

**ZONE 7 WATER AGENCY
 REGIONAL GROUNDWATER FACILITIES IMPROVEMENT PROJECT –
 PHASE I: TEST WELL CONSTRUCTION
 Project 308-24
 ADDENDUM NO. 1
 August 19, 2024**

This Addendum No. 1 (“Addendum”) is dated August 19, 2024 and modifies certain Bidding Documents issued by the Alameda County Flood Control and Water Conservation District, acting by and through its Zone 7 Water Agency (“District”) in connection with the District’s project: *Regional Groundwater Facilities Improvement Project – Phase I: Test Well Construction*. All capitalized terms not otherwise defined herein shall have the meanings provided in the Bidding Documents. There are no other amendments to the Bidding Documents other than expressly contained in this Addendum No. 1.

The following clarifications and/or modifications shall be incorporated into plans and specifications for the above-referenced project and shall become part of the Contract Documents. All other provisions and requirements shall remain unchanged.

CONTRACT DOCUMENTS AND SPECIFICATIONS

Addendum Item	Document/ Section	Location and Description of Change
1	General	<p>Clarification Of Drilling Methods</p> <p>The Contractor will be required to use the direct circulation mud rotary drilling method for drilling of the 8” pilot hole and 14” reaming of the hole, unless otherwise approved by the Engineer.</p>
2	Document 00010	<p>Replace Document 00010-Table of Contents with Attachment Document 00010A- Table of Contents.</p> <p>Additionally, all references in the Contract to “Section 00010” shall refer to “Section 00010A</p>
3	Document 01100	<p>Replace Document 01100-Summary of Work with Attachment Document 01100A- Summary of Work.</p> <p>Additionally, all references in the Contract to “Section 01100” shall refer to “Section 01100A</p>

**ZONE 7 WATER AGENCY
REGIONAL GROUNDWATER FACILITIES IMPROVEMENT PROJECT –
PHASE I: TEST WELL CONSTRUCTION
Project 308-24
ADDENDUM NO. 1
August 19, 2024**

Please be reminded that all bidders shall acknowledge receipt of this Addendum No. 1 in Document 00400 (Bid Form) and failure to acknowledge addendum in the Bid Form shall render the bid non-responsive and may be cause for its rejection.

Acknowledgement of receipt of Addendum No. 1 for the Dougherty Reservoir Recoating and Rehabilitation Project, California, Project No. 308-24.

Please also sign and email a copy of this page to Jacob Danielsen, Zone 7 Water Agency, at jdanielsen@zone7water.com to acknowledge receipt of Addendum No. 1 for this project.

Signature and Print Name

Date

Company

DOCUMENT 00010A

TABLE OF CONTENTSPages**DIVISION 0****INTRODUCTORY INFORMATION**

Document	Title		
00001	Title Page	00001-1	- 00001-2
00010A	Table of Contents	00010-1A	- 00010-4A

BIDDING REQUIREMENTS

Document	Title		
00100	Advertisement for Bids.....	00100-1	- 00100-4
00200	Instructions to Bidders.....	00200-1	- 00200-2
00210	Indemnity and Release Agreement	00210-1	- 00210-2
00320	Geotechnical Data and Existing Conditions	00320-1	- 00320-2
00335	Hazardous Materials Documentation	00335-1	- 00335-2
00400	Bid Form.....	00400-1	- 00400-9
00411	Bond Accompanying Bid.....	00411-1	- 00411-2
00420	Bidder Registration Form	00420-1	- 00420-2
00430	Subcontractors List.....	00430-1	- 00430-2
00450	Statement of Qualifications for Construction Work....	00450-1	- 00450-14
00460	Schedule of Major Equipment and Materials Suppliers	00460-1	- 00460-2
00481	Non-Collusion Affidavit.....	00481-1	- 00481-2
00482	Bidder Certifications.....	00482-1	- 00482-2

CONTRACTING REQUIREMENTS

Document	Title		
00510	Notice of Award	00510-1	- 00510-2
00520	Agreement.....	00520-1	- 00520-6
00550	Notice to Proceed	00550-1	- 00550-2
00610	Construction Performance Bond	00610-1	- 00610-2
00620	Construction Labor and Material Payment Bond.....	00620-1	- 00620-4
00630	Guaranty	00630-1	- 00630-2
00650	Agreement and Release of Any and All Claims.....	00650-1	- 00650-4
00660	Substitution Request Form	00660-1	- 00660-2
00680	Escrow Agreement for Security Deposits in Lieu of Retention.....	00680-1	- 00680-4

CONDITIONS OF THE CONTRACT

Document	Title		
00700	General Conditions	00700-1	- 00700-44
00800	Supplementary Conditions - Division 0	00800-1	- 00800-7
00821	Insurance	00821-1	- 00821-6
00822	Apprenticeship Program.....	00822-1	- 00822-2
00910	Addenda	00910-1	- 00910-2

SPECIFICATIONS

DIVISION 1 - GENERAL REQUIREMENTS

Section	Title		
01100A	Summary of Work	01100-1A	- 01100-24A
01200	Measurement and Payment.....	01200-1	- 01200-6
01250	Modification Procedures.....	01250-1	- 01250-8
01315	Project Meetings.....	01315-1	- 01315-4
01320	Progress Schedules and Reports.....	01320-1	- 01320-6
01330	Submittal Procedures.....	01330-1	- 01330-12
01330A	Appendix 1 Instructions	01330A-1	- 01330A-10
01350	Special Procedures	01350-1	- 01350-2
01410	Regulatory Requirements.....	01410-1	- 01410-4
01420	References and Definitions.....	01420-1	- 01420-10
01455	Testing and Inspection	01455-1	- 01455-4
01500	Temporary Facilities and Controls	01500-1	- 01500-4
01510	Traffic Control	01510-1	- 01510-4
01540	Site Security and Safety.....	01540-1	- 01540-4
01540	Appendix 1 - Site Specific Safety Measures.....	01540-5	- 01540-2
01570	Stormwater Management & Erosion Control	01570-1	- 01570-4
01600	Product Requirements	01600-1	- 01600-4
01640	Startup and Testing.....	01640-1	- 01640-4
01660	Training Requirements.....	01660-1	- 01660-2
01715	Protection of Existing Facilities and Properties	01715-1	- 01715-8
01740	Cleaning	01740-1	- 01740-2
01770	Contract Closeout.....	01770-1	- 01770-4
01780	Project Record Documents.....	01780-1	- 01780-6
01800	Supplementary Conditions – Division 1	01800-1	- 01800-2

ATTACHMENTS

Attachment 1: Project Drawings

Attachment 2: Project Tables

END OF DOCUMENT

THIS PAGE LEFT BLANK INTENTIONALLY

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01100A

SUMMARY OF WORK

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes summary of Work including:
 - 1. Summary of Work
 - 2. Work Covered by Contract Documents
 - 3. Bid Items and Allowances
 - 4. Mobilization, Demobilization, and Cleanup
 - 5. Exploratory Boreholes
 - 6. Test Well Materials
 - 7. Test Well Construction
 - 8. Test Well Development
 - 9. Test Well Sampling and Testing
 - 10. Specialists and Subcontractors
 - 11. Workdays and Hours
 - 12. Noise
 - 13. Standby Time and Downtime
 - 14. Lost Holes
 - 15. Depth of Well
 - 16. Cooperation of Contractor and Coordination with Other Work
 - 17. Maintenance, Product Handling, and Protection
 - 18. Contractor Use of Premises
 - 19. Protection of Existing Structures and Utilities
 - 20. Damage to Existing Property
 - 21. Dust Control
 - 22. Parking
 - 23. Laydown/Staging Area
 - 24. Standards, Specifications and Codes
 - 25. Permits
 - 26. Actual Damages for Violations
 - 27. Unfavorable Construction Conditions
 - 28. Protection of Water Quality
 - 29. Construction Site Access
 - 30. Site Maintenance
 - 31. Final Clean Up
 - 32. Daily Job Report
 - 33. Site Administration

