

FAC 3181 PROPULSION RDTE FACILITY

FY22 SUC:	\$10.54 / SF
Source:	Calculated using R.S. Means CostWorks 2021 Qtr 3 component prices

FAC 3181 PROPULSION RDTE FACILITY

SUC \$10.54

Release 2021 Qtr 3
Zip Code Prefix 222
Type MR

UM SF
Design Life 55
Average Size 10275.0

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
Replace aluminum downspout, 3" x 4", .024" thick	25	120.00 L.F.	\$950.12	\$1,150.28	2.2000	2	2	\$2,300.57	\$2,300.57
Replace galvanized smoke hatch single unit 4' x 4'	40	4.00 Ea.	\$8,779.15	\$10,069.70	1.3750	1	1	\$10,069.70	\$10,069.70
Repair steel painted interior door	14	8.00 Ea.	\$2,347.62	\$2,732.51	3.9286	3	3	\$8,197.54	\$8,197.54
Refinish 3'-0" x 7'-0" steel painted interior door	4	8.00 Ea.	\$420.68	\$518.29	13.7500	13	13	\$6,737.78	\$6,737.78
Repair solid core wood door, interior	11	12.00 Ea.	\$3,521.43	\$4,098.77	5.0000	5	5	\$20,493.84	\$20,493.84
Refinish 3'-0" x 7'-0" solid core wood door, interior	4	12.00 Ea.	\$520.38	\$639.00	13.7500	13	12	\$8,306.95	\$7,667.95
Replace 3'-0" x 7'-0" solid core wood door, interior	40	12.00 Ea.	\$5,873.13	\$6,789.72	1.3750	1	1	\$6,789.72	\$6,789.72
Repair medium weight vinyl wall covering - (2% of walls)	1	1.20 C.S.F.	\$326.25	\$388.21	55.0000	55	55	\$21,351.79	\$21,351.79
Replace medium weight vinyl wall covering	15	1.20 C.S.F.	\$407.30	\$489.00	3.6667	3	3	\$1,466.99	\$1,466.99
Refinish drywall	4	2,980.00 S.F.	\$1,850.52	\$2,276.45	13.7500	13	13	\$29,593.88	\$29,593.88
Office painting, 10' x 12', 10' high walls	5	8.00 Ea.	\$1,767.89	\$2,168.51	11.0000	11	11	\$23,853.56	\$23,853.56
Repair 4" x 4" thin set ceramic tile - (2% of walls)	10	16.00 C.S.F.	\$13,135.05	\$15,828.17	5.5000	5	5	\$79,140.85	\$79,140.85
Refinish concrete floor finished	25	45.00 C.S.F.	\$18,982.23	\$22,800.61	2.2000	2	2	\$45,601.22	\$45,601.22
Replace vinyl sheet flooring	18	238.00 S.Y.	\$21,733.18	\$26,018.31	3.0556	3	3	\$78,054.93	\$78,054.93
Replace acoustic tile ceiling, fire-rated	20	48.00 C.S.F.	\$25,162.97	\$29,658.53	2.7500	2	2	\$59,317.06	\$59,317.06
Replace flush valve diaphragm tankless water closet	10	12.00 Ea.	\$314.64	\$390.43	5.5000	5	5	\$1,952.15	\$1,952.15
Rebuild flush valve tankless water closet	20	12.00 Ea.	\$2,165.21	\$2,609.49	2.7500	2	2	\$5,218.97	\$5,218.97
Unplug clogged line tankless water closet	5	12.00 Ea.	\$2,620.74	\$3,277.52	11.0000	11	11	\$36,052.74	\$36,052.74
Replace tankless water closet	35	12.00 Ea.	\$15,434.65	\$17,861.94	1.5714	1	1	\$17,861.94	\$17,861.94
Replace tankless flush valve	25	12.00 Ea.	\$3,026.58	\$3,553.33	2.2000	2	2	\$7,106.65	\$7,106.65
Replace wax ring gasket for tankless water closet	5	12.00 Ea.	\$1,698.23	\$2,121.92	11.0000	11	11	\$23,341.09	\$23,341.09
Replace flush valve diaphragm for a urinal	7	6.00 Ea.	\$157.32	\$195.22	7.8571	7	7	\$1,366.51	\$1,366.51
Rebuild flush valve for a urinal	20	6.00 Ea.	\$1,082.60	\$1,304.74	2.7500	2	2	\$2,609.49	\$2,609.49
Refinish concrete steps	3	360.00 S.F.	\$580.15	\$716.43	18.3333	18	18	\$12,895.80	\$12,895.80
Repair 8" concrete block wall, 1st floor	25	650.00 S.F.	\$15,739.63	\$19,255.10	2.2000	2	2	\$38,510.20	\$38,510.20
Point and refinish painted concrete block wall, 1st floor	25	31.20 C.S.F.	\$14,657.04	\$18,089.92	2.2000	2	2	\$36,179.84	\$36,179.84
Replace aluminum siding, 1st floor	35	61.20 C.S.F.	\$35,761.95	\$43,064.77	1.5714	1	1	\$43,064.77	\$43,064.77
Refinish steel louver, 1st floor	5	2.00 Ea.	\$194.07	\$240.81	11.0000	11	11	\$2,648.93	\$2,648.93
Refinish steel louver, 2nd floor	5	2.00 Ea.	\$275.02	\$341.47	11.0000	11	11	\$3,756.18	\$3,756.18
Replace glass - 1st floor (1% of glass) - alum. window fixed	1	26.00 S.F.	\$313.50	\$368.46	55.0000	55	55	\$20,265.40	\$20,265.40
Repair 2'-0" x 3'-0" aluminum window - 1st floor	20	72.00 Ea.	\$10,421.04	\$12,427.84	2.7500	2	2	\$24,855.69	\$24,855.69

