

**FAC 6105    Pentagon**

RUC:            \$545.41

Source:        Based upon WHS reported construction costs plus structural frame estimate.  
Calculation as follows:

5,569,644.00	SF Total						
1,113,928.80	SF Per Wedge						
556,964.40	SF per half wedge						
Wedge	Area	Cost	\$/SF	Year	Index to 2008	Inflate to 2008	Inflate to 2009
1	1,113,928.80	642856835	577.11	2001	1.51034	871.6289	889.0615
2	1,113,928.80	510358944	458.16	2003	1.450123	664.3899	677.6777
3-1	556,964.40	160599268	288.35	2005	1.251751	360.9393	368.1581
4-1	556,964.40	140270294	251.85	2007	1.060966	267.202	272.546
			393.87				551.8608
Concrete							40.24
Thermal and Moisture Protection							1.65
			RCF, FY-09				593.7508

SUC:            \$6.55

Source:        R.S. Means CostWorks model; projected to FY-09 using GreenBook Table 5-6 (O&M less DHP). For V12, values were inflated only. The cost model follows.

Chart:         A chart showing relative annual sustainment requirements follows the cost model.

**CostWorks 2008 Quarter 1 - Pentagon**

Zip Code Prefix 200 Type FMR Release 2008 Qtr 1

Design Life

55

Area

5,569,644

Qty	Assembly Number	Description	Frequency	Crew	Unit	Total In-House	Total Incl. O&P	Design Life / Frequency	DL / F Truncated	Design Life Cost In House	Design Life Cost All Contracted
2,340.000	B1013 510 1010	Repair concrete steps	30	1 Cefi	S.F.	40,014.00	46,729.80	1.83	1	\$ 40,014	\$ 46,730
4,805.000	B2013 104 2010	Replace precast concrete coping, 12" wide	50	2 Bric	L.F.	337,070.75	406,214.70	1.10	1	\$ 337,071	\$ 406,215
490.000	B2013 330 3030	Refinish steel louver - 3rd floor	5	1 Pord	Ea.	72,765.00	90,135.50	11.00	11	\$ 800,415	\$ 991,491
490.000	B2013 330 3040	Replace steel louver - 3rd floor	40	1 Carp	Ea.	242,324.60	286,429.50	1.38	1	\$ 242,325	\$ 286,430
2,396.000	B2023 103 1020	Repair 2'-0" x 3'-0" steel frame window - 1st flr.	20	1 Carp	Ea.	275,540.00	326,455.00	2.75	2	\$ 551,080	\$ 652,910
2,396.000	B2023 103 1030	Refinish 2'-0" x 3'-0" st. frame window - 1st flr.	5	1 Pord	Ea.	161,250.80	199,059.68	11.00	11	\$ 1,773,759	\$ 2,189,656
2,396.000	B2023 103 1040	Replace 2'-0" x 3'-0" steel frame window - 1st flr.	45	1 Carp	Ea.	1,079,398.00	1,263,027.44	1.22	1	\$ 1,079,398	\$ 1,263,027
2,396.000	B2023 103 2020	Repair 2'-0" x 3'-0" steel frame window - 2nd flr.	20	1 Carp	Ea.	368,385.00	441,990.12	2.75	2	\$ 736,770	\$ 883,980
2,396.000	B2023 103 2030	Refinish 2'-0" x 3'-0" steel frame window - 2nd flr.	5	1 Pord	Ea.	298,134.28	367,378.68	11.00	11	\$ 3,279,477	\$ 4,041,165
2,396.000	B2023 103 2040	Replace 2'-0" x 3'-0" steel frame window - 2nd flr.	45	1 Carp	Ea.	1,172,243.00	1,378,538.60	1.22	1	\$ 1,172,243	\$ 1,378,539
2,396.000	B2023 103 3020	Repair 2'-0" x 3'-0" steel frame window - 3rd flr.	20	1 Carp	Ea.	463,266.60	557,525.24	2.75	2	\$ 926,533	\$ 1,115,050
2,396.000	B2023 103 3030	Refinish 2'-0" x 3'-0" steel frame window - 3rd floor	5	1 Pord	Ea.	376,531.40	466,405.36	11.00	11	\$ 4,141,845	\$ 5,130,459
2,396.000	B2023 103 3040	Replace 2'-0" x 3'-0" steel frame window - 3rd floor	45	1 Carp	Ea.	1,267,124.60	1,494,073.72	1.22	1	\$ 1,267,125	\$ 1,494,074
