

FAC 3101 RDT&E Laboratory

RUC: \$240.43 SF

Source: USACE PAX Newsletter 3.2.2 dated 20 Mar 09
 CC 17135 and 31010
 Deflated to FY-09 using Appendix C of newsletter
 In V12, Tri-Service and USACE PAX Newsletter values were updated while
 all other values were inflated only.

SUC: \$2.40 SF

Source: Cost Works model, inflated to FY-09 using Green Book Table 5-6 (O&M
 less DHP)
 In V12, values were inflated only.

Model follows:

Chart: A chart showing relative annual sustainment requirements
 follow:

FAC 3101-RDT&E Laboratory
CostWorks 2008 Quarter 2

Design Life= 55
Average S.F= 14,136

C.S.F=100 S.F; MSF=1000 S.F
Sq=100 S.F; M.L.F=1000 L.F

This spreadsheet was
exported from R.S Means
CostWorks

Terminal Cutoff is the removal of a single task occurrence if that task occurs
within 10% of the end of the design life and if the frequency of the task exceeds
20% of the design life. This prevents scheduling major work near the end of the
design life

Description	Frequency	Crew	Qty	Unit	Total In-House	Total Incl. O&P	Release	Occurrences in Design Life	Adjusted Occurrences	Terminal Cutoff
Repair brick wall - 1st floor	25	1 Bric	698.400	S.F.	25,840.80	31,400.06	2008 Qtr 2	2	1	\$ 31,400.06
Repair 2'-0" x 3'-0" aluminum window - 1st floor	20	1 Carp	8.000	Ea.	919.68	1,089.60	2008 Qtr 2	2	2	\$ 2,179.20
Replace 2'-0" x 3'-0" aluminum window - 1st floor	50	1 Carp	80.000	Ea.	35,088.00	41,039.20	2008 Qtr 2	1	0	\$ -
Replace glass - 1st floor (1% of glass)	1	1 Carp	4.800	S.F.	43.44	50.98	2008 Qtr 2	55	55	\$ 2,803.68
Replace glass - 1st floor (1% of glass)	1	1 Carp	22.200	S.F.	200.91	235.76	2008 Qtr 2	55	55	\$ 12,967.02
Repair 3'-9" x 5'-5" steel frame window - 1st flr.	20	1 Carp	9.200	Ea.	2,419.69	2,826.33	2008 Qtr 2	2	2	\$ 5,652.66
Refinish 3'-9" x 5'-5" st. frame window - 1st flr.	5	1 Pord	92.000	Ea.	6,191.60	7,642.44	2008 Qtr 2	11	11	\$ 84,066.84
Replace 3'-9" x 5'-5" st. frame window - 1st flr.	45	1 Carp	92.000	Ea.	142,840.12	164,346.96	2008 Qtr 2	1	1	\$ 164,346.96
Finish new 3'-9" x 5'-5" st. fr. window - 1st flr.	45	1 Pord	92.000	Ea.	5,379.24	6,632.28	2008 Qtr 2	1	1	\$ 6,632.28
Repair 12' x 12' steel roll-up door	10	1 Carp	0.200	Ea.	166.52	192.91	2008 Qtr 2	5	5	\$ 964.54
Refinish 12' x 12' steel roll-up door	5	1 Pord	2.000	Ea.	337.66	411.08	2008 Qtr 2	11	11	\$ 4,521.88
Replace 12' x 12' steel roll-up door	35	2 Carp	2.000	Ea.	6,650.54	7,699.10	2008 Qtr 2	1	1	\$ 7,699.10
Repair steel, painted, door	14	1 Carp	0.300	Ea.	174.73	205.91	2008 Qtr 2	3	3	\$ 617.72
Refinish 3'-0" x 7'-0" steel, painted, door	4	1 Pord	3.000	Ea.	98.73	120.93	2008 Qtr 2	13	13	\$ 1,572.09
Replace 3'-0" x 7'-0" steel, painted, door	45	1 Carp	3.000	Ea.	1,596.24	1,860.12	2008 Qtr 2	1	1	\$ 1,860.12