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Repair aluminum storefront door	12	4.00 Ea.	\$1,853.68	\$2,218.06	4.5833	4	4	\$8,872.23	\$8,872.23
Repair steel, painted, door	14	8.00 Ea.	\$5,000.59	\$5,952.05	3.9286	3	3	\$17,856.14	\$17,856.14
Refinish 3'-0" x 7'-0" steel, painted, door	4	8.00 Ea.	\$331.20	\$406.93	13.7500	13	13	\$5,290.09	\$5,290.09
Replace 3'-0" x 7'-0" steel, painted, door	45	8.00 Ea.	\$5,640.51	\$6,557.85	1.2222	1	1	\$6,557.85	\$6,557.85
Repair 12' x 12' steel roll-up door	10	3.00 Ea.	\$2,027.69	\$2,406.65	5.5000	5	5	\$12,033.25	\$12,033.25
Refinish 12' x 12' steel roll-up door	5	3.00 Ea.	\$610.34	\$747.57	11.0000	11	11	\$8,223.24	\$8,223.24
Replace 12' x 12' steel roll-up door	35	3.00 Ea.	\$8,110.75	\$9,626.60	1.5714	1	1	\$9,626.60	\$9,626.60
Debris removal and visual inspection of built-up roofing	0.5	10.25 M.S.F.	\$386.01	\$470.82	110.0000	110	110	\$51,790.01	\$51,790.01
Non-destructive moisture inspection of built-up roofing	5	10.25 M.S.F.	\$1,197.77	\$1,460.92	11.0000	11	11	\$16,070.14	\$16,070.14
Minor BUR membrane repairs, 2% of roof area	1	0.96 Sq.	\$464.77	\$551.53	55.0000	55	55	\$30,334.15	\$30,334.15
BUR flashing repairs, 2 S.F. per sq. repaired	1	106.00 S.F.	\$370.94	\$450.38	55.0000	55	55	\$24,771.12	\$24,771.12
Minor BUR membrane replacement, 25% of roof area	15	25.70 Sq.	\$20,683.06	\$24,551.55	3.6667	3	3	\$73,654.66	\$73,654.66
Total BUR roof replacement	28	103.00 Sq.	\$80,303.96	\$94,964.19	1.9643	1	1	\$94,964.19	\$94,964.19
Replace Roof edges, aluminum, duranodic, .050" thick, 6" face	25	280.00 L.F.	\$10,464.51	\$12,242.13	2.2000	2	2	\$24,484.26	\$24,484.26
Unplug line urinal	5	6.00 Ea.	\$870.43	\$1,088.57	11.0000	11	11	\$11,974.24	\$11,974.24
Replace wall-hung urinal	35	6.00 Ea.	\$5,813.18	\$7,014.64	1.5714	1	1	\$7,014.64	\$7,014.64
Replace washer in spud connection lavatory, vitreous china	7	12.00 Ea.	\$197.55	\$240.96	7.8571	7	7	\$1,686.72	\$1,686.72
Replace washer in faucet lavatory, vitreous china	2	12.00 Ea.	\$154.62	\$192.62	27.5000	27	27	\$5,200.79	\$5,200.79
Replace faucets lavatory, vitreous china	10	12.00 Ea.	\$2,180.71	\$2,625.06	5.5000	5	5	\$13,125.32	\$13,125.32
Clean out strainer and P trap lavatory, vitreous china	2	12.00 Ea.	\$418.43	\$523.29	27.5000	27	27	\$14,128.96	\$14,128.96
Replace faucet washer sink, iron enamel	2	2.00 Ea.	\$25.55	\$31.83	27.5000	27	27	\$859.46	\$859.46
Clean trap sink, iron enamel	3	2.00 Ea.	\$17.14	\$21.44	18.3333	18	18	\$385.87	\$385.87
Replace faucets sink, iron enamel	10	2.00 Ea.	\$363.45	\$437.51	5.5000	5	5	\$2,187.55	\$2,187.55
Unstop sink, iron enamel	2	2.00 Ea.	\$83.64	\$104.60	27.5000	27	27	\$2,824.33	\$2,824.33
Replace sink, P.E.C.I. sink, iron enamel kitchen	35	2.00 Ea.	\$1,273.40	\$1,515.02	1.5714	1	1	\$1,515.02	\$1,515.02
Replace faucet washer sink, laboratory	2	8.00 Ea.	\$102.21	\$127.33	27.5000	27	27	\$3,437.85	\$3,437.85
Replace faucets sink, laboratory	10	8.00 Ea.	\$1,453.81	\$1,750.04	5.5000	5	5	\$8,750.22	\$8,750.22
Replace sink and fittings, polyethylene lab.	15	8.00 Ea.	\$18,003.14	\$20,990.26	3.6667	3	3	\$62,970.77	\$62,970.77
Check / minor repairs drinking fountain	1	3.00 Ea.	\$146.65	\$183.40	55.0000	55	55	\$10,086.88	\$10,086.88
Replace refrigerant drinking fountain	2	3.00 Ea.	\$98.05	\$114.81	27.5000	27	27	\$3,099.81	\$3,099.81
Inspect and clean shower head emergency shower station	3	3.00 Ea.	\$148.18	\$185.31	18.3333	18	18	\$3,335.64	\$3,335.64
Replace shower emergency shower station	25	3.00 Ea.	\$2,825.90	\$3,387.35	2.2000	2	2	\$6,774.69	\$6,774.69
Inspect and clean spray heads, emergency eye wash	3	6.00 Ea.	\$296.36	\$370.63	18.3333	18	18	\$6,671.28	\$6,671.28

