disposal of rehabilitation, chlorinated water and testing water may be through a District furnished and installed discharge hose from each existing well site to a point of discharge into the District's existing recharge ponds located in the vicinity of each well site. Contractor shall coordinate well discharge with the District to ensure that existing properties are protected and that well discharge does not overtop said existing recharge ponds.

2. Authorization to Proceed

Owner will provide an Authorization to Proceed Letter for each well site to the Contractor. The Contractor will then be authorized to begin Contract Work submittal document submission, material ordering, and construction scheduling.

3. Working Hours

Contractor shall perform all work between 7:00 AM and 5:00 PM, Monday through Thursday. Contractor shall not work on Owner holidays. Said holidays are as follows:

New Year's Day
Martin Luther King Jr.
Day Presidents Day
Memorial Day
Independence Day
Labor Day
Veterans Day
Thanksgiving Day
Day After Thanksgiving Day
Christmas Day

When a legal holiday falls on a Saturday, it is observed on the preceding Friday, when it falls on a Sunday, it is observed on the following Monday.

4. Permits, Certificates, Laws, and Ordinances

Contractor shall, at his own expense, procure all permits, certificates, and licenses required of him by the State of California, County of Riverside, County of San Bernardino, California Regional Water Quality Control Board, South Coast Air Quality Management District, or any other authority or agency having jurisdiction for the execution of the Work. Contractor shall comply with all federal, state, and local laws, ordinances, or rules and regulations relating to the performance of said Work.

5. Records

The Contractor shall keep records providing the following information for those items of work that are performed:

A. A complete daily log and record on the well shall be furnished to the District.
B. Complete log of existing materials and equipment removed from the existing wells
C. Complete log of existing or new materials and equipment installed in existing wells
D. As-Built Drawings/Submittals documenting final construction.

6. Project Completion Date

Project completion date shall be 30 days from the date of the Authorization to Proceed Letter for each or all well site(s) issued by the District. The 30 day completion date will be adjusted for each well as necessary to provide for material acquisition delays in the event the existing pumping units are not refurbished and new pumping unit bowl assemblies are required.

7. Liquidated Damages for Delay

Contractor shall pay to Owner, as fixed and agreed, liquidated damages for each calendar day's delay in the completion of all the work beyond the time agreed upon, the amount of $100.00.

8. Contract Information/Drawings

The following Appendices are made a part of these Contract Documents:

APPENDIX LIST
(Attached in the back of these Contract Documents)

Title	Appendix No.
Specification 11325 – Submersible Deepwell Vertical Turbine Pumping Unit Technical Specifications	A
Specification 11330 – Technical Well Rehabilitation Specifications Rehabilitation of Wells 10 and 18	B
Well 10 and Well 18 Site Plan and Well Photos	C
Maintenance Bond Example	D
Well 10 and Well 18 Existing Well Information	E

9. Right to Change Work

District reserves the right to direct Contractor to cease work upon the well at any phase and to determine payment for work performed in accordance with the bid unit prices. District also reserves the right to either increase or decrease other related work in accordance with the aforementioned unit prices. Payment for all work shall be predicated upon work completed.

10. Payment Requests

Contractor shall submit all partial payment requests and final payment request to District. Payment requests shall be submitted by the 18th day of the month preceding the month in which payment will be made. On approval by the District, partial payments will be made by the first day of the month following the month in which request for payment is made.

All payment requests shall show all Scope of Work-Fee Items and sub items for the Contract Work. In addition, said requests shall show the percentage of completion of each Fee Item and sub item and the amount thereof, said amounts being totaled to arrive at the value of the completed

Work. The net partial payment amount shall equal 95% of said total.

11. Site Maintenance

A. The Contractor shall at all times maintain each well site and each discharge site in a neat and orderly fashion, free from trash and construction waste materials. All cleared and waste material shall become the property of the Contractor and shall be disposed of by him outside the limits of the work in accordance with applicable ordinances and regulations of governmental agencies having jurisdictions.

B. Unattended construction materials and equipment shall be left in a manner such that they do not constitute fire hazards, exposed to vandalism, or become a nuisance or danger due to forces of nature such as rain or wind.

C. The Contractor shall secure well head (plate off) at all times when well work is not being actively performed with a securing system acceptable to the District.

D. Existing improvements as designated by the District, whether on the construction site or on other property, shall be protected in place and shall be provided with adequate access.

E. While construction is being conducted, the Contractor shall provide safety in the area of construction.

F. Contractor shall remove any sediment deposited to city streets or storm water channels on a daily basis.

12. Data to be submitted by Contractor

Contractor shall furnish District the following data and said data must be accepted by District prior to performing any Contract Work appurtenant to specific submittal items. Data (two copies) shall be submitted directly to the District for review and acceptance or rejection. Contractor shall submit five copies of accepted data the District for distribution of same.

A. <u>Material and Equipment Lists with Catalogs</u>

Schedule I Pump shaft, line shaft, bearing, and coupling manufacturer's data sheets
Schedule II and III Pump column materials and coupling manufacturer’s data sheets

B. <u>Fabrication and Component Drawings with Diagrams</u>

Schedule I Pumping unit bowl assembly and appurtenances
Schedule II and III Submersible pumping unit motor and bowl assembly and appurtenances

C. <u>Construction Schedule</u>

Construction Schedule

D. <u>Well Sonar Jet and/or Chemical Rehabilitation Materials (if required)</u>

Materials and Proposed Methods of Sonar Jet Rehabilitation and/or Well Chemical Rehabilitation and Pump

Development (if determined to be performed subsequent to initial well video).

13. Contractor Cooperation and Coordination

Contractor shall cooperate with District and all jurisdictional agencies. Contractor shall establish a work schedule sufficiently in advance of work to permit coordination of work with District and other agencies. Owner will have representatives on site to observe and verify compliance with Contract Documents. Contractor shall not operate any existing facilities, including opening or closing of pipeline valves.

14. Construction Water and Power

Owner will provide a reasonable quantity of construction water free of charge from Owner's existing potable water system. Contractor is notified that water pressure near the well facilities consists of low pressure water supply and pumps will be necessary if high pressure water delivery is required. Contractor shall apply for an Owner supplied meter. Contractor shall furnish and install Owner approved backflow device (as necessary) and all necessary piping and appurtenances, including pumps and water trucks, necessary to convey water from Owner's meter to work location.

Contractor shall provide required power to perform all phases of work.

15. Specified Model Numbers

All model numbers used herein are provided for information only, to assist Contractor in selecting equipment that conforms to Specifications. In case of any conflict between model numbers given herein and the descriptive specifications or performance specified, the descriptive specifications and performance specified shall govern.

16. Well Protection

The Contractor shall protect open wells by installing a steel locking cover which shall be maintained in place at all times unless work within the well is actively in progress.

17. Well Disinfection

Unless otherwise stated, the Contractor shall use the following procedure to disinfect well and that the Contractor shall perform and assist District's Staff with disinfection and pump startup as described hereafter and as necessary to achieve well disinfection:

A. Immediately prior to installation of permanent pumping equipment, Contractor shall disinfect pumping unit components with chlorine.

B. Upon completion of well pumping unit installation, the Contractor shall disinfect the well and installed pumping unit with chlorine solution.

1) Contractor shall dose the well by adding liquid chlorine solution to well to obtain required concentration of at least 100 parts per million.

2) Immediately after dosing the well, District and Contractor shall pump water to ground surface until chlorine is detected and shall then allow the water to return into the well. Contractor shall repeat said procedure twice at one hour intervals.

3) The well will then be allowed to stand without pumping or agitation for 24 hours.

4) The District and the Contractor shall then pump the well to waste until chlorine is no longer evident, and shall continue to pump the well to waste for 15 minutes thereafter.

5) The District and the Contractor shall then allow the well to stand without pumping or agitation for 24 hours prior to sampling.

6) The District will then secure two samples of water from the well in approved containers, and have said samples analyzed by a State certified analytical laboratory for total coliform (presence/absence), fecal coliform (presence/absence), and heterotrophic plate count. The District will secure the first sample within five minutes of starting the pump at the specified pumping rate, and the second sample thirty minutes thereafter.

7) The well shall be deemed properly disinfected only if the sample analysis results indicate absence of total coliform bacteria, absence of fecal coliform bacteria, and a heterotrophic plate count of less than 500 colony forming units per milliliter (CFU/ml).

8) If the sample analysis results do not indicate that the well was properly disinfected, the District and the Contractor shall repeat the entire disinfection procedure, including sampling, sample analysis, and reporting of sample analysis results.

