

**DW-SRF 2012 Projects**

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**

<b>SRF PROJECT ID #</b>	<b>2012-32</b>
1 Date:	23-Oct-12
2 PWSID #	ME0091310
3 System	<b>PRESQUE ISLE WATER DEPARTMENT</b>
4 Project Name	Main Replacement Project
5 Location	South Main Street
6 Engineering Consultant	District
7 Existing Main size, age, and type	6" cast iron unlined pipe
8 Proposed New Water Main size and type	12" Ductile Iron cement lined pipe
9 New Main Pipe Length	1,900
10 Estimated Project Cost	\$ 686,000

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	336,340,000
W-12	17	Total Revenue Water	gallons per year	202,284,200
W-12	19	Total Non-Revenue Water	gallons per year	134,055,800
W-12	19	Percent Non-Revenue Water		40%
W-12	22	Utility Usage - treatment	gallons per year	104,700
W-12	23	Utility Usage - hydrant flushing	gallons per year	1,365,000
W-12	14	Utility Usage - bleeders	gallons per year	4,108,000
W-12	26	Utility Usage - all other (running customers & blow-offs)	gallons per year	
W-12	30	Fire Protection	gallons per year	3,363,400
W-12	31	Main Breaks & Service Leaks	gallons per year	11,308,000
W-12	35	Flushing Mains	gallons per year	500,000
W-12	36	Total Accounted for Non-Revenue Water	gallons per year	20,749,100
W-12	37	Total Unaccounted Non-Revenue Water	gallons per year	113,306,700
<b>Estimated Water Loss From ALL Breaks, Leaks, &amp; Bleeders</b>			<b>gallons per year</b>	<b>129,222,700</b>
<i>(PUC Accounts total of lines 14, 26,31,35 and 37)</i>				
<b>% of Water Loss of Total Production Water</b>				<b>38%</b>
<i>(PUC Lines 14,26,31,35,37 divided by Line 15)</i>				
W-9	9	Total Transmission Mains	feet	19,127
W-9	23	Total Distribution Mains	feet	254,506
<b>Total Mains in Service</b>			feet	<b>273,633</b>
			miles	52
<u>Estimated Distribution System Losses:</u>				
Loss Water per mile of pipe			gallons per mile per year	2,493,471
Loss Water per foot of pipe per year			gallons per foot per year	472
Loss water per foot of pipe per day			gallons per foot per day	1.29
<i>Water loss will vary with age of water main - assume Straight line projection as follows:</i>				
<i>0 to 25 year old pipe</i>			<i>0 % of Total Loss</i>	<i>gallons per mile per year</i>
<i>26 to 50 year old pipe</i>			<i>10% of Total Loss</i>	<i>249,347</i>
<i>51 to 75 year old pipe</i>			<i>30% of Total Loss</i>	<i>748,041</i>
<i>over 75 year old pipe</i>			<i>60% of Total Loss</i>	<i>1,496,082</i>
			<b>All Loses:</b>	<b>2,493,471</b>
Age of Main to be replaced			years	100
Length of Main to be Replaced			mile	0.36
<b>CALCULATED WATER LOSS - FOR PROPOSED PROJECT</b>			<b>gallons per year</b>	<b>538,363</b>
W-2	29c	<b>Total PRODUCTION COST of Water</b>	<b>\$/year</b>	<b>\$ 848,043</b>
W-12	15	Total Production Water	1,000 gallons per year	336,340
<b>Production Cost of Water</b>			<b>per 1,000 gallons</b>	<b>\$ 2.52</b>
<b>PROJECTED ANNUAL VALUE of WATER LOSS</b>			<b>per year</b>	<b>\$ 1,357</b>

Annual Savings	\$	1,357
PV Factor ( uniform series present worth factor (1%, 75 years):	\$	52.587
<b>Present Value of Savings over Economic life of pipeline:</b>	<b>\$</b>	<b>71,383</b>
<b>Project Cost</b>	<b>\$</b>	<b>686,000</b>
PV Percent of Project Cost:		10.4%
<b>ESTIMATED % Green</b>		<b>10.4%</b>
<b>\$ Amount Green</b>	<b>\$</b>	<b>71,383</b>