

Phase 1 Lifecycle Costs

DRAFT

Analysis Period (years) 20
Discount Rate (%) 3.0
Inflation Rate (%) 3.0

Lifecycle Analysis of O&M Cost for Alternative 1a

Year	Present Worth Factor	Inflation Factor	O&M Costs, 2025 Dollars											O&M Costs, Present Worth										
			Labor	Piping and Valve Maintenance and Replacement	Power	Chemical Addition	Routine Maintenance: Blower Filter/Belt/Oil Changes, Pond Cleaning	Pump Rebuild & Major Maintenance	Cloth Disk Filters	15-Year Major Equipment Replacement	15-Year Instrumentation Replacement	10-Year Equipment Replacement	Total	Labor	Piping and Valve Maintenance and Replacement	Power	Chemical Addition	Routine Maintenance: Blower Filter/Belt/Oil Changes, Pond Cleaning	Pump Rebuild & Major Maintenance	Cloth Disk Filters	15-Year Major Equipment Replacement	15-Year Instrumentation Replacement	10-Year Equipment Replacement	Total
0 2025	1.00	1.00	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
1 2026	1.03	1.03	\$0	\$61,800	\$47,380	\$12,360	\$8,240	-	\$2,060	-	-	-	\$131,840	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
2 2027	1.06	1.06	\$0	\$63,654	\$48,801	\$12,731	\$8,487	-	\$2,122	-	-	-	\$135,795	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
3 2028	1.09	1.09	\$0	\$65,564	\$50,265	\$13,113	\$8,742	-	\$2,185	-	-	-	\$139,869	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
4 2029	1.13	1.13	\$0	\$67,531	\$51,773	\$13,506	\$9,004	-	\$2,251	-	-	-	\$144,065	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
5 2030	1.16	1.16	\$0	\$69,556	\$53,327	\$13,911	\$9,274	-	\$2,319	-	-	-	\$148,387	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
6 2031	1.19	1.19	\$0	\$71,643	\$54,926	\$14,329	\$9,552	-	\$2,388	-	-	-	\$152,839	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
7 2032	1.23	1.23	\$0	\$73,792	\$56,574	\$14,758	\$9,839	-	\$2,460	-	-	-	\$157,424	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
8 2033	1.27	1.27	\$0	\$76,006	\$58,271	\$15,201	\$10,134	-	\$2,534	-	-	-	\$162,147	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
9 2034	1.30	1.30	\$0	\$78,286	\$60,020	\$15,657	\$10,438	-	\$2,610	-	-	-	\$167,011	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
10 2035	1.34	1.34	\$0	\$80,635	\$61,820	\$16,127	\$10,751	\$61,820	\$2,688	-	-	\$2,688	\$236,529	\$0	\$60,000	\$46,000	\$12,000	\$8,000	\$46,000	\$2,000	-	-	\$2,000	\$176,000
11 2036	1.38	1.38	\$0	\$83,054	\$63,675	\$16,611	\$11,074	-	\$2,768	-	-	-	\$177,182	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
12 2037	1.43	1.43	\$0	\$85,546	\$65,585	\$17,109	\$11,406	-	\$2,852	-	-	-	\$182,497	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
13 2038	1.47	1.47	\$0	\$88,112	\$67,553	\$17,622	\$11,748	-	\$2,937	-	-	-	\$187,972	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
14 2039	1.51	1.51	\$0	\$90,755	\$69,579	\$18,151	\$12,101	-	\$3,025	-	-	-	\$193,611	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
15 2040	1.56	1.56	\$0	\$93,478	\$71,667	\$18,696	\$12,464	-	\$3,116	\$66,993	\$70,109	-	\$336,521	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	\$43,000	\$45,000	-	\$216,000
16 2041	1.60	1.60	\$0	\$96,282	\$73,816	\$19,256	\$12,838	-	\$3,209	-	-	-	\$205,402	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
17 2042	1.65	1.65	\$0	\$99,171	\$76,031	\$19,834	\$13,223	-	\$3,306	-	-	-	\$211,564	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
18 2043	1.70	1.70	\$0	\$102,146	\$78,312	\$20,429	\$13,619	-	\$3,405	-	-	-	\$217,911	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
19 2044	1.75	1.75	\$0	\$105,210	\$80,661	\$21,042	\$14,028	-	\$3,507	-	-	-	\$224,449	\$0	\$60,000	\$46,000	\$12,000	\$8,000	-	\$2,000	-	-	-	\$128,000
20 2045	1.81	1.81	\$0	\$108,367	\$83,081	\$21,673	\$14,449	\$83,081	\$3,612	-	-	\$3,612	\$317,876	\$0	\$60,000	\$46,000	\$12,000	\$8,000	\$46,000	\$2,000	-	-	\$2,000	\$176,000
													\$0	\$1,260,000	\$970,000	\$250,000	\$170,000	\$90,000	\$40,000	\$40,000	\$50,000	\$4,000	\$2,870,000	