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work comprises drilling, constructing, developing and test pumping up to three (3) 8.625-inch outside diameter test wells of various depths at up to three (3) different locations (Sites; Attachment 1, Project Drawing 1) on property owned by the City of Pleasanton (City) allowed under an existing agreement. The Sites are located at Pleasanton Tennis Community Park (Site A, TW-01) Del Prado Park (Site B, TW-02), and Hansen Park (Site C, TW-03). Site locations are presented in Attachment 2, Table 1 and approximate well locations shown in Attachment 1, Project Drawings 2 through 4. The District and City will provide written authorization to Contractor prior to mobilizing to each site. The District and City may elect to not drill
- B. The contractor shall have a current and valid California C-57 Well Drilling Contractor license and shall furnish all labor, materials, equipment, services, permits, temporary controls and construction facilities, and all general conditions, seismic requirements, general requirements, and incidentals required to complete the Work in its entirety as described in the Contract Documents. The Work includes, but is not limited to the following:
1. Up to three (3) test well constructions, including, but not limited to:
 - a. Drilling 8-inch minimum diameter pilot borehole to a depth of approximately 800 feet. The depths specified in Document 00400 (Bid Form) and shown in Attachment 2, Table 2 are to be used for bid purposes only.
 - b. Conditioning the borehole for downhole geophysical survey.
 - c. Reaming out to 14-inch minimum diameter the borehole described above to the depths shown on the work orders provided by the Engineer. The depths specified in Document 00400 (Bid Form) presented in Attachment 2, Table 2 and shown in Attachment 1, Project Drawing 5, are to be used for bid purposes only.
 - d. Collecting cuttings representative of strata encountered during drilling at each location at least every five (5) feet and at major lithology changes or as directed by the Engineer or the District's representative.
 - e. Restoring the borehole back to the well setting depth by plugging it with cement grout.
 - f. Providing and installing minimum 8.625-inch outside diameter mild steel shutter (louvered) screen and riser casing with minimum wall thickness of one quarter inch (0.250") to depths shown on work orders provided by the Engineer at each location.
 - g. Providing and installing all appropriate fill materials specified in Document 00400 (Bid Form), presented in Attachment 2, Table 2, and shown in Attachment 1, Project Drawing 5. The fill materials presented in Document 00400 (Bid Form), Attachment 2, Table 2, and shown in Attachment 1, Project Drawing 5 are for bid purposes only.
 - h. Keeping a daily record of work progress, crew present, and equipment and materials used.
 - i. Installing a locking well cap and a traffic-rated, flush-mounted well box that will provide access to the well.

- j. Developing the completed well screens by mechanical surging with a surge block, while simultaneously air lifting water and/or bailing and/or pumping suspended sediment from the well.
 - k. Providing and operating equipment for well testing and discrete water sampling, such as packers, or similar equipment, to isolate intervals specified by the Engineer or District's representative.
 - l. Separating drill cuttings, development sediments, and other solids from associated liquids, and properly disposing of them in bins provided by the Contractor. Providing for the containment, transport, and off-site disposal of development water and pumping test water.
 - m. Maintaining a secure work site at each location. This shall include, but not be limited to, providing and installing temporary fencing.
 - n. Implementing noise attenuation around each work site throughout the remainder of project.
 - o. Restoring the well site to its original condition.
 - p. Furnishing daily records to the Engineer.
2. The Contractor is required to contain project solid waste material(s) within watertight roll-off bins. The contractor is required to contain all project waste water within temporary liquid storage tanks. The roll-off bins and temporary liquid storage tanks shall be provided by contractor as specified in Document 00400 (Bid Form).
 3. The Contractor should provide an adequate means of separating gravel, sand, and silt from the discharge water stream. The Contractor may employ any means to achieve this, such as the use of settlement or temporary filtration for enhancing settlement of suspended sediment from the discharge stream.
- C. The Work of this Contract includes work covered by unit prices.
 - D. The Work of this Contract comprises performance of all the Work specified by the Engineer and City representatives, as described in the Specifications, or otherwise required by the Contract Documents. The Work performed by Contractor under this contract may not include all work described in the Specifications.
 - E. Unless provided otherwise in the Contract Documents, all risk of loss to Work covered by Contract Documents shall rest with Contractor until Final Acceptance of the Work.
 - F. Contractor's use of the premises for Work and storage is limited to the area indicated.
 - G. Contractor shall be solely responsible for providing any and all utilities (including without limitation electricity, water, gas, etc.) needed to complete the Work at the Site.

1.3 BID ITEMS AND ALLOWANCES

- A. Quantities contained in the Bid Form (Document 00400) are estimated quantities and based on the construction of one test well at up to three sites (up to three test wells total), unless otherwise noted in the Bid Form. Any Bid Item may be deleted from the Work and Contract Sum, in total or in part, prior to or after award of Contract without compensation in any form or adjustment of other Bid Items or prices, therefore.
- B. Payment of all items is subject to provisions of Contract Documents, including without limitation Section 01200 (Measurement and Payment).

- C. For all Bid Items, furnish and install all work indicated and described in Specifications and all other Contract Documents, including connections to existing systems. Work and requirements applicable to each individual Bid Item, or unit of Work, shall be deemed incorporated into the description of each Bid Item (whether Lump Sum, or Unit Price).
- D. Descriptions of Bid Items (listed by Bid Item Numbers). Bid items are not intended to be exclusive descriptions of work categories and Bidder shall determine and include in its pricing all materials, labor, and equipment necessary to complete each Bid Item as shown and specified:
- Item 1. Bonds and Insurance. The lump sum price paid under this item shall be full payment for the cost to secure bonds and insurance for the project required by Document 00700 (General Conditions).
- Item 2. Mobilization/Demobilization of Mud Rotary Drilling Equipment, Development, and Testing Equipment. The bid price is for mobilization to each Site and includes equipment setup and tear down equipment, fencing, noise attenuation, plastic sheeting, mud mats, and any and all equipment for well development and aquifer with discrete zone testing such as packers or similar equipment and PFAS-free equipment for water sample collection, all necessary permitting, provision of sanitary facility, arrangements for purchasing water from the City Utility for construction water, all schedules and reports, cleanup, and demobilization upon completion of each site.
- Item 3. Drill Nominal 8-inch Diameter Pilot Borehole. The bid price for this item shall include all labor, materials and equipment required to drill the nominal 8-inch diameter pilot borehole **using direct mud rotary drilling method**. This contract item shall include any incidentals required to provide complete holes as specified herein, including onsite dispersal of drill cuttings.
- Item 4. Ream Pilot Hole to 14-inch Diameter. The bid price for this item shall include all labor, materials and equipment required to ream the pilot borehole to a nominal 14-inch diameter, plumb boreholes using **direct mud rotary-reverse circulation-drill** method for each well. This contract item shall include any incidentals required to provide complete holes as specified herein, including onsite dispersal of drill cuttings.
- Item 5. Well Construction Materials and Labor. The bid prices for these items shall include all labor, materials, and equipment required to construct the well as specified in paragraphs 1.6 and 1.7 of this section 01100 and as determined by District on the basis of information obtained from the pilot holes and E-Logs at each site.
- A. Well Materials Using 8.625-inch O.D. x 0.250-inch Wall Thickness Mild Steel. The bid price for these items shall include all labor, materials, and equipment required to furnish and install the 8.625-inch outside diameter 0.275-inch wall thickness blank mild steel well casing, louvered (shutter) screen, casing guides (centralizers), bottom well cap, as determined by District on the basis of information obtained from the pilot holes and E-Logs at each site, and incidentals as required to provide complete items as specified in paragraphs 1.6 and 1.7 of this section 01100.

