

**FAC 1412 AVIATION OPERATIONS BUILDING**

FY22 SUC:	\$4.27 / SF
Source:	Calculated using R.S. Means CostWorks 2021 Qtr 3 component prices

FAC 1412 AVIATION OPERATIONS BUILDING

Release 2021 Qtr 3  
Zip Code Prefix 222  
Type MR

UM SF  
Design Life 50  
Average Size 10183.0

SUC \$4.27

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
Point and refinish painted concrete block wall, 1st floor	25	6.50 C.S.F.	\$3,053.55	\$3,768.73	2.0000	2	2	\$7,537.47	\$7,537.47
Replace glass - 1st floor (1% of glass) - steel frame window	1	0.72 S.F.	\$8.68	\$10.20	50.0000	50	50	\$510.18	\$510.18
Repair 3'-9" x 5'-5" steel frame window - 1st floor.	20	36.00 Ea.	\$10,738.93	\$12,615.05	2.5000	2	2	\$25,230.10	\$25,230.10
Replace 3'-9" x 5'-5" steel frame window - 1st floor.	45	36.00 Ea.	\$59,646.89	\$68,679.75	1.1111	1	1	\$68,679.75	\$68,679.75
Repair steel, painted, door	14	3.00 Ea.	\$1,875.22	\$2,232.02	3.5714	3	3	\$6,696.05	\$6,696.05
Refinish 3'-0" x 7'-0" steel, painted, door	4	3.00 Ea.	\$124.20	\$152.60	12.5000	12	12	\$1,831.18	\$1,831.18
Replace 3'-0" x 7'-0" steel, painted, door	45	3.00 Ea.	\$2,115.19	\$2,459.19	1.1111	1	1	\$2,459.19	\$2,459.19
Repair 12' x 12' steel roll-up door	10	1.00 Ea.	\$675.90	\$802.22	5.0000	5	5	\$4,011.08	\$4,011.08
Refinish 12' x 12' steel roll-up door	5	1.00 Ea.	\$203.45	\$249.19	10.0000	10	10	\$2,491.89	\$2,491.89
Replace 12' x 12' steel roll-up door	35	1.00 Ea.	\$2,703.58	\$3,208.87	1.4286	1	1	\$3,208.87	\$3,208.87
Total EPDM roof replacement	25	102.00 Sq.	\$61,654.42	\$73,133.41	2.0000	2	2	\$146,266.83	\$146,266.83
Repair steel painted interior door	14	2.00 Ea.	\$586.90	\$683.13	3.5714	3	3	\$2,049.38	\$2,049.38
Refinish 3'-0" x 7'-0" steel painted interior door	4	2.00 Ea.	\$105.17	\$129.57	12.5000	12	12	\$1,554.87	\$1,554.87
Replace 3'-0" x 7'-0" steel painted interior door	60	2.00 Ea.	\$2,436.07	\$2,824.17	0.8333	0	0	\$0.00	\$0.00
Safety glass replacement, (3% of glass) steel painted interior door	1	1.30 S.F.	\$23.42	\$27.92	50.0000	50	50	\$1,396.02	\$1,396.02
Repair solid core wood door, interior	11	29.00 Ea.	\$8,510.12	\$9,905.36	4.5455	4	4	\$39,621.43	\$39,621.43
Refinish 3'-0" x 7'-0" solid core wood door, interior	4	29.00 Ea.	\$1,257.58	\$1,544.24	12.5000	12	11	\$18,530.89	\$16,986.64
Replace 3'-0" x 7'-0" solid core wood door, interior	40	29.00 Ea.	\$14,193.39	\$16,408.49	1.2500	1	1	\$16,408.49	\$16,408.49
Repair concrete steps	15	3.50 S.F.	\$79.98	\$92.58	3.3333	3	3	\$277.73	\$277.73
Replace concrete steps	100	35.00 S.F.	\$1,871.06	\$2,281.73	0.5000	0	0	\$0.00	\$0.00
Replace metal stair railing, interior	45	30.00 L.F.	\$1,288.67	\$1,508.40	1.1111	1	1	\$1,508.40	\$1,508.40
Repair 5/8" drywall - (2% of walls)	20	323.70 S.F.	\$542.31	\$659.86	2.5000	2	2	\$1,319.72	\$1,319.72
Refinish drywall	4	3.00 S.F.	\$1.86	\$2.29	12.5000	12	12	\$27.50	\$27.50
Replace vinyl sheet flooring	18	4.20 S.Y.	\$383.53	\$459.15	2.7778	2	2	\$918.29	\$918.29
Terrazzo floor repairs - (2% of floors)	15	13.10 S.F.	\$213.07	\$255.14	3.3333	3	3	\$765.41	\$765.41
Replace terrazzo floor	75	6.60 C.S.F.	\$10,269.91	\$12,262.87	0.6667	0	0	\$0.00	\$0.00
Replace carpet	8	124.00 S.Y.	\$6,822.03	\$7,878.58	6.2500	6	6	\$47,271.46	\$47,271.46
Replace flush valve diaphragm tankless water closet	10	9.00 Ea.	\$235.98	\$292.82	5.0000	5	5	\$1,464.11	\$1,464.11
Rebuild flush valve tankless water closet	20	9.00 Ea.	\$1,623.90	\$1,957.11	2.5000	2	2	\$3,914.23	\$3,914.23
Unplug clogged line tankless water closet	5	9.00 Ea.	\$1,965.56	\$2,458.14	10.0000	10	10	\$24,581.41	\$24,581.41
Replace tankless water closet	35	9.00 Ea.	\$11,575.99	\$13,396.46	1.4286	1	1	\$13,396.46	\$13,396.46
Replace tankless flush valve	25	9.00 Ea.	\$2,269.94	\$2,664.99	2.0000	2	2	\$5,329.99	\$5,329.99
Replace wax ring gasket for tankless water closet	5	9.00 Ea.	\$1,273.67	\$1,591.44	10.0000	10	10	\$15,914.38	\$15,914.38

