

**FAC 2141 VEHICLE MAINTENANCE SHOP**

FY24 SUC: \$4.81 / SF  
Source: Calculated using R.S. Means CostWorks 2023 Qtr 4 component prices

FAC 2141 VEHICLE MAINTENANCE SHOP

SUC \$4.81

Release 2023 Qtr 4  
Zip Code Prefix 222  
Type MR

UM SF  
Design Life 50  
Average Size 10126.930392

Adjusted Occurences 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 faucets sink, iron enamel	10	2.00 Ea.	\$390.94	\$470.24	5.0000	5	5	\$2,351.21	\$2,351.21
Unstop sink, iron enamel	2	2.00 Ea.	\$88.02	\$110.19	25.0000	25	25	\$2,754.69	\$2,754.69
Replace sink, P.E.C.I. sink, iron enamel kitchen	10	2.00 Ea.	\$2,416.86	\$2,818.55	5.0000	5	5	\$14,092.76	\$14,092.76
Repair internal leaks drinking fountain	4	1.00 Ea.	\$47.77	\$59.80	12.5000	12	12	\$717.56	\$717.56
Correct water pressure drinking fountain	2	1.00 Ea.	\$44.01	\$55.09	25.0000	25	25	\$1,377.35	\$1,377.35
Replace roof mounted exhaust fan, 20,300 CFM exhaust fan	20	1.00 Ea.	\$12,316.51	\$14,302.94	2.5000	2	2	\$28,605.87	\$28,605.87
Repair circulator pump, 1/12 - 3/4 H.P.	5	1.00 Ea.	\$103.47	\$122.05	10.0000	10	7	\$1,220.52	\$854.36
Replace circulator pump, 1/12 - 3/4 H.P.	15	1.00 Ea.	\$3,796.05	\$4,376.03	3.3333	3	3	\$13,128.10	\$13,128.10
Repair terminal reheat, 12" x 24" coil	10	6.00 Ea.	\$560.33	\$701.44	5.0000	5	4	\$3,507.19	\$2,805.75
Replace terminal reheat, 12" x 24" coil	15	6.00 Ea.	\$11,935.72	\$13,688.25	3.3333	3	3	\$41,064.76	\$41,064.76
Repair single zone rooftop unit, 25 ton	10	1.00 Ea.	\$54,305.81	\$62,518.61	5.0000	5	4	\$312,593.03	\$250,074.42
Replace single zone rooftop unit, 25 ton	15	1.00 Ea.	\$52,455.46	\$60,922.27	3.3333	3	3	\$182,766.81	\$182,766.81
Repair central station A.H.U., 5400 CFM	10	1.00 Ea.	\$1,069.27	\$1,247.92	5.0000	5	4	\$6,239.60	\$4,991.68
Replace central station A.H.U., 5400 CFM	15	1.00 Ea.	\$25,974.29	\$30,008.91	3.3333	3	3	\$90,026.74	\$90,026.74
Rebuild 4" diameter reduced pressure backflow preventer	10	1.00 Ea.	\$921.17	\$1,072.81	5.0000	5	5	\$5,364.06	\$5,364.06
Inspect sprinkler system	1	1.00 Ea.	\$36.17	\$45.28	50.0000	50	50	\$2,264.22	\$2,264.22
Replace sprinkler head	20	30.00 Ea.	\$2,629.44	\$3,244.56	2.5000	2	2	\$6,489.11	\$6,489.11
Maintenance and repair motor starter, up to 600 V	5	4.00 Ea.	\$1,051.28	\$1,277.98	10.0000	10	10	\$12,779.77	\$12,779.77
Maintenance and inspection motor starter, up to 600 V	0.5	4.00 Ea.	\$227.52	\$285.05	100.0000	100	100	\$28,505.09	\$28,505.09
Replace starter motor starter, up to 600 V	18	4.00 Ea.	\$3,364.09	\$4,002.99	2.7778	2	2	\$8,005.97	\$8,005.97
Maintenance and inspection lighting panel, indoor	3	4.00 Ea.	\$169.38	\$212.20	16.6667	16	16	\$3,395.27	\$3,395.27
Maintenance and repair safety switch general, 2 pole	8	4.00 Ea.	\$169.38	\$212.20	6.2500	6	6	\$1,273.23	\$1,273.23
Maintenance and inspection safety switch, 2 pole	1	4.00 Ea.	\$169.38	\$212.20	50.0000	50	50	\$10,610.23	\$10,610.23
Replace fluorescent light fixture ballast, 80 W	10	14.00 Ea.	\$1,464.49	\$1,805.87	5.0000	5	5	\$9,029.36	\$9,029.36
Replace lamps (2 lamps), 4', 34 W energy saver	10	14.00 Ea.	\$370.80	\$464.37	5.0000	5	5	\$2,321.83	\$2,321.83
Replace metal halide ballast, 175 W	10	15.00 Ea.	\$2,503.30	\$2,996.47	5.0000	5	5	\$14,982.33	\$14,982.33
Replace metal halide fixture lamp, 175 W	5	30.00 Ea.	\$1,712.91	\$2,084.75	10.0000	10	10	\$20,847.47	\$20,847.47
Repair smoke detector	10	13.00 Ea.	\$754.13	\$933.82	5.0000	5	4	\$4,669.12	\$3,735.29
Check operation smoke detector	1	20.00 Ea.	\$340.02	\$425.99	50.0000	50	50	\$21,299.64	\$21,299.64

