

# Texas Water Development Board



## City of Comanche

DWSRF GREEN PROJECT RESERVE BUSINESS CASE EVALUATION

STATE FISCAL YEAR 2012 INTENDED USE PLAN

PROJECT NUMBER 62529

COMMITMENT DATE: September 20, 2012

DATE OF LOAN CLOSING: February 21, 2013

GREEN ESTIMATE AT CLOSING: \$1,273,013.00

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Subsidy awarded for Green components, \$188,250.00

July 17, 2012

Mr. Bill Flannery  
City of Comanche  
114 W Central Ave  
Comanche, TX 76442-3215

**Re: SFY 2012 Drinking Water State Revolving Fund  
Green Project Eligibility**

Dear Mr. Flannery:

The Texas Water Development Board (TWDB) received Green Project Information Worksheets from the City of Comanche (City) for project #9351 in response to a Disadvantaged invitation letter dated March 26, 2012. The letter states that should funding be available, the City is eligible for loan forgiveness in an amount up to 15% of the green component cost (also referred to as the Green Project Reserve) if it can demonstrate that the project has green costs greater than or equal to 30% of the total project cost. After reviewing the worksheets, TWDB staff determined the City meets the 30% green cost threshold based on the following:

- The City's Green Project Information Worksheets dated April 23, 2012 requested that \$1,285,000 of the City's total project cost of \$1,285,000 be considered eligible for the DWSRF Green Project Reserve (GPR). The general element(s) described includes the replacement of approximately 19,000 linear feet of distribution lines to address high water loss.
- The Environmental Protection Agency's (EPA's) Green Project Reserve Guidance for Determining Project Eligibility (TWDB-0161) lists distribution pipe replacement or rehabilitation to reduce water loss and prevent water main breaks as business case eligible for the GPR (Part B, 2.5-2), Water Efficiency.
- Information presented on the Green Project Information Worksheets and attachments previously submitted with the Project Information Form provided sufficient information to confirm the eligibility of the proposed improvements for the GPR in accordance with TWDB-0161 Part B, 2.5-2.
- Therefore, at this time the TWDB considers project costs associated with the Distribution Line Replacement in the amount of \$1,285,000 to be eligible for the DWSRF GPR. This includes estimated construction costs for the item.
- Please note that the City's application for financial assistance must be consistent with the project scope presented on the Green Project Information Worksheets. Inclusion of the

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

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green elements within the project will be verified prior to Board commitment. If the project scope or budget related to the approved green components changes during application review, the City should update and resubmit the Green Project Information Worksheets as necessary.

For SFY 2012, the TWDB is required by federal law to allocate no less than 20% of the capitalization grant toward green component costs. Therefore, the TWDB gives first preference for invitations to entities that have a documented percentage of green component cost of at least 30% of the total project cost. The City has demonstrated that it meets/exceeds the 30% green cost threshold. A letter dated March 26, 2012 was sent inviting the City to apply for Disadvantaged Community funding.

If you have any questions regarding green project eligibility, please feel free to contact James Bronikowski, Project Engineer, by phone at 512-475-0145 or by email at [james.bronikowski@twdb.texas.gov](mailto:james.bronikowski@twdb.texas.gov).

The TWDB appreciates the City of Comanche interest in the DWSRF.

Sincerely,



Stacy L. Barna  
Director of Program Development  
Program and Policy Development

SB:rf

- Attachments: 1. Green Project Information Worksheets, Approved  
2. Green Project Cost Summary

# Green Project Reserve

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## Green Project Information Worksheets

**2011 Intended Use Plan  
Drinking Water State Revolving Fund**

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 \$ 1,285,000.00
- Energy Efficiency \$ \_\_\_\_\_
- Environmentally Innovative \$ \_\_\_\_\_

Total Requested Green Amount \$ 1,285,000.00

Total Requested Funding Amount \$ 1,285,000.00

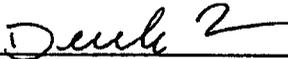
**Type of Funding Requested:**

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

Completed by:

Name: Derek Turner, P.E.