C. After 24 hours, the Contractor will assist the District, as necessary, to secure two samples of water from the well in approved sealed containers. District will have said samples analyzed by a State certified analytical laboratory for chlorine residual, total coliform (presence/absence), *e. coli* (presence/absence), and heterotrophic plate count. The District will secure the first sample within five minutes of starting the pump at the specified pumping rate, and the second sample thirty minutes thereafter.

D. The well shall be deemed properly disinfected only if the sample analysis results indicate absence of total coliform bacteria, absence of *e. coli* bacteria, and a heterotrophic plate count of less than 500 colony forming units per milliliter (CFU/ml).

APPENDIX "A"

Specification Section 11325
Submersible Deepwell Vertical Turbine Pumping Unit
Technical Specifications

APPENDIX "A"

SECTION 11325

SUBMERSIBLE DEEPWELL VERTICAL TURBINE PUMPING UNIT TECHNICAL SPECIFICATIONS

PART 1 - GENERAL

1.1 GENERAL

This Specification is for submersible deep well vertical turbine pumps including surface plate, column pipe, submersible motor, pumping unit, submersible cable, and appurtenances. All equipment furnished under this section shall be new and of current manufacture and shall be guaranteed free from defects in material, design, or workmanship. All parts of the pump and motor exposed to water shall be of stainless steel, brass, heavy cast iron, or equivalent corrosion-proof material. Unless otherwise specified herein, all applicable provisions of ANSI/AWWA, latest edition, for Submersible Vertical Turbine Pumps, E-101, Part A, latest edition, for Vertical Turbine Pumps, are hereby made a part of these Specifications.

In the event the existing pumping unit is deemed non re-buildable Contractor shall provide one (1) new submersible deepwell vertical turbine pumping unit (bowl assembly and motor) to meet the specific project pumping unit requirements described in Section 1.02, below.

1.2 SPECIFIC PROJECT PUMPING UNIT REQUIREMENTS (if existing pumping unit bowl assembly and motor is deemed non-re-buildable

A. General

The Contractor shall provide a complete new submersible deepwell pump bowl assembly and motor (bowls, bearings, impellers, etc.) consisting of a type 304 stainless steel assembly to meet pumping unit performance requirements specified herein for Well Nos. 10 and 18 as necessary.

Well Nos. 10 and 18's existing pumping unit consists of a Submersible deepwell vertical turbine pumping unit with a 5 horsepower Submersible Motor. All new pumping unit components shall meet the performance requirements of this specification section, as listed below.

Bidders shall submit fabrication drawings for the new bowl assembly, motor assembly, and pump performance curves per Section 1.04 herein.

B. Well Nos. 10 and 18 Pumps

1. Performance (Pump preliminary performance criteria set forth is based on the existing well performance as follows:

Well 10 and 18 Pumping Unit Performance:

Discharge Capacity (GPM)	Bowl Head (Feet)	Minimum Bowl Efficiency	Maximum Net Positive Suction Head Required (Feet)
Shutoff Head	xxx (min)	NA	NA
50	500	NA	x
100	480	38%	11

2. Pumping unit shall be of the water lubricated, enclosed impeller deepwell vertical turbine unit design.

3. Maximum Horsepower - Speed – Maximum Thrust Factor: 5 hp - 1770 rpm at no point on the pump curve shall the existing driving equipment be overloaded.

4. Bowl Assembly Diameter as necessary to fit with existing well screen.

5. Column Piping: Wire brush, steam clean, scrape, and reuse existing column piping from Well Nos. 10 and 18. In the event some of the pump column is deemed unsuitable for service, Contractor shall contact District for approval of replacement of column with new column piping quoted in Bid Schedule I and II.

6. Refurnish and install existing refurbished column piping.

7. Discharge elbow: Refurbish, reuse and reinstall existing discharge elbow as required for reinstallation of pumping unit. Contractor shall re-plumb and reinstall pump all piping associated with above grade facilities removed during pumping unit removal.

8. Pump manufacturer shall coordinate pumping unit selection regarding pump and verify performance. The District assumes that the existing pumping unit will most likely not be able to be rebuilt. Selected pump shall be approved by District.

9. Existing pump: (See Appendix C for specific information)

E. Existing Submersible Motor

1. Horsepower:
Well 10 – 5 Hp Submersible-pumping unit motor assembly
Well 18 – 5 Hp Submersible-pumping unit motor assembly

Brake Horsepower (Field) shall not exceed nameplate rating within entire operating range.

2. Power: 3 phase, 60 hertz, 460 volts.

3. Speed: 1770 RPM (no load).

4. Starting Characteristics: Full Voltage Contactor

The pumps shall be manufactured by Flowserve, Grundfos or District

approved equal.

1.3 UNIT RESPONSIBILITY

All combinations of manufactured equipment which are approved under this specification shall be entirely compatible and the Contractor and the listed manufacturer shall be responsible for the compatible and successful operation of the various components of the units conforming to the specified requirements. All necessary mountings, couplings, and appurtenances shall be included with each unit. All materials employed in the pump equipment shall be suitable for the intended application and shall be high grade commercial quality, free from all defects and imperfections that might affect the serviceability of the product for the purpose for which it is intended.

1.4 SUBMITTALS

Submittals shall be provided to the Engineer for approval prior to beginning manufacture/construction of the pumping units in accordance with the General Conditions. Submittals shall include:

A. Shop Drawings including the following information:

1. Pump name and identification number.

2. Pumping unit outline diagrams.

3. Pump detailed description and specification.

4. Electrical data including control and wiring diagrams.

5. Assembly and installation drawings including surface plate anchor bolt plan, part nomenclature, materials list, outline, dimensions, and shipping weight.

B. Pump curves showing head versus capacity, bowl efficiency versus capacity; NPSH and BHP requirements, and thrust and moment of inertia characteristics. Each curve shall be continuous over the full operating range from zero (0) flow up to the maximum flow permissible through each pump, and shall be based upon the RPM listed. Each curve shall state the RPM speed of the pumping unit, and shall be furnished full-size on 8-1/2" x 11" paper. The Contractor shall provide pumps capable of meeting all aspects Section 1.02 and as shown on the Drawings.

C. Operation & Maintenance Manuals. Sets of printed instructions relating to proper maintenance and parts lists indicating the various parts by name, number and diagram where necessary shall be furnished in duplicate with each unit or set of identical units as required by the General and/or Special Conditions. Recommended spare parts lists shall be included and local supplier's name where spare parts are available.

1.04 OPERATING CONDITIONS.

The capacities, heads, efficiencies, and horsepower requirements are for completely assembled units and are specified in the Detailed Submersible Well Pump Specification section. Each pumping unit shall meet the requirements and design points as specified therein.

PART 2 - PRODUCT

2.1 PUMP ASSEMBLY CONSTRUCTION

A. Surface Plate (Not Required). The pump surface plate shall be of fabricated steel. The plate shall incorporate a long radius elbow welded securely to a 24" square steel base flange which shall rigidly support the entire weight of the motor, bowl assembly, column pipe, cable, and water column. The cable outlet shall have a cable seal of adequate size to accommodate the cable size. Threaded penetration couplings shall be provided for chlorination pipe and airline tubing specified herein.

B. Steel Column Pipe. Where specified, the steel column pipe shall be of ASTM A53 grade B steel pipe or ASTM A120 in interchangeable sections not over 21 feet in length and with the ends of each section faced parallel and machined with 8 straight threads per inch permitting the ends to butt and insuring alignment when connected by standard mill steel couplings. The weight of the column pipe shall be no less than that stated in ANSI Specification E101, Section 5.1 "Standard Specifications for Discharge Column Pipe". Unless specified otherwise, the column size shall be such that friction loss will not exceed 5' per 100', based on the rated capacity of the pump. Where possible, the column size shall also be such as to provide a velocity of not less than 5' per second at the rated capacity.

C. PVC Column Pipe. Where specified, PVC column pipe shall be constructed to ASTM D1784, ASTM D1785 Schedule 80, and ASTM D2837. Piping shall be of interchangeable sections not over 20 feet in length. The ends of each section shall be of a groove and spline design with PVC couplings. Piping shall be easily adaptable to solvent weld fittings (tees, elbows, flanges, etc). PVC column pipe, couplings, and fittings shall be NSF61 listed. Coupling joints use high strength thermoplastic splines to provide full 360° restraint with evenly distributed loading and shall include elastomeric sealing gaskets for water tight seal. Unless specified otherwise, the column size shall be such that friction loss will not exceed 5' per 100', based on the rated capacity of the pump. Where possible, the column size shall also be such as to provide a velocity of not less than 5' per second at the rated capacity. PVC column pipe and joint couplers shall be Certa-Lok as manufactured by CertainTeed Corporation or approved equal.