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Replace eye wash station, emergency eye wash	25	6.00 Ea.	\$6,686.05	\$7,949.98	2.2000	2	2	\$15,899.96	\$15,899.96
Resolder joint pipe & fittings, copper	10	14.00 Ea.	\$624.30	\$773.91	5.5000	5	5	\$3,869.56	\$3,869.56
Replace pipe and fittings, copper 4"	25	160.00 L.F.	\$28,119.97	\$32,951.29	2.2000	2	2	\$65,902.58	\$65,902.58
Replace old valve, non-drain, 4"	10	4.00 Ea.	\$10,040.05	\$11,793.86	5.5000	5	5	\$58,969.28	\$58,969.28
Remove old insulation & replace with new, pipe 1-1/2", wall 3/4"	15	140.00 L.F.	\$2,021.13	\$2,452.76	3.6667	3	3	\$7,358.29	\$7,358.29
Overhaul water heater, gas / oil, 70 gallon	5	2.00 Ea.	\$327.40	\$409.45	11.0000	11	11	\$4,503.98	\$4,503.98
Clean & service water heater, gas / oil, 70 gallon	1	2.00 Ea.	\$393.23	\$491.78	55.0000	55	55	\$27,047.77	\$27,047.77
Replace water heater, gas / oil, 70 gallon	12	2.00 Ea.	\$6,630.33	\$7,694.81	4.5833	4	4	\$30,779.24	\$30,779.24
Refill expansion chamber	5	1.00 Ea.	\$2.87	\$3.59	11.0000	11	11	\$39.45	\$39.45
Remove old chamber, install new expansion chamber	10	1.00 Ea.	\$1,041.65	\$1,190.89	5.5000	5	5	\$5,954.47	\$5,954.47
Inspect / check pump / motor operation, lubricate circulation pump, 1/12 HP	0.5	2.00 Ea.	\$16.06	\$20.08	110.0000	110	110	\$2,208.65	\$2,208.65
Replace pump / motor assembly circulation pump, 1/12 HP	10	2.00 Ea.	\$2,201.15	\$2,579.99	5.5000	5	5	\$12,899.95	\$12,899.95
Insp/chk pump/mtr oper, lub, chk align circulation pump, 3 HP	0.5	1.00 Ea.	\$12.97	\$16.22	110.0000	110	110	\$1,784.26	\$1,784.26
Replace pump / motor assembly circulation pump, 3 HP	20	1.00 Ea.	\$11,915.74	\$13,640.93	2.7500	2	2	\$27,281.86	\$27,281.86
Replace old valve with new hose bibb	10	4.00 Ea.	\$249.22	\$305.12	5.5000	5	5	\$1,525.60	\$1,525.60
Unclog main drain pipe & fittings, cast iron	10	1.00 Ea.	\$46.17	\$57.74	5.5000	5	5	\$288.68	\$288.68
Replace pipe & fittings, cast iron, 4"	40	16.00 L.F.	\$1,071.15	\$1,285.72	1.3750	1	1	\$1,285.72	\$1,285.72
Unclog floor drain, PVC	20	4.00 Ea.	\$191.18	\$239.10	2.7500	2	2	\$478.19	\$478.19
Repair joint pipe and fittings, PVC	10	4.00 Ea.	\$605.17	\$752.00	5.5000	5	5	\$3,759.99	\$3,759.99
Replace pipe, 4" pipe and fittings, PVC	30	16.00 L.F.	\$1,305.42	\$1,606.15	1.8333	1	1	\$1,606.15	\$1,606.15
Unclog 4" - 12" diameter main drain per L.F.	10	80.00 L.F.	\$303.29	\$379.29	5.5000	5	5	\$1,896.47	\$1,896.47
Replace floor drain with bucket	40	4.00 Ea.	\$8,642.86	\$9,919.47	1.3750	1	1	\$9,919.47	\$9,919.47
General maintenance & repair drain: roof, scupper, area	1	8.00 Ea.	\$295.90	\$370.06	55.0000	55	55	\$20,353.08	\$20,353.08
Replace drain: roof, scupper, area	40	8.00 Ea.	\$6,295.46	\$7,298.88	1.3750	1	1	\$7,298.88	\$7,298.88
Insp/chk pump/mtr oper, lub, chk align, rainwater sump pump	1	2.00 Ea.	\$23.90	\$29.89	55.0000	55	55	\$1,643.79	\$1,643.79
Replace rainwater sump pump / motor assembly	20	2.00 Ea.	\$1,264.86	\$1,494.18	2.7500	2	2	\$2,988.36	\$2,988.36
General maintenance pipe & fittings, compressed air	2	0.85 M.L.F.	\$31.39	\$39.26	27.5000	27	27	\$1,060.04	\$1,060.04
Check and adjust 25 H.P. compressor	1	2.00 Ea.	\$169.33	\$211.76	55.0000	55	55	\$11,646.98	\$11,646.98
Replace 25 H.P. compressor	25	2.00 Ea.	\$49,954.34	\$58,001.09	2.2000	2	2	\$116,002.19	\$116,002.19
Check operation compressed air systems	1	2.00 Ea.	\$47.80	\$59.77	55.0000	55	55	\$3,287.57	\$3,287.57
Replace 275 gallon fuel oil storage tank	30	8.00 Ea.	\$7,563.01	\$8,975.57	1.8333	1	1	\$8,975.57	\$8,975.57

