

# Town of Discovery Bay Community Services District



## CONTRACT REQUIREMENTS AND AGREEMENT

For the

### Well No. 8 Project

Bid Set  
March 2023

**BIDS DUE:** *April 20<sup>th</sup>, 2023*

*Prepared by:*



500 First Street  
Woodland CA, 95695  
Phone: 530.661.0109, Fax: 530.661.6806

**NOTICE INVITING BIDS  
FOR**

**Town of Discovery Bay  
Construction of Well No. 8**

NOTICE IS HEREBY GIVEN that the Town of Discovery Bay Community Services District (CSD) invites sealed Bids for the **Town of Discovery Bay Discovery Bay Construction of Well No. 8 Project**. This project consists of the drilling and construction of a municipal water supply well in Discovery Bay, California. The Project Site is located approximately 0.5-miles south of the paved eastern terminus of Point of Timber Road in the Town of Discovery Bay.

The project consists of the construction of a municipal water supply well with a depth of 365-feet. The scope of work includes drilling, installation of conductor casing and well casing, installation of gravel pack, installation of sanitary and annular seals, mechanical and pumping well development, installation and removal of a test well pump, and performing a series of well pumping tests. Engineers estimate for this project is **\$619,400**.

It is mandatory that all contractors who wish to submit a bid for this project attend the mandatory pre-bid meeting scheduled for **Thursday, April 5<sup>th</sup> at 11:00** at 2477 the corner of Point Timber Road and Poe Driven in Discovery Bay. Bids will not be accepted from contractors who do not visit the site as part of the mandatory job walk.

Direct all questions to the CSD's Project Manager, **Mr. Scott Lewis at Luhdorff & Scalmanini** by emailing at [slewis@lsce.com](mailto:slewis@lsce.com). Bidders must email any questions to Mr. Lewis no later than **ten working days** prior to the bid opening. Responses to all questions will be sent to all bidders three working days before the bid opening.

Contractors wishing to submit a bid for the project should email **Mr. Lewis** and he will email you the Plans, Specifications and Contract Documents for the project and put you on the bidders list for addendums.

All bids shall be accompanied by a cashier's check or certified check payable to the order of the Town of Discovery Bay CSD, amounting to (10%) percent of the Bid or by a bond in said amount and payable to the Town of Discovery Bay CSD signed by the Bidder and a corporate surety, or by the Bidder and two sureties who shall justify before any officer competent to administer an oath, in double the amount and over and above all statutory exemptions (hereinafter "Security"). In the event that the Bidder fails, within five (5) working days after written notice that the Contract has been awarded to him, to enter into a Contract with the Town of Discovery Bay CSD, the Town of Discovery Bay CSD may award the Contract to the second lowest bidder. In such event, the amount of Bidder's Security shall be applied by the Town of Discovery Bay CSD to the difference between the Bidder's Bid and the second lowest Bid, and the surplus of the Security, if any, shall be returned to the Bidder if cash or check is used, or to the surety on Bidder's bond if a bond is used.

The Bids must be on forms obtained as set forth above and must be delivered to the Town of Discovery Bay Community Center at 1601 Discovery Bay Blvd., Discovery Bay, CA 94505 in a sealed envelope marked "**Bid for Town of Discovery Bay Construction of Well No. 8 Project**", **up to but not later than 11:00 a.m., April 20th, 2023**. Bids will be publicly opened, examined and read aloud at that time, at

1601 Discovery Bay Blvd., Discovery Bay, California. The Town of Discovery Bay CSD Board of Directors reserves the right to reject any and all Bids. The successful bidder shall have **180 calendar days** from the date of the Notice to Proceed to complete the work.

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

In accordance with the provisions of California Public Contract Code Section 3300, the CSD has determined that the Contractor shall possess, as a minimum, a valid C-57 License. In accordance with the provisions of California Business and Professions Code Section 7028.15, a bid submitted to the District by a Contractor who is not licensed in accordance with Chapter 9 of the California Business and Professions Code shall be considered non-responsive and shall be rejected by the District.

No bidder may withdraw its bid for a period of ninety (90) days after the date set for the opening thereof.

**BID PROTEST:** Any Bid protest must be submitted in writing to the Project Manager at the CSD Office located at 1800 Willow Lake Road, Discovery Bay, CA 94505 before 4:30 p.m. of the fifth Business Day following transmission and posting of the District's Notice of Intent to Award. The notice will be posted at the CSD Office. The CSD will use reasonable efforts to deliver by facsimile and/or e-mail a copy of the Notice of Intent to Award to all Bidders who submitted Bids no later than the Business Day after issuance, although any delay or failure to do so will not extend the Bid protest deadline described above.

Prevailing wage as determined by the State of California, Director of Industrial Relations are required for this project, a copy of which is available at the Office of the Town of Discovery Bay CSD. This is a public works project subject to the registration and reporting requirements of SB 854.

**ACKNOWLEDGMENT  
FOR**

**Town of Discovery Bay  
Construction of Well No. 8 Project**

To ensure all bid materials were received, this Acknowledgement must be completed and returned in the bidder's sealed envelope for the Bid prior to **11:00 a.m. April 20th, 2023**. This sheet acknowledges receipt of the following materials:

1. Notice Inviting Bids
2. Acknowledgement
3. Instructions for Bidders
4. Contract
5. General Conditions
6. California Public Contract Code Section 20104
7. Bid Form
8. List of Subcontractors
9. Bidders Responsibility Statement
10. Non-Collusion Affidavit
11. Bid Guarantee
12. Contract Specifications "**Specifications for Construction of Well 8**", Dated February 2023
13. Drawings "**Specifications for Construction of Well 8**", Dated February 2023
14. Addenda(s) receipt(s) through No. \_\_\_\_\_, if applicable

In addition to the above materials, the Bidder acknowledges the following:

- 1) A Faithful Performance Bond and Labor & Material Bond are required for this project.
- 2) Liquidated damages in the amount of \$500 a day will be assessed by the Owner for each day beyond the contract specified number of days that the project is not completed by the Contractor.
- 3) Names and phone numbers of references for a minimum of five (5) similar projects are to be provided with the bid.

**Bid submittals received without this completed sheet will be deemed incomplete and will not be considered in the award process.**

Acknowledged by: \_\_\_\_\_  
Company: \_\_\_\_\_  
License No. \_\_\_\_\_  
Bidder: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**INSTRUCTIONS FOR BIDDERS  
FOR**

**Town of Discovery Bay  
Construction of Well No. 8**

1. OBTAINING COPIES OF CONTRACT DOCUMENTS

Contractors wishing to submit a bid for the project should email **Mr. Lewis of Luhdorff & Sciamanini** at slewis@lsce.com and he will email you the Plans, Specifications and Contract Documents for the project and add you to the bidders list.

2. FORM OF BID

- a. All Bids must be made on regular Bid Forms which are made a part of these Contract Documents and must be enclosed in a sealed envelope, marked as required in the “Notice Inviting Bids.” The Bid must be signed by the individual or by the proper officials of the firm or corporation by which the Bid is made. The right is reserved to reject any and all Bids and to waive technical defects as the interests of the Town of Discovery Bay CSD require.

3. INTERPRETATION OR CORRECTION OF CONTRACT DOCUMENTS

- a. Bidder shall, before submitting its Bid, carefully study and compare the components of the Contract Documents and shall examine the Project Site, the conditions under which the Work is to be performed, and the local conditions.
- b. In the event Bidder has any question as to the meaning of any part of the Contract Documents, or Bidder finds any error, inconsistency, or ambiguity in the Contract Documents, Bidder shall make a written Request for Clarification prior to submitting its Bid. Requests for Clarification or interpretation of the Contract Documents shall be addressed only to the Town of Discovery Bay CSD **Mr. Scott Lewis of Luhdorff & Scalmanini** at slewis@lsce.com. It shall be the Bidder’s responsibility to ensure that any such request be submitted to the Town of Discovery Bay CSD, in a timely manner no less than five (5) working days prior to the bid opening, in order to allow for the Town of Discovery Bay CSD to issue a written Addenda.
- c. If necessary, the Town of Discovery Bay CSD shall make clarifications, interpretations, corrections, and changes to the Contract Documents by Addenda issued as provided below. Purported clarifications, interpretations, corrections, and changes to the Contract Documents made in any other manner shall not be binding on the Town of Discovery Bay CSD, and Bidders shall not rely upon them.

4. ADDENDA

- a. Addenda will only be issued in writing via email. The Town of Discovery Bay CSD will make reasonable efforts to deliver Addenda to all Bidders who are known by the Town of Discovery Bay CSD to have received a complete set of Contract Documents and who have

provided a valid email address for receipt of Addenda. The Town of Discovery Bay CSD makes no guarantee that all Bidders will receive all the Addenda.

- b. Addenda withdrawing the Invitation for Bids or postponing the Bid Deadline may be issued any time prior to the Bid Deadline. However, if any Addenda issued later than 72 hours prior to the bid closing results in a material change to the Contract Documents, the Bid Deadline shall be extended by the Town of Discovery Bay CSD by not less than 72 hours, pursuant to Public Contract Code section 4104.5
- c. Each Bidder shall be responsible for ascertaining, prior to submitting its Bid, that it has received all issued Addenda. Each Bidder shall acknowledge receipt of all Addenda on the Bid Form. Failure to acknowledge receipt of Addenda may render the Bid non-responsive.

## 5. EXAMINATION OF SITE AND PLAN

- a. The Bidders must satisfy themselves as to the location of the Work, transportation facilities, soil conditions, underground conditions, groundwater, and all other matters, which may influence their Bids. It will be assumed that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality and quantity of work to be performed and the material, equipment and other devices to be furnished and as to the requirements of these Contract Documents.
- b. Any information derived from the Town of Discovery Bay CSD, or any of its/his employees or from any records of the Town of Discovery Bay CSD will not relieve the Contractor from risks of the responsibility of fulfilling the terms of the Contract.

## 6. MANDATORY PRE-BID MEETING

- a. A mandatory pre-bid meeting will be held for all general contractors who wish to submit a bid for this project. Meeting will be held **Thursday, April 5th, 2023 at 11:00 am**, at 2477 Discovery Bay Blvd, Discovery Bay. Bids will not be accepted from contractors who do not attend this meeting
- b. Bidders shall direct all questions to the CSD's Project Manager, **Mr. Scott Lewis at Luhdorff & Sclamanini** by emailing him at slewis@lsce.com. Bidders must email any questions to Mr. Lewis no later than ten working days prior to the bid opening. Responses to all questions will be sent to all bidders three working days before the bid opening.

## 7. FILLING IN BID FORMS BY BIDDERS

- a. Bids shall be submitted on the Bid Forms included with the Contract Documents. Bidder shall print, complete, and submit, concurrently with its Bid all of the following:
  - (i). Completed Bid Form,
  - (ii). Signed Acknowledgement Form,
  - (iii). Department of Industrial Relations and SB854 Compliance Affidavit (Located at end of this section)

- (iv). List of Subcontractors,
  - (v). The Bidders Statement of Responsibility,
  - (vi). Bidder's Non-Collusion Affidavit,
  - (vii). Bid Guarantee,
  - (viii). Certification by Contractor (Located at end of General Conditions),
  - (ix). and all other information requested by these Contract Documents.
- b. All blanks on the Bid Forms shall be filled in by typewriter or printed legibly in ink.
  - c. The Bidder must individually initial all interlineations, alterations, and erasures.
  - d. Bidder shall acknowledge receipt of all Addenda on the Bid.
  - e. Bidder shall not modify or qualify the Bid Forms in any manner.
  - f. The Bid Forms shall be signed by a person or persons legally authorized to bind Bidder to the Contract. The individuals signing each document shall warrant that they are authorized to bind the legal entity of the Bidder.

## 8. BID GUARANTEE

- a. All Bids shall be accompanied by a cashier's or certified check payable to the order of the Town of Discovery Bay CSD, amounting to ten percent (10%) of the bid, or by a bond in said amount and payable to the Town of Discovery Bay CSD and signed by the Bidder and a corporate surety, or by the Bidder and two sureties who shall justify before any officer competent to administer an oath, in double the amount and over and above all statutory exemptions (hereinafter "Security"). In the event that the Bidder fails, within five (5) work days after written notice that the Contract has been awarded to him, to enter into a Contract with the Town of Discovery Bay CSD, the Town of Discovery Bay CSD may award the Contract to the second lowest Bidder. In such event, the amount of Bidder's Security shall be applied by the Town of Discovery Bay CSD to the difference between the Bidder's Bid and the second lowest Bid, and the surplus, if any, shall be returned to the Bidder if cash or a check is used, or to the surety on Bidder's bond if a bond is used.
- b. The Bid Security of the successful Bidder will be returned to him when he executes a satisfactory Contract accompanied by the proper bonds. The Bid Security of other Bidders will be returned to them upon the award of the Contract to the successful Bidder, except that of the next higher Bidder which shall be returned to him upon the execution of a satisfactory Contract accompanied by the proper bonds by the lowest Bidder, or in case of his default, the surety of the next higher Bidder will be held until he executes a satisfactory Contract accompanied by the proper bonds.

## 9. WITHDRAWAL OF BID

Any Bid may be withdrawn at any time prior to 8:00 a.m. of the day fixed in the "Notice Inviting Bids"

for the opening of the Bids provided that a request in writing executed by the Bidder or his authorized agent for such withdrawal is filed with the Town of Discovery Bay CSD. The withdrawal of any Bid shall not prejudice the right of a Bidder to file a new Bid prior to the established **11:00 a.m. deadline of Tuesday, April 20<sup>th</sup>, 2023.**

#### 10. RESPONSIBILITY OF BIDDER

- a. The Town of Discovery Bay CSD has absolute discretion to determine the lowest responsive, responsible Bidder. The Contract will not be awarded to any Bidder who cannot give satisfactory assurance of their ability to perform the Contract if it is awarded to them. Each Bidder may be required to furnish satisfactory evidence that he has sufficient means and facilities and has had ample experience in the type of work contemplated herein to deliver the materials, and complete the installation in accordance with the specifications and within the time limit guaranteed.
- b. In determining whether or not a Bidder is “responsible,” the Town of Discovery Bay CSD may appoint a Representative to consider the following factors in relation to the Work to be performed for this Project:
  - (i). Demonstrated financial strength including, but not limited to, resources available, bonding capacity, and available insurance.
  - (ii). Demonstrated safety record including, but not limited to, Experience Modification Rate.
  - (iii). Successful completion of a minimum of 5 projects of similar scope and size for well projects. In reviewing this factor, the Town of Discovery Bay CSD may consider elements including, but not limited to, contract amount of completed projects, experience on public works projects for installation of wells, experience implementing prevailing wage certified payroll requirements, timeliness of performance, and, if necessary, evaluation of Bidder’s work by previous agencies, clients, design professionals, or subcontractors. Bidder shall provide names and phone numbers of references for similar projects.
  - (iv). Sufficiency of contract administration and construction management systems including, but not limited to, proposed scheduling tools, proposed subcontract forms, proposed progress payment applications, and proposed certification of payroll documents.
  - (v). History of claims, litigation, poor performance, late project completions, warranty issues and termination or disqualification from projects.
  - (vi). History of claims, poor performance, late project completions, or warranty issues on previous Town of Discovery Bay CSD projects.

The Town of Discovery Bay CSD Representative will make its determination of responsibility based upon information submitted by Bidders contained in the “Bidders Statement of Responsibility,” included in the Contract Documents, additional information requested by the District and supplied by the Contractor per SECTION 10



RESPONSIBILITY OF BIDDER, b.(i), (ii), and (iv), and if necessary, interviews with previous public agencies, clients, design professionals, or subcontractors with whom the Bidder has worked.

If a Bidder otherwise determined to be the lowest responsive Bidder is determined to be non-responsible by the Town of Discovery Bay CSD Representative, that Bidder will be given written notice of each finding by the Town of Discovery Bay CSD Representative, and shall have five (5) working days to present additional relevant evidence to the Town of Discovery Bay CSD Representative. The Town of Discovery Bay CSD Representative shall make a recommendation to the legislative body of the Town of Discovery Bay CSD, which shall make a finding on the issue of non-responsibility as part of the process of Award of Contract.

- c. The Contractor shall possess a valid **California C-57 Contractors License** at the time of award of the Contract. Bids will not be accepted from a Contractor who is not licensed in accordance with the laws of the State of California.

#### 11. PROGRESS SCHEDULE – MATERIAL AND EQUIPMENT LISTS

- a. The Contractor shall submit a progress schedule satisfactory to the Town of Discovery Bay CSD, within 7 working days after issuance of the Notice of Award to the Contractor showing thereof the time he proposes to spend in executing the various major divisions of the work and his proposed sequence or order of operation. The schedule shall be updated monthly by the contractor.

#### 12. CONTRACT BONDS

The Contractor shall furnish bonds, at his own expense, to the extent required by law or as set forth in the Contract Documents.

#### 13. INSURANCE

The Contractor shall provide, at his own expense, all insurance including, but not limited to, Workers' Compensation, Public Liability and Property Damage, required by law or as set forth in the General Conditions or the Contract.

#### 14. AWARD OF CONTRACT

The right is reserved to reject any or all Bids. The award of the Contract, if it is to be awarded, will be made to the lowest responsible Bidder whose Bid complied with all of the prescribed requirements, and if awarded, after it has been approved by the Town of Discovery Bay CSD Board of Directors. The Town of Discovery Bay CSD reserves the sole right to reject any and all bids and waive any informality in a bid and may award a contract as the interests of the Town of Discovery Bay CSD may dictate. Contractors will not be reimbursed for the cost of bid preparation.

#### 15. EXECUTION OF AGREEMENT

- a. The Agreement shall be executed and signed by the Contractor and returned with the prescribed executed bonds and evidence of insurance within the five (5) working days after

receipt by Contractor of the Notice of Award. Failure to return the signed and executed Agreement with the prescribed executed bonds and insurance within the five (5) working day limit shall be just cause for the annulment of the award and the forfeiture of that portion of the Bid Security equal to the difference between Contractor's Bid amount and the amount submitted by the second lowest responsible Bidder.

- b. Contractor shall have an active business license with Contra Costa County within 10 working days of Notice of Award.

#### 16. SUBCONTRACTOR

Each Bidder must comply with PCC § 4100 and following (Subletting and Subcontracting Fair Practices Act) and must submit with his Bid on the form attached to the Bid Forms, the name and location of the mill, shop or office of each proposed subcontractor who will perform work or labor or render services to the Contractor in excess of one-half percent of the total Bid or, in the case of streets or highways, one-half percent or \$10,000, whichever is greater, and shall state the portion of the work which will be done by each subcontractor.

#### 17. COMMENCEMENT OF WORK

The Work shall be commenced within five (5) calendar days after receipt of Notice to Proceed and must be completed within the time allowed after the date specified in the Notice to Proceed, or if no starting date is specified, within the time limit allowed from the date on which work actually started. The successful bidder and its subcontractors shall employ workers, trades and craftsmen which constantly display and demonstrate proper moral, safe, ethical and professional conduct to all fellow workers, employees and representatives of the CSD and other involved entities.

#### 18. TAXES

The Bid price set forth in the Bid form shall include all Federal, State and local taxes applicable to the Work or materials furnished and no claims for additional costs of any such tax shall be made.

#### 19. SCHEDULE OF VALUES

For work to be performed for a Lump Sum (LS) amount, the Contractor shall submit, within ten (10) days of award of Contract, a cost breakdown or schedule of values which is satisfactory to the Town of Discovery Bay CSD to be used for monthly pay estimates. At a minimum, the schedule of values shall individually list the items of work identified in the Summary of Work with a price fairly apportioned to each item. Mobilization, overhead, bonds, submittals, insurance, and demobilization shall be listed separately. Other general costs and profit shall be prorated to each item so that the total of the prices for all items equal the lump sum price.

#### 20. GENERAL WAGE DETERMINATION

Pursuant to Labor Code section 1770, the Director of the Department of Industrial Relations shall determine the general prevailing wages in accordance with the standards set forth in Labor Code section 1773. The general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work for each craft, classification, or type of worker needed to execute the Contract is available

from the Director of the Department of Industrial Relations at <http://www.dir.ca.gov/oprl/PWD/index.htm>. Pursuant to Labor Code section 1773.2, a copy of the prevailing wage determination shall be on file at the Office of Town of Discovery Bay CSD, located at 1800 Willow Lake Road, Discovery Bay, CA 94505.

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

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

Bidders shall complete the attached Department of Industrial Relations and SB 854 Compliance Affidavit and submit with their Bid.

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

No Contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5

Contractor shall post any job site notices prescribed by regulation.

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

## 21. DISCREPANCIES IN BIDS

Where there is any discrepancy in the written or numerical quotation of unit bids or the extension of the quantities and unit prices, the products of the written quotation of unit price and the estimated quantity for the item will be the bid considered correct by the Town of Discovery Bay CSD.

## 22. DELIVERY OF BIDS

**Bids must be delivered to the Town of Discovery Bay CSD, 1601 Discovery Bay Blvd., Discovery Bay, CA 94505, up to but not later than 11:00 a.m., April 20<sup>th</sup> 2023.**

## 23. COMPLIANCE WITH BIDDING PROCESS

The Town of Discovery Bay CSD reserves the right to accept or reject any submitted Bid which fails to comply with any of the requirements as set forth herein.

**DEPARTMENT of INDUSTRIAL RELATIONS and SB 854  
COMPLIANCE AFFIDAVIT**

In accordance with the California Labor Code as amended through Senate Bill SB 854, as a condition to bid on, be listed in a bid or perform work under a public works project, all Contractors are required to register, and maintain active registration throughout the duration of the contract with the California Department of Industrial Relations (DIR). This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. For information regarding registration, please go to:

<http://www.dir.ca.gov/public-works/PublicWorksSB854FAQ.html>

I, the Bidder, certify that:

"I am aware of the provisions of the Senate Bill SB 854 and subsequent DIR regulations, which require Contractors/Vendors to comply with all labor compliance requirements including but not limited to prevailing wage requirements, Labor Code sections 1725.5, 1771.1(a), 1774-1776, 1777.5, 1813, 1815, Public Works Contractor Registration Program, Electronic Certified Payroll Records to Labor Commissioner, and other requirements described in the DIR website. I am registered and qualified to perform public work pursuant to Labor Code section 1725.5 and I will comply all applicable provisions before commencing the performance of the work of this contract, and maintain compliance throughout the completion of said contract."

Signature	Date
Print Name	Business Name
Title	CSLB License Number
	PWC Registration Number

\*\*END OF SECTION\*\*



**AGREEMENT BETWEEN**  
TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT AND  
Name of Contractor  
FOR

Town of Discovery Bay  
Construction of Well No. 8 Project

This AGREEMENT (“Agreement”) is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 2023, by and between the Town of Discovery Bay Community Services District (hereinafter “District”) whose address is 1800 Willow Lake Road, Discovery Bay, California 94505, and \_\_\_\_\_ (“CONTRACTOR”).

**RECITALS**

A. District has determined that it requires the following contractor services from CONTRACTOR: Construction of Well No. 8 Project.

B. CONTRACTOR represents that it is willing to accept responsibility for performing such PROJECT in accordance with the terms and conditions set forth in this Agreement. Furthermore, CONTRACTOR agrees that in the event of any conflict or inconsistency in the terms and conditions of this Agreement and CONTRACTOR’S scope of work, that such conflict or inconsistency shall be resolved as provided in this Agreement.

NOW, THEREFORE, for and in consideration of the mutual covenants and conditions herein contained, and in light of the circumstances outlined in the Recitals, which are incorporated fully herein by this reference, the District and CONTRACTOR agree as follows:

**AGREEMENT**

1. **DEFINITIONS**

- 1.1. “Scope of Work”: Such contractor services as are generally set forth in Contractor’s Bid dated \_\_\_\_\_, 2023 attached hereto as Exhibit A and incorporated herein by this reference.
- 1.2. “Approved Fee Schedule”: Such compensation rates as set forth in Contractor’s Bid dated \_\_\_\_\_, 2023 attached hereto as part of Exhibit A and incorporated herein by this reference.
- 1.3. “Commencement Date”: Date of Notice to Proceed.

1.4. "Completion Date": Final Completion of the project within **180** calendar days after Notice to Proceed.