Analysis Period (years) 20
Discount Rate (%) 3.0
Inflation Rate (%) 3.0

Lifecycle Analysis of O&M Cost for Alternative 1c

Year	Present Worth Factor	Inflation Factor	O&M Costs, 2024 Dollars													O&M Costs, Present Worth												
			Labor	Piping and Valve Maintenance and Replacement	Power	Chemical Addition	Solids Hauling	Pump Rebuild & Major Maintenance	Membrane Cassettes	UV Equipment Replacement	20-Year Major Equipment Replacement	15-Year Instrumentation Replacement	15-Year MBR System Replacements	20-Year MBR System Replacements	Total	Labor	Piping and Valve Maintenance and Replacement	Power	Chemical Addition	Solids Hauling	Pump Rebuild & Major Maintenance	Membrane Cassettes	UV Equipment Replacement	20-Year Major Equipment Replacement	15-Year Instrumentation Replacement	15-Year MBR System Replacements	20-Year MBR System Replacements	Total
0	2025	1.00	1.00	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-\$3,712,000	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
1	2026	1.03	1.03	-\$3,069,400	-\$609,760	-\$264,710	-\$69,010	\$129,780	-	\$47,380	\$12,360	-	-	-	-\$3,823,360	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
2	2027	1.06	1.06	-\$3,161,482	-\$628,053	-\$272,651	-\$71,080	\$133,673	-	\$48,801	\$12,731	-	-	-	-\$3,938,061	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
3	2028	1.09	1.09	-\$3,256,326	-\$646,894	-\$280,831	-\$73,213	\$137,684	-	\$50,265	\$13,113	-	-	-	-\$4,056,203	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
4	2029	1.13	1.13	-\$3,354,016	-\$666,301	-\$289,256	-\$75,409	\$141,814	-	\$51,773	\$13,506	-	-	-	-\$4,177,889	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
5	2030	1.16	1.16	-\$3,454,637	-\$686,290	-\$297,933	-\$77,671	\$146,069	-	\$53,327	\$13,911	-	-	-	-\$4,303,225	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
6	2031	1.19	1.19	-\$3,558,276	-\$706,879	-\$306,871	-\$80,002	\$150,451	-	\$54,926	\$14,329	-	-	-	-\$4,432,322	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
7	2032	1.23	1.23	-\$3,665,024	-\$728,085	-\$316,078	-\$82,402	\$154,964	-	\$56,574	\$14,758	-	-	-	-\$4,565,292	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
8	2033	1.27	1.27	-\$3,774,975	-\$749,928	-\$325,560	-\$84,874	\$159,613	-	\$58,271	\$15,201	-	-	-	-\$4,702,251	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