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Preventive maintenance fuel level meter	5	8.00 Ea.	\$295.47	\$369.51	11.0000	11	11	\$4,064.64	\$4,064.64
Replace remote tank fuel gauge	20	8.00 Ea.	\$42,634.21	\$48,871.89	2.7500	2	2	\$97,743.79	\$97,743.79
Preventive maintenance oil filter	1	8.00 Ea.	\$49.53	\$59.81	55.0000	55	55	\$3,289.69	\$3,289.69
Replace oil filter housing	30	8.00 Ea.	\$495.33	\$598.12	1.8333	1	1	\$598.12	\$598.12
Replace 1000' type L 3/4" copper, fuel oil storage	25	0.75 M.L.F.	\$13,843.69	\$17,023.36	2.2000	2	2	\$34,046.71	\$34,046.71
Replace 10' of hung 4" diam steel pipe/M.L.F. natural gas	12	4.20 Ea.	\$3,913.11	\$4,740.51	4.5833	4	4	\$18,962.04	\$18,962.04
Check gas pressure natural gas, pressure reducing valve	5	2.00 Ea.	\$19.34	\$24.18	11.0000	11	11	\$265.99	\$265.99
Replace pressure regulator 2" diam. pipe natural gas	14	2.00 Ea.	\$1,769.15	\$2,034.65	3.9286	3	3	\$6,103.94	\$6,103.94
Repair boiler, gas, 2000 MBH	7	1.00 Ea.	\$5,785.82	\$6,733.75	7.8571	7	7	\$47,136.22	\$47,136.22
Replace boiler, gas, 2000 MBH	30	1.00 Ea.	\$39,838.14	\$46,620.21	1.8333	1	1	\$46,620.21	\$46,620.21
Replace roof mounted exhaust fan, 800 CFM exhaust fan	20	8.00 Ea.	\$13,872.23	\$16,224.91	2.7500	2	2	\$32,449.82	\$32,449.82
Repair circulator pump, 1 H.P.	5	4.00 Ea.	\$393.44	\$464.07	11.0000	11	8	\$5,104.73	\$3,712.53
Replace circulator. pump, 1 H.P.	15	4.00 Ea.	\$23,073.92	\$26,455.16	3.6667	3	3	\$79,365.48	\$79,365.48
Repair terminal reheat, 36" x 36" coil	10	6.00 Ea.	\$977.65	\$1,222.65	5.5000	5	5	\$6,113.26	\$6,113.26
Replace terminal reheat, 36" x 36" coil	15	6.00 Ea.	\$20,654.80	\$24,001.52	3.6667	3	3	\$72,004.56	\$72,004.56
Repair computer room air conditioner, air cooled, 5 ton	10	1.00 Ea.	\$4,277.08	\$5,096.24	5.5000	5	5	\$25,481.19	\$25,481.19
Replace computer room air conditioner, air cooled, 5 ton	20	1.00 Ea.	\$38,211.35	\$43,798.01	2.7500	2	2	\$87,596.02	\$87,596.02
Repair multi-zone variable volume, 50 ton	10	1.00 Ea.	\$58,275.95	\$68,228.08	5.5000	5	4	\$341,140.39	\$272,912.31
Replace multi-zone variable volume, 50 ton	15	1.00 Ea.	\$140,265.14	\$162,457.50	3.6667	3	3	\$487,372.50	\$487,372.50
Repair central station A.H.U., 8000 CFM	10	2.00 Ea.	\$2,604.14	\$3,030.61	5.5000	5	4	\$15,153.07	\$12,122.45
Replace central station A.H.U., 8000 CFM	15	2.00 Ea.	\$72,863.60	\$84,034.34	3.6667	3	3	\$252,103.03	\$252,103.03
Rebuild 4" diameter reduced pressure backflow preventer	10	1.00 Ea.	\$664.67	\$779.78	5.5000	5	5	\$3,898.92	\$3,898.92
Inspect sprinkler system	1	1.00 Ea.	\$34.33	\$42.93	55.0000	55	55	\$2,361.08	\$2,361.08
Replace sprinkler head	20	54.00 Ea.	\$4,618.23	\$5,680.23	2.7500	2	2	\$11,360.47	\$11,360.47
Rebuild double check 3" backflow preventer sprinkler system	1	1.00 Ea.	\$710.41	\$851.09	55.0000	55	55	\$46,810.15	\$46,810.15
Replace fire pump / electric motor assembly 100 H.P.	25	1.00 Ea.	\$44,139.08	\$50,910.34	2.2000	2	2	\$101,820.68	\$101,820.68
Repair 15 KV primary transformer, dry	15	2.00 Ea.	\$515.41	\$623.28	3.6667	3	3	\$1,869.83	\$1,869.83
Maintenance and inspection primary transformer, dry	0.5	2.00 Ea.	\$81.29	\$101.84	110.0000	110	110	\$11,202.72	\$11,202.72
Maintenance and repair rectifier, up to 600 V	2	1.00 Ea.	\$686.80	\$818.18	27.5000	27	27	\$22,090.87	\$22,090.87
Maintenance and repair motor starter, up to 600 V	5	8.00 Ea.	\$2,237.11	\$2,700.78	11.0000	11	11	\$29,708.63	\$29,708.63
Maintenance and repair motor starter, 600 V	3	4.00 Ea.	\$2,755.13	\$3,384.14	18.3333	18	18	\$60,914.50	\$60,914.50
Maintenance and repair secondary transformer, dry	10	4.00 Ea.	\$929.76	\$1,113.07	5.5000	5	5	\$5,565.33	\$5,565.33
Maintenance and inspection lighting panel, indoor	3	8.00 Ea.	\$325.15	\$407.37	18.3333	18	18	\$7,332.69	\$7,332.69