2. TERM

The Term of this Agreement shall commence at 12:00 a.m. on the Commencement Date and Contractor shall diligently prosecute the Scope of Work and achieve completion by Completion Date unless extended by written agreement of the parties or terminated earlier in accordance with Section 14 ("Termination") below.

3. CONTRACTOR'S SERVICES

- 3.1. CONTRACTOR shall perform the Work identified in the Scope of Work. District shall have the right to request, in writing, changes in the Scope of Work. Any such changes mutually agreed upon by the parties, and any corresponding increase or decrease in compensation, shall be incorporated by written amendment to this Agreement. In no event shall the total compensation and costs payable to CONTRACTOR under this Agreement exceed the sum of \$ \_\_\_\_\_ unless specifically approved in advance and in writing by District.
- 3.2. CONTRACTOR shall complete all Work arising out of this Agreement no later than the Completion Date.
- 3.3. CONTRACTOR shall perform all work to the highest professional standards of Contractor's profession and in a manner reasonably satisfactory to District. CONTRACTOR shall comply with all applicable federal, state and local laws and regulations, including the conflict of interest provisions of Government Code Section 1090 and the Political Reform Act (Government Code Section 81000 et seq.).
- 3.4. CONTRACTOR represents that it has, or will secure at its own expense, all personnel, material, appliances, equipment, and tools required to perform the Work identified in the Scope of Work. All such Work shall be performed by CONTRACTOR or under its supervision, and all personnel engaged in the work shall be qualified to perform such Work. The District shall be Contractor's project administrators and shall have direct responsibility for management and coordination of Contractor's performance under this Agreement. District shall not direct, control or supervise Contractor's employees or sub-contractors in the performance of the Scope of Work set forth in this Agreement.
- 3.5. To the extent applicable, CONTRACTOR shall provide progress copies of drawings, reports, specifications and other necessary information to the District and other engineers for coordination and review.
- 3.6. CONTRACTOR shall strictly observe and comply with applicable laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on the safety of persons or properties or their protection from damage, injury, or loss. Without limiting the foregoing, CONTRACTOR shall comply with all requirements, regulations, orders, and directives promulgated under the Federal Occupational Safety and Health Act, the California Occupational Safety and Health Act, and the California Safe Drinking Water and Toxic Enforcement Act of 1988.

4. COMPENSATION

- 4.1. District agrees to compensate CONTRACTOR for the Work provided under this Agreement, and CONTRACTOR agrees to accept in full satisfaction for such Work, payment in accordance with the Approved Fee Schedule.
- 4.2. CONTRACTOR shall submit to District an invoice, on a monthly basis or less frequently, for the Work performed pursuant to this Agreement. Each invoice shall itemize the Work performed during the billing period and the amount due. Within ten business days of receipt of each invoice, District shall notify CONTRACTOR in writing of any disputed amounts included on the invoice. Within sixty (60) calendar days of receipt of each invoice, District shall pay all undisputed amounts included on the invoice in accordance with this Agreement. District shall not withhold applicable taxes or other authorized deductions from payments made to CONTRACTOR.
- 4.3. Except with the District's prior approval, payments to the Contractor shall be in an amount equal to ninety-five percent (95%) of the value of all work completed as of the last day of the preceding month, based on quantities of work completed, as determined by the District, less the aggregate of all previous payments made to the Contractor. Contractor may substitute securities in lieu of retained funds in accordance with Public Contracts Code Section 22300.
- 4.4. Additional Work requested by District and not included in the Scope of Work may be required by the District. Such additional Work shall be performed only in accordance with Change Orders, authorized and issued by District or District's designated representative. Each Change Order shall list the scope of Work to be performed, state the time within which the Work is to be completed, and designate any special conditions. Payments for any additional Work requested by District shall be made to CONTRACTOR by District on a time-and-materials basis using the Approved Fee Schedule, unless otherwise stated in the Change Order.
- 4.5. Sixty (60) days after completion of the work and its acceptance by the District, the District shall release to Contractor any retention withheld from Contractor, less one hundred fifty percent (150%) of the amount of any disputed items. Such final payment will not be made until completion of the entire work and acceptance of the whole by the District.

## 5. OWNERSHIP OF WRITTEN PRODUCTS

- 5.1. All reports, documents or other written material ("written products") developed by CONTRACTOR in the performance of this Agreement shall be and remain the property of District without restriction or limitation upon its use or dissemination by District. CONTRACTOR may take and retain copies of such written products as desired, but no such written products shall be the subject of a copyright application by CONTRACTOR. District shall indemnify CONTRACTOR from any liability arising from use of documents in connection with the Scope of Work identified in this Agreement.

## 6. RELATIONSHIP OF PARTIES

- 6.1. CONTRACTOR is, and shall at all times remain as to District, a wholly independent contractor. CONTRACTOR shall have no power to incur any debt, obligation, or liability on behalf of District or otherwise to act on behalf of District as an agent. Neither District nor any of its agents

shall have control over the conduct of CONTRACTOR or any of Contractor's employees, except as set forth in this Agreement. CONTRACTOR shall not represent that it is, or that any of its agents or employees are, in any manner employees of District. CONTRACTOR is not entitled to the rights or benefits afforded District employees, including, but not limited to, disability, unemployment or other insurance, or workers' compensation.

7. CONFIDENTIALITY

7.1. All data, documents, discussion, or other information developed or received by CONTRACTOR or provided for performance of this Agreement are deemed confidential and shall not be disclosed by CONTRACTOR without prior written consent by District. District shall grant such consent if disclosure is legally required. Upon request, all District data shall be returned to District upon the termination or expiration of this Agreement.

8. INDEMNIFICATION

8.1. To the fullest extent permitted by law, CONTRACTOR shall indemnify, hold harmless and defend District, its officers, agents, employees and volunteers from and against any and all claims and losses, costs or expenses for any damage due to death or injury to any person and injury to any property to the extent caused by any alleged intentional, reckless, negligent, or otherwise wrongful acts, errors or omissions of CONTRACTOR or any of its officers, employees, agents, or subcontractors in the performance of this Agreement. Such costs and expenses shall include reasonable attorneys' fees incurred by counsel of District's choice.

8.2. District shall have the right to offset against the amount of any compensation due CONTRACTOR under this Agreement any amount due District from CONTRACTOR as a result of Contractor's failure to pay District promptly any indemnification arising under this Section 8 and related to Contractor's failure to either (i) pay taxes on amounts received pursuant to this Agreement or (ii) comply with applicable workers' compensation laws.

8.3. The obligations of CONTRACTOR under this Section 8 will not be limited by the provisions of any workers' compensation act or similar act. CONTRACTOR expressly waives any statutory immunity under such statutes or laws as to District, its officers, agents, employees and volunteers.

8.4. CONTRACTOR agrees to obtain executed indemnity agreements with provisions identical to those set forth here in this Section 8 from each and every subcontractor or any other person or entity involved by, for, with or on behalf of CONTRACTOR in the performance of this Agreement. In the event CONTRACTOR fails to obtain such indemnity obligations from others as required herein, CONTRACTOR agrees to be fully responsible and indemnify, hold harmless and defend District, its officers, agents, employees and volunteers from and against any and all claims and losses, costs or expenses for any damage due to death or injury to any person and injury to any property to the extent caused by any alleged intentional, reckless, negligent, or otherwise wrongful acts, errors or omissions of Contractor's subcontractors or any other person or entity involved by, for, with or on behalf of CONTRACTOR in the performance of this Agreement. Such costs and expenses shall include reasonable attorneys' fees incurred by counsel of District's choice.



8.5. District does not, and shall not, waive any rights that it may possess against CONTRACTOR because of the acceptance by District, or the deposit with District, of any insurance policy or certificate required pursuant to this Agreement. This hold harmless and indemnification provision shall apply regardless of whether or not any insurance policies are determined to be applicable to the claim, demand, damage, liability, loss, cost or expense.

## 9. INSURANCE

9.1. During the term of this Agreement, CONTRACTOR shall carry, maintain, and keep in full force and effect insurance against claims for death or injuries to persons or damages to property that may arise from or in connection with Contractor's performance of this Agreement. Such insurance shall be of the types and in the amounts as set forth below:

9.1.1. Commercial General Liability Insurance with coverage limits of not less than Two Million Dollars (\$2,000,000), per occurrence and Five Million Dollars (\$5,000,000) in the aggregate, including products and operations hazard, contractual insurance, broad form property damage, independent contractors, personal injury, underground hazard, and explosion and collapse hazard where applicable.

9.1.2. Automobile Liability Insurance for vehicles used in connection with the performance of this Agreement with minimum limits of One Million Dollars (\$1,000,000) per accident for bodily injury and property damage.

9.1.3. Worker's Compensation insurance as required by the laws of the State of California.

9.1.4. Professional Liability Insurance with a minimum limit of One Million Dollars (\$1,000,000) per occurrence.

9.2. CONTRACTOR shall require each of its subcontractors to maintain insurance coverage that meets all of the requirements of this Agreement.

9.3. The policy or policies required by this Agreement shall be issued by an insurer admitted in the State of California and with a rating of at least A:VII in the latest edition of Best's Insurance Guide.

9.4. CONTRACTOR agrees that if it does not keep the aforesaid insurance in full force and effect, District may either (i) immediately terminate this Agreement; or (ii) take out the necessary insurance and pay, at Contractor's expense, the premium thereon.

9.5. At all times during the term of this Agreement, CONTRACTOR shall maintain on file with District a certificate or certificates of insurance showing that the aforesaid policies are in effect in the required amounts and naming the District and its officers, employees, Pulte Home LLC, agents and volunteers as additional insureds under Commercial General Liability. CONTRACTOR shall, prior to commencement of work under this Agreement, file with District such certificate(s).

9.6. CONTRACTOR shall provide proof that policies of insurance required herein expiring during the term of this Agreement have been renewed or replaced with other policies providing at least the same coverage. Such proof will be furnished at least two weeks prior to the expiration of the coverages.

9.7. The general liability and automobile policies of insurance required by this Agreement shall contain an endorsement naming District and its officers, employees, agents and volunteers

as additional insureds. All of the policies required under this Agreement shall contain an endorsement providing that the policies cannot be canceled or reduced except on thirty days' prior written notice to District.

- 9.8. Commercial General Liability insurance provided by CONTRACTOR shall be primary to any coverage available to District. Any insurance or self-insurance maintained by District and/or its officers, employees, agents or volunteers, shall be in excess of Contractor's insurance and shall not contribute with it.
- 9.9. All insurance coverage provided pursuant to this Agreement shall not prohibit CONTRACTOR, and Contractor's employees, agents or subcontractors, from waiving the right of subrogation prior to a loss. CONTRACTOR hereby waives all rights of subrogation against the District.
- 9.10. Any deductibles or self-insured retentions must be declared to and approved by the District. At the option of District, CONTRACTOR shall either reduce or eliminate the deductibles or self-insured retentions with respect to District, or CONTRACTOR shall procure a bond guaranteeing payment of losses and expenses.
- 9.11. Procurement of insurance by CONTRACTOR shall not be construed as a limitation of Contractor's liability or as full performance of Contractor's duties to indemnify, hold harmless and defend under Section 8 of this Agreement.

## 10. MUTUAL COOPERATION

- 10.1. District shall provide CONTRACTOR with all pertinent data, documents and other requested information as is reasonably available for the proper performance of Contractor's services under this Agreement.
- 10.2. In the event any claim or action is brought against District relating to Contractor's performance in connection with this Agreement, CONTRACTOR shall render any reasonable assistance that District may require.

## 11. RECORDS AND INSPECTIONS

- 11.1. CONTRACTOR shall maintain full and accurate records with respect to all matters covered under this Agreement for a period of three years after the expiration or termination of this Agreement. District shall have the right to access and examine such records, without charge, during normal business hours. District shall further have the right to audit such records, to make transcripts therefrom and to inspect all program data, documents, proceedings, and activities.

## 12. NOTICES

- 12.1. Any notices, bills, invoices, or reports required by this Agreement shall be deemed received on: (i) the day of delivery if delivered by hand, facsimile or overnight courier service during Contractor's and District's regular business hours; or (ii) on the fifth business day following

deposit in the United States mail if delivered by mail, postage prepaid, to the addresses listed below (or to such other addresses as the parties may, from time to time, designate in writing).

If to District:

Town of Discovery Bay CSD  
Attn: General Manager  
1800 Willow Lake Road  
Discovery Bay, CA 94505  
Telephone: (925) 634-1131  
Facsimile: (925) 513-2705

With courtesy copy to:

Rod A. Attebery, General Counsel for Town of Discovery Bay CSD  
Neumiller & Beardslee  
P.O. Box 20  
Stockton, CA 95201  
Telephone: (209) 948-8200

If to CONTRACTOR:

13. SURVIVING COVENANTS

13.1. To the extent required by applicable law, the parties agree that the covenants contained in Section 7, Section 8, Section 9, Paragraph 10.2, and Section 11 of this Agreement shall survive the expiration or termination of this Agreement.

14. TERMINATION

14.1. District shall have the right to terminate this Agreement for any reason on five calendar days' written notice to CONTRACTOR. CONTRACTOR agrees to cease all work under this Agreement on or before the effective date of any notice of termination. All District data, documents, objects, materials or other tangible things shall be returned to District upon the termination or expiration of this Agreement.

14.2. If District terminates this Agreement due to no fault or failure of performance by CONTRACTOR, then CONTRACTOR shall be paid based on the work satisfactorily performed at the time of termination. In no event shall CONTRACTOR be entitled to receive more than the amount that would be paid to CONTRACTOR for the full performance of the services required by this Agreement.

15. PREVAILING WAGE/COMPLIANCE WITH SB 854

- 15.1 CONTRACTOR shall comply with all laws and ordinances applicable to this work regarding compliance with prevailing rate rates and their payment in accordance with California Labor Code, section 1774.
- 15.2 CONTRACTOR represents that it has complied and will continue to comply with all applicable registration and disclosure requirements of SB 854.
- 15.3 No CONTRACTOR or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].
- 15.4 No CONTRACTOR or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.
- 15.5 This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.
- 15.6 All contracts/projects over \$1,000.00 will be assigned a Project number that will be registered by the TODB on the DIR website. All Contractors and subcontractors will use this number to electronically file their payroll records to the DIR on TODB projects. Each project will be assigned an individual number for transfer of payroll records. All projects are prevailing wage rate regardless of the final cost.
- 15.7 No bid proposals will be accepted nor any contract entered into with a contractor without proof of registration described above.

16. ADDITIONAL PROVISIONS FOR CONSTRUCTION CONTRACTS

- 16.1. Contractor agrees to do all the work and furnish all the labor, material, equipment and appliances to complete the work in accordance with Exhibit A and with the Construction Documents attached hereto as Exhibit B and incorporated herein by this reference. In the event of any material discrepancy between the express provisions of this Agreement and the provisions of Exhibit B only, the provisions of Exhibit B shall prevail. In all other situations, the provision contained in Section 17.10 shall apply.
- 16.2. Contractor agrees to remedy, at his expense, any defects in the work, which shall appear within a period of twelve (12) months from the date of the final acceptance of the work by District.
- 16.3. Should the Contractor fail to complete the work included in Exhibit A and B within the time limit agreed upon or such extension thereof as may be granted, a deduction of One Hundred Fifty Dollars (\$150.00) per day will be made from amounts otherwise due the Contractor for each and every calendar day, or fraction thereof, that the work, or each stated portion, remains incomplete after the Completion Date. This deduction shall apply to all project milestones including the overall completion time as well as interim project time constraints detailed in Section 01140 of the project technical specifications.

- 16.4. If the total bid amount as set forth in the Approved Fee Schedule is in excess of \$25,000, then Contractor shall provide a Faithful Performance Bond and a Labor and Materials Bond, in the sum of 100% of the amount set forth in the Approved Fee Schedule; the Faithful Performance Bond will be retained by the Town of Discovery Bay for twelve months following final acceptance by the Town of Discovery Bay of the improvements constructed to guarantee correction of failures attributable to workmanship and materials.
- 16.5. It is further agreed by the parties that before each payment is made as provided above, receipts and releases of liens of all kinds for all labor and materials and all other indebtedness connected with the work shall be presented to the District by the Contractor upon the request of the District.
- 16.6. Contractor shall comply with all Federal, State and local laws and ordinances applicable to the work. This includes compliance with all provisions of the California Occupational Safety and Health Act of 1973 (CALOSHA), as amended, and the provisions of the California Labor Code.
  - a. Contractor's compliance with the provisions of the California Labor Code includes the provisions set forth in Section 15 and shall also include, but are not limited to:
    - i. Contractor and subcontractors will not pay less than the prevailing rates of wages. Contractor will post a copy of the prevailing rates of wage at the job site. Contractor shall forfeit as penalty the sum of up to Fifty Dollars (\$50.00) for each calendar day or portion thereof, and for each worker paid less than the prevailing rates under this Agreement. Travel and subsistence payments shall be paid to each worker as defined in the applicable collective bargaining agreements filed with the Department of Industrial Relations for the particular craft, classification or type of work.
    - ii. Eight (8) hours labor constitutes a legal day's work. Workers shall be paid at a rate of one and one-half times the basic rate of pay for work in excess of eight (8) hours during a calendar day or forty hours during a calendar week of the foregoing hours. Contractor shall ensure that all workers, including workers of subcontractors are paid in conformance with Labor Code Sections 1810 through 1815. Contractor shall keep and make available an accurate record showing the name of each worker and hours worked each day and each week by each worker, including workers for subcontractors.
    - iii. Pursuant to California Labor Code Section 1776, Contractor and each Subcontractor shall keep accurate records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the work. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following: The information contained in the payroll record is true and correct. The employer has complied with the requirements of Labor Code Section 1771, 1811, and 1815 for any work performed by his or her employees on the public work project. A certified copy of all payroll records shall be made available for inspection or furnished upon request to the Town of Discovery Bay CSD, the Division of Labor Standards Enforcement, and the Division of

Apprenticeship Standards of the Department of Industrial Relations. A certified copy of all payroll records shall be made available upon request by the public for inspection or for copies thereof. However, a request by the public shall be made through the Town of Discovery Bay CSD, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to Labor Code Section 1776 (b)(2), the requesting party shall, prior to being provided the records, reimburse the costs of preparation as provided in Title 13 California Code of Regulations Section 16402 by the Contractor, subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the Contractor. The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as provided by the division. The Contractor or subcontractor shall file a certified copy of the records enumerated with the entity that requested the records within ten (10) days after receipt of a written request.

- iv. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the Town of Discovery Bay CSD, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number as provided in Labor Code Section 1776. The name and address of the Contractor awarded the contract or the subcontractor performing the contract shall not be marked or obliterated. The Contractor shall inform the Town of Discovery Bay CSD of the location of the records enumerated under paragraph (1.3) including the street address, city and county, and shall within five (5) working days, provide a notice of change of location and address. The Contractor or Subcontractor shall have ten (10) days in which to comply subsequent to receipt of written notice requesting the records. In the event that the Contractor or Subcontractor fails to comply within the 10-day period, he or she shall, as a penalty to the Town of Discovery Bay CSD, forfeit One Hundred Dollars (\$100.00) for each calendar day, or portion thereof, for each worker until strict compliance is effectuated. Upon the request of the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. The Contractor is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section.

## 17. GENERAL PROVISIONS

- 17.1. CONTRACTOR shall not delegate, transfer, subcontract or assign its duties or rights hereunder, either in whole or in part, without District's prior written consent, and any attempt to do so shall be void and of no effect. District shall not be obligated or liable under this Agreement to any party other than CONTRACTOR.

- 17.2. In the performance of this Agreement, CONTRACTOR shall not discriminate against any employee, subconsultant, subcontractor, or applicant for employment because of race, color, creed, religion, sex, marital status, sexual orientation, national origin, ancestry, age, physical or mental disability or medical condition.
- 17.3. CONTRACTOR agrees to comply with the regulations of District's "Conflict of Interest Code." Said Code is in accordance with the requirements of the Political Reform Act of 1974.
- CONTRACTOR covenants that it presently has no interest, and shall not have any interest, direct or indirect, which would conflict in any manner with the performance of work required hereunder. The term "conflict" shall include, as a minimum, the definition of a "conflict of interest" under the California Fair Political Practices Act and the Town of Discovery Bay Conflict of Interest Code, as that term is applied to Contractors.
- 17.4. The captions appearing at the commencement of the sections hereof, and in any paragraph thereof, are descriptive only and for convenience in reference to this Agreement. Should there be any conflict between such heading, and the section or paragraph thereof at the head of which it appears, the section or paragraph thereof, as the case may be, and not such heading, shall control and govern in the construction of this Agreement. Masculine or feminine pronouns shall be substituted for the neuter form and vice versa, and the plural shall be substituted for the singular form and vice versa, in any place or places herein in which the context requires such substitution(s).
- 17.5. The waiver by District or CONTRACTOR of any breach of any term, covenant or condition herein contained shall not be deemed to be a waiver of such term, covenant or condition or of any subsequent breach of the same or any other term, covenant or condition herein contained. No term, covenant or condition of this Agreement shall be deemed to have been waived by District or CONTRACTOR unless in writing.
- 17.6. CONTRACTOR shall not be liable for any failure to perform if CONTRACTOR presents acceptable evidence, in District's sole judgment that such failure was due to causes beyond the control and without the fault or negligence of CONTRACTOR.
- 17.7. Each right, power and remedy provided for herein or now or hereafter existing at law, in equity, by statute, or otherwise shall be cumulative and shall be in addition to every other right, power, or remedy provided for herein or now or hereafter existing at law, in equity, by statute, or otherwise. The exercise, the commencement of the exercise, or the forbearance of the exercise by any party of any one or more of such rights, powers or remedies shall not preclude the simultaneous or later exercise by such party of any of all of such other rights, powers or remedies. In the event legal action shall be necessary to enforce any term, covenant or condition herein contained, the party prevailing in such action, whether reduced to judgment or not, shall be entitled to its reasonable court costs, including accountants' fees, if any, and attorneys' fees expended in such action. The venue for any litigation shall be Contra Costa County, California.
- 17.8. If any term or provision of this Agreement or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, then such term or provision shall be amended to, and solely to, the extent necessary to cure such invalidity or unenforceability, and in its amended form shall be enforceable. In such event, the remainder

of this Agreement, or the application of such term or provision to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and be enforced to the fullest extent permitted by law.

- 17.9. This Agreement shall be governed and construed in accordance with the laws of the State of California.
- 17.10. All documents referenced as exhibits in this Agreement are hereby incorporated into this Agreement. In the event of any material discrepancy between the express provisions of this Agreement and the provisions of any document incorporated herein by reference, the provisions of this Agreement shall prevail. This instrument contains the entire Agreement between District and CONTRACTOR with respect to the transactions contemplated herein. No other prior oral or written agreements are binding upon the parties. Amendments hereto or deviations here from shall be effective and binding only if made in writing and executed by District and CONTRACTOR.

TO EFFECTUATE THIS AGREEMENT, the parties have caused their duly authorized representatives to execute this Agreement.

**Signatures contained on next page**

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/ / /

/ / /

/ / /



**“District”  
Town of Discovery Bay CSD**

By: \_\_\_\_\_  
Dina Breitstein, General Manager

Date: \_\_\_\_\_, 20\_\_

**“CONTRACTOR”**

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

Print Name: \_\_\_\_\_

Date: \_\_\_\_\_, 20\_\_

**APPROVED AS TO FORM:**

\_\_\_\_\_  
Rod A. Attebery  
District Counsel

**EXHIBIT A**

**SCOPE OF WORK  
APPROVED FEE SCHEDULE**

**EXHIBIT B**

**CONSTRUCTION DOCUMENTS**

**GENERAL CONDITIONS  
FOR**

**Town of Discovery Bay  
Construction of Well No. 8 Project**

1-01 DEFINITIONS

- a. The Contract Documents consist of the Contract (also referred to as “Agreement”) and the following documents which shall make up "Exhibit A" of the Contract:
  - 1. Notice Inviting Bids
  - 2. Acknowledgment
  - 3. Instructions For Bidders
  - 4. General Conditions
  - 5. California Public Contract Code Section 20104
  - 6. Bid Form
  - 7. List of Subcontractors
  - 8. Bidder’s Responsibility Statement
  - 9. Non-collusion Affidavit
  - 10. Bid Guarantee
  - 11. Plans, Drawings, and Specifications including any amendments or referenced documents
  - 12. Any Published Addenda or Supplements
  - 13. Faithful Performance Bond and Labor and Materials Bond
  
- b. The Owner and the Contractor are those mentioned as such in the Contract. They are treated throughout the complete Contract and the Contract Documents as if each were of the singular number and masculine gender.
  
