



Smith & Loveless Inc.

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Actual 9-year Cost Comparison

**30 Wet Well Mounted Pump Stations
vs. 21 Submersible Pump Stations**

9-Year Maintenance & Repair Cost Comparison: 30 Smith & Loveless WWMPS vs. 21 Submersibles

UNIFIED GOVERNMENT OF WYANDOTTE COUNTY, KANSAS CITY, KANSAS DUPLEX PUMP STATION COMPARISON 2002 - 2011 TOTAL MAINTENANCE AND REPAIRS BASED ON WORK ORDERS

SUBMERSIBLE PUMP STATIONS																	
#	INSTALLED	AGE(YRS)	MONTHS	PS #	ADDRESS	LABOR HRS	LABOR	CONTRACTOR	MATERIAL	TOTAL	PUMP MFG.	Flow	TDH	SIZE	RPM	kW	
1	1991	20	108	10	3120 N. 83rd Street	938.25	€20,088.99	€10,094.36	€21,767.16	€51,950.52	FLYGT	7.9	34.8	100	1700	7.5	
2	1988	23	108	36	2847 N. 99th Street	929.45	€18,283.24	€4,604.47	€22,096.98	€44,984.68	KSB	31.6	35.1	100	1770	25.4	
3	1998	13	108	13	74th & Washington Avenue	1090.13	€24,716.85	€3,709.87	€12,912.07	€41,338.79	FLYGT	9.5	4.6	100	1750	1.2	
4	1988	23	108	53	3198 Woodview Ridge Drive	797.83	€16,895.62	€4,683.10	€18,949.23	€40,527.94	HYDROMATIC	5.7	19.5	100	1750	5.6	
5	1992	19	108	29	3034 N. 48th Terrace	553.32	€11,311.44	€12,199.55	€16,515.78	€40,026.77	HYDROMATIC	6.3	11.6	100	1750	3.7	
6	1992	19	108	61	3903 N.123rd Street	739.48	€15,768.84	€2,380.50	€12,625.53	€30,774.87	FLYGT	43.9	9.8	100	1700	7.5	
7	1980	27	61	47A	403 Orville Avenue	449.75	€9,211.87	€4,991.06	€15,909.49	€30,112.42	MEYERS	15.8	9.1	100	1750	3.7	
8	1996	15	108	63	123rd Leavenworth Road	623.35	€13,682.27	€5,154.86	€8,915.58	€27,752.71	FLYGT	9.5	20.1	100	1750	7.5	
9	1995	16	108	15	10614 Rowland Avenue	737.05	€15,408.47	€1,664.80	€7,489.12	€24,562.40	MEYERS	7.9	16.8	100	1750	3.7	
10	2004	7	81	67	3306 N. 128th Street	376.81	€7,846.64	€4,159.45	€10,253.95	€22,260.05	KSB	6.3	NA	100	1750	18.7	
11	1980	31	108	48	7324 Oliver Street	467.38	€9,504.20	€7,578.20	€3,123.01	€20,205.41	HYDROMATIC	12.0	17.4	100	1750	7.5	
12	1994	17	108	57	5098 Douglas Avenue	502.00	€10,352.27	€1,750.66	€6,926.52	€19,029.45	FLYGT	22.1	14.0	100	1750	5.6	
13	1996	15	108	26	3231 N. 38th Street	522.23	€10,254.12	€2,051.68	€6,475.84	€18,781.65	FLYGT	6.5	14.9	100	1725	5.6	
14	1994	17	108	62	1599 S. 45th Street	404.93	€8,171.29	€955.18	€6,770.63	€15,897.11	FLYGT	12.6	13.1	100	1715	3.7	
15	1989	14	20	20A	1006 S. 49th Drive	199.75	€3,564.33	€5,946.83	€5,794.60	€15,305.76	FLYGT	12.6	15.2	100	1745	5.6	
16	1983	28	108	23	6020 Kansas Avenue	485.90	€9,776.71	€635.84	€4,780.66	€15,193.21	ZOELLER	6.3	4.3	100	1150	2.2	
17	1992	19	108	33	2480 S. 88TH Street	312.93	€5,919.10	€4,572.18	€2,406.50	€12,897.78	FLYGT	12.6	32.6	100	1725	14.9	
18	2007	4	47	47B	403 Orville Avenue	243.08	€5,473.99	€1,058.37	€393.71	€6,926.07	FAIRBANKS	15.8	9.1	100	1160	5.6	
19	2006	3	25	70A	5251 N. 101st Terrace	199.98	€4,333.73	€565.21	€35.20	€4,934.14	HYDROMATIC	7.9	NA	100	1750	NA	
20	2009	2	28	70B	5252 N. 101st Terrace	165.90	€4,379.01	€460.81	€11.55	€4,851.36	GORMAN RUPP	37.9	14.0	100	1750	13.4	
21	1988	14	10	56A	1399 S. 55th Street	69.00	€1,369.49	€0.00	€1,301.23	€2,670.73	ABS	10.4	13.7	75	N/A	NA	
Total	346	1784	Total For All Stations For 9 Years			10,808.52	€226,312.47	€79,216.98	€185,454.36	€490,983.82							
Average Age	16	Average/Station/Year Based On Months In Study				72.70	€1,522.28	€532.85	€1,247.45	€3,302.58							

