

**FAC 2141 VEHICLE MAINTENANCE SHOP**

FY22 SUC: \$5.20 / SF  
Source: Calculated using R.S. Means CostWorks 2021 Qtr 3 component prices

FAC 2141 VEHICLE MAINTENANCE SHOP

Release 2021 Qtr 3  
Zip Code Prefix 222  
Type MR

UM SF  
Design Life 50  
Average Size 8699.0

SUC \$5.20

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
Replace 3'-0" x 7'-0" solid core wood door, interior	40	5.00 Ea.	\$2,447.14	\$2,829.05	1.2500	1	1	\$2,829.05	\$2,829.05
Office painting, 10' x 12', 10' high walls	5	6.00 Ea.	\$1,325.92	\$1,626.38	10.0000	10	10	\$16,263.79	\$16,263.79
Refinish concrete floor finished	25	68.00 C.S.F.	\$28,684.26	\$34,454.26	2.0000	2	2	\$68,908.51	\$68,908.51
Replace vinyl tile flooring	18	144.00 S.Y.	\$7,114.10	\$8,736.49	2.7778	2	2	\$17,472.97	\$17,472.97
Acoustic tile repairs - (2% of ceilings)	9	0.02 C.S.F.	\$17.25	\$20.04	5.5556	5	5	\$100.22	\$100.22
Replace acoustic tile ceiling, fire-rated	20	7.75 C.S.F.	\$4,062.77	\$4,788.62	2.5000	2	2	\$9,577.23	\$9,577.23
Replace flush valve diaphragm tankless water closet	10	6.00 Ea.	\$157.32	\$195.22	5.0000	5	5	\$976.08	\$976.08
Rebuild flush valve tankless water closet	20	6.00 Ea.	\$1,082.60	\$1,304.74	2.5000	2	2	\$2,609.49	\$2,609.49
Unplug clogged line tankless water closet	5	6.00 Ea.	\$1,310.37	\$1,638.76	10.0000	10	10	\$16,387.61	\$16,387.61
Replace tankless water closet	35	6.00 Ea.	\$7,717.33	\$8,930.97	1.4286	1	1	\$8,930.97	\$8,930.97
Replace tankless flush valve	25	6.00 Ea.	\$1,513.29	\$1,776.66	2.0000	2	2	\$3,553.33	\$3,553.33
Replace wax ring gasket for tankless water closet	5	6.00 Ea.	\$849.12	\$1,060.96	10.0000	10	10	\$10,609.59	\$10,609.59
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	6.00 Ea.	\$98.78	\$120.48	7.1429	7	7	\$843.36	\$843.36
Replace washer in faucet lavatory, vitreous china	2	6.00 Ea.	\$77.31	\$96.31	25.0000	25	25	\$2,407.77	\$2,407.77
Replace faucets lavatory, vitreous china	10	6.00 Ea.	\$1,090.36	\$1,312.53	5.0000	5	5	\$6,562.66	\$6,562.66
Clean out strainer and P trap lavatory, vitreous china	2	6.00 Ea.	\$209.22	\$261.65	25.0000	25	25	\$6,541.19	\$6,541.19
Replace lavatory, vitreous china	35	6.00 Ea.	\$4,035.45	\$4,849.33	1.4286	1	1	\$4,849.33	\$4,849.33
Replace faucet washer sink, iron enamel	2	2.00 Ea.	\$25.55	\$31.83	25.0000	25	25	\$795.80	\$795.80
Clean trap sink, iron enamel	3	2.00 Ea.	\$17.14	\$21.44	16.6667	16	16	\$342.99	\$342.99
Replace faucets sink, iron enamel	10	2.00 Ea.	\$363.45	\$437.51	5.0000	5	5	\$2,187.55	\$2,187.55
Unstop sink, iron enamel	2	2.00 Ea.	\$83.64	\$104.60	25.0000	25	25	\$2,615.12	\$2,615.12
Replace sink, P.E.C.I. sink, iron enamel kitchen	10	2.00 Ea.	\$1,273.40	\$1,515.02	5.0000	5	5	\$7,575.10	\$7,575.10
Repair internal leaks drinking fountain	4	1.00 Ea.	\$45.08	\$56.38	12.5000	12	12	\$676.53	\$676.53
Correct water pressure drinking fountain	2	1.00 Ea.	\$41.82	\$52.30	25.0000	25	25	\$1,307.56	\$1,307.56
Replace refrigerant drinking fountain	2	1.00 Ea.	\$32.68	\$38.27	25.0000	25	25	\$956.73	\$956.73
Repair drain leak drinking fountain	4	1.00 Ea.	\$33.92	\$40.53	12.5000	12	10	\$486.42	\$405.35
Replace fountain drinking fountain	10	1.00 Ea.	\$1,281.16	\$1,514.56	5.0000	5	5	\$7,572.79	\$7,572.79