- c. The term Subcontractor, as employed herein, includes only those having a direct contract with the Contractor and it includes one who furnishes material worked to a special design according to the drawings and specifications of this work, or labor at the site, but does not include one who merely furnishes material not so worked.
  
- d. Where in any of the Contract Documents or in the complete Contract there is any provision in respect to the giving of any notice, such notice shall be deemed to have been given (as to the Owner) when written notice shall have been placed in the United States mail addressed to the Owner at its place of business; (as to the Contractor) when written notice shall be delivered to the chief representative of the Contractor at the site of the Project or by mailing such written notice in the United States mail addressed to the Contractor at the place stated in the papers prepared by him to accompany his bid as the address of his permanent place of business.
  
- e. The term “work” of the Contractor or Subcontractor includes labor or materials or both.
  
- f. All time limits stated in the Contract Documents are of the essence of the Contract.

1-02 EXECUTION, CORRELATION AND INTENT OF DOCUMENT

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

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

1. Addenda, Supplemental Agreements and Change Orders, the one dated later having precedence over another dated earlier.
2. Agreement
3. Permits
4. General Requirements
5. Instructions for Bidders
6. General Conditions
7. Technical Specifications
8. Project Plans
9. Typical Details
11. Reference/Standard Specifications
12. Reference/Standard Plans

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

#### 1-03 DETAIL DRAWINGS AND INSTRUCTION

- a. The Engineer, if there is one, shall prepare and file either complete and accurate plans and specifications or a work authorization describing the work to be performed, together with an estimate of the cost thereof, prior to commencement of the work.
- b. The Engineer, if there is one, shall furnish with reasonable promptness, additional instructions, by means of drawings or otherwise, necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the Contract Documents, true developments thereof and reasonably inferable therefrom.
- c. The work shall be executed in conformity therewith and the Contractor shall do no work

without proper drawings and instructions.

#### 1-04 SUBMITTALS

The Contractor shall check and verify all field measurements and submit prior to commencing work and with such promptness as to cause no delay in his own work or in that of any other Contractor, one (1) copy in electronic PDF format of all shop, product or setting drawings and schedules required for the work of the various trades, and the Owner, or the Engineer, if there is one, shall return within 7 days, making desired corrections, including all necessary corrections relating to artistic effect. The Contractor shall make any corrections required by the Owner, or the Engineer, if there is one, and file with him one (1) electronic PDF format corrected copy and furnish such other copies as may be needed. The approval of such drawings or schedules by the Owner, or the Engineer, if there is one, shall not relieve the Contractor from responsibility for deviations from drawings or specifications, unless he has, in writing, secured approval by the Owner, or the Engineer, if there is one, of such deviations, nor shall it relieve Contractor from responsibility for errors of any sort in shop drawings or schedules.

Shop drawings and submittals shall also comply with the technical specifications for the project.

Contractor agrees that Shop Drawing Submittals processed by the Owner, or the Engineer, if there is one, are not Change Orders; that the purpose of Shop Drawing Submittals by the Contractor is to demonstrate to the Owner, or the Engineer, if there is one, that the Contractor understands the design concept, that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods he intends to use.

Contractor further agrees that if deviations, discrepancies or conflicts between Shop Drawings and Specifications are discovered either prior to or after Shop Drawing Submittals are processed by the Owner, or the Engineer, if there is one, the design Drawings and Specifications shall control and shall be followed.

- a. Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation and other facilities necessary for the execution and completion of the work.
- b. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.
- c. The Contractor shall employ on the work only workmen skilled in the work assigned to them, and the Owner shall have the right to require the removal from this work of any employee unacceptable to Owner.

#### 1-05 ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has information that the process or article specified is an infringement of a patent he shall be responsible for such loss unless he promptly

gives such information to the Owner, or the Engineer, if there is one. The approval of any method of construction, invention, appliance, process, article, device or material of any kind by the Owner, or the Engineer, if there is one, shall only be an approval of its adequacy for the work, and shall not be an approval of the use thereof by the Contractor in violation of any patent or other rights of any third person.

#### 1-06 PERMITS, REGULATIONS AND TAXES

- a. While there are no building permits required for the project, the contractor shall be responsible for any permits that may be required for transportation of materials and equipment to the project site and shall bear all expenses associated with processing a Storm Water Pollution Prevention Plan through the State Water Resources Control Board. Contractor shall maintain all licenses necessary for the execution of the work shall be secured and paid for by the Contractor unless otherwise specified.
- b. The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the drawings and specifications are at variance therewith he shall promptly notify the Owner, or the Engineer, if there is one, in writing, and any necessary changes increasing or decreasing the scope of work shall be adjusted as provided in the contract documents for changes in the work.  
The Contractor shall not proceed with the performance of any such work until such changes are agreed upon. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, without such notice to the Owner, or the Engineer, if there is one, and such adjustments of changes as aforesaid, then the Contractor shall bear all costs arising from or in connection with such work.
- c. The Contractor shall pay for all federal, state and local taxes on all materials and labor services furnished by him and all taxes arising out of the operations under this contract.
- d. It shall be the contractor's responsibility to obtain appropriate well permits through Contra Costa County.

#### 1-07 PROTECTION OF WORK AND PROPERTY

The Contractor shall continuously maintain adequate protection of all his work from damage and shall protect the Owner's property from injury or loss arising in connection with this Contract. He shall make good any such damage, injury or loss, except such as may be directly due to errors in the Contract Documents or caused by agents or employees of the Owner. He shall adequately protect adjacent property as provided by law and the Contract Documents, and shall make good any damage, injury or loss thereto arising in connection with this Contract.

#### 1-08 ACCIDENT PREVENTION

Precaution shall be exercised at all times for the protection of persons (including employees) and property. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery and equipment shall be guarded and all hazards eliminated in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable law.

## 1-09 INSPECTION OF WORK

- a. The Engineer, if there is one, and his representatives, and/or the Owner's representatives shall, at all times, have access to the work and the Contractor shall provide proper facilities for such access and for inspection.
- b. Re-examination of questioned work may be ordered by the Owner, or the Engineer, if there is one, and, if so ordered, the work must be uncovered by the Contractor. If such work were found in accordance with the Contract Documents, the Owner shall pay the cost of reexamination and replacement. If such work be found not in accordance with the Contract Documents, the Contractor shall pay such costs, unless he shall show that the defect in the work was caused by some other contractor for whose work the Contractor herein is not responsible and, in that event, the Contractor herein shall not be liable for such cost.
- c. All work shall be under the direct inspection of the Owner, or the Engineer, if there is one. All work shall also be subject to all necessary and required inspections of the Town of Discovery Bay and Contra Costa County. No work shall be covered until it has been inspected by the Owner, or the Engineer, if there is one.

## 1-10 CONTRACTOR'S SUPERINTENDENCE AND SUPERVISION

- a. Contractor shall keep on his work, during its progress, a competent superintendent and any necessary assistants, all-satisfactory to the Owner, or the Engineer, if there is one. The Superintendent shall not be changed except with the consent of the Owner, or the Engineer, if there is one, unless the Superintendent proves to be unsatisfactory to the Contractor and ceases to be in his employ, or unless the Superintendent proves to be unsatisfactory to the Owner. The Superintendent shall represent the Contractor in his absences and all directions given to him shall be as binding as if given to the Contractor. Other directions shall be so confirmed on written request in each case.
- b. The Contractor shall give efficient supervision to the work, using his best skill and attention. He shall carefully study and compare all drawings, specifications and other instructions and shall at once report to the Owner, or the Engineer, if there is one, any error, inconsistency or omission which he may discover, but he shall not be held responsible for their existence or discovery.
- c. The Contractor shall be specifically responsible for the coordination of all work performed under this Contract. Coordination of the work shall be interpreted to include general laying out of the structures, coordination of the layout and work under various sections, scheduling the sequence of operations ensuring cooperation between the trades, and the preparation of erection diagrams and drawings necessary to ensure proper and expeditious completion of all work.
- d. Each Subcontractor shall be responsible for the proper laying out of his own work, shall coordinate his layout and work with the work of the other sections, and shall be responsible for any damage which may occur to the work of any other Subcontractor or



Contractor because of errors or inaccuracy. Neither the Owner, nor the Engineer, if there is one, nor their representatives, will, in any case, assume the responsibility for laying out the work.

#### 1-11 CHANGES IN THE WORK

- a. The Owner, without invalidating the Contract, may order extra work or make changes by altering, adding to, or deducting from the work in writing, the Contract Sum being adjusted accordingly. All such work shall be executed under the conditions of the original Contract except that any claim for extension of time caused thereby shall be adjusted at the time of ordering such change.
- b. In giving instructions, the Owner, or the Engineer, if there is one, shall have authority to make minor changes in the work, not involving extra costs, and not inconsistent with the purposes of the building, but otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order signed by the Owner and countersigned by the Engineer, if there is one. No claim for an addition to the contract sum shall be valid except for work ordered in writing.
- c. The value of any such extra work or change shall be determined in one of the following ways:
  - 1) By unit prices contained in the original bid.
  - 2) By an acceptable lump sum proposal.
  - 3) On a cost plus limited percentage basis (defined as cost of direct labor, materials and insurance plus a specified percentage of these items, but not to exceed 15% of the aggregate of the cost of such direct labor, materials and insurance as an allowance for overhead and profit. The contractor's allowance for overhead and profit on sub-contractor costs shall not exceed 5%. Sub-contractors shall be permitted a 10% allowance for overhead and profit on their similar direct costs).
- d. If none of the above is agreed upon, the Contractor, provided he receives an order as above, shall proceed with the work. In such case, he shall keep and present a correct account of the cost, together with vouchers, and the Owner, or the Engineer, if there is one, shall thereupon certify the amount due for such work, including a 15% allowance for the Contractor's overhead and profit and a 10% allowance for any of his Sub-Contractors overhead and profit.

#### 1-12 CLAIMS FOR EXTRA COST

All claims for extension or extra costs of \$375,000 or less which are not resolved by change order shall be resolved in accordance with Public Estimate Code Section 20104 and following, a copy of which is attached to these General Conditions.

#### 1-13 DEDUCTIONS FOR UNCORRECTED WORK

If the Owner, and the Engineer, if there is one, deem it inexpedient to correct work injured or done not in

accordance with the Contract, an equitable deduction from the contract price shall be made therefor.

#### 1-14 DELAYS AND EXTENSION OF TIME

- a. If the Contractor be delayed at any time in the progress of the work by an act or neglect of the Owner, or the Engineer, if there is one, or of any employee of either, or by any separate Contractor employed by the Owner, or by changes ordered in the work or by strikes, lockouts, fire, unusual delay in transportation, unavoidable casualties or any cause beyond the Contractor's control, or by any cause which the Owner or Engineer shall decide justifies the delay, then the time of completion shall be extended for such reasonable time as the Owner or Engineer may decide but only to the extent that the delay affects critical path items for completing the work by the completion date.
- b. No such extension shall be made for delay occurring more than seven (7) days before claim therefor is made in writing to the Owner, or to the Engineer, if there is one. In the case of a continuing cause of delay, only one claim is necessary.
- c. If no schedule or agreement stating the dates upon which drawings shall be furnished is made, then no request for delay shall be allowed on account of failure to furnish drawings until two weeks after demand for such drawings and not then unless such request be reasonable.
- d. Non-Excusable Delays - Non-excusable delays in the prosecution of the Work shall include delays which could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its subcontractors, at any tier level, or suppliers. The Contractor shall receive no compensation for such delay and shall be solely responsible for all measures necessary to recover any time lost on account of such delays so that Work is completed within the Contract Time.
- e. Excusable Delays - Excusable delays in the prosecution or completion of the Work shall include delays which result from causes beyond the control of the Contractor and Owner and which could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of the Contractor or its subcontractors, at any tier level, or suppliers. The Contractor shall receive no compensation for such delay and the time of completion shall be extended for such reasonable time as the Owner or Engineer may decide but only to the extent that the delay affects critical path items for completing the work by the completion date. Excusable delays are as further defined below:
  - i. Abnormal Delays - Delays caused by fire, unusual storms, floods, tidal waves, earthquakes, COVID-19 or other pandemic, strikes, labor disputes, freight embargoes, and shortages of materials shall be considered as excusable delays insofar as they prevent the Contractor from proceeding with at least seventy-five (75) percent of the normal labor and equipment force for at least five (5) hours per day toward completion of the current critical activity item(s) on the latest favorably reviewed progress schedule.
  - ii. Weather Delays - Should inclement weather conditions or the conditions resulting from weather prevent the Contractor from proceeding with seventy-five (75)

percent of the normal labor and equipment force engaged in the current critical activity item for a period of at least five (5) hours per day toward completion of such operation or operations, and the crew is dismissed as a result thereof, it shall be a weather delay day.

- iii. Material Shortages - Upon the submission of satisfactory proof to the Owner or Engineer by the Contractor, shortages of material may be acceptable as grounds for granting a time extension. In order that such proof may be satisfactory and acceptable to the Owner or Engineer, it must be demonstrated by the Contractor that the Contractor has made every effort to obtain such materials from all known sources within reasonable reach of the proposed Work. Only the physical shortage of material, caused by unusual circumstances, will be considered under these provisions as a cause for extension of time, and no consideration will be given to any claim that material could not be obtained at a reasonable, practical, or economical cost or price, unless it is shown to the satisfaction of the Owner that such material could have been obtained only at exorbitant prices entirely out of line with current rates, taking into account the quantities involved and usual practices in obtaining such quantities. A time extension for shortage of material will not be considered for material ordered or delivered late or whose availability is affected by virtue of the mishandling of procurement. The above provisions apply equally to equipment to be installed in the work. "No such extension shall be made for delay occurring more than seven (7) days before claim therefor is made in writing to the Owner, or to the Engineer, if there is one. In the case of a continuing cause of delay, only one claim is necessary.

#### 1-15 CORRECTIONS OF WORK BEFORE FINAL PAYMENT

- a. The Contractor shall promptly remove from the premises all materials condemned by the Owner, or the Engineer, if there is one, as failing to conform to the Contract, whether incorporated in the work or not, and the Contractor shall promptly replace and re-execute his own work in accordance with the Contract and without expense to the Owner and shall bear the expense of making good work of other contractors destroyed or damaged by such removal or replacement.
- b. If the Contractor does not remove such condemned work and materials within a reasonable time, fixed by written notice, the Owner may remove them and may store the material at the expense of the Contractor.

#### 1-16 CORRECTION OF WORK AFTER FINAL PAYMENT

Neither the final certificate nor payment nor any provision in the Contract Documents shall relieve the Contractor of responsibility for faulty materials or workmanship, and, unless otherwise specified, he shall, within 14 days of receiving notice by the Owner, remedy any defects due thereto and pay for any damage to their work resulting therefrom which shall appear within a period of twelve (12) months from the date of the acceptance by the Owner, at no expense to the Owner. The Owner shall give notice of observed defects with reasonable promptness. All questions arising under this article shall be decided by the Engineer, if there is one, subject to the right of either party to obtain judicial review. Specific equipment may have longer warranty periods as detailed in equipment specifications.

## 1-17 OWNER'S RIGHT TO DO WORK

If the Contractor should neglect to execute the work properly or fail to perform any provisions of the Contract, the Owner, after three days written notice to the Contractor, may without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor; provided, however, that the Engineer, if there is one, shall approve both such action and the amount charged the Contractor.

## 1-18 PAYMENT

- a. The Owner will cause partial payment to be made to the Contractor as provided in the Construction Contract on the basis of a duly certified approved estimate of the work completed as of the last day of the preceding calendar month pursuant to this contract. These estimates will be prepared by the Contractor and shall meet the approval of the Owner, or by the Engineer, if there is one.
- b. The Contractor shall pay (1) for all transportation and utility services not later than the 20th day of the calendar month following that in which such services are rendered; (2) for all materials, tools, and other expendable equipment to the extent of 95 per cent of the cost thereof, not later than the 20th day of the calendar month following that in which such material, tools, and equipment are delivered at the site of the project, and the balance of the cost thereof not later than the 30th day following the completion of that part of the work in or on which such materials, tools, and equipment are incorporated or used; and (3) to each of his Subcontractors not later than the 5th day following each payment to the Contractor on account of the work performed by his Subcontractors, to the extent of each such Subcontractor's interest therein.

## 1-19 OWNER'S RIGHT TO WITHHOLD CERTAIN AMOUNTS AND MAKE APPLICATION THEREOF

- a. The Owner may withhold from agreed payments to the Contractor such an amount or amounts as may be necessary to cover:
  - 1) Payments that may be earned or due for just claims for labor or materials furnished in and about the work;
  - 2) Defective work not remedied;
  - 3) Failure of a Contractor to make proper payments to his subcontractors;
  - 4) Reasonable doubt that the Contract can be completed for the balance then unpaid;  
and
  - 5) Evidence of damage to another contractor.
- b. In any of the above instances, the Owner shall disburse and shall have the right to act as agent for the Contractor in disbursing such funds as have been withheld pursuant to this paragraph to the party or parties who are entitled to payment therefrom. The Owner will render a proper accounting of all such funds disbursed.

## 1-20 CONTRACTOR'S INSURANCE

- a. The Contractor shall not commence work under this Contract until he has obtained all insurance required under this section and such insurance, and companies carrying such insurance, have been approved by the Owner; nor shall the Contractor allow any Subcontractor to commence work on his subcontract until all similar insurance required to the Subcontractor has been so obtained and approved.

1) Compensation Insurance

The Contractor shall take out and maintain during the life of this Contract, Workers' Compensation insurance for all of his employees employed at the site of the project and, in case any work is sublet, the Contractor shall require the Subcontractor similarly to provide Workers' Compensation insurance for all of the latter's employees unless such employees are covered by the protection afforded by the Contractor. In case any class of employees engaged in hazardous work under this Contract at the site of the project is not protected under the Workers' Compensation statute, the Contractor shall provide Employer's Liability Insurance for the protection of his employees not otherwise protected.

2) Public Liability and Property Damage Insurance

The Contractor shall take out and maintain during the life of this Contract such Public Liability and Property Damage insurance in which the Owner, Pulte Home Company LLC, and the Engineer, if there is one, shall be named as additional insured and which shall protect him and any Subcontractor performing work covered by this Contract, from claims for damages for personal injury, including accidental death, as well as claims for property damages, which may arise from operations under this Contract, whether such operations be by himself or by any Subcontractor or by anyone directly or indirectly employed by either of them, **the insurance shall include contractual liability coverage to cover all indemnification and hold harmless obligations found in the Contract Documents**, and the amounts of such insurance shall be as follows:

Public Liability insurance in an amount not less than \$2,000,000 for injuries, including accidental death, to any one person, and subject to the same limit for each person, in an amount not less than \$2,000,000, on account of one accident, and Property Damage insurance in amount no less than \$2,000,000. The policy shall also include a \$5,000,000 general aggregate including Broad Form Blanket Contractual Liability, Personal and Advertising Injury, Independent Contractors Coverage, Products/Completed Operations, Explosion, Collapse and Underground Hazards.

3) Insurance Covering Special Hazards

A rider or riders to the Public Liability and Property Damage insurance policy or policies herein required shall be furnished by the Contractor for special hazards, such as blasting, operation of material hoist, etc.

4) Automobile Insurance

The Contractor shall take out and maintain during the life of his contract, automobile public liability insurance in amounts not less than \$1,000,000 and property damage liability insurance in amount not less than \$1,000,000, if any

teams or motor vehicles are engaged in operations within the terms of this Contract on the site of the work to be performed thereunder, covering the use of all such teams or motor vehicles, unless such coverage is included in the insurance required by sub-section 2) hereof. Contractor shall also name the Owner, Pulte Home Company LLC, and the Engineer, if there is one, as additional insured under the Automobile Insurance.

5) Contingent Insurance

The Contractor shall provide contingent or protective public liability insurance in amounts not less than \$1,000,000/\$1,000,000, and contingent or protective property damage insurance in amount not less than \$500,000 if any work is subcontracted; and this requirement shall be applicable to Subcontractors as well in the event they sublet any of their work.

b. It is understood that the Contractor will submit prior to the execution of the final Contract certificates of insurance evidencing coverage as set forth herein and which shall name the Owner, and the Engineer, if there is one, and their employees as an additional insured under all such policies. Any and all amounts of deductible shall be assumed by the Contractor at his sole risk.

c. Cancellation Clause

All policies must provide for ten (10) day's cancellation notice in writing to the Owner, and to his Engineer, if there is one, before cancellation becomes effective.

d. The Owner may accept insurance covering a Contractor or Subcontractor in character and amounts less than the standard requirements set forth herein where such standard requirements appear excessive because of the character or extent of the work to be performed by such Contractor or Subcontractor; but such acceptance as to any Contractor or Subcontractor shall not thereby relieve any other Contractor or Subcontractor of meeting the full extent of the requirements herein.

## 1-21 INDEMNIFICATION OF OWNER AND ENGINEER

Contractor agrees to protect, defend, indemnify, and hold the Owner, and the Engineer, if there is one, harmless from and against any and all liability, loss or expense (including attorney's fees) in connection with any claim, demand, action or cause of action asserted against Owner or Engineer ("Claim") because of any injury to or death, loss or damage, however caused, results from, or is alleged to result from, or is alleged to result from, or occurs in connection with the performance of this Contract whether before or after completion, by Contractor or Contractor's agents, employees, Subcontractors, or anyone acting under Contractor's control. As a part of such indemnification, Contractor agrees, if requested by Owner or Engineer, to assume, without expense to Owner or Engineer, the defense of any such claim, demands, actions or causes of action. This indemnity does not apply and Contractor has no duty to indemnify the Owner or the Engineer if the Claim arises from the sole negligence, active negligence or the willful misconduct of the Owner or the Engineer. It is the intent of this Section to comply with the provisions of California Civil Code §2782 and Contractor shall have no indemnity obligations which are prohibited by that Section or any other provision of California law which makes an indemnity obligation against public policy or otherwise unenforceable.

## 1-22 SURETY BONDS

The Contractor shall furnish bonds covering the faithful performance of the Contract and the payment of all obligations arising thereunder, each in the amount of one hundred percent (100%) of the estimated amount, as stated in the Contract and in such form as the Owner may prescribe and with such sureties as he may approve. The Contractor shall pay the cost of the premium.

## 1-23 DAMAGES

- a. If either party to this Contract should suffer damage in any manner because of any wrongful act or neglect of the other party or of anyone employed by him, then he shall be reimbursed by the other party for such damage.
- b. Should the Contractor fail to complete the work included in the Contract within the time limit agreed upon or such extensions thereof as may be granted, a deduction will be made from amounts otherwise due the Contractor for each and every calendar day, or fraction thereof, that the work, or each stated portion, remains incomplete after the date set for its completion. **This deduction shall apply to all project milestones including the overall completion schedule as well as interim project time constraints detailed in the Contract Documents. The amount of the deduction shall be as specified in the Agreement.**
- c. Claims under this clause shall be made in writing to the party liable within a reasonable time after the first observance of such damage and not later than the time of final payment, except as otherwise provided in the Contract Documents in the case of faulty work or materials.

## 1-24 TRANSFER OF CONTRACT

The Contractor shall not transfer his Contract without the approval of the Owner. No transfer shall, under any circumstances relieve the Contractor of his liabilities and obligations under his Contract. No transfer shall be made until after the Surety has been given due notice of such transfer and has furnished written consent thereto.

## 1-25 SEPARATE CONTRACTS

The Owner reserves the right to let other contracts in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with theirs.

## 1-26 SUBCONTRACTORS

- a. The Contractor shall submit with the Bid a list of all subcontractors who will perform work in excess of one-half percent of the total bid or, in the case of streets or highways, one-half percent or \$10,000, whichever is greater, and the Contractor shall not employ any that the

Owner, or Engineer, if there is one, may within a reasonable time object to as incompetent or unfit.

- a. The Contractor agrees that he is fully responsible to the Owner for the acts and omissions of his Subcontractors and of persons either directly or indirectly employed by them, as well as for the acts and omissions of persons directly employed by him.
- c. Nothing contained in the Contract Documents shall create any contractual relation between any Subcontractor and the Owner.