- B. Annular Fills. The bid price for these items shall include all labor, materials, and equipment furnish and install a 10.3-sack sand cement annular seal(s), bentonite pellets or chips, and filter pack material in the annular space as determined by District on the basis of information obtained from the pilot holes and E-Logs at each site, This contract item shall include the cement-sand grout, tremie pipe, pump, and incidentals as required to provide complete annular seals as specified in paragraphs 1.6 and 1.7 in this section 01100.
- C. Surface Completion. The bid price for this item shall include all labor, materials, and equipment required to complete the well and install a flush-mounted traffic-rated round well box with locking cap for each site.
- D. Bottom Plug of 8-inch Pilot Hole. The bid price for this item shall include all labor, materials, standby time, equipment and incidentals as required to plug the bottom of the pilot holes with 10.3-sack sand-cement, as determined by District on the basis of information obtained from the pilot holes.
- Item 6. Well Development. The bid price for this item shall be payment for all equipment and labor required to develop the well by surge and air-lift pumping the well and bailing sediment from the well at each site, as specified in paragraph 1.8 of this section 01100 and return each site to their original condition.
- Item 7. Perform Well Testing. This bid price under this item shall be payment for labor materials and equipment to conduct well testing and sampling for each well as outlined in paragraph 1.9 of this section 01100.
- Item 8. Waste Containment and Disposal. The bid price for this item shall be payment for all labor materials and equipment, including roll-off bins and watertight liquid storage tanks, required to contain and remove all generated waste, including waste water, drilling mud, and drilling spoils, from each site. This bid item shall include all bins, dewatering, transportation, testing, disposal fees, equipment cleaning and documentation as required to dispose of drilling spoils, drilling fluids (drilling mud), and waste water, including development and well testing water, in accordance with the Specifications (paragraph 1.4 of this section 01100) and according to applicable laws and regulations.
- Item 9. Borehole Geophysical Logs. The bid price for this item shall include all labor, materials, standby time, equipment and incidentals as required to subcontract and provide a complete geophysical survey of each the well bore at each site as specified in section 1.5 subsection D-2 of this section 01100.
- Item 10. Sound Walls for Noise Attenuation. The bid price for this item shall be payment for all labor, materials, and equipment required to furnish and install sound walls or other noise attenuation along each site perimeter to control noise levels in compliance with local noise ordinances as described in paragraph 1.12 of this section.
- Item 11. Standby Time. The bid price for this item shall be full price for standby of equipment and personnel when standby is requested by the Engineer. See Paragraph 1.13 (Standby Time and Downtime) of this section 01100.

Item 12. All Work of Contract Documents for Unspecified Work: The bid price for this item shall include any additional items or work not specifically covered under the contract documents and Bid Form (Document 00400) necessary to complete the work for each site as described in this section 01100.

Item 13. Contingency Reserve Allowance. This item allows for incidental out-of-scope work that may arise during the project. Allowance for out-of-scope work shall be authorized as Change Orders and as specified in Section 01250 (Modification Procedures). See Section 01200 (Measurement and Payment).

1.4 MOBILIZATION, DEMOBILIZATION, AND CLEANUP

The project, as described, consists of up to three sites.

- A. This section covers the Work necessary to move in and move out personnel and equipment. Each mobilization and demobilization includes, but is not limited to, setting up and removing drill rigs, well development and well testing equipment, temporary facilities and utilities, preparing each site for construction, development, and aquifer testing of the wells, and cleaning up each site upon completion.
- B. Contractor shall receive authorization to mobilize by the District in writing prior to any mobilization activities to any site, including from one site to another after completion of one site. The locational sequence of each Site shall be solely determined by the District and City and may be modified by the District at any time. During the contract.
- C. Contractor shall mobilize to a site within 3 business days of written authorization to mobilize. This does not apply to the mobilization to the first site at the start of the project. The location to mobilize will be announced in the written authorization.
- D. Contractor should expect a delay of up to two weeks after well testing activities (see paragraph 1.9 in this section 01100) before authorization to mobilize to new sites while District and City await groundwater quality and aquifer testing results. Standby time shall not be billed during this delay.
- E. Contractor shall provide all temporary and permanent materials and equipment required to accomplish the Work as specified.
- F. Contractor shall the California Air Resources Board (CARB) and approved amendments to the In-Use Off-Road Diesel-Fueled fleet regulations. Contractor is required to submit certificates of reported compliance (CRC) at time of Bid Submission. Certificates must also be submitted for all subcontractors. All submitted CRCs must have a fleet identification number.
- G. Construction Layout, Staging, and Workmanship:
 1. Contractor shall adhere to construction site access requirements as specified in paragraph 1.29.
 2. Contractor shall set up all equipment and keep all construction activities within the areas shown in Attachment 1, Project Drawings 2 through 4 or as otherwise approved by the Engineer or City representatives.
 3. The location of the test wells shall be determined by the Engineer but generally as shown in Attachment 1, Project Drawings 2 through 4.
 4. Contractor shall set up construction facilities in a neat and orderly manner within designated areas as outlined in paragraph 1.23 (laydown/staging area). Contractor shall accomplish all required Work in accordance with applicable portions of these

- Specifications. Contractor shall submit a drawing of the proposed site construction layout after the Notice to Proceed has been issued and prior to mobilization.
5. Site conditions encountered that are not shown on the drawings or could not have been foreseen by visual inspection of the Site prior to bidding, should be immediately brought to the attention of the Engineer. The Engineer will make a determination before proceeding with the Work.
- H. Stormwater Management and Erosion Control:
1. Contractor shall submit a Stormwater Pollution Prevention Plan (SWPPP) or Stormwater Quality Protection Plan (SQPP) in accordance with Section 01570 which includes drawings of each site showing stormwater inlet protection measures.
 2. Contractor shall provide and install any materials required to implement the SWPPP or SQPP. Contractor shall submit the SWPPP or SQPP to Engineer after the Notice to Proceed has been issued and prior to mobilization.
- I. Contamination Precautions and Disposal of Material:
1. Contractor, and its subcontractors, subconsultants, agents and employees, shall not contaminate the Project area. Contractor, and its subcontractors, subconsultants, agents and employees, shall not dump waste oil, rubbish, or other similar materials on the ground. All equipment leaks must be contained and not permitted to contaminate the Site, well, or discharge to storm drains. Nothing is allowed to go to the storm drains.
 2. Contractor shall have proper absorbent materials onsite at all times to clean up any equipment leaks or spills to avoid contamination of the Site, well, or discharge to storm drains.
 3. Contractor shall be responsible for properly containing and disposing of all water, cuttings, sediments, and any drilling mud produced during drilling, development, and testing of the well. Contractor shall contain mud and cuttings in 20-yard water-tight roll-off bins which shall be covered and locked at the end of each workday. Waste water shall be contained in 21,000 gallon temporary liquid storage tanks No water of any type is allowed to enter the storm drains.
 4. Disposal method and location must be approved by the Engineer and City representatives.
 5. Waste manifests and chain of custody documentation must be submitted to the District.
- J. Cleanup of Construction Areas:
1. Upon completion and acceptance of each test well, Contractor shall remove from the Site the drill rig and related equipment, all debris, unused materials, and other miscellaneous items resulting from or used in the Work.
 2. Contractor is responsible for leaving and restoring the premises, if necessary, as specified in paragraphs 1.18 and 1.19.

1.5 EXPLORATORY BOREHOLES

- A. Equipment: All equipment shall be the proper type and shall be in good condition to assure that the Work can proceed without interruption and that the drilling of a plumb

and straight boring results. For **direct mud** rotary ~~and reverse rotary~~ drilling, a shale shaker, desilters, and desanders fully capable of handling the capacity of fluid system shall be used to remove all but the finest of drilling cuttings from the drilling fluid. This equipment shall keep the sand content below three (3) percent by volume in the drilling fluid at all times during the drilling process. Excavated pits will not be allowed. For bidding purposes, drilling equipment, including collars and/or couplings, shall be of sufficient size, strength, and design to maintain plumbness and alignment in drilling an 8-inch diameter boring to a maximum depth of 800 feet.