9	2034	1.30	1.30	-\$3,888,224	-\$772,426	-\$335,327	-\$87,420	\$164,401	-	\$60,020	\$15,657	-	-	-	-\$4,843,318	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
10	2035	1.34	1.34	-\$4,004,871	-\$795,598	-\$345,387	-\$90,042	\$169,333	\$286,254	\$61,820	\$16,127	-	-	-	-\$4,702,363	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	\$213,000	\$46,000	\$12,000	-	-	-	-	-\$3,499,000
11	2036	1.38	1.38	-\$4,125,017	-\$819,466	-\$355,748	-\$92,744	\$174,413	-	\$63,675	\$16,611	-	-	-	-\$5,138,276	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
12	2037	1.43	1.43	-\$4,248,767	-\$844,050	-\$366,421	-\$95,526	\$179,646	-	\$65,585	\$17,109	-	-	-	-\$5,292,424	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
13	2038	1.47	1.47	-\$4,376,230	-\$869,372	-\$377,413	-\$98,392	\$185,035	-	\$67,553	\$17,622	-	-	-	-\$5,451,197	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
14	2039	1.51	1.51	-\$4,507,517	-\$895,453	-\$388,736	-\$101,344	\$190,586	-	\$69,579	\$18,151	-	-	-	-\$5,614,733	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
15	2040	1.56	1.56	-\$4,642,743	-\$922,317	-\$400,398	-\$104,384	\$196,304	-	\$71,667	\$18,696	-	\$288,224	\$378,586	-\$5,116,365	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	\$185,000	\$243,000	-	-\$3,284,000
16	2041	1.60	1.60	-\$4,782,025	-\$949,986	-\$412,410	-\$107,515	\$202,193	-	\$73,816	\$19,256	-	-	-	-\$5,956,670	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
17	2042	1.65	1.65	-\$4,925,486	-\$978,486	-\$424,782	-\$110,741	\$208,259	-	\$76,031	\$19,834	-	-	-	-\$6,135,370	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
18	2043	1.70	1.70	-\$5,073,251	-\$1,007,840	-\$437,525	-\$114,063	\$214,507	-	\$78,312	\$20,429	-	-	-	-\$6,319,432	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
19	2044	1.75	1.75	-\$5,225,448	-\$1,038,076	-\$450,651	-\$117,485	\$220,942	-	\$80,661	\$21,042	-	-	-	-\$6,509,014	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	-	\$46,000	\$12,000	-	-	-	-	-\$3,712,000
20	2045	1.81	1.81	-\$5,382,211	-\$1,069,218	-\$464,171	-\$121,009	\$227,570	\$384,702	\$83,081	\$21,673	\$1,202,870	-	-	\$1,085,473	-\$4,031,240	-\$2,980,000	-\$592,000	-\$257,000	-\$67,000	\$126,000	\$213,000	\$46,000	\$12,000	\$666,000	-	\$601,000	-\$2,232,000
																-\$62,580,000	-\$12,430,000	-\$5,400,000	-\$1,410,000	\$2,650,000	\$430,000	\$970,000	\$250,000	\$670,000	\$190,000	\$240,000	\$600,000	-\$75,820,000