D. Submersible Motor. The motor shall be of the submersible type, capable of continuous operation at the nameplate rating under water at a maximum temperature of 77 degrees F, and if specified for Variable Frequency Duty rating shall be suitable for Variable Frequency Starting, with a maximum ramp time of no more than 5 seconds.

The motor shall be constructed of carbon steel and/or stainless steel, stainless steel and/or cast iron fitted, exterior shell shall be 304 stainless steel. All exposed fasteners, plugs, and shafting shall be of stainless steel construction.

The motor shall be rated for the horsepower and RPM specified in the Detailed Submersible Well Pump Specification Section 1.02, 3 phase, 60 Hz, 480 volt, with a minimum service factor of 1.15.

The motor shall be of the water filled "wet winding" type. It shall be filled with a 50/50 solution of water and propylene-glycol. The motor winding insulation shall consist of an epoxy enamel layer over the copper conductor, covered by a denatured polypropylene insulation layer with an external nylon sheath. The motor shall be totally enclosed, utilizing an elastomer expansion diaphragm for the equalization of the internal and external pressure.

The motor shall be equipped with a double rubber type shaft seal, to seal the motor at the point that the shaft extends through the casing. The motor shall be equipped with thrust bearings capable of carrying the weight of all rotating elements plus the hydraulic thrust of the pump at shut off head or at the design flow and head, whichever is greater. The motor shall have replaceable sleeve type radial bearings located at each end of the rotor.

The motor shall be provided with one set of three separate continuous power leads with a minimum length of 15 feet. The leads shall be internally splice directly to the stator windings.

Unless specified otherwise in Section 1.02, Submersible motor shall be as manufactured by Franklin, Hitachi, Pleuger, or approved equal.

E. Pump Bowls. The bowls shall be constructed of Type 304 Stainless Steel and must be accurately machined and fitted to close tolerances. They shall be capable of withstanding a hydrostatic pressure equal to twice the pressure at rated flow or 1.5 times shut-off head, whichever is greater. All intermediate bowls shall be of identical design for interchangeability. All the bowls shall be fitted with sleeve type bearings of bronze alloy C89835. A discharge bowl shall be used to connect bowl assembly to the discharge pipe. The bearing shall have a threaded cap or plug at the top to protect the bearing from abrasives. The hub of the discharge bowl should be such that the bearing can be easily removed through the top of the hub. A thrust ring shall be above the top impeller to prevent excessive vertical upthrust.

F. Pump Impellers. Impellers shall be the totally enclosed type. The impellers shall be constructed from Stainless Steel or ASTM B584 Silicon Bronze and statically balanced. They shall be free from defects and must be accurately cast, machined, balanced, and filed for optimum performance and minimum vibration. Impellers shall be smoothly finished on all surfaces to reduce friction losses to a minimum. Impellers shall be balanced to grade G6.3 of ISO 1940 as minimum. They shall be securely fastened to the bowl shaft with taper locks of 416 SS.

G. Pump Shaft. The pump shaft shall be constructed of ASTM A582 grade 416 stainless steel and shall be accurately machined to a sufficient dimension to provide smooth operation and to easily withstand torsional loads and other stresses encountered within the pump. The pump shaft shall have adequate bearing support at every bowl section with water lubricated bronze bearings.

H. Wear Ring. Pumps shall be fitted with replaceable wear rings of bronze material in the motor adapter and intermediate bowls. Wear rings shall have the minimum practical clearance to the mating cylinder surface of the impeller to provide adequate sealing independent of the impellers.

I. Motor Coupling. The shaft coupling shall be of stainless steel and be capable of transmitting the total torque and total thrust of the bowl assembly in either direction of rotation.

J. Motor Adaptor. The inlet motor adapter shall be of: Type 304 stainless steel or ASTM A536 Gr. 60-40-18 ductile iron and shall contain an extra long bronze bearing. The inlet area shall have a net open area of at least four times the eye of the impeller and shall be protected with a 304 stainless steel screen. The openings on the screen shall not be more than 75% of the minimum opening of the water passage through the bowl or the impeller.

K. Submersible Cable. The submersible cable shall conform to U.L. standard 44 or 83 for submersible cable, shall have three continuous conductors rated for 600 volt. The individual conductors shall be class "B" stranded THHN/THWN insulated rated 75 degree C (wet), or better, The three conductor or four conductor cables shall be contained in a flat jacket composed of synthetic rubber or thermo plastic with non- hygroscopic fillers between the conductor cables. The cable shall be of sufficient length to allow easy connection in the terminal box at the well head. The cable shall be securely attached to the column pipe.

L. Pump Nameplate. The pump shall be supplied with an easy-to-read, corrosion resistant nameplate. It shall contain complete pump information including: pump manufacturer's name, serial number, pump model number, number of stages, speed, T.D.H. and capacity in GPM at the middle design point, year manufactured, etc. Said nameplate shall be mounted on the pump surface plate.

M. Motor Shroud. When specified in the Specification Section 1.02, a stainless steel or PVC shroud shall be installed to allow the well water to flow across the motor prior to entering the pump intake impeller to provide cooling for the motor.

When specified, the stainless steel shroud shall have a minimum wall thickness of 0.125", sized to provide an acceptable velocity across the motor at the rated flow, and adequately fit within the well casing.

When specified, the PVC shroud shall be sized to provide an acceptable velocity across the motor at the rated flow, and adequately fit within the well casing.

The shroud shall be attached to the bowl assembly per the manufactures recommendation and shall be equipped with a center device to properly center the motor inside the shroud. All fasteners shall be stainless steel.

2.2 JOINTLESS CHLORINATION PIPE. A 3/4" dia. jointless dual purpose airline / chlorination pipe of polyethylene flexible tubing shall be furnished of sufficient length to extend from the surface to the top of the bowl assembly. The tubing shall be attached to the column assembly with 1 inch wide stainless steel hose clamps spaced a maximum of 10 feet apart. Stub-up and cap-off tubing 6” above the pump surface plate.

2.3 JOINTLESS AIR LINE TUBE. A 3/8" jointless airline of polyethylene flexible tubing shall be furnished of sufficient length to extend from the surface to the top of the bowl assembly. . The tube shall be attached to the column assembly with 1 inch wide stainless steel hose clamps spaced a maximum of 10 feet apart. Stub-up and cap-off pipe 6" above the pump base plate.

PART 3 - EXECUTION

3.1 PUMPING UNIT - PUMP DEALER REQUIREMENTS. Pump supplier shall have complete office/shop facilities located within 100 miles of the job site, and shall have a 10 years minimum successful experience record for pump sales/service.

3.2 DELIVERY. The Contractor shall order the pump at the earliest possible time to allow time for the preparation, submittal, approval of shop drawings, and subsequent manufacture and installation of the pump in a timely manner.

3.3 PREPARATION. Sets of instructions for field procedures for erection, adjustments, inspection, and testing shall be provided prior to installation of the pumps, as required by the General or Special Conditions.

3.4 EQUIPMENT TESTING. The purpose of equipment testing is to demonstrate that the pump units meet the specified requirements.

A. Tests shall be performed on the actual assembled unit over the entire operating range on the certified performance curve. Prototype model tests will not be acceptable.

B. All pumps 10 to 50 horsepower shall be factory-tested in accordance with the above specifications. Pumps larger than 50 horsepower may be subject to a "factory witness test" attended by a District representative. The District shall be notified at least 2 weeks in advance such that a representative can witness the pump testing. Certified test results shall be submitted to the Engineer for approval prior to shipment.

C. Pump curves shall reflect data secured during actual test runs and shall be signed by a responsible representative of the pump manufacture. Test reports and procedures shall conform to applicable requirements of the Hydraulic Institute Standards.

3.5 INSTALLATION. The Contractor shall install all pumping equipment in strict accordance with the manufacturer's instructions. Care shall be used in handling to avoid bumping, twisting, dropping, or otherwise damaging the equipment.

All pump manufacturers shall furnish the services of factory-trained personnel as required to examine the installation, supervise start-up of equipment installed, and repair the equipment at no additional expense to the District.

