

QUARTERLY PROGRESS REPORT NO. 1 (CY 2017)
NBU ASR Demonstration Project

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From:
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Date:
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ARCADIS Project No.:
40256004.0000

Subject:
Quarterly Progress Report for the NBU ASR Demonstration Project (**Contract No. 1600011957**) for **January 1, 2017 through March 31, 2017**.

Introduction:

The New Braunfels Utilities (NBU) 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: coordination with TCEQ; design for wireline coring in the brackish Edwards Aquifer; wireline coring; design of a monitor well in the brackish Edwards Aquifer; construction of the monitor well and collection of data; preparation of draft and final reports; and presentations on the Project.

The Project Contractor is the Edwards Aquifer Authority (EAA) and the primary Project Participant is NBU. 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.

Work Completed:

Task 1: Project Management. During this reporting period project management activities have included communication with EAA and NBU, and among the Arcadis team, as well as extensive work setting up invoice templates and gathering required information. A kickoff meeting has not been held pending completion of an interlocal agreement between EAA and NBU, and completion of land acquisition.

For the purposes of the Project, the interlocal agreement is necessary because it is considered by EAA to be, and functions as, a permit for the recharge and recovery of water from the Edwards Aquifer as required in EAA's enabling act. For the last several months, EAA and NBU have been negotiating the final terms and conditions of the interlocal agreement.

At the same time, NBU continues working on the authorizations necessary to use the New Braunfels Regional Airport as the location for the wireline coring and the monitor well. The Regional Airport is the area identified in the 2012 feasibility study as the recommended location for the construction of an ASR wellfield for storage of treated water in the brackish portion of the Edwards Aquifer.

Task 2: Coordination with TCEQ. No work on this task has been completed in this reporting period.

Task 3: Coring Design. During this reporting period, NBU authorized the Arcadis team to begin development of the specification for the wireline coring. ASR Systems began this task by contacting drilling contractors with experience in wireline coring for ASR projects.

Task 4: Wireline Coring. No work on this task has been completed in this reporting period.

Task 5: Monitor Well Design. During this reporting period, NBU authorized the Arcadis team to begin preparing the specification for the monitor well construction. INTERA began working on the draft specifications.

Task 6: Monitor Well Construction and Data Collection. No work on this task has been completed in this reporting period.

Task 7: Draft and Final Reports. No work on this task has been completed in this reporting period.

Task 8: Presentations. 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.

Fred Blumberg and Matthew Webb (TWDB) gave a presentation on the Victoria and NBU ASR demonstration projects at the 2017 Project Management Seminar in San Antonio, Texas on February 24, 2017. The seminar is sponsored annually by the San Antonio chapters of the Texas Section of the American Water Works Association and the Water Environment Association of Texas.

Challenges Identified:

The negotiation of the interlocal agreement between EAA and NBU is progressing, but the process has taken longer than anticipated. On January 24, 2017 the EAA Aquifer Management Planning Committee unanimously approved the draft agreement. In February 2017 the EAA board asked that some additional issues be addressed in the interlocal agreement. During this reporting period EAA and NBU have been drafting and reviewing language to address the concerns of the EAA board of directors.

Likewise, NBU's land acquisition activities are taking longer than anticipated. NBU and the City of New Braunfels have completed an application for use of the Regional Airport property. That application was submitted for approval on January 25, 2017 to the Texas Department of Transportation aviation division, and after their review will be submitted to the Federal Aviation Administration (FAA).

Because of the delays to date, Arcadis has not prepared an updated schedule for the Project. It is likely that an amendment to the Contract between the TWDB and the EAA will be required because most of the "downstream" tasks are dependent upon having the executed interlocal agreement and access to property for the wireline coring and the construction of the monitor well.