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Replace flush valve diaphragm for a urinal	7	3.00 Ea.	\$78.66	\$97.61	7.1429	7	7	\$683.25	\$683.25
Rebuild flush valve for a urinal	20	3.00 Ea.	\$541.30	\$652.37	2.5000	2	2	\$1,304.74	\$1,304.74
Unplug line urinal	5	3.00 Ea.	\$435.22	\$544.28	10.0000	10	10	\$5,442.84	\$5,442.84
Replace wall-hung urinal	35	3.00 Ea.	\$2,906.59	\$3,507.32	1.4286	1	1	\$3,507.32	\$3,507.32
Replace washer in spud connection lavatory, vitreous china	7	11.00 Ea.	\$181.09	\$220.88	7.1429	7	7	\$1,546.16	\$1,546.16
Replace washer in faucet lavatory, vitreous china	2	11.00 Ea.	\$141.73	\$176.57	25.0000	25	25	\$4,414.25	\$4,414.25
Replace faucets lavatory, vitreous china	10	11.00 Ea.	\$1,998.98	\$2,406.31	5.0000	5	5	\$12,031.55	\$12,031.55
Clean out strainer and P trap lavatory, vitreous china	2	11.00 Ea.	\$383.56	\$479.69	25.0000	25	25	\$11,992.18	\$11,992.18
Replace lavatory, vitreous china	35	11.00 Ea.	\$7,398.32	\$8,890.43	1.4286	1	1	\$8,890.43	\$8,890.43
Replace faucet washer sink, iron enamel	2	1.00 Ea.	\$12.78	\$15.92	25.0000	25	25	\$397.90	\$397.90
Clean trap sink, iron enamel	3	1.00 Ea.	\$8.57	\$10.72	16.6667	16	16	\$171.50	\$171.50
Replace faucets sink, iron enamel	10	1.00 Ea.	\$181.73	\$218.76	5.0000	5	5	\$1,093.78	\$1,093.78
Unstop sink, iron enamel	2	1.00 Ea.	\$41.82	\$52.30	25.0000	25	25	\$1,307.56	\$1,307.56
Replace sink, P.E.C.I. sink, iron enamel kitchen	35	1.00 Ea.	\$636.70	\$757.51	1.4286	1	1	\$757.51	\$757.51
Check / minor repairs drinking fountain	1	3.00 Ea.	\$146.65	\$183.40	50.0000	50	50	\$9,169.89	\$9,169.89
Repair internal leaks drinking fountain	4	3.00 Ea.	\$135.24	\$169.13	12.5000	12	12	\$2,029.60	\$2,029.60
Correct water pressure drinking fountain	2	3.00 Ea.	\$125.46	\$156.91	25.0000	25	25	\$3,922.67	\$3,922.67
Replace refrigerant drinking fountain	2	3.00 Ea.	\$98.05	\$114.81	25.0000	25	25	\$2,870.19	\$2,870.19
Repair drain leak drinking fountain	4	3.00 Ea.	\$101.75	\$121.60	12.5000	12	10	\$1,459.25	\$1,216.04
Replace fountain drinking fountain	10	3.00 Ea.	\$3,843.47	\$4,543.68	5.0000	5	5	\$22,718.38	\$22,718.38
Drain and flush water heater, electric, 120 gallon	7	1.00 Ea.	\$294.38	\$368.15	7.1429	7	7	\$2,577.08	\$2,577.08
Check operation water heater, electric, 120 gallon	3	1.00 Ea.	\$2.59	\$3.23	16.6667	16	16	\$51.73	\$51.73
Replace water heater, electric, 120 gallon	15	1.00 Ea.	\$14,632.58	\$16,736.89	3.3333	3	3	\$50,210.67	\$50,210.67
Inspect / check pump / motor operation, lubricate circulation pump, 1/12 HP	0.5	1.00 Ea.	\$8.03	\$10.04	100.0000	100	100	\$1,003.93	\$1,003.93
Replace pump / motor assembly circulation pump, 1/12 HP	10	1.00 Ea.	\$1,100.58	\$1,290.00	5.0000	5	5	\$6,449.98	\$6,449.98
Unclog main drain pipe & fittings, cast iron	10	1.00 Ea.	\$46.17	\$57.74	5.0000	5	5	\$288.68	\$288.68
General maintenance & repair drain: roof, scupper, area	1	1.00 Ea.	\$36.99	\$46.26	50.0000	50	50	\$2,312.85	\$2,312.85
Replace drain: roof, scupper, area	40	1.00 Ea.	\$786.93	\$912.36	1.2500	1	1	\$912.36	\$912.36
Repair boiler, gas, 250 MBH	7	2.00 Ea.	\$4,062.11	\$4,780.90	7.1429	7	7	\$33,466.31	\$33,466.31
Replace boiler, gas, 250 MBH	30	2.00 Ea.	\$18,796.09	\$22,420.25	1.6667	1	1	\$22,420.25	\$22,420.25
Repair water cooled chiller, 10 ton, scroll	10	1.00 Ea.	\$3,615.88	\$4,336.62	5.0000	5	5	\$21,683.08	\$21,683.08
Replace chiller, water cooled, 10 ton, scroll	20	1.00 Ea.	\$17,300.57	\$20,692.87	2.5000	2	2	\$41,385.75	\$41,385.75
Repair fan coil unit, 20 ton	10	2.00 Ea.	\$2,559.61	\$2,974.92	5.0000	5	4	\$14,874.58	\$11,899.66