3.6 FIELD ACCEPTANCE TEST. The contractor under this specification shall have full responsibility for the proper installation and performance of said pumping equipment, including furnishing the services of a pumping equipment Field Service startup personnel to inspect equipment installation, and to adjust, if necessary, any portion of the pumping equipment required herein. The manufacturer's Field Service startup personnel shall assist the District in the proper conduct of pumping unit field acceptance tests. The pump units shall perform in the field as shown on the certified pump curves furnished by the Contractor. Tests shall also demonstrate operation without cavitation, vibration, overheating of moving parts, and excessive noise. The Contractor and pump manufacturer shall make necessary corrections to achieve smooth pump operation. In the event the tests reveal noncompliance of the workmanship or equipment, the Contractor shall either make alterations as necessary or replace the pumps in order to meet the requirements of the specifications at no additional cost to the District.

3.7 CERTIFICATION OF INSTALLATION. The Contractor shall submit a letter to the District confirming that all pumping equipment was inspected, operation checked, and installation approved in writing by the respective pumping equipment supplier.

3.8 WARRANTY. All pumping equipment shall carry an extended warranty for a two year period from the date of acceptance. All warranties shall be turned into the District prior to project completion.

END OF SECTION 11325

APPENDIX "B"

Specification Section 11330
Technical Well Rehabilitation Specification
Rehabilitation of Well 10 and 18

APPENDIX "B"

SECTION 11330

TECHNICAL WELL REHABILITATION SPECIFICATIONS
REHABILITATION OF WELLS 10 AND 18

INCLUDES ADDATIVE BID ITEM FOR CHEMICAL WELL REHABILITATION

PART 1 - GENERAL

1.01 General

If selected as an Addative Bid Item, the Contractor shall furnish all labor, equipment, materials, and services to rehabilitate wells as specified in the bidding sheets (or Scope of Work, as applicable) including removal of pumping unit, inspection of pumping unit, wire brushing, cleaning debris from the bottom of the well, chemical treatment, disinfection, and installation of pumping unit. All work will be performed during normal working hours as set forth in the Special Requirements.

PART 2 - REHABILITATION OF WATER WELL

2.01 Removal of Pumping Unit

Contractor shall furnish all labor, equipment, materials, and services to remove and reinstall the submersible pump and motor assembly, pump discharge elbow, column pipe and submersible power supply cable. All connecting appurtenances and equipment removed from the Well shall be properly lubricated and sealed from dirt, dust, water, condensation, and any other form of contamination.

Contractor shall inspect and make recommendations for repair of pumping unit bowl assembly, submersible motor, column for cracking/defects and submersible power supply cable for cracking/defects.

2.02 Removal of Oil from Well (if pumping unit is an oil lubricated pump)

(a) Contractor shall furnish all labor, equipment, materials and services to remove the line shaft turbine pump oil from the water table surface following the completion of the pump removal. The oil shall be gently bailed from each well and placed in suitable leak proof containers.

(b) Contractor shall properly dispose of oil removed from each well. Disposal shall be in accordance with all federal, state and local regulations.

2.03 Video Logging of Wells

The successful bidder will provide two (2) color video logs for the well; one before and one after rehabilitation. The Contractor shall provide equipment that is capable of producing a clear video image of the well casing both submerged and out of the water. The camera must be capable of providing a clear video image of the Well and must be capable of displaying a right angle, side-scan view of the Well casing at the direction of the District. The equipment shall indicate digitally on screen the depth of the camera within one (1) foot of its actual location at one-foot intervals. **The District must be present during the video scan.** The successful bidder will provide a written field log of the observations from each video scan. Two DVD Copies of each inspection scan shall be provided to the District upon completion of each video-logging run. The successful bidder shall schedule the video loggings with the District at least two (2) Working Days in advance. Prior to performing videologs, the successful bidder shall provide chemical coagulant to clarify well water. District shall provide water which shall be added to the well in sufficient quantity and for sufficient duration to clarify the water in the well.

2.04 Bailing Well Clean

Contractor shall remove the debris from the bottom of the Well using a bottom bailer or a District-approved bailing method to depths specified for the Well.

2.05 Wire Brushing of Well

The well shall be cleaned using a **rotary brush method**. The brush shall be a minimum of five (5) feet in length and have 100% contact for the length of the brush with the well casing. The brush shall turn no less than ten (10) revolutions per minute. The rate of brushing shall be no more than forty (40) feet per hour. The bristle material shall be manufactured of stainless steel, low carbon steel, or nylon. Nylon bristles shall be used for wire-wrap screens. As the well casing is cleaned, the scale and encrustation being removed will be allowed to settle to the bottom of the Well. Actual method and tool must be submitted to the District for approval prior to the start of work. The successful bidder is responsible for safely controlling all fluid and debris around the exiting site.

2.06 Chemical Treatment of Well (Addative Bid Item)

A. At the Districts discression subsequent to performance of the first video log (pre rehabilitiation) the District will determine if it will exercise the chemical treatment of the well addative bid item. Contractor shall furnish all labor, equipment, materials, and services to chemically treat the well. Care shall be taken to follow all Federal, State, and local regulations pertaining to the handling and disposal of the waste chemicals.

B. Prior to commencing the Work, Contractor shall supply to the District a copy of the manufacturer's Safety Data Sheets (SDS) for all well treatment and

neutralizing chemicals for the District's approval and a shop drawing of the snug fitting double surge block assembly. A Certificate of Analysis (COA) from the manufacturer/supplier must be provided for the acid used. In addition, the Contractor shall provide their proposed program to apply the chemicals, method of neutralizing the acid, method of disposal, Emergency Response Plan, and list of staff qualified to handle the above chemicals. Said list shall include training and certifications received by each individual pertinent to their duties.

All individuals involved in handling well treatment chemicals shall possess all certifications, authorizations and licenses required by local, state and federal authorities to perform the work.

C. Contractor shall chemically treat the well utilizing the method specified below.

1. The well shall be pretreated to disrupt the fouling mechanisms existing within the well column. Pretreatment shall consist of wire brushing of the entire wetted portion of the well as specified herein, followed by bailing the well clean.

2. A treatment solution consisting of the following chemicals shall be mixed above-ground and injected into the existing perforated sections of the casing starting from the bottom of the lower perforated casing to the top of the perforated casing using a double packer tremie method:

    a. Hydrochloric acid (approximately 30% activity): 9% of Total Well Volume
    b. Biodispersant (Johnson Screens NW-310 or equivalent): 3% of Total Well Volume
    c. Nonionic surfactant (Johnson Screens NW-400 or equivalent): 0.1% of Total Well Volume

2. Total Well Volume shall mean 1.5 X the volume of standing water within the well casing.

3. Immediately following the injection of the treatment solution, the Contractor shall swab the perforated sections of the casing with a minimum 20 foot long, snug fitting double surge block. Swabbing shall begin at the bottom of the lower perforated casing and work continuously upwards to the top of the upper perforated casing. After the upper most portion of the well is swabbed, Contractor shall secure a water sample to verify the pH. The sample may be secured by air lifting, submersible pumping, or thief sampling. **If the pH is above three (3), additional treatment solution will be added to the well at the discretion of the District**. If additional treatment solution is needed, the solution will be added and swabbed into place using the double surge block. Sampling

and treatment solution addition shall continue until pH is equal to three (3) or less.

4. Contractor shall them wire-brush the well as specified in Section 2.05 above.

5. The well will then be allowed to stand for 12 hours. Immediately after 12 hours the Contractor shall swab each 20 foot perforated section for 15 minutes with the double surge block. Swabbing shall begin at the top of the upper perforated casing and work continuously downward to the bottom of the lower perforated casing.

D. Contractor shall remove and dispose of the treatment chemicals as outlined below.

1. After completion of swabbing as described above, the Contractor shall remove five (5) volumes of wastewater from the well into an above-ground portable tank, such as a Baker Tank. The wastewater will be removed continuously from the well by air lifting or pumping. Air lifting or pumping shall begin at the bottom of the well and work upward to the top of the upper perforated casing interval. The well should be continually purged until the pH has stabilized to a normal background level and the turbidity of the discharge has dissipated.

2. At the discretion of the District, water samples will be secured from the well after removal of the treated water to determine pH after removal. The total number of samples will not exceed four (4) in order to determine pH. Should the pH be greater than nine (9) or less than six (6), the Contractor will remove additional wastewater from the well at the direction of the District and dispose of same.