Analysis Period (years) 20
Discount Rate (%) 3.0
Inflation Rate (%) 3.0

Lifecycle Analysis of O&M Cost for Alternative 2a

Year	Present Worth Factor	Inflation Factor	O&M Costs, 2025 Dollars						O&M Costs, Present Worth						
			Labor	Piping and Valve Maintenance and Replacement	Power	Chemical Addition	Pump Rebuild & Major Maintenance	Total	Labor	Piping and Valve Maintenance and Replacement	Power	Chemical Addition	Pump Rebuild & Major Maintenance	Total	
0	2025	1.00	1.00	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
1	2026	1.03	1.03	-\$3,668,860	-\$719,970	-\$603,580	-\$159,650	-	-\$5,152,060	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
2	2027	1.06	1.06	-\$3,778,926	-\$741,569	-\$621,687	-\$164,440	-	-\$5,306,622	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
3	2028	1.09	1.09	-\$3,892,294	-\$763,816	-\$640,338	-\$169,373	-	-\$5,465,820	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
4	2029	1.13	1.13	-\$4,009,062	-\$786,731	-\$659,548	-\$174,454	-	-\$5,629,795	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
5	2030	1.16	1.16	-\$4,129,334	-\$810,333	-\$679,335	-\$179,687	-	-\$5,798,689	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
6	2031	1.19	1.19	-\$4,253,214	-\$834,643	-\$699,715	-\$185,078	-	-\$5,972,650	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
7	2032	1.23	1.23	-\$4,380,811	-\$859,682	-\$720,706	-\$190,630	-	-\$6,151,829	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
8	2033	1.27	1.27	-\$4,512,235	-\$885,472	-\$742,327	-\$196,349	-	-\$6,336,384	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
9	2034	1.30	1.30	-\$4,647,602	-\$912,036	-\$764,597	-\$202,240	-	-\$6,526,475	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
10	2035	1.34	1.34	-\$4,787,030	-\$939,398	-\$787,535	-\$208,307	\$106,169	-\$6,616,100	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	\$79,000	-\$4,923,000
11	2036	1.38	1.38	-\$4,930,641	-\$967,579	-\$811,161	-\$214,556	-	-\$6,923,938	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
12	2037	1.43	1.43	-\$5,078,560	-\$996,607	-\$835,496	-\$220,993	-	-\$7,131,656	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
13	2038	1.47	1.47	-\$5,230,917	-\$1,026,505	-\$860,561	-\$227,623	-	-\$7,345,606	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
14	2039	1.51	1.51	-\$5,387,845	-\$1,057,300	-\$886,378	-\$234,451	-	-\$7,565,974	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
15	2040	1.56	1.56	-\$5,549,480	-\$1,089,019	-\$912,969	-\$241,485	-	-\$7,792,953	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
16	2041	1.60	1.60	-\$5,715,964	-\$1,121,690	-\$940,358	-\$248,729	-	-\$8,026,742	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
17	2042	1.65	1.65	-\$5,887,443	-\$1,155,340	-\$968,569	-\$256,191	-	-\$8,267,544	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
18	2043	1.70	1.70	-\$6,064,067	-\$1,190,001	-\$997,626	-\$263,877	-	-\$8,515,570	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
19	2044	1.75	1.75	-\$6,245,989	-\$1,225,701	-\$1,027,555	-\$271,793	-	-\$8,771,037	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	-	-\$5,002,000
20	2045	1.81	1.81	-\$6,433,368	-\$1,262,472	-\$1,058,381	-\$279,947	\$142,683	-\$8,891,486	-\$3,562,000	-\$699,000	-\$586,000	-\$155,000	\$79,000	-\$4,923,000
										-\$74,800,000	-\$14,680,000	-\$12,310,000	-\$3,260,000	\$160,000	-\$104,890,000

