

Texas Water Development Board



North San Saba WSC

DWSRF GREEN PROJECT RESERVE BUSINESS CASE EVALUATION

STATE FISCAL YEAR 2011 INTENDED USE PLAN

PROJECT NUMBER 62509

COMMITMENT DATE: JUNE 22, 2011 DATE OF

LOAN CLOSING: JANUARY 12, 2012

July 14, 2011

Will Broyles, Manager
North San Saba WSC
P.O. Box 598
San Saba, TX 76877

**Re: SFY 2011 Drinking Water State Revolving Fund
Green Project Eligibility**

Dear Mr. Broyles:

The Texas Water Development Board (TWDB) received Green Project Information Worksheets from North San Saba WSC (Corporation) for project #8601 in response to the Drinking Water State Revolving Fund (DWSRF) invitation dated November 5, 2010. The invitation states that the Corporation was listed on the Project Priority List as having green costs greater than or equal to 30% of the total project cost. After reviewing the worksheets, TWDB staff determined the Corporation does meet the 30% green cost threshold based on the following:

- The Corporation's Green Project Information Worksheets requested that \$100,000 of the Corporation's \$310,000 water transmission line and distribution line replacement project be considered eligible for the DWSRF Green Project Reserve (GPR). The green element is described as distribution pipe replacement or rehabilitation to reduce water loss and prevent water main breaks. At this time funding is only being requested for the planning, acquisition and design phase of the project.
- The Environmental Protection Agency's (EPA's) *Green Project Reserve Guidance for Determining Project Eligibility* (TWDB-0161) lists water efficiency projects such as distribution pipe replacement to reduce water loss and prevent water main breaks as business case eligible for the GPR (Part B, Section 2.5-2).
- Information presented on the Green Project Information Worksheets and its attachments provided sufficient information to confirm the eligibility of the proposed water distribution line replacement for the GPR in accordance with TWDB-0161, Part B, Section 2.5-2.
- Therefore, at this time the TWDB considers project costs associated with the planning, acquisition and design phases of the water transmission line and distribution line replacement project in the amount of \$100,000 to be eligible for the DWSRF GPR.

Our Mission : Board Members

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

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Melanie Callahan, Interim Executive Administrator

Will Broyles

July 14, 2011

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- Please note that the Corporation's application for financial assistance must be consistent with the project scope presented on the Green Project Information Worksheets. Inclusion of the green elements within the project will be verified prior to Board commitment.

The TWDB appreciates the Corporation's interest in the DWSRF program. If you have any questions regarding green project eligibility, please feel free to contact John Muras, Project Engineer, by phone at 512-463-1706 or by email at john.muras@twdb.state.tx.us.

Sincerely,



Stacy L. Barna
Director of Program Development
Project Finance Division

SLB:rf

Green Project Reserve

Green Project Information Worksheets

Drinking Water State Revolving Fund

Intended Use Plan

The Federal Appropriation Law for the current fiscal year Clean Water and Drinking Water State Revolving Fund programs contains the Green Project Reserve (GPR) requirement. The following Green Project Information Worksheets have been developed to assist TWDB Staff in verifying eligibility of potential GPR projects.

TEXAS WATER DEVELOPMENT BOARD
DRINKING WATER STATE REVOLVING FUND (DWSRF)
GREEN PROJECT INFORMATION WORKSHEETS

PART I – GREEN PROJECT INFORMATION SUMMARY

Check all that apply and complete applicable worksheets:

Categorically Eligible

- Green Infrastructure \$ _____
- Water Efficiency \$ _____
- Energy Efficiency \$ _____
- Environmentally Innovative \$ _____

Business Case Eligible

- Green Infrastructure \$ _____
- Water Efficiency \$ 100,000
- Energy Efficiency \$ _____
- Environmentally Innovative \$ _____

Total Requested Green Amount \$ 100,000

Total Requested Funding Amount \$ 271,000

Type of Funding Requested:

- PAD (Planning, Acquisition, Design)
- C (Construction)

Completed by:

Name: Deana Sealy

Title: Project Engineer

Signature: 

Date: 6/7/2011

**TEXAS WATER DEVELOPMENT BOARD
DRINKING WATER STATE REVOLVING FUND (DWSRF)
GREEN PROJECT INFORMATION WORKSHEETS**

PART III - BUSINESS CASE ELIGIBLE

Complete this worksheet for projects being considered for the Green Project Reserve (GPR) as business case eligible. Business case eligible projects or project components are described in the following sections of the EPA GPR guidance (TWDB-0161):

Green Infrastructure	Part B, Section 1.4
Water Efficiency	Part B, Section 2.4 and 2.5
Energy Efficiency	Part B, Section 3.4 and 3.5
Environmentally Innovative	Part B, Section 4.4 and 4.5

Information provided on this worksheet should be of sufficient detail and should clearly demonstrate that the proposed improvements are consistent with EPA and TWDB GPR guidance for business case eligible projects. Refer to **Information on Completing Worksheets** for additional information.