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Replace fan coil unit, 20 ton	15	2.00 Ea.	\$17,068.96	\$20,057.01	3.3333	3	3	\$60,171.03	\$60,171.03
Repair circulator pump, 1 H.P.	5	2.00 Ea.	\$196.72	\$232.03	10.0000	10	7	\$2,320.33	\$1,624.23
Replace circulator. pump, 1 H.P.	15	2.00 Ea.	\$11,536.96	\$13,227.58	3.3333	3	3	\$39,682.74	\$39,682.74
Repair terminal reheat, 36" x 36" coil	10	2.00 Ea.	\$325.88	\$407.55	5.0000	5	5	\$2,037.75	\$2,037.75
Replace terminal reheat, 36" x 36" coil	15	2.00 Ea.	\$6,884.93	\$8,000.51	3.3333	3	3	\$24,001.52	\$24,001.52
Repair central station A.H.U., 16,000 CFM	10	2.00 Ea.	\$3,005.64	\$3,492.07	5.0000	5	4	\$17,460.35	\$13,968.28
Replace central station A.H.U., 16,000 CFM	15	2.00 Ea.	\$133,879.30	\$154,090.16	3.3333	3	3	\$462,270.47	\$462,270.47
Inspect sprinkler system	1	1.00 Ea.	\$34.33	\$42.93	50.0000	50	50	\$2,146.43	\$2,146.43
Replace sprinkler head	20	62.00 Ea.	\$5,302.41	\$6,521.75	2.5000	2	2	\$13,043.50	\$13,043.50
Rebuild double check 3" backflow preventer sprinkler system	1	1.00 Ea.	\$710.41	\$851.09	50.0000	50	50	\$42,554.69	\$42,554.69
Maintenance and repair motor starter, up to 600 V	5	2.00 Ea.	\$559.28	\$675.20	10.0000	10	10	\$6,751.96	\$6,751.96
Maintenance and inspection motor starter, up to 600 V	0.5	2.00 Ea.	\$107.96	\$135.26	100.0000	100	100	\$13,526.02	\$13,526.02
Replace starter motor starter, up to 600 V	18	2.00 Ea.	\$1,610.62	\$1,916.15	2.7778	2	2	\$3,832.30	\$3,832.30
Replace lamps (2 lamps), 4', 34 W energy saver	10	84.00 Ea.	\$2,117.98	\$2,652.63	5.0000	5	5	\$13,263.15	\$13,263.15
Repair smoke detector	10	16.00 Ea.	\$902.20	\$1,115.43	5.0000	5	4	\$5,577.13	\$4,461.70
Check operation smoke detector	1	16.00 Ea.	\$259.11	\$324.62	50.0000	50	50	\$16,231.22	\$16,231.22
Replace smoke detector	15	16.00 Ea.	\$4,547.80	\$5,431.39	3.3333	3	3	\$16,294.17	\$16,294.17
Check and repair manual pull station	10	4.00 Ea.	\$350.79	\$431.32	5.0000	5	4	\$2,156.61	\$1,725.28