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Inspect and clean shower head emergency shower station	3	4.00 Ea.	\$197.57	\$247.08	16.6667	16	16	\$3,953.35	\$3,953.35
Replace shower emergency shower station	25	4.00 Ea.	\$3,767.86	\$4,516.46	2.0000	2	2	\$9,032.92	\$9,032.92
Inspect and clean spray heads, emergency eye wash	3	4.00 Ea.	\$197.57	\$247.08	16.6667	16	16	\$3,953.35	\$3,953.35
Replace eye wash station, emergency eye wash	25	4.00 Ea.	\$4,457.36	\$5,299.99	2.0000	2	2	\$10,599.97	\$10,599.97
Overhaul water heater, gas / oil, 70 gallon	5	1.00 Ea.	\$163.70	\$204.73	10.0000	10	10	\$2,047.26	\$2,047.26
Clean & service water heater, gas / oil, 70 gallon	1	1.00 Ea.	\$196.62	\$245.89	50.0000	50	50	\$12,294.44	\$12,294.44
Replace water heater, gas / oil, 70 gallon	12	1.00 Ea.	\$3,315.17	\$3,847.40	4.1667	4	4	\$15,389.62	\$15,389.62
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
Replace pipe & fittings, cast iron, 4"	40	16.00 L.F.	\$1,071.15	\$1,285.72	1.2500	1	1	\$1,285.72	\$1,285.72
Unclog floor drain, PVC	20	4.00 Ea.	\$191.18	\$239.10	2.5000	2	2	\$478.19	\$478.19
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	8.00 Ea.	\$6,295.46	\$7,298.88	1.2500	1	1	\$7,298.88	\$7,298.88
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
Replace boiler, gas, 250 MBH	30	1.00 Ea.	\$9,398.04	\$11,210.13	1.6667	1	1	\$11,210.13	\$11,210.13
Replace roof mounted exhaust fan, 20,300 CFM exhaust fan	20	1.00 Ea.	\$11,255.78	\$13,078.79	2.5000	2	2	\$26,157.57	\$26,157.57
Repair circulator pump, 1/12 - 3/4 H.P.	5	1.00 Ea.	\$98.13	\$115.73	10.0000	10	7	\$1,157.31	\$810.12
Replace circulator pump, 1/12 - 3/4 H.P.	15	1.00 Ea.	\$3,822.30	\$4,402.23	3.3333	3	3	\$13,206.68	\$13,206.68
Repair terminal reheat, 12" x 24" coil	10	6.00 Ea.	\$534.45	\$668.38	5.0000	5	4	\$3,341.91	\$2,673.53
Replace terminal reheat, 12" x 24" coil	15	6.00 Ea.	\$10,544.76	\$12,101.07	3.3333	3	3	\$36,303.22	\$36,303.22
Repair single zone rooftop unit, 25 ton	10	1.00 Ea.	\$47,397.42	\$54,623.55	5.0000	5	4	\$273,117.75	\$218,494.20
Replace single zone rooftop unit, 25 ton	15	1.00 Ea.	\$51,343.17	\$59,585.52	3.3333	3	3	\$178,756.56	\$178,756.56
Repair central station A.H.U., 5400 CFM	10	1.00 Ea.	\$827.08	\$970.82	5.0000	5	4	\$4,854.11	\$3,883.28
Replace central station A.H.U., 5400 CFM	15	1.00 Ea.	\$23,424.06	\$27,083.63	3.3333	3	3	\$81,250.90	\$81,250.90
Rebuild 4" diameter reduced pressure backflow preventer	10	1.00 Ea.	\$664.67	\$779.78	5.0000	5	5	\$3,898.92	\$3,898.92
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	30.00 Ea.	\$2,565.68	\$3,155.69	2.5000	2	2	\$6,311.37	\$6,311.37
Maintenance and repair motor starter, up to 600 V	5	4.00 Ea.	\$1,118.56	\$1,350.39	10.0000	10	10	\$13,503.92	\$13,503.92
Maintenance and inspection motor starter, up to 600 V	0.5	4.00 Ea.	\$215.92	\$270.52	100.0000	100	100	\$27,052.03	\$27,052.03
Replace starter motor starter, up to 600 V	18	4.00 Ea.	\$3,221.24	\$3,832.30	2.7778	2	2	\$7,664.59	\$7,664.59

