

**UNITED STATES DEPARTMENT of AGRICULTURE  
AGRICULTURE RESEARCH SERVICE  
CONSERVATION and RESEARCH LABORATORY  
2300 Experiment Station Road  
Bushland, Texas, 79012**

26 Oct 2022

**Performance Work Statement  
Service for Renovate-Cleaning Well Screens at CPRL, Bushland TX**

**Requirement Name:** Renovate/Clean Irrigation Well Screens for Well #4 and #8 at CPRL, Bushland TX  
**Required Delivery Date:** 1 Apr 2023

**General Information:**

1. **Background and Purpose:** The USDA, Agricultural Research Service (USDA-ARS) requires the basic need for Renovate/Clean Well Screens for Well #4-620900S004 and Well #8-620900S054 for a one-time service contract located at the Conservation and Production Research Laboratory (CPRL), 2300 Experiment Station Road, Bushland, Texas 79012. The primary mission of the USDA-ARS Conservation & Production Research Laboratory (CPRL), Soil and Water Management Research Unit (SWMRU) is to conduct research related to agricultural practices common to the Texas High Plains. This mission requires dependable and efficient wells to supply irrigation water. Two irrigation wells (Well #4 and #8) requires cleaning due to a declining flow rate and surging observed during the 2022 irrigation season.

**Objective:** The scope of work is to remove existing submersible pumps and motors, clean the wells by brushing followed by application of an acidizing agent, brush and bail, reinstall the submersible pumps and motors, and test the well operation as detailed below.

2. **Definitions:**

1. USDA: Unites States Department of Agriculture
2. ARS: Agricultural Research Service
3. CPRL: Conservation and Production Research Laboratory
4. SOW: Statement of Work
5. US: United States
6. SWMRU- Soil and Water Management Research Unit
7. pH: Potential Hydrogen
8. GPM: Gallons Per Minute
9. psi: Pounds Per Square Inch
10. ft: Foot
11. amperes: Amount of Electric Charge in Motion per Unit Time
12. HP: Horsepower
13. COR: Contracting Officer's Representative
14. LOTO: Lock out Tag Out

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**CONTRACTOR REQUIREMENTS:**

**3. Technical Requirements/Tasks:**

**A. Well # 8**

- a. Remove 4-inch steel column pipe and existing submersible pump and motor.
- b. The screen shall be brushed, and then acidized using Cotey Chemical Dry-Acid Special. Per manufacturer's instructions, a minimum of 5% concentration shall be maintained, the duration time shall be not less than 48 hours, agitation shall be done for 30 to 60 minutes, not less than twice per day, and not less than three days, the pH level shall be maintained less than 3.0, and the used chemical shall be pumped into a ditch adjacent to the well for natural evaporation. The well shall then be brushed and bailed as required to remove remaining foreign material from the screen.
- c. Reinstall the existing column pipe, submersible pump and motor, and electrical and related components, to restore the well to operation. The Contractor shall make recommendations for replacing any related components as required.
- d. The well shall be tested, where the following data shall be measured and recorded: flow (gpm), pressure at well head (psi), current draw at all three legs of motor leads (amperes), depth to water (ft).

**B. Well #4- This well has a pipe (6 inches in diameter) extending 14 feet above the bottom of the well.**

- a. Remove 4-inch steel column pipe and existing 15-HP submersible pump and motor.
- b. Brush the screen (to 330 ft depth only), and then acidize using Cotey Chemical Dry-Acid Special. Per manufacturer's instructions, a minimum of 5% concentration shall be maintained, the duration time shall be not less than 48 hours, agitation shall be done for 30 to 60 minutes, not less than twice per day, and not less than three days, the pH level shall be maintained less than 3.0, and the used chemical shall be pumped into a ditch for natural evaporation. The well shall then be brushed and bailed (to 330 ft depth only) as required to remove remaining foreign material from the screen.
- c. Reinstall the existing column pipe. Install a 10-HP submersible pump and motor, and it set to 330 ft. The Contractor shall make recommendations for replacing any related components as required.
- d. The well shall be tested, where the following data shall be measured and recorded: flow (gpm), pressure at well head (psi), current draw at all three legs of motor leads (amperes), depth to water (ft).

