

**FAC 8312 INDUSTRIAL WASTE TREATMENT**

FY22 SUC:     \$134.66   KG

Source:        Calculated using R.S. Means CostWorks 2021 Qtr 3 component prices

**FAC 8312 INDUSTRIAL WASTE TREATMENT**

SUC \$134.66

 Release 2021 Qtr 3  
 Zip Code Prefix 222  
 Type MR

 UM KG  
 Design Life 50  
 Average Size 397.0

Adjusted Occurrences are the occurrences remaining after subtracting Repair/Replacement Overlaps. Overlap reduction removes a repair when it occurs the same year as a replacement.

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Repair metal stairs	15	420.00 S.F.	\$42,304.90	\$48,673.54	3.3333	3	3	\$146,020.62	\$146,020.62
Replace metal hand rail	30	80.00 L.F.	\$6,054.67	\$7,005.81	1.6667	1	1	\$7,005.81	\$7,005.81
Metal floor grating repairs - (2% of grating)	10	64.00 S.F.	\$2,141.07	\$2,577.78	5.0000	5	5	\$12,888.91	\$12,888.91
Unclog main drain pipe & fittings, cast iron	10	2.00 Ea.	\$92.33	\$115.47	5.0000	5	5	\$577.36	\$577.36
Unclog 4" - 12" diameter main drain per L.F.	10	4.00 L.F.	\$15.16	\$18.96	5.0000	5	5	\$94.82	\$94.82
Insp/chk pump/mtr oper, lub, chk align, rainwater sump pump	1	2.00 Ea.	\$23.90	\$29.89	50.0000	50	50	\$1,494.35	\$1,494.35
Replace rainwater sump pump / motor assembly	20	2.00 Ea.	\$1,264.86	\$1,494.18	2.5000	2	2	\$2,988.36	\$2,988.36
General maintenance pipe & fittings, industrial gas	2	12.00 M.L.F.	\$443.20	\$554.27	25.0000	25	25	\$13,856.72	\$13,856.72
Check and adjust 2 H.P. compressor	1	2.00 Ea.	\$169.33	\$211.76	50.0000	50	50	\$10,588.16	\$10,588.16
Replace 2 H.P. compressor	25	2.00 Ea.	\$8,472.35	\$9,839.63	2.0000	2	2	\$19,679.27	\$19,679.27
Replace 275 gallon fuel oil storage tank	30	2.00 Ea.	\$1,890.75	\$2,243.89	1.6667	1	1	\$2,243.89	\$2,243.89
Preventive maintenance oil filter	1	1.00 Ea.	\$6.19	\$7.48	50.0000	50	50	\$373.83	\$373.83
Replace oil filter housing	30	1.00 Ea.	\$61.92	\$74.77	1.6667	1	1	\$74.77	\$74.77
Repair boiler, gas, 250 MBH	7	1.00 Ea.	\$2,031.05	\$2,390.45	7.1429	7	7	\$16,733.15	\$16,733.15
Repair feed water supply pump	15	4.00 Ea.	\$14,259.39	\$16,524.28	3.3333	3	3	\$49,572.83	\$49,572.83
Repair deaerator	10	1.00 Ea.	\$74.41	\$93.06	5.0000	5	5	\$465.29	\$465.29
Replace deaerator	20	1.00 Ea.	\$51,805.18	\$60,455.53	2.5000	2	2	\$120,911.06	\$120,911.06
Clean separator strainer	10	4.00 Ea.	\$2,976.39	\$3,722.30	5.0000	5	5	\$18,611.48	\$18,611.48
Replace separator	20	2.00 Ea.	\$164,531.10	\$188,002.16	2.5000	2	2	\$376,004.31	\$376,004.31
Repair flash tank 24 gallon	5	1.00 Ea.	\$439.94	\$550.19	10.0000	10	10	\$5,501.93	\$5,501.93
Repair condensate meter	15	2.00 Ea.	\$2,925.93	\$3,394.42	3.3333	3	3	\$10,183.25	\$10,183.25
Replace flanged steel pipe and fittings, 6"	75	240.00 L.F.	\$43,323.42	\$52,667.04	0.6667	0	0	\$0.00	\$0.00
Repack gate valve gland, 2" - 3" valves	10	4.00 Ea.	\$148.15	\$177.24	5.0000	5	5	\$886.18	\$886.18
Replace gate valve, partial, 2" - 3" valves	20	4.00 Ea.	\$5,229.86	\$6,006.89	2.5000	2	2	\$12,013.78	\$12,013.78
Repack gate valve gland, 8" - 12" valves	5	4.00 Ea.	\$680.57	\$826.99	10.0000	10	10	\$8,269.85	\$8,269.85
Replace drain valve, 3/4" valves	20	14.00 Ea.	\$928.83	\$1,130.48	2.5000	2	2	\$2,260.96	\$2,260.96
Repair circulator pump, 1 H.P.	5	4.00 Ea.	\$393.44	\$464.07	10.0000	10	7	\$4,640.66	\$3,248.47
Replace circulator. pump, 1 H.P.	15	4.00 Ea.	\$23,073.92	\$26,455.16	3.3333	3	3	\$79,365.48	\$79,365.48
Refill expansion tank	5	2.00 Ea.	\$29.66	\$37.09	10.0000	10	10	\$370.87	\$370.87
Repair failed breaker, molded case, 600 V, 3 pole	10	4.00 Ea.	\$1,488.27	\$1,770.52	5.0000	5	5	\$8,852.62	\$8,852.62
Maintenance and inspection circuit breaker, molded case, 600 V, 3 pole	0.33	4.00 Ea.	\$129.55	\$162.31	151.5152	151	151	\$24,509.14	\$24,509.14
Maintenance and repair safety switch, 3 pole safety switch, heavy duty	8	4.00 Ea.	\$162.58	\$203.69	6.2500	6	6	\$1,222.12	\$1,222.12
Minor repairs to annunciation panel	5	2.00 Ea.	\$299.41	\$364.55	10.0000	10	10	\$3,645.50	\$3,645.50