B. Drilling Fluid:

1. Clear water drilling will not be allowed.
2. Only potable water shall be used in the drilling fluid. The drilling fluid shall possess such characteristics as are required to adequately maintain the walls of the borehole, to prevent caving of the borehole as drilling progresses, and to permit recovery of representative samples of cuttings. The drilling fluid shall be a biodegradable polymer system such as Poly-Bore, HEC, Drispack, Kim Mud, Duel-Vis, or a clay base bentonite system (Aquagel or equivalent), provided the properties specified below can be maintained to the satisfaction of the Engineer. The Contractor is advised that excessive water loss in clay zones can lead to swelling, loss of shear strength, substantial caving, and borehole stability problems. The drilling fluid used shall contain properties to inhibit this possibility. The drilling fluid shall have the following properties in accordance with API Code RP 13B-1 "Field Testing Water-based Drilling Fluids, Fifth Edition" (or latest revision). In the event the Contractor cannot attain these properties, the drilling mud shall be replaced at the Contractor's expense.
3. Contractor shall submit a drilling fluid program which must be approved by the Engineer prior to the commencement of drilling operations. The contractor is responsible for maintaining the quality of the 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.
4. These properties must be maintained:
 - a. Weight – a maximum of 80 pounds per cubic foot (10.7 pounds per gallon) during drilling of each exploratory borehole and a maximum of 70 pounds per cubic foot (9.4 pounds per gallon) during the exploratory borehole ream and well construction activities.
 - b. Marsh Funnel Viscosity – maximum of 50 seconds during drilling of exploratory borehole and a maximum of 40 seconds during exploratory borehole ream and well construction activities.
 - c. Sand Content of Mud Entering the Pump – a maximum of three percent by volume during all aspects of drilling.
 - d. Water Loss – a maximum of 20 cubic centimeters per 30 minutes (cc/30 min) during drilling or exploratory borehole and a maximum of 15 cc/30 min during exploratory borehole ream, both with a wall cake thickness of no greater than 1/8-inch.

C. Drilling Log:

1. Cuttings representative of strata encountered during drilling will be collected at least every five (5) feet and at major lithology changes or as directed by the Engineer or the District's representative. Contractor shall record drill bits and equipment used to drill and ream to depths and any changes in drilling fluid.
2. Geophysics:
 - a. Contractor shall coordinate with a subcontractor who specializes with geophysical downhole logging and complete a geophysical log for each boring. Contractor shall notify the Engineer 24-hours before total depth of the boring is reached. Contractor shall re-circulate the mud prior to the geophysical logging and will cooperate/coordinate with the geophysical subcontractor to provide access to the borehole. Geophysical methods shall include but not be limited to:
 - 1) Gamma Ray (GR)
 - 2) Spontaneous Potential (SP)
 - 3) 64" Normal Resistivity
 - 4) 15" Normal Resistivity
 - 5) Single Point
 - b. Geophysical logging equipment shall be shop calibrated within thirty days prior to performing the log and field calibrations shall be within company standard tolerances. The equipment shall be run at least 100 feet and be repeated to confirm that resistivity and conductivity match between runs.
 - c. Contractor shall supply the District with two 5-inch=100 feet prints, two 2-inch=100 feet printed logs, a PDF of the entire log, and an ASCII file of all log data.

1.6 TEST WELL MATERIALS

- A. The use of a specific manufacturer's name and/or model or catalog number is for the purpose of establishing the standard of quality and desired general configuration only. Products of other manufacturers will be considered in accordance with Section 00700 (General Conditions).
- B. Mild Steel Well Casing:
 1. The mild steel well casing shall be new, minimum of 8.625 (8-5/8) inches outside diameter (O.D.) with a minimum wall thickness of 0.250 (1/4) inch and fabricated in lengths not less than twenty (20) feet, except where a shorter section of casing is better suited for the total depth or surface completion. Field assembly of screen sections shall be furnished with collars. Collars shall be the same thickness and be rolled to fit the outside diameter.
- C. All well casing shall comply with specifications ASTM A53B, ASTM A139, ASTM A211, or AWWA B200.
- D. Section ends shall be machined flat perpendicular to the axis of the casing and shall not vary more than 0.010-inch at any point from a true plane at right angles to the axis of the casing. The ends shall be beveled to facilitate full penetration of the welds.
- E. Mild Steel Shutter (Louvered) Screen:
 1. The shutter screen shall be new, same diameter as the casing, and fabricated in lengths not less than twenty (20) feet, except where a shorter section of casing is

- better suited for the total depth or surface completion. Field assembly of screen sections shall be furnished with collars. Collars shall be the same thickness and be rolled to fit the outside diameter.
2. All shutter screen shall comply with specifications ASTM A53B, ASTM A139, ASTM A211, or AWWA B200. For bidding purposes the louvered openings shall have an aperture width $\frac{3}{32}$ of inch. The final dimensions of the slot size openings and screen length will be determined by the Engineer on the basis of the field conditions revealed by the borehole and the grain size of the filter pack material.
 3. Section ends shall be machined flat perpendicular to the axis of the casing and shall not vary more than 0.010-inch at any point from a true plane at right angles to the axis of the casing.
- F. Well Centralizers:
1. The centralizers shall be steel and a minimum of 30 inches long and placed a minimum of Casing centralizers shall be designed to allow the proper passage and distribution of sealing material around the casing(s) within the interval(s) to be sealed.
- G. Filter Pack:
1. Sand for filling the annular space in the screened interval of the test wells shall be high silica, nonreactive, well sorted, washed, kiln dried, and be of high uniformity. The type, size, gradation, and uniformity of sand shall be determined by the Engineer depending on field conditions revealed by the pilot borehole.
 2. All filter pack material shall be hard, water-worn, and washed clean of silt, sand, dirt, and foreign matter. Crushed gravel will not be accepted. The specific gravity of the material shall be not less than 2.5 as determined by ASTM D854.
 3. For bidding purposes, the well screens shall be packed with 6x9 mesh sand or approved equivalent.
- H. Transition Seal:
1. Bentonite chips or pellets seal shall be placed at the top of the filter pack interval to prevent invasion of the filter pack by the sanitary seal grout. Bentonite shall be pelletized or chipped sodium montmorillonite clay commercially produced and specifically prepared for this scope of work. The largest dimension of chips or pellets shall be less than $\frac{1}{5}$ the radial thickness of the annular space into which they are to be placed.
- I. Well Seals:
1. Surface Seal: Grout used to construct the annular surface seal shall be a 10.3 sack sand-cement grout mixture. The cement shall meet the requirements, including the latest revisions, of ASTM C150 Standard Specification for Portland Cement Type I/II, or an approved equivalent. Any additives shall meet the requirements, including the latest revisions, of ASTM C494 Standard Specifications for Chemical Admixtures for Concrete. Additives must be approved by the Engineer. The sand shall be washed clean prior to mixture.
 2. Intermediary Seal: The cement shall meet the requirements, including the latest revisions, of ASTM C150 Standard Specification for Portland Cement Type I/II, 10.3-sack sand-cement, or an approved equivalent. Any additives shall meet the requirements, including the latest revisions, of ASTM C494 Standard Specifications

