DW-SRF 2012 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 #	**2012-10**
1	Date:	23-Oct-12
2	PWSID #	ME0090660
3	System	**HAMPDEN WATER DISTRICT**
4	Project Name	Main Replacement Project
5	Location	Canoe, Rowell and Cottage Roads
6	Engineering Consultant	Woodard & Curran
7	Existing Main size, age, and type	2" GI and 6" cast iron unlined pipe
8	Proposed New Water Main size and type	8" Ductile Iron cement lined pipe
9	New Main Pipe Length	3,600
10	Estimated Project Cost	$ 760,000

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	101,259,000
W-12	17	Total Revenue Water	gallons per year	87,354,000
W-12	19	Total Non-Revenue Water	gallons per year	13,905,000
W-12	19	Percent Non-Revenue Water		14%
W-12	22	Utility Usage - treatment	gallons per year	719,000
W-12	23	Utility Usage - hydrant flushing	gallons per year	2,534,000
W-12	14	Utility Usage - bleeders	gallons per year	5,793,000
W-12	26	Utility Usage - all other (running customers & blow-offs)	gallons per year	819,000
W-12	30	Fire Protection	gallons per year	105,000
W-12	31	Main Breaks	gallons per year	594,000
W-12	35	Flushing Mains	gallons per year	
W-12	36	Total Accounted for Non-Revenue Water	gallons per year	10,564,000
W-12	37	Total Unaccounted Non-Revenue Water	gallons per year	3,341,000
		Estimated Water Loss From ALL Breaks, Leaks, & Bleeders *(PUC Accounts total of lines 14, 26,31,35 and 37)*	**gallons per year**	10,547,000
		% of Water Loss of Total Production Water *(PUC Lines 14,26,31,35,37 divided by Line 15)*		10%
W-9	9	Total Transmission Mains	feet	-
W-9	23	Total Distribution Mains	feet	
		Total Mains in Service	feet	192,552
			miles	36
		Estimated Distribution System Losses:		
		Loss Water per mile of pipe	gallons per mile per year	289,211
		Loss Water per foot of pipe per year	gallons per foot per year	55
		Loss water per foot of pipe per day	gallons per foot per day	0.15
		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	*28,921*
		51 to 75 year old pipe — *30% of Total Loss*	gallons per mile per year	*86,763*
		over 75 year old pipe — *60% of Total Loss*	gallons per mile per year	*173,527*
			All Loses:	289,211
		Age of Main to be replaced	years	100
		Length of Main to be Replaced	mile	0.68
		CALCULATED WATER LOSS - FOR PROPOSED PROJECT	**gallons per year**	**118,314**
W-2	29c	**Total PRODUCTION COST of Water**	**$/year**	**$ 992,668**
W-12	15	Total Production Water	1,000 gallons per year	101,259
		Production Cost of Water	**per 1,000 gallons**	**$ 9.80**
		PROJECTED ANNUAL VALUE of WATER LOSS	**per year**	**$ 1,160**

Annual Savings	$	1,160
PV Factor (uniform series present worth factor (1%, 75 years):	$	52.587
Present Value of Savings over Economic life of pipeline:	**$**	**60,993**
Project Cost	**$**	**760,000**
PV Percent of Project Cost:		8%
ESTIMATED % Green		**8%**
$ Amount Green	**$**	**60,993**