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost	
Maintenance and repair voice/data outlet	10	1.00 Ea.	\$51.29	\$64.06	5.0000	5	5	\$320.29	\$320.29	
Replace waste disposal unit, residential	8	8.00 Ea.	\$3,652.70	\$4,289.28	6.2500	6	6	\$25,735.67	\$25,735.67	
Remove and replace 50 HP pump motor	25	6.00 Ea.	\$39,582.27	\$45,295.50	2.0000	2	2	\$90,591.01	\$90,591.01	
Remove and replace steel guard rail	7	14.00 L.F.	\$938.65	\$1,086.36	7.1429	7	7	\$7,604.49	\$7,604.49	
Raise MH or catch basin frame and cover	10	1.00 Ea.	\$369.42	\$451.23	5.0000	5	5	\$2,256.16	\$2,256.16	
Prepare & paint 100K gal. ground level water stor tank, 30' dia x 19' tall	10	1.00 Ea.	\$28,103.01	\$33,727.20	5.0000	5	5	\$168,636.00	\$168,636.00	
Remove and replace post indicator valve	35	1.00 Ea.	\$7,612.79	\$8,758.80	1.4286	1	1	\$8,758.80	\$8,758.80	
			\$458,181.82	\$531,918.26				MR Subtotal	\$1,264,417.58	
									MR Per Year	\$25,288.35
									PM Total	\$28,170.51
									Subtotal	\$53,458.86
									Total Per Unit	\$134.66

