

FAC 8332 INCINERATOR

FY22 SUC: \$1,845.06 TH

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

FAC 8332 INCINERATOR
SUC \$1,845.06

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.

Release 2021 Qtr 3
Zip Code Prefix 222
Type MR

UM TH
Design Life 45
Average Size 12.0

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Repair 8" concrete block wall, 1st floor	25	720.00 S.F.	\$17,434.67	\$21,328.72	1.8000	1	1	\$21,328.72	\$21,328.72
Waterproof concrete block wall, 1st floor	10	14.50 C.S.F.	\$3,291.54	\$3,915.12	4.5000	4	4	\$15,660.48	\$15,660.48
Repair steel, painted, door	14	2.00 Ea.	\$1,250.15	\$1,488.01	3.2143	3	3	\$4,464.03	\$4,464.03
Refinish 3'-0" x 7'-0" steel, painted, door	4	2.00 Ea.	\$82.80	\$101.73	11.2500	11	11	\$1,119.06	\$1,119.06
Repair 12' x 12' steel roll-up door	10	2.00 Ea.	\$1,351.79	\$1,604.43	4.5000	4	4	\$6,417.73	\$6,417.73
Refinish 12' x 12' steel roll-up door	5	2.00 Ea.	\$406.90	\$498.38	9.0000	9	9	\$4,485.40	\$4,485.40
Replace brass door hinge	60	2.00 Ea.	\$377.67	\$454.39	0.7500	0	0	\$0.00	\$0.00
Replace brass door lockset exterior	30	2.00 Ea.	\$948.40	\$1,096.97	1.5000	1	1	\$1,096.97	\$1,096.97
Replace brass door closer	15	2.00 Ea.	\$490.41	\$578.59	3.0000	3	3	\$1,735.77	\$1,735.77
Debris removal, by hand and visual inspection, thermosetting	1	1.20 M.S.F.	\$45.19	\$55.12	45.0000	45	45	\$2,480.41	\$2,480.41
Non - destructive moisture inspection, thermosetting	5	0.60 M.S.F.	\$70.11	\$85.52	9.0000	9	9	\$769.66	\$769.66
Total thermoset roof replacement	20	21.00 Sq.	\$16,586.94	\$19,579.14	2.2500	2	2	\$39,158.27	\$39,158.27
Replace faucet washer sink, service/utility	2	1.00 Ea.	\$12.78	\$15.92	22.5000	22	22	\$350.15	\$350.15
Clean trap	3	1.00 Ea.	\$8.57	\$10.72	15.0000	15	15	\$160.78	\$160.78
Replace faucets sink, service/utility	10	1.00 Ea.	\$181.73	\$218.76	4.5000	4	4	\$875.02	\$875.02
Unstop sink	2	1.00 Ea.	\$41.82	\$52.30	22.5000	22	22	\$1,150.65	\$1,150.65
Replace sink, P.E.C.I. service/utility	35	1.00 Ea.	\$1,567.25	\$1,832.96	1.2857	1	1	\$1,832.96	\$1,832.96
Inspect and clean shower head emergency shower station	3	1.00 Ea.	\$49.39	\$61.77	15.0000	15	15	\$926.57	\$926.57
Replace shower emergency shower station	25	1.00 Ea.	\$941.97	\$1,129.12	1.8000	1	1	\$1,129.12	\$1,129.12
Inspect and clean spray heads, emergency eye wash	3	1.00 Ea.	\$49.39	\$61.77	15.0000	15	15	\$926.57	\$926.57
Replace eye wash station, emergency eye wash	25	1.00 Ea.	\$1,114.34	\$1,325.00	1.8000	1	1	\$1,325.00	\$1,325.00
Replace old valve with new hose bibb	10	1.00 Ea.	\$62.31	\$76.28	4.5000	4	4	\$305.12	\$305.12
Check gas pressure natural gas, pressure reducing valve	5	4.00 Ea.	\$38.67	\$48.36	9.0000	9	9	\$435.26	\$435.26
Replace pressure regulator 1/2" diam. pipe natural gas	14	4.00 Ea.	\$451.23	\$535.08	3.2143	3	3	\$1,605.25	\$1,605.25
Repair boiler, gas, 2000 MBH	7	2.00 Ea.	\$11,571.63	\$13,467.49	6.4286	6	6	\$80,804.94	\$80,804.94
Replace boiler, gas, 2000 MBH	30	2.00 Ea.	\$79,676.28	\$93,240.42	1.5000	1	1	\$93,240.42	\$93,240.42
Replace metal flue, all fuel SS, 20" diameter metal flue / chimney	15	2.00 L.F.	\$580.66	\$674.31	3.0000	3	3	\$2,022.92	\$2,022.92
Repair fan, induced draft, 6700 CFM	10	2.00 Ea.	\$605.49	\$739.06	4.5000	4	4	\$2,956.24	\$2,956.24
Replace fan, induced draft, 6700 CFM	20	2.00 Ea.	\$10,435.76	\$12,056.15	2.2500	2	2	\$24,112.30	\$24,112.30
Inspect sprinkler system	1	1.00 Ea.	\$34.33	\$42.93	45.0000	45	45	\$1,931.79	\$1,931.79
Replace sprinkler head	20	14.00 Ea.	\$1,197.32	\$1,472.65	2.2500	2	2	\$2,945.31	\$2,945.31
Replace fire pump / electric motor assembly 100 H.P.	25	1.00 Ea.	\$44,139.08	\$50,910.34	1.8000	1	1	\$50,910.34	\$50,910.34