Replace tempered glass - (3% of glass)	1	1 Carp	1.890	S.F.	36.48	43.39	2008 Qtr 2	55	55	\$ 2,386.69
Debris removal and visual inspection built-up roofing	1	2 Rofc	14.136	M.S.F.	414.75	499.71	2008 Qtr 2	55	55	\$ 27,483.92
Non-destructive moisture inspection built-up roofing	5	2 Rofc	14.136	M.S.F.	1,283.27	1,552.13	2008 Qtr 2	11	11	\$ 17,073.46
Total roof replacement built-up roofing	28	G1	141.360	Sq.	80,685.46	95,552.29	2008 Qtr 2	1	1	\$ 95,552.29
Minor membrane repairs - (2% of roof area) built-up roofing	5	G5	2.830	Sq.	974.99	1,151.92	2008 Qtr 2	11	11	\$ 12,671.16
Flashing repairs - (2 S.F. per sq. repaired) built-up roofing	5	2 Rofc	5.660	S.F.	19.02	22.64	2008 Qtr 2	11	11	\$ 249.04
Minor membrane replacement - (25% of roof area) built-up roofing	20	G5	35.340	Sq.	21,007.16	25,058.89	2008 Qtr 2	2	2	\$ 50,117.77
Repair steel painted interior door	14	1 Carp	0.300	Ea.	50.33	59.44	2008 Qtr 2	3	3	\$ 178.33
Refinish 3'-0" x 7'-0" steel painted interior door	4	1 Pord	3.000	Ea.	148.20	182.46	2008 Qtr 2	13	13	\$ 2,371.98
Replace 3'-0" x 7'-0" steel painted interior door	60	1 Carp	3.000	Ea.	2,812.62	3,269.88	2008 Qtr 2	0	0	\$ -
Safety glass repl., (3% of glass) steel painted interior door	1	1 Carp	1.890	S.F.	32.00	38.05	2008 Qtr 2	55	55	\$ 2,092.51
Repair solid core wood door interior	11	1 Carp	0.700	Ea.	117.43	138.70	2008 Qtr 2	5	5	\$ 693.49
Refinish 3'-0" x 7'-0" solid core wood door interior	4	1 Pord	7.000	Ea.	295.54	363.86	2008 Qtr 2	13	13	\$ 4,730.18
Replace 3'-0" x 7'-0" solid core wood door interior	40	1 Carp	7.000	Ea.	2,566.90	2,975.84	2008 Qtr 2	1	1	\$ 2,975.84
Refinish drywall	8	1 Pord	1,829.000	S.F.	1,097.40	1,353.46	2008 Qtr 2	6	6	\$ 8,120.76
Replace 5/8" drywall	75	2 Carp	1,829.000	S.F.	4,078.67	4,920.01	2008 Qtr 2	0	0	\$ -
Repair 5/8" drywall - (2% of walls)	20	1 Carp	36.580	S.F.	58.16	69.87	2008 Qtr 2	2	2	\$ 139.74
Replace carpet	12	2 Tilf	139.670	S.Y.	6,303.31	7,282.39	2008 Qtr 2	4	4	\$ 29,129.58
Refinish concrete floor finished	25	2 Cefi	123.300	C.S.F.	43,085.95	51,871.08	2008 Qtr 2	2	1	\$ 51,871.08
Replace vinyl sheet flooring	18	1 Tilf	61.100	S.Y.	5,111.63	6,080.67	2008 Qtr 2	3	2	\$ 12,161.34
Replace acoustic tile ceiling, fire-rated	20	1 Carp	18.060	C.S.F.	7,280.89	8,650.74	2008 Qtr 2	2	2	\$ 17,301.48

FAC 3101-RDT&E Laboratory
CostWorks 2008 Quarter 2

Design Life= 55
Average S.F= 14,136

C.S.F=100 S.F; MSF=1000 S.F
Sq=100 S.F; M.L.F=1000 L.F

This spreadsheet was
exported from R.S Means
CostWorks

Terminal Cutoff is the removal of a single task occurrence if that task occurs
within 10% of the end of the design life and if the frequency of the task exceeds
20% of the design life. This prevents scheduling major work near the end of the
design life