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Maintenance and inspection circuit breaker, molded case, 600 V, 2 pole	0.33	4.00 Ea.	\$129.55	\$162.31	166.6667	166	166	\$26,943.82	\$26,943.82
Replace circuit breaker enclosed, 240 V, 1 pole circuit breaker	50	32.00 Ea.	\$16,366.38	\$19,435.11	1.1000	1	1	\$19,435.11	\$19,435.11
Maintenance and repair breaker, enclosed, 240 V, 2 pole	25	12.00 Ea.	\$861.15	\$1,078.90	2.2000	2	2	\$2,157.80	\$2,157.80
Maintenance and repair safety switch general, 2 pole	8	5.00 Ea.	\$203.22	\$254.61	6.8750	6	6	\$1,527.64	\$1,527.64
Maintenance and inspection safety switch, 2 pole	1	5.00 Ea.	\$203.22	\$254.61	55.0000	55	55	\$14,003.40	\$14,003.40
Replace safety switch, 240 V, 2 pole	25	5.00 Ea.	\$1,958.02	\$2,386.80	2.2000	2	2	\$4,773.59	\$4,773.59
Maintenance and repair receptacles and plugs	20	164.00 Ea.	\$6,927.92	\$8,649.13	2.7500	2	2	\$17,298.26	\$17,298.26
Maintenance and repair contactors and relays	3	12.00 Ea.	\$3,039.64	\$3,747.98	18.3333	18	18	\$67,463.71	\$67,463.71
Maintenance and repair wiring devices, switches	10	54.00 Ea.	\$2,281.15	\$2,847.88	5.5000	5	5	\$14,239.42	\$14,239.42
Replace fluorescent light fixture ballast, 80 W	10	65.00 Ea.	\$8,103.45	\$9,830.42	5.5000	5	5	\$49,152.10	\$49,152.10
Replace lamps (2 lamps), 4', 34 W energy saver	10	65.00 Ea.	\$1,638.91	\$2,052.63	5.5000	5	5	\$10,263.15	\$10,263.15
Replace metal halide ballast, 175 W	10	18.00 Ea.	\$2,672.72	\$3,209.42	5.5000	5	5	\$16,047.09	\$16,047.09
Replace metal halide fixture lamp, 175 W	5	18.00 Ea.	\$899.77	\$1,100.77	11.0000	11	11	\$12,108.43	\$12,108.43
Repair smoke detector	10	32.00 Ea.	\$1,804.40	\$2,230.85	5.5000	5	4	\$11,154.25	\$8,923.40
Check operation smoke detector	1	32.00 Ea.	\$518.22	\$649.25	55.0000	55	55	\$35,708.68	\$35,708.68
Replace smoke detector	15	32.00 Ea.	\$9,095.59	\$10,862.78	3.6667	3	3	\$32,588.34	\$32,588.34
Check and repair manual pull station	10	15.00 Ea.	\$1,315.45	\$1,617.45	5.5000	5	4	\$8,087.27	\$6,469.82
Replace manual pull station	15	15.00 Ea.	\$3,052.02	\$3,674.12	3.6667	3	3	\$11,022.35	\$11,022.35
Minor repairs to fire alarm control panel	5	1.00 Ea.	\$149.71	\$182.27	11.0000	11	11	\$2,005.02	\$2,005.02
Maintenance and inspection fire alarm control panel	0.5	1.00 Ea.	\$43.18	\$54.10	110.0000	110	110	\$5,951.45	\$5,951.45
Replace fire alarm control panel	15	1.00 Ea.	\$1,953.46	\$2,391.92	3.6667	3	3	\$7,175.76	\$7,175.76
Replace fire alarm bell, 6"	20	6.00 Ea.	\$1,169.77	\$1,411.65	2.7500	2	2	\$2,823.31	\$2,823.31
Replace EMS, Three Phase, 5 Meters	15	1.00 Ea.	\$15,802.46	\$18,399.79	3.6667	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	2.7500	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	55.0000	55	55	\$13,180.92	\$13,180.92
Maintenance and repair lightning ground rod	1	4.00 Ea.	\$351.56	\$439.15	55.0000	55	53	\$24,153.17	\$23,274.88
Replace lightning ground rod	25	4.00 Ea.	\$904.36	\$1,121.16	2.2000	2	2	\$2,242.32	\$2,242.32
Maintenance and repair computer ground system	4	1.00 Ea.	\$21.59	\$27.05	13.7500	13	13	\$351.68	\$351.68
Replace computer ground system	50	0.88 M.L.F.	\$1,641.91	\$2,005.39	1.1000	1	1	\$2,005.39	\$2,005.39
Maintenance and repair special ground system	4	2.00 Ea.	\$43.18	\$54.10	13.7500	13	13	\$703.35	\$703.35
Replace special ground system	50	0.80 M.L.F.	\$1,492.65	\$1,823.08	1.1000	1	1	\$1,823.08	\$1,823.08