Replace manual pull station	15	4.00 Ea.	\$813.87	\$979.76	3.3333	3	3	\$2,939.29	\$2,939.29
Minor repairs to fire alarm control panel	5	1.00 Ea.	\$149.71	\$182.27	10.0000	10	10	\$1,822.75	\$1,822.75
Maintenance and inspection fire alarm control panel	0.5	1.00 Ea.	\$43.18	\$54.10	100.0000	100	100	\$5,410.41	\$5,410.41
Replace fire alarm control panel	15	1.00 Ea.	\$1,953.46	\$2,391.92	3.3333	3	3	\$7,175.76	\$7,175.76
Replace fire alarm bell, 6"	20	4.00 Ea.	\$779.85	\$941.10	2.5000	2	2	\$1,882.20	\$1,882.20
Replace EMS, Three Phase, 5 Meters	15	1.00 Ea.	\$15,802.46	\$18,399.79	3.3333	3	3	\$55,199.37	\$55,199.37
Replace EMS, Mech, BTU, 3 Meters, 3 Duct Sensors, 3 Space Sensors	20	1.00 Ea.	\$17,137.72	\$20,030.68	2.5000	2	2	\$40,061.35	\$40,061.35
Maintenance and repair of general wiring lightning protection system	1	2.00 M.L.F.	\$193.45	\$239.65	50.0000	50	50	\$11,982.65	\$11,982.65
Replace lightning protection general wiring system	25	2.00 M.L.F.	\$22,018.24	\$26,191.98	2.0000	2	2	\$52,383.96	\$52,383.96
Maintenance and repair lightning ground rod	1	2.00 Ea.	\$175.78	\$219.57	50.0000	50	48	\$10,978.72	\$10,539.57
Replace lightning ground rod	25	2.00 Ea.	\$452.18	\$560.58	2.0000	2	2	\$1,121.16	\$1,121.16
Maintenance and repair computer ground system	4	1.00 Ea.	\$21.59	\$27.05	12.5000	12	12	\$324.62	\$324.62
Replace computer ground system	50	1.00 M.L.F.	\$1,865.81	\$2,278.85	1.0000	1	1	\$2,278.85	\$2,278.85
Replace lamp emergency lighting fixture	2	10.00 Ea.	\$546.89	\$658.76	25.0000	25	25	\$16,468.91	\$16,468.91
Replace emergency lighting fixture	20	10.00 Ea.	\$6,023.68	\$7,097.61	2.5000	2	2	\$14,195.23	\$14,195.23
Maintenance and repair exit light	20	10.00 Ea.	\$372.02	\$460.03	2.5000	2	2	\$920.06	\$920.06
Replace lamp exit light	5	10.00 Ea.	\$168.47	\$199.63	10.0000	10	10	\$1,996.35	\$1,996.35
Replace lighting fixture exit light	20	10.00 Ea.	\$1,910.35	\$2,297.61	2.5000	2	2	\$4,595.21	\$4,595.21
			\$552,800.25	\$647,361.71				MR Subtotal	\$1,722,642.75