- for Chemical Admixtures for Concrete. Additives must be approved by the Engineer. The sand shall be washed clean prior to mixing. Alternatively, bentonite chips or pellets as described in item H (Transition Seal) may be used in place of sand cement in zones specified by the Engineer.
3. Bottom Plugs/Borehole abandonment: Grout used for bottom plugs or if borehole abandonment is necessary will be a 10.3-sack sand-cement grout mixture. The cement shall meet the requirements, including the latest revisions, of ASTM C150 Standard Specification for Portland Cement Type I/II, or an approved equivalent. Any additives shall meet the requirements, including the latest revisions, of ASTM C494 Standard Specifications for Chemical Admixtures for Concrete. Additives must be approved by the Engineer. The sand shall be washed clean prior to mixing.
- J. Well Monument and Surface Completion:
1. The test well casings shall be terminated below ground surface (below grade), protected with a lockable steel cap, and covered with a bolt-down HS-20 traffic-rated manhole style well box securely cemented into place as shown in Attachment 1, Project Drawing 5. The well box shall be installed so as to prevent damage to or from pedestrian traffic, to prevent free drainage of surface infiltration through the well box, and to permit easy access for instrumentation, monitoring, or sampling. A sufficient number of weep holes or a gravel drain shall be placed in the well box subgrade so that any condensation or liquid is readily drained from the valve box, thus preventing ponding.
 2. The concrete for the surface seal and well box shall be ready-mixed confirming to ASTM C94, $\frac{3}{4}$ -inch maximum aggregate size, 3,000 psi minimum, 28-day strength, with a two (2) to four (4) inch slump, and a minimum of 517 pounds of cement per cubic yard.
- K. Water and Sewer:
1. Contractor should make arrangements for purchasing water from the city utility. Contractor will be required to obtain a permit with the City's Operations Services Center to connect to water hydrant for potable water use and contractor shall be responsible for all deposits and water use charges. Contractor shall be required to provide hose from hydrant to site, or hose or other transport means, including any vehicle/pedestrian ramps required at crossings and signage to warn of ramps.
 2. Contractor must contain all waste water in temporary liquid storage tanks and is responsible for the transport and disposal of waste water off-site. No water is allowed to enter any storm drain or watercourse.
 3. Contractor shall make arrangements for portable restroom facilities at the Site.

1.7 TEST WELL CONSTRUCTION

A. General:

1. Equipment: All equipment shall be the proper type and shall be in good condition to assure that the Work can proceed without interruption and that the drilling of a plumb and straight well results. For rotary ~~and reverse rotary~~ drilling, a shale shaker, desilters, and desanders fully capable of handling the capacity of fluid system shall be used to remove all but the finest of drilling cuttings from the drilling fluid. This equipment shall keep the sand content below three percent by volume

- in the drilling fluid at all times during the drilling process. Excavated pits will not be allowed. For bidding purposes, drilling equipment, including collars and/or couplings, shall be of sufficient size, strength, and design to maintain plumbness and alignment in reaming a 14-inch diameter boring to set the well to a maximum depth of 650 feet.
2. Logging and Records: Contractor shall furnish the Engineer or District's representative, and City representatives with a written daily log of the Work. Information supplied shall include, at a minimum, accurate depth, thickness, and nature of the strata penetrated. Drilling rates, water levels, and other information may also be requested by the Engineer. Progress on all phases of the work shall also be reported. This shall include, but not be limited to, the drilling operations, the placement of the casing, screen, gravel pack and annular seal, and development records. These daily records should indicate all quantities of unit price pay items and should be signed daily by the Contractor and a representative of the Engineer.
- B. Installation of Bottom Plug
1. If the borehole is drilled deeper than the well depth as determined by the Engineer, Contractor shall fill the borehole with 10.3 sack sand-cement grout to no more than 10 feet below and no less than five (5) feet below the bottom of the well. The cement shall be allowed to set for no less than 24 hours prior to well installation within the borehole, unless approved by the Engineer.
 2. The method of grout placement shall be by hydraulically pumping the grout through a tremie pipe from the bottom of the annulus upward. The rate of grout placement shall not exceed 1-1/2 feet per minute, as measured by a sounding line, and placement shall proceed without interruption until completion, unless approved by the Engineer.
- C. Installation of Casing and Screen:
1. Contractor shall install well casing and screen within 72 hours of reaching the total depth of the borehole. Casing and screen lengths and locations will be determined by the Engineer, based on the results of the sampling and/or geophysical logging of the borehole.
 2. Contractor shall be responsible for supporting and anchoring the well casing in such a way as to hold it in place during the placement of gravel and annular seals, during development, and when the well is completed. The bottom of the casing shall be at a sufficient distance above the bottom of the hole to ensure that none of the weight of the casing will be supported from the bottom of the hole.
 3. The casing shall be joined by steel collars welded to the corresponding casing and screen sections.
 4. Contractor shall place stainless steel centralizers at intervals along the length of the casing to ensure a minimum separation of two (2) inches between casing and borehole.
 5. A steel end cap shall be welded to the bottom of the casing string.
 6. Any casing and/or screen that fails, collapses, separates, or does not pass the tests for plumbness or alignment, shall be repaired or replaced, or a new well drilled, as approved by the Engineer, at Contractor's sole expense.

D. Installation of Filter Pack:

1. The filter pack shall be placed in the well bore annulus using a feed line, or tremie pipe in accordance with AWWA A100-90, Section 6.7. Filter pack shall be placed to the levels shown in Attachment 1, Project Drawing 5, or as specified by the Engineer. The sand shall be placed through a feed line, or tremie pipe, that extends to the bottom of the casing annulus. The feed line shall be gradually withdrawn as the filter pack is placed. The rate of gravel placement shall not exceed 1-1/2 feet per minute, as measured by a sounding line, and placement shall proceed without interruption until completion.
2. After placement of the filter pack around each screen interval, swabbing in the well shall occur across the entire length of screen. The diameter of the swab shall be no less than 1/2-inch smaller than the inside diameter of the casing. As the sand settles, more shall be added. This operation shall continue until there is no measurable settlement of the sand. Should the borehole not take the calculated volume of gravel, with allowances for normal losses and settling, the Engineer will have cause to reject the well.

E. Intermediary Seal(s):

1. Materials for intermediary seals will be determined by the Engineer.
2. If neat or sand-cement grout is to be used, the grout shall be pumped into the annular space through a tremie pipe or other approved method from the bottom of the annulus upward. A tremie pipe shall extend from the ground surface to the bottom of the zone to be grouted. The tremie pipe shall be slowly raised as the grout is placed, but the discharge end of the tremie pipe must be submerged in the emplaced grout at all times until grouting is completed. The tremie pipe shall be maintained full to the surface at all times until completion of the grouting of the entire specified interval.
 - a. Once the grouting operation is complete, no further work shall be performed on the well for a minimum of twenty-four (24) hours. No standby time will be paid while cement is setting.
 - b. In the event of borehole collapse prior to placement of the concrete grout, Contractor shall take whatever steps are necessary to reopen the hole and place the seal as specified. Any such remedial action shall be conducted at Contractor's expense.
3. Bentonite seals may be allowed for Intermediary seals of ten feet or less, unless otherwise specified by the engineer. Bentonite seals shall be placed in the borehole through the feed line or tremie pipe in a manner that will ensure that there are no gaps or bridging in the seal.

F. Installation of Bentonite Transition Seal(s):

1. Bentonite transition seals shall be placed in the borehole through the feed line or tremie pipe in a manner that will ensure that there are no gaps or bridging in the seal. Bentonite shall be placed to the levels shown in Attachment 1, Project Drawing 5, or as specified by the Engineer.

G. Installation of Annular Surface Seal:

1. After the bentonite transition seal has been placed around the uppermost screened interval as specified by the Engineer, an annular grout seal shall be placed from the top of the bentonite seal to the ground surface.
 2. The method of grout placement shall be by hydraulically pumping the grout through a tremie pipe from the bottom of the annulus upward. The rate of grout placement shall not exceed 1-1/2 feet per minute, as measured by a sounding line, and placement shall proceed without interruption until completion, unless approved by the Engineer.
- H. Installation of Well Box and Surface Completion:
1. After the annular surface seal has been placed to the surface and set, contractor shall set a round bolt-down HS-20 traffic-rated manhole style well box securely cemented into place flush with existing grade. The area around the well box must be restored to match the surrounding area. If the well is located in a park, turf shall be restored around the well box to the satisfaction of the City. If the well is in a roadway or parking lot, cement or asphalt must be restored to match color and existing grade of existing asphalt or concrete around the well box.
- I. Payment:
1. Unless otherwise specified, payment for the Work specified in this section will be made at the unit prices stated in Contractor's Bid.
 2. No portion of the well shall be considered complete until the entire well is complete, including installation, development, and testing. Partial payments will only be made for items as determined by the Engineer.