SMITH & LOVELESS WET WELL MOUNTED PUMP STATIONS (WWMPS)																	
#	INSTALLED	AGE(YRS)	MONTHS	PS #	ADDRESS	LABOR HRS	LABOR	CONTRACTOR	MATERIAL	TOTAL	PUMP MFG.	Flow	TDH	SIZE	RPM	kW	
1	1972	39	108	34	3225 N. 46th Street	673.13	€14,783.45	€811.22	€6,227.28	€21,821.95	S&L	6.3	18.6	100	1800	5.6	
2	1979	29	82	42A	4801 Steele Road	591.02	€12,899.96	€1,449.16	€6,201.23	€20,550.35	S&L	12.4	17.4	100	1800	5.6	
3	2005	6	65	17B	9402 State Avenue	494.25	€11,969.67	€1,676.84	€20,447.65	€11,676.84	S&L	9.5	25.9	100	1760	7.5	
4	1988	23	108	54	8054 Leavenworth Road	411.97	€9,309.74	€4,793.37	€4,559.82	€18,662.93	S&L	18.9	29.0	100	1760	14.9	
5	1990	21	108	60	2938 N. 103rd Terrace	530.03	€10,749.68	€3,490.05	€3,201.39	€17,441.12	S&L	12.6	12.2	100	1170	3.7	
6	1986	25	108	27	2998 N. 42nd Street	448.93	€10,062.52	€4,241.12	€2,899.94	€17,203.57	S&L	12.6	35.4	100	1760	14.9	
7	1988	23	108	55	3500 N. 27th Street	433.67	€9,173.41	€1,884.25	€5,811.06	€16,868.73	S&L	9.5	10.7	100	1760	7.5	
8	2004	7	75	66	10910 Hollingsworth Road	581.63	€12,032.94	€602.91	€1,071.87	€13,707.71	S&L	6.9	39.9	100	1800	14.9	
9	2003	8	85	32	1865 Saint Paul Street	377.40	€8,459.76	€4,807.23	€430.99	€13,697.99	S&L	6.3	13.7	100	1180	3.7	
10	1982	29	108	43	8009 Kansas Avenue	250.72	€5,358.26	€2,373.47	€2,628.85	€10,360.59	S&L	6.3	18.6	100	1760	5.6	
11	2004	7	73	25	3356 N. 34th Street	376.73	€8,295.81	€1,105.25	€745.07	€10,146.13	S&L	7.8	23.8	100	1800	7.5	
12	1979	26	43	17A	9402 State Avenue	203.00	€4,057.02	€3,259.72	€2,504.06	€9,820.80	S&L	9.5	25.9	100	1760	7.5	
13	2005	6	62	11B	9191 Minnesota Avenue	242.78	€6,834.77	€995.83	€1,821.36	€9,651.96	S&L	5.1	11.3	100	1200	2.2	
14	1987	24	108	49	2059 S. 50th Street	224.43	€4,357.53	€3,804.11	€1,086.69	€9,248.33	S&L	6.3	27.4	100	1800	7.5	
15	2003	8	89	20B	1006 S. 49th Drive	354.78	€7,397.70	€183.39	€676.39	€8,257.48	S&L	12.6	15.2	100	1800	5.6	
16	2001	10	108	30	3240 N. 84th Place	357.46	€7,010.27	€10.32	€1,137.98	€8,158.57	S&L	6.3	14.6	100	1170	3.7	
17	1971	34	47	11A	9191 Minnesota Avenue	195.00	€3,783.35	€3,247.96	€526.80	€7,558.11	S&L	5.1	11.3	100	1200	2.2	
18	2007	4	42	74	1910 N. 92nd Terrace	158.44	€3,546.30	€3,541.62	€213.74	€7,301.66	S&L	5.1	14.0	100	1200	3.7	
19	2002	9	98	56B	1399 S. 55th Street	354.17	€6,769.75	€82.74	€415.86	€7,268.34	S&L	10.4	13.7	100	1200	3.7	
20	1975	36	108	39	1830 S. 13th Street	172.40	€3,370.79	€410.71	€2,168.88	€5,950.38	S&L	4.7	12.5	100	1200	5.6	
21	2007	4	42	83	10635 Kaw Drive	190.40	€5,242.52	€7.22	€122.18	€5,371.91	S&L	9.0	11.3	100	1200	3.7	
22	2005	6	67	68	11430 Cleveland Avenue	194.42	€4,385.55	€192.97	€463.33	€5,041.85	S&L	7.2	18.3	100	1800	5.6	
23	2008	3	26	42B	4801 Steele Road	152.75	€3,764.31	€1,091.13	€121.97	€4,977.41	S&L	13.3	18.3	100	1800	7.5	
24	2007	4	45	72	10651 Augusta Drive	125.70	€3,045.48	€1,807.95	€66.88	€4,920.31	S&L	12.3	16.2	100	1800	5.6	
25	2005	6	65	69	12133 Pine Valley Drive	189.83	€3,944.33	€181.08	€385.98	€4,511.40	S&L	12.6	22.6	100	1800	7.5	
26	1971	40	108	9	800 N. 41st Terrace	121.17	€2,237.46	€646.81	€990.39	€3,874.66	S&L	6.3	5.5	100	900	1.1	
27	2008	3	35	84	10901 Kaw Drive	129.40	€3,260.13	€0.00	€160.67	€3,420.79	S&L	5.1	7.6	100	1200	1.5	
28	2007	4	45	73	10500 Augusta Drive	72.75	€1,833.70	€18.04	€366.99	€2,218.73	S&L	9.8	11.3	100	1200	3.7	
29	2008	3	30	80	5837 Walker Avenue	62.10	€1,637.36	€109.82	€0.00	€1,747.17	S&L	6.3	18.9	100	1800	7.5	
30	2008	3	34	78	12708 Hubbard Drive	12.90	€365.54	€0.00	€0.00	€365.54	S&L	12.6	41.2	100	1800	18.7	
Total	450	2230	Total For All Stations For 9 Years			8,683.37	€189,939.05	€51,950.58	€48,684.48	€290,574.11							
Average Age	15	Average/Station/Year Based On Months In Study				46.73	€1,022.09	€279.55	€261.98	€1,563.63							

