

**TO:** Board Members

**THROUGH:** Kevin Patteson, Executive Administrator  
Robert E. Mace, Ph.D., P.G., Deputy Executive Administrator, Water  
Science & Conservation  
Les Trobman, General Counsel

**FROM:** Matt Webb, Innovative Water Technologies

**DATE:** January 7, 2016

**SUBJECT:** Approval of Demonstration Projects for Alternative Water Supplies

**ACTION REQUESTED**

Consider authorizing the Executive Administrator to award, negotiate, and execute contracts in a total amount not to exceed \$1,000,000 from General Revenue for alternative water supplies demonstration projects.

**BACKGROUND**

The 84<sup>th</sup> Texas Legislature appropriated \$1,000,000 from General Revenue to the Texas Water Development Board (TWDB) to fund grants for demonstration projects for alternative water supplies (House Bill 1, General Appropriations Act, 2015 Legislature, Regular Session, page VI-60, Rider 25). The grants will fund groundwater conservation districts for demonstration projects or feasibility studies that will prove up aquifer storage and recovery.

On September 22, 2015, the Board authorized the Executive Administrator to publish a Request for Application (RFA) for Demonstration Projects for Alternative Water Supplies. The RFA was announced in the *Texas Register* on October 9, 2015. Applications solicited were for demonstration projects or feasibility studies that would prove up aquifer storage and recovery projects or which would create new water supplies or increase the availability of water using innovative storage approaches that improve operational efficiencies. In addition, projects were required to provide cost-effective and regional water supplies to help meet the various competing demands for water, including those of agricultural, industrial, municipal, and others.

Total funding for projects was \$1,000,000. Groundwater conservation districts and/or their partner organizations were, at a minimum, required to provide dollar-for-dollar matching funds.

**Our Mission** : **Board Members**

To provide leadership, information, education, and support for planning, financial assistance, and outreach for the conservation and responsible development of water for Texas :

Bech Bruun, Chairman | Kathleen Jackson, Member | Peter Lake, Member

Kevin Patteson, Executive Administrator

**KEY ISSUES**

In response to the RFA, TWDB Contract Administration Division received six applications on or before the November 3, 2015, deadline. The total amount of funding requested from all applicants was \$1,834,462. Staff reviewed, scored, and ranked the applications using the criteria identified in 31Texas Administrative Code §355.5 and further specified in the RFA.

The applicant's name, project type, rank, and funding information, including recommended funding from TWDB, are provided in Table 1. A more detailed description of the projects recommended for funding is provided in the Attachment.

Table 1: Summary of Applications Received

| Applicant   | Project Type                        | Rank | Funding            |                    |                    |
|---|-------------------------------------|------|--------------------|--------------------|--------------------|
|   |                                     |      | Total              | Requested          | Recommended        |
| Victoria County Groundwater Conservation District                 | Demonstration                       | 1    | \$570,226          | \$285,112          | \$285,112          |
| Edwards Aquifer Authority   | Demonstration                       | 2    | \$563,000          | \$281,500          | \$281,500          |
| Corpus Christi Aquifer Storage and Recovery Conservation District | Demonstration                       | 3    | \$1,000,000        | \$500,000          | \$433,388          |
| Barton Springs/Edwards Aquifer Conservation District              | Feasibility Study/<br>Demonstration | 4    | \$1,174,000        | \$587,000          | -                  |
| Colorado County Groundwater Conservation District                 | Demonstration                       | 5    | \$181,700          | \$90,850           | -                  |
| Panhandle Groundwater Conservation District                       | Feasibility Study                   | 6    | \$180,000          | \$90,000           | -                  |
| <b>Total</b>  |                                     |      | <b>\$3,668,926</b> | <b>\$1,834,462</b> | <b>\$1,000,000</b> |

**RECOMMENDATION**

The Executive Administrator recommends approval of this item.

Legal counsel has reviewed this recommendation and the action requested is within the authority of the Board.

Attachment: Summary of Applications Recommended for Funding

## Attachment

### Summary of Applications Recommended for Funding

#### Victoria County Groundwater Conservation District

#### Proposed project funding:

|                            |           |
|----------------------------|-----------|
| Total Study Costs          | \$570,226 |
| Amount requested from TWDB | \$285,112 |
| Local cash or in-kind      | \$285,112 |

#### Participants:

- Victoria County Groundwater Conservation District
- City of Victoria
- Arcadis, Inc.
- ASR Systems, LLC
- Intera, Inc.

#### Project Area:

The project is located near the City of Victoria Surface Water Treatment Plant, Victoria, Texas.

#### Project Summary:

In 2013, the City of Victoria and Victoria County Groundwater Conservation District participated in a regional water supply study that concluded that aquifer storage and recovery was feasible. The study recommended that the next step was to prove the strategy. The proposed project will:

- Permit, design, and retrofit an existing groundwater production well as an aquifer storage and recovery well;
- Construct a potable water pipeline for recharge and recovery purposes;
- Test and assess the operational aquifer storage and recovery well; and
- Collect data to support development of full-scale aquifer storage and recovery system.

#### Project Duration:

The project duration is approximately 24 months. TWDB funds committed and encumbered in the 2016-2017 biennium will need to be expended by August 31, 2019.

## Edwards Aquifer Authority

### Proposed Project Funding:

|                            |           |
|----------------------------|-----------|
| Total Study Costs          | \$563,000 |
| Amount requested from TWDB | \$281,500 |
| Local cash or in-kind      | \$281,500 |

### Participants:

- Edwards Aquifer Authority
- New Braunfels Utilities
- Arcadis, Inc.
- ASR Systems, LLC
- Groundwater Management Associates, Inc.
- Intera, Inc.

### Project Area:

The project will be located near the New Braunfels Airport in New Braunfels, Texas.

### Project Summary:

In 2012, the New Braunfels Utilities completed a Phase I Aquifer Storage and Recovery feasibility study that recommended installing an aquifer storage and recovery well in the brackish portion of the Edwards Aquifer to prove its feasibility. The New Braunfels Utilities Aquifer Storage and Recovery demonstration project will:

- Permit, design, and construct continuous wireline core hole and monitor well;
- Conduct geochemical analysis of the aquifer using the wireline core hole, and
- Conduct geophysical logging and a short-duration pump test using the monitor well.

### Project Duration:

The project duration is approximately 12 months. TWDB funds committed and encumbered in Biennium 2016-2017 will need to be expended by August 31, 2019.

**Corpus Christi Aquifer Storage and Recovery Conservation District**

**Proposed Project Funding:**

|                            |             |
|----------------------------|-------------|
| Total Study Costs          | \$1,000,000 |
| Amount requested from TWDB | \$500,000   |
| Local cash or in-kind      | \$500,000   |

**Participants:**

- Corpus Christi Aquifer Storage and Recovery Conservation District
- City of Corpus Christi

**Project Area:**

The project will be located east of the airport and north of the Greenwood Wastewater Treatment Plant in Corpus Christi, Texas.

**Project Summary:**

In 2012, the Corpus Christi Aquifer Storage and Recovery Conservation District completed a geologic characterization of the aquifer. In 2015, the District investigated three potential areas suitable for aquifer storage and recovery. The District's Aquifer Storage and Recovery (ASR) demonstration project will:

- Conduct an exploratory test drilling program and drill up to 3 exploratory boreholes
- Collect hydrogeological and geochemical data
- Perform geochemical analysis on water sources
- Develop a field-scale groundwater model to simulate ASR operations

**Project Duration:**

The project duration is approximately 44 months. TWDB funds committed and encumbered in Biennium 2016-2017 will need to be expended by August 31, 2019.