

Water system losses report 10/24/11

- The unaccounted for water trend remains unchanged, trending upward for the year.
- No smoking guns. The leakage detection process is getting frustrating as obvious sources of losses are being eliminated to no avail. We will be moving into more exhaustive means of leakage detection in the spring. This will include district metering, district metering of the Villages 3 large pressure zones, pressure testing of watermains and pressure testing of older subdivisions. Some pressure testing and district metering may need to be conducted at night. This is when leakage is the highest and normal usage is the lowest.
- We have tested approximately of 10 of 25 large commercial meters. The results indicate that the meters are reading accurately at test flows. This does not mean that they are reading accurately at lower than test flows. This occurs if a meter is too large for the situation or is the wrong meter type is installed. Changing all of the larger meters could cost \$125,000 if Village Staff were to do the installations.
- A leak detection resurvey of distribution system valves and fire hydrants will be conducted this fall or next spring as the previous study is now 2 years old. This will cost about \$15,000.
- Testing of watermains crossing under creeks and rivers is 50% completed. No major leaks have been found thus far.
- Historical billing information has been reviewed by Short Elliot Henderson. The review has not identified potential cause of leakage thus far.
- We have completed a meter location analysis to determine the number of billing meters located on each parcel. We have not found any parcels that are served with water and do not have a single meter. Ultimately we may need to inspect individual properties to verify that metering and plumbing configurations jibe with billing records.

<u>Water Service & Water Valve Exercising data</u>	<u>Current period</u>	<u>To date</u>
Curb boxes located	15	5,524
Curb boxes adjustment (completed/needed)	49	1347/1,389
Curb boxes GPS located	0	5051
Curb boxes leak tested	0	5051
Curb Box Leaks found & repaired (Village / Private)	1/0	25/7
Valve / Watermain Leaks found & repaired	1	
Valve Exercising (operate 50% of 1535 per year)	0	885

<u>Water meter data</u>	<u>Current period</u>	<u>To date</u>
Residential Meters changed / tested	0	176
Commercial Meters tested	10	10

6 month average unsold water rate trend

2010	<u>Jan</u>	<u>Feb</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
						21%	20%	22%	21%	22%	20%	23%
2011	<u>Jan</u>	<u>Feb</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
	23%	23%	23%	24%	25%	25%	24%	25%	25%			

<u>Year</u>	<u>Pumped</u>	<u>Sold</u>	<u>% Sold/Unsold</u>	<u>Not Sold (NS)</u>	<u>NS Acct*</u>	<u>NSUnacct**</u>	<u>% Unaccounted</u>	<u>Cost of daily unsold water @ \$4.16 thousand</u>
2000	598,898	414,683	69%/31%	184,215	95,500	88,715	18%	\$2,099
2001	640,188	492,275	77%/23%	147,913	101,000	46,913	7%	\$1,685
2002	631,980	474,974	75%/25%	157,006	112,000	45,006	7%	\$1,789
2003	662,678	599,115	90%/10%	63,563	30,500	33,063	5%	\$747
2004	701,227	616,448	88%/12%	84,779	28,000	56,779	8%	\$966
2005	766,323	628,311	82%/18%	138,012	29,800	108,212	14%	\$1,572
2006	732,793	692,154	94%/6%	40,639	23,300	17,339	2%	\$463
2007	731,696	725,217@#799%/1%		6,479	5,700	779	0%	\$74
2008	623,490	557,077	89%/11%	66,413	7,050	59,363	10%	\$760
2009	643,244^	513,143	80%/20%	130,101	7,080	123,021	19%	\$1,482
2010	616,348	490,936	80%/20%	125,412	18,050	107,362	17%	\$1,429

CBCWA water supply began in Sept 2007

@ Monthly billing implemented in Jan 2007 and skewed sales

^ Bold data in 2009 corrected to actual pumpage. 2010 estimated data.

* 2010 – 0.05 M treatment process, 2 M Tank Overflows, 10 M system filling/flushing, 6 M fire fighting & training, 0 M meter errors, 5M detected watermain and service leakage.

** 2010 – 107,362 M unreported/undetected watermain and service leakage, vandalism & theft.

Automatic meter reading was implemented between Jan 2004 and June 2006