



Innovative approaches
Practical results
Outstanding service

10431 Morado Circle, Suite 300 • Austin, Texas 78759 • 512-617-3100 • fax 512-617-3101

www.freese.com

February 4, 2016

Texas Water Development Board
SWIFT Abridged Application

Re: SWIFT Abridged Application - City of Beeville - Chase Well Field Project

To Whom It May Concern,

Transmitted via email, please find an Abridged Application for SWIFT Funding for the City of Beeville's Chase Well Field project, as named in the 2016 Region N State Water Plan. If you have any questions regarding this application, please contact the following people:

Stephanie Cecil, Freese and Nichols, Inc.
Stephanie.cecil@freese.com
512-617-3121

Kristine Horton, Finance Director for the City of Beeville
Kristine.Horton@beevilletx.org
361-358-4641

Thank you for your time and consideration,

Stephanie Cecil, P.E.
Freese and Nichols, Inc.

cc:
Kristine Horton, City of Beeville
Jack Hamlett, City of Beeville

Attachments:
SWIFT_Abridged_Application_Beeville_20160204.PDF

RECEIVED
2016 FEB 11 P 4: 23
TWDB



Abridged Application

Due February 5, 2016 by 5:00pm

SWIFT@twdb.texas.gov

By submitting this abridged application, you understand and confirm that the information provided is true and correct to the best of your knowledge and further understand that the failure to submit a complete abridged application by the stated deadlines, or to respond in a timely manner to additional requests for information, may result in the withdrawal of the abridged application without review.

GENERAL INFORMATION		
Name of Entity	County	Regional Water Planning Area
City of Beeville	Bee	N

Entity Contact Information			
Contact Person	Name	Kristine Horton	
	Title	Finance Director	
Mailing Address	City of Beeville		
	400 N Washington		
	Beeville, Texas 78102		
Phone Number	361-358-4641	Fax Number	361-358-7355
Email Address	Kristine.horton@beevilletx.org		

PROJECT DESCRIPTION				
Name of Project <i>(As it appears in the 2016 regional water plan)</i>	Chase Field Project			
Where can the project be found in the most recent Regional Water Plan?	Project described on page:	5D.7-6 (attached)	Capital costs listed on page:	5D.7-15 (attached)

Please attach a list of all water systems served by the proposed project.

Phase(s) Applied For	<input checked="" type="checkbox"/> Planning	<input checked="" type="checkbox"/> Acquisition	<input checked="" type="checkbox"/> Design	<input checked="" type="checkbox"/> Construction
Population Served When Fully Operational	14,918 (Estimated 2017 Water Service Population)			

Description of Proposed Project
<p>Currently, the City of Beeville has a single transmission pipeline from the George Morrill Surface Water Treatment Plant in Swinney Switch that branches out to serve the entire City. The purpose of the Chase Field groundwater project is to diversify the City of Beeville's water supplies and augment existing surface water supplies from the City of Corpus Christi, particularly during times of drought. Another objective of the project is to provide redundancy and resiliency to the City's system in the case of an emergency by implementing another source of drinking water.</p> <p>The Chase Field Project consists of a 1,491 ac-ft/yr (1.3 MGD) well field at Chase Field, in Beeville, Texas. Components of the project include: 4-8 groundwater wells, collection and distribution piping, a 0.5-MG ground storage tank, a booster pump station, and disinfection treatment facilities. Treatment needs beyond disinfection are not expected for the project, due to the high quality groundwater in the area. Water quality will be verified during test well drilling. This project will be able to provide approximately 30% of the average daily demand to serve the City of Beeville's residents, providing water to a diverse urban and rural population. This will decrease the City's need to pull water from Lake Corpus Christi and reduce the load on the City's George Morrill Surface Water Treatment Plant.</p>



Abridged Application

Due February 5, 2016 by 5:00pm
 SWIFT@twdb.texas.gov

Description of Proposed Project

The City has a readiness to proceed on the project and has already begun preliminary design of the project, including planning of the site, drilling of a test well, and analyzing blending of this water source with the existing surface water. Additionally, the City has already acquired groundwater rights for the project from the landowner. The City is also developing a Water Master Plan to model how this new water supply will move through the City's system and identify any upgrades needed for conveyance.