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Replace refrigerant drinking fountain	2	1.00 Ea.	\$35.41	\$41.43	25.0000	25	25	\$1,035.74	\$1,035.74
Repair drain leak drinking fountain	4	1.00 Ea.	\$29.10	\$35.19	12.5000	12	10	\$422.27	\$351.89
Replace fountain drinking fountain	10	1.00 Ea.	\$1,620.81	\$1,904.30	5.0000	5	5	\$9,521.51	\$9,521.51
Inspect and clean shower head emergency shower station	3	4.00 Ea.	\$206.14	\$258.05	16.6667	16	16	\$4,128.87	\$4,128.87
Replace shower emergency shower station	25	4.00 Ea.	\$4,212.33	\$5,036.60	2.0000	2	2	\$10,073.21	\$10,073.21
Inspect and clean spray heads, emergency eye wash	3	4.00 Ea.	\$206.14	\$258.05	16.6667	16	16	\$4,128.87	\$4,128.87
Replace eye wash station, emergency eye wash	25	4.00 Ea.	\$3,143.65	\$3,822.20	2.0000	2	2	\$7,644.41	\$7,644.41
Overhaul water heater, gas / oil, 70 gallon	5	1.00 Ea.	\$172.87	\$216.40	10.0000	10	10	\$2,163.98	\$2,163.98
Clean & service water heater, gas / oil, 70 gallon	1	1.00 Ea.	\$206.10	\$258.00	50.0000	50	50	\$12,900.02	\$12,900.02
Replace water heater, gas / oil, 70 gallon	12	1.00 Ea.	\$3,214.32	\$3,737.78	4.1667	4	4	\$14,951.13	\$14,951.13
Inspect / check pump / motor operation, lubricate circulation pump, 1/12 HP	0.5	1.00 Ea.	\$8.44	\$10.56	100.0000	100	100	\$1,056.19	\$1,056.19
Replace pump / motor assembly circulation pump, 1/12 HP	10	1.00 Ea.	\$1,218.91	\$1,426.89	5.0000	5	5	\$7,134.47	\$7,134.47
Unclog main drain pipe & fittings, cast iron	10	1.00 Ea.	\$48.84	\$61.14	5.0000	5	5	\$305.70	\$305.70
Replace pipe & fittings, cast iron, 4"	40	16.00 L.F.	\$925.95	\$1,125.10	1.2500	1	1	\$1,125.10	\$1,125.10
Unclog floor drain, PVC	20	4.00 Ea.	\$201.81	\$252.63	2.5000	2	2	\$505.25	\$505.25
General maintenance & repair drain: roof, scupper, area	1	1.00 Ea.	\$39.18	\$49.05	50.0000	50	50	\$2,452.35	\$2,452.35
Replace drain: roof, scupper, area	40	8.00 Ea.	\$9,042.99	\$10,430.80	1.2500	1	1	\$10,430.80	\$10,430.80
Repair boiler, gas, 250 MBH	7	1.00 Ea.	\$2,758.88	\$3,222.41	7.1429	7	7	\$22,556.86	\$22,556.86
Replace boiler, gas, 250 MBH	30	1.00 Ea.	\$9,616.21	\$11,488.35	1.6667	1	1	\$11,488.35	\$11,488.35
Replace safety switch, 240 V, 2 pole	25	4.00 Ea.	\$1,793.23	\$2,174.40	2.0000	2	2	\$4,348.80	\$4,348.80
Replace smoke detector	15	20.00 Ea.	\$6,051.05	\$7,224.37	3.3333	3	3	\$21,673.11	\$21,673.11
Check and repair manual pull station	10	4.00 Ea.	\$359.53	\$442.99	5.0000	5	4	\$2,214.94	\$1,771.95
Replace manual pull station	15	4.00 Ea.	\$835.03	\$1,007.05	3.3333	3	3	\$3,021.15	\$3,021.15
Minor repairs to fire alarm control panel	5	1.00 Ea.	\$149.42	\$182.60	10.0000	10	10	\$1,825.95	\$1,825.95
Maintenance and inspection fire alarm control panel	0.5	1.00 Ea.	\$45.50	\$57.01	100.0000	100	100	\$5,701.02	\$5,701.02
Replace fire alarm control panel	15	1.00 Ea.	\$2,196.12	\$2,675.47	3.3333	3	3	\$8,026.42	\$8,026.42
Replace fire alarm bell, 6"	20	4.00 Ea.	\$722.42	\$879.09	2.5000	2	2	\$1,758.17	\$1,758.17
Remove and replace vehicle lift hydraulic pump	15	4.00 Ea.	\$17,717.59	\$20,211.79	3.3333	3	3	\$60,635.36	\$60,635.36
Automotive equipment, compressor, electric, 5 HP, remove and replace motor	10	1.00 Ea.	\$834.47	\$959.62	5.0000	5	5	\$4,798.11	\$4,798.11
Remove and replace 50 HP pump motor	25	1.00 Ea.	\$9,015.62	\$10,299.87	2.0000	2	2	\$20,599.73	\$20,599.73
Replace 3'-0" x 7'-0" solid core wood door, interior	40	5.00 Ea.	\$2,832.75	\$3,270.49	1.2500	1	1	\$3,270.49	\$3,270.49