Description	Frequency	Crew	Qty	Unit	Total In-House	Total Incl. O&P	Release	Occurrences in Design Life	Adjusted Occurrences	Terminal Cutoff
Check / minor repairs drinking fountain	1	1 Plum	3.000	Ea.	112.74	142.02	2008 Qtr 2	55	55 \$	7,811.10
Repair internal leaks drinking fountain	4	1 Plum	3.000	Ea.	105.42	130.29	2008 Qtr 2	13	13 \$	1,693.77
Correct water pressure drinking fountain	2	1 Plum	3.000	Ea.	96.63	121.50	2008 Qtr 2	27	27 \$	3,280.50
Replace refrigerant drinking fountain	2	1 Plum	3.000	Ea.	47.52	56.58	2008 Qtr 2	27	27 \$	1,527.66
Repair drain leak drinking fountain	4	1 Plum	3.000	Ea.	67.89	81.09	2008 Qtr 2	13	13 \$	1,054.17
Replace fountain drinking fountain	10	2 Plum	3.000	Ea.	3,017.52	3,580.71	2008 Qtr 2	5	5 \$	17,903.55
Inspect and clean spray heads, emergency eye wash	3	1 Plum	2.000	Ea.	75.60	94.88	2008 Qtr 2	18	18 \$	1,707.84
Replace eye wash station, emergency eye wash	25	2 Plum	2.000	Ea.	1,147.84	1,391.76	2008 Qtr 2	2	1 \$	1,391.76
Inspect and clean shower head emergency shower station	3	1 Plum	2.000	Ea.	75.60	94.88	2008 Qtr 2	18	18 \$	1,707.84
Replace shower emergency shower station	25	2 Plum	2.000	Ea.	1,452.78	1,747.16	2008 Qtr 2	2	1 \$	1,747.16
Replace washer in spud connection lavatory, vitreous china	7	1 Plum	17.000	Ea.	408.17	481.61	2008 Qtr 2	7	7 \$	3,371.27
Replace washer in faucet lavatory, vitreous china	2	1 Plum	17.000	Ea.	167.45	208.93	2008 Qtr 2	27	27 \$	5,641.11
Replace faucets lavatory, vitreous china	10	1 Plum	17.000	Ea.	2,099.33	2,534.02	2008 Qtr 2	5	5 \$	12,670.10
Clean out strainer and P trap lavatory, vitreous china	2	1 Plum	17.000	Ea.	459.68	570.69	2008 Qtr 2	27	27 \$	15,408.63
Replace lavatory, vitreous china	35	2 Plum	17.000	Ea.	9,013.23	10,806.90	2008 Qtr 2	1	1 \$	10,806.90
Replace faucet washer sink, iron enamel	2	1 Plum	2.000	Ea.	19.58	24.38	2008 Qtr 2	27	27 \$	658.26
Clean trap sink, iron enamel	3	1 Plum	2.000	Ea.	13.20	16.50	2008 Qtr 2	18	18 \$	297.00
Replace faucets sink, iron enamel	10	1 Plum	2.000	Ea.	246.98	298.12	2008 Qtr 2	5	5 \$	1,490.60
Unstop sink sink, iron enamel	2	1 Plum	2.000	Ea.	64.42	81.00	2008 Qtr 2	27	27 \$	2,187.00
Replace sink, P.E.C.I. sink, iron enamel	35	2 Plum	2.000	Ea.	1,105.44	1,315.38	2008 Qtr 2	1	1 \$	1,315.38
Replace flush valve diaphragm tankless water closet	10	1 Plum	10.000	Ea.	707.40	830.60	2008 Qtr 2	5	5 \$	4,153.00
Rebuild flush valve tankless water closet	20	1 Plum	10.000	Ea.	1,319.80	1,600.10	2008 Qtr 2	2	2 \$	3,200.20
Unplug clogged line tankless water closet	5	1 Plum	10.000	Ea.	1,682.60	2,101.80	2008 Qtr 2	11	11 \$	23,119.80
Replace tankless water closet	35	2 Plum	10.000	Ea.	5,480.00	6,483.60	2008 Qtr 2	1	1 \$	6,483.60
Replace tankless flush valve	25	1 Plum	10.000	Ea.	2,095.00	2,453.70	2008 Qtr 2	2	1 \$	2,453.70
Replace wax ring gasket tankless water closet	5	1 Plum	10.000	Ea.	1,095.70	1,372.00	2008 Qtr 2	11	11 \$	15,092.00
Replace flush valve diaphragm urinal	7	1 Plum	4.000	Ea.	282.96	332.24	2008 Qtr 2	7	7 \$	2,325.68
Rebuild flush valve urinal	20	1 Plum	4.000	Ea.	527.92	640.04	2008 Qtr 2	2	2 \$	1,280.08
Unplug line urinal	5	1 Plum	4.000	Ea.	448.56	559.64	2008 Qtr 2	11	11 \$	6,156.04
Replace wall-hung urinal	35	2 Plum	4.000	Ea.	3,366.52	4,026.28	2008 Qtr 2	1	1 \$	4,026.28
Inspect / check pump / motor operation, lub. circulation pump, 1/12 HP	0.5	1 Plum	1.000	Ea.	6.19	7.72	2008 Qtr 2	110	110 \$	849.20
Replace pump / motor assembly circulation pump, 1/12 HP	10	2 Plum	1.000	Ea.	736.33	863.29	2008 Qtr 2	5	5 \$	4,316.45
Resolder joint pipe & fittings, copper	10	1 Plum	1.000	Ea.	32.85	40.45	2008 Qtr 2	5	5 \$	202.25
Replace pipe and fittings, copper 3/4"	20	2 Plum	16.000	L.F.	283.52	343.68	2008 Qtr 2	2	2 \$	687.36
Replace pipe and fittings, copper 2"	25	2 Plum	8.000	L.F.	326.48	392.88	2008 Qtr 2	2	1 \$	392.88
Remove old insulation & replace with new, pipe 3/4", wall 1"	15	1 Plum	16.000	L.F.	112.16	136.64	2008 Qtr 2	3	3 \$	409.92