Emergency <i>(select all that apply)</i>	<input type="checkbox"/> Applicant/entity's water supply will last less than 180 days. <input type="checkbox"/> Water supply need occurs earlier than anticipated in the State Water Plan. <input type="checkbox"/> Applicant has received or applied for Federal emergency funding. <input checked="" type="checkbox"/> None of the above.
----------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Agricultural Efficiency Project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Efficiency improvement achieved by implementing the project <i>(Please provide an attachment showing the basis for your calculation.)</i> <input type="checkbox"/> <1% <input type="checkbox"/> 10%-13.9% <input type="checkbox"/> 1%-1.9% <input type="checkbox"/> 14%-17.9% <input type="checkbox"/> 2%-5.9% <input type="checkbox"/> ≥18% <input type="checkbox"/> 6%-9.9%
-----------------------------------------	------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Household Cost Factor

(Household Cost Factor for SWIFT prioritization is calculated by dividing the service area's average residential water bill by its annual median household income. For regional projects, these should represent the combined service areas of all participating entities.)

Estimated average annual residential water bill:	\$363.36	Annual Median Household Income:	\$37,989
---------------------------------------------------------	----------	----------------------------------------	----------

The proposed project addresses:	<input type="checkbox"/> Conservation <input type="checkbox"/> Water Loss <input checked="" type="checkbox"/> N/A	Annual Volume of Water Produced/Conserved by the Project <i>(in acre-feet per year)</i>	N/A
----------------------------------------	-------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------	-----

Readiness to Proceed <i>(select all that apply)</i>	<input type="checkbox"/> Preliminary planning or design work (30% of total project) has been completed or is not required. <input checked="" type="checkbox"/> Applicant is prepared to begin implementation or construction within 18 months of application deadline. <input checked="" type="checkbox"/> Applicant has acquired all water rights associated with the proposed project, or none will be required.
---------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

ESTIMATED COSTS

Estimated Project Costs	Low-interest Loan	\$ 4,777,000
	Deferred Loan	\$
	Board Participation	\$
	Local Contribution	\$
	Other:	\$
	Total Estimated Project Costs	\$ 4,777,000

Anticipated Commitments <i>Attach proposed schedule for multi-year commitments</i>	<input type="checkbox"/> One-Time Commitment <input checked="" type="checkbox"/> Multi-Year Commitments
----------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------



Abridged Application

Due February 5, 2016 by 5:00pm

SWIFT@twdb.texas.gov

Water Systems Served:

- 1) City of Beeville
- 2) Blueberry Hill Water Works (City of Beeville provides wholesale treated water)

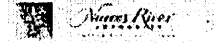
Proposed Schedule of Funds:

Year	Use	Funds Requested
2016	Planning, Design, Permitting, and Acquisition Funds	\$1,442,000
2017	Construction Funds	\$3,335,000

Attachments:

Attachment A – Project Description and Capital Costs from 2016 Region N Plan

ATTACHMENT A
PROJECT DESCRIPTION & CAPITAL COSTS
FROM 2016 REGION N PLAN



For McMullen County, the maximum shortage that occurs within the planning period after considering conservation is 43 ac-ft/yr for McMullen County-Irrigation (2050) and 3,029 ac-ft/yr for McMullen County-Mining (2030). *Voluntary transfers of 449 ac-ft are assumed to be available from unutilized Gulf Coast aquifer surpluses identified for McMullen County-Other.* Additional groundwater development for these two users is limited by voluntary transfers and MAGs. McMullen County-Irrigation is able to meet its full need with one well. McMullen County-Mining is able to drill three wells for a groundwater supply of 966 ac-ft/yr without violating MAG constraints. An unmet need of 2,063 ac-ft occurs for McMullen County-Mining in 2030 after considering mining conservation and available groundwater supplies. Due to reductions in McMullen County-Mining demand projections after 2030, an unmet need for McMullen County-Mining only occurs from 2020 to 2040.

For San Patricio County, the maximum shortage that occurs within the planning period after considering conservation is 1,396 ac-ft/yr for San Patricio County-Irrigation (2070). *Voluntary transfers of 466 ac-ft are assumed to be available from unutilized Gulf Coast aquifer surpluses identified for the City of Sinton.* Additional groundwater development for irrigation is limited by voluntary transfers and MAGs. San Patricio County-Irrigation is able to drill two wells for a groundwater supply of 703 ac-ft/yr without violating MAG constraints. An unmet need of 693 ac-ft occurs for McMullen County-Mining in the last decade only (2070) after considering mining conservation and available groundwater supplies.