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
								MR Per Year	\$34,357.24
								PM Total	\$9,079.16
								Subtotal	\$43,436.40
								Total Per Unit	\$4.27

FAC 1412 AVIATION OPERATIONS BUILDING

SUC \$4.27

Release 2021 Qtr 3

UM SF

Zip Code Prefix 222

Design Life 50

Type PM

Average Size 10183.0

Description	Qty	Labor Hours	Bare Mat	Bare Labor	Bare Equip	Bare Total	Total In-House	Total Incl OP
Door, emergency egress, swinging, annualized	4.00	1.04	\$58.37	\$43.00	\$0.00	\$101.37	\$120.10	\$141.76
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 doors, swinging, annualized	2.00	0.78	\$28.64	\$29.12	\$0.00	\$57.76	\$69.36	\$82.39
Urinals, annualized	3.00	0.68	\$18.96	\$34.36	\$0.00	\$53.32	\$65.52	\$78.67
Toilet (vacuum breaker type), annualized	9.00	1.59	\$75.98	\$80.08	\$0.00	\$156.06	\$187.68	\$223.10
Lavatories, annualized	11.00	3.83	\$65.61	\$227.74	\$0.00	\$293.35	\$368.24	\$446.40
Drink fountain, annualized	3.00	1.86	\$62.18	\$93.83	\$0.00	\$156.00	\$190.37	\$227.84
Boiler, hot water, oil, gas, or comb. fired, over 1000 MBH, annualized	1.00	19.70	\$77.34	\$1,189.35	\$0.00	\$1,266.69	\$1,631.23	\$1,999.64
Air handling unit, 3 thru 24 tons, annualized	2.00	4.12	\$448.88	\$207.92	\$0.00	\$656.80	\$764.06	\$893.77
Air handling unit, computer room, annualized	1.00	3.42	\$127.39	\$171.79	\$0.00	\$299.18	\$363.46	\$434.10
Fan, centrifugal, up to 5,000 CFM, annualized	1.00	1.08	\$35.89	\$54.18	\$0.00	\$90.07	\$109.92	\$131.55
Package unit, air cooled, 25 thru 50 ton, annualized	1.00	3.25	\$176.92	\$195.58	\$0.00	\$372.51	\$448.87	\$534.09
Controls, central system, electro/pneumatic, annually	1.00	1.92	\$70.77	\$115.41	\$0.00	\$186.18	\$227.88	\$273.12
Extinguishing system, dry pipe, annualized	1.00	13.02	\$122.33	\$775.28	\$0.00	\$897.61	\$1,142.43	\$1,393.36
Panelboard, 225 A and above, annualized	3.00	1.32	\$69.59	\$87.02	\$0.00	\$156.62	\$189.68	\$226.23
Fire alarm annunciator system, annualized	1.00	11.05	\$179.39	\$652.68	\$0.00	\$832.07	\$1,045.82	\$1,268.53
Power stablizer, annualized	1.00	0.62	\$9.28	\$36.78	\$0.00	\$46.06	\$58.02	\$70.44
Light, emergency, hardwired system, annualized	10.00	2.50	\$77.32	\$147.63	\$0.00	\$224.95	\$276.98	\$332.86
						\$6,056.37	\$7,524.12	\$9,079.16