3. After removal of the wastewater, and at the direction of the District, Contractor shall bail the well clean.

4. Prior to disposal, Contractor shall neutralize the pH of the wastewater in the above-ground tank by adding sufficient soda ash (powder), magnesium hydroxide (slurry), potassium hydroxide (liquid), or other pre-approved neutralizing agent. **Neutralization will not be allowed in the well casing**.

5. All wastewater and residual solids from chemical treatment shall be disposed of by the Contractor in a manner and at the facility designated by the Contractor and approved by the District, in accordance with the attached Scope of Work.

6. Contractor shall discharge the neutralized wastewater onsite at a controlled rate to avoid erosion, as directed by District.

E. Contractor has the option of submitting in writing to District alternative methods of chemically treating the well, such as the use of available proprietary chemical well treatment systems. Alternative methods may only be used if approved by District in advance of bid opening by issuance of a Contract Addendum.

F. All chemicals used in treating the well shall be of food-grade quality. All biodispersants, surfactants and additives, both proprietary and non-proprietary, shall be NSF approved for potable well use.

2.07 Well Disinfection

After wire brushing and removal of debris, the well shall be disinfected with a chlorine solution. Unless otherwise permitted, Contractor shall use the following procedure to disinfect the well:

a. Before dosing, the Contractor shall check the pH of the well to determine if buffering of the chlorine will be necessary. If the pH is above 7.5 a chlorine enhancing chemical such as Johnson Screen's "NW-410," Layne-Christensen's "Oximate," or other District pre-approved equivalent must be used to lower the pH and enhance the effectiveness of chlorination. The chlorine enhancing chemical shall be used at a rate of 1.5 gallons per 1,000 gallons of disinfectant solution for a target pH of 6.5 to 7.5 during chlorination.

b. Contractor shall prepare a disinfectant solution consisting of water, sodium hypochlorite solution, and, if necessary, chlorine enhancing chemical, above-ground for addition to the well. The disinfectant solution shall have a free chlorine concentration of 300 parts per million (ppm). To achieve 300 ppm of chlorine, approximately 2.4 gallons of 12.5% Sodium Hypochlorite solution will be required per 1,000 gallons of disinfectant solution. The sodium hypochlorite solution used shall not have been stored more than 60 days.

c. Contractor shall dose the well by adding two times the Well Casing Volume of disinfectant solution to the well. The method used to introduce the disinfectant solution into the well shall ensure that the disinfectant solution reaches all portions of the well in which contamination might have occurred during construction.

d. Immediately after dosing the well, Contractor shall agitate the chlorinated water within the well by swabbing the well.

e. After the well has been swabbed, Contractor shall secure a water sample to verify the chlorine concentration. The sample may be secured by air lifting, submersible pumping, or thief sampling. If the chlorine concentration is less than 100 ppm, additional disinfectant solution will be added to the well, at the discretion of the District. Sampling and disinfectant solution addition shall continue until the

chlorine concentration is between 100 and 300 ppm. **A chlorine concentration of greater than 500 ppm is not permitted.**

f. Contractor shall repeat the agitation, sampling, and disinfectant solution addition procedure twice at one hour intervals.

g. Contractor shall then allow the well to stand without pumping or agitation for at least 6 hours.

h. Contractor shall then reinstall the permanent pumping unit into the well, and shall pump the chlorinated water from the well into an above-ground portable tank, such as a Baker Tank until chlorine is no longer evident and shall continue to pump until 15 minutes thereafter.

i. Contractor shall then allow the well to stand without pumping or agitation for 24 hours prior to sampling.

j. District will then secure two samples of water from the well in approved containers, and have said samples analyzed by a State Certified analytical laboratory for total coliform (presence/absence), fecal coliform (presence/absence), and heterotrophic plate count. District will secure the first sample within five minutes of starting the pump at the specified pumping rate, and the second sample thirty minutes thereafter. District will furnish results of said analyses to Contractor within 48 hours of sampling.

k. The well shall be deemed properly disinfected only if the sample analysis results indicate absence of total coliform bacteria, absence of fecal coliform bacteria, and a heterotrophic plate count of less than 500 colony forming units per milliliter (CFU/ml).

l. If the sample analysis results do not indicate that the well was properly disinfected, the Contractor shall repeat the entire disinfection procedure, including sampling, sample analysis, and reporting of sample analysis results. Contractor shall continue to repeat the entire disinfection procedure until sample analysis results indicate that the well has been properly disinfected.

m. The chlorinated water shall be dechlorinated to less than 0.1 ppm of chlorine prior to disposal. Dechlorination shall take place within the above-ground portable tank. The dechlorinated water shall be discharged off site at a controlled rate to avoid erosion, as directed by District.

PART 3 - CLEANUP

3.01 Cleanup

Contractor shall clean and restore all areas occupied by him in connection with the Work to preconstruction condition. Cleanup shall include, but shall not be limited to, removal and disposal of equipment, rubbish, excess materials, temporary structures, deposited sediments, and excavated materials and restoration of equipment, fences, pavements, trees, shrubs, piping, and ground surface. All parts of work site shall be left in a neat and presentable condition, all to satisfaction of District.

APPENDIX "C"

Well 10 and 18 Location Map, Site Plan and Photos

APPENDIX "C"

WELL Nos. 10 and 18 – SITE PLAN IMAGE

APPENDIX C
WELL 10 BUILDING AND DISCHARGE PIPING


Well 10 Masonry Block Building


Well 10 Discharge Piping

APPENDIX "C"
WELL 18 BUILDING AND DISCHARGE PIPING

Well 18 Wood Frame Building

Well 18 Discharge Piping

APPENDIX “D”

Maintenance Bond Example

APPENDIX "D"

M A I N T E N A N C E B O N D

FOR PUMPING EQUIPMENT

(By Supplier)

(Example)

KNOW ALL MEN BY THESE PRESENTS, that we,_____,
as Surety, hereinafter called Surety, are held and firmly bound unto Beaumont-Cherry Valley Water District , hereinafter called District, in the penal sum of $_____,
for the payment whereof (Supplier) and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these present.

WHEREAS, Supplier has provided pumping equipment for District project _____
_____in accordance with the Specifications.

NOW, THEREFORE, the condition of the obligation is such that, if Supplier shall remedy any defects due to faulty materials or workmanship which shall appear within a period of 1 year from the date the project is accepted as provided for in the specification, then this obligation is to be void, otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that the District shall give Supplier and Surety notice of observed defects with reasonable promptness.

Signed and sealed this_____day of_____, 20____

Supplier (SEAL)	Surety (SEAL)
Title	Title

APPENDIX "E"

Well 23 Well and Pumping Unit Information

APPENDIX "E"

BEAUMONT CHERRY VALLEY WATER DISTRICT
WELL 10 PUMPING UNIT REPAIR WORK

WELL PLANT NO. 10 EXISTING WELL AND EQUIPMENT INFORMATION

Diameter (1):	0' – 152' bgs 16" inches, inside diameter, Reverse Rotary, 1992
Well Total Depth (1):	152 ' Below Ground Surface (bgs)
Blank Casing **(3)**	Unknown
Mill Slot Perforated Liner **(3)**	Unknown
Water Level Information (2):	
Standing Water Level:	429.2 ft ± bgs
Pumping Water Level:	456.5 ft ± bgs
Drawdown:	27.3 ft ± bgs
Discharge Pressure Range (2):	48.7 psi (at Well Pump Discharge Head Centerline)
Existing Pump Information:	Flowserve 14RL, 9 stage, oil lubricated cast iron bowl assembly (installed in approximately February 1992, see Appendix C)
Existing Column, Tube, Shaft Information:	
Column:	10 inch, Diameter ((3) 0.375" Wall Thickness)
Column Length (1):	146'
Tube:	3-1/2" inch, (3) Schedule 80
Shaft:	2-3/16", (3) C-1045 Steel
Suction Pipe:	N/A
Pump Protection Send Separator:	LAKOS Down Hole Sand Separators.
Suction Strainer:	Yes

Notes:

1. See additional project information located in Appendix A through Appendix C, Attached.

(1) (Acquired from 02/12/1992 Lakos Sand Separator Specification Form Well 10)
(2) (Acquired from 03/16/2018 SCE pump test for Well 10)
(3) (Unknown or Requires Field Verification)