5D.7.1.5 Evaluation of Groundwater Development for the City of Beeville

The City of Beeville does not have any needs identified during the planning time period, but is currently considering development of a 1,491 ac-ft/yr (1.3 mgd) wellfield at Chase Field and a new supply of 0.3 mgd by converting an irrigation to municipal well as shown in Figure 5D.7.1 and Figure 5D.7.2, respectively. Both projects can be developed at requested amounts without violating MAG constraints. The Chase Field project assumes 4 wells at a depth of 560 ft will operate at 230 gpm for 75% of the time to meet supply needs. It is anticipated that no advanced treatment is needed, other than chlorine disinfection.

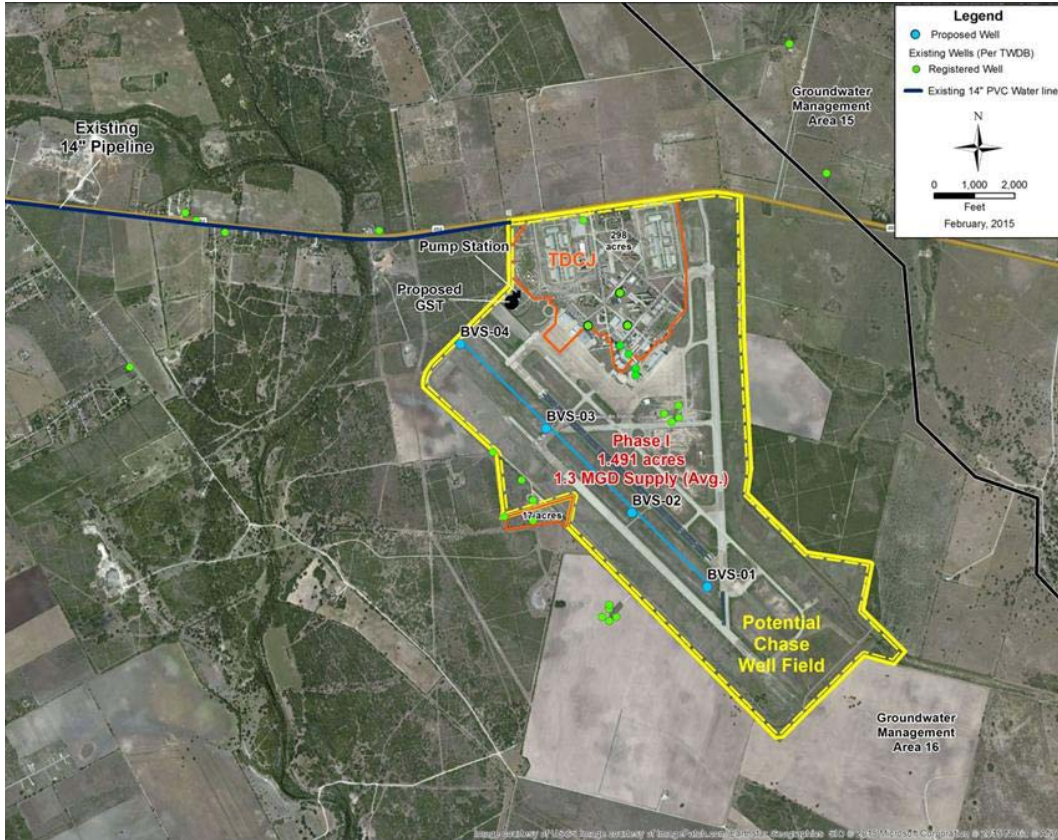


Figure 5D.7.1.
City of Beeville- Chase Field Project

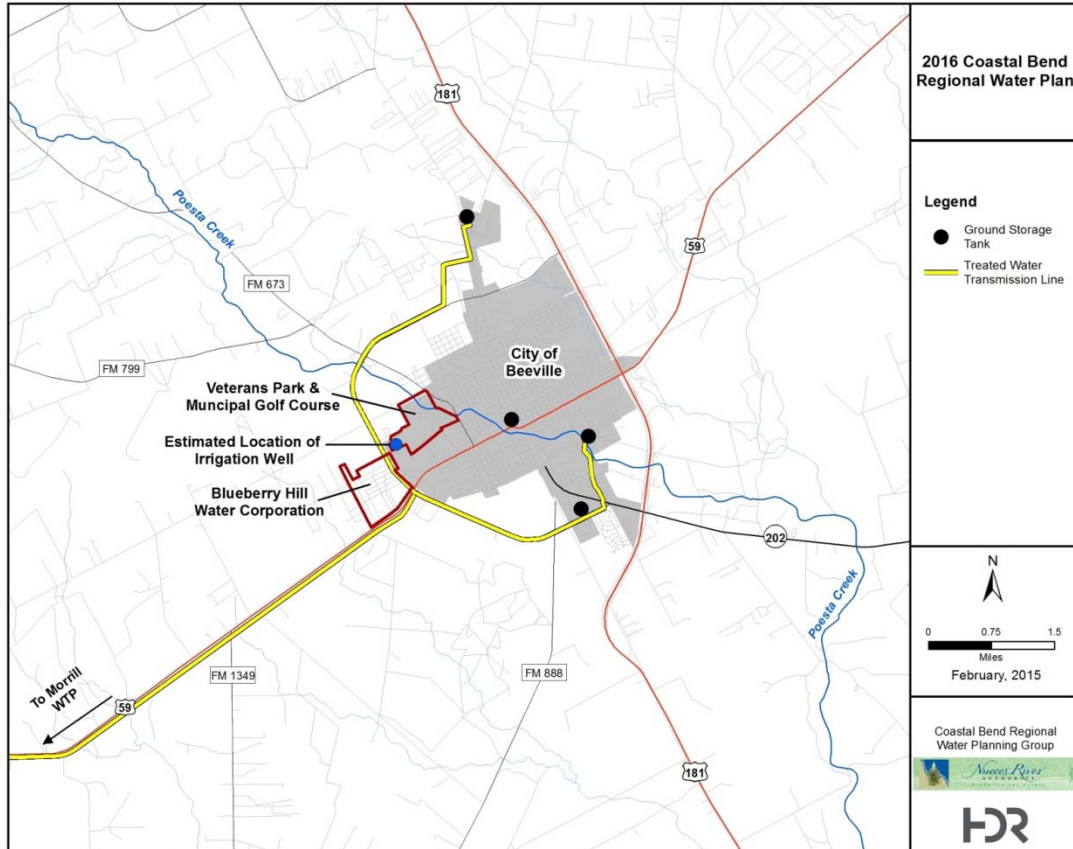


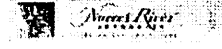
Figure 5D.7.2.
City of Beeville- Irrigation to Municipal Well Conversion Project

5D.7.1.6 Environmental Issues

The pumping of groundwater from the Gulf Coast Aquifer could have a very slight negative impact on baseflow in the downstream reaches of streams in these areas. However, many of the streams are dry most all the time; thus, no measurable impact on wildlife along the streams is expected.

The desalination of slightly saline groundwater produces a concentrate of salts in water that requires disposal. Depending upon location, environmental concerns can be addressed by discharging to saline aquifer by deep well injection, discharging to a salt-water body, or blending with wastewater.

Habitat studies and surveys for protected species may need to be conducted at the proposed well field sites and along any pipeline routes. When potential protected species habitat or other significant resources cannot be avoided, additional studies would have to be conducted to evaluate habitat use or eligibility for inclusion in the National Register for Historic Places, respectively. Wetland impacts, primary pipeline stream crossings, can be minimized by right-of-way selection and appropriate construction methods, including erosion controls and



revegetation procedures. Compensation for net losses of wetlands may be required where impacts are unavoidable.

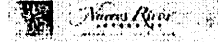
5D.7.1.7 Engineering and Costing

Cost estimates for new wells were prepared according to the assumptions presented in the previous section. Table 5D.7.2 displays the projected needs, by decade, for each of these entities, and the decades in which additional wells are estimated to be needed. The capital cost, project cost, annual cost, yield, and unit cost (in \$/ac-ft and \$/1,000 gallons) for water obtained under this strategy are presented in Table 5D.7.3 through Table 5D.7.8 for each entity county.

5D.7.1.8 Implementation Issues

The development of additional wells and the installation and operation of brackish water treatment plant, may have to address the following issues.