**FAC 8312 INDUSTRIAL WASTE TREATMENT**

SUC \$134.66

Release 2021 Qtr 3

UM KG

Zip Code Prefix 222

Design Life 50

Type PM

Average Size 397.0

Description	Qty	Labor Hours	Bare Mat	Bare Labor	Bare Equip	Bare Total	Total In-House	Total Incl OP
Valve, OS&Y, above 4", annually	8.00	1.27	\$46.91	\$64.14	\$0.00	\$111.05	\$134.98	\$161.26
Water heater, steam 2500 gal., annually	1.00	0.94	\$143.56	\$47.13	\$0.00	\$190.70	\$219.19	\$254.87
Valve, pressure relief, above 4", annualized	8.00	1.18	\$44.89	\$59.56	\$0.00	\$104.44	\$126.80	\$151.40
Valve, sediment strainer, above 4", annualized	8.00	2.50	\$44.89	\$126.16	\$0.00	\$171.05	\$213.38	\$257.97
Duplex sump, annualized	4.00	6.62	\$93.01	\$333.02	\$0.00	\$426.03	\$535.24	\$649.09
Oxygen monitor, annualized	4.00	20.00	\$1,597.38	\$1,004.34	\$0.00	\$2,601.72	\$3,062.76	\$3,603.67
Deaerator tank, annualized	2.00	3.01	\$49.54	\$181.49	\$0.00	\$231.02	\$290.42	\$352.30
Pump, boiler fuel oil, annualized	2.00	2.46	\$194.11	\$148.01	\$0.00	\$342.12	\$405.93	\$479.45
Centrifugal, over 1 HP, annualized	4.00	4.78	\$46.91	\$239.63	\$0.00	\$286.54	\$363.12	\$442.05
Heat exchanger, steam, annualized	1.00	0.92	\$22.75	\$46.69	\$0.00	\$69.44	\$85.72	\$103.14
Controls, central system, electro/pneumatic, annualized	2.00	3.84	\$141.54	\$230.82	\$0.00	\$372.36	\$455.76	\$546.24
Backflow prevention device, up to 4", annualized	2.00	0.67	\$26.79	\$39.65	\$0.00	\$66.44	\$81.01	\$96.92
Switchboard, annualized	2.00	1.40	\$7.98	\$92.20	\$0.00	\$100.18	\$128.64	\$157.50
Panelboard, 225 A and above, annualized	2.00	0.88	\$46.39	\$58.02	\$0.00	\$104.41	\$126.46	\$150.82
Motor control center, over 400 A, annually	1.00	0.39	\$23.20	\$25.90	\$0.00	\$49.10	\$59.19	\$70.44
Motor control center, over 400 A, annualized	4.00	1.56	\$92.79	\$103.60	\$0.00	\$196.39	\$236.75	\$281.75
Fire alarm annunciator system, annualized	1.00	11.05	\$179.39	\$652.68	\$0.00	\$832.07	\$1,045.82	\$1,268.53
Manual slide gate, annualized	1.00	1.52	\$11.25	\$73.52	\$0.00	\$84.77	\$107.95	\$131.70
Storage tank, ground level, annualized	3.00	2.17	\$55.12	\$105.82	\$0.00	\$160.95	\$198.21	\$238.23
Water flow meter, turbine, annualized	4.00	2.36	\$75.85	\$113.90	\$0.00	\$189.75	\$231.51	\$277.06
Pump, metering (slurry), annualized	4.00	3.71	\$117.60	\$180.20	\$0.00	\$297.80	\$363.62	\$435.32
Turbine well, annualized	6.00	35.09	\$754.11	\$1,708.50	\$0.00	\$2,462.61	\$3,050.57	\$3,676.24
Vertical lift, over 1 H.P., annualized	8.00	11.65	\$423.36	\$564.40	\$0.00	\$987.76	\$1,199.42	\$1,432.24
Filter plant, annualized	1.00	17.46	\$52.19	\$845.75	\$0.00	\$897.93	\$1,156.88	\$1,418.43
De-ionization, annualized	1.00	4.01	\$1,124.55	\$195.50	\$0.00	\$1,320.05	\$1,491.16	\$1,718.49
Reverse osmosis system, annualized	1.00	3.73	\$182.28	\$181.05	\$0.00	\$363.33	\$435.87	\$517.53
Chlorine detector, annualized	1.00	3.20	\$188.16	\$155.55	\$0.00	\$343.71	\$409.19	\$484.08
Ejector, sewage, annualized	2.00	1.91	\$111.72	\$92.65	\$0.00	\$204.37	\$243.34	\$287.89
Ejector pump, sump type, annualized	2.00	3.30	\$111.72	\$159.80	\$0.00	\$271.52	\$330.63	\$395.33
Sewage lift, over 1 H.P., annualized	8.00	11.65	\$294.00	\$564.40	\$0.00	\$858.40	\$1,057.12	\$1,270.54
Aerator, floating, annualized	2.00	10.27	\$99.96	\$498.10	\$0.00	\$598.06	\$757.49	\$921.91
Blower, aerator, annualized	2.00	20.62	\$490.98	\$1,003.00	\$0.00	\$1,493.98	\$1,843.98	\$2,218.53
Clarifier, annualized	2.00	10.79	\$169.05	\$527.00	\$0.00	\$696.05	\$871.06	\$1,054.51
Comminutor, annualized	2.00	5.42	\$86.73	\$263.50	\$0.00	\$350.23	\$437.95	\$530.01
Filter, trickling, annualized	4.00	4.54	\$138.18	\$219.30	\$0.00	\$357.48	\$437.09	\$523.61
Grit drive, annualized	4.00	4.35	\$173.46	\$210.80	\$0.00	\$384.26	\$464.85	\$554.11
Mixer, sewage, annualized	4.00	4.50	\$102.61	\$217.60	\$0.00	\$320.21	\$395.75	\$476.42
Fuel oil storage tank, above ground, annualized	1.00	3.28	\$20.29	\$158.95	\$0.00	\$179.24	\$228.95	\$279.68
Cathodic protection system, annualized	2.00	2.92	\$38.66	\$158.10	\$0.00	\$196.76	\$248.06	\$301.29
						\$19,274.29	\$23,531.80	\$28,170.51