Section 1 – General Project Information

Applicant: North San Saba WSC PIF #: 8601

Project Name: New Transmission Line and Distribution Line Replacement

Contact Name: Deana Sealy

Contact Phone and e-mail: 325-396-4949 sealy@wcc.net

Total Project Cost: \$271,000 Green Amount: 100,000.00
(Business Case Eligible)

Brief Overall Project Description:

This project will be to install a pump station and transmission line to move water from the City of San Saba to the North San Saba WSC standpipe on FM 500 where the water can be blended with water from the North San Saba WSC's well water to reduce the Combined Radium in the water. The remainder of the project will be to replace old leaking pipelines with new correctly sized water lines. The North San Saba WSC has high water loss due to the old lines that are constantly leaking. The current funding request is for planning, acquisition and design activities.

Section 3 – Water Efficiency

Certain water efficiency improvements may be considered business case eligible for the GPR. Refer to EPA and TWDB GPR guidance for a complete list and description of business case eligible GPR Projects. For all water efficiency business case eligible projects Section 3.1 must be completed. A common water efficiency project that may be considered business case eligible is water line replacements to address water loss. For this type of project complete Section 3.2 of the worksheet. For any other water efficiency improvement being considered for business case eligibility, complete Section 3.3.

Section 3.1 - System and Water Loss Information

Section 3.1 is required for all water efficiency business case eligible projects. Attach a copy of most recent Water Audit, if available. Otherwise, complete and attach Water Audit Worksheet or provide water audit data in a similar format. Additional information on water loss and water audits as well as a copy of the Water Audit Worksheet is available at: http://www.twdb.state.tx.us/assistance/conservation/Municipal/Water_Audit/wald.asp

Reference and attach water loss audit and/or any other completed planning or engineering studies:

- 2010 Water Loss Audit
- Water Loss May 2009 - April 2011
- _____

Section 3.2 - Water Line Replacement

Proposed pipe to be replaced:

Length (LF)	Existing Pipe			Proposed Pipe	
	Material	Age (yr)	Dia. (in)	Dia. (in)	Material
7920	PVC	31	2	3	PVC
10560	PVC	27	2	4	PVC
26400	PVC	32	2	4	PVC
10560	PVC	30	2	4	PVC
5280	PVC	30	2	2	PVC
10560	PVC	30	2	3	PVC
5280	PVC	25	2	3	PVC
15840	PVC	25	2	4	PVC
7920	PVC	25	2	2	PVC
15840	PVC	20	2	3	PVC

Percent of distribution lines being replaced: 24%

Number of breaks/leaks/repairs recorded in past 24 months for areas being replaced : 450

Estimated water loss from pipe being replaced (provide calculations on following page): 9,045,000

Estimated annual water savings (provide calculations on following page): 4,522,500 gallons

Estimated annual cost savings (provide calculations on following page): \$37,001.25

Provide detailed description of the propose improvements and provide supporting calculations. Description should include a description of the methodology used to select pipes for replacement (attach additional pages if necessary):

The proposed improvements will replace 22 miles of 25+ year old pipeline that is contributing to at least 5 million gallons per year of water loss. The North San Saba WSC system was started in the 1970's and most of the pipe being replaced is 25 to 30+ years old and has leaks in numerous places on a monthly if not weekly basis. These areas of pipe to be replaced are based on the three factors: 1) number of leaks that have occurred in the past 24 months, 2) the causes of the leaks, and 3) the observed condition of the pipe. Over 90% of the leaks in the past 24 months have been in these pipelines. The manager of the North San Saba WSC has just continued to repair these leaking pipes and in one instance, on a 1 mile section of pipeline, 9 leaks were repaired in one week. All other leaks have been a result of damage (ex: line hit by fencing crews, etc.) or have been only one leak in an area and have been repaired. All of the pipe is undersized as growth took place in the North San Saba WSC in the late 1980's and early 1990's. The system has not grown in the past 10 to 15 years, but pipes are undersized and pressures are very low in some areas because of the number of customers and length of very small diameter pipe. The system was not planned very well, it was put in as a necessity and just added on to with any available pipe by the shortest route.