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 generator, diesel, 750 KW	0.08	1.00 Ea.	\$64.78	\$81.16	687.5000	687	687	\$55,754.24	\$55,754.24	
Replace lamp emergency lighting fixture	2	12.00 Ea.	\$656.27	\$790.51	27.5000	27	27	\$21,343.71	\$21,343.71	
Maintenance and repair exit light	20	12.00 Ea.	\$446.42	\$552.04	2.7500	2	2	\$1,104.08	\$1,104.08	
Replace lamp exit light	5	12.00 Ea.	\$202.16	\$239.56	11.0000	11	11	\$2,635.18	\$2,635.18	
Replace fume hood sash	20	8.00 Ea.	\$9,968.08	\$11,438.73	2.7500	2	2	\$22,877.46	\$22,877.46	
Remove and replace vehicle lift hydraulic pump	15	1.00 Ea.	\$4,176.24	\$4,764.29	3.6667	3	3	\$14,292.88	\$14,292.88	
Automotive equipment, compressor, electric, 5 HP, remove and replace motor	10	1.00 Ea.	\$1,107.89	\$1,269.82	5.5000	5	5	\$6,349.08	\$6,349.08	
Remove and replace 50 HP pump motor	25	2.00 Ea.	\$13,194.09	\$15,098.50	2.2000	2	2	\$30,197.00	\$30,197.00	
Replace diesel generator component, 750 KW	25	1.00 Ea.	\$227,966.93	\$261,102.57	2.2000	2	2	\$522,205.15	\$522,205.15	
			\$1,431,800.92	\$1,675,016.27				MR Subtotal	\$4,766,080.89	
									MR Per Year	\$86,533.58
									PM Total	\$21,740.13
									Subtotal	\$108,273.71
									Total Per Unit	\$10.54