# FAC 8312 INDUSTRIAL WASTE TREATMENT

## Modeled Component List CostWorks Release 2021 Qtr 3

B10 Superstructure	
Railing, Metal	80.0 L.F.
D20 Plumbing	
Rainwater Sump Pump	2.0 Ea.
Compressed Air Systems, Compressors, 2 H.P.	2.0 Ea.
D30 HVAC	
Fuel Oil Storage Tank, 275 Gallon	2.0 Ea.
Deaerator	1.0 Ea.
Valves	4.0 Ea.
Circulator Pump, 1 H.P.	4.0 Ea.
G30 Site Mechanical Utilities	
Ground Level Water Storage Tank 100K Gallon	1.0 Ea.
Post Indicator Valve	1.0 Ea.
Storage Tank Ground Level, annualized	3.0 Each
Water Flow Meter, Turbine, annualized	4.0 Each
Vertical Lift, annualized	8.0 Each
Filter Plant, annualized	1.0 Each
Reverse Osmosis System, annualized	1.0 Each
Ejector Pump, annualized	2.0 Each
Sewage Lift, annualized	8.0 Each
Aerator, annualized	2.0 Each
Clarifier, annualized	2.0 Each
Comminutor, annualized	2.0 Each
Filter, annualized	4.0 Each
Grit Drive, annualized	4.0 Each
Sewage Mixer, annualized	4.0 Each
Fuel Oil Storage Tank, annualized	1.0 Each
G20 Site Improvements	
Gate, Manual slide, annualized	1.0 Each
G40 Site Electrical Utilities	
Cathodic Protection, annualized	2.0 Each

FAC 8312 INDUSTRIAL WASTE TREATMENT  
Sustainment by Year  
CostWorks Release 2021 Qtr 3