#### 1-27 ENGINEER'S STATUS

- a. The Engineer, if there is one, shall have general supervision and direction of the work as provided in his Contract with the Owner. He is an agent of the Owner only to the extent provided in the Contract Documents and when in special instances he is authorized by the Owner so to act, and in such instances he shall, upon request, show the Contractor written authority. He has authority to stop the work whenever such stoppage maybe necessary to insure the proper execution of the Contract.
- b. As the Engineer, if there is one, is in the first instance, the interpreter of the conditions of the Contract and the judge of its performance he shall side neither with the Owner nor with the Contractor, but shall use his powers under the Contract to enforce its faithful performance by both.

#### 1-28 ENGINEER'S DECISIONS

- a. The Engineer, if there is one, shall, within a reasonable time, make decisions on all claims of the Owner or Contractor and on all other matters relating to the execution and progress of the work or the interpretation of the Contract Documents.
- b. The decisions of the Engineer, if there is one, in matters relating to artistic effect, shall be final, if within the terms of the Contract Documents.

#### 1-29 DISPUTES

Any disputes, claims or questions arising under the Contract or any documents thereof shall be resolved pursuant to PCC §§ 20104 – 20104.6, attached hereto.

#### 1-30 CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ACT

Contractor shall adhere to all provisions of the California Occupational Safety and Health Act of 1973 (CALOSHA) as amended.

#### 1-31 TRENCHING REQUIREMENTS

- a. If the contract involves digging trenches or other excavations that extend deeper than four feet below the surface, the Contractor shall:



- 1) Promptly, and before the following conditions are disturbed, notify the Owner, in writing, of any:
  - (a) Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
  - (b) Subsurface or latent physical conditions at the site differing from those indicated.
  - (c) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.
- b. That the Owner, or Engineer, if there is one, shall promptly investigate the conditions, and if he finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described herein. In the event that a dispute arises between the Owner and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. The Contractor shall retain any and all rights provided herein which pertain to the resolution of disputes and protests between the contracting parties.

## 1-32 UTILITY RELOCATION

- a. Owner shall assume the responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities which may be located on the project site if either Owner, or Engineer, if there is one, fails to identify the utilities in the plans and specifications made a part of the Notice Inviting Bids, and Owner shall compensate Contractor for the costs of locating, repairing damage not due to the failure of the Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the plans and specifications with reasonable accuracy, and for equipment on the project necessarily idled during such work. If the Contractor while performing the Contract discovers utility facilities not identified by the Owner in the Contract plans or specifications, he shall immediately notify Owner, or Engineer, if there is one, in writing.
- b. Contractor shall not be assessed liquidated damages for delay in completion of the project, when such delay was caused by the failure of the public agency or the owner of the utility to provide for removal or relocation of such utility facilities.
- c. Nothing herein shall be deemed to require Owner to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the site of the construction project can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site of the construction;

provided, however, nothing herein shall relieve Owner, or Engineer, if there is one, from identifying main or trunklines in the plans and specifications.

### 1-33 TIME OF COMPLETION

The Contractor shall commence work within five (5) working days after receipt of Notice to Proceed and shall complete the Contract work within the time limit specified herein:

#### **Time of Completion: As specified in the Agreement**

- a. Workdays shall be Monday through Fridays except legal holidays and work hours shall be 8:00 a.m. and 5:00 p.m. and 9:00 a.m. and 4:00 p.m. on weekends with the exception of well drilling and construction which may proceed on a 24-hour basis.

### 1-34 UNFAIR BUSINESS PRACTICES CLAIMS

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

### 1-35 OWNER'S RIGHT TO TERMINATE, AMEND, OR MODIFY CONTRACT

- a. Contractor shall not be responsible for the cost of repairing or restoring damage to the work, which damage is determined to have been proximately caused by an act of God, in excess of 5 percent of the contracted amount, provided, that the work damaged is built in accordance with accepted and applicable building standards and the plans and specifications of the awarding authority. "Acts of God" shall include only the following occurrences or conditions and effects: earthquakes in excess of a magnitude of 3.5 on the Richter Scale and tidal waves.
- b. Owner may make changes in the Contract in the course of construction to bring the completed improvements into compliance with environmental requirements or standards established by state and federal statutes and regulations enacted after the Contract has been awarded or entered into. Contractor shall be paid for the changes in accordance with the provisions of the Contract governing payment for changes in the work or, if no provisions are set forth in the Contract, payment shall be as agreed to by the parties.
- c. Owner may, by mutual consent of the contracting parties, terminate, amend, or modify the Contract. The compensation payable, if any, for amendments and modifications shall be determined as the parties so agree. The compensation payable, if any, in the event the Contract is so terminated shall be determined as the parties so agree or under applicable statutory provision providing for the termination.
- d. Owner may, at its discretion, terminate the Contract for environmental considerations,

whether or not such considerations were foreseen at the time the parties entered into the Contract.

- e. If the Contractor should be adjudged a bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen and proper materials, or if he should fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, ordinances or the instructions of the Owner, or Engineer, if there is one, or otherwise be guilty of a substantial violation of any provision of the Contract, then the Owner may without prejudice to any other right or remedy and after giving the Contractor seven days written notice, terminate the employment of the Contractor and take possession of the premises and of all materials, tools and appliances thereon and finish the work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price shall exceed the expense of finishing the work including compensation for additional managerial and administrative services, such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner. The expense incurred by the Owner as herein provided, and the damage incurred through the Contractor's default, shall be certified by the Engineer, if there is one.

#### 1-36 CONTRACTOR STAGING OF MATERIALS

- a. The Contractor shall be allowed to stage construction materials needed for the project at the immediate job site, providing that such materials do not impose on Public Right of Ways and poses no hazard to the general public. Contractor shall plan for delivery of material to the extent possible that has the least impact to the job site. In the event that a product cannot be stored at the job site and will be used within a short period of time, advance arrangements may be made with the Town of Discovery Bay CSD. The Town of Discovery Bay CSD does not assume any liability for any material or product stored at or near the job site.

#### 1-37 PARKING OF VEHICLES AND EQUIPMENT

- a. Construction equipment and vehicles cannot be stored on any Public Right of Way. In the event that a unit of construction equipment needs to remain at or near the job site after normal business hours, arrangement must be made in advance with the Town of Discovery Bay Community Services District (CSD), and the Town of Discovery Bay CSD assumes no liability for such equipment.
- b. All local and county traffic and parking ordinances must be followed during the course of construction. If other than normal Legal Street parking is needed during business hours, arrangements must be made in advance with the Town of Discovery Bay CSD.



**CERTIFICATION BY CONTRACTOR**

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

CONTRACTOR: \_\_\_\_\_

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

CONTRACTOR'S LICENSE NUMBER: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_

# CALIFORNIA PUBLIC CONTRACT CODE

## SECTION 20104-20104.6

20104. (a) (1) This article applies to all public works claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between a contractor and a local agency. (2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2.

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

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

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

20104.2. For any claim subject to this article, the following requirements apply:

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

(b) (1) For claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant. (2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant. (3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.

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

(d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time

prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(e) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

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

20104.4. The following procedures are established for all civil actions filed to resolve claims subject to this article:

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

(b) (1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act (Title 4 (commencing with Section 2016.010) of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration. (2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds. (3) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

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

20104.6. (a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.

(b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

**BID FORM  
FOR**

**Town of Discovery Bay  
Construction of Well No. 8 Project**

The undersigned declares that the only persons or parties interested in this Bid as principals are as stated; that the Bid is made without any collusion with other persons, firms, or corporations; that all the Contract Documents as accepted by The Town of Discovery Bay Community Services District and dated February 2023, have been carefully examined; that the undersigned is fully informed in regard to all conditions pertaining to the Work and the place where it is to be done, and from them the undersigned makes this Bid. These prices shall cover all expenses incurred in performing the Work required under the Contract Documents, of which this Bid Form is a part.

If a Notice of Award accompanied by at least four (4) unsigned copies of the Agreement and all other applicable Contract Documents is delivered to the undersigned within ninety calendar days after the actual date of the opening of the Bids, the undersigned will within five (5) working days after the date of receipt of such notification, execute and return all copies of the Agreement and all other applicable Contract Documents to OWNER. The premiums for all Bonds required shall be paid by CONTRACTOR and shall be included in the Contract Price. The undersigned Bidder further agrees that the Bid Security accompanying this Bid shall become the property of OWNER if the Bidder fails to execute the Agreement as stated above.

The undersigned hereby agrees that the Contract Time shall commence five (5) working days following the date specified in the Notice to Proceed and to complete all work contained in these bid documents within the total number of days specified in Section 1-33 of the General Conditions from the date established by the Notice to Proceed in accordance with the terms as stated in the Contract.

The undersigned further agrees to pay OWNER, as liquidated damages, the sum identifies in Section 1-23 of the General Conditions per day for each calendar day beyond the Contract Completion Date or extension thereof that any of the Work remains incomplete.

The undersigned acknowledges receipt of addenda numbered:

---

(Write all addenda numbers received here)



Bid.

Item	Task	Units	Estimated Quantities	Unit Price	Total
1	Mobilization	Lump Sum	1		
2	Sound Walls	Linear Foot	200		
3	Conductor Casing 36" O.D. x 3/8" Wall	Linear Foot	65		
4	Borehole Drilling 30" Diameter	Linear Foot	315		
5	Geophysical Logging	Lump Sum	1		
6	Well Casing 18" I.D. X 5/16" Wall ASTM A-778 Type 304 Stainless Steel	Linear Foot	239		
7	Well Casing 18" I.D. X 3/8" Wall ASTM A-778 Type 304 Stainless Steel	Linear Foot	40		
8	Louvered Well Screen 18" I.D. w/ 0.055" Slots ASTM A-778 Type 304 Stainless Steel	Linear Foot	90		
9	Sounding Pipe 2" Stainless Steel	Linear Foot	214		
10	Gravel Fill Pipe 3" BSP	Linear Foot	259		
11	Gravel Envelope and Fine Sand Transition	Linear Foot	136		
12	Annular Seal	Linear Foot	244		
13	Well Development	Lump Sum	1		
14	Treatment and Disposal of Drill and Initial Development Fluids	Lump Sum	1		
15	Install/Remove Test Pump	Lump Sum	1		
16	Well and Aquifer Testing	Hour	20		
17	Plumbness and Alignment Testing and Video Survey	Lump Sum	1		
18	Well Disinfection	Lump Sum	1		
19	Disposal of Cuttings	Lump Sum	1		
20	Site Cleanup, Restoration, and Records	Lump Sum	1		
21	Stand-by Time	Hour	0		
Total Bid: All bid items, inclusive of all work incidental thereto and connected therewith.					\$

In accordance with the above understanding, the undersigned proposes to perform the Work, furnish all materials and complete the Work in its entirety, in the manner and under the conditions required in the contract documents for the Total Bid Price of:

\_\_\_\_\_ (amount in words)

\$\_\_\_\_\_. (amount in numbers)

The undersigned agrees that extra work, if any, will be performed in accordance with Article 1-11 of the General Conditions of the Contract and will be paid for in accordance with Article 1-18 of the General Conditions of the Contract.

Amounts shall be shown in both words and figures, where indicated. In case of discrepancy, the amount shown in words will govern.

The above prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, taxes, insurance and incidentals required to complete the Work. The names and addresses of all persons and parties interested in the foregoing Bid as principals are as follows:

(Give full name of corporation, or partnership, or Limited Liability Company, or Individual, or Joint Venture.)

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

The undersigned hereby certifies that they are able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work.

The undersigned hereby certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this section, the word "person" shall mean any natural person, joint venture, partnership, corporation, or other business or legal entity.

\_\_\_\_\_  
Social Security Number  
or Federal Identification Number

\_\_\_\_\_  
Signature of Individual or  
Corporate Name

\_\_\_\_\_  
Contractor's State License Number

By: \_\_\_\_\_  
Corporate Officer  
(if applicable)

Notice of acceptance should be mailed, faxed, emailed or delivered to the following:

\_\_\_\_\_

(Name)

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

(Title)

\_\_\_\_\_

(Business Address)

\_\_\_\_\_

(City and State)

\_\_\_\_\_

(Phone Number)

\_\_\_\_\_

(email address)

Date \_\_\_\_\_

# Town of Discovery Bay Community Services District



## TECHNICAL SPECIFICATIONS

### For the Well No. 8 Project

Bid Set  
March 2023

**BIDS DUE: April 20<sup>th</sup>, 2023**

*Prepared by:*



500 First Street  
Woodland CA, 95695  
Phone: 530.661.0109, Fax: 530.661.6806

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## **1. GENERAL**

### **1.1. References**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only. The most recent published edition of each of the reference standards apply.

- AWS - American Welding Society
- ASTM - American Society of Testing and Materials
- NSF/ANSI - Standard 60, Drinking Water Treatment Chemicals
- NSF/ANSI 61 - Drinking Water System Components – Health Effects
- API - Standard 13-A, Drilling Fluid Materials, American Petroleum Institute
- API - Standard 13-B, Recommended Practice Standard Procedure for Field Testing Oil-Based Drilling Fluids
- ANSI/AWWA - A100-20 Water Wells
- Water Well Standards, State of California; Bulletin 74-90 (Supplement to Bulletin 74-81) June 1991 or latest applicable edition/revision.

### **1.2. General Requirements**

#### **1.2.1. Purpose and Scope of Work**

##### **1.2.1.1. Purpose**

The water supply well to be constructed under this Contract and in accordance with these Technical Provisions is intended for use as a municipal water supply well. The well site and well to be constructed is summarized below:

The well site is located in an undeveloped field, approximately 0.25-miles south of the paved eastern terminus of Wilde Drive. in the Town of Discovery Bay. A test hole was drilled and a monitoring well constructed at the site for the purpose of gathering information used in the design of a production well.

A production well will be constructed at the Well 8 site. The design capacity of the well is tentatively 2,000 gpm. The well will be constructed of 18-inch diameter stainless-steel casing, and stainless steel louvered well screen with a slot size of 0.055-inches to a depth of 355 feet. The well assembly will be installed in a 30-inch diameter borehole drilled to a depth of 370 feet.

##### **1.2.1.2. General**

- A. The work consists of furnishing all drilling permits, materials, labor, equipment, fuel, tools, transportation and services for the drilling, construction, development, testing, and completion of one water supply well, all in accordance with these Technical Provisions.
- B. Other work by the Contractor shall include keeping records of all construction activities including time-drilling and work logs; capping of the well casing and cleaning and restoration of the well site upon completion of work; and performing all necessary tasks for the safe and efficient construction and completion of the well specified in these Technical Provisions. The Contractor shall make available to the Engineer all daily

drilling and work records, as well as other specific information listed in these specifications, for the construction activities that are a part of this Contract.

C. The Owner is:

Town of Discovery Bay  
1800 Willow Lake Road  
Discovery Bay, CA 94505  
Contact Person: Mike Yeraka  
Telephone: (925) 775-5028  
Email: myeraka@todb.ca.gov

D. The Engineer is:

Luhdorff and Scalmanini, Consulting Engineers  
500 First Street  
Woodland, CA 95695  
Contact Person: Mr. Scott Lewis  
Telephone: (530) 661-0109  
Cellular Telephone: (916) 240-0230  
Email: [slewis@lsce.com](mailto:slewis@lsce.com)

The Engineer is the Owner's agent with respect to design, project coordination, and inspection.

**1.2.1.3. Services Provided the Owner**

The owner has obtained the necessary legal right-of-way for the drilling and well construction work.

**1.2.1.4. Work Area Restrictions**

- A. General -- The Contractor shall protect all existing facilities and shall keep the site clear and open at all times.
- B. Coordination with Other Activities -- Contractor is advised that access to the project site will be from Wilde Drive through a new subdivision currently under construction by Pulte Homes and as such contractor shall coordinate access to the project site with Pulte Homes so as not to interfere with their construction activities. The Contractor shall limit all activities to the designated work areas at the site.
- C. Work Hours – 24-hour operations for drilling and construction of the well is allowed. All other work will be limited to between the hours 7 am to 7 pm Monday through Saturday and 8 am to 6 pm on Sundays.
- D. Noise Control – Sound walls will be required at the site.
- E. Traffic Control – Contractor shall exercise caution and provide adequate traffic control when entering or exiting the project site. Contractor shall provide and arrange all traffic control signage as required by project permits and accepted safety practice.
- F. Health and Safety -- Contractor shall provide and adhere to a health and safety plan to address actual or potential hazards associated with the Work. A copy of the Contractor's health and safety form shall be posted at the job site.
- G. Hazardous Materials -- The Contractor shall comply with all government laws, rules and regulations concerning the use of hazardous materials and the disposal of hazardous wastes at the job site, including but not limited to the following:



1. The Contractor shall not bring hazardous materials onto the job site or deliver hazardous materials without providing the Engineer, in advance, Material Safety Data Sheets for each hazardous material.
2. All hazardous material shall be stored and used in a safe manner and as directed by manufactures recommendations.
3. Any hazardous products, waste, or empty containers used or generated shall be properly and legally disposed of and shall not be poured down any drain or sewer nor disposed of in any trash container or dumpster.
4. The Contractor will be considered the hazardous waste generator and will be responsible for the legal transport and disposal of all hazardous waste. No containers or trash will be left on any job site.
5. Violation of any of the above methods shall be sufficient cause for the Engineer to stop all work. Any expense incurred by the Engineer caused by the work stoppage will be borne by the Contractor. These expenses will include all costs to return the job site and all other areas contaminated by the Contractor to a hazard-free condition.
6. The Contractor will be solely responsible for all the costs, including fines and penalties, for the investigation and cleanup of any suspected hazardous materials the Contractor used, left on the job site, or disposed through a municipal drain or sewer, and any damage to property and/or injury to any person.

#### **1.2.1.5. Water Well Construction and Testing**

- A. The proposed well site is located in Contra Costa County in Discovery Bay as shown in the Plans.
- B. A test hole was drilled at the well site for the purpose of gathering data to be used to design the well. The lithologies encountered in the test hole and the geophysical logs from the test hole are depicted in the Plans.
- C. Depth to ground water at the site is estimated to be 30 feet below ground surface.
- D. Time is of the essence for this project. The Contractor shall mobilize, construct, and test the well within the timeframe set forth in the Contract Documents. Failure to do so will result in sufficient hardship and possible financial loss to the Owner.
- E. The construction of the well structures shall consist of the following steps:
  1. Drilling a conductor borehole and grouting in-place a steel conductor casing as specified in the Plans.
  2. Establishing and maintaining a drilling fluid program to maintain borehole stability, transport cuttings to the surface, and to mitigate flowing groundwater conditions.
  3. Drilling a production borehole beneath the conductor casing.
  4. Performing geophysical, borehole diameter, and gyroscopic surveys in the completed borehole.
  5. Installing a casing assembly consisting of blank well casing and well screen, all as specified in the Plans.
  6. Equipping the casing with centralizers to ensure that the casing assembly is centered in the borehole.

7. Installing a 2-inch diameter, Schedule 40 Type 304 stainless steel pipe where it will enter the well casing to serve as a still well for measuring water levels in the well as specified in the Plans.
  8. Installing a 3-inch diameter, Schedule 40 ASTM A-53 pipe to be used as a gravel fill pipe as specified in the Plans.
  9. Conditioning of the drilling fluids for casing installation and gravel packing.
  10. Installing a graded gravel envelope between the well casing and borehole wall from the bottom of the production borehole to the depth specified in the Plans by the tremie pipe method.
  11. Placement of sand/cement annular seal from the top of the gravel envelope to ground surface as specified in the plans by the tremie pipe method.
- F. Initial development of the well shall consist of open-ended airlift pumping from the sump and a combination of airlift pumping and swabbing, through the screened intervals. An engine driven deep well turbine pump shall be temporarily installed for final well development and testing. For bidding purposes, the temporary pump shall be installed to a depth of 240 feet.

The pump and engine shall be capable of pumping 150 percent of the well's design capacity. The final development methods shall include frequent surging and shall proceed until the well satisfies performance requirements concerning sand content and well efficiency, as specified herein.

- G. After final development and when the well meets the specified performance requirements, pumping tests will be performed including an 8-hour step test with steps at 50, 75, 100, 125 and 150 percent of the final design capacity of the well, and a 12-hour constant rate discharge test at the final design capacity. The final design capacity of the well will be determined by the Engineer based on evaluation of well performance during the step test.

### **1.2.2. Design Criteria and Performance Requirements**

The design of the subject well includes specifications for screen intake locations, slot size and gravel pack gradation for sand control, sealing for sanitary and other water quality concerns, and consideration of other structural requirements. The specified design does not relieve the Contractor of the performance requirements that are a part of these Technical Provisions. Should the Contractor feel that the design furnished by the Owner will affect Contractor's ability to achieve the performance requirements based upon the Contractor's interpretation of the formation samples obtained during the drilling of the production well, the Contractor shall, within 24 hours following completion of the drilling of the borehole, inform the Owner of Contractor's concerns and furnish a written report to the Engineer specifying alternate recommendations for completion of the well which would satisfy these Technical Provisions and the performance requirements herein. The alternate recommendations shall include Contractor's estimate of the yield that will be obtained, sieve analyses of the formation samples, the material settings, size of screen openings, and the type and grading of gravel material to be used for a gravel envelope.

### **1.2.3. Other Data**

A test hole was drilled at the project site for the purpose of designing the production well. Information for existing wells in the vicinity of the proposed well has been reviewed to determine their current yield (i.e., pumping capacity), drawdown, and specific capacity. The Contractor may inspect and evaluate all information concerning the test hole and information from the existing wells upon written request to the Engineer. This information will be made available solely for the

purpose of assisting with the bidding process and is not intended to relieve the Contractor of any responsibility to perform the work under the terms of these Technical Provisions.

#### **1.2.4. Termination and Alternative Well**

The Owner reserves the right to terminate the work on the well at any time. In such an event, the Contractor shall be paid for work completed at that time on the basis of the unit bid prices. The Owner reserves the right to select an alternate well site to replace an abandoned well. If the Owner chooses an alternate site, the Contractor shall be paid for the work done on the alternate well on the basis of the unit bid prices.

#### **1.2.5. Contractor's Experience and Equipment**

##### **1.2.5.1. Contractor's Experience**

The Contractor shall be experienced in well projects of similar scope as judged by the Owner.

##### **1.2.5.2. Contractor's Equipment**

The water supply well to be drilled in accordance with these Technical Provisions shall be drilled by the reverse rotary drilling method, with drilling equipment in good condition and of sufficient capacity to drill the hole required by these Technical Provisions. All drilling equipment including mast and draw works, air compressors, drilling fluid pumps, drill pipe, etc., must be of requisite size, sufficient capacity, and suitable condition to drill and set casing to the specified depth.

#### **1.2.6. Drilling Fluids**

##### **1.2.6.1. Drilling Fluid Control Program**

- A. A drilling fluid control program shall be submitted and approved by the Engineer prior to the commencement of drilling operations. Selection and use of the drilling fluid materials shall be a part of this Contract. The Contractor shall be responsible for maintaining the quality of the drilling fluid to assure protection of water bearing and potential water bearing formations exposed in the borehole and the ability to obtain representative samples of the aquifer materials encountered during the drilling process. The Contractor shall use fresh, non-polluted water from the approved source to prepare the drilling fluid. Any modification of the approved drilling fluid control program shall first be approved by the Engineer.
- B. The Contractor shall submit, for approval by the Engineer, a list of all additives that will be employed or are anticipated to be used during the drilling operations prior to the commencement of drilling. Drilling fluid additives shall meet or surpass Standard 13-A, Drilling Fluid Materials, American Petroleum Institute. All drilling fluid additives must comply with recognized industry standards and practices, and they must be applied and used as prescribed by the manufacturer. Toxic or dangerous substances shall not be added to the drilling fluid. The disallowance of any material by the Owner prior to or during construction of the well will not relieve the Contractor of the responsibility to complete the drilling program as defined in these Technical Provisions.

##### **1.2.6.2. Failure to Maintain Proper Control**

Proper control of the drilling fluid must be maintained to the satisfaction of the Engineer. The Contractor will be required, at the Contractor's expense, to retain or employ an experienced, qualified drilling fluid engineer to supervise and maintain the drilling fluid properties if such control cannot be accomplished by the Contractor to the satisfaction of the Engineer.

