

**ADWF - Water/Energy Efficiency Determination
Water Main Replacement/Meter/Pump Facility**

General Information

Community/System Name	
Project Name	
Estimate Total Cost	

Water Main Replacement

1	Percent loss within the distribution system?	
2	Water main material & C-values of pipe to be replaced?	
3	Water main age?	
4	Approximately what pipe length is to be replaced and what percentage of total distribution mains will the project replace?	
5	Number of breaks recorded in past twelve months for the area to be replaced? (based on O&M records)	
6	Estimated water lost due to breaks and leaks	
7	Primary reason for breaks?	
8	How much of an impact on distribution system water loss is this project expected to have?	
9	Are there other efficiencies to be gained by the replacement? (i.e. reduced head and therefore less energy loss in an upstream pump station, etc.)	

Meter Installation/Replacement

10	Is meter installation/replacement part of this project?	
11	Reason for replacement?	
12	If so, estimated cost of meter installation/replacement?	

Pump Facilities

13	Are pumps or pumping facilities part of the project?	
14	Age of existing pumps or pumping facilities?	
15	Existing pump/motor efficiency rating, if known?	
16	New pump/motor efficiency rating.	
17	List the manufacture, make, and model of key components (motors, pumps, etc.)	
18	Document that the energy efficiency specifications for the proposed equipment demonstrate substantial savings over other currently available equipment	

Information Provided by:

Name and Title of persons providing above information?	
Affiliation?	
Address (both mailing & location if different)?	
Contact Phone Number?	
E-Mail Address	

Notes for completing the Water/Energy Efficiency Determination

1	Percent loss within the distribution system?	Determine from information in surveys or obtain from water system. If cannot be calculated due to lack of meters or other reason note as unknown.
2	Water main material/C-values of pipe to be replaced?	Based on project description or plans.
3	Water main age?	Age alone does not make a project green but may be used for supporting information for an overall case.
4	Approximately what pipe length is to be replaced and what percentage of total distribution mains will the project replace?	This information used to determine impact of project on line 8
5	Number of breaks recorded in past twelve months for the area to be replaced (based on O&M records)?	Water system will need to document the number of breaks through O&M reports.
6	Estimated water lost due to breaks and leaks	Estimated water loss will need to be provided by operators. May be determined from water tower level drop or booster station run time increases, etc. for major breaks
7	Primary reason for breaks?	Reasons alone does not make a project green but may be used for supporting information for an overall case.
8	How much of an impact on distribution system water loss is this project expected to have?	Line 1 - (ADD X line 1 – line 6)/ADD=overall water loss decrease. OR Total volume water saved on an annual basis.
9	Are there other efficiencies to be gained by the replacement?	Reduced head and therefore less energy loss in an upstream pump station, or few hours (estimate number) of pumps will need to operate to supply demand, etc.

Meter Installation/Replacement

10	Is meter installation/replacement part of this project?	
11	Reason for replacement?	Replacement due to inefficient/inaccurate meters qualify however replacement for remote read alone wouldn't.
12	If so, estimated cost of meter installation/replacement?	

Pump Facilities

13	Are pumps or pumping facilities part of the project?	If so note if a new facility or a replacement
14	Age of existing pumps or pumping facilities?	
15	Existing pump/motor efficiency rating, if known?	(Head X Capacity X 8.34 / 3956)/HP needed based on pump curve X motor efficiency (if unk. use 0.85) X100% Head (ft.) = (psi out – psi in)/2.31 Capacity = actual output in gpm HP = Horsepower
16	New pump/motor efficiency rating.	Best if provided by engineer or a similar Calc. can be used as in line 15.
17	List the manufacture, make, and model of key components (motors, pumps, etc.)	
18	Document that the energy efficiency specifications for the proposed equipment demonstrate substantial savings over other currently available equipment	Energy efficiency should not be established by simply comparing the new equipment to equipment being replaced, since any replacement equipment would be expected to be more efficient than existing equipment.