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Repair switchgear, - (5% of total C.B.), indoor, less than 600 V	10	2.00 Ea.	\$1,078.11	\$1,254.27	4.5000	4	4	\$5,017.09	\$5,017.09
Maintenance and inspection switchgear, indoor, less than 600 V	3	2.00 Ea.	\$81.29	\$101.84	15.0000	15	15	\$1,527.64	\$1,527.64
Replace switchgear, 225 A	30	2.00 Ea.	\$11,895.04	\$13,845.86	1.5000	1	1	\$13,845.86	\$13,845.86
Maintenance and repair motor starter, up to 600 V	5	2.00 Ea.	\$559.28	\$675.20	9.0000	9	9	\$6,076.76	\$6,076.76
Maintenance and inspection motor starter, up to 600 V	0.5	2.00 Ea.	\$107.96	\$135.26	90.0000	90	90	\$12,173.41	\$12,173.41
Replace starter motor starter, up to 600 V	18	2.00 Ea.	\$1,610.62	\$1,916.15	2.5000	2	2	\$3,832.30	\$3,832.30
Maintenance and inspection lighting panel, indoor	3	1.00 Ea.	\$40.64	\$50.92	15.0000	15	15	\$763.82	\$763.82
Maintenance and repair breaker, molded case, 480 V, 1 pole	20	4.00 Ea.	\$287.05	\$359.63	2.2500	2	2	\$719.27	\$719.27
Maintenance and inspection circuit breaker, molded case, 480 V, 1 pole	0.5	4.00 Ea.	\$129.55	\$162.31	90.0000	90	90	\$14,608.10	\$14,608.10
Maintenance and inspection circuit breaker, molded case, 480 V, 3 pole	0.5	2.00 Ea.	\$64.78	\$81.16	90.0000	90	90	\$7,304.05	\$7,304.05
Replace circuit breaker molded case, 480 V, 3 pole circuit breaker	50	2.00 Ea.	\$2,756.17	\$3,182.25	0.9000	0	0	\$0.00	\$0.00
Maintenance and repair safety switch general, 3 pole	8	2.00 Ea.	\$81.29	\$101.84	5.6250	5	5	\$509.21	\$509.21
Maintenance and inspection safety switch, 3 pole	1	2.00 Ea.	\$81.29	\$101.84	45.0000	45	45	\$4,582.93	\$4,582.93
Replace safety switch, 240 V, 3 pole	25	4.00 Ea.	\$1,867.78	\$2,265.63	1.8000	1	1	\$2,265.63	\$2,265.63
Replace incandescent lighting fixture lamp for explosion proof fixture	5	12.00 Ea.	\$233.18	\$284.72	9.0000	9	9	\$2,562.47	\$2,562.47
Replace incan. lighting fixture, explosion proof, ceiling mtd., 200 W	20	12.00 Ea.	\$27,001.49	\$31,014.94	2.2500	2	2	\$62,029.88	\$62,029.88
Replace incan. lighting fixture, high hat can type, ceiling mtd., 200 W	20	12.00 Ea.	\$2,760.62	\$3,303.30	2.2500	2	2	\$6,606.59	\$6,606.59
Replace metal halide ballast, 175 W	10	6.00 Ea.	\$890.91	\$1,069.81	4.5000	4	4	\$4,279.22	\$4,279.22
Replace metal halide fixture lamp, 175 W	5	6.00 Ea.	\$299.92	\$366.92	9.0000	9	9	\$3,302.30	\$3,302.30
Repair smoke detector	10	6.00 Ea.	\$338.33	\$418.28	4.5000	4	3	\$1,673.14	\$1,254.85
Check operation smoke detector	1	6.00 Ea.	\$97.17	\$121.73	45.0000	45	45	\$5,478.04	\$5,478.04
Replace smoke detector	15	6.00 Ea.	\$1,705.42	\$2,036.77	3.0000	3	3	\$6,110.31	\$6,110.31
Repair heat detector	10	6.00 Ea.	\$368.27	\$452.31	4.5000	4	4	\$1,809.23	\$1,809.23
Check operation heat detector	1	6.00 Ea.	\$97.17	\$121.73	45.0000	45	45	\$5,478.04	\$5,478.04
Replace heat detector	15	6.00 Ea.	\$1,025.78	\$1,254.24	3.0000	3	3	\$3,762.73	\$3,762.73
Check and repair manual pull station	10	3.00 Ea.	\$263.09	\$323.49	4.5000	4	3	\$1,293.96	\$970.47
Replace manual pull station	15	3.00 Ea.	\$610.40	\$734.82	3.0000	3	3	\$2,204.47	\$2,204.47
Replace fire alarm bell, 6"	20	2.00 Ea.	\$389.92	\$470.55	2.2500	2	2	\$941.10	\$941.10
Maintenance and repair of general wiring lightning protection system	1	1.00 M.L.F.	\$96.72	\$119.83	45.0000	45	45	\$5,392.19	\$5,392.19
Replace lightning protection general wiring system	25	1.00 M.L.F.	\$11,009.12	\$13,095.99	1.8000	1	1	\$13,095.99	\$13,095.99