BEAUMONT CHERRY VALLEY WATER DISTRICT
WELL 18 PUMPING UNIT REPAIR WORK

WELL PLANT NO. 18 EXISTING WELL AND EQUIPMENT INFORMATION

Diameter (1):	0' – 798' bgs 16” inches, inside diameter, Reverse Rotary, 1992
Well Total Depth (1):	798 ' Below Ground Surface (bgs)
Blank Casing **(3)**	Unknown
Mill Slot Perforated Liner **(3)**	Unknown
Water Level Information (2):	
Standing Water Level:	429.2 ft ± bgs
Pumping Water Level:	456.5 ft ± bgs
Drawdown:	27.3 ft ± bgs
Discharge Pressure Range (2):	48.7 psi (at Well Pump Discharge Head Centerline)
Existing Pump Information:	Flowserve 14RL, 9 stage, oil lubricated cast iron bowl assembly (installed in approximately February 1992, see Appendix C)
Existing Column, Tube, Shaft Information:	
Column:	10 inch, Diameter ((3) 0.375” Wall Thickness)
Column Length (1):	555’
Tube:	3-1/2” inch, (3) Schedule 80
Shaft:	2-3/16”, (3) C-1045 Steel
Suction Pipe:	N/A
Pump Protection Send Separator:	LAKOS Down Hole Sand Separators.
Suction Strainer:	Yes

Notes:

1. See additional project information located in Appendix A through Appendix C, Attached.

(1) (Acquired from 02/12/1992 Lakos Sand Separator Specification Form Well 18)
(2) (Acquired from 03/16/2018 SCE pump test for Well 18)
(3) (Unknown or Requires Field Verification)

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

Hydraulic/Industrial Services

CONFIDENTIAL/PROPRIETARY INFORMATION

July 16, 2001

TONY LARA
BEAUMONT CHERRY VALLEY WATER DIST.
560 MAGNOLIA AVE.
BEAUMONT, CA 92223

SUBJECT: HYDRAULIC TEST RESULTS - WELL #10
EDGAR CANYON
CUST #: 0-000-0808 SERV ACCT #: 001-2060-23
DATE OF TEST: July 3, 2001

In accordance with your request, a test was made on your submersible well pump on the date listed above. If you have any questions regarding the results which follow, please contact TONY JIMENEZ at (909)820-5629.

EQUIPMENT

PUMP: N/A NO: N/A
MOTOR: N/A NO: N/A 5 HP
METER: 732-7264
HYDRAULIC TEST REFERENCE NUMBER: 27351

TEST RESULTS

Discharge Pressure, PSI	11.0
Standing Water Level, Ft.	66.6
Drawdown, Ft.	25.7
Discharge Head, Ft.	25.4
Pumping Water Level, Ft.	92.3
Total Head, Ft.	117.7
Capacity, GPM	50.0
GPM per Ft. Drawdown	1.9
Acre Ft. Pumped in 24 Hrs.	0.221
kW Input to Motor	4.1
HP Input to Motor	5.5
Motor Load (%)	86.9
kWh per Acre Ft.	445
Overall Plant Efficiency (%)	27.0
Customer Meter, GPM	49.0

DAN JOHNSON
Manager
Hydraulic Services

P. O. Box 788
300 N. Pepper St.
Rialto, CA 92377-0788

LOG OF WELL NO. ~~12~~ 10

88	feet	20"	#10	D.W. Casing
41 1/2	feet	16"	#10	D.W. Casing
7 1/2	feet	16"	#10	2-ply starter
9	feet	16"	#10	3-ply starter
6	feet	open hole in rock		
152	feet	total depth		

. . . . . .

Top	to	7	feet,	surface soil	7 feet
7 feet	to	18	feet,	water gravel	11 feet
18 feet	to	62	feet,	loose sand and gravel	44 feet
62 feet	to	68	feet,	coarse water gravel	6 feet
68 feet	to	74	feet,	boulders	6 feet
74 feet	to	85	feet,	gravel	11 feet
85 feet	to	91	feet,	large boulders	6 feet
91 feet	to	110	feet,	gravel and small boulders	19 feet
110 feet	to	137	feet,	boulders & small gravel	27 feet
137 feet	to	152	feet,	decomposed granite	15 feet

TOTAL DEPTH .....152 feet

Measurements from surface of the soil

.....

Perforation as follows:

20 inch casing perforated from a point 10 feet below the surface to 78 feet depth with 5/8 knife 5 and 6 holes to the foot.

16 inch casing perforated from the 80 foot level to 137 feet with 5/8 knife, 5 and 6 holes to the foot.

Well harnessed with a Layne Bowler pump, and belt drive, moved from well #27.

Pumping started June 4, 1935
Delivering 50 inches.
June 27, pumping steadily and delivering 42 inches.

U. S. MURPHY, DRILLER
C. E. HUBBARD, ASSISTANT.

June 27, 1935
compiled by:
E. D. Stahl

. . . . .
. . . .
. . .
. .

COPY

SoCal PUMP & WELL SERVICE, INC.
WATER WELL DRILLING
909-341-5025
1510 PALMYRITA AVENUE
P.O. BOX 5498 - 92517
RIVERSIDE, CA 92507 92507
License # 510836 - C57 C61/D21 C10 A

CHANGE ORDER

ORDER 98068C-1
ORDER DATE 09/22/98
ORDERED BY Jo Ellen
CUSTOMER ORDER

TO **Beaumont Cherry Valley Water**
P. O. Box 2037
Beaumont, California 92223

PROJECT **98068**
Beaumont Cherry Valley Water
Recondition Well & Install
Pump # 10

The contractor agrees to perform and the owner agrees to pay for the following changes to this contract

PLANS ATTACHED ☐
SPECIFICATIONS ATTACHED ☐

Description of Work	Amount
Well # 10 Install Liner & Sanitary Seal	
Addtional work will need to be performed, to stop contamination on well # 10. Any additional development work will be $ 100.00 an hour over this change order.	10,978.29

Negative changes will lower the overall contract price requiring no additional payment by owner.

Amount of Change 10978.29

The original Contract Sum was	15644.23
Net change by previous Change Orders	0.00
The Contract Sum prior to this Change Order	15644.23
The Contract Sum will be changed by this Change Order	10978.29
The new Contract Sum including this Change Order will be	26622.52
The Contract Time will be changed by	Days

Contractor SoCal Pump & Well Service, Inc. Approved [signature] Date 9-22-98

Owner [signature] Approved BCVWD Date 9-23-98

L O G O F W E L L N O. 10

Surface - 21,	Soil,
21 - 36,	Gravel,
36 -	Bedrock.

Depth of well, 70 feet.

Perforated from 21 to 36 feet.

Cased with 16" casing to bedrock.

Conversion from Oil Lube to Water Lube

Well #6

- Pull 210 feet 6" x2" x 1 3/16" column, tube and shaft
- Video the well
- Convert bowls and discharge head to water lube
- Install 210 feet 6" x 1 3/16" x 10' column and shaft assembly, with water lube spiders and bearings
- Install pre-lube system with solenoid valve and time

Well #11

Capacity	95 GMP
Head	150 TDH
Fluid	H_2O Cool
Specific Gravity	1.0 Clear
Pump Speed	3600 RPM
Driver	Submersible Motor

Material:

New 250' x 4" Sch 40 black pipe
New Crown Pump
Splice and band kit
260' of new wire #12 x 3 submersible wire with ground
1 fabricated sealed discharge head

Well #9

Capacity	27 GPM
Head	200 TDH
Fluid	H_2O Cool
Specific Gravity	1.0 Clear
Pump Speed	3600 RPM
Driver	Submersible Motor

Material

New 150' x 2" Sch 40 black pipe
New Stainless Steel Grundfos Pump
New 3HP Franklin Submersible Motor
Splice and band kit
170' of new wire #12 x 3 with ground
1 fabricated sealed discharge head

Well #10

Capacity	76 GPM
Head	185 TDH
Fluid	H_2O Cool
Specific Gravity	1.0 Clear
Pump Speed	3600 RPM
Driver	Submersible Motor

Material

New 200' x 2" Sch 40 Galvanized pipe
New 2" check valve

Well #14

Capacity	188 GPM
Head	332.3 TDH
Fluid	H_2O Cool
Specific Gravity	1.0 Clear
Pump Speed	3600 RPM
Driver	Submersible Motor

Material

New 350' x 4" Sch 40 black pipe
New Crown Pump
New 50HP Franklin Submersible Motor
Splice and band kit
370' of new wire #2 x 3 submersible wire with ground
1 fabricated sealed discharge head

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

Hydraulic/Industrial Services

CONFIDENTIAL/PROPRIETARY INFORMATION

July 30, 1999

JO ELLEN SEICK
BEAUMONT CHERRY VALLEY WATER DIST.
P.O.BOX 2037
BEAUMONT, CA 92223

SUBJECT: HYDRAULIC TEST RESULTS - WELL #18
CIS ACCT: 64-31-671-6325-01
CUST #: 0-000-0080 SERV ACCT #: 015-2545-50
5608 PLANT
DATE OF TEST: July 21, 1999

In accordance with your request, a test was made on your submersible well pump on the date listed above. If you have any questions regarding the results which follow, please contact KORY MYERS at (909)820-5630.