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost
Office painting, 10' x 12', 10' high walls	5	6.00 Ea.	\$1,463.57	\$1,792.03	10.0000	10	10	\$17,920.31	\$17,920.31
Refinish concrete floor finished	25	68.00 C.S.F.	\$28,327.25	\$34,178.07	2.0000	2	2	\$68,356.13	\$68,356.13
Replace vinyl tile flooring	18	144.00 S.Y.	\$7,356.85	\$9,053.52	2.7778	2	2	\$18,107.04	\$18,107.04
Acoustic tile repairs - (2% of ceilings)	9	0.02 C.S.F.	\$17.55	\$20.42	5.5556	5	5	\$102.10	\$102.10
Replace acoustic tile ceiling, fire-rated	20	7.75 C.S.F.	\$4,037.19	\$4,771.65	2.5000	2	2	\$9,543.31	\$9,543.31
Replace flush valve diaphragm tankless water closet	10	6.00 Ea.	\$163.58	\$203.14	5.0000	5	5	\$1,015.68	\$1,015.68
Rebuild flush valve tankless water closet	20	6.00 Ea.	\$1,151.29	\$1,387.61	2.5000	2	2	\$2,775.23	\$2,775.23
Unplug clogged line tankless water closet	5	6.00 Ea.	\$1,379.57	\$1,726.99	10.0000	10	10	\$17,269.90	\$17,269.90
Replace tankless water closet	35	6.00 Ea.	\$8,499.33	\$9,829.92	1.4286	1	1	\$9,829.92	\$9,829.92
Replace tankless flush valve	25	6.00 Ea.	\$1,621.46	\$1,903.31	2.0000	2	2	\$3,806.61	\$3,806.61
Replace wax ring gasket for tankless water closet	5	6.00 Ea.	\$894.99	\$1,119.32	10.0000	10	10	\$11,193.21	\$11,193.21
Replace flush valve diaphragm for a urinal	7	3.00 Ea.	\$81.79	\$101.57	7.1429	7	7	\$710.98	\$710.98
Rebuild flush valve for a urinal	20	3.00 Ea.	\$575.64	\$693.81	2.5000	2	2	\$1,387.61	\$1,387.61
Unplug line urinal	5	3.00 Ea.	\$457.93	\$573.24	10.0000	10	10	\$5,732.45	\$5,732.45
Replace wall-hung urinal	35	3.00 Ea.	\$3,262.56	\$3,924.14	1.4286	1	1	\$3,924.14	\$3,924.14
Replace washer in spud connection lavatory, vitreous china	7	6.00 Ea.	\$103.93	\$126.84	7.1429	7	7	\$887.91	\$887.91
Replace washer in faucet lavatory, vitreous china	2	6.00 Ea.	\$81.40	\$101.50	25.0000	25	25	\$2,537.58	\$2,537.58
Replace faucets lavatory, vitreous china	10	6.00 Ea.	\$1,172.83	\$1,410.73	5.0000	5	5	\$7,053.64	\$7,053.64
Clean out strainer and P trap lavatory, vitreous china	2	6.00 Ea.	\$220.91	\$276.54	25.0000	25	25	\$6,913.60	\$6,913.60
Replace lavatory, vitreous china	35	6.00 Ea.	\$4,312.34	\$5,180.44	1.4286	1	1	\$5,180.44	\$5,180.44
Replace faucet washer sink, iron enamel	2	2.00 Ea.	\$26.90	\$33.54	25.0000	25	25	\$838.47	\$838.47
Clean trap sink, iron enamel	3	2.00 Ea.	\$18.01	\$22.55	16.6667	16	16	\$360.77	\$360.77
Repair 8" concrete block wall, 1st floor	25	420.00 S.F.	\$10,793.65	\$13,216.87	2.0000	2	2	\$26,433.74	\$26,433.74
Waterproof concrete block wall, 1st floor	10	79.00 C.S.F.	\$20,419.64	\$24,222.31	5.0000	5	5	\$121,111.55	\$121,111.55
Point and refinish painted concrete block wall, 1st floor	25	64.40 C.S.F.	\$33,290.27	\$41,030.05	2.0000	2	2	\$82,060.11	\$82,060.11
Replace glass - 1st floor (1% of glass) - alum. window fixed	1	12.00 S.F.	\$157.79	\$185.29	50.0000	50	50	\$9,264.30	\$9,264.30
Repair 2'-0" x 3'-0" aluminum window - 1st floor	20	14.00 Ea.	\$2,188.39	\$2,607.80	2.5000	2	2	\$5,215.60	\$5,215.60
Repair steel, painted, door	14	8.00 Ea.	\$5,618.68	\$6,673.54	3.5714	3	3	\$20,020.62	\$20,020.62
Replace 3'-0" x 7'-0" steel, painted, door	45	8.00 Ea.	\$7,336.87	\$8,495.41	1.1111	1	1	\$8,495.41	\$8,495.41
Repair 12' x 12' aluminum single roll-up door	10	8.00 Ea.	\$8,323.03	\$9,686.70	5.0000	5	5	\$48,433.49	\$48,433.49
Replace 12' x 12' aluminum single roll-up door	35	8.00 Ea.	\$32,070.33	\$37,178.64	1.4286	1	1	\$37,178.64	\$37,178.64
Non-destructive moisture inspection of built-up roofing	5	8.50 M.S.F.	\$1,073.11	\$1,308.87	10.0000	10	10	\$13,088.71	\$13,088.71
Minor BUR membrane repairs, 2% of roof area	1	1.10 Sq.	\$585.21	\$693.88	50.0000	50	50	\$34,694.08	\$34,694.08

