

QUARTERLY PROGRESS REPORT NO. 1
Victoria ASR Demonstration Project

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From:
Lynn Short (City of Victoria)—Project Manager

Date:
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ARCADIS Project No.:
25963002.0000

Subject:
Quarterly Progress Report for the Victoria ASR Demonstration Project (**Contract No. 1600011958**) for **September 30, 2016 through December 31, 2016.**

Introduction:

The Victoria Aquifer Storage and Recovery (ASR) Demonstration Project is being partially funded by the Texas Water Development Board (TWDB) under Rider 25 to HB 1 (General Appropriations Act) of the 84th Legislature. The "Project" generally consists of: permitting, designing, and constructing an ASR retrofit to an existing City of Victoria groundwater production well (Well No. 19); constructing a potable water pipeline for recharge and recovery purposes; conducting training and preparing an operation and maintenance (O&M) manual; cycle testing and assessment of the operational ASR well; and making presentations summarizing results. The Project Contractor is the Victoria County Groundwater Conservation District (the "Victoria County GCD") and the primary Project Participant is the City of Victoria, Texas (the "City"). The Project consulting and engineering team consists of Arcadis U.S., Inc.; ASR Systems, LLC; and INTERA, Inc. (the "Arcadis Team").

The purposes of this Quarterly Progress Report are to explain what work has been accomplished during the reporting period, and to describe any potential or anticipated challenges.



Figure 1: Existing Well 19 Pumphouse and Piping

Work Completed:

Task 1: Project Management. During this reporting period the Arcadis Team facilitated a kickoff meeting and conference call on October 27, 2016 in Victoria, Texas. Eleven representatives of the Arcadis Team, the City, the Victoria County GCD and the TWDB participated in person or by speaker phone. The minutes of the kickoff meeting were provided to the TWDB, the Victoria County GCD and the other participants in the Project.

Arcadis and the City consulted with the Victoria County GCD and the TWDB, and prepared a list of the entities that might potentially be affected by the results of the Project. The list was accepted by both the Victoria County GCD and the TWDB. The list will be updated at the end of the Project.

On November 14, 2016, representatives of Arcadis and the City met with the TWDB to review the invoicing and reporting requirements, and to confirm the TWDB's expectations for the Project administrative and financial contractual conditions. Arcadis prepared Excel form templates for use by all billing participants, and Arcadis began preparation of the first quarterly invoice.

Since the kickoff meeting, the Arcadis Team has held conference calls every two weeks to review progress on the various tasks. The entire group of Project participants held the first monthly progress conference call on December 15, 2016. The latest group call was held on January 19, 2017.

Task 2: Permitting. On November 8, 2016 four representatives of the Arcadis Team had a pre-application meeting/conference call with three members of the Texas Commission on Environmental Quality (TCEQ) division that will be responsible for reviewing the application for an Underground Injection Control (UIC) Class V authorization for Well 19. The purposes of the meeting were to introduce the Arcadis Team members who will be working on the application, provide background on the Project, review the new TCEQ ASR Class V injection well application forms (coming out of HB 655) and discuss the anticipated timeframe for review and approval of the application.

The Arcadis Team began gathering the data required to complete the ASR Class V application, and the Arcadis Team and the City began preparing the various parts of the application forms.

Task 3: ASR Facilities Design. The Arcadis Team made a site visit to Well 19 on October 27, 2016 for purposes of confirming the existing facilities, and taking measurements and photographs. ASR Systems completed a draft of the Preliminary Design Technical Memorandum (PDTM) for review and comment by Arcadis and the City. Arcadis and the City provided comments, and ASR Systems began revising the PDTM. The final PDTM will be provided to the City, the Victoria County GCD and the TWDB in January 2017.

Task 4: Retrofit of Well No. 19. No work on this task has been completed in this reporting period.

Task 5: Potable Water Line Construction. No work on this task has been completed in this reporting period.

Task 6: Training and Preparation of O&M Manual. No work on this task has been completed in this reporting period.



Figure 2: Existing Well 19 Motor

Task 7: Cycle Testing and Assessment. The Arcadis Team developed and provided to the City a list of the water quality parameters that will be sampled and analyzed during the cycle testing task. The City began collecting existing data and water quality samples for the baseline analysis needed for the permitting and cycle testing. The City engaged a private laboratory to analyze samples that cannot be done in the City's laboratory.

When the City tried to collect baseline water quality samples at Well 19, it found that the motor was inoperable. The City then used an outside contractor (Saski) to move a motor from another groundwater well to Well 19 in order to collect the samples.

Task 8: Draft and Final Reports. No work has been completed on this task in this reporting period.

Task 9: Presentations. Project manager Lynn Short (Public Works Director for the City) prepared and presented a program on the Project at the December 2016 meeting of the Texas Water Utilities Association's Golden Crescent District. David Pyne (ASR Systems) and Fred Blumberg (Arcadis) participated in the ASR panel discussion at the TWDB's *Water for Texas 2017* Conference on January 25, 2017. The Project was included by reference in the panel discussion.

Challenges Identified:

During the UIC pre-application meeting on November 8, 2016, the TCEQ staff members stated that the new UIC Class V ASR application forms had just been completed, and that Victoria's application for the Project will likely be the first submittal reviewed under the new ASR rules. During the discussion, the Arcadis Team recognized that the volume of data and the information required by the TCEQ for ASR projects will be significantly greater than typically required for other Class V authorizations. In addition, the TCEQ could not give any indication as to how long it might take to review the application and approve the authorization. The TCEQ did, however, state that it would be available to answer questions and that it recognized the importance of making ASR applications "a priority."

Based on the information required in the new forms and the discussion with the TCEQ, the Arcadis Team revised the Project schedule to provide for a longer TCEQ review process. The schedule revisions will likely require an amendment to the Contract between the TWDB and the Victoria County GCD because most of the "downstream" tasks are dependent upon having the UIC authorization in hand. A revised Project schedule is attached.