Title: Project Engineer

Signature: 

Date: 04/23/2012

**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: City of Comanche PIF #: \_\_\_\_\_

Project Name: Water System Improvements

Contact Name: Derek Turner, P.E.

Contact Phone and e-mail: (817) 594-9880 adt@jacobmartin.com

Total Project Cost: \$1,285,000.00 Green Amount: \$1,285,000.00  
(Business Case Eligible)

**Brief Overall Project Description:**

This Project consists of the replacement of approximately 19,000 linear feet of 2-inch galvanized and 8-inch and 10-inch cast iron water lines with PVC.

**Section 2 – Green Infrastructure**

Certain green infrastructure 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. Provide reference to the applicable sections of the EPA GPR guidance (TWDB-0161) that demonstrate GPR eligibility. Provide a detailed description of the proposed green infrastructure improvements of sufficient detail that clearly demonstrates that the proposed improvements are consistent with EPA GPR guidance (TWDB-0161).

Guidance Reference:  
TWDB-0161, Part B, Section 2.5-2

Detailed Description (attach additional pages if necessary):  
The Project consists entirely of replacing existing distribution water lines to reduce water loss and prevent water main breaks as described in TWDB-0161, Part B, Section 2.5-2.

Green amount associated with green infrastructure (business case eligible):     \$ 1,285,000.00      
(Attach a detailed cost estimate if necessary)

**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](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 Audit  
 2011 Water Loss Data

**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
400	Cast Iron	50+	10	10	PVC - C-900
16,200	Cast Iron	50+	8	8	PVC - C-900
2,400	Galvanized	50+	2	6	PVC - C-900

Percent of distribution lines being replaced: 1.5%

Number of breaks/leaks/repairs recorded in past 24 months for areas being replaced: 150

Estimated water loss from pipe being replaced (provide calculations on following page): 2,500,000

Estimated annual water savings (provide calculations on following page): 1,750,000

Estimated annual cost savings (provide calculations on following page): \$21,783.50

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):

- \* Pipe replacements based on locations of reported leaks and repairs made by city personnel.
- \* Total Water Loss in 2011 = 22,316,270 gallons.
- \* Water Loss Attributable to Sections to be Replaced - Estimated to be 1,250,000 gallons (Based on reported leaks).

The pipes to be replaced were identified by City Personnel and documented in the yearly leak report. This along with the City's knowledge of previous line replacements identified the locations of deteriorated lines.

Estimated:

Water Loss Reduction = 1,250,000 gallons  
Water Flush Reduction = 500,000 gallons  
1,750,000 gallons

Wholesale Water Cost = 1,750 X \$2.99 = \$ 5,232.50  
Chemical and Testing Cost = 75 X \$200.00 = \$15,000.00  
City Personnel Labor & Equip. = 141 hrs. X \$11.00 = \$ 1,551.00  
Total= \$21,783.50

Green amount associated with water line replacement: \$ 1,285,000.00  
(Attach detailed cost estimate if necessary)



16. Wholesale Water Exported	<u>0.00</u>	<u>0</u>
<b>17. System Input Volume</b> (Corrected input volume, plus imported water, minus exported water)	<u>163,888,656.57</u>	
<b>C. Authorized Consumption</b>		
		<b>Assessment Scale</b>
18. Billed Metered	<u>125,743,260.00</u>	<u>1</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>2,048,608.21</u>	<u>0</u>
<b>22. Total Authorized Consumption</b>	<u>127,791,868.21</u>	
<b>D. Water Losses</b>		
<b>23. Water Losses</b> (Line 17 minus Line 22)	<u>36,096,788.36</u>	
<b>E. Apparent Losses</b>		
24. Average Customer Meter Accuracy (Enter percentage)	<u>99.00 %</u>	<u>0</u>
25. Customer Meter Accuracy Loss	<u>1,270,133.94</u>	
26. Systematic Data Handling Discrepancy	<u>500.00</u>	<u>0</u>
27. Unauthorized Consumption	<u>409,721.64</u>	<u>0</u>
<b>28. Total Apparent Losses</b>	<u>1,680,355.58</u>	
<b>F. Real Losses</b>		
29. Reported Breaks and Leaks (Estimated volume of leaks & breaks repaired during the audit period)	<u>5,000,000.00</u>	<u>0</u>
30. Unreported Loss (Includes all unknown water loss)	<u>29,416,432.78</u>	<u>0</u>
<b>31. Total Real Losses</b> (Line 29, plus Line 30)	<u>34,416,432.78</u>	
<b>32. Water Losses (Apparent + Real)</b> (Line 28 plus Line 31) = Line 23	<u>36,096,788.36</u>	
<b>33. Non-revenue Water</b> (Water Losses + Unbilled Authorized Consumption)	<u>38,145,396.57</u>	