1.8 TEST WELL DEVELOPMENT

- A. General: Between 24 and 48 hours of emplacement of the grout seal, Contractor shall begin development of the test wells in conformance with the following Specifications. The Contractor shall furnish all materials, equipment, and labor required to develop the well.
- B. Contractor shall maintain development records documenting field parameters including but not limited to, turbidity and pH at a frequency of at least every 30 minutes.
- C. Surge Block and Air Lift Development: The diameter of the double surge block shall be no less than 1/2-inch smaller than the inside diameter of the casing, and the surge blocks shall be separated by no more than ten (10) feet of perforated pipe. Surge block development of the well shall begin by gently surging and simultaneously air lifting in the unperforated casing immediately above each section of well screen. Periodically, Contractor shall bail from the well all sand, silt, and clay that has accumulated at the bottom. Plungers, bailers, surge blocks, and other surging devices shall incorporate safety valves or vents to prevent excessive pressure differentials that could damage casing or screen. Surging in the unperforated casing section shall continue until no additional appreciable quantity of sand, silt or clay is brought into the well. At such time, the surge block shall be lowered into the screened section and surge development continued gently from the top of the screened interval downward. It is expected that surging and bailing in each screen interval shall continue for up to

- two hours or until sand, silt and clay have been washed through the screen to the satisfaction of the Engineer.
- D. Contractor may introduce additives to the well to aid with the development only after approval of the Engineer.
 - E. Completion of Development: The well shall be considered thoroughly developed when:
 1. The water produced is free of visible sediment and;
 2. Measured turbidity does not exceed 25 Nephelometric Turbidity Units (NTU), unless otherwise approved by the Engineer or District's representative.
 3. Accumulated fill shall be removed from well such that when sounded, the total well depth will be within six (6) inches of the completion depth of the well. Contractor shall sound the well upon completion in the presence of the Engineer or District's Representative.
 4. Testing of the well indicates that formation damage (e.g. well bore skin) arising from the well drilling activities has been restored.
 5. Development has occurred for a minimum of 24 hours.
 - F. Upon completion of the procedure, the well shall be bailed clean of all accumulated sediment to its full depth.
 - G. Containment of Waste Materials: During the course of the work, Contractor will have waste materials and waste mud and water that need to be contained. The development water shall be contained within DOT approved clean temporary liquid storage tanks provided by the Contractor at the price stated in Contractor's Bid. Solid waste including sediment bailed from the well will be separated from the water and contained in watertight roll-off bins or other containment system and removed from the site by the Contractor. Nothing shall be allowed to enter any storm drain or watercourse.

1.9 TEST WELL SAMPLING AND TESTING

- A. General: Following completion of well development and at the direction of the Engineer or District's representative, contractor will perform a series of pumping tests designed to determine future production well capacity and aquifer characteristics. The tests may include, but may not be limited to, isolated zone flow testing, a constant rate pumping test, and step-pumping test(s). Test specifications may be modified by the Engineer before or during the testing based upon the results of development and test pumping.
- B. Contractor shall use a submersible pump capable of sustaining 500 gallons per minute (GPM) for all testing operations. Contractor shall provide an accurate flow meter to verify and document flow rates during tests. Contractor must have the ability to isolate and seal off discrete zones at the direction of the Engineer or District's representative using well packers or similar equipment supplied by the contractor. Contractor will cooperate/coordinate with the Engineer or District's representative throughout well testing operations and assist with data collection.
- C. Contractor shall assist the District's representative to collect water quality samples at each well as directed. Water quality sample collection must be collected using PFAS-free pump, materials, and sampling equipment.

- D. Displaced waste, including water, shall be properly contained, and disposed of in watertight roll-off bins or other containment system and removed from the site by the contractor. Nothing shall be allowed to enter any storm drain or watercourse.

1.10 SPECIALISTS AND SUBCONTRACTORS

Portions of the Work require operations that are commonly performed by specialists and subcontractors. Well driller, well logging and testing firms, and all others employed in constructing the wells, shall be experienced, competent, and well-equipped and shall be approved by the Engineer prior to starting Work. All Subcontractors to be utilized for the project shall be listed in Document 00430 (Subcontractors List).

1.11 WORKDAYS AND HOURS

- A. Work or activity associated with the wells, including, but not limited to, mobilization on site, well drilling, well construction, well development, and site cleanup shall be limited to hours from 8:00 a.m. to 5:00 p.m., local time, Monday through Friday, unless prior approval from District and City of Pleasanton.
- B. The Contractor shall notify District and City of Pleasanton at least two days in advance of scheduling any Work.
- C. Work at the Site on weekends or holidays is not permitted unless Contractor requests otherwise from District and City of Pleasanton in writing at least 72 hours in advance and District and City of Pleasanton approves in their sole discretion. In the case of Work by Contractor after normal working hours, Contractor shall be responsible for any additional inspection costs incurred by the District and City of Pleasanton. Such costs may be withheld from any succeeding monthly progress payment.

1.12 NOISE

- A. Contractor shall comply with all local noise ordinances (9.04.100 of Pleasanton Municipal Code – *Construction Noise*). Contractor is responsible for implementing and actively monitoring noise generated during well drilling, casing, filter pack, and seal installation, development, and testing, using construction-grade noise monitoring equipment spaced around work site. Contractor shall be required to ensure that noise levels comply with all local noise ordinances.
- B. Temporary sound attenuation structures (sound walls), capable of reducing sound generated by the contractor to meet the local noise ordinance shall be installed at each site prior to any drilling and removed after completion of test well construction and development. The length and placement of the sound attenuation structures shall be sufficient to shield nearby houses from noise generated during drilling, well development, casing, filter pack and seal installation, development, and well testing and sampling. Sound attenuation structures must control noise levels to 83 dBA maximum at 25 feet from the construction equipment noise source, 86 dBA at any point on the well site property plane, or as otherwise required by the local noise ordinance.

1.13 STANDBY TIME AND DOWNTIME

- A. During the progress of drilling and/or testing operations, and well development it may be necessary for the Engineer to perform work that will require the drilling crew and equipment to stand idle. In such events, the Engineer will request Contractor to furnish such assistance or to cease operations and shall state the anticipated extent of duration thereof. Contractor shall promptly furnish such assistance and cease operations.
 - 1. Standby time shall be paid for any portion of a normal workday when the District's or City representatives orders cause work to cease.
 - 2. Standby time will not be paid for the recovery period required following development, the period following the placement of grout, **any period where well materials or equipment are in transport to site**, or the period following aquifer testing and sample.
 - 3. Payment for actual hours of standby time will be made at the unit bid price per hour stated in Contractor's Bid.
- B. Downtime shall mean that time, other than standby time, during which drilling could occur but does not, or when machinery is broken down, materials or equipment are not available, or Contractor elects not to drill. All downtime shall be at the sole expense of Contractor.
- C. Standby and Downtime does not include time after well testing activities while test results are pending and awaiting District and City to authorize mobilization to the next site as outlined in Paragraph 1.4.D (Mobilization, Demobilization, and Cleanup) of this section 01100.

1.14 LOST HOLES

- A. Holes Abandoned for Cause: If the Engineer determines that for reasons beyond the control of Contractor it is necessary to stop drilling, or the hole is lost before the objective or desired depth is reached and further attempts to save or complete the hole are not practical, the hole will be ordered abandoned for cause. Contractor shall fill and plug the hole according to the most restrictive city, county, state and/or federal regulations. Contractor will be reimbursed for the footage drilled and other operations, and for well destruction/hole abandonment labor and materials.
- B. Defective Holes: If the Engineer determines that the hole is lost due to negligence, incompetence, or malpractice on the part of Contractor or Contractor's personnel, agents, subcontractors, or consultants, or to the use of defective or unsuitable equipment, the Engineer will immediately notify Contractor in writing of his/her decision and order the hole abandoned. If a hole does not meet the requirements set forth herein, or if Contractor fails to drill a hole to the depth specified by the Engineer within the scope of the Contract, the hole will be declared abandoned. Any hole that cannot be corrected to the required tolerance for alignment will be declared abandoned. Contractor, at its own expense, shall fill and plug the hole according to the most restrictive city, county, state and/or federal regulations. Contractor shall drill a new hole at an alternate site in the immediate area approved by the Engineer. Contractor will not be paid for any footage drilled or for other operations performed in any hole abandoned because of defects.