FAC 3101-RDT&E Laboratory
CostWorks 2008 Quarter 2

Design Life= 55
Average S.F= 14,136

C.S.F=100 S.F; MSF=1000 S.F
Sq=100 S.F; M.L.F=1000 L.F

This spreadsheet was
exported from R.S Means
CostWorks

Terminal Cutoff is the removal of a single task occurrence if that task occurs
within 10% of the end of the design life and if the frequency of the task exceeds
20% of the design life. This prevents scheduling major work near the end of the
design life

Description	Frequency	Crew	Qty	Unit	Total In-House	Total Incl. O&P	Release	Occurrences in Design Life	Adjusted Occurrences	Terminal Cutoff
Overhaul water heater, gas / oil, 70 gallon	5	1 Plum	1.000	Ea.	126.58	158.02	2008 Qtr 2	11	11	\$ 1,738.22
Clean & service water heater, gas / oil, 70 gallon	1	1 Plum	1.000	Ea.	151.28	188.37	2008 Qtr 2	55	55	\$ 10,360.35
Replace water heater, gas / oil, 70 gallon	12	2 Plum	1.000	Ea.	2,468.08	2,857.11	2008 Qtr 2	4	4	\$ 11,428.44
Unclog main drain pipe & fittings, cast iron	10	1 Plum	1.000	Ea.	35.62	44.41	2008 Qtr 2	5	5	\$ 222.05
Replace pipe & fittings, cast iron	40	2 Plum	8.000	L.F.	335.20	405.60	2008 Qtr 2	1	1	\$ 405.60
General maintenance & repair drain: roof, scupper, area	1	1 Plum	4.000	Ea.	113.40	142.68	2008 Qtr 2	55	55	\$ 7,847.40
Replace drain: roof, scupper, area	40	1 Plum	4.000	Ea.	1,593.36	1,872.56	2008 Qtr 2	1	1	\$ 1,872.56
Install new 4" gasket, 1 per M.L.F. natural gas, steel/iron	30	1 Stpi	1.000	Ea.	157.52	195.63	2008 Qtr 2	1	1	\$ 195.63
Replace 10' of buried 4" diam steel pipe/M.L.F. natural gas	12	B35	1.000	Ea.	796.82	957.19	2008 Qtr 2	4	4	\$ 3,828.76
Replace fan & motor, propeller exh., 1000 CFM exhaust fan	15	Q20	2.000	Ea.	1,729.08	2,020.66	2008 Qtr 2	3	3	\$ 6,061.98
Repair single zone rooftop unit, 60 ton	10	Q6	0.500	Ea.	19,835.09	23,476.18	2008 Qtr 2	5	5	\$ 117,380.88
Replace single zone rooftop unit, 60 ton	15	Q7	1.000	Ea.	70,810.00	82,892.60	2008 Qtr 2	3	3	\$ 248,677.80
Minor repairs to fire alarm control panel	5	1 Elec	1.000	Ea.	107.84	130.97	2008 Qtr 2	11	11	\$ 1,440.67
Maintenance and inspection fire alarm control panel	0.5	1 Elec	1.000	Ea.	30.54	38.17	2008 Qtr 2	110	110	\$ 4,198.70
Replace fire alarm control panel	15	1 Elec	1.000	Ea.	2,615.62	3,107.84	2008 Qtr 2	3	3	\$ 9,323.52