Please see attached Water Loss May 2009 - April 2011 for the calculations of the water loss in the proposed pipelines. Approximately 90% of the known water loss was due to leaks in the proposed pipes to be replaced. Although it cannot be proven, there may have been water loss in excess of these estimates from the proposed pipelines. Known water loss for the past 24 months = 10,050,000 gallons. $10,050,000 * 90\% = 9,045,000$.

The North San Saba WSC recognizes the importance of addressing system water loss and has implemented operational changes. The system's water loss is currently considerably less than it was 2 years ago. This is because the current manager fixes leaks very quickly, immediately after they are reported or found, and not because there are any less leaks than previously. The WSC now plans to implement a more sustainable approach to addressing water loss by replacing the aging and leaking infrastructure contributing to excessive loss and repair costs.

At a minimum, an estimate of 4,522,500 gallons of water were lost last year due to the proposed pipelines to be replaced. $9,045,000 / 2 = 4,522,500$ gallons per year.

Estimated annual cost savings = \$ 37,001.25
 $4,522,500 \text{ gallons} * \$1.70 \text{ per } 1000 \text{ gallons} = \$7,688.25 \text{ for water loss}$
Annual expenditure for parts for repair on these pipelines = \$29,313.00
 $\$7,688.25 + \$29,313.00 = \$37,001.25$

Engineering	
Planning	\$ 5,000
Design	\$ 85,000
Surveying	\$ 10,000
Inspection & Admin.	\$ 45,000
Construction	\$ 1,285,000
Contingency	\$ 125,000

Total PAD Green Amount: \$100,000
Total Potential Green amount associated with water line replacement : \$1,555,000

Green amount associated with water line replacement: \$100,000.00
(Attach detailed cost estimate if necessary)

PROJECT BUDGET						
Uses	TWDB Funds Series 1	DWSRF Green Project Reserve	TWDB Funds Series 3	Total TWDB Cost	Other Funds	Total Cost
Construction						
Construction	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Construction	\$0	\$0	\$0	\$0	\$0	\$0
Basic Engineering Fees						
Planning +	\$20,000	\$5,000	\$0	\$25,000	\$0	\$25,000
Design	\$100,000	\$85,000	\$0	\$185,000	\$0	\$185,000
Construction Engineering	\$0	\$0	\$0	\$0	\$0	\$0
Basic Engineering Other **	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Basic Engineering Fees	\$120,000	\$90,000	\$0	\$210,000	\$0	\$210,000
Special Services						
Application	\$10,000	\$0	\$0	\$10,000	\$0	\$10,000
Environmental	\$10,000	\$0	\$0	\$10,000	\$0	\$10,000
Water Conservation Plan	\$0	\$0	\$0	\$0	\$0	\$0
I/I Studies/Sewer Evaluation	\$0	\$0	\$0	\$0	\$0	\$0
Surveying	\$15,000	\$10,000	\$0	\$25,000	\$0	\$25,000
Geotechnical	\$0	\$0	\$0	\$0	\$0	\$0
Testing	\$0	\$0	\$0	\$0	\$0	\$0
Permits	\$0	\$0	\$0	\$0	\$0	\$0
Inspection	\$0	\$0	\$0	\$0	\$0	\$0
O&M Manual	\$0	\$0	\$0	\$0	\$0	\$0
Project Management (by engineer)	\$0	\$0	\$0	\$0	\$0	\$0
Pilot Testing	\$0	\$0	\$0	\$0	\$0	\$0
Water Distribution Modeling	\$0	\$0	\$0	\$0	\$0	\$0
Special Services Other **	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Special Services	\$35,000	\$10,000	\$0	\$45,000	\$0	\$45,000
Other						
Administration	\$0	\$0	\$0	\$0	\$0	\$0
Land/Easements Acquisition	\$0	\$0	\$0	\$0	\$0	\$0
Water Rights Purchase (If Applicable)	\$0	\$0	\$0	\$0	\$0	\$0
Capacity Buy-In (If Applicable)	\$0	\$0	\$0	\$0	\$0	\$0
Project Legal Expenses	\$0	\$0	\$0	\$0	\$0	\$0
Other **	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Other Services	\$0	\$0	\$0	\$0	\$0	\$0
Fiscal Services						
Financial Advisor	\$5,000	\$0	\$0	\$5,000	\$0	\$5,000
Bond Counsel	\$0	\$0	\$0	\$0	\$0	\$0
Issuance Cost	\$0	\$0	\$0	\$0	\$0	\$0
Bond Insurance/Surety	\$0	\$0	\$0	\$0	\$0	\$0
Fiscal/Legal	\$5,000	\$0	\$0	\$5,000	\$0	\$5,000
Capitalized Interest	\$0	\$0	\$0	\$0	\$0	\$0
Bond Reserve Fund	\$0	\$0	\$0	\$0	\$0	\$0
Loan Origination Fee	\$5,850	\$0	\$0	\$5,850	\$0	\$5,850
Other **	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal Fiscal Services	\$15,850	\$0	\$0	\$15,850	\$0	\$15,850
Contingency						
Contingency	\$150	\$0	\$0	\$150	\$0	\$150
Subtotal Contingency	\$150	\$0	\$0	\$150	\$0	\$150
TOTAL COSTS	\$171,000	\$100,000	\$0	\$271,000	\$0	\$271,000