1.15 DEPTH OF WELL

The total depth of the completed well will be determined by the Engineer after examination of the drill cuttings and geophysical log. For the purposes of bidding, it is expected that the total depth of the completed well shall be as specified in Document 00400 (Bid Form) and shown in Attachment 2, Table 2.

1.16 COOPERATION OF CONTRACTOR AND COORDINATION WITH OTHER WORK

- A. Coordinate with District, City of Pleasanton, and any District forces, or other contractors and forces, as required by Document 00700 (General Conditions), paragraph 5.
- B. Coordinate and constantly review Contract Documents, submittals, and changes as necessary to avoid conflicts, errors, omissions and untimely construction.
- C. Contractor shall provide a written schedule of anticipated work dates at each site prior to commencement of work and shall notify Engineer and City representatives five (5) business days minimum if mobilization dates are expected to change for each site.
- D. Contractor shall be responsible to give the Engineer and City representatives 48-hour minimum advance notice prior to performance of specific operations as follows:
 1. Mobilization of equipment to each Site.
 2. Starting drilling operations at each Site.
 3. Commencement of E-Log at each Site.
 4. Installation of bottom plug at each Site.
 5. Installation of well screen and casing and each Site.
 6. Placement of filter pack and the annular grout seal at each Site.
 7. Development of the wells at each Site.
- E. These minimum advance notification requirements are based on the normal sequence and schedule of Work assuming no unusual delays. If delays or interruptions should occur, the Engineer and City representatives shall be given as much advance notification as possible of the restart of Work on the Project.
- F. It is anticipated that this project will overlap with additional City maintenance projects at Site A (Pleasanton Tennis and Community Park). A free lane of traffic for City Contractors shall be established within the work zone, approved by the City, and maintained throughout the work at this Site.

1.17 MAINTENANCE, PRODUCT HANDLING, AND PROTECTION

- A. Transport, deliver, handle, and store materials and equipment at the Site in such a manner as to prevent the breakage, damage or intrusions of foreign matter or moisture, and otherwise to prevent damage.
- B. Hazardous substance compliance: Provide District with copies of the OSHA Safety Data Sheets (SDS) for all products containing a hazardous substance, examples: Adhesives, paints, sealants, and the like.
- C. Packaging: Provide packaged material in manufacturer's original containers with seals unbroken and labels intact until incorporated into the Work.
- D. Remove all damaged or otherwise unsuitable material and equipment promptly from the Site.

- E. Protection: Protect all finished surfaces.
- F. Cost of maintenance of systems and equipment prior to Final Acceptance will be considered as included in prices bid and no direct or additional payment will be made therefor.

1.18 CONTRACTOR USE OF PREMISES

- A. Confine operations at Site to areas permitted by Contract Documents, permits, ordinances, and laws.
- B. Do not unreasonably encumber Project Site with materials or equipment.
- C. Assume full responsibility for protection and safekeeping of products stored on premises.
- D. Move any stored products that interfere with operations of District or operations of the City of Pleasanton, or other contractor.
- E. Parking, storage, staging, and work areas shall be coordinated with the District, City of Pleasanton, and comply with all other Contract Documents requirements.

1.19 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. Contractor shall mark each site for and call in a USA ticket at least five (5) business days prior to expected mobilization. Contractor shall not begin work until positive responses have been received by all utility stakeholders.
- B. Contractor shall locate all known existing installations before proceeding with drilling or other operations which may cause damage, shall maintain them in service where appropriate, and shall repair any damage to them caused by the Work, at no increase in Contract Sum.
- C. Contractor shall excavate to five (5) feet below grade using a hand tool such as a hand auger or post hole digger prior to drilling at each borehole location.
- D. Additional utilities whose locations are unknown to District or City of Pleasanton are suspected to exist. Contractor must be alert to their existence. If additional utilities are encountered, Contractor must immediately stop work and report to District and City of Pleasanton for and authorization and direction to proceed.
- E. In addition to reporting, if a utility is damaged, Contractor must take appropriate action as provided in Document 00700 (General Conditions).
- F. Additional compensation or extension of time on account of utilities not indicated or otherwise brought to Contractor's attention including reasonable action taken to protect or repair damage shall be determined as provided in Document 00700 (General Conditions).
- G. Contractor shall replace or repair any sidewalk, curb, street, facility, or landscape that has been damaged during the Work unless provisions have been made with the Engineer and City representatives for repairs to be completed by others. Contractor shall restore the damaged Site and associated facilities as nearly as possible to their original condition to the satisfaction of the District and City of Pleasanton, or owner of those facilities.

1.20 DAMAGE TO EXISTING PROPERTY

- A. Contractor shall photograph each site from all angles prior to mobilization and site setup for documentation as to the original site conditions and to be used to determine what site restoration, if any, is required by the City of Pleasanton.
- B. Throughout the period of construction, Contractor shall keep the work site free and clean of all rubbish and debris.
- C. Protective barriers and other safety protection necessary to protect the public and workers shall be provided by Contractor.
- D. Contractor shall notify District and City of Pleasanton prior to commencement of the Work of any anticipated impacts to the landscaping or other aspects of the property.
- E. Contractor shall be responsible for all damage to streets, roads, curbs, sidewalks, highways, shoulders, ditches, embankments, culverts, bridges, fences, walls, buildings, trees, turf, landscape, hardscape or other public or private property, which may be caused by transporting equipment, materials, or workers to or from the Work.
- F. Mud mats shall be placed beneath equipment to protect turf, landscape or hardscape. Contractor shall protect all existing structures and property from damage and shall provide any equipment required for such protection.
- G. In the event of damage to existing property, Contractor shall, at its own expense, immediately restore the property to a condition equal to its original condition, in compliance with the current edition of the City of Pleasanton's Standard Specifications and Details, and to the satisfaction of the Engineer and City representatives, and at no additional cost to District or City of Pleasanton.
- H. Any landscaping or turf damaged by Contractor shall, at the Contractor's expense, be restored to a condition equal to its original condition in compliance with the current edition of the City's Standard Specifications and Details and to the satisfaction of City's representatives. Restoration of damaged turf will include installing new sod and not seeding. Irrigation lines and sprinkler heads cut or damaged during construction shall be repaired by Contractor before completion of the Contract. Damaged main irrigation lines and other services must be repaired immediately to the City of Pleasanton's satisfaction.
- I. Contractor shall replace, in kind, asphalt and any striping that is damaged during construction to the City of Pleasanton's requirements and standards before the completion of the Contract.
- J. Contractor shall remove all markings, such as paint or chalk markings identifying underground utilities, associated with the construction on sidewalks or paved roadways as required by the City of Pleasanton.

1.21 DUST CONTROL

- A. Contractor shall take reasonable measures to prevent unnecessary dust. The following items shall be specifically implemented to control dust:
 - 1. All construction locations with active excavation shall be watered at least twice daily.
 - 2. Cover all trucks hauling soil, sand, and other loose materials; or require all trucks to maintain at least two feet of freeboard.

3. Apply water daily on all un-paved dirt or gravel access roads, parking areas, and staging areas at construction site.
 4. Sweep daily with water sweepers all paved access roads, parking areas, and staging areas at construction sites during earthwork activities.
 5. Limit the speed of all construction vehicles to five (5) miles per hour while on un-paved roads at the Site.
- B. Buildings or operating facilities which may be affected adversely by dust shall be adequately protected from dust. Existing and new machinery, motors, instrument panels, or similar equipment shall be protected by suitable dust screens. Proper ventilation shall be included with dust screens

1.22 PARKING

Contractor shall provide and maintain suitable parking areas for the use of all construction workers, district Representatives and others performing work or furnishing services in connection with the Project, as required to avoid any need for parking personal vehicles where they may interfere with public traffic, District's operations, City of Pleasanton's operations, or construction activities. Parking locations are designated in Drawings 2-4 in Attachment 1.