### **1.2.6.3. Non-Compliance**

If at any time the drilling fluid does not comply with these Technical Provisions, or the approved recommendations of a drilling fluid engineer, the drilling fluid shall be re-conditioned and tested until the drilling fluid obtains the specified characteristics. If proper drilling fluid properties cannot be maintained, the drilling fluid shall be replaced at the Contractor's expense.

### **1.2.7. Water for Drilling**

Water for drilling will be available from an existing fire hydrant located approximately 325 feet west on Wilde Court. The Contractor shall be responsible for and shall adhere to all District requirements with regard to metering and backflow equipment. The Contractor is responsible for supplying the necessary equipment for delivering the water from the connection point to the drilling location. Water will be made available to the Contractor at no cost.

### **1.2.8. Nuisance Water and Drill Cuttings**

- Nuisance Water -- Nuisance water, such as rainfall or surface runoff, may occur at the well site during the period of construction under this contract. The Contractor shall at all times protect the Work from damage by such waters and shall take all due measures to prevent delays in progress of the Work caused by such waters.
- Drill Cuttings – The Contractor shall take full ownership of drill cuttings generated from drilling operations and be responsible for handling and proper offsite disposal. Transportation and disposal costs shall be the responsibility of the Contractor.

### **1.2.9. Records and Forms**

The Contractor shall maintain current records on the site at all times to show:

- A. Time, depth and results of all drilling fluid tests.
- B. All materials added to the system, kind, amount, time and depth.
- C. Variances or modifications from agreed-to drilling fluid program; time, depth, reason for variance/modification, and authorization.

### **1.2.10. Supervision**

The Contractor shall designate one person who will have full decision-making authority to represent the Contractor on a daily basis at the project site.

### **1.2.11. Construction Inspection**

#### **1.2.11.1. General**

The Contractor will be required to contact the Engineer at various stages of construction for the purpose of construction inspection. The Contractor shall perform no work until the Engineer has made such inspection. The Contractor shall notify the Engineer at least 24 hours prior to each of the required inspections to assure that a representative will be available to conduct the inspection.

#### **1.2.11.2. Inspection Items**

The following is a list of required inspection items. Inspection and approval of each item by the Engineer is required before proceeding to a subsequent stage of the project.

Description	Item
1) Mobilization	Equipment (Drilling equipment and accessories), Site layout, Storm Water Prevention Measures, Sanitary Facilities
2) Construction Materials	Drilling Fluid Additives Casing and Screen Sections Gravel Fill pipe, Sounding Pipe and Sounding Pipe Inlet Structure, Gravel
3) Drilling	Drilling Fluid Properties Geophysical, Caliper, and Borehole Geometry Survey
4) Construction	Conductor Casing Installation Casing Assembly Installation Gravel Fill and Sounding Tube Installation Gravel Envelope Installation Seal Placement
5) Plumbness and Alignment	Equipment Testing
6) Well Development	Swabbing Tool Pumping Equipment Discharge Assembly
7) Well Testing	Sand Test Well and Aquifer Tests Video Survey Plumbness and Alignment Testing
8) Disinfection	Disinfection Agent Disinfection
9) Final	Casing Stick-up and Security Site Clean-up

### **1.2.11.3. Access for Inspection**

Contractor shall provide safe access to all areas of the work site for inspection by the Engineer and permitting officials at all times.

### **1.2.12. Notifications and Permits**

It shall be the Contractor's responsibility to obtain the appropriate well permits and to satisfy all requirements of that permit. The well permitting agency for this project is:

Contra Costa Health Services  
Environmental Health Division  
2120 Diamond Blvd., Suite 200  
Concord, CA 94520  
(925) 692-2504

The Contractor shall provide the Engineer with completed permit applications for review and approval before submission to the permitting agency.

The Contractor shall notify the Engineer and the appropriate regulatory agencies in advance of the start and completion of the well.

### **1.2.13. Project Site and Well Security**

The Contractor shall provide at all times during well construction suitable means of protecting the well bore and casing assemblies, when installed, from the entrance of foreign objects and from vandalism.

### **1.3. Submittals: General**

The Contractor shall submit the following general submittals as part of a single package to the Engineer before mobilization to either project site.

- A. A description of the drilling equipment including rig manufacturer, model, mast height, capacity, maximum casing length, and drill pipe diameter, length and connection type.
- B. A schedule for sound wall installation, well construction and testing.
- C. A site plan of the drilling location delineating the location and size of the drilling rig and related support equipment, tank locations, casing and gravel storage, sanitary facilities, drill cuttings stockpile, and site trash storage.
- D. A storm water protection program and plan.
- E. The Contractor's daily report form.
- F. A health and safety plan.
- G. A list of supervisory personnel who will be responsible for the performance of all work associated with the Contract. The list will include the phone numbers where the personnel may be reached by the Engineer.
- H. List of proposed subcontractors.
- I. A drawing delineating the size, location and plumbing arrangement of the equipment to be used during the gravel packing operations.
- J. A drawing illustrating the tools, equipment, and discharge piping to be used during the well development operations.
- K. The Contractor's estimates of the volumes of gravel and sealing material required to fill the theoretical annular spaces in the well in accordance with the specified design.
- L. A proposed drilling fluid control program.

### **1.3.14. Submittals: Materials**

The Contractor shall submit certificates of compliance for the following materials for approval by the Engineer. No material shall be incorporated into the work until certificates of compliance have been approved in writing by the Engineer. Conductor Casing

- A. Conductor Casing
- B. Sand Cement Grout
- C. Blank Production Well Casing
- D. Production Well Screen

- E. Sounding Pipe
- F. Gravel Fill Pipe
- G. Gravel Envelope Material
- H. Sieve analysis of the gravel pack material.
- I. Disinfection Agent

#### **1.3.14.1. Product Submittal Requirements**

- A. Certificates of compliance from the Contractor, suppliers, and/or manufacturers, shall clearly indicate that the material to be delivered to the job site will meet all requirements of these Technical Provisions. A certificate of compliance shall include, but not be limited to the project title, delivery location, date (or approximate date) of delivery, name of the material with appropriate classification or model numbers, quantity, name of the manufacturer, statement of compliance with all requirements of the Technical Provisions, and the name, title and signature of the certifying agent.
- B. NSF/ANSI 60/61 certifications shall be submitted for each material used in the drilling of the borehole or construction of the well.
- C. A factory or mill certification (laboratory test report) shall be submitted with the certificates of compliance for all components of the casing assembly. The factory or mill certification shall not be a substitute for the certificate of compliance unless it contains all information required for a certificate of compliance as described above.
- D. Insufficient, incomplete, or unclear certificates will be rejected, and the Contractor shall be responsible for all delays caused by any need for re-submittal. Said delays will not serve as a condition for awarding additional workdays for determining liquidated damages.

## **2. WELL CONSTRUCTION MATERIALS**

### **2.1. Materials**

All materials provided by the Contractor to be incorporated into the work shall be new.

#### **2.1.1. Conductor Casing**

- A. Conductor Casing and Collars - The conductor casing for the well shall be manufactured of ASTM A53 Grade B steel. Conductor Casing shall have the following dimensions:

36-inch O.D. x 3/8-inch wall

Collars, if utilized, shall be of the same thickness and have the same physical and chemical properties as the casing, 5 inches minimum in width, shall be rolled to fit the outside diameter, and shall be circumferentially welded to the casing section. The inside edge of the collars shall be ground or sufficiently scarfed to remove sharp edges, burrs and welds. Alignment holes shall be provided in each collar to insure proper matching of the sections. The male end of the casing section shall be ground to remove the excess welding bead for a distance of 4 inches to permit the casing section to enter the collar during field assembly without binding.

- B. Alignment - All casing section ends shall be flat and perpendicular to the axis of the casings. Longitudinal welds shall be ground flush and the inside of the collar and outside of the casing sections shall be de-burred and fitted prior to assembly. The ends of all sections shall not vary more than 0.010 inches at any point from a true plane perpendicular

to the casing.

- C. Centralizers - Centralizers shall be manufactured of the same material thickness as the casing. They shall be a minimum 2-inches in width and 30 inches in length and shall be angled to provide a minimum 2-1/2-inch offset between the casing and borehole wall. Each centralizer strip shall provide at least 1-foot length of bearing surface at the bore interface. A minimum of 4 centralizers shall be provided at each location for centering the casing. Centralizers shall be placed on the conductors five feet below ground surface and five feet from the bottom of the conductor.
- D. Roundness - The casing shall be round such that neither the largest nor smallest outer diameter differs from that specified to the equivalent of less than or equal to one percent ellipticity.

### **2.1.2. Grout**

The grouting material shall consist of a sand-cement mixture as described by California Department of Water Resources Well Standards, Bulletin 74-81/Supplement 74-90. The cement shall be Type I or II as defined by the Standards. The mixture shall conform to State standards and local ordinances (well permitting agency) for sanitary seals.

### **2.1.3. Casing Assembly**

The casing assembly consists of blank well casing, screen intake section, and external sounding and gravel fill pipes. The Contractor shall provide materials and components that are compatible for field assembly.

#### **A. Blank Well Casing**

1. The blank well casing shall be as specified below and as shown in the Plans.
2. For field assembly, ends of casing sections shall be furnished with collars. Collars shall be of the same thickness and have the same physical and chemical properties as the corresponding casing section, shall be 5 inches minimum in width, shall be rolled to fit the outside diameter, and shall be circumferentially welded to the casing section. The inside edge of the collars shall be ground or sufficiently scarfed to remove sharp edges, burrs and welds. Alignment holes shall be provided in each collar to insure proper matching of the sections. The male end of the casing section shall be ground to remove the excess welding bead for a distance of 4-inches to permit the casing section to enter the collar during field assembly without binding.

#### **B. Louvered Well Screen**

1. Louvered well screen shall be as shown in the Plans and shall be fabricated from ASTM A-778 Type 304 stainless steel. The well screen shall be of the "Ful-Flo" design. The width of the well screen slots shall be 0.055-inches.
3. For field assembly, ends of casing sections shall be furnished with collars. Collars shall be of the same thickness and have the same physical and chemical properties as the corresponding casing section, shall be 5 inches minimum in width, shall be rolled to fit the outside diameter, and shall be circumferentially welded to the casing section. The inside edge of the collars shall be ground or sufficiently scarfed to remove sharp edges, burrs and welds. Alignment holes shall be provided in each collar to insure proper matching of the sections. The male end of the casing section shall be ground to remove the excess welding bead for a distance of 4 inches to



permit the casing section to enter the collar during field assembly without binding.

4. The blank well casing and intake screen shall be manufactured by the same source to insure compatibility for field assembly.
- C. Alignment - All casing section ends shall be machined flat and perpendicular to the axis of the casings. Longitudinal welds shall be ground flush and the inside of the collar and outside of the casing sections shall be de-burred and fitted prior to assembly. The ends of all sections shall not vary more than 0.010 inches at any point from a true plane perpendicular to the casing.
- D. Centralizers - Centralizers shall be manufactured of the same material thickness as the casing. They shall be a minimum 2-inches in width and 30 inches in length and shall be angled to provide a 5-inch offset between the casing and borehole wall. Each centralizer strip shall provide at least 1-foot length of bearing surface at the bore interface. A minimum of 4 centralizers shall be provided at each location for centering the casing.
- E. Roundness - The casing shall be round such that neither the largest nor smallest outer diameter differs from that specified to the equivalent of less than or equal to one percent ellipticity.
- F. Bottom Plate - The bottom end piece of the casing assembly shall be secured by an SE-type head of the same thickness and material as the blank well casing.
- G. Sounding Pipe - Two-inch Schedule 40, ASTM Type 304L stainless steel pipe, in random lengths, shall be furnished for the installation of the sounding pipe to the specified depth. The sounding pipe shall be furnished with collars for assembly by welding.
- H. Gravel Fill Pipe - Three-inch Schedule 40 ASTM A-53 pipe, in random lengths, shall be furnished for the installation of the gravel fill pipe to the specified depth. The gravel fill pipe shall be assembled by butt welding.

#### **2.1.4. Gravel Envelope**

The gravel envelope for the well shall be supplied by Gillibrand or approved equal.

The gradation of the pack material shall conform to that published by the manufacturer and shall consist of washed, rounded silica material. The gravel shall be delivered to the well site and stored in super sacks. Upon delivery to the well site, the Engineer will inspect and verify that the gravel meets the specified type and gradation before it is installed in the well. Failure to meet the specified gradation shall be grounds for rejection of the delivered gravel material. The gravel shall be protected at the job site and kept free of all foreign matter.

#### **2.1.5. Disinfection Agent**

Liquid sodium hypochlorite shall be used to disinfect the gravel. The disinfectant shall be delivered to the site in original un-opened containers bearing the manufacturer's label indicating the percentage of available chlorine. Liquid sodium hypochlorite shall not be stored for more than 60 days after the manufactured date prior to use. During secured storage, disinfectants shall not be exposed to the atmosphere or to direct sunlight.

### **3. WELL CONSTRUCTION AND TESTING**

#### **3.1. Mobilization**

##### **3.1.1. General**

- A. Mobilization shall include transportation of personnel, equipment, and operating supplies to and from the site; providing portable sanitary facilities; providing approved fencing or barricades suitable to keep unauthorized personnel away from construction activities around the site; providing site security, providing pumping equipment, discharge lines, and other necessary facilities at the site; and other preparatory work at the site for the Contractor to conduct the specified work.
- B. The Contractor shall provide a complete reverse rotary drilling unit; all tools, accessories, power, fuel, materials, supplies, lighting, piping, and other equipment; and experienced personnel necessary to conduct safe and efficient drilling operations. The drilling unit shall be in good condition and of such capacity as to drill the borehole required by these Technical Provisions. All drilling equipment shall be thoroughly steam cleaned prior to performing any work on the project.

##### **3.1.2. Noise Mitigation Measures**

- A. Temporary sound attenuation (sound walls), capable of reducing sound generated by the onsite operations to meet the Contra Costa County noise ordinance shall be installed and removed at/from the Well 8 site.
- B. The length of the sound attenuation structure required shall be approximately 200 linear feet and shall be installed between the drilling equipment and the nearby residences. The height of the sound walls shall be a minimum of 16 feet.

##### **3.1.3. Reverse Rotary Drilling Equipment**

- C. The drilling equipment shall be equipped with a dial reading weight indicator suitable for reading the weight of the drilling string and the casing loads.
- D. Tanks shall be used for circulation of drilling fluids during drilling and construction of the well as specified below. The volume of the tanks shall be at least 100% the volume of the borehole.

#### **3.2. Conductor Casing Installation**

##### **3.2.4. Scope**

This item shall consist of drilling of a borehole, furnishing and installing conductor casing, and grouting it into place for each well.

##### **3.2.5. Construction Methods**

The Contractor shall drill a 48-inch diameter borehole to a depth of 55-feet.

The conductor boreholes shall be drilled using the bucket auger drilling method.

- A. Centralization - Care shall be taken to install the casings plumb. A set of four centralizer strips shall be attached on 90 degrees spacing at each centralizer location. The centralizers shall be attached directly to the casing by welding in order to center and hold the casing in the proper position until grouting is completed. Centralizers shall be

installed at 5 feet from the top, at the center of the string, and 5 feet from the bottom.

**B. Grouting**

1. Grouting operations shall comply with State and local ordinances.
2. Cement grout shall be pumped into the annular spaces by means of a tremie pipe. The tremie pipe must be set within five (5) feet of the bottom of the borehole at the start of the placement. The tremie pipe may be raised during seal placement to avoid excessive pump pressures on the casing. The end of the tremie pipe must remain submerged in grout and the tremie pipe shall be kept full of grout at all times during the seal placement. Upon completion of the sealing operation, grout shall be visible above the surface of the ground outside the casing.
3. The grout shall be placed in one continuous lift. The Contractor shall keep the inside of the casing full of water during the sealing operation.
4. After grouting operations are completed, the well shall be secured and left undisturbed. Work shall not resume until 24 hours has elapsed.

**3.3. Drilling Beneath Conductor Casing**

**3.3.6. Scope**

This item shall consist of drilling the production borehole.

**3.3.7. Construction Method**

The production borehole shall be constructed using reverse rotary drilling equipment. The borehole shall be drilled at a diameter of 30-inches to a depth of 370 feet.

**A. Materials On-Site**

All equipment and materials must be on-site before commencing with drilling of the production borehole.

- B. Establishment of an Acceptable Drilling Fluid System -** At the completion of conductor casing installation, the Contractor shall recondition or replace the drilling fluid system to comply with the approved drilling fluid program.

**C. Drilling Method**

1. The borehole may be constructed using multiple passes to achieve the specified borehole diameter. If the borehole is constructed with multiple passes, a pilot bit shall be used for each successive pass.
2. The Contractor shall be responsible for keeping the well bore full at all times in order to maintain the integrity of the borehole. Sufficient piping of adequate diameter to convey water from the approved source to the drilling sump is the responsibility of the Contractor.
3. The Contractor shall employ appropriate drill collars to ensure that the hole remains straight and plumb during drilling operations.

- D. Drilling Fluid Program -** A drilling fluid program shall be employed by the contractor in accordance with the following general conditions.

1. A drilling fluid control program shall be submitted to the Engineer for approval. Selection and use of the drilling fluid materials shall be a part of this agreement.

The Contractor shall be responsible for maintaining the quality of the drilling fluid to assure protection of water bearing and potential water bearing formations exposed in the borehole, and the ability to obtain reliable representative samples of the formation materials.

2. Material used by the Contractor to prepare the drilling fluid shall be composed of water from an assigned source and drilling additives processed to meet or surpass the specification in the American Petroleum Institute "Std. 13-A for Drilling Fluid Materials". All drilling fluid additives will comply with recognized industry standards and practices and they shall be used as prescribed by the manufacturer. Toxic and/or dangerous substances shall not be added to the drilling fluid.
3. The drilling fluid for the reverse rotary construction shall be made up of high-grade bentonite clays or organic polymer additives in common drilling usage in the water well industry and shall possess such characteristics as required to condition the walls of the borehole to prevent caving of formations and excessive loss of circulation, facilitate removal of the cuttings, and produce an easily removed thin filter cake.
4. In accordance with these Technical Provisions, the Contractor shall submit a drilling fluid program for approval prior to construction. The submittal shall include the recommendations for make-up water conditioning, quantities of clay base, and additives required to maintain a drilling fluid having properties within the ranges specified below for drilling operations.

Weight	8.3 to 9.0 lb./gal.
Marsh Funnel Viscosity	28 to 35 sec./qt.
Sand Content (Returns)	0-2% by volume
API Filter Cake	<3/32" Thickness

5. The above drilling fluid parameters can be modified to address flowing conditions. Any proposed modifications to address such conditions shall be prepared by a drilling fluid specialist and submitted to the Engineer for approval before implementation.
6. The drilling rig must be equipped with equipment to measure the above drilling fluid properties. The measurements must be made at a minimum of once every 4 hours with the results reported on the daily drilling log.
7. Proper control of the drilling fluid must be maintained to the satisfaction of the Engineer. The Contractor will be required, at the Contractor's expense, to retain or employ an experienced, qualified drilling fluid, or mud engineer acceptable to the Engineer to supervise and maintain drilling fluid characteristics to the satisfaction of the Engineer if such control cannot be accomplished by the Contractor.
8. If at any time the drilling fluid is not in compliance with these Technical Provisions or the recommendations of the drilling fluid engineer, as approved by the Engineer, the properties shall be adjusted, and the tests rerun until the drilling fluid obtains the specified characteristics. If the specified properties cannot be maintained, the drilling fluid shall be replaced at the Contractors expense.

#### E. Geophysical Log

1. When drilling has reached the prescribed final depth, the Contractor shall conduct a geophysical survey in the borehole. Acceptable service companies include

Pacific Surveys, Stewart Well Logging, or equivalent as approved by the Engineer. The Borehole geophysical survey shall include spontaneous potential (SP), natural gamma, and multiple resistivity logs.

2. The spontaneous potential survey shall be plotted on a scale of one-inch equal to plus or minus 20 millivolts. The multiple resistivity survey shall consist of a point resistivity curve and multiple resistivity curves for 16-inch short normal and 64-inch long normal recordings on a one-inch equal to 20- or 40-ohm scale. All surveys shall be plotted on a depth scale of one-inch equal to 20 feet.
3. The Contractor is responsible for the integrity of the borehole to assure that the geophysical logging is successfully completed. The Contractor shall maintain circulation in the borehole with tools on the bottom of the hole until the logging equipment is on location and prepared to conduct the surveys. The logging service company shall have access to a ditch sample of the circulation fluid for calibration of the logs prior to ceasing circulation. When the logging service company is fully prepared, the Contractor shall pull drilling tools from the well and the logging services immediately commenced. If the logging tools fail to reach the desired depth, the Contractor, at Contractor's expense, shall reinstall the drilling tools into the borehole, cleanout the borehole to the final drilled depth, and recondition the hole to allow for logging operations.
4. Upon completion of logging, the Contractor will deliver to the Engineer four (4) field prints and a digital file of the geophysical surveys, including the raw data (e.g., .las files). The Engineer shall approve the field copies of the surveys before the Contractor releases the logging service company from the site.

#### F. Caliper Log

1. When drilling has reached the prescribed final depth, the Contractor shall conduct a caliper survey to confirm diameter of the borehole. The caliper survey will be used to verify the quantities of gravel that will be required for later installation during the well construction.
2. If at any point within the intake or screened portion of the well a minimum gravel pack thickness of 5 inches cannot be achieved, the borehole will be considered unacceptable for completion. The Contractor shall then proceed to ream the hole at Contractor's own expense. A second caliper log shall be conducted on completion of the reaming, at the expense of the Contractor, to satisfy the requirements of the Contract. If the borehole remains unacceptable and it is determined that the well cannot be reasonably constructed to satisfy these Technical Provisions, the Contractor shall abandon the hole and re-drill the well at a new location on the site, all in accordance with the requirements of Section 3.11. All costs for abandonment to meet these requirements shall be borne by the Contractor. Additional workdays may be awarded at the sole discretion of the Engineer.

#### G. Borehole Geometry Survey

The borehole geometry survey tool shall be incorporated into a X-Y caliper tool and shall measure borehole inclination and direction using an integrated magnetometer and accelerometers. Inclination shall be reported in degrees and direction shall be reported in azimuthal degrees. If the results of the borehole geometry survey indicate that the Contractor will not be in compliance with the well casing plumbness and/or alignment requirements described in Section 3.13, the Contractor is advised to correct the

deviation prior to the commencement of well construction. Failure to comply with the plumbness and/or alignment requirements is grounds for rejection of the completed well.

### **3.4. Installation of Well Casing, Screens, Gravel Fill Pipe, and Sounding Pipe**

#### **3.4.8. Scope**

This item shall consist of providing and installing casing, screens, tremie pipe, sounding pipe, and gravel fill pipe.

#### **3.4.9. Construction Method**

At the completion of the drilling and geophysical operations, the Contractor will prepare the borehole for casing installation. The Contractor shall insure that all cuttings have been removed from the borehole. During the electric log and caliper survey, the borehole shall be kept full of drilling fluid. The Contractor will not be required to return to bottom with the drilling tools if casing installation immediately follows the caliper survey, assuming acceptable results are achieved.