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 inspection lighting panel, indoor	3	4.00 Ea.	\$162.58	\$203.69	16.6667	16	16	\$3,258.97	\$3,258.97
Maintenance and repair safety switch general, 2 pole	8	4.00 Ea.	\$162.58	\$203.69	6.2500	6	6	\$1,222.12	\$1,222.12
Maintenance and inspection safety switch, 2 pole	1	4.00 Ea.	\$162.58	\$203.69	50.0000	50	50	\$10,184.29	\$10,184.29
Replace safety switch, 240 V, 2 pole	25	4.00 Ea.	\$1,566.42	\$1,909.44	2.0000	2	2	\$3,818.87	\$3,818.87
Replace fluorescent light fixture ballast, 80 W	10	14.00 Ea.	\$1,745.36	\$2,117.32	5.0000	5	5	\$10,586.61	\$10,586.61
Replace lamps (2 lamps), 4', 34 W energy saver	10	14.00 Ea.	\$353.00	\$442.11	5.0000	5	5	\$2,210.53	\$2,210.53
Replace metal halide ballast, 175 W	10	15.00 Ea.	\$2,227.27	\$2,674.51	5.0000	5	5	\$13,372.57	\$13,372.57
Replace metal halide fixture lamp, 175 W	5	30.00 Ea.	\$1,499.62	\$1,834.61	10.0000	10	10	\$18,346.10	\$18,346.10
Repair smoke detector	10	13.00 Ea.	\$733.04	\$906.28	5.0000	5	4	\$4,531.41	\$3,625.13
Check operation smoke detector	1	20.00 Ea.	\$323.88	\$405.78	50.0000	50	50	\$20,289.02	\$20,289.02
Replace smoke detector	15	20.00 Ea.	\$5,684.75	\$6,789.24	3.3333	3	3	\$20,367.72	\$20,367.72
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
Remove and replace vehicle lift hydraulic pump	15	4.00 Ea.	\$16,704.97	\$19,057.17	3.3333	3	3	\$57,171.51	\$57,171.51
Automotive equipment, compressor, electric, 5 HP, remove and replace motor	10	1.00 Ea.	\$1,107.89	\$1,269.82	5.0000	5	5	\$6,349.08	\$6,349.08
Remove and replace 50 HP pump motor	25	1.00 Ea.	\$6,597.04	\$7,549.25	2.0000	2	2	\$15,098.50	\$15,098.50
Repair 8" concrete block wall, 1st floor	25	420.00 S.F.	\$10,170.22	\$12,441.76	2.0000	2	2	\$24,883.51	\$24,883.51
Waterproof concrete block wall, 1st floor	10	64.40 C.S.F.	\$14,618.96	\$17,388.54	5.0000	5	5	\$86,942.69	\$86,942.69
Point and refinish painted concrete block wall, 1st floor	25	64.40 C.S.F.	\$30,253.64	\$37,339.45	2.0000	2	2	\$74,678.91	\$74,678.91
Replace glass - 1st floor (1% of glass) - alum. window fixed	1	12.00 S.F.	\$144.69	\$170.06	50.0000	50	50	\$8,502.97	\$8,502.97
Repair 2'-0" x 3'-0" aluminum window - 1st floor	20	14.00 Ea.	\$2,026.31	\$2,416.53	2.5000	2	2	\$4,833.05	\$4,833.05
Repair steel, painted, door	14	8.00 Ea.	\$5,000.59	\$5,952.05	3.5714	3	3	\$17,856.14	\$17,856.14
Replace 3'-0" x 7'-0" steel, painted, door	45	8.00 Ea.	\$5,640.51	\$6,557.85	1.1111	1	1	\$6,557.85	\$6,557.85
Repair 12' x 12' aluminum single roll-up door	10	8.00 Ea.	\$9,687.81	\$11,222.75	5.0000	5	5	\$56,113.75	\$56,113.75
Replace 12' x 12' aluminum single roll-up door	35	8.00 Ea.	\$37,477.86	\$43,275.49	1.4286	1	1	\$43,275.49	\$43,275.49
Non-destructive moisture inspection of built-up roofing	5	8.50 M.S.F.	\$993.27	\$1,211.50	10.0000	10	10	\$12,114.96	\$12,114.96
Minor BUR membrane repairs, 2% of roof area	1	1.10 Sq.	\$532.55	\$631.96	50.0000	50	50	\$31,598.07	\$31,598.07
Total BUR roof replacement	28	85.50 Sq.	\$66,660.08	\$78,829.49	1.7857	1	1	\$78,829.49	\$78,829.49