FAC 3181 PROPULSION RDTE FACILITY

SUC \$10.54

Release 2021 Qtr 3

UM SF

Zip Code Prefix 222

Design Life 55

Type PM

Average Size 10275.0

Description	Qty	Labor Hours	Bare Mat	Bare Labor	Bare Equip	Bare Total	Total In-House	Total Incl OP
Door, emergency egress, swinging, annualized	5.00	1.30	\$72.96	\$53.75	\$0.00	\$126.71	\$150.13	\$177.20
Door, overhead, electric, roll up, to 24' high x 25' wide, annualized	3.00	12.21	\$122.88	\$506.43	\$0.00	\$629.31	\$793.53	\$963.89
Fire doors, swinging, annualized	5.00	1.96	\$71.61	\$72.79	\$0.00	\$144.39	\$173.39	\$205.97
Urinals, annualized	6.00	1.37	\$37.91	\$68.72	\$0.00	\$106.63	\$131.04	\$157.34
Toilet (vacuum breaker type), annualized	12.00	2.12	\$101.30	\$106.78	\$0.00	\$208.08	\$250.24	\$297.47
Lavatories, annualized	12.00	4.18	\$71.58	\$248.44	\$0.00	\$320.02	\$401.71	\$486.98
Drink fountain, annualized	3.00	1.86	\$62.18	\$93.83	\$0.00	\$156.00	\$190.37	\$227.84
Water heater, gas, to 120 gal., annualized	2.00	3.44	\$117.28	\$173.56	\$0.00	\$290.83	\$354.63	\$424.29
Valve, pressure relief, above 4", annually	4.00	0.59	\$22.44	\$29.78	\$0.00	\$52.22	\$63.40	\$75.70
Valve, pressure regular, above 4", annually	4.00	1.44	\$22.44	\$72.24	\$0.00	\$94.69	\$118.60	\$143.64
Valve, automatic, above 4", annually	4.00	0.75	\$23.46	\$37.71	\$0.00	\$61.16	\$74.82	\$89.65
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
Fan, axial, up to 5,000 CFM, annualized	3.00	3.73	\$35.18	\$187.65	\$0.00	\$222.84	\$282.65	\$344.22
Package unit, air cooled, 25 thru 50 ton, annually	2.00	2.42	\$216.35	\$146.25	\$0.00	\$362.60	\$428.11	\$504.44
Package unit, computer room, annually	1.00	1.41	\$72.29	\$85.02	\$0.00	\$157.30	\$190.04	\$226.38
Controls, central system, electro/pneumatic, annualized	1.00	1.92	\$70.77	\$115.41	\$0.00	\$186.18	\$227.88	\$273.12
Air compressor, centrifugal, to 40 H.P., annually	2.00	1.71	\$100.09	\$103.08	\$0.00	\$203.17	\$244.10	\$290.03
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, deluge / preaction, annually	2.00	8.24	\$108.18	\$489.84	\$0.00	\$598.01	\$755.78	\$918.96
Extinguishing system, foam pump diesel, annualized	1.00	22.16	\$808.80	\$1,123.28	\$0.00	\$1,932.08	\$2,349.94	\$2,808.24
Switchboard, annualized	2.00	1.40	\$7.98	\$92.20	\$0.00	\$100.18	\$128.64	\$157.50
Circuit breaker, high voltage air, annually	6.00	2.82	\$90.93	\$186.48	\$0.00	\$277.41	\$342.45	\$412.04
Transformer, dry type 500 KVA and over, annually	2.00	1.54	\$30.31	\$101.53	\$0.00	\$131.84	\$165.33	\$200.33
Panelboard, 225 A and above, annualized	8.00	3.53	\$185.58	\$232.06	\$0.00	\$417.64	\$505.82	\$603.28
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, annually	1.00	2.73	\$170.11	\$161.62	\$0.00	\$331.73	\$397.23	\$471.23
Security, intrusion alarm system, annualized	1.00	3.83	\$162.90	\$226.88	\$0.00	\$389.78	\$474.14	\$566.64
Emergency diesel or gas generator, over 15 KVA, annualized	1.00	16.15	\$86.09	\$953.12	\$0.00	\$1,039.21	\$1,333.75	\$1,632.60
Power stablizer, annualized	1.00	0.62	\$9.28	\$36.78	\$0.00	\$46.06	\$58.02	\$70.44
Light, emergency, hardwired system, annualized	12.00	3.00	\$92.79	\$177.16	\$0.00	\$269.95	\$332.37	\$399.44
Hydraulic lift, loading dock, annualized	2.00	3.26	\$49.28	\$111.23	\$0.00	\$160.51	\$198.80	\$239.56
Crane, electric bridge, over 15 tons, annualized	1.00	8.27	\$324.32	\$290.03	\$0.00	\$614.35	\$733.79	\$869.45
Crane, manual bridge, up to 5 ton, annualized	4.00	3.73	\$389.64	\$131.56	\$0.00	\$521.20	\$599.63	\$697.55
Hoist, pneumatic, annually	4.00	5.24	\$614.26	\$184.18	\$0.00	\$798.44	\$915.12	\$1,062.51
Hoist / winch, chain / cable, electric, annualized	2.00	3.30	\$307.13	\$116.01	\$0.00	\$423.14	\$488.66	\$569.53
Vacuum, annualized	2.00	2.46	\$41.03	\$83.72	\$0.00	\$124.75	\$153.97	\$185.24
Water flow meter, turbine, annually	4.00	1.18	\$75.85	\$57.12	\$0.00	\$132.97	\$157.69	\$186.21
Water flow meter, turbine, annualized	2.00	1.18	\$37.93	\$56.95	\$0.00	\$94.88	\$115.75	\$138.53
Pump, reciprocating displacement, annualized	2.00	2.92	\$34.10	\$141.10	\$0.00	\$175.20	\$220.94	\$268.39
						\$14,801.18	\$18,131.96	\$21,740.13