##### **A. Tremie, Accessory Pipes, and Casing Installation**

1. A tremie pipe having a minimum inside diameter of 2-inches shall be run into the borehole to the specified casing installation depth. Circulation shall commence 30 minutes prior to casing installation and continue until the start of gravel packing. Circulation shall commence using drilling fluid from the circulation tanks of the same viscosity as that in the borehole and thinned using clean water containing less than 2 percent solids. With the tremie pipe remaining in the borehole, casing installation shall proceed in accordance with the specified well design.
2. Circulation through the tremie pipe shall continue during the casing and screen installation.
3. Three-inch steel pipe shall be used as a gravel fill pipe. The pipe shall be installed to the depth specified in the Plans. The pipe assembly shall be butt welded together to provide a watertight seal. The gravel fill pipe shall be pulled to the side and welded to the conductor casing at ground level, as shown in the Plans. Orientation of the 3-inch pipe shall be offset from the future pump discharge side of the well as specified in the Plans.
4. All casing sections must be welded together in the field in a vertical position. Field joints shall be properly lap welded during installation into the borehole with a minimum of two passes per circumference. Welding electrodes used for welding shall be of a grade applicable to the material being welded. All alignment holes shall be filled by welding to prevent entry of water into the completed well through the holes.
5. Centralizers, 4 per set, placed on 90 degrees spacing, shall be attached directly to the casing by welding in order to center and hold the casing in the proper position until the gravel is in place. Centralizers shall be positioned at the sump, above and below each screen section, and every 80 feet of the production casing. The casing shall not be centralized between ground surface and a depth of 50 feet however.
6. Two-inch collared steel sounding pipe to be used as a still well shall be connected to the sounding box and held close to the casing with U-shaped straps or rings as shown on the Plans. The pipe shall be run concurrently with the casing and attached to the outside of the production casing as shown in the Plans. The sounding pipe assembly shall be welded together to provide a watertight seal. The

sounding pipe shall not be attached to the casing within 50 feet of the ground surface. The sounding pipe shall be pulled to the side and welded to the conductor casing at ground level, as shown in the Plans. Orientation of the 2-inch pipe shall be offset from the future pump discharge side of the well as specified in the Plans.

7. The casing shall be suspended in tension from the surface by means of an appropriate hanger or clamp. The use of float plugs to land and set casing will not be permitted. The bottom of the casing assembly shall be at a sufficient distance above the bottom of the borehole to ensure that none of the casing assembly will be supported from the bottom of the hole. Verification of this requirement will be confirmed by the Engineer by observation of the total weight suspended by the drill rig on the weight indicator.
8. If, for any reason, the casing assembly cannot be landed in the correct position or at a depth acceptable to the Engineer, the Contractor shall remove the casing and screen from the well and ream the borehole. In no event shall the Contractor attempt to drive or "spud" the casing and screen assembly. If problems arise that prevent the Contractor from completing the well, it will be considered rejected and the provisions of Section 3.14 will apply.
9. The casing shall be centered in the conductor casing. Failure to center the casing in the conductor will be grounds for rejected and the provisions of Section 3.14 will apply.

**B. Casing and Accessory Pipe Stick-up**

1. The well casing assembly and accessory pipes shall be installed with a minimum of 3-feet of stick-up above existing ground level.

**C. Preliminary Plumbness and Alignment Survey** - A preliminary test to examine the plumbness and alignment of the casing may be made by the Contractor after the casing has been installed in the borehole and before gravel packing is commenced. The intent of preliminary testing is to identify any plumbness and alignment problems so that they may be corrected before installation of the gravel envelope. Any determination made by the Contractor concerning the plumbness and alignment of the well at this point in construction shall not relieve the Contractor of the requirements specified in Section 3.13. Any measures required to correct faulty plumbness and/or alignment shall be at the Contractors own expense.

**3.5. Gravel Envelope and Annular Seal Installation**

**3.5.10. Scope**

This item shall consist of providing and installing a graded gravel pack material and sealing material in the annulus between the casing assembly and the borehole.

**3.5.11. Gravel Packing Method**

Prior to gravel packing, the borehole fluid shall be conditioned as follows:

Weight	< or = to 8.9 lb./gal.
Marsh Funnel Viscosity	< or = to 30 sec./qt.

If the borehole fluid exceeds this specification, the Contractor shall thin the fluid with the addition of clean water to the drilling fluid tank or sump while circulating the entire system. The Contractor shall avoid directly injecting water into the well before the hole fluid has been properly conditioned

and the densities and consistencies are matched.

A. Placement

1. Gravel envelope material shall be gravity fed through the tremie pipe with conditioned fluid. The feed system shall consist of a hopper that will allow for the measurement of the amount of gravel packing material entering the borehole and a pump capable of displacing the gravel and drilling fluid mixture through the tremie pipe.
2. The tremie pipe shall be removed in approximately 20-foot intervals (one joint) when the gravel in the borehole reaches the tremie pipe. The gravel shall not be permitted to free-fall in the annulus for more than 30 feet.
3. The gravel shall be sterilized by continuously mixing at least one gallon of 5-1/2 percent liquid sodium hypochlorite solution per 100 cubic feet of gravel as it is placed in the well.
4. Gravel packing shall continue uninterrupted until the gravel pack material is installed to the specified depth.

B. Attaining Proper Fill - The quantities of gravel placed in the annulus of the well shall not be less than the computed volume calculated from the caliper log and verified by the Engineer. A quantity less than the computed value may be judged as an indication of voids, and corrective measures may be required of the Contractor. Significant differences between the estimated and total volume of gravel installed in the well may be grounds for the rejection of the well under Section 3.14.

C. Consolidation Using Swab Tool - Immediately following the gravel packing, the gravel pack shall be consolidated to ensure that no voids in the gravel pack exist. This can be accomplished with a swab or bailer lowered in the well and moved up and down for a minimum of one hour. After consolidation, the gravel level shall be measured to determine if consolidation has occurred. If gravel level has dropped, additional gravel shall be added to bring the gravel level to the specified level and swabbed or bailed again. This process will be repeated until gravel level is stable at the level specified in the plans. A detailed record shall be kept of the amount of gravel added during placement and consolidation, and the quantity of gravel placed in the annulus shall be at least the calculated volume of the annulus. The contractor shall submit the record indicating the total volume of gravel used and the calculated volume of the annulus to the Engineer. The Contractor shall measure and record the depth to the top of the gravel pack within the gravel fill pipe and ensure that it coincides with the bottom, open end, of the gravel fill pipe, so that there is no gravel pack within the gravel feed tube.

D. Fine Sand Transition Seal - A five-foot, fine sand transition seal consisting of #30 sand shall be placed on top of the consolidated gravel envelope via the tremie pipe. The transition sand shall be clean and delivered to the project site in pre-packaged 50-pound sacks.

### **3.5.12. Annular Sealing Method**

Installation of the annular seal shall conform to State Water Well Standards and the requirements of the well permitting agency.

- A. The Contractor shall proceed with sealing operations after the Engineer verifies the depth of the top of the gravel and transition sand in the well annulus.
- B. The tremie pipe shall be installed no more than 5 feet above the fine sand transition seal



before beginning cement grout seal placement. The bottom of the tremie pipe shall remain submerged in the grout sealing material maintaining a positive displacement throughout the sealing process until the grouting material has reached the ground surface.

- C. The Contractor shall take measures to ensure that the weight of the cement column does not collapse the well casing during the sealing operation.
- D. The annular seal will be required to be continuously placed in a single lift.
- E. Well development shall not commence until a minimum of 24 hours after placement of the seal.

### **3.6. Well Development**

#### **3.6.13. Scope**

- A. Well development shall consist of initially airlifting drilling fluids from the well through an open-ended pipe; swabbing, airlift pumping, and placement of Aqua Clear PFD, or other approved dispersing agent, in screen intake section; installation of an engine driven turbine test pump; pumping and surging of the well until the well is fully developed and meets the requirements of minimum sand production, turbidity, and specific capacity; and bailing the well of materials introduced into the casing during development.
- B. The gravel fill and sounding pipes shall be cleaned of solids and drilling fluid residues by continually adding clean water to the pipes during development, placement of Aqua Clear PFD, and brushing.

#### **3.6.14. Discharge of Initial Development Water**

Drilling fluids and initial development water produced during open-ended airlifting and swab-airlift operations shall be discharged to a sanitary sewer inlet located approximately 400 feet from the well site located in Wilde Court as designated in the Plan Sheets. Before fluids may be discharged to the detention basin for disposal, solids in the fluids shall be removed using settlement tanks. A minimum of two tanks (not including circulation tanks) shall be connected in series, with the outfall of each tank near the top of the tank. Each tank shall have a minimum capacity of 20,000 gallons, and a minimum surface area of 200 square feet.

The Contractor shall discharge fluids via pipeline to the sanitary sewer inlet utilizing a fitted sewer manhole cover. The maximum discharge rate to the sanitary sewer is 300 gallons per minute and is subject to change at the discretion of the Engineer or Owner. The Contractor shall install a totalizing flow meter on the outflow to the sanitary sewer to monitor instantaneous flow volume and daily discharged volume. The discharge assembly shall also have a valve to regulate flow to the sanitary sewer. The Contractor shall specifically ensure that the fluids do not backup or damage the adjacent properties.

#### **3.6.15. Discharge of Pump Development/Testing Water**

Once the initial development fluid water meets the standard for turbidity set forth by the RWQCB of less than 100 NTU and is accepted by the Engineer, the Contractor may discharge the water directly to the Ravenswood Detention Basin located adjacent to the project site as indicated on the Plans. The Contractor shall provide the necessary piping to direct fluids to the specified discharge point

#### **3.6.16. Equipment**

- A. The Contractor shall provide sufficient drill pipe and a mechanical combination swab/air-

lifting tool with a double rubber packer assembly designed to be run in the intake sections of the well. The equipment will be assembled in a manner that will allow simultaneous airlift pumping and swabbing to occur. The pumping and swabbing will be done between a double rubber packer assembly with the packers no more than 10 feet apart. The outside diameter of the swabs shall be 0.5-inches smaller than the inside diameter of the well screen. A polypropylene brush with the same diameter as the inside diameter of the well casing shall be attached to the swab tool below the bottom swab. A drawing of an acceptable swab assembly tool is shown on the Plans without the polypropylene brush attached.

- B. The eductor pipe on the swab assembly, the air pipe, the air compressor, and all other necessary equipment required to perform airlift operations shall be capable of pumping 500 gpm during development.
- C. Upon completion of the swabbing airlift pumping the Contractor shall furnish and install one engine driven deep well turbine pump, diesel engine, appropriate drive shaft, and incidental equipment for the safe operation of the pumping equipment. The test pump engine shall have a minimum continuous horsepower rating which will allow for the continuous pumping of the well at the maximum desired flow rate and pumping level.
- D. The Contractor shall furnish and install discharge piping from the well to the designated discharge point as shown on the plans. The discharge area shall be properly contained to receive and control all development water.
- E. The Contractor shall furnish the necessary gate valves, calibrated totalizing and instantaneous flow meter, sand testing equipment, and other incidental equipment required to accurately measure the flow rate, water levels, sand production and time of pumping. The installation of the flow meter shall be as defined by the manufacturer for its distance from any elbows or valves so as to provide reliable test information. An acceptable discharge piping arrangement is shown on the Plans. The Engineer will confirm that the flowmeter is measuring properly. If it is determined that the flow meter is not measuring flow correctly, the Contractor shall replace the meter with a properly measuring meter at their own cost.
- F. Water level measurements shall be made with either an electric sounder or with other equipment pre-approved by the Engineer. Water level measurements shall be made recorded to the nearest 0.01 foot.
- G. The equipment for sand testing shall be the Rossum Centrifugal Sand Sampler as specified in the American Water Works Association Standard for Water Wells, A100-20, Section E.2.4.

### **3.6.17. Development Methods**

The intake screen and gravel envelope shall be cleaned of all fluids, wall cake, and any substances that would impede the flow of water into the well.

#### **A. Swab-Airlift Development**

##### **1. Open-ended Development**

Initially and within 24 to 36 hours after completion of the annular sealing operation, the well shall be cleaned of residual drilling fluids by displacing the well through open-ended drill pipe or tubing set in the well sump. This process shall be conducted for a minimum of 4 hours and until the discharge is clear of residual drilling fluids. After drilling residues have been displaced from the well, the development tool shall be installed in the well.

## 2. Swabbing/Airlifting

Swabbing and airlifting shall be conducted with the development tool alternately over no more than the length of one joint of drill pipe until that section of screen is fully developed.

Swabbing and airlift pumping operations will be conducted from the top screen section to the bottom, alternately over no more than the length of one joint of drill pipe. Screen sections will be swabbed and pumped for a minimum of 7 minutes per foot of well screen or until cleaned of all drilling fluids. During pumping, the drill pipe shall be continuously moved up and down to achieve a swabbing action and uniform pumping across the screen section.

After the initial swabbing-airlift pass, a solution of potable water and Baroid "Aqua Clear PFD" product, or approved equal, shall be placed in the well. The product shall be mixed at the surface in the manufacturer-recommended proportion and injected evenly across each screened section of the well. The solution shall be displaced by adding a volume of potable water equal to the inside of the drill pipe and swabbed without airlifting. After placement of the solution, the well shall then remain idle for a period of 12 hours. Swabbing and airlift pumping of the well shall then resume from the top screen section to the bottom for a minimum of 5 minutes per foot of well screen.

If there continues to be circulation of sand, silt, mud, or water with a turbidity in excess of 25 Nephelometric Turbidity Units (NTU) to the surface from the section of screen being cleaned, additional swabbing and pumping shall be performed until the section is cleaned of such material. It is anticipated that the mechanical development described above will take on the order of 12 minutes per foot of well screen.

2. The sounding pipe and gravel fill pipe shall be cleaned by circulating water and a solution of potable water and Baroid "Aqua Clear PFD" through the pipes.
3. The level of the gravel in the gravel fill pipe shall be measured periodically during well development operations. Gravel must not be added to the gravel fill pipe without prior authorization of the Engineer.

## B. Well Video

After completion of swab/airlift operations, the Contractor shall conduct a video survey of the screen assembly. The survey shall be witnessed by the Engineer. The camera shall be color and have side-scan capability. Logging speed of the video survey shall not exceed 30 feet per minute. The record of the survey shall be recorded in DVD format and shall be submitted to the Engineer.

The purpose of the video survey is to visually confirm that all drilling fluids, mud, debris have been removed from the well screens to the satisfaction on the Engineer.

If the Engineer determines that there is blockage of screens with drilling mud or any other material, the Contractor shall, at his own expense, continue swab/airlift operations until such material has been removed. If additional swab/airlift operations are required, a second video, at the Contractors expense, shall performed.

## C. Final Development

1. Upon completion of the swabbing and airlift pumping operations, a turbine pump and piping assembly shall be installed. No foot valve shall be installed on the pump and

the gearhead shall not be equipped with a non-reverse ratchet installed.

2. Development pumping shall commence within 10 working days after the completion of Initial Development. Pumping shall be initiated at a lowest pumping (i.e., flow) rate possible with the installed pumping equipment. Throughout development pumping, the well shall be surged frequently to achieve maximum compaction of the gravel pack and to remove residual drilling fluids and wall cake. Surging and pumping will continue until the water produced is clear and sand free, at which time the pumping rate will be increased increments of 250 gallons per minute and the pumping and surging resumed. This process will be repeated until the capacity of the well achieves a minimum of 150 percent of the design capacity of the well unless the Contractor is directed by the Engineer to pump the well at lower capacities.
3. Development records shall be maintained at a frequency of at least every 30 minutes showing pumping rate, static water level, pumping water level, drawdown, sand production, and any other pertinent information concerning well development. Development pumping shall continue until the following conditions have been met:
  - a) The specific capacity (gallons per minute per foot of drawdown) no longer increases at the design capacity of the well.
  - b) The sand content satisfies the requirements of these Technical Provisions as specified in Section 3.6.5.C.5
4. Development pumping shall be conducted for a minimum of 24 hours.

#### 5. Sand Testing

The equipment for sand testing shall be the Rossum Centrifugal Sand Sampler. Sand content shall be measured over a 30-minute interval after a surge at the target well capacity. The sand content shall be measured and recorded every minute over the 30 minutes of pumping after surging. The average sand content for any 5-minute period shall not exceed 5 parts per million during the 30-minute test. If the average sand content exceeds 5 parts per million for any 5-minute period, the Contractor, at Contractor's expense, shall do the necessary redevelopment work until the sand content is 5 parts per million or less.

Sand testing shall be witnessed by the Engineer.

### **3.6.18. Well Performance Requirements**

At the conclusion of well development, it is the responsibility of the Contractor to meet the requirements contained in Section 3.13 of these Technical Provisions. If the Contractor fails to meet these requirements after the development pumping operations, development shall continue at the Contractor's expense until the well satisfies the specified performance criteria.

### **3.7. Well and Aquifer Testing**

#### **3.7.19. Scope**

After final development and when the well meets the specified performance requirements, tests will be performed including an 8-hour step pumping test at capacities of 50, 75, 100, 125, and 150 percent of the target design capacity of the well and a 12-hour aquifer test at the final design capacity as determined by the Engineer based upon evaluation of well performance during the step test. The test capacities may be modified by the Engineer before or during the testing based upon the results of development and test pumping. Well and aquifer testing shall not exceed 40 hours without written direction from the Engineer/Owner.

### 3.7.20. Test Pumping Procedures

#### A. Static Water Level

At the start of each day of pumping, the Contractor shall record the static water level in the well. At all other times, the static water level shall be considered to be attained when three successive water level measurements spaced ten minutes apart show no appreciable change.

#### B. Flow Metering

1. During each test or step, the discharge of the pump shall be measured with an accurate, calibrated totalizing and instantaneous flow meter, or other type as approved by the Engineer. The pump discharge rate shall be maintained at all times during the test within plus or minus 5 percent of the pump test rate by means of an approved gate valve in concert with engine speed.
2. Throughout the test, the Contractor shall frequently record flow rate and totalizer readings to assure that the pumping rate remains constant.

#### C. Measurements

1. The Contractor shall measure the depth to water, flow rate, and sand content at the time intervals specified herein to the nearest 0.01 feet.
2. Each pumping test shall be monitored by the Contractor with data recorded according to the following applicable time schedules:
  - a) Turn pump on to approved test pumping capacity at time  $(t) = 0$ .
  - b) Contractor shall measure and record the depth to water as follows:
    - each minute, from  $t = 1$  to  $t = 10$ .
    - each 2 minutes, from  $t = 10$  to  $t = 20$ .
    - each 5 minutes from  $t = 20$  to  $t = 50$ .
    - each 10 minutes from  $t = 50$  to  $t = 100$ .
    - at  $t = 120$ ,  $t = 150$ ,  $t = 180$ ,  $t = 240$ , and  $t = 300$ .
    - each 100 minutes after  $t = 300$ .
  - c) Each recovery test shall be recorded according to the following applicable schedule:
  - d) Contractor shall measure depth to water and record as follows ( $t'$  refers to time since pump shut off):
    - each minute,  $t' = 1$  to  $t' = 10$
    - each 2 minutes,  $t' = 10$  to  $t' = 20$
    - each 5 minutes,  $t' = 20$  to  $t' = 50$
    - each 10 minutes,  $t' = 50$  to  $t' = 100$
    - at  $t' = 120$ ,  $t' = 150$ ,  $t' = 180$ ,  $t' = 240$ ,  $t' = 300$

#### D. Pump Failure

In the case of failure or interruption of the pump operation for a period greater than one (1) percent of the elapsed pumping time from  $t = 0$ , the test shall be suspended until the static water level has been attained. Should the test be aborted as a result of a deficiency on the part of the Contractor's equipment or personnel, all time consumed in waiting for complete water level recovery and in resuming the pump test to the point where it was

aborted shall be at no cost to the Owner.

#### E. Completion

After the well testing has been completed, the record of water level measurements shall be delivered to the Engineer on the forms provided as part of these documents. The test pump shall not be removed from the well until the Engineer has evaluated the data and authorized its removal.

#### **3.7.21. Water Samples**

During constant rate testing of the well, the Contractor shall provide access to the well for sample collection by the Engineer.

#### **3.7.22. Records**

The Contractor shall keep accurate records of the pumping tests and furnish copies of all records to the Engineer upon completion of the test. The records shall be available to the Engineer for inspection at any time during testing. The records shall also include a description of the point from which depth to water measurements were made and its measured height above land surface.

### **3.8. Plumbness and Alignment Testing**

#### **3.8.23. Scope**

This item shall consist of testing to determine the plumbness and alignment of the installed casing in the well. The plumbness and alignment test may be performed at any time following gravel-packing and sealing operations. The completed well shall be constructed round, plumb, and true to line as defined herein.

- A. Alignment Equipment - Alignment shall be tested with a section of pipe 40 feet long or a dummy of the same length. The outer diameter of the pipe or dummy shall be not more than 0.5 inches smaller than the inside diameter of that part of the well being tested. The dummy, if used, shall consist of a rigid spindle of at least 6-inch diameter extra heavy pipe with three rings, rigidly fixed to the pipe so that they cannot move longitudinally along the pipe. The rings shall be at least 12 inches in length, truly cylindrical, and shall be placed one at each end of the dummy and with one ring in the center. The rings shall consist of suitable material that will not harm the interior of the casing while being lowered or raised. An example of an approved dummy is shown in the Plans.
- B. Plumbness Equipment - The test for plumbness shall be conducted using a digital gyroscopic deviation probe capable of measuring inclination and direction of drift. Output of the survey shall consist of station depth, inclination, azimuth, true vertical depth, departures and plane of closure (displacement). Log presentation shall consist of color plots of plan, vertical, and three-dimensional views of the production well casing. Acceptable service companies to perform plumbness testing are listed in Section 3.3.2 of these Technical Specifications.

#### **3.8.24. Methods**

- A. Alignment Testing - Alignment shall be tested by lowering into the well to the top of the screened intake portion of the well, a section of pipe 40 feet long or a dummy of the same length.
- B. Plumbness Survey - The plumbness of the well shall be determined in 10-foot intervals

from the ground surface to the bottom of the well.

### **3.9. Video Survey**

1. After final clean-up of the well and prior to disinfection, and before welding a plate on the top of the casing, the Contractor shall conduct a video survey of the entire casing and screen assembly. The camera shall be color and have side-scan capability. The survey shall be witnessed by the Engineer.

If the Engineer determines that any portion of the video survey record is of inadequate quality (e.g., clarity) to allow detailed examination of the inside of the well, the Contractor shall rerun the survey at Contractor's expense. Clarity should be of sufficient quality to evaluate the integrity of all joints, screen openings, the sounding port, and the entire inside surface of the casing assembly. Logging speed of the video survey shall not exceed 30 feet per minute.

2. The record of the survey shall be recorded and provided to the Engineer in digital form.

### **3.10. Disinfection of Well**

- A. Disinfection Preparation - The Contractor shall conduct disinfection after construction of the well and all specified tests and video logging have been completed. The Contractor shall carry out adequate cleaning procedures immediately preceding disinfection where evidence indicates that normal well construction and development work have not adequately cleaned the well. All oil, grease, soil, and other materials, which could harbor and protect bacteria from disinfectants, shall be removed from the well. Unless prior approval is obtained for employing chemicals or unusual cleaning methods, the cleaning operation is to be carried out by pumping and swabbing only. Where test pumping equipment is to be utilized, such equipment shall be installed prior to or during disinfection and shall be thoroughly hosed, scrubbed or otherwise cleaned of foreign material prior to its installation into the well. The Contractor is responsible for removing or mitigating the effects of all materials introduced into the well during drilling, construction, development, and testing.
- B. Interim Disinfection - Should a delay of five days or more be anticipated between the completion of the well and the regularly scheduled well disinfection, an interim disinfection shall be provided by the Contractor. The Contractor shall apply liquid chlorine in an amount equal to 25 percent of the amount required for final disinfection. For this purpose, the disinfection agent shall be furnished or prepared in liquid form and placed in the well through a tremie pipe of sufficient length to extend to the bottom of the well. The disinfection agent shall be applied through the tremie pipe. A volume of water sufficient enough to displace the disinfection agent from the tremie pipe will be added to the tremie pipe. The disinfection agent shall be placed at regular intervals sufficient to achieve a residual chlorine level of not less than 25 parts per million throughout the well.
- C. Final Disinfection - The disinfection agent shall be furnished or prepared in liquid form and placed in the well through a tremie pipe of sufficient length to extend to the bottom of the well. The disinfection agent shall be applied through the tremie pipe, after which a volume of water sufficient enough to displace the disinfection agent from the tremie pipe will be added to the tremie pipe. The disinfection agent shall be placed at regular intervals sufficient to achieve a residual chlorine level of not less than 100 parts per million throughout the well, unless superseded by local or other regulatory agencies.

### **3.11. Well Head Completion**

- A. The conductor casing shall be cut flush with the existing ground surface.
- B. The well casing and accessory pipes shall be made and secured and watertight by welding a steel plate to the top of them.

### **3.12. Well Performance Requirements**

It is the general objective of these Technical Provisions to achieve a sand-free and efficient well ready for use by the well Owner at the target capacity of the well. The Contractor shall be required to meet the following standards for sand content efficiency, and construction. Failure to satisfy these requirements may result in rejection of the well or a reduced valuation as determined by the Engineer.