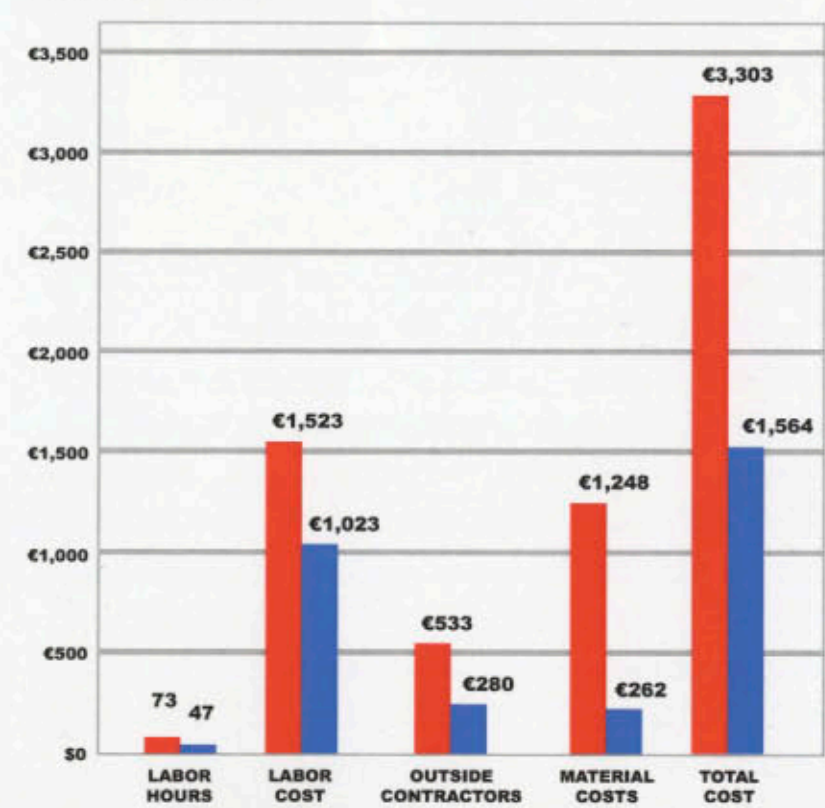
RESULTS OF THE STUDY						
DESCRIPTION	LABOR HRS	LABOR \$	CONTRACTOR \$	MATERIAL \$	TOTAL \$	# OF STATIONS
WWMPS Savings Based On Average/Pump Station/Year	25.98	€500.19	€253.29	€985.47	€1,738.95	21 Submersibles
Percent Savings Over Submersible Pump Stations	35.73%	32.86%	47.54%	79.00%	52.65%	30 WWMPS
Overall Savings With Wet Well Mounted Pump Stations	2,125.15	€36,373.42	€27,266.40	€136,769.89	€200,409.71	51 Total Stations