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost	
Debris removal, by hand and visual inspection, metal panel roofing	1	8.00 M.S.F.	\$182.27	\$222.32	50.0000	50	50	\$11,115.90	\$11,115.90	
Replace galvanized steel gutter, 6" box type, 26 ga.	40	188.00 L.F.	\$1,734.26	\$2,100.34	1.2500	1	1	\$2,100.34	\$2,100.34	
Replace round corrugated galvanized downspout, 4" diameter	25	82.00 L.F.	\$618.84	\$750.30	2.0000	2	2	\$1,500.60	\$1,500.60	
Repair 8" concrete block wall - (2% of walls) painted	25	3.77 C.S.F.	\$4,111.27	\$4,936.42	2.0000	2	2	\$9,872.85	\$9,872.85	
Refinish concrete block wall painted	4	44.00 C.S.F.	\$4,440.42	\$5,407.08	12.5000	12	12	\$64,884.97	\$64,884.97	
Repair steel painted interior door	14	4.00 Ea.	\$1,173.81	\$1,366.26	3.5714	3	3	\$4,098.77	\$4,098.77	
Replace 3'-0" x 7'-0" steel painted interior door	60	4.00 Ea.	\$4,872.14	\$5,648.33	0.8333	0	0	\$0.00	\$0.00	
Repair solid core wood door, interior	11	5.00 Ea.	\$1,467.26	\$1,707.82	4.5455	4	4	\$6,831.28	\$6,831.28	
Refinish 3'-0" x 7'-0" solid core wood door, interior	4	5.00 Ea.	\$216.82	\$266.25	12.5000	12	11	\$3,194.98	\$2,928.73	
			\$503,639.66	\$593,504.36				MR Subtotal	\$1,697,619.65	
									MR Per Year	\$33,904.58
									PM Total	\$11,296.28
									Subtotal	\$45,200.86
									Total Per Unit	\$5.20