- Disposal of salt concentrate from water treatment plant;
- Impact on:
 - Endangered and other wildlife species,
 - Water levels in the aquifer,
 - Baseflow in streams, and
 - Wetlands;
- Capital and operation and maintenance costs;
- Skilled operators of desalination water treatment plants;
- Competition with others for groundwater in the area;
- Detailed feasibility evaluation including test drilling and aquifer water quality testing; and
- The potential for regulations by groundwater conservation districts in the future based on managed available groundwater identified by local districts or Groundwater Management Area, including the renewal of pumping permit at periodic intervals in counties where districts have been organized.



**Table 5D.7.7.
Cost Estimate Summary Water Supply Project Option
September 2013 Prices
Region N Local Gulf Coast Supplies – City of Beeville (1.3 mgd Chase Field Project)**

<i>Item</i>	<i>Estimated Costs for Facilities</i>
CAPITAL COST	
Pump Stations (1.7 mgd)	\$851,000
Transmission Pipeline (14-inch, 0.37 mile)	\$93,000
Well Fields (4 wells)	\$2,119,000
Storage Tanks	\$174,000
Treatment Plant (1.7 mgd)	\$98,000
TOTAL COST OF FACILITIES	\$3,335,000
Engineering and Feasibility Studies, Legal Assistance, Financing, Bond Counsel, and Contingencies (30% for pipes & 35% for all other facilities)	\$1,162,000
Environmental & Archaeology Studies and Mitigation	\$88,000
Land Acquisition and Surveying (32 acres)	\$30,000
Interest During Construction	\$162,000
TOTAL COST OF PROJECT	\$4,777,000
ANNUAL COST	
Debt Service (5.5 percent, 20 years)	\$400,000
Operation and Maintenance	
Wells, Pipeline, Pumps	\$22,000
Pump Stations	\$21,000
Water Treatment Plant	\$59,000
Pumping Energy Costs (625,680 kWh @ 0.09 \$/kWh)	\$56,000
Purchase of Water (1,457 ac-ft/yr @ 101.03 \$/ac-ft)	\$147,000
TOTAL ANNUAL COST	\$705,000
Available Project Yield (ac-ft/yr)	1,457
Annual Cost of Water (\$ per ac-ft)	\$484
Annual Cost of Water (\$ per 1,000 gallons)	\$1.48
<p>Cost estimate includes four wells at depth of 560 ft operating at 230 gpm by 2020. Assumes groundwater purchase price of \$101 per ac-ft pumped per BDA agreement. Assumes 14-inch pipeline to City of Beeville will be used for delivery. Cost estimate assumes seasonal peak rate of 1.32 times average rate. Cost estimate assumes chlorine disinfection is the only treatment necessary for groundwater supply.</p>	

From: [Stephanie Cecil](#)
To: [SWIFT](#)
Cc: [Jack Hamlett](#); kristine.horton@beevilletx.org
Subject: SWIFT Abridged Application - City of Beeville - Chase Well Field Project
Date: Thursday, February 04, 2016 3:52:49 PM
Attachments: [SWIFT Abridged Application Beeville 20160204.pdf](#)
Importance: High

To Whom It May Concern,

Attached to this email, please find an Abridged Application for SWIFT Funding for the City of Beeville's Chase Well Field project, as named in the 2016 Region N State Water Plan.

If you have any questions regarding this application, please contact the following people:

Stephanie Cecil, Freese and Nichols, Inc.

Stephanie.cecil@freese.com

512-617-3121

Kristine Horton, Finance Director for the City of Beeville

Kristine.Horton@beevilletx.org

361-358-4641

Thank you for your time and consideration,

Stephanie Cecil, P.E.

Water/ Wastewater Treatment, Transmission, and Utilities

Freese and Nichols, Inc.

10431 Morado Circle

Building 5, Suite 300

Austin, TX 78759

P: 512-617-3121 - direct

F: 512-617-3101

www.freese.com



This electronic mail message is intended exclusively for the individual or entity to which it is addressed. This message, together with any attachment, may contain the sender's organization's confidential and privileged information. The recipient is hereby notified to treat the information as confidential and privileged and to not disclose or use the information except as authorized by sender's organization. Any unauthorized review, printing, retention, copying, disclosure, distribution, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information by persons or entities other than the intended recipient is

prohibited. If you received this message in error, please immediately contact the sender by reply email and delete all copies of the material from any computer. Thank you for your cooperation.