- A. Sand Content Requirement - Sand content shall average less than 5 parts per million (ppm) over any 5-minute period when measured during the first 30 minutes after commencement of pumping. This requirement shall be met at the design capacity of the well.
- B. Well Efficiency Requirement - From analysis of the measurements made during the pumping tests of the well, the Engineer will determine the 24-hour specific capacity of the well in gallons per minute per foot of drawdown. If the Engineer determines that the projected 24-hour specific capacity of the well at the design pumping rate continues to increase, the Contractor will be required to resume development operations at Contractor's own expense until the specific capacity no longer increases. The Engineer may also employ other methods, based on the science of well hydraulics, to assess the efficiency of the well and determine the need for additional well development. The acceptable well efficiency is 0.80, corresponding to the ratio of the actual drawdown to the theoretical drawdown at the design pumping rate.
- C. Alignment - The dummy must be able to traverse freely throughout the specified well interval.
- D. Plumbness - The maximum allowable horizontal deviation (drift) of the well from the vertical shall not exceed two thirds of the smallest inside diameter of that part of the well being tested per 100 feet of depth.
- E. Video Survey – Based on the video survey conducted after all other testing, there shall be no damage to the well structure.

### **3.13. Rejected Well**

#### **3.13.25. Non-Payment**

No payment will be made for any labor or materials involved in the construction of the well, when such a well fails to meet the specified depth and/or diameter for any preventable cause, or when such a well fails to meet these Technical Provisions. Such well will be rejected and shall be replaced as specified herein at no additional cost to the Owner. Preventable failures include any failure caused by faulty or inadequate drilling equipment, failure caused by negligence or improper drilling operations or techniques, failure caused by the installation of faulty or non-approved materials, or failure caused by improperly protecting drill holes and drilling work from the natural elements, including cave-ins resulting from existing soil conditions.

#### **3.13.26. Well Sealing**

Any rejected well or drill hole shall be sealed/abandoned at no additional cost to the Owner and



in accordance with the provisions of Section 3.14.2.

### **3.13.27. Construction of Replacement Well**

If the well fails to meet these Technical Provisions, a replacement well shall be constructed at an adjacent site designated by the Owner and in accordance with these Technical Provisions.

## **3.14. Destruction of Well**

### **3.14.28. General**

If any well fails to conform to these Technical Provisions and the Contractor is unable to correct the conditions at Contractor's own expense or is unable to negotiate a mutually acceptable cost reduction for specification deviations, the well shall be considered an abandoned well, and the Contractor shall immediately start a new well at a nearby location designated by the Owner. Any abandoned well shall be treated in accordance with State Water Well Standards, Bulletin 74-81/74-90 Supplement, and local ordinances of the well permitting agency.

### **3.14.29. Methods**

#### **A. Salvaged Materials**

1. The Contractor may salvage as much casing and screen from the rejected well as possible and may use it in the new well, subject to acceptance by the Engineer for its reuse. Cut casing sections will only be approved for reuse after the affected casing end(s) are refaced to assure proper alignment.
2. Salvaged material, if not used in another well, shall remain the property of the Contractor.

#### **B. Destruction**

1. The rejected well shall be filled with sand-cement grout as defined in State Water Well Standards, Bulletin 74-81/74-90 Supplement.
2. Any casing remaining in the hole shall be cut off at a depth of five feet and the upper portion thereof removed.
3. The well shall be filled with concrete to within 5 feet of the ground surface with the remaining 5 feet of the hole filled with native soil and compacted.

## **3.15. Standby Time**

During the progress of drilling operations, it may be necessary for the Engineer to perform work that will require the drilling workforce and equipment to stand idle. In such an event, the Engineer shall request the Contractor in writing to cease operations and shall state the anticipated extent or duration thereof. The Contractor shall promptly cease operations. If the Engineer requests cessation operations, an extension of time equal to the period of stoppage will be granted. The Contractor will be paid for standby time at the rate noted in the Bid Schedule.

## **3.16. Site Clean-up and Records**

### **3.16.30. Cleanup**

- A. The Contractor shall remove all waste materials, drill cuttings, drilling fluids, rubbish, and debris from and about the well site and all tools, construction equipment, fuel tanks, machinery, and surplus materials. The Contractor shall leave the site clean and ready for use by the Owner. The Contractor shall restore all temporary work areas to their original

condition.

B. Drill cuttings are to be properly and legally disposed of offsite by the Contractor.

### **3.16.31. Records**

#### **A. Well Completion Records**

Prior to final acceptance of the well, the Contractor shall deliver to the Engineer the following records:

1. California Well Completion Report – The Contractor will provide the Engineer with a draft Well Completion Report for review. After approval of the report by the Engineer the Contractor shall submit a final version to the California Department of Water Resources and the Engineer.
2. Two final prints of each of all logs, surveys, and forms: daily tour reports, driller's log, geophysical logs, caliper logs, well development and test data, spinner, and plumbness and alignment surveys.
3. A digital copy of the video survey and a written video survey summary.

## **4. MEASUREMENT AND PAYMENT**

### **4.1. Measurement and Payment**

Direct payment will be made only for the items listed in the bid proposal. Items of work not listed, but necessary to satisfactorily complete the work, will not be paid for separately, and all costs in connection therewith shall be considered included for payment with the listed items. The Owner, or Owner's agent, shall measure and determine all quantities subject to payment.

#### **4.1.1. Well Site Mobilization (Bid Item 1)**

Measurement: Mobilization/Demobilization of equipment, materials, and workmen to well site for well drilling and construction, satisfactorily completed.

Payment: Payment for Mobilization/Demobilization will be made in accordance with the applicable contract price.

#### **4.1.2. Sound Attenuation Walls (Bid Item 2)**

Measurement: Installation and removal of sound attenuation panels.

Payment: Payment for sound wall installation/removal will be made in accordance with the applicable contract unit price.

Unit of Measure: Linear Foot

#### **4.1.3. Conductor Casing (Bid Item 3)**

Measurement: Conductor casing will be measured in place to the nearest unit as the number of linear feet of conductor casing satisfactorily installed in each well.

Payment: Conductor casing installation, satisfactorily completed, will be paid for at the applicable contract unit price.

Unit of Measure: Linear Foot

**4.1.4. Production Borehole Drilling (Bid Item 4)**

Measurement: Drilling of production borehole will be measured to the nearest unit as the number of linear feet of production borehole, satisfactorily completed and accepted, below the bottom of the conductor casing.

Payment: Production borehole, satisfactorily completed, will be paid for at the applicable contract unit price.

Unit of Measure: Linear Foot

**4.1.5. Geophysical Logging (Bid Item 5)**

Measurement: Satisfactory completion of electric, caliper, and borehole deviation logs to total depth of borehole.

Payment: Electric log and caliper logs will be paid for at the applicable contract unit price.

Unit of Measure: Lump Sum

**4.1.6. Blank Well Casing (Bid Item 6)**

Measurement: Blank well casing will be measured in place to the nearest unit as the number of linear feet of each size and type satisfactorily installed. The casing may be measured before installation in the production borehole.

Payment: Blank well casing, satisfactorily installed and completed, will be paid for at the applicable contract unit price.

Unit of Measure: Linear Foot

**4.1.7. Blank Well Casing (Bid Item 7)**

Measurement: Blank well casing will be measured in place to the nearest unit as the number of linear feet of each size and type satisfactorily installed. The casing may be measured before installation in the production borehole.

Payment: Blank well casing, satisfactorily installed and completed, will be paid for at the applicable contract unit price.

Unit of Measure: Linear Foot

**4.1.8. Louvered Well Screen (Bid Item 8)**

Measurement: Louvered well screen will be measured in place to the nearest unit as the number of linear feet of each size and type satisfactorily installed. The screen may be measured before installation in the production borehole.

Payment: Louvered well screen, satisfactorily installed and completed, will be paid for at the applicable contract unit price.

Unit of Measure: Linear Foot

#### **4.1.9. Sounding Pipe (Bid Item 9)**

Measurement: Sounding pipes will be measured in place to the nearest unit as the number of linear feet satisfactorily installed. The sounding pipes may be measured before installation in the production borehole.

Payment: Sounding pipe, satisfactorily installed and completed, will be paid for at the applicable contract unit price.

Unit of Measure: Linear Foot

#### **4.1.10. Gravel Fill Pipe (Bid Item 10)**

Measurement: Gravel fill pipe will be measured in place to the nearest unit as the number of linear feet installed. The gravel fill pipe may be measured before installation in the production borehole

Payment: Gravel fill pipe, satisfactorily installed and completed, will be paid for at the applicable contract unit price.

Unit of Measure: Linear Foot

#### **4.1.11. Gravel Envelope (Bid Item 11)**

Measurement: Gravel envelope will be measured in place to the nearest unit as the number of linear feet of annular space satisfactorily filled.

Payment: Gravel envelope, satisfactorily installed, will be paid for at the applicable contract unit price.

Unit of Measure: Linear Foot

#### **4.1.12. Annular Seal (Bid Item 12)**

Measurement: Annular seal will be measured in place to the nearest unit as the number of linear feet of annular space satisfactorily filled.

Payment: Annular seal, satisfactorily installed, will be paid for at the applicable contract unit price.

Unit of Measure: Linear Foot

#### **4.1.13. Well Development (Bid Item 13)**

Measurement: Well Development satisfactorily completed.

Payment: The development of the well, satisfactorily completed, will be paid for at the applicable contract unit price.

Unit of Measure: Lump Sum

#### **4.1.14. Treatment and Disposal of Drill and Initial Development Fluids (Bid Item 14)**

Measurement: Treatment and disposal of drill and initial development fluids satisfactorily completed.

Payment: Treatment and disposal of drill and initial development fluids, satisfactorily performed, will be paid for at the applicable contract unit price.

Unit of Measure: Lump Sum

**4.1.15. Install and Remove Test Pump (Bid Item 15)**

Measurement: Installation and Removal of the test pump.

Payment: Installation and Removal of the test pump, satisfactorily completed, will be paid for at the applicable contract price.

Unit of Measure: Lump Sum

**4.1.16. Well and Aquifer Testing (Bid Item 16)**

Measurement: Well and aquifer testing will be measured to the nearest one-quarter unit as the number of hours well and aquifer testing satisfactorily performed.

Payment: Well and aquifer testing, satisfactorily performed, will be paid for at the applicable contract unit price.

Unit of Measure: Hour

**4.1.17. Plumbness and Alignment Testing and Video Survey (Bid Item 17)**

Measurement: Plumbness and alignment testing and video surveys satisfactorily completed in the well.

Payment: Plumbness and alignment testing and video surveys of the well, satisfactorily completed, will be paid for at the price stated in the proposal.

Unit of Measure: Lump Sum

**4.1.18. Disinfection of Well (Bid Item 18)**

Measurement: Satisfactorily completed disinfection of the well.

Payment: Disinfection of the well, satisfactorily completed, will be paid for at price stated in the proposal.

Unit of Measure: Lump Sum

**4.1.19. Disposal of Drill Cuttings (Bid Item 19)**

Measurement: Disposal of drill cuttings satisfactorily completed site cleanup and submission of required project records.

Payment: Disposal of drill cuttings, satisfactorily completed, will be paid for at the lump sum price stated in the proposal.

Unit of Measure: Lump Sum

**4.1.20. Well Site Clean-up and Records (Bid Item 20)**

Measurement: Satisfactorily completed site cleanup and submission of required project records.

Payment: Site clean-up and preparation and delivery of the specified records of the well, satisfactorily completed, will be paid for at the lump sum price stated in the proposal.

Unit of Measure: Lump Sum

**4.1.21. Well Standby Time (Bid Item 21)**

Measurement: Standby time, ordered in writing, will be measured to the nearest one-quarter unit as the number of hours of idle time of drilling equipment and workforce ordered and approved by the Owner.

Payment: Standby time ordered and approved by the Owner, will be paid for at the unit price specified in the proposal.

Unit of Measure: Hour

# TOWN OF DISCOVERY BAY

## PLANS FOR CONSTRUCTION OF WELL NO. 8

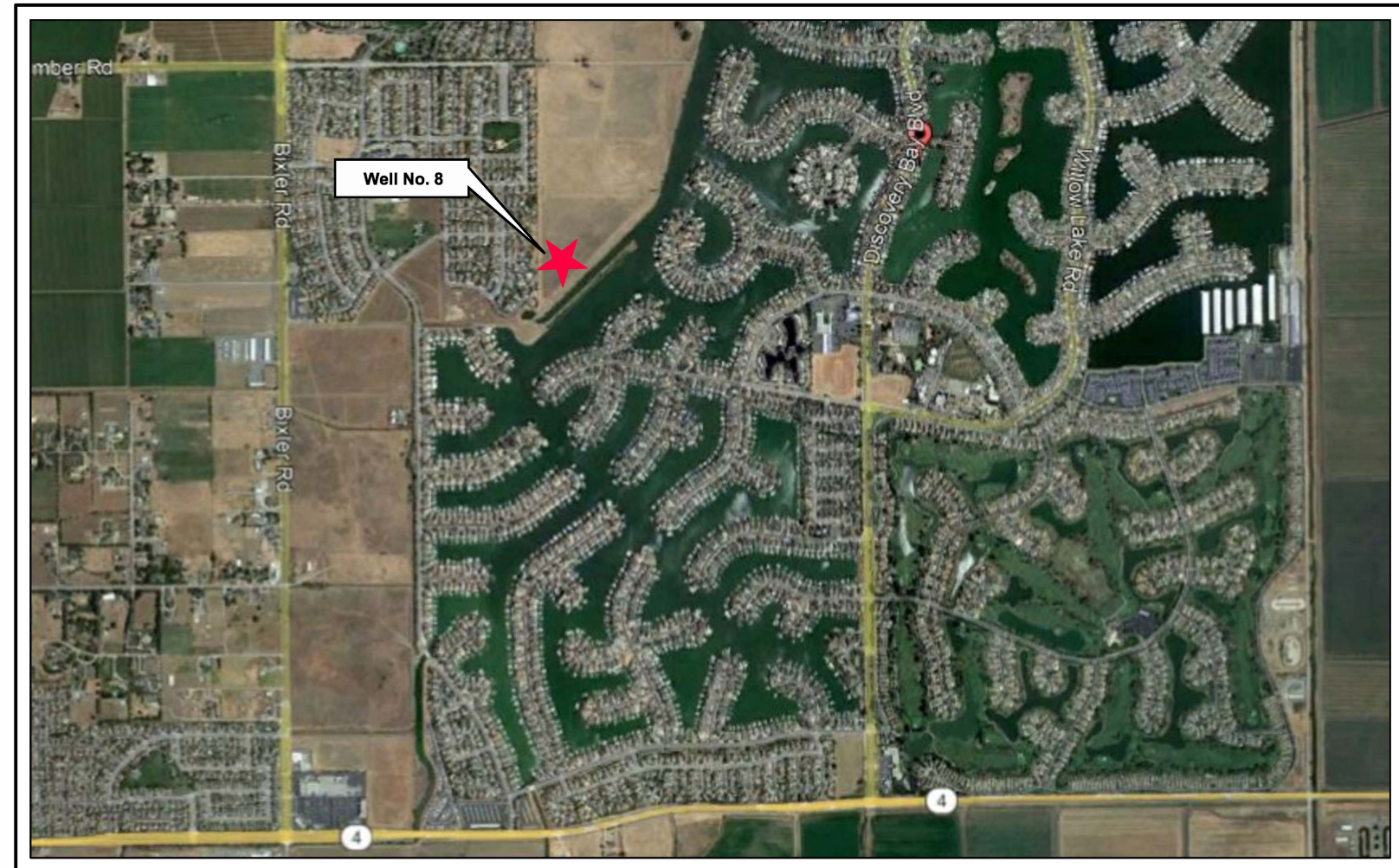
Discovery Bay, California

February 2023

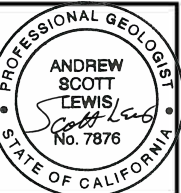
INDEX OF SHEETS	
Sheet #	Title
1	TITLE SHEET
2	WELL NO. 8 SITE MAP
3	WELL NO. 8 PROFILE
4	STANDARD CONSTRUCTION DETAILS I
5	STANDARD CONSTRUCTION DETAILS II



VICINITY MAP  
NOT TO SCALE



LOCATION MAP  
NOT TO SCALE



TITLE SHEET  
Town of Discovery Bay  
Well No. 8  
Discovery Bay, California

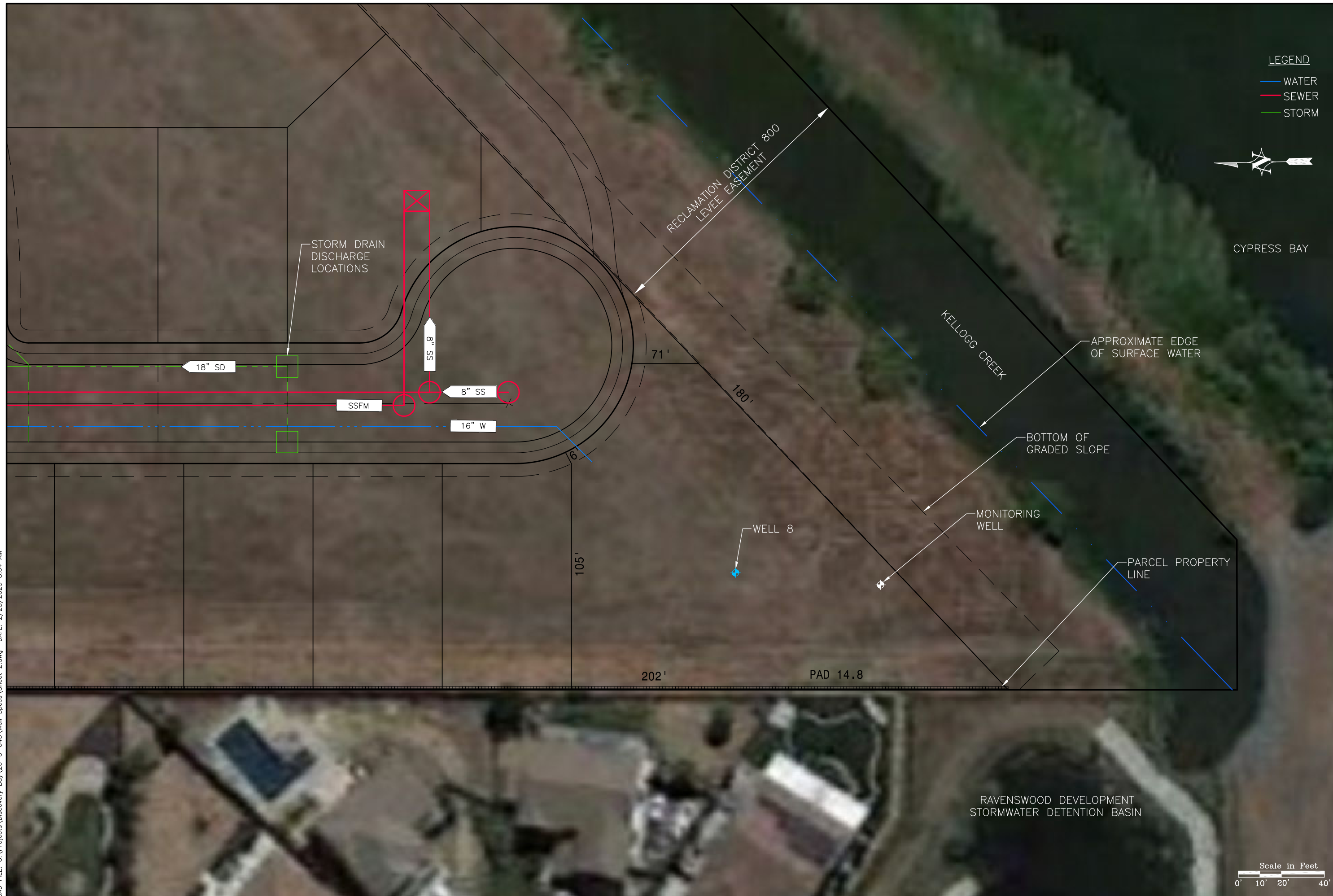


REVISIONS	
NO.	DATE

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JOB NO.: 20-043
DESIGN BY: ASL
DRAWN BY: AC
CHECKED BY: BK
FILE: Sheet 1.DWG

SHEET:  
1

CAD FILE: G:\Projects\Discovery Bay\20-5-043\Well Specs\Sheet 2.dwg DATE: 2/28/2023 8:04 AM



LEGEND  
 — WATER  
 — SEWER  
 — STORM



CYPRESS BAY

WELL NO. 8 SITE MAP  
 Town of Discovery Bay  
 Well No. 8  
 Discovery Bay, California



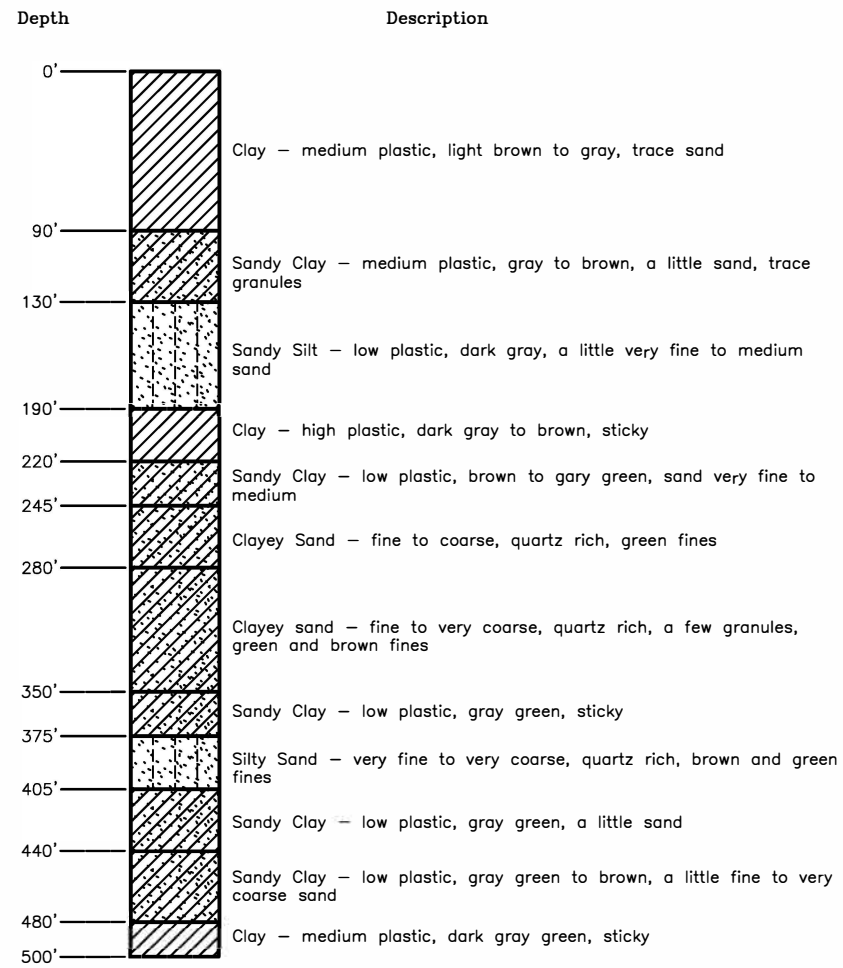
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NO.	DATE