50.000	B2033 220 1020	Refinish 3'-0" x 7'-0" steel, painted, door	4	1 Pord	Ea.	1,645.50	2,016.00	13.75	13	\$ 21,392	\$ 26,208
50.000	B2033 220 1030	Replace 3'-0" x 7'-0" steel, painted, door	45	1 Carp	Ea.	26,622.00	31,022.00	1.22	1	\$ 26,622	\$ 31,022
960.900	B3013 120 0100	Debris removal by hand & visual inspection,modifie	1	2 Rofc	M.S.F.	28,192.81	33,967.82	55.00	55	\$ 1,550,604	\$ 1,868,230
960.900	B3013 120 0200	Non-destructive moisture inspection,modified bitun	5	2 Rofc	M.S.F.	87,230.50	105,506.82	11.00	11	\$ 959,536	\$ 1,160,575
192.180	B3013 120 0300	Minor membrane repairs-(2% of roof area),modifie	1	G5	Sq.	51,256.33	60,467.52	55.00	55	\$ 2,819,098	\$ 3,325,713
38,436.000	B3013 120 0500	Flashing repairs-(2 S.F. per sq. repaired),modified	1	2 Rofc	S.F.	127,607.52	150,284.76	55.00	55	\$ 7,018,414	\$ 8,265,662
9,609.000	B3013 120 0700	Total roof replacement,modified bituminous / therr	25	G1	Sq.	4,676,604.21	5,528,442.06	2.20	2	\$ 9,353,208	\$ 11,056,884
2,650.000	C1023 110 1010	Repair steel painted interior door	14	1 Carp	Ea.	443,636.50	524,064.00	3.93	3	\$ 1,330,910	\$ 1,572,192
2,650.000	C1023 110 1020	Refinish 3'-0" x 7'-0" steel painted interior door	4	1 Pord	Ea.	130,883.50	161,146.50	13.75	13	\$ 1,701,486	\$ 2,094,905
2,650.000	C1023 110 1030	Replace 3'-0" x 7'-0" steel painted interior door	60	1 Carp	Ea.	2,477,935.50	2,880,921.00	0.92	0	\$ -	\$ -
725.000	C1023 121 1010	Repair solid core wood door interior	11	1 Carp	Ea.	121,372.25	143,376.00	5.00	5	\$ 606,861	\$ 716,880
725.000	C1023 121 1020	Refinish 3'-0" x 7'-0" solid core wood door interior	4	1 Pord	Ea.	30,587.75	37,671.00	13.75	13	\$ 397,641	\$ 489,723
725.000	C1023 121 1030	Replace 3'-0" x 7'-0" solid core wood door interior	40	1 Carp	Ea.	265,103.50	307,356.50	1.38	1	\$ 265,104	\$ 307,357
1,650.000	C1033 110 1020	Toilet partitions,painted metal-overhead braced	20	2 Carp	Ea.	1,249,809.00	1,462,147.50	2.75	2	\$ 2,499,618	\$ 2,924,295
94,500.000	C2013 110 0010	Repair concrete steps	15	1 Cefi	S.F.	1,600,830.00	1,864,485.00	3.67	3	\$ 4,802,490	\$ 5,593,455
94,500.000	C2013 110 0020	Replace concrete steps	100	2 Cefi	S.F.	4,676,805.00	5,675,670.00	0.55	0	\$ -	\$ -
22,715.000	C2013 435 0030	Refinish metal stair railing interior	7	1 Pord	S.F.	31,119.55	38,615.50	7.86	7	\$ 217,837	\$ 270,309
22,715.000	C2013 435 0040	Replace metal stair railing interior	45	2 Sswk	L.F.	813,197.00	939,719.55	1.22	1	\$ 813,197	\$ 939,720
73,822.000	C3013 206 0010	Repair fabric wall finish fabric interior	9	1 Pord	S.Y.	1,857,361.52	2,250,094.56	6.11	6	\$ 11,144,169	\$ 13,500,567
73,822.000	C3013 206 0020	Replace fabric wall finish fabric interior	50	1 Pord	S.Y.	10,372,729.22	12,655,305.46	1.10	1	\$ 10,372,729	\$ 12,655,305
102,645.000	C3013 214 0010	Repair 5/8" drywall - (2% of walls)	20	1 Carp	S.F.	163,205.55	196,051.95	2.75	2	\$ 326,411	\$ 392,104
994,162.500	C3013 214 0030	Refinish drywall	4	1 Pord	S.F.	596,497.50	735,680.25	13.75	13	\$ 7,754,468	\$ 9,563,843