FAC 3181 PROPULSION RDTE FACILITY

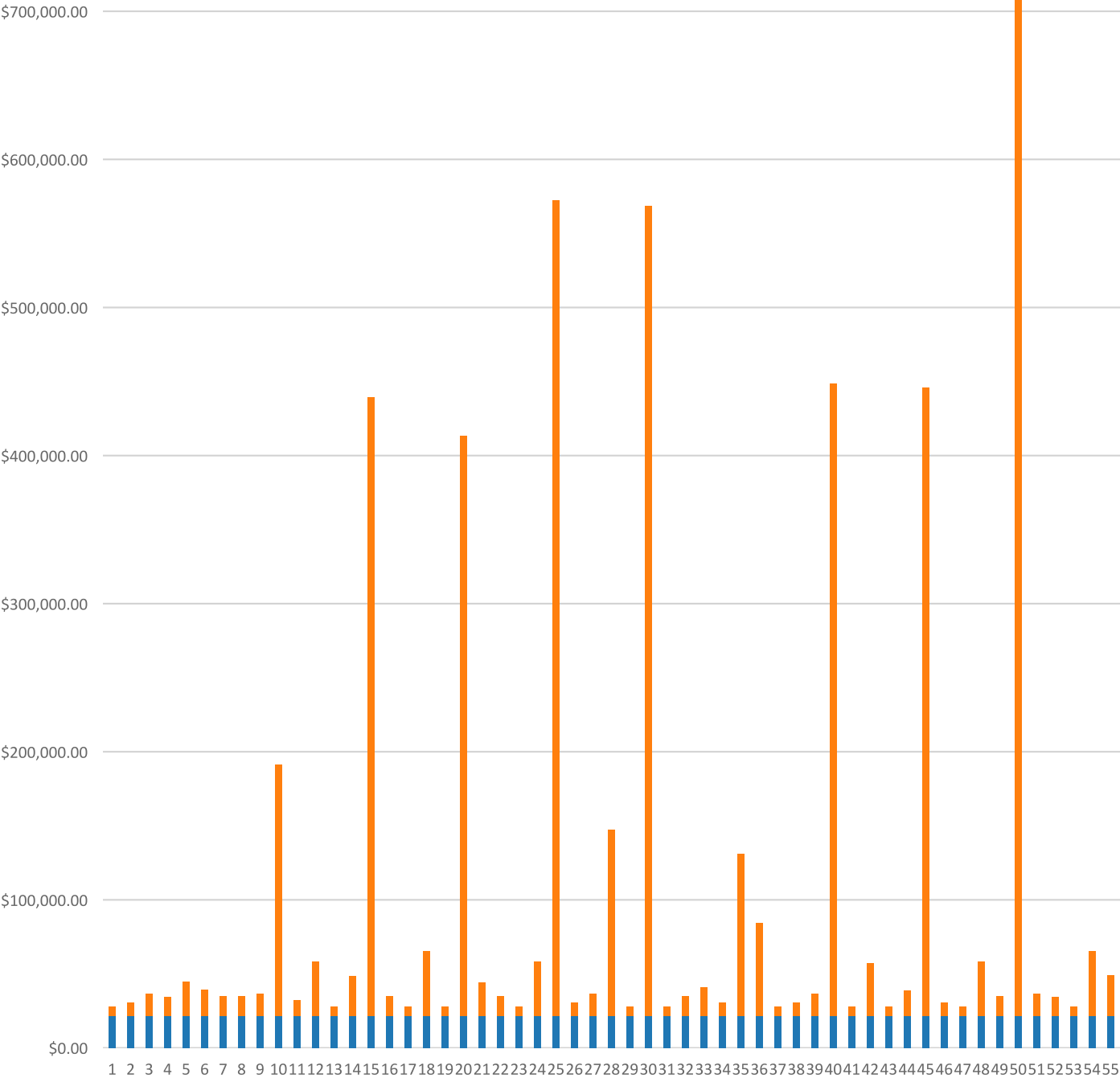
Modeled Component List

CostWorks Release 2021 Qtr 3

C10 Interior Construction	
Solid Core Interior Doors	12.0 Ea.
Fire Doors, Swinging, annualized	5.0 Each
C30 Interior Finishes	
Vinyl Wall Covering	1.2 C.S.F.
Concrete, Finished	45.0 C.S.F.
Vinyl Sheet	238.0 S.Y.
Acoustic Tile, fire-rated	48.0 C.S.F.
D20 Plumbing	
Tankless Water Closet	12.0 Ea.
Urinal	6.0 Ea.
Sink, Iron Enamel	2.0 Ea.
Emergency Shower Station	3.0 Ea.
Emergency Eye Wash	6.0 Ea.
Valve, Non-Drain, 4"	4.0 Ea.
Water Heater, Gas / Oil, 70 Gallon	2.0 Ea.
Circulation Pump, 1/12 HP	2.0 Ea.
Hose Bibb	4.0 Ea.
Floor Drain With Bucekt	4.0 Ea.
Drain: Roof, Scupper, Area	8.0 Ea.
Rainwater Sump Pump	2.0 Ea.
Compressed Air Systems, Compressors, 25 H.P.	2.0 Ea.
Compressed Air Systems, Compressors, Check operation	2.0 Ea.
B20 Exterior Enclosure	
Aluminum Siding, 1st floor	61.2 C.S.F.
Steel, Painted	8.0 Ea.
Steel Single, Roll-Up	3.0 Ea.
B30 Roofing	
Built-Up Roofing	103.0 Sq.
D30 HVAC	
Fuel Oil Storage Tank, 275 Gallon	8.0 Ea.
Boiler, Gas, 2000 MBH	1.0 Ea.
Exhaust Fan, roof mounted exhaust fan, 800 CFM exhaust	8.0 Ea.
Circulator Pump, 1 H.P.	4.0 Ea.
Terminal Reheat Coil, 36" x 36"	6.0 Ea.
Computer Room A/C Units, Air Cooled, 5 ton	1.0 Ea.
Multi-Zone Variable Volume	1.0 Ea.
Central Station Air Conditioning Air Handling Unit, 8000 CFM	2.0 Ea.
D40 Fire Protection	
Backflow Preventer	1.0 Ea.
Sprinkler System, Fire Supression, sprinkler head	54.0 Ea.
Sprinkler System, Fire Supression , 3" backflow preventer	1.0 Ea.
Fire Pump Electric Motor	1.0 Ea.
D50 Electrical	
Load Center, 100 A, maintenance & inspection	8.0 Ea.
Circuit Breaker, molded case, 240 V, 1 pole	32.0 Ea.
Safety Switch, General Duty, 240 V, 2 pole	5.0 Ea.
Smoke Detector	32.0 Ea.
Manual Pull Station	15.0 Ea.
Fire Alarm Control Panel	1.0 Ea.
Fire Alarm Bell	6.0 Ea.
Lightning Ground Rod	4.0 Ea.

Computer Ground System	0.88 M.L.F.
Special Ground System	0.8 M.L.F.
Generator, Diesel, 750 KW	1.0 Ea.
E10 Equipment	
Hydraulic Pump, Vehicle Lift	1.0 Ea.
Electric Compressor	1.0 Ea.
Hydraulic Lift, Loading Dock, annualized	2.0 Each
Crane, Electric, over 15 ton, annualized	1.0 Each
Crane, Manual, up to 5 ton, annualized	4.0 Each
Hoist/Winch, Chain/Cable, annualized	2.0 Each
G30 Site Mechanical Utilities	
Water Flow Meter, Turbine, annualized	2.0 Each

FAC 3181 PROPULSION RDTE FACILITY
Sustainment by Year
CostWorks Release 2021 Qtr 3



PM Cost
MR Cost