1.23 LAYDOWN/STAGING

Each construction work area at each Site shall be fully enclosed and secured by fencing and each Site shall be secured with a lock at the end of each work day. Contractor shall utilize the area indicated in Attachment 1, Project Drawings 2 through 4 for storage of all construction materials, unless otherwise authorized by the District's Engineer and City representatives, and fenced and locked by Contractor for security purposes. Mud Mats, or similar protective matting, shall be laid down under heavy equipment to minimize damage to landscape, turf, and hardscape. Working areas where heavy equipment and/or vehicles are operating shall be underlaid with polyethylene plastic sheeting (visqueen or equivalent) to protect from leaks and spills. After completion of the Work, the Contractor shall remove from the premises and Work areas all materials, tools, debris, and drill cuttings from the drilling and development operations. At the completion of the Work, Contractor shall clear Site of all materials and leave Site in a condition acceptable to the Engineer and City representatives.

1.24 STANDARDS, SPECIFICATIONS AND CODES

- A. The wells shall be constructed in conformance with Alameda County General Ordinance Number 0-2015-20 and the State of California Water Well Standards as described in the Department of Water Resources (DWR) Bulletin No. 74-81 and amended in Bulletin 74-90. The requirements of District, as stipulated in the Drilling Permit, shall also be observed in construction of the wells. Contractor shall be responsible for filing well logs required by the State and District.
- B. Where, in these Specifications, or on Plans, reference is made to State of California Standard Specifications, or to Standard Specifications, it shall mean: "Standard Specifications" issued by the State of California, Business and Transportation Agency, Department of Transportation, July 1995. Terms, DEPARTMENT OF

TRANSPORTATION, STATE, or pronouns in place of same, used in the Standard Specifications shall mean District.

- C. In case of conflict between State of California Standard Specifications and these Specifications, these Specifications shall take precedence and be used in lieu of such conflicting portions.

1.25 PERMITS

- A. Contractor is responsible for obtaining and complying with conditions of all necessary permits that are required to complete this Contract.
- B. Contractor shall apply for and obtain encroachment permits, water and hydrant connection permit for potable water use from the City of Pleasanton and shall comply with all applicable conditions set forth in any permits obtained by District and City of Pleasanton for this Project.
- C. Contractor shall apply for drilling permits from the District.
- D. Contractor shall obtain any required variance from the Pleasanton, Dublin, and Livermore Noise Ordinances from the Cities.
- E. Contractor shall be responsible for all associated costs of permits, and such costs are to be included in the bid price. Such costs shall include, but are not limited to, any traffic control or noise abatement measures. Contractor shall apply and pay for any necessary encroachment permits.
- F. Contractor shall promptly provide the Engineer and City representatives with one copy of each permit, license and agreement obtained by the Contractor, necessary for compliance with this Contract. Engineer and City representatives will likewise provide Contractor with one copy of each permit and license agreement it obtains for the construction of the wells.
- G. Where requirements and conditions of permit differ from those of the Plans and Specifications, the more stringent requirements shall apply.
- H. All other permits that may be required, such as electrical, mechanical, fire prevention, irrigation, grading, slope protection, tree cutting, etc., have not been applied for and shall be obtained by Contractor. Applicable permit fees will be reimbursed to the extent specified in Document 00700 (General Conditions).

1.26 ACTUAL DAMAGES FOR VIOLATIONS

- A. District or City of Pleasanton may incur actual damages resulting from loss of use of any permit described in this Section 01100, or from use in violation of legal or regulatory requirements where the violations result from Contractor's activities. Violations or threatened violations may subject the District or City of Pleasanton to fines and/or other costs or civil liabilities.
- B. Contractor shall be liable for and shall pay District or City of Pleasanton the amount of any actual losses or other remedies provided by the Contract Documents.
- C. Any money due or to become due to Contractor may be retained by District or City of Pleasanton to cover the actual damages described above and, should such money not be sufficient to cover such damages, District or City of Pleasanton shall have the right to recover the balance from Contractor or its sureties.

1.27 UNFAVORABLE CONSTRUCTION CONDITIONS

During unfavorable weather, wet ground, or other unsuitable construction conditions, Contractor shall confine its operations to Work which will not be affected adversely by such conditions. No portion of the Work shall be constructed under conditions which would affect adversely the quality or efficiency thereof unless special means or precautions are taken by Contractor to perform the Work in a proper and satisfactory manner.

1.28 PROTECTION OF WATER QUALITY

Contractor shall ensure that the water quality of the District's and City of Pleasanton's water supply and storage facilities located at the project sites are protected from contamination at all times during construction. Contractor shall, at all times, perform Work in such a manner as to prevent the introduction of contaminants into the wells or down storm drains. Protective measures shall include, but not be limited to, securing covers on storage facilities and securing or removing containers for contaminants from the site when Contractor's forces are not present and at the end of each workday. Tools, casings, and other elements shall be kept clean. The Engineer will require the materials and equipment to be cleaned and disinfected if, in the Engineer's sole opinion, the Work is introducing contaminants in the wells.

1.29 CONSTRUCTION SITE ACCESS

- A. Contractor shall conform to CAL/OSHA safety standards at all times.
- B. Contractor shall perform all work with the access limits shown in Attachment 1, Project Drawings 2 through 4, or as directed by the Engineer and City representatives and as follows:
 - 1. Well Sites: Drilling Equipment shall be set up within the area shown on the Plans. Upon completion and acceptance of the Work, all equipment, unused materials, temporary facilities, and other miscellaneous items resulting from or used in the operations shall be removed. The well site shall be restored to its original ground configuration by filling any pits or trenches and leveling soil piles or ruts.
 - 2. All Work Sites: All work areas utilizing operational equipment and vehicles shall be underlaid with polyethylene plastic sheeting (visqueen or equivalent) for containment purposes. All stored materials and equipment shall be removed from the Work Sites as part of demobilization upon completion of this Contract.
- C. Contractor shall, at all times, limit access to the Site to necessary personnel only. Access for construction personnel shall be limited to workdays and hours allowed in paragraph 1.11 unless prior approval from District and City of Pleasanton.

1.30 SITE MAINTENANCE

During the progress of Work, Contractor shall keep area used by Contractor's forces in a neat, orderly, and sanitary condition. Contractor shall dispose of refuse as often as directed or as may be necessary, so that at no time shall there be any accumulation of rubbish, excavated material or equipment that will cause an inconvenience to Work or the public.

1.31 FINAL CLEAN UP

- A. On completion of Work, Contractor shall clean all portions of job site in accordance with Section 4-1.13 of the Caltrans Standard Specifications.
- B. Immediately preceding final acceptance of Work and following receipt of lab results, Contractor shall remove and dispose of any accumulation of silt, trash, or debris.
- C. Care shall be taken to safeguard plants, shrubs, or other improvements in the Work areas.
- D. Contractor shall repair or patch any asphalt disturbed during construction activities to the City of Pleasanton's standards before completion of the contract.
- E. Contractor is responsible for repairing and/or restoring each site to the District's and City of Pleasanton's standards as specified in paragraphs 1.19 and 1.20.

1.32 DAILY JOB REPORTS

Contractor shall maintain daily job reports recording all significant activity on the job, including the number of workers on Site, Work activities, equipment and materials used, problems encountered and delays. Contractor shall provide the daily job report to the Engineer for approval at the conclusion of each workday.

1.33 SITE ADMINISTRATION

Contractor shall be responsible for all areas of the Site used by it and by all Subcontractors in the performance of the Work. Contractor shall exert full control over the actions of all employees and other persons with respect to the use and preservation of property and existing facilities, except such controls as may be specifically reserved to District, City of Pleasanton or others. Contractor shall have the right to exclude from the Site all persons who have no purpose related to the Work or its inspection and may require all persons on the Site (except District or City of Pleasanton employees) to observe the same regulations as Contractor requires of its employees.

END OF SECTION