**CostWorks 2008 Quarter 1 - Pentagon**

Zip Code Prefix 200 Type FMR Release 2008 Qtr 1

 Design Life 55  
 Area 5,569,644

Qty	Assembly Number	Description	Frequency	Crew	Unit	Total In-House	Total Incl. O&P	Design Life / Frequency	DL / F Truncated	Design Life Cost In House	Design Life Cost All Contracted
994,162.500	C3013 214 0040	Replace 5/8" drywall	75	2 Carp	S.F.	2,216,982.38	2,674,297.13	0.73	0	\$ -	\$ -
52.000	C3013 220 0010	Repair 4" x 4" thin set ceramic tile - (2% of walls)	10	1 Tilf	C.S.F.	39,161.72	47,385.00	5.50	5	\$ 195,809	\$ 236,925
2,600.000	C3013 220 0020	Replace 4" x 4" thin set ceramic tile	75	1 Tilf	C.S.F.	2,131,272.00	2,582,892.00	0.73	0	\$ -	\$ -
20.500	C3023 420 0010	Ceramic tile floor repairs - (2% of floors)	15	1 Tilf	C.S.F.	12,667.57	15,781.31	3.67	3	\$ 38,003	\$ 47,344
1,063.250	C3023 420 0020	Replace 2" x 2" thin set ceramic tile floor	50	1 Tilf	C.S.F.	1,426,530.63	1,717,212.55	1.10	1	\$ 1,426,531	\$ 1,717,213
19,351.000	C3023 430 0100	Terrazzo floor repairs - (2% of floors)	15	1 Mstz	S.F.	290,458.51	346,963.43	3.67	3	\$ 871,376	\$ 1,040,890
9,675.000	C3023 430 0200	Replace terrazzo floor	75	2 Mstz	C.S.F.	13,920,583.50	16,486,200.00	0.73	0	\$ -	\$ -
50,565.000	C3023 510 0020	Replace carpet	8	2 Tilf	S.Y.	2,274,919.35	2,628,874.35	6.88	6	\$ 13,649,516	\$ 15,773,246
1,012.660	C3033 108 0010	Acoustic tile repairs - (2% of ceilings)	9	1 Carp	C.S.F.	451,474.21	537,428.79	6.11	6	\$ 2,708,845	\$ 3,224,573
50,633.130	C3033 109 0010	Replace acoustic tile ceiling, fire-rated	20	1 Carp	C.S.F.	20,375,784.17	24,211,243.77	2.75	2	\$ 40,751,568	\$ 48,422,488
1,575.000	D2013 110 0010	Replace flush valve diaphragm tankless water clos	10	1 Plum	Ea.	109,462.50	128,583.00	5.50	5	\$ 547,313	\$ 642,915
1,575.000	D2013 110 0015	Rebuild flush valve tankless water closet	20	1 Plum	Ea.	206,088.75	249,984.00	2.75	2	\$ 412,178	\$ 499,968
1,575.000	D2013 110 0020	Unplug clogged line tankless water closet	5	1 Plum	Ea.	265,009.50	331,033.50	11.00	11	\$ 2,915,105	\$ 3,641,369
1,575.000	D2013 110 0030	Replace tankless water closet	35	2 Plum	Ea.	849,381.75	1,005,574.50	1.57	1	\$ 849,382	\$ 1,005,575
1,575.000	D2013 110 0040	Replace tankless flush valve	25	1 Plum	Ea.	324,560.25	380,315.25	2.20	2	\$ 649,121	\$ 760,631
1,575.000	D2013 110 0050	Replace wax ring gasket tankless water closet	5	1 Plum	Ea.	172,509.75	216,027.00	11.00	11	\$ 1,897,607	\$ 2,376,297