Replace sprinkler head	20	1 Plum	83.000	Ea.	5,285.44	6,512.18	2008 Qtr 2	2	2	\$ 13,024.36
Inspect sprinkler system	1	1 Plum	1.000	Ea.	26.55	32.89	2008 Qtr 2	55	55	\$ 1,808.95
Rebuild double check 3" backflow preventer sprinkler system	1	1 Plum	1.000	Ea.	598.06	715.83	2008 Qtr 2	55	55	\$ 39,370.65
Replace fire alarm bell, 6"	20	1 Elec	4.000	Ea.	569.12	686.04	2008 Qtr 2	2	2	\$ 1,372.08
Maintenance and repair safety switch gen., 2 pole	8	1 Elec	3.000	Ea.	85.50	106.89	2008 Qtr 2	6	6	\$ 641.34
Maintenance and inspection safety switch, 2 pole	1	1 Elec	3.000	Ea.	85.50	106.89	2008 Qtr 2	55	55	\$ 5,878.95
Repair switchgear 1200 A mainframe	5	1 Elec	1.000	Ea.	1,694.09	1,975.10	2008 Qtr 2	11	11	\$ 21,726.10
Maintenance and inspection switchgear, mainframe	1	1 Elec	1.000	Ea.	45.81	57.01	2008 Qtr 2	55	55	\$ 3,135.55
Replace switchgear 1200 A mainframe	20	3 Elec	1.000	Ea.	4,052.28	4,808.24	2008 Qtr 2	2	2	\$ 9,616.48
Replace lamp emergency lighting fixture	2	1 Elec	10.000	Ea.	540.00	641.40	2008 Qtr 2	27	27	\$ 17,317.80
Replace emergency lighting fixture	20	1 Elec	10.000	Ea.	8,432.50	9,716.00	2008 Qtr 2	2	2	\$ 19,432.00
Maintenance and repair exit light	20	1 Elec	10.000	Ea.	328.30	398.70	2008 Qtr 2	2	2	\$ 797.40
Replace lamp exit light	5	1 Elec	10.000	Ea.	123.50	146.20	2008 Qtr 2	11	11	\$ 1,608.20
Replace fluor. ballast for fluorescent lighting fixture, 80 W	10	1 Elec	188.000	Ea.	18,721.04	22,575.04	2008 Qtr 2	5	5	\$ 112,875.20
Replace lamps (2 lamps) fluorescent lighting fixture, 80 W	10	1 Elec	188.000	Ea.	4,782.72	5,861.84	2008 Qtr 2	5	5	\$ 29,309.20
Maintenance and repair receptacles and plugs	20	1 Elec	135.000	Ea.	4,197.15	5,228.55	2008 Qtr 2	2	2	\$ 10,457.10
Replace receptacle/plug receptacles and plugs	20	1 Elec	135.000	Ea.	7,122.60	8,696.70	2008 Qtr 2	2	2	\$ 17,393.40
Maintenance and repair wiring devices, switches	10	1 Elec	34.000	Ea.	1,057.06	1,316.82	2008 Qtr 2	5	5	\$ 6,584.10
Replace switch wiring devices, switches	15	1 Elec	34.000	Ea.	1,741.14	2,119.90	2008 Qtr 2	3	3	\$ 6,359.70
Check and repair manual pull station	10	1 Elec	2.000	Ea.	138.42	169.74	2008 Qtr 2	5	5	\$ 848.70
Replace manual pull station	15	1 Elec	2.000	Ea.	251.48	303.78	2008 Qtr 2	3	3	\$ 911.34