EQUIPMENT

PUMP: N/A NO: N/A
MOTOR: N/A NO: N/A 5 HP
METER: 0728-4502
HYDRAULIC TEST REFERENCE NUMBER: 13294

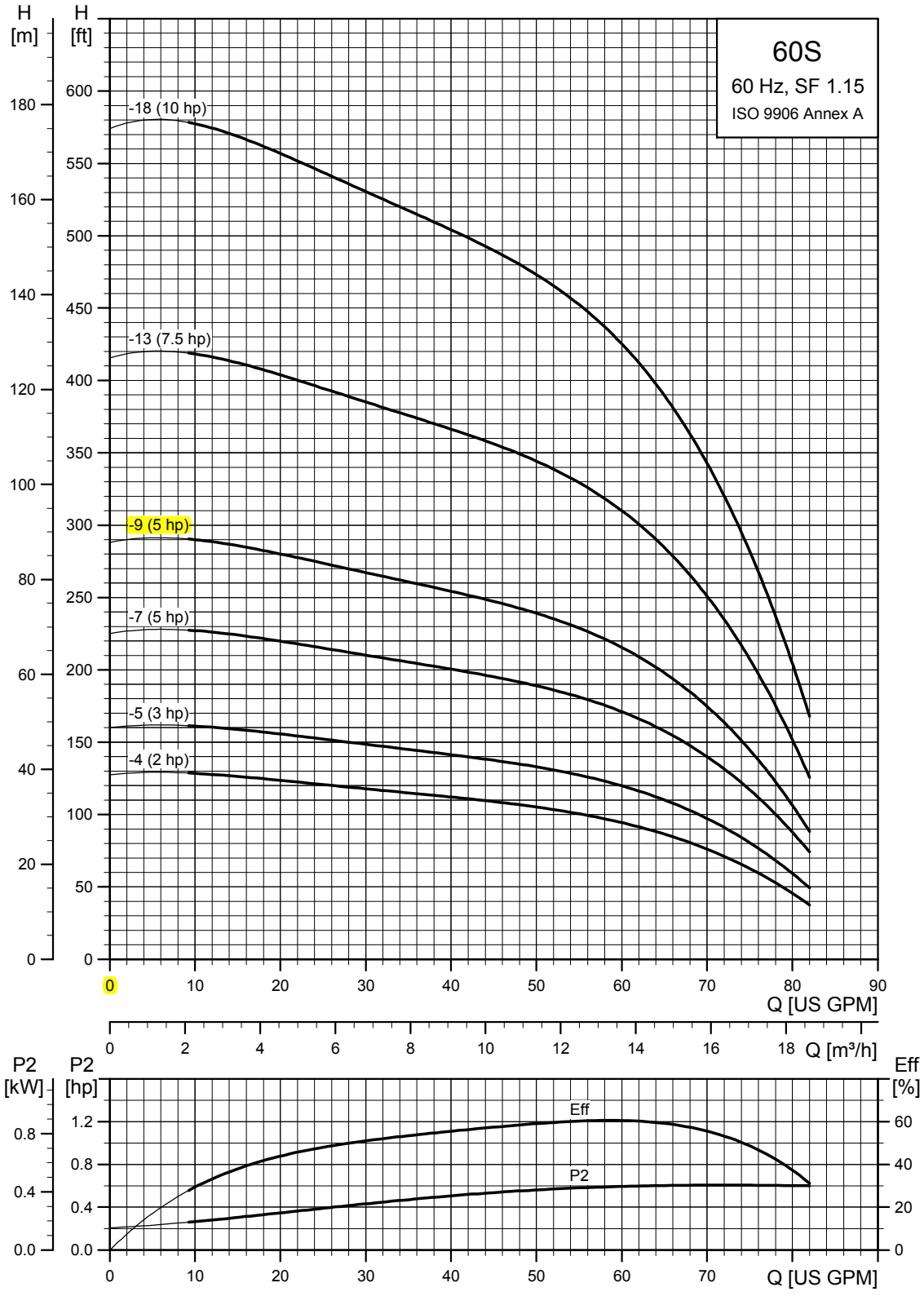
TEST RESULTS	
Discharge Pressure, PSI	46.8
Standing Water Level, Ft.	85.8
Drawdown, Ft.	7.0
Discharge Head, Ft.	108.1
Pumping Water Level, Ft.	92.8
Total Head, Ft.	200.9
Capacity, GPM	26.0
GPM per Ft. Drawdown	3.7
Acre Ft. Pumped in 24 Hrs.	0.115
kW Input to Motor	4.2
HP Input to Motor	5.6
Motor Load (%)	93.5
Measured Speed of Pump, RPM	4
kWh per Acre Ft.	877
Overall Plant Efficiency (%)	23.4

DAN JOHNSON
Hydraulic/Industrial
Test Supervisor

P.O. Box 788
300 N. Pepper St
Rialto, CA 92377-0788

60S (60 gpm)

BCVWD Well #10



TM05 1736 2112

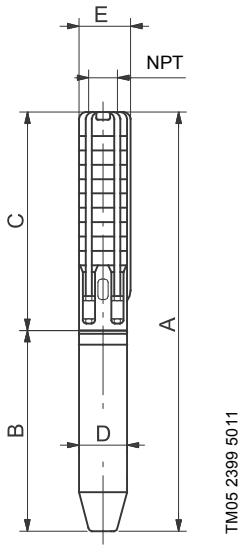
60S (60 gpm)

Pump model	Nom. head [ft]	Ph	Volts [V]	Motor [Hp]		Dimensions A [in (mm)]	B [in (mm)]	C [in (mm)]	D [in (mm)]	E [in (mm)]	Net weight (complete) [lb]
60S - Motor dia. 4 inch, 3 wire motor, 60 Hz, rated flow 60 gpm (2" NPT)											
60S20-4	93	1	230	2	●	37.01 (940)	19.49 (495)	17.52 (445)	3.74 (95)	3.97 (101)	36.0
		3	230	2	■	31.23 (793)	13.71 (348)	17.52 (445)	3.74 (95)	3.97 (101)	36.0
			460	2	■	31.23 (793)	13.71 (348)	17.52 (445)	3.74 (95)	3.97 (101)	36.0
60S30-5	117	1	230	3	●	42.68 (1084)	22.60 (574)	20.08 (510)	3.74 (95)	3.97 (101)	61.2
		3	230	3	●	38.08 (967)	18.00 (457)	20.08 (510)	3.74 (95)	3.97 (101)	49.5
			460	3	●	38.08 (967)	18.00 (457)	20.08 (510)	3.74 (95)	3.97 (101)	58.5
60S50-7	164	1	230	5	●	51.82 (1316)	26.62 (676)	25.20 (640)	3.74 (95)	3.97 (101)	81.0
		3	230	5	●	47.92 (1217)	22.72 (577)	25.20 (640)	3.74 (95)	3.97 (101)	49.5
			460	5	●	47.92 (1217)	22.72 (577)	25.20 (640)	3.74 (95)	3.97 (101)	72.0
60S50-9	210	1	230	5	●	56.93 (1446)	26.62 (676)	30.32 (770)	3.74 (95)	3.97 (101)	85.5
		3	230	5	●	53.04 (1347)	22.72 (577)	30.32 (770)	3.74 (95)	3.97 (101)	76.5
			460	5	●	53.04 (1347)	22.72 (577)	30.32 (770)	3.74 (95)	3.97 (101)	76.5
60S75-13	304	3	230	7.5	●	67.21 (1707)	26.66 (677)	40.56 (1030)	3.74 (95)	3.97 (101)	83.3
			460	7.5	●	67.21 (1707)	26.66 (677)	40.56 (1030)	3.74 (95)	3.97 (101)	136.8
60S100-18	420	3	460	10	●	83.94 (2132)	30.60 (777)	53.35 (1355)	3.74 (95)	3.97 (101)	175.5
60S - Motor dia. 6 inch, 3 wire motor, 60 Hz, rated flow 60 gpm (2" NPT)											
60S75-13	304	3	230	7.5	▲	65.24 (1657)	22.25 (565)	43.00 (1092)	5.63 (143)	5.43 (138)	136.8
			460	7.5	▲	65.24 (1657)	22.25 (565)	43.00 (1092)	5.63 (143)	5.43 (138)	136.8
60S100-18	420	3	230	10	▲	79.02 (2007)	23.23 (590)	55.79 (1417)	5.63 (143)	5.43 (138)	207.0
			460	10	▲	79.02 (2007)	23.23 (590)	55.79 (1417)	5.63 (143)	5.43 (138)	207.0

Notes:
Control box is required for 3-wire, single-phase applications. Data does not include control box.diameter.
Performance conforms to ISO 9906. 1999 (E) Annex A. Minimum submergence is 5 feet.