375.000	D2013 210 0010	Replace flush valve diaphragm urinal	7	1 Plum	Ea.	26,062.50	30,615.00	7.86	7	\$ 182,438	\$ 214,305
375.000	D2013 210 0015	Rebuild flush valve urinal	20	1 Plum	Ea.	49,068.75	59,520.00	2.75	2	\$ 98,138	\$ 119,040
375.000	D2013 210 0020	Unplug line urinal	5	1 Plum	Ea.	42,052.50	52,466.25	11.00	11	\$ 462,578	\$ 577,129
375.000	D2013 210 0030	Replace wall-hung urinal	35	2 Plum	Ea.	312,247.50	373,638.75	1.57	1	\$ 312,248	\$ 373,639
1,150.000	D2013 330 0010	Replace washer in spud connection lavatory, vitrec	7	1 Plum	Ea.	27,220.50	32,119.50	7.86	7	\$ 190,544	\$ 224,837
1,150.000	D2013 330 0020	Replace washer in faucet lavatory, vitreous china	2	1 Plum	Ea.	11,316.00	14,133.50	27.50	27	\$ 305,532	\$ 381,605
1,150.000	D2013 330 0040	Replace faucets lavatory, vitreous china	10	1 Plum	Ea.	140,909.50	170,154.00	5.50	5	\$ 704,548	\$ 850,770
1,150.000	D2013 330 0050	Clean out strainer and P trap lavatory, vitreous chir	2	1 Plum	Ea.	31,096.00	38,605.50	27.50	27	\$ 839,592	\$ 1,042,349
1,150.000	D2013 330 0060	Replace lavatory, vitreous china	35	2 Plum	Ea.	603,359.00	723,833.00	1.57	1	\$ 603,359	\$ 723,833
225.000	D2013 410 0010	Replace faucet washer sink, iron enamel	2	1 Plum	Ea.	2,202.75	2,740.50	27.50	27	\$ 59,474	\$ 73,994
225.000	D2013 410 0020	Clean trap sink, iron enamel	3	1 Plum	Ea.	1,485.00	1,856.25	18.33	18	\$ 26,730	\$ 33,413
225.000	D2013 410 0030	Replace faucets sink, iron enamel	10	1 Plum	Ea.	27,569.25	33,291.00	5.50	5	\$ 137,846	\$ 166,455
225.000	D2013 410 0040	Unstop sink sink, iron enamel	2	1 Plum	Ea.	7,247.25	9,112.50	27.50	27	\$ 195,676	\$ 246,038
225.000	D2013 410 0060	Replace sink, P.E.C.I. sink, iron enamel	35	2 Plum	Ea.	122,872.50	146,286.00	1.57	1	\$ 122,873	\$ 146,286
450.000	D2013 810 0010	Check / minor repairs drinking fountain	1	1 Plum	Ea.	16,911.00	21,303.00	55.00	55	\$ 930,105	\$ 1,171,665
450.000	D2013 810 0020	Repair internal leaks drinking fountain	4	1 Plum	Ea.	15,813.00	19,543.50	13.75	13	\$ 205,569	\$ 254,066
450.000	D2013 810 0030	Correct water pressure drinking fountain	2	1 Plum	Ea.	14,494.50	18,225.00	27.50	27	\$ 391,352	\$ 492,075
450.000	D2013 810 0040	Replace refrigerant drinking fountain	2	1 Plum	Ea.	7,042.50	8,388.00	27.50	27	\$ 190,148	\$ 226,476
450.000	D2013 810 0050	Repair drain leak drinking fountain	4	1 Plum	Ea.	10,089.00	12,051.00	13.75	13	\$ 131,157	\$ 156,663