FAC 3101-RDT&E Laboratory
CostWorks 2008 Quarter 2

Design Life= 55
Average S.F= 14,136

C.S.F=100 S.F; MSF=1000 S.F
Sq=100 S.F; M.L.F=1000 L.F

This spreadsheet was
exported from R.S Means
CostWorks

Terminal Cutoff is the removal of a single task occurrence if that task occurs
within 10% of the end of the design life and if the frequency of the task exceeds
20% of the design life. This prevents scheduling major work near the end of the
design life

Description	Frequency	Crew	Qty	Unit	Total In-House	Total Incl. O&P	Release	Occurrences in Design Life	Adjusted Occurrences	Terminal Cutoff
Repair smoke detector	10	1 Elec	50.000	Ea.	1,909.50	2,350.00	2008 Qtr 2	5	5	\$ 11,750.00
Check operation smoke detector	1	1 Elec	50.000	Ea.	570.00	715.00	2008 Qtr 2	55	55	\$ 39,325.00
Replace smoke detector	15	1 Elec	50.000	Ea.	9,477.50	11,349.50	2008 Qtr 2	3	3	\$ 34,048.50
					\$616,450.33	\$727,932.37				
									MR Subtotal	\$ 1,663,979.49
									MR Per Year	\$ 30,254.17
									PM Per Year	\$ 4,964.24
									Subtotal	\$ 35,218.41
									Total Per Unit	\$ 2.49

CostWorks 2009 Quarter 1 - FAC 3101-RDT&E Laboratory

Qty	Assembly Number	Description	Total In-House	Total Incl. O&P	Zip Code Prefix	Type	Release
2.000	B2035 410 1950	Door, overhead, electric, roll up, to 24' high x 25' w	480.32	580.24	200	FMR	2008 Qtr 2
10.000	B2035 225 1950	Door, emergency egress, swinging, annualized	495.10	575.10	200	FMR	2008 Qtr 2
3.000	C1025 110 1950	Fire doors, swinging, annualized	74.67	89.58	200	FMR	2008 Qtr 2
4.000	D2015 100 1950	Urinals, annualized	51.72	64.60	200	FMR	2008 Qtr 2
10.000	D2015 100 2950	Toilet (vacuum breaker type), annualized	129.30	161.50	200	FMR	2008 Qtr 2
17.000	D2015 100 4950	Lavatories, annualized	419.56	511.36	200	FMR	2008 Qtr 2
3.000	D2015 800 1950	Drink fountain, annualized	148.50	178.08	200	FMR	2008 Qtr 2
1.000	D2025 260 1950	Water heater, gas, to 120 gal., annualized	156.50	189.02	200	FMR	2008 Qtr 2
8.000	D3045 160 1950	VAV Boxes, annualized	490.48	608.00	200	FMR	2008 Qtr 2
2.000	D3045 210 1950	Fan, axial, up to 5,000 CFM, annualized	141.10	172.40	200	FMR	2008 Qtr 2
2.000	D3045 250 1950	Hood and blower, annualized	414.96	492.04	200	FMR	2008 Qtr 2
1.000	D3055 210 2950	Package unit, air cooled, 25 thru 50 ton, annualized	284.94	341.10	200	FMR	2008 Qtr 2
1.000	D4015 150 1950	Extinguishing system, wet pipe, annualized	806.79	983.35	200	FMR	2008 Qtr 2
1.000	D5095 250 1950	Light, emergency, hardwired system, annualized	14.25	17.87	200	FMR	2008 Qtr 2
			\$4,108.19	\$4,964.24			

FAC 3101 Sustainment by Year - Terminal Cutoff Applied