Analysis Period (years) 20
Discount Rate (%) 3.00
Inflation Rate (%) 3.00

Lifecycle Analysis of O&M Cost for Alternative 2b

Year	Present Worth Factor	Inflation Factor	O&M Costs, 2025 Dollars						O&M Costs, Present Worth						
			Labor	Piping and Valve Maintenance and Replacement	Power	Chemical Addition	Pump Rebuild & Major Maintenance	Total	Labor	Piping and Valve Maintenance and Replacement	Power	Chemical Addition	Pump Rebuild & Major Maintenance	Total	
0	2025	1.00	1.00	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
1	2026	1.03	1.03	-\$3,668,860	-\$708,640	-\$578,860	-\$159,650	-	-\$5,116,010	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
2	2027	1.06	1.06	-\$3,778,926	-\$729,899	-\$596,226	-\$164,440	-	-\$5,269,490	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
3	2028	1.09	1.09	-\$3,892,294	-\$751,796	-\$614,113	-\$169,373	-	-\$5,427,575	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
4	2029	1.13	1.13	-\$4,009,062	-\$774,350	-\$632,536	-\$174,454	-	-\$5,590,402	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
5	2030	1.16	1.16	-\$4,129,334	-\$797,581	-\$651,512	-\$179,687	-	-\$5,758,114	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
6	2031	1.19	1.19	-\$4,253,214	-\$821,508	-\$671,057	-\$185,078	-	-\$5,930,858	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
7	2032	1.23	1.23	-\$4,380,811	-\$846,153	-\$691,189	-\$190,630	-	-\$6,108,783	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
8	2033	1.27	1.27	-\$4,512,235	-\$871,538	-\$711,925	-\$196,349	-	-\$6,292,047	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
9	2034	1.30	1.30	-\$4,647,602	-\$897,684	-\$733,283	-\$202,240	-	-\$6,480,808	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
10	2035	1.34	1.34	-\$4,787,030	-\$924,614	-\$755,281	-\$208,307	\$138,423	-\$6,536,809	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	\$103,000	-\$4,864,000
11	2036	1.38	1.38	-\$4,930,641	-\$952,353	-\$777,939	-\$214,556	-	-\$6,875,490	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
12	2037	1.43	1.43	-\$5,078,560	-\$980,923	-\$801,278	-\$220,993	-	-\$7,081,754	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
13	2038	1.47	1.47	-\$5,230,917	-\$1,010,351	-\$825,316	-\$227,623	-	-\$7,294,207	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
14	2039	1.51	1.51	-\$5,387,845	-\$1,040,662	-\$850,075	-\$234,451	-	-\$7,513,033	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
15	2040	1.56	1.56	-\$5,549,480	-\$1,071,882	-\$875,578	-\$241,485	-	-\$7,738,424	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
16	2041	1.60	1.60	-\$5,715,964	-\$1,104,038	-\$901,845	-\$248,729	-	-\$7,970,577	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
17	2042	1.65	1.65	-\$5,887,443	-\$1,137,159	-\$928,900	-\$256,191	-	-\$8,209,694	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
18	2043	1.70	1.70	-\$6,064,067	-\$1,171,274	-\$956,767	-\$263,877	-	-\$8,455,985	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
19	2044	1.75	1.75	-\$6,245,989	-\$1,206,412	-\$985,470	-\$271,793	-	-\$8,709,665	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	-	-\$4,967,000
20	2045	1.81	1.81	-\$6,433,368	-\$1,242,605	-\$1,015,035	-\$279,947	\$186,029	-\$8,784,925	-\$3,562,000	-\$688,000	-\$562,000	-\$155,000	\$103,000	-\$4,864,000
										-\$74,800,000	-\$14,450,000	-\$11,800,000	-\$3,260,000	\$210,000	-\$104,100,000

