

ARROW™ ENHANCED PRODUCT WATER RECOVERY COST BENEFIT SCENARIOS

PARAMETER	PLANT CAPACITY RAW WATER (MGD)*	COST OF WATER / DISPOSAL (\$/1000 GAL)	BASIC RO SYSTEM (70% RECOVERY)	ARROW PROCESS (95% RECOVERY)	ARROW PROCESS (98% RECOVERY)
PRODUCT WATER RECOVERY (%)			70%	95%	98%
WASTE VOLUME (%)			30%	5%	2%
% OF WASTE RECOVERED			0%	83%	93%
WASTE VOLUME (MGD)	1.0		0.30	0.037	0.014
COST OF WATER (\$/annum)	1.0	2.0	\$730,000	\$537,895	\$521,429
COST OF WASTE (\$/annum)	1.0	2.0	\$219,000	\$26,895	\$10,429
TOTAL WATER COST (\$/annum)	1.0		\$949,000	\$564,789	\$531,857
SYSTEM CAPITAL COST (ZLD), \$	1.0		\$5,955,772	\$4,594,163	\$4,474,343
NET ANNUAL COST, \$			\$1,544,577	\$1,024,206	\$979,291
ANNUAL COST SAVINGS (\$/annum)				\$520,372	\$565,286
% ANNUAL COST SAVINGS				34%	37%
WASTE VOLUME (MGD)	10.0		3.00	0.368	0.143
COST OF WATER (\$/annum)	10.0	2.0	\$7,300,000	\$5,378,947	\$5,214,286
COST OF WASTE (\$/annum)	10.0	2.0	\$2,190,000	\$268,947	\$104,286
TOTAL WATER COST (\$/annum)	10.0		\$9,490,000	\$5,647,895	\$5,318,571
SYSTEM CAPITAL COST (ZLD), \$	10.0		\$42,163,640	\$32,524,181	\$31,675,922
NET ANNUAL COST, \$			\$13,706,364	\$8,900,313	\$8,486,164
ANNUAL COST SAVINGS (\$/annum)				\$4,806,051	\$5,220,200
				35%	38%
WASTE VOLUME (MGD)	1.0		0.30	0.037	0.014
COST OF WATER (\$/annum)	1.0	5.0	\$1,825,000	\$1,344,737	\$1,303,571
COST OF WASTE (\$/annum)	1.0	5.0	\$547,500	\$67,237	\$26,071
TOTAL WATER COST (\$/annum)	1.0		\$2,372,500	\$1,411,974	\$1,329,643
SYSTEM CAPITAL COST (ZLD), \$	1.0		\$5,955,772	\$4,594,163	\$4,474,343
NET ANNUAL COST, \$			\$2,968,077	\$1,871,390	\$1,777,077
ANNUAL COST SAVINGS (\$/annum)				\$1,096,687	\$1,191,000
				37%	40%
WASTE VOLUME (MGD)	10.0		3.00	0.368	0.143
COST OF WATER (\$/annum)	10.0	5.0	\$18,250,000	\$13,447,368	\$13,035,714
COST OF WASTE (\$/annum)	10.0	5.0	\$5,475,000	\$672,368	\$260,714
TOTAL WATER COST (\$/annum)	10.0		\$23,725,000	\$14,119,737	\$13,296,429
SYSTEM CAPITAL COST (ZLD), \$	10.0		\$42,163,640	\$32,524,181	\$31,675,922
NET ANNUAL COST, \$			\$27,941,364	\$17,372,155	\$16,464,021
ANNUAL COST SAVINGS (\$/annum)				\$10,569,209	\$11,477,343
% ANNUAL COST SAVINGS				38%	41%
WASTE VOLUME (MGD)	1.0		0.30	0.037	0.014
COST OF WATER (\$/annum)	1.0	8.0	\$2,920,000	\$2,151,579	\$2,085,714
COST OF WASTE (\$/annum)	1.0	8.0	\$876,000	\$107,579	\$41,714
TOTAL WATER COST (\$/annum)	1.0		\$3,796,000	\$2,259,158	\$2,127,429
SYSTEM CAPITAL COST (ZLD), \$	1.0		\$5,955,772	\$4,594,163	\$4,474,343
NET ANNUAL COST, \$			\$4,391,577	\$2,718,574	\$2,574,863
ANNUAL COST SAVINGS (\$/annum)				\$1,673,003	\$1,816,714
% ANNUAL COST SAVINGS				38%	41%
WASTE VOLUME (MGD)	10.0		3.00	0.368	0.143
COST OF WATER (\$/annum)	10.0	8.0	\$29,200,000	\$21,515,789	\$20,857,143
COST OF WASTE (\$/annum)	10.0	8.0	\$8,760,000	\$1,075,789	\$417,143
TOTAL WATER COST (\$/annum)	10.0		\$37,960,000	\$22,591,579	\$21,274,286
SYSTEM CAPITAL COST (ZLD), \$	10.0		\$42,163,640	\$32,524,181	\$31,675,922
NET ANNUAL COST, \$			\$42,176,364	\$25,843,997	\$24,441,878
ANNUAL COST SAVINGS (\$/annum)				\$16,332,367	\$17,734,486
% ANNUAL COST SAVINGS				39%	42%

(* MGD = Million US Gallons per Day)