Case Study Background

The progressive Unified Government of Wyandotte County and Kansas City, Kan., USA, operates numerous wastewater pump stations in its sewerage network, including 30 duplex Smith & Loveless vacuum primed Wet Well Mounted Pump Stations (WWMPS) and 21 duplex submersible stations. For each station (all with flow conditions of less than 65 LPS per pump and 200 CMD), the Unified Government keeps detailed records of all repair and maintenance work orders and costs.

As Figure 1 demonstrates below, a nine-year data compilation reveals that the average annual repair and maintenance expenditure per pump station was 52% less for S&L stations compared to submersible stations (2002-2011). This staggering differential translates to savings of nearly €1,750 (\$2,500 USD) per station per year.

Figure 1
Comparison of Pump Station Maintenance and Repair Expenditures, 2002-2011
(Average per station per year)
Converted to Euros



The study measures and compares labor hours and costs, outside contractor expense, material costs and total expenditure. In all, the results overwhelmingly favor the S&L Wet Well Mounted Pump Station approach with the thousands of dollars saved annually in maintenance and repairs.

See left for tabular data of all 51 pump stations surveyed in this nine year comparison, including actual pumping conditions, efficiency ratings, pump station age, and all accumulated repair and maintenance costs per pump station.

Overview: The spreadsheet above lists the data compiled from all work orders and material purchases generated for these 51 lift stations between Jan. 2002 - Jan. 2011. To learn more, contact Smith & Loveless Municipal Pumping System Managers at 913.888.5201 or online at answers@smithandloveless.com. Reference "KCK Report". The above spreadsheet was originally compiled with U.S. Dollar totals and has been converted to Euros for simple convenience. The currency conversion rate used was 1 U.S. Dollar = 0.71891 Euros, based on the actual rates of Oct. 25, 2011.



Why pay more for submersible
HASSLES?



S&L Wet Well Mounted Pump Stations can save you more than 50% annually on total maintenance and parts costs over submersibles. That translates to a savings of nearly €1,750 per station per year. Our innovative, above-grade designs deliver the extreme ease of quick inspection and complete control options while pumping with premium efficiency and years of hassle-free, heavy-duty service. And, as we've done for 60 years, we provide you complete after market product support, decades after the sale.

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