## FAC 2141 VEHICLE MAINTENANCE SHOP

SUC \$5.20

Release 2021 Qtr 3

UM SF

Zip Code Prefix 222

Design Life 50

Type PM

Average Size 8699.0

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, manual, up to 24' high x 25' wide, annualized	8.00	17.57	\$95.03	\$726.72	\$0.00	\$821.75	\$1,049.27	\$1,281.54
Urinals, annualized	3.00	0.68	\$18.96	\$34.36	\$0.00	\$53.32	\$65.52	\$78.67
Toilet (vacuum breaker type), annualized	6.00	1.06	\$50.65	\$53.39	\$0.00	\$104.04	\$125.12	\$148.74
Lavatories, annualized	6.00	2.09	\$35.79	\$124.22	\$0.00	\$160.01	\$200.86	\$243.49
Drink fountain, annualized	1.00	0.62	\$20.73	\$31.28	\$0.00	\$52.00	\$63.46	\$75.95
Water heater, gas, to 120 gal., annualized	1.00	1.72	\$58.64	\$86.78	\$0.00	\$145.42	\$177.31	\$212.14
Boiler, hot water, oil, gas, or comb. fired, 120 - 500 MBH, annualized	1.00	15.88	\$77.34	\$947.08	\$0.00	\$1,024.42	\$1,316.27	\$1,612.00
Air handling unit, 25 thru 50 tons, annualized	1.00	1.94	\$379.12	\$97.79	\$0.00	\$476.92	\$544.17	\$630.37
Package unit, air cooled, 3 thru 24 ton, annualized	1.00	2.40	\$176.92	\$144.48	\$0.00	\$321.41	\$382.45	\$452.33
Air compressor, reciprocating, less than 5 H.P., annualized	1.00	4.80	\$59.14	\$290.73	\$0.00	\$349.87	\$443.01	\$539.10
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, wet pipe, annualized	1.00	11.34	\$68.24	\$678.37	\$0.00	\$746.61	\$956.95	\$1,170.70
Extinguishing system, dry chemical, annualized	1.00	5.61	\$5.11	\$281.92	\$0.00	\$287.03	\$372.11	\$457.45
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, annualized	1.00	0.39	\$23.20	\$25.90	\$0.00	\$49.10	\$59.19	\$70.44
Hydraulic lift, annualized	4.00	6.18	\$2,612.88	\$210.50	\$0.00	\$2,823.38	\$3,147.81	\$3,602.89
Crane, electric bridge, up to 5 ton, annualized	1.00	2.92	\$171.90	\$102.86	\$0.00	\$274.76	\$322.80	\$379.44
						\$7,929.01	\$9,513.35	\$11,296.28



# FAC 2141 VEHICLE MAINTENANCE SHOP

## Modeled Component List

### CostWorks Release 2021 Qtr 3

C10 Interior Construction	
Solid Core Interior Doors	5.0 Ea.
Concrete Block, Painted	44.0 C.S.F.
Steel Painted Interior Doors	4.0 Ea.
C30 Interior Finishes	
Concrete, Finished	68.0 C.S.F.
Vinyl	144.0 S.Y.
Acoustic Tile, fire-rated	7.75 C.S.F.
D20 Plumbing	
Tankless Water Closet	6.0 Ea.
Urinal	3.0 Ea.
Lavatory, Vitreous China	6.0 Ea.
Sink, Iron Enamel	2.0 Ea.
Drinking Fountain	1.0 Ea.
Emergency Shower Station	4.0 Ea.
Emergency Eye Wash	4.0 Ea.
Water Heater, Gas / Oil, 70 Gallon	1.0 Ea.
Circulation Pump, 1/12 HP	1.0 Ea.
Drain: Roof, Scupper, Area	8.0 Ea.
D30 HVAC	
Boiler, Gas, 250 MBH	1.0 Ea.
Exhaust Fan, roof mounted exhaust fan, 20300 CFM exhaust	1.0 Ea.
Circulator Pump, 1/12 - 3/4 H.P.	1.0 Ea.
Terminal Reheat Coil, 12" x 24"	6.0 Ea.
Single Zone Air Conditioner, 25 ton	1.0 Ea.
Central Station Air Conditioning Air Handling Unit, 5400 CFM	1.0 Ea.
D40 Fire Protection	
Backflow Preventer	1.0 Ea.
Sprinkler System, Fire Suppression, sprinkler head	30.0 Ea.
Extinguishing system, dry chemical, annualized	1.0 Each
D50 Electrical	
Motor Starter, Up To 600 V	4.0 Ea.
Load Center, 100 A, maintenance & inspection	4.0 Ea.
Safety Switch, General Duty, 240 V, 2 pole	4.0 Ea.
Smoke Detector	20.0 Ea.
Manual Pull Station	4.0 Ea.
Fire Alarm Control Panel	1.0 Ea.
Fire Alarm Bell	4.0 Ea.
E10 Equipment	
Hydraulic Pump, Vehicle Lift	4.0 Ea.
Electric Compressor	1.0 Ea.
Hydraulic Lift, annualized	4.0 Each
Crane, Electric, up to 5 ton, annualized	1.0 Each
B20 Exterior Enclosure	
Steel, Painted	8.0 Ea.
Aluminum Single, Roll-Up	8.0 Ea.
B30 Roofing	
Built-Up Roofing	85.5 Sq.



FAC 2141 VEHICLE MAINTENANCE SHOP  
Sustainment by Year  
CostWorks Release 2021 Qtr 3