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 lightning ground rod	1	1.00 Ea.	\$87.89	\$109.79	45.0000	45	44	\$4,940.42	\$4,830.63	
Replace lightning ground rod	25	1.00 Ea.	\$226.09	\$280.29	1.8000	1	1	\$280.29	\$280.29	
Replace lamp emergency lighting fixture	2	4.00 Ea.	\$218.76	\$263.50	22.5000	22	22	\$5,797.06	\$5,797.06	
Replace emergency lighting fixture	20	4.00 Ea.	\$2,409.47	\$2,839.05	2.2500	2	2	\$5,678.09	\$5,678.09	
Maintenance and repair exit light	20	4.00 Ea.	\$148.81	\$184.01	2.2500	2	2	\$368.03	\$368.03	
Replace lamp exit light	5	4.00 Ea.	\$67.39	\$79.85	9.0000	9	9	\$718.68	\$718.68	
			\$266,083.32	\$311,937.61				MR Subtotal	\$584,840.00	
									MR Per Year	\$12,697.17
									PM Total	\$9,443.61
									Subtotal	\$22,140.78
									Total Per Unit	\$1,845.06

FAC 8332 INCINERATOR

SUC \$1,845.06

Release 2021 Qtr 3

UM TH

Zip Code Prefix 222

Design Life 45

Type PM

Average Size 12.0

Description	Qty	Labor Hours	Bare Mat	Bare Labor	Bare Equip	Bare Total	Total In-House	Total Incl OP
Door, overhead, electric, roll up, to 24' high x 25' wide, annualized	1.00	4.07	\$40.96	\$168.81	\$0.00	\$209.77	\$264.51	\$321.30
Fire dampers, annualized	2.00	2.31	\$18.30	\$139.20	\$0.00	\$157.50	\$201.09	\$245.59
Fan, axial, up to 5,000 CFM, annualized	1.00	1.24	\$11.73	\$62.55	\$0.00	\$74.28	\$94.22	\$114.74
Fan, axial, 5,000 to 10,000 CFM, annualized	1.00	1.29	\$35.89	\$64.75	\$0.00	\$100.64	\$123.66	\$148.47
Backflow prevention device, up to 4", annualized	1.00	0.33	\$13.40	\$19.82	\$0.00	\$33.22	\$40.50	\$48.46
Extinguishing system, deluge / preaction, annualized	1.00	11.59	\$68.24	\$691.59	\$0.00	\$759.83	\$974.13	\$1,191.84
Fire pump, electric motor driven, annualized	1.00	47.75	\$53.08	\$2,841.22	\$0.00	\$2,894.30	\$3,751.98	\$4,612.31
Panelboard, 225 A and above, annualized	1.00	0.44	\$23.20	\$29.01	\$0.00	\$52.21	\$63.23	\$75.41
Motor control center, over 400 A, annualized	1.00	0.39	\$23.20	\$25.90	\$0.00	\$49.10	\$59.19	\$70.44
Fire alarm annunciator system, annualized	1.00	11.05	\$179.39	\$652.68	\$0.00	\$832.07	\$1,045.82	\$1,268.53