Analysis Period (years) 20
Discount Rate (%) 3.00
Inflation Rate (%) 3.00

Lifecycle Analysis of O&M Cost for Alternative 3b

Year	Present Worth Factor	Inflation Factor	O&M Costs, 2025 Dollars											O&M Costs, Present Worth												
			Labor	Piping and Valve Maintenance and Replacement	Power	Chemical Addition	Blower Filter/Belt/Oil Changes	Pump Rebuild & Major Maintenance	Cloth Disk Filters	15-Year Major Equipment Replacement	15-Year Instrumentation Replacement	10-Year Equipment Replacement	Total	Labor	Piping and Valve Maintenance and Replacement	Power	Chemical Addition	Blower Filter/Belt/Oil Changes	Pump Rebuild & Major Maintenance	Cloth Disk Filters	15-Year Major Equipment Replacement	15-Year Instrumentation Replacement	10-Year Equipment Replacement	Total		
0	2025	1.00	1.00	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-\$278,600	-	-	-	-\$4,037,133	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133
1	2026	1.03	1.03	-\$3,052,748	-\$805,048	-\$286,958	-\$23,793	\$8,034	-	\$2,266	-	-	-	-\$4,158,247	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
2	2027	1.06	1.06	-\$3,144,330	-\$829,199	-\$295,567	-\$24,507	\$8,275	-	\$2,334	-	-	-	-\$4,282,994	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
3	2028	1.09	1.09	-\$3,238,660	-\$854,075	-\$304,434	-\$25,242	\$8,523	-	\$2,404	-	-	-	-\$4,411,484	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
4	2029	1.13	1.13	-\$3,335,820	-\$879,698	-\$313,567	-\$25,999	\$8,779	-	\$2,476	-	-	-	-\$4,543,828	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
5	2030	1.16	1.16	-\$3,435,894	-\$906,089	-\$322,974	-\$26,779	\$9,042	-	\$2,550	-	-	-	-\$4,680,143	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
6	2031	1.19	1.19	-\$3,538,971	-\$933,271	-\$332,663	-\$27,583	\$9,314	-	\$2,627	-	-	-	-\$4,820,548	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
7	2032	1.23	1.23	-\$3,645,140	-\$961,269	-\$342,643	-\$28,410	\$9,593	-	\$2,706	-	-	-	-\$4,965,164	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
8	2033	1.27	1.27	-\$3,754,495	-\$990,107	-\$352,922	-\$29,262	\$9,881	-	\$2,787	-	-	-	-\$5,114,119	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
9	2034	1.30	1.30	-\$3,867,129	-\$1,019,811	-\$363,510	-\$30,140	\$10,177	-	\$2,871	-	-	-	-\$5,267,543	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
10	2035	1.34	1.34	-\$3,983,143	-\$1,050,405	-\$374,415	-\$31,044	\$10,483	\$65,852	\$2,957	-	-	\$2,822	-\$5,356,895	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	\$49,000	\$2,200	-	-	\$2,100	-\$3,986,033	
11	2036	1.38	1.38	-\$4,102,638	-\$1,081,917	-\$385,648	-\$31,976	\$10,797	-	\$3,045	-	-	-	-\$5,588,336	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
12	2037	1.43	1.43	-\$4,225,717	-\$1,114,375	-\$397,217	-\$32,935	\$11,121	-	\$3,137	-	-	-	-\$5,755,986	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
13	2038	1.47	1.47	-\$4,352,488	-\$1,147,806	-\$409,133	-\$33,923	\$11,455	-	\$3,231	-	-	-	-\$5,928,666	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
14	2039	1.51	1.51	-\$4,483,063	-\$1,182,240	-\$421,407	-\$34,941	\$11,798	-	\$3,328	-	-	-	-\$6,106,525	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
15	2040	1.56	1.56	-\$4,617,555	-\$1,217,707	-\$434,050	-\$35,989	\$12,152	-	\$3,428	\$67,304	\$84,130	-	-\$6,138,287	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	\$43,200	\$54,000	-	-\$3,939,933	
16	2041	1.60	1.60	-\$4,756,081	-\$1,254,239	-\$447,071	-\$37,069	\$12,517	-	\$3,530	-	-	-	-\$6,478,413	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
17	2042	1.65	1.65	-\$4,898,764	-\$1,291,866	-\$460,483	-\$38,181	\$12,892	-	\$3,636	-	-	-	-\$6,672,765	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
18	2043	1.70	1.70	-\$5,045,727	-\$1,330,622	-\$474,298	-\$39,326	\$13,279	-	\$3,745	-	-	-	-\$6,872,948	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
19	2044	1.75	1.75	-\$5,197,099	-\$1,370,540	-\$488,527	-\$40,506	\$13,677	-	\$3,858	-	-	-	-\$7,079,137	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	-	\$2,200	-	-	-	-\$4,037,133	
20	2045	1.81	1.81	-\$5,353,012	-\$1,411,657	-\$503,183	-\$41,721	\$14,088	\$88,499	\$3,973	-	-	\$3,793	-\$7,199,218	-\$2,963,833	-\$781,600	-\$278,600	-\$23,100	\$7,800	\$49,000	\$2,200	-	-	\$2,100	-\$3,986,033	
			-\$62,240,000											-\$16,410,000												
			-\$5,850,000											-\$490,000												
			\$160,000											\$100,000												
			\$50,000											\$40,000												
			\$50,000											\$4,000												
			-\$84,590,000																							