# FAC 1412 AVIATION OPERATIONS BUILDING

## Modeled Component List CostWorks Release 2021 Qtr 3

B20 Exterior Enclosure	
Steel Frame, Operating, 1st floor	36.0 Ea.
Steel, Painted	3.0 Ea.
Steel Single, Roll-Up	1.0 Ea.
B30 Roofing	
EPDM Roof	102.0 Sq.
C10 Interior Construction	
Steel Painted Interior Doors	2.0 Ea.
Solid Core Interior Doors	29.0 Ea.
Fire Doors, Swinging, annualized	2.0 Each
C20 Stairs	
Concrete Steps	35.0 S.F.
Metal Interior Stair Railing	30.0 L.F.
C30 Interior Finishes	
Vinyl Sheet	4.2 S.Y.
Terrazzo	6.6 C.S.F.
Carpet	124.0 S.Y.
D20 Plumbing	
Tankless Water Closet	9.0 Ea.
Urinal	3.0 Ea.
Lavatory, Vitreous China	11.0 Ea.
Sink, Iron Enamel	1.0 Ea.
Drinking Fountain	3.0 Ea.
Water Heater, Electric, 120 Gallon	1.0 Ea.
Circulation Pump, 1/12 HP	1.0 Ea.
Drain: Roof, Scupper, Area	1.0 Ea.
D30 HVAC	
Boiler, Gas, 250 MBH	2.0 Ea.
Fan Coil, 20 ton	2.0 Ea.
Circulator Pump, 1 H.P.	2.0 Ea.
Terminal Reheat Coil, 36" x 36"	2.0 Ea.
Central Station Air Conditioning Air Handling Unit, 16,000 CFM	2.0 Ea.
D40 Fire Protection	
Sprinkler System, Fire Supression, sprinkler head	62.0 Ea.
Sprinkler System, Fire Supression , 3" backflow preventer	1.0 Ea.
Extinguishing system, dry pipe, annualized	1.0 Each
D50 Electrical	
Motor Starter, Up To 600 V	2.0 Ea.
Smoke Detector	16.0 Ea.
Manual Pull Station	4.0 Ea.
Fire Alarm Control Panel	1.0 Ea.
Fire Alarm Bell	4.0 Ea.
Lightning Protection System	2.0 M.L.F.
Lightning Ground Rod	2.0 Ea.
Computer Ground System	1.0 M.L.F.
Emergency Lighting Fixture	10.0 Ea.
Exit Light	10.0 Ea.



FAC 1412 AVIATION OPERATIONS BUILDING  
Sustainment by Year  
CostWorks Release 2021 Qtr 3