Description	Frequency	Qty Unit	Total In-House	Total Incl OP	Design Life/Frequency	Occurrences in Design Life	Adjusted Occurrences	Life Cost	Adjusted Cost	
Total BUR roof replacement	28	93.50 Sq.	\$81,831.26	\$96,616.21	1.7857	1	1	\$96,616.21	\$96,616.21	
Debris removal, by hand and visual inspection, metal panel roofing	1	8.00 M.S.F.	\$196.33	\$239.46	50.0000	50	50	\$11,973.13	\$11,973.13	
Replace galvanized steel gutter, 6" box type, 26 ga.	40	188.00 L.F.	\$2,483.84	\$2,961.70	1.2500	1	1	\$2,961.70	\$2,961.70	
Replace round corrugated galvanized downspout, 4" diameter	25	82.00 L.F.	\$970.45	\$1,153.36	2.0000	2	2	\$2,306.72	\$2,306.72	
Repair 8" concrete block wall - (2% of walls) painted	25	3.77 C.S.F.	\$4,319.76	\$5,195.77	2.0000	2	2	\$10,391.54	\$10,391.54	
Refinish concrete block wall painted	4	44.00 C.S.F.	\$5,222.38	\$6,313.70	12.5000	12	12	\$75,764.40	\$75,764.40	
Repair steel painted interior door	14	4.00 Ea.	\$1,115.95	\$1,302.73	3.5714	3	3	\$3,908.19	\$3,908.19	
Replace 3'-0" x 7'-0" steel painted interior door	60	4.00 Ea.	\$5,118.19	\$5,935.67	0.8333	0	0	\$0.00	\$0.00	
Repair solid core wood door, interior	11	5.00 Ea.	\$1,394.94	\$1,628.41	4.5455	4	4	\$6,513.64	\$6,513.64	
Refinish 3'-0" x 7'-0" solid core wood door, interior	4	5.00 Ea.	\$220.07	\$271.19	12.5000	12	11	\$3,254.27	\$2,983.08	
			\$550,805.80	\$649,046.98				MR Subtotal	\$1,862,761.80	
									MR Per Year	\$37,190.79
									PM Total	\$11,469.82
									Subtotal	\$48,660.61
									Total Per Unit	\$4.81