Other ** description must be entered

+ For Planning applications under the EDAP Program, please break down Planning costs as follows:

Category A				0
Category B				0
Category C				0
Category D				0
Total Planning Costs				0

**North San Saba Water Supply Corp.
Water loss May 2009 to April 2011**

MONTH	WATER Produced	WATER PURCHASED	TOTAL WATER PROD & PURCH	known water loss	WATER SOLD	WATER LOSS %
May-09	688,900	2,076,900	2,765,800	200,000	1,368,151	46.68
Jun-09	749,500	3,708,000	4,457,500	200,000	2,427,162	42.99
Jul-09	1,826,800	3,400,600	5,227,400	200,000	2,449,548	51.28
Aug-09	1,977,900	4,511,500	6,489,400	600,000	2,895,490	50.84
Sep-09	1,972,600	5,043,100	7,015,700	400,000	2,833,940	57.16
Oct-09	1,797,600	2,685,900	4,483,500	300,000	1,614,421	61.41
Nov-09	1,934,100	3,181,300	5,115,400	300,000	1,602,207	66.73
Dec-09	1,838,200	3,664,100	5,502,300	200,000	1,650,520	68.87
Jan-10	2,362,500	4,038,300	6,400,800	300,000	1,391,098	77.20
Feb-10	1,569,600	3,620,300	5,189,900	300,000	1,639,534	66.47
Mar-10	1,728,000	2,627,200	4,355,200	200,000	1,002,903	75.86
Apr-10	1,384,900	1,616,700	3,001,600	200,000	1,473,825	47.39
May-10	1,839,200	1,744,300	3,583,500	200,000	1,457,580	56.92
Jun-10	1,997,400	2,378,100	4,375,500	200,000	1,895,925	54.59
Jul-10	2,078,800	2,096,400	4,175,200	200,000	3,048,032	23.32
Aug-10	1,943,700	2,473,000	4,416,700	300,000	2,901,424	29.52
Sep-10	2,058,300	2,204,900	4,263,200	280,000	3,127,955	21.47
Oct-10	1,948,200	1,290,500	3,238,700	200,000	2,594,066	14.63
Nov-10	1,876,700	1,518,400	3,395,100	980,000	1,952,334	19.16
Dec-10	1,971,200	2,455,500	4,426,700	950,000	2,554,330	26.53
Jan-11	2,076,400	1,756,600	3,833,000	1,320,000	1,894,930	24.59
Feb-11	2,202,800	2,397,700	4,600,500	1,420,000	2,010,993	36.77
Mar-11	1,900,100	639,300	2,539,400	500,000	1,537,530	24.61
Apr-11	1,978,000	1,344,300	3,322,300	100,000	2,654,890	17.61
TOTAL	43,701,400	62,472,900	106,174,300	10,050,000	49,978,788	48.01

TEXAS WATER DEVELOPMENT BOARD

P.O. BOX 13231, CAPITOL STATION

AUSTIN, TX 78711-3231

WATER AUDIT REPORTING FORM -

If further assistance is needed, contact Mark Mathis at _____ 2010 _____ or 512.463.0987.