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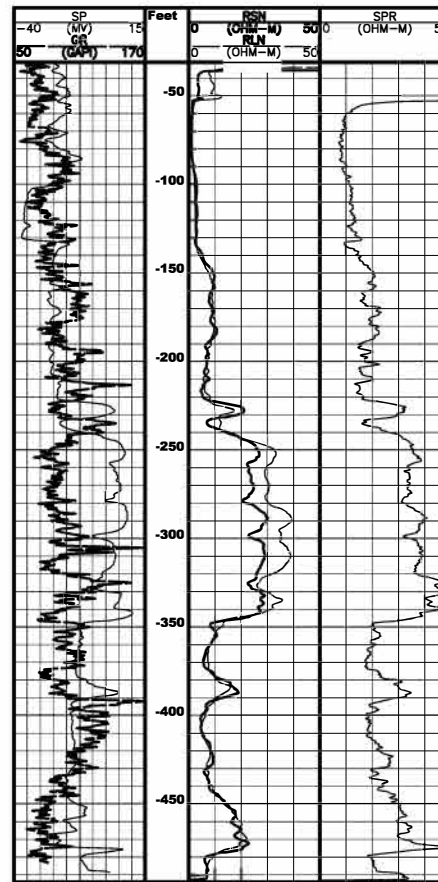
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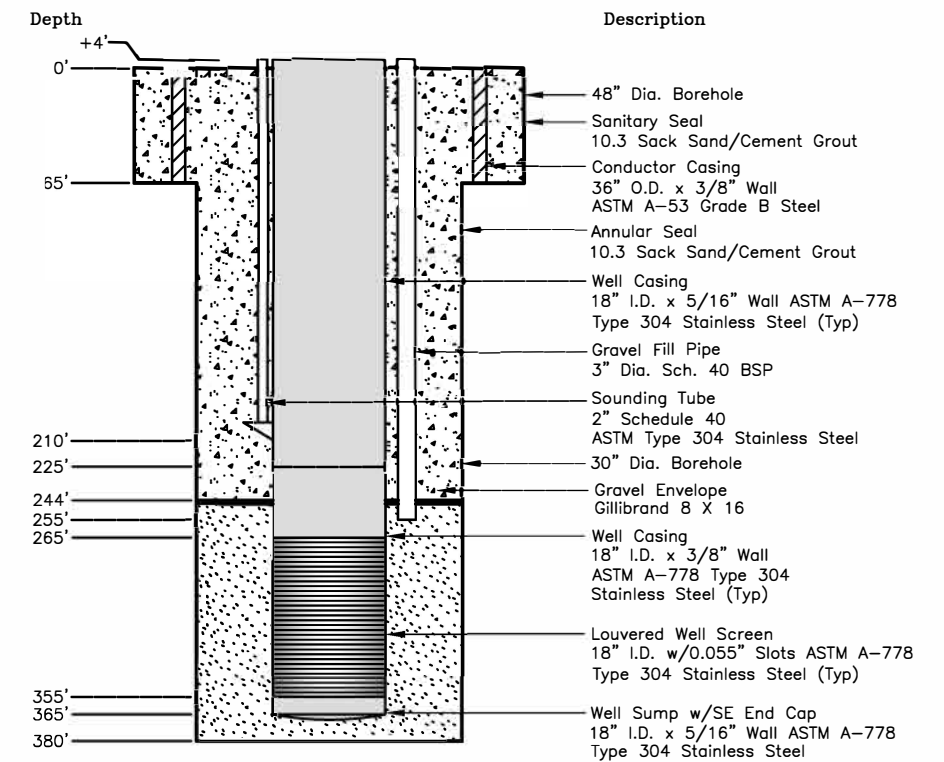
**TOWN OF DISCOVERY BAY  
WELL NO. 8  
TEST HOLE LITHOLOGY**



**TOWN OF DISCOVERY BAY  
WELL NO. 8  
TEST HOLE ELECTRICAL LOG**



**TOWN OF DISCOVERY BAY  
WELL NO. 8  
WELL PROFILE**



WELL NO. 8 PROFILE  
Town of Discovery Bay  
Well No. 8  
Discovery Bay, California

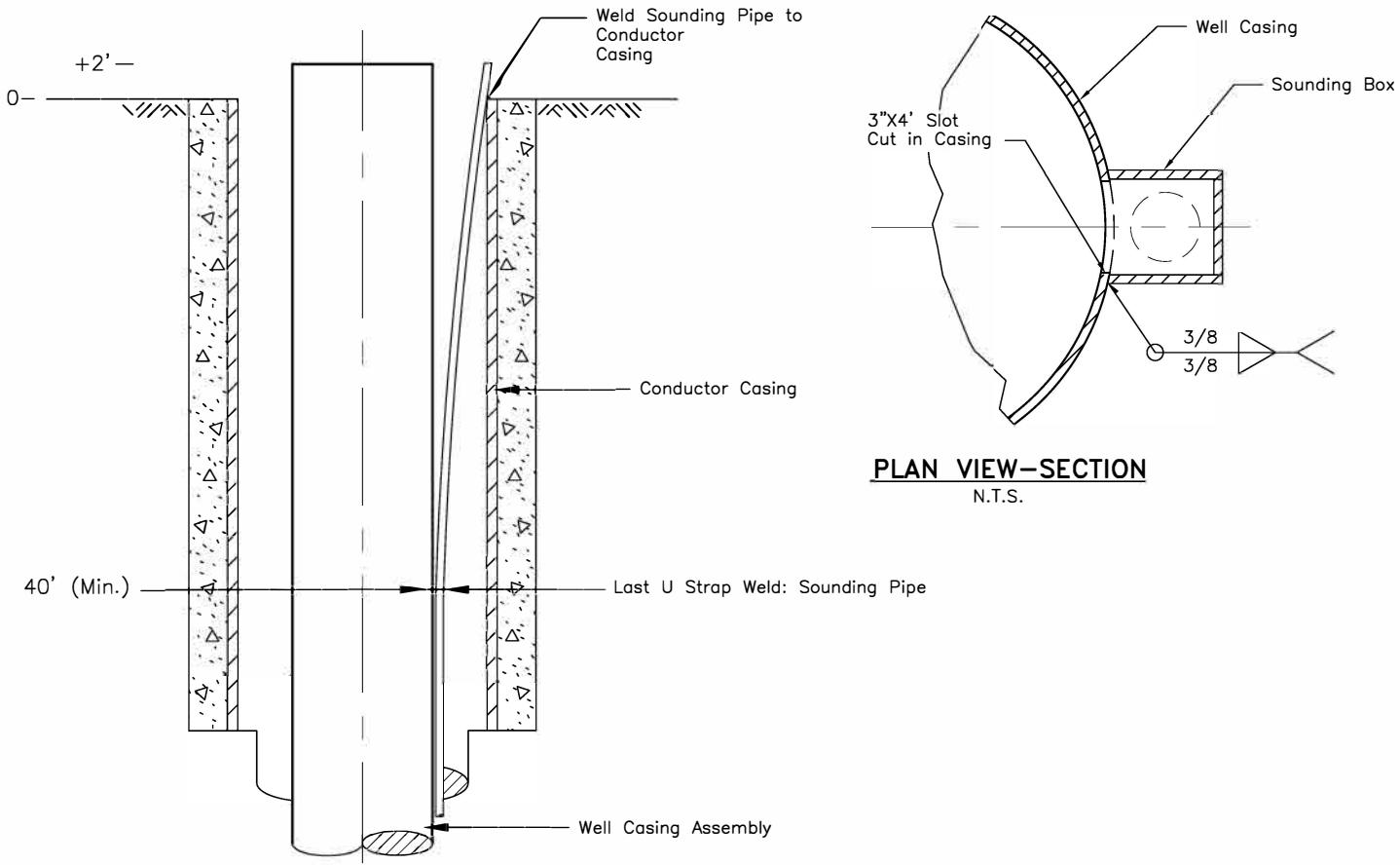


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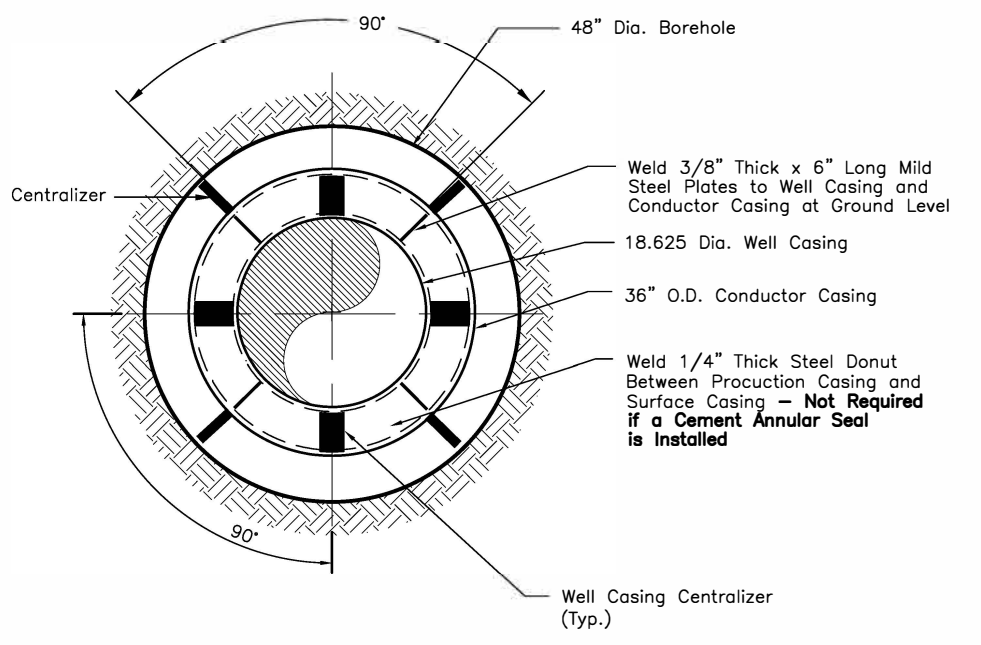
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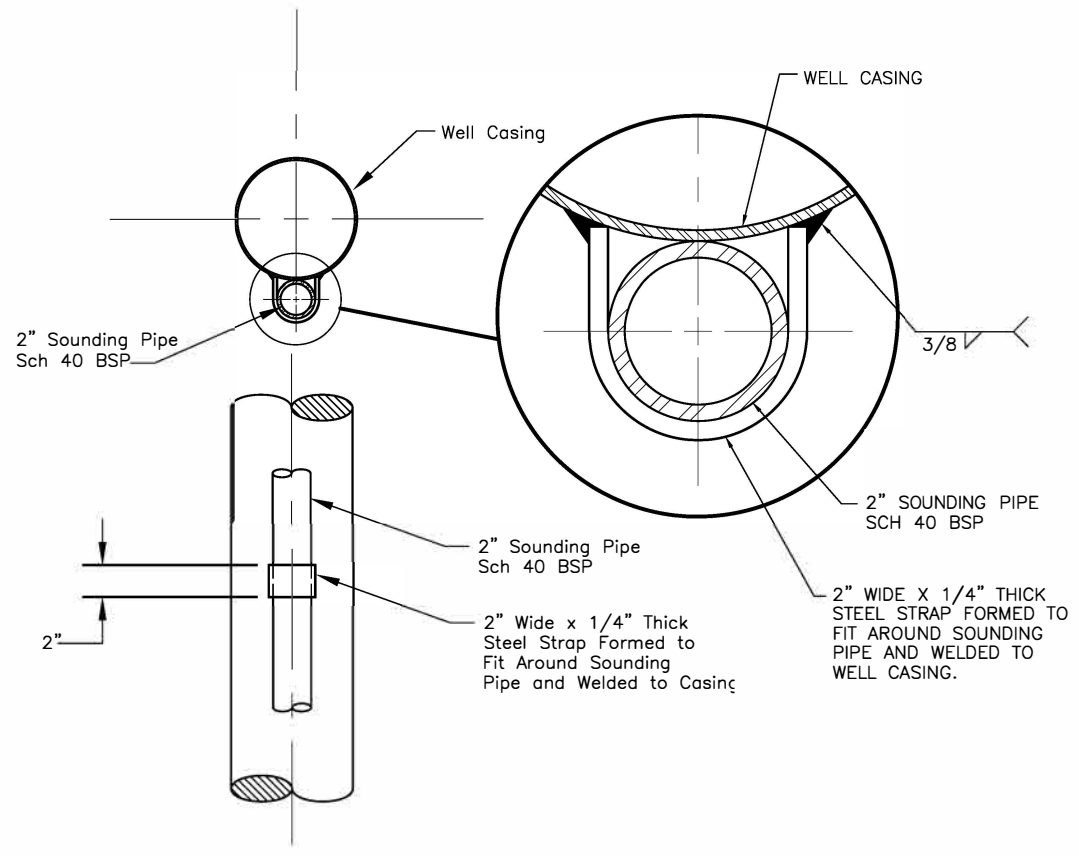
**PLAN VIEW-SECTION**  
N.T.S.

**CASING STICK-UP & ACCESSORY PIPE INSTALLATION**  
N.T.S.

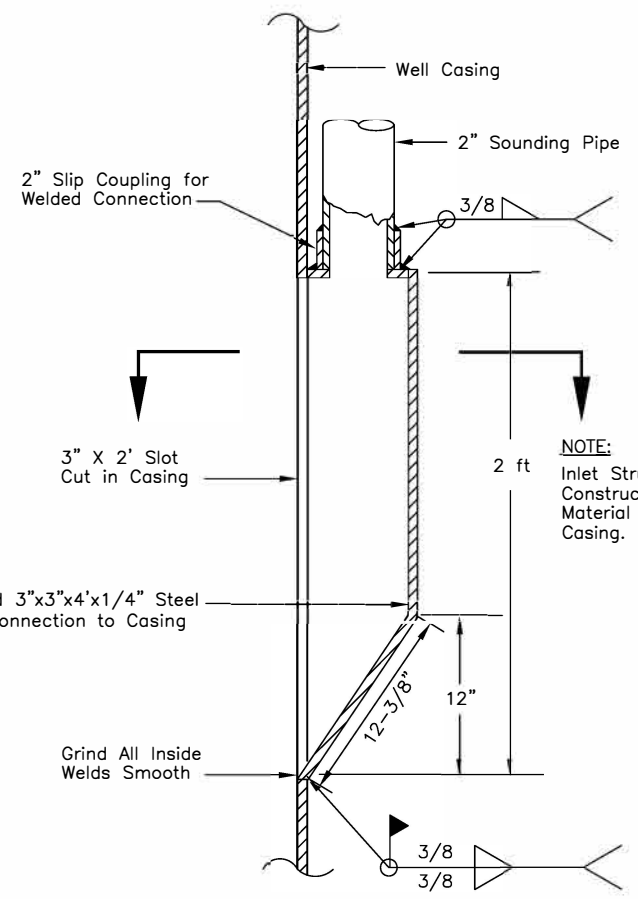


Weld 3/8" Thick x 6" Long Mild Steel Plates to Well Casing and Conductor Casing at Ground Level  
18.625 Dia. Well Casing  
36" O.D. Conductor Casing  
Weld 1/4" Thick Steel Donut Between Production Casing and Surface Casing - **Not Required if a Cement Annular Seal is Installed**

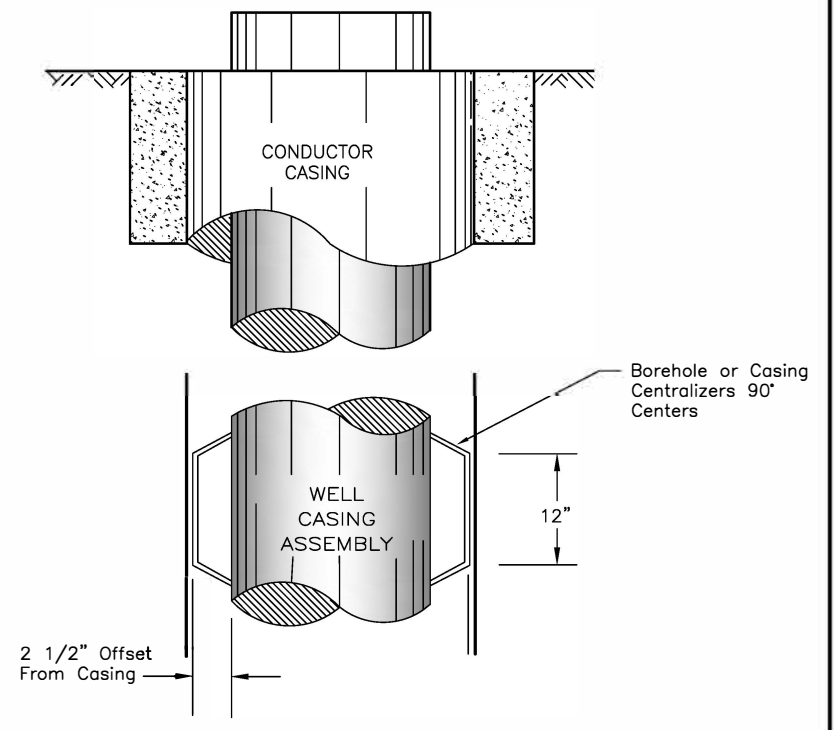
Well Casing Centralizer (Typ.)



**"U" STRAP DETAIL**  
N.T.S.



**2" SOUNDING PIPE INLET STRUCTURE**  
N.T.S.



**CENTRALIZER INSTALLATION**  
N.T.S.

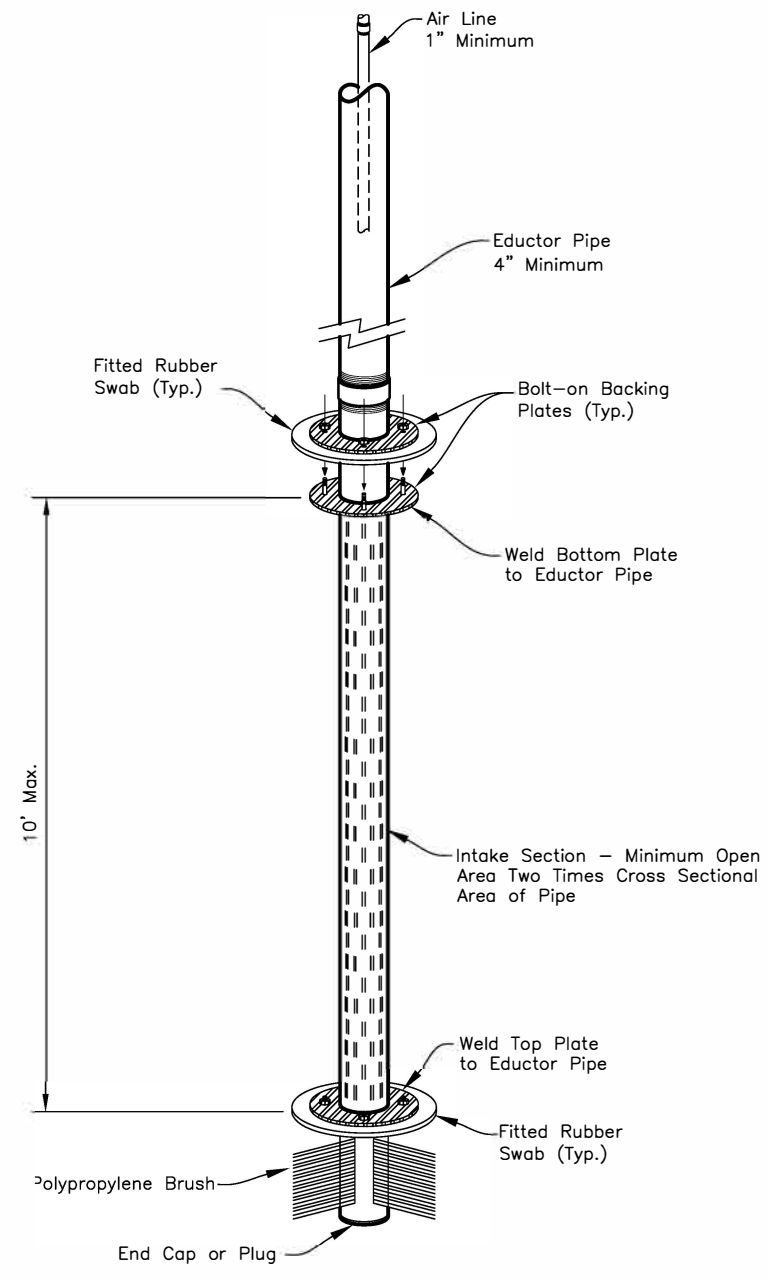
STANDARD CONSTRUCTION DETAILS I  
Town of Discovery Bay  
Well No. 8  
Discovery Bay, California



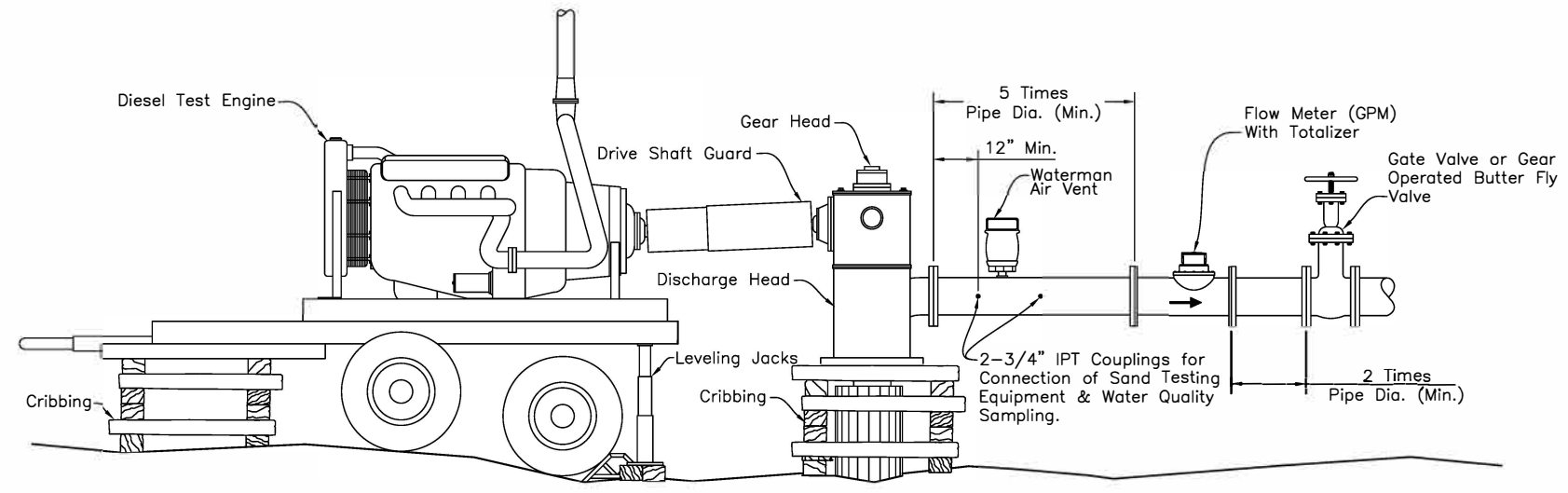
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DATE: FEBRUARY 2023  
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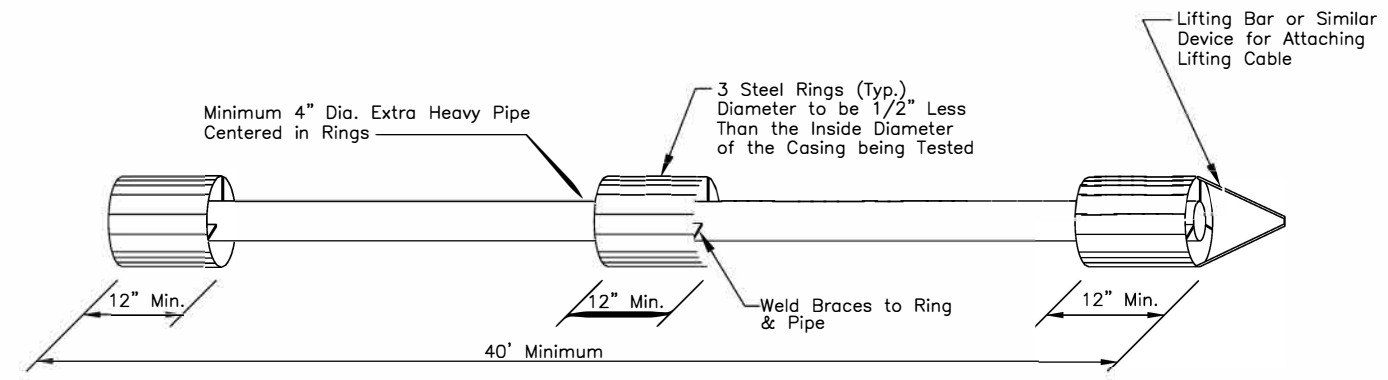
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**WELL DEVELOPMENT TOOL**  
N.T.S.



**WELL TEST PUMP AND DISCHARGE ASSEMBLY**  
N.T.S.



**ALIGNMENT TESTING TOOL**  
N.T.S.

STANDARD CONSTRUCTION DETAILS II  
Town of Discovery Bay  
Well No. 8  
Discovery Bay, California



REVISIONS	
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5