**CostWorks 2008 Quarter 1 - Pentagon**

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 Design Life 55  
 Area 5,569,644

Qty	Assembly Number	Description	Frequency	Crew	Unit	Total In-House	Total Incl. O&P	Design Life / Frequency	DL / F Truncated	Design Life Cost In House	Design Life Cost All Contracted
450.000	D2013 810 0070	Replace fountain drinking fountain	10	2 Plum	Ea.	446,152.50	529,749.00	5.50	5	\$ 2,230,763	\$ 2,648,745
42,903.000	D2023 150 0020	Replace old valve, non-drain, less than 1-1/2"	10	1 Plum	Ea.	11,400,614.19	13,261,746.33	5.50	5	\$ 57,003,071	\$ 66,308,732
6,983.000	D2023 152 0020	Replace old valve, non-drain, 2"	10	1 Plum	Ea.	7,897,493.68	9,173,916.25	5.50	5	\$ 39,487,468	\$ 45,869,581
40.000	D2023 220 0010	Drain and flush water heater, electric, 120 gallon	7	1 Plum	Ea.	9,057.20	11,321.60	7.86	7	\$ 63,400	\$ 79,251
40.000	D2023 220 0020	Check operation water heater, electric, 120 gallon	3	1 Plum	Ea.	79.20	99.20	18.33	18	\$ 1,426	\$ 1,786
40.000	D2023 220 0030	Replace water heater, electric, 120 gallon	15	2 Plum	Ea.	359,698.80	412,661.60	3.67	3	\$ 1,079,096	\$ 1,237,985
25.000	D2023 230 0020	Inspect for leaks steam converter, domestic hot wa	1	1 Plum	Ea.	130.50	163.25	55.00	55	\$ 7,178	\$ 8,979
25.000	D2023 230 0030	Replace steam converter	20	2 Plum	Ea.	47,033.50	54,442.00	2.75	2	\$ 94,067	\$ 108,884
225.000	D2033 130 0010	Unclog floor drain, PVC	20	1 Plum	Ea.	8,345.25	10,320.75	2.75	2	\$ 16,691	\$ 20,642
225.000	D2033 130 0020	Unclog main drain pipe, PVC	10	1 Plum	M.L.F.	8,014.50	9,992.25	5.50	5	\$ 40,073	\$ 49,961
225.000	D2033 130 0040	Repair joint pipe and fittings, PVC	10	1 Plum	Ea.	26,048.25	32,386.50	5.50	5	\$ 130,241	\$ 161,933
3.500	D2033 130 0100	Replace pipe, 4" pipe and fittings, PVC	30	2 Plum	L.F.	206.57	255.47	1.83	1	\$ 207	\$ 255
49.850	D2043 110 1010	General maintenance & repair distribution: gutters,	1	1 Plum	M.L.F.	11,582.15	14,476.94	55.00	55	\$ 637,018	\$ 796,232
49,850.000	D2043 110 1020	Replace pipe or gutter distribution	20	1 Plum	L.F.	2,215,334.00	2,717,822.00	2.75	2	\$ 4,430,668	\$ 5,435,644
10.000	D2043 310 1020	Insp./chk. pump/mtr. oper., lub., chk. align. rainwat	1	1 Plum	Ea.	92.10	115.00	55.00	55	\$ 5,066	\$ 6,325
10.000	D2043 310 1030	Replace rainwater sump pump / motor assembly	20	2 Plum	Ea.	4,239.50	5,064.50	2.75	2	\$ 8,479	\$ 10,129