Mark.Mathis@twdb.state.tx.us

A. Water Utility General Information

1. Water Utility Name: NORTH SAN SABA WSC

2. Contact:

2a. Name CINDY WHITNEY

2b. Telephone # (325)-372-5348

2c. Email Address _____

3. Reporting Period: From 1/1/2010 To 12/31/2010

4. Source Water Utilization, percentage: Surface Water 0 % Ground Water 100 %

5. Population Served:

5a. Retail Population Served 441

5b. Wholesale Population Served 0

Assessment
Scale

6. Utility's Length of Main Lines, miles 75.00 0

7. Number of Wholesale Connections Served 0

8. Number of Retail Service Connections Served 294

9. Service Connection Density 3.92

(Number of retail service connections/Miles of main lines)

10. Average Yearly System Operating Pressure (psi) 55 0

11. Volume Units of Measure: G

B. System Input Volume

12. Produced Water 23,356,600.00 0

13. Production Meter Accuracy (enter percentage) 90.00 % 0

14. Corrected Input Volume 25,951,777.78

15. Water Imported 29,060,800.00 0

16. Water Exported 0.00 0

17. System Input Volume 55,012,577.78

(Corrected input volume, plus imported water, minus exported water)

		Assessment Scale
C. Authorized Consumption		
18. Billed Metered	<u>24,619,200.00</u>	<u>0</u>
19. Billed Unmetered	<u>0.00</u>	<u>0</u>
20. Unbilled Metered	<u>0.00</u>	<u>0</u>
21. Unbilled Unmetered	<u>687,657.22</u>	<u>0</u>
22. Total Authorized Consumption	<u>25,306,857.22</u>	
D. Water Losses		
23. Water Losses (Line 17 minus Line 22)	<u>29,705,720.56</u>	
E. Apparent Losses		
24. Average Customer Meter Accuracy (Enter percentage)	<u>95.00 %</u>	<u>0</u>
25. Customer Meter Accuracy Loss	<u>1,295,747.37</u>	
26. Systematic Data Handling Discrepancy	<u>0.00</u>	<u>0</u>
27. Unauthorized Consumption	<u>137,531.44</u>	<u>0</u>
28. Total Apparent Losses	<u>1,433,278.81</u>	
F. Real Losses		
29. Reported Breaks and Leaks (Estimated volume of leaks & breaks repaired during the audit period)	<u>4,360,000.00</u>	<u>0</u>
30. Unreported Loss (Includes all unknown water loss)	<u>23,912,441.75</u>	<u>0</u>
31. Total Real Losses (Line 29, plus Line 30)	<u>28,272,441.75</u>	
32. Water Losses (Apparent + Real) (Line 28 plus Line 31) = Line 23	<u>29,705,720.56</u>	
33. Non-revenue Water (Water Losses + Unbilled Authorized Consumption) (Line 32, plus Line 20, plus Line 21)	<u>30,393,377.78</u>	
G. Technical Performance Indicator for Apparent Loss		
34. Apparent Losses Normalized	<u>13.36</u>	

(Apparent Loss Volume/# of Retail Service Connections/365)

H. Technical Performance Indicators for Real Loss

35. Real Loss Volume (Line 31)	<u>28,272,441.75</u>	
36. Unavoidable Annual Real Losses, volume (calculated)	<u>9,015,682.50</u>	
37. Infrastructure Leakage Index (calculated) (Equals real loss volume divided by unavoidable annual real losses)	<u>3.13590</u>	
38. Real Losses Normalized (Real Loss Volume/# of Service Connections/365) (This indicator applies if service connection density is greater than 32/mile)	<u>263.47</u>	
39. Real Losses Normalized (Real Loss Volume/Miles of Main Lines/365) (This indicator applies if service connection density is less than 32/mile)	<u>1,032.78</u>	

I. Financial Performance Indicators

		Assessment Scale
40. Total Apparent Losses (Line 28)	<u>1,433,278.81</u>	
41. Retail Price of Water	<u>\$0.00170</u>	<u>0</u>
42. Cost of Apparent Losses (Apparent loss volume multiplied by retail cost of water, Line 40 x Line 41)	<u>\$2,436.57</u>	
43. Total Real Losses (Line 31)	<u>28,272,441.75</u>	
44. Variable Production Cost of Water* (*Note: in case of water shortage, real losses might be valued at the retail price of water instead of the	<u>\$0.00100</u>	<u>0</u>
45. Cost of Real Losses (Real Loss multiplied by variable production cost of water, Line 43 x Line 44)	<u>\$28,272.44</u>	
46. Total Assessment Scale		<u>0</u>
47. Total Cost Impact of Apparent and Real Losses	<u>\$30,709.01</u>	