Light, emergency, hardwired system, annualized	4.00	1.00	\$30.93	\$59.05	\$0.00	\$89.98	\$110.79	\$133.15
Hydraulic lift, loading dock, annualized	1.00	1.63	\$24.64	\$55.61	\$0.00	\$80.25	\$99.40	\$119.78
Crane, electric bridge, up to 5 ton, annualized	1.00	2.92	\$171.90	\$102.86	\$0.00	\$274.76	\$322.80	\$379.44
Ejector pump, annualized	1.00	0.97	\$55.86	\$47.17	\$0.00	\$103.03	\$122.77	\$145.31
Grit drive, annualized	1.00	1.09	\$43.37	\$52.70	\$0.00	\$96.06	\$116.21	\$138.53
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	1.00	1.46	\$19.33	\$79.05	\$0.00	\$98.38	\$124.03	\$150.64
						\$6,084.62	\$7,743.27	\$9,443.61

FAC 8332 INCINERATOR
Modeled Component List
CostWorks Release 2021 Qtr 3

B20 Exterior Enclosure	
Hinges, Brass	2.0 Ea.
Lockset, Brass	2.0 Ea.
Door Closer, Brass	2.0 Ea.
B30 Roofing	
Thermosetting	21.0 Sq.
D20 Plumbing	
Service/Utility Sink	1.0 Ea.
Emergency Shower Station	1.0 Ea.
Emergency Eye Wash	1.0 Ea.
Hose Bibb	1.0 Ea.
D30 HVAC	
Boiler, Gas, 2000 MBH	2.0 Ea.
Metal Flue / Chimney, 6" diameter	2.0 L.F.
Draft Fan, 6700 CFM	2.0 Ea.
D40 Fire Protection	
Sprinkler System, Fire Supression, sprinkler head	14.0 Ea.
Fire Pump Electric Motor	1.0 Ea.
Fire Pump, Electric, annualized	1.0 Each
D50 Electrical	
Switchgear, Indoor, Less Than 600 V	2.0 Ea.
Motor Starter, Up To 600 V	2.0 Ea.
Load Center, 100 A, maintenance & inspection	1.0 Ea.
Circuit Breaker, molded case, 480 V, 3 pole	2.0 Ea.
Safety Switch, General Duty, 240 V, 3 pole	4.0 Ea.
Explosion-Proof Fixture	12.0 Ea.
Incandescent Lighting Fixtures, Can 200W	12.0 Ea.
Smoke Detector	6.0 Ea.
Heat Detector	6.0 Ea.
Manual Pull Station	3.0 Ea.
Fire Alarm Bell	2.0 Ea.
Lightning Protection System	1.0 M.L.F.
Lightning Ground Rod	1.0 Ea.
Emergency Lighting Fixture	4.0 Ea.
E10 Equipment	
Hydraulic Lift, Loading Dock, annualized	1.0 Each
Crane, Electric, up to 5 ton, annualized	1.0 Each
G30 Site Mechanical Utilities	
Grit Drive, annualized	1.0 Each
Fuel Oil Storage Tank, annualized	1.0 Each
G40 Site Electrical Utilities	
Cathodic Protection, annualized	1.0 Each

FAC 8332 INCINERATOR
Sustainment by Year
CostWorks Release 2021 Qtr 3