(Line 32, plus Line 20, plus Line 21)

**G. Technical Performance Indicator for Apparent Loss**

34. Apparent Losses Normalized 2.52  
(Apparent Loss Volume/# of Retail Service Connections/365)

**H. Technical Performance Indicators for Real Loss**

35. Real Loss Volume (Line 31) 34,416,432.78

36. Unavoidable Annual Real Losses, volume (calculated) 29,638,912.50

37. Infrastructure Leakage Index (calculated) 1.16120  
(Equals real loss volume divided by unavoidable annual real losses)

38. Real Losses Normalized 51.61  
(Real Loss Volume/# of Service Connections/365)  
(This Indicator applies if service connection density is greater than 32/mile)

39. Real Losses Normalized 377.17  
(Real Loss Volume/Miles of Main Lines/365)  
(This Indicator applies if service connection density is less than 32/mile)

**I. Financial Performance Indicators**

Assessment  
Scale

40. Total Apparent Losses (Line 28) 1,680,355.58

41. Retail Price of Water \$0.00300 0

42. Cost of Apparent Losses \$5,041.07  
(Apparent loss volume multiplied by retail cost of water, Line 40 x Line 41)

43. Total Real Losses (Line 31) 34,416,432.78

44. Variable Production Cost of Water\* \$0.00690 0  
(\*Note: In case of water shortage, real losses might be valued at the retail price of water instead of the variable production cost.)

45. Cost of Real Losses \$237,473.39  
(Real Loss multiplied by variable production cost of water, Line 43 x Line 44)

46. Total Assessment Scale 1

47. Total Cost Impact of Apparent and Real Losses \$242,514.46

**WATER PURCHASED & SOLD FOR THE CITY OF LAMARCHE**

**WATER PURCHASED FROM UPPER LEON RIVER AUTHORITY FOR COST OF TEXAS**

**FROM JANUARY 2011 THROUGH DECEMBER 2011**

MONTH	GALLONS PURCHASED		DOLLARS	
	CITY SOLD	UPPER LEON SOLD	CITY SOLD	UPPER LEON SOLD
JAN '11	10,828,600	11,073,350	\$ 78,995.43	\$32,777.11
FEB	11,484,200	13,060,590	\$ 83,696.96	\$39,041.16
MAR	9,578,500	15,409,660	\$ 72,015.16	\$46,074.89
APR	12,521,600	13,247,340	\$ 90,907.54	\$39,609.55
MAY	12,217,100	13,650,090	\$ 89,420.78	\$40,813.76
JUN	18,237,100	23,059,340	\$ 132,808.72	\$68,947.43
JUL	19,441,300	20,282,370	\$ 141,551.97	\$60,644.29
AUG	17,340,700	21,133,920	\$ 126,074.21	\$63,190.42
SEP	14,312,300	13,981,810	\$ 104,297.46	\$41,805.62
OCT	11,600,900	11,532,260	\$ 85,537.36	\$34,481.45
NOV	10,386,200	14,015,320	\$ 77,522.29	\$41,335.91
DEC '11	9,782,400	9,601,120	\$ 72,666.03	\$28,707.35
<b>TOTAL</b>	<b>157,730,900</b>	<b>180,047,170</b>	<b>\$1,155,493.91</b>	<b>\$587,428.94</b>



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