DW-SRF 2010 Project

Proposal for Green Project Reserve Methodology using format from EPA's • June 22, 2009 guidance for GPR business cases

ESTIMATE OF VALUE OF WATER LOSS WORKSHEET

	SRF PROJECT ID #	**2012-07**
1	Date:	23-Oct-12
2	PWSID #	ME0090320
3	System	**CARIBOU UTILITIES DISTRICT**
4	Project Name	Main Replacement Project
5	Location	High Street
6	Engineering Consultant	Alan Hitchcock. PE
7	Existing Main size, age, and type	6" & 8" cast iron unlined pipe
8	Proposed New Water Main size and type	12" Ductile Iron cement lined pipe
9	New Main Pipe Length	1,700
10	Estimated Project Cost	$ 431,420

Note: Data from Utilities Annual Report (2008) to Maine Public Utilities Commission

Page	Line	Description		Units		2011 data
W-12	15	Total Production Water		gallons per year		194,752,000
W-12	17	Total Revenue Water		gallons per year		114,151,000
W-12	19	Total Non-Revenue Water		gallons per year		80,601,000
W-12	19	Percent Non-Revenue Water				41%
W-12	22	Utility Usage - treatment		gallons per year		-
W-12	23	Utility Usage - hydrant flushing		gallons per year		7,420,000
W-12	14	Utility Usage - bleeders		gallons per year		2,035,000
W-12	26	Utility Usage - all other (running customers & blow-offs)		gallons per year		2,857,000
W-12	30	Fire Protection		gallons per year		1,155,000
W-12	31	Main Breaks		gallons per year		3,393,300
W-12	35	Flushing Mains		gallons per year		
W-12	36	Total Accounted for Non-Revenue Water		gallons per year		16,860,300
W-12	37	Total Unaccounted Non-Revenue Water		gallons per year		63,740,700
		Estimated Water Loss From ALL Breaks, Leaks, & Bleeders		**gallons per year**		72,026,000
		(PUC Accounts total of lines 14, 26,31,35 and 37)				
		% of Water Loss of Total Production Water				37%
		(PUC Lines 14,26,31,35,37 divided by Line 15)				
W-9	9	Total Transmission Mains		feet		9,856
W-9	23	Total Distribution Mains		feet		161,395
		Total Mains in Service		feet		171,251
				miles		32
		Estimated Distribution System Losses:				
		Loss Water per mile of pipe		gallons per mile per year		2,220,701
		Loss Water per foot of pipe per year		gallons per foot per year		421
		Loss water per foot of pipe per day		gallons per foot per day		1.15
		Water loss will vary with age of water main - assume Straight line projection as follows:				
		0 to 25 year old pipe	*0 % of Total Loss*	gallons per mile per year		-
		26 to 50 year old pipe	*10% of Total Loss*	gallons per mile per year		*222,070*
		51 to 75 year old pipe	*30% of Total Loss*	gallons per mile per year		*666,210*
		over 75 year old pipe	*60% of Total Loss*	gallons per mile per year		*1,332,421*
				All Loses:		2,220,701
		Age of Main to be replaced		years		100
		Length of Main to be Replaced		mile		0.32
		CALCULATED WATER LOSS - FOR PROPOSED PROJECT		**gallons per year**		**428,999**
W-2	29c	**Total PRODUCTION COST of Water**		**$/year**	**$**	**586,583**
W-12	15	Total Production Water		1,000 gallons per year		194,752
		Production Cost of Water		**per 1,000 gallons**	**$**	**3.01**
		PROJECTED ANNUAL VALUE of WATER LOSS		**per year**	**$**	**1,292**

Annual Savings	$	1,292
PV Factor (uniform series present worth factor (1%, 75 years):	$	52.587
Present Value of Savings over Economic life of pipeline:	**$**	**67,949**
Project Cost	**$**	**431,420**
PV Percent of Project Cost:		16%
ESTIMATED % Green		**16%**
$ Amount Green	**$**	**67,949**