111.000	D3033 210 2010	Repair condenser, air cooled, 20 ton	10	2 Stpi	Ea.	110,791.32	131,347.41	5.50	5	\$ 553,957	\$ 656,737
111.000	D3033 210 2030	Replace condenser, air cooled, 20 ton	15	Q5	Ea.	710,071.44	828,788.16	3.67	3	\$ 2,130,214	\$ 2,486,364
2,950.000	D3043 124 5010	Replace fan coil, DX 5 ton, with heat	10	Q5	Ea.	6,629,682.50	7,793,900.00	5.50	5	\$ 33,148,413	\$ 38,969,500
1,525.000	D3043 128 2010	Repair unit ventilator, 1250 CFM, 3 ton	10	1 Stpi	Ea.	712,663.00	845,139.75	5.50	5	\$ 3,563,315	\$ 4,225,699
1,525.000	D3043 128 2030	Replace unit ventilator, 1250 CFM, heat/cool coils	15	Q6	Ea.	9,917,197.00	11,570,266.50	3.67	3	\$ 29,751,591	\$ 34,710,800
23,070.000	D3043 128 2040	Repair unit ventilator, 2000 CFM, 5 ton	10	1 Stpi	Ea.	11,593,828.50	13,856,534.10	5.50	5	\$ 57,969,143	\$ 69,282,671
23,070.000	D3043 128 2050	Replace unit ventilator, 2000 CFM, heat/cool coils	30	Q6	Ea.	252,144,026.40	300,292,962.00	1.83	1	\$ 252,144,026	\$ 300,292,962
55.000	D3043 220 2030	Replace roof mounted exhaust fan, 800 CFM exha	20	Q20	Ea.	49,177.15	58,523.30	2.75	2	\$ 98,354	\$ 117,047
40.000	D3043 220 2040	Replace roof mounted exhaust fan, 2000 CFM exh	20	Q20	Ea.	45,577.60	53,714.40	2.75	2	\$ 91,155	\$ 107,429
130.000	D3043 220 2050	Replace roof mounted exhaust fan, 8500 CFM exh	20	Q20	Ea.	334,526.40	389,758.20	2.75	2	\$ 669,053	\$ 779,516
50.000	D3043 220 2060	Replace roof mounted exhaust fan, 20,300 CFM e	20	Q20	Ea.	382,244.00	446,058.00	2.75	2	\$ 764,488	\$ 892,116
2,052.000	D3043 350 1070	Replace steam trap, 15 PSIG, 2" threaded	7	1 Stpi	Ea.	1,167,485.40	1,364,662.08	7.86	7	\$ 8,172,398	\$ 9,552,635
23,051.000	D3043 520 2010	Repack gate valve gland, 2" - 3" valves	10	1 Stpi	Ea.	623,068.53	747,543.93	5.50	5	\$ 3,115,343	\$ 3,737,720
23,051.000	D3043 520 2020	Replace gate valve, partial, 2" - 3" valves	20	Q1	Ea.	10,638,267.01	12,371,471.70	2.75	2	\$ 21,276,534	\$ 24,742,943
13.000	D3053 245 3010	Repair heat pump, 10 ton, air to air split	10	Q5	Ea.	41,529.02	48,974.38	5.50	5	\$ 207,645	\$ 244,872
13.000	D3053 245 3030	Replace heat pump, 10 ton, air to air split	20	Q6	Ea.	145,541.76	171,444.00	2.75	2	\$ 291,084	\$ 342,888
1,956.000	D3053 272 2010	Repair air conditioner, DX, 20 ton	15	Q6	Ea.	46,325,473.68	53,816,562.48	3.67	3	\$ 138,976,421	\$ 161,449,687