**C. Well technical specifications:**

	<b>Well #4</b>	<b>Well #8</b>
Depth to red bed (ft)	344	340
Static depth to water (4/11/2022) (ft)	259	252
Saturated thickness (4/11/2022) (ft)	85	88
Casing diameter (inches)	16 OD	12.75 OD
Smooth casing length (ft)	202.3	260
Screen length (ft)	143.5	80.0 (260 ft to bottom)

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Screen type	Torch slot, 4 rows 1/8-inch (59.2 ft, from 202' to 261') Mill slot, 64 7/64-inch wide x 2-3/8-inch long slots per foot (84.3 ft, from 261' to 346')	#30 (0.030 in.) V-slot wire wound
Pump type	7-stage 5ALC-4Y6PI	Goulds submersible 5-stage model 6CHC
Pump HP	10	30
Date installed	To be install	4/4/2019
Pump TDH (ft)	340	350
Pump depth (ft)	330	330
Pump operating point (gpm)		220
Recent pump production (2022) (gpm)	70	160
Pump motor	10 HP 460-volt 3 phase G25019E	30hp 460v 6" Franklin Electric Sand Fighter, VFD windings
Column pipe type	Rigid black steel, 20 ft sections	Rigid black steel, 20 ft sections
Column pipe diameter (inches)	4	4
Column pipe length (ft)	330	320
VFD	Not applicable	Yaskawa CIMR-PW4A0103FAA NEMA 1 103 AMP

**4. Deliverable / Schedule:**

***Key Deliverables***

<b><i>Item No.</i></b>	<b><i>Deliverable</i></b>	<b><i>Objective</i></b>	<b><i>Due</i></b>
1	Renovate-Cleaning Well Screens	Remove an existing submersible pump and motor, clean the well by brushing followed by application of an acidizing agent, brush and bail, reinstall the submersible pump and motor, and test the well operation as detailed below.	1 April 2023 for or as agreed upon by Bushland CPRL personnel

- 5. Government Furnished:** The USDA- ARS-CPRL shall designate a Contracting Officer's Representative (COR) to coordinate and facilitate access to Well #8 on the CPRL North Section. The COR shall inspect operation of the well before accepting all work by Contractor as complete.

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6. **Reporting Requirements and Deliverables:** The Contractor shall maintain communication with the COR to expedite completion of all work described herein. The Contractor shall provide an invoice following COR approval for payment.
7. **Program Management and Control Requirements:**
- A. Contractor shall work with the COR to schedule work beginning around January 20, 2023.
  - B. Contractor shall complete work upon 30 days of awarding of Contract.
  - C. Contractor shall follow all Agency, Departmental, Federal, and State regulations and manufacturers' guidelines and instructions for safe and proper use of all chemicals and materials and be familiar with Material Safety Data Sheets of each chemical and material.
  - D. Contractor shall follow all Agency, Departmental, Federal, and State regulations in properly disposing of used chemicals, materials, and wastewater.
  - E. Contractor shall be familiar with and follow all Agency, Departmental, Federal, and State regulations in working with electrical and power equipment, and other safe practices. This includes familiarity and adherence to the Lock Out Tag Out (LOTO) program.
  - F. Provisions shall be made to adjust work schedule for severe or inclement weather. Work may be delayed in the event of wet soil conditions, where rutting or other damage may be possible. Contractor shall avoid damage and alteration of the existing concrete well head and all other infrastructure at the USDA-ARS-CPRL unless approved by COR. Contractor shall leave the area around the well clean and free of debris.
  - G. Contractor shall sign in upon arrival and sign out upon departure of the USDA-ARS facility during each workday.
8. **Inspection and Acceptance Requirements:** The COR shall inspect work upon completion and shall approve upon completion if work has been done according to terms of this statement of work. The Government shall process invoice upon approval.
9. **Security Requirements:**
- Contractor will be escorted when on site. No security requirements are needed.

**Performance Requirement Measures**

<b>Performance Objective</b>	<b>Required Task or Deliverable</b>	<b>Performance Standard</b>	<b>Method of Surveillance</b>	<b>Positive/Negative Incentive % for NOT meeting the Task</b>
Renovate/Cleaning Well Screens for Well #4 and #8	Cleaning Well Screens	On-site	In-person	Negative incentive of 15% reduction of annual rate for visits that are occur between 31 and 45 days of past monthly visit. Negative incentive of 30% reduction of annual rate for visits that are occur after 46 days of monthly visit.