- ■ MS402 motor.
- ● MS4000 motor.
- ▲ MS6 motor.
- ∧ MMS6000 motor.
- ★ MMS8000 motor.
- ♦ Takes MS6 motor; not available as complete.
- ☼ Takes MMS6000 motor; not available as complete.
- * Takes MMS8000 motor; not available as complete.
- † Takes MMS10000 motor; not available as complete.

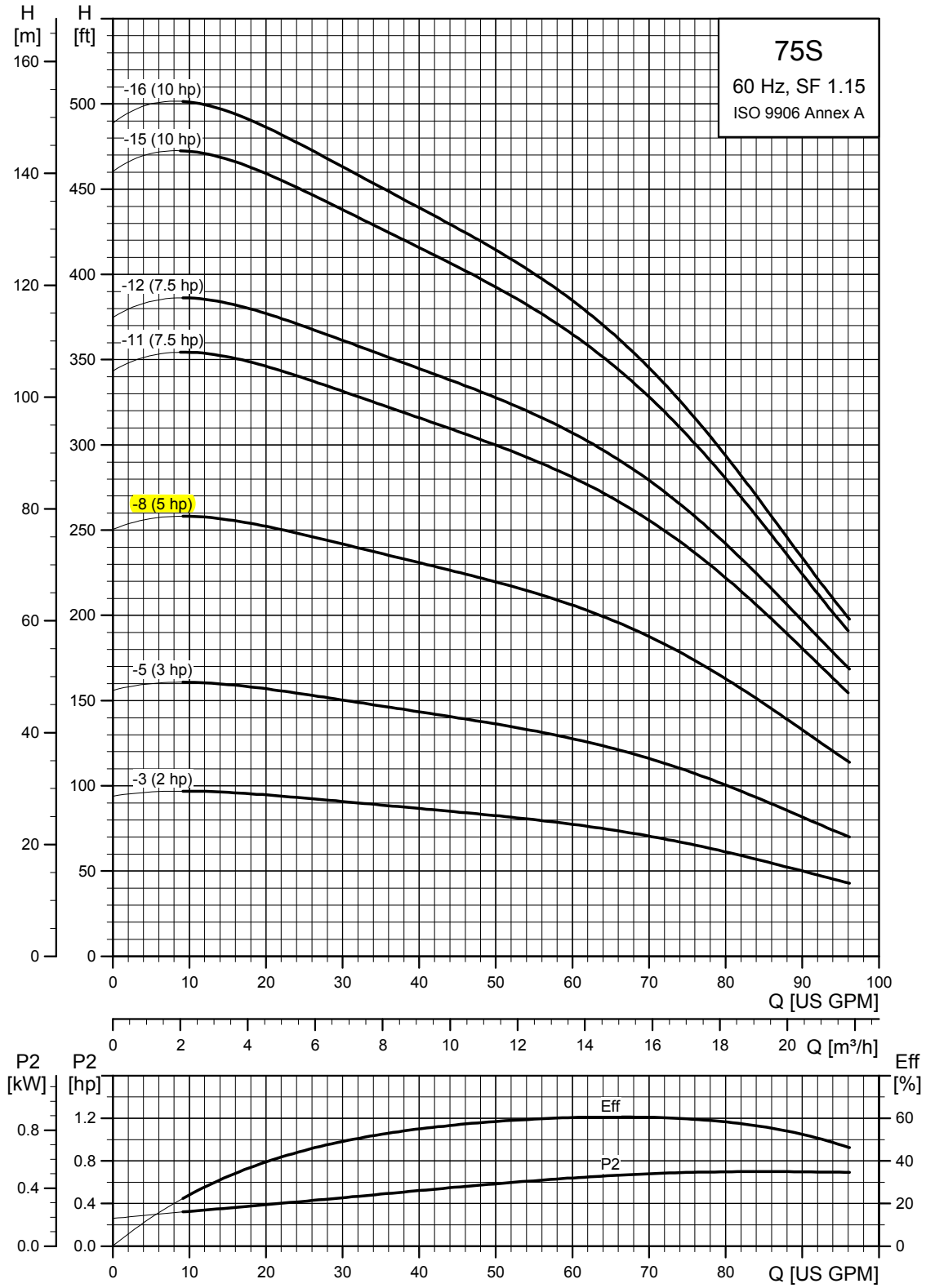
60S



E = Maximum diameter of pump including cable guard and motor.

75S (75 gpm)

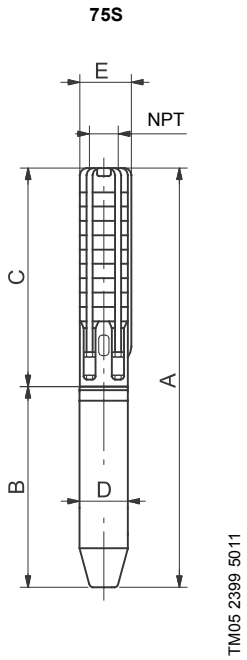
BCVWD Well 18



TM05 0234 1812

75S (75 gpm)

Pump model	Nom. head [ft]	Ph	Volts [V]	Motor [Hp]		Dimensions A [in (mm)]	B [in (mm)]	C [in (mm)]	D [in (mm)]	E [in (mm)]	Net weight (complete) [lb]
75S - Motor dia. 4 inch, 3 wire motor, 60 Hz, rated flow 75 gpm (2" NPT)											
75S20-3	68	1	230	2	●	34.45 (875)	19.49 (495)	14.97 (380)	3.74 (95)	3.97 (101)	36.9
		3	230	2	■	28.67 (728)	13.71 (348)	14.97 (380)	3.74 (95)	3.97 (101)	34.2
			460	2	■	28.67 (728)	13.71 (348)	14.97 (380)	3.74 (95)	3.97 (101)	34.2
75S30-5	114	1	230	3	●	42.68 (1084)	22.60 (574)	20.08 (510)	3.74 (95)	3.97 (101)	69.3
		3	230	3	●	38.08 (967)	18.00 (457)	20.08 (510)	3.74 (95)	3.97 (101)	57.6
			460	3	●	38.08 (967)	18.00 (457)	20.08 (510)	3.74 (95)	3.97 (101)	57.6
75S50-8	182	1	230	5	●	54.38 (1381)	26.62 (676)	27.76 (705)	3.74 (95)	3.97 (101)	87.3
		3	230	5	●	50.48 (1282)	22.72 (577)	27.76 (705)	3.74 (95)	3.97 (101)	74.7
			460	5	●	50.48 (1282)	22.72 (577)	27.76 (705)	3.74 (95)	3.97 (101)	74.7
75S75-12	273	3	230	7.5	●	64.65 (1642)	26.66 (677)	38.00 (965)	3.74 (95)	3.97 (101)	81.4
			460	7.5	●	64.65 (1642)	26.66 (677)	38.00 (965)	3.74 (95)	3.97 (101)	81.4
75S100-16	364	3	460	10	●	78.82 (2002)	30.60 (777)	48.23 (1225)	3.74 (95)	3.97 (101)	138.0
75S - Motor dia. 6 inch, 3 wire motor, 60 Hz, rated flow 75 gpm (2" NPT)											
75S75-11	250	3	230	7.5	▲	60.12 (1527)	22.25 (565)	37.88 (962)	5.63 (143)	5.43 (138)	130.5
			460	7.5	▲	60.12 (1527)	22.25 (565)	37.88 (962)	5.63 (143)	5.43 (138)	130.5
75S100-15	341	3	230	10	▲	70.16 (1782)	23.23 (590)	46.93 (1192)	5.63 (143)	5.43 (138)	175.5
			460	10	▲	70.16 (1782)	23.23 (590)	46.93 (1192)	5.63 (143)	5.43 (138)	175.5



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