FAC 2141 VEHICLE MAINTENANCE SHOP

Release 2023 Qtr 4

Zip Code Prefix 222

Type PM

UM SF

Design Life 50

Average Size 10126.930392

SUC \$4.81

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	\$67.05	\$45.93	\$0.00	\$112.99	\$133.47	\$157.31
Door, overhead, manual, up to 24' high x 25' wide, annualized	8.00	17.57	\$68.09	\$777.10	\$0.00	\$845.19	\$1,085.13	\$1,328.47
Urinals, annualized	3.00	0.68	\$19.89	\$36.49	\$0.00	\$56.38	\$69.32	\$83.25
Toilet (vacuum breaker type), annualized	6.00	1.06	\$53.13	\$56.77	\$0.00	\$109.90	\$132.24	\$157.24
Lavatories, annualized	6.00	2.09	\$46.75	\$130.80	\$0.00	\$177.55	\$221.47	\$267.72
Drink fountain, annualized	1.00	0.62	\$37.44	\$33.14	\$0.00	\$70.58	\$84.27	\$99.82
Water heater, gas, to 120 gal., annualized	1.00	1.72	\$102.21	\$91.56	\$0.00	\$193.77	\$231.46	\$274.26
Boiler, hot water, oil, gas, or comb. fired, 120 - 500 MBH, annualized	1.00	15.88	\$88.55	\$1,002.80	\$0.00	\$1,091.35	\$1,401.04	\$1,715.17
Air handling unit, 25 thru 50 tons, annualized	1.00	1.94	\$244.90	\$103.77	\$0.00	\$348.67	\$404.29	\$472.16
Package unit, air cooled, 3 thru 24 ton, annualized	1.00	2.40	\$166.98	\$151.73	\$0.00	\$318.71	\$380.92	\$451.49
Air compressor, reciprocating, less than 5 H.P., annualized	1.00	4.80	\$56.17	\$305.20	\$0.00	\$361.37	\$458.54	\$558.53
Backflow prevention device, up to 4", annualized	1.00	0.33	\$14.02	\$20.93	\$0.00	\$34.94	\$42.62	\$51.01
Extinguishing system, wet pipe, annualized	1.00	11.34	\$49.59	\$710.68	\$0.00	\$760.27	\$978.43	\$1,199.07
Extinguishing system, dry chemical, annualized	1.00	5.61	\$4.33	\$300.84	\$0.00	\$305.17	\$395.86	\$486.76
Panelboard, 225 A and above, annualized	2.00	0.88	\$44.00	\$60.83	\$0.00	\$104.83	\$127.48	\$152.33
Motor control center, over 400 A, annualized	1.00	0.39	\$22.00	\$26.81	\$0.00	\$48.81	\$59.05	\$70.39
Hydraulic lift, annualized	4.00	6.18	\$2,524.60	\$223.82	\$0.00	\$2,748.42	\$3,068.03	\$3,513.86
Crane, electric bridge, up to 5 ton, annualized	1.00	2.92	\$206.82	\$107.79	\$0.00	\$314.61	\$367.63	\$430.99
						\$8,003.51	\$9,641.25	\$11,469.82



# FAC 2141 VEHICLE MAINTENANCE SHOP

## Modeled Component List

### CostWorks Release 2023 Qtr 4

#### D20 Plumbing

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.
Tankless Water Closet	6.0 Ea.
Urinal	3.0 Ea.
Lavatory, Vitreous China	6.0 Ea.

#### D30 HVAC

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.
Boiler, Gas, 250 MBH	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

#### 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.

#### B20 Exterior Enclosure

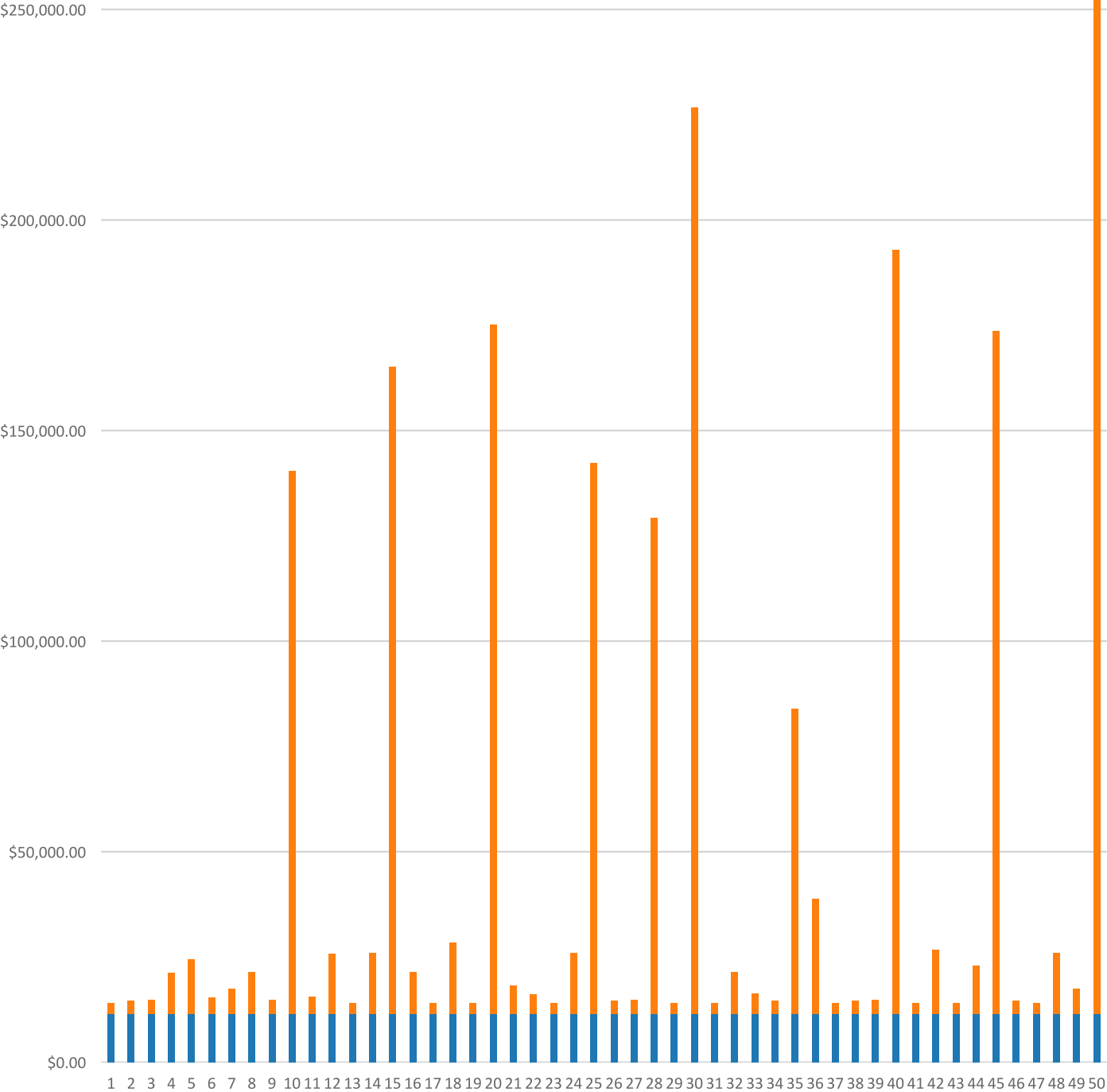
Steel, Painted	8.0 Ea.
Aluminum Single, Roll-Up	8.0 Ea.

#### B30 Roofing

Built-Up Roofing	93.5 Sq.
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FAC 2141 VEHICLE MAINTENANCE SHOP  
Sustainment by Year  
CostWorks Release 2023 Qtr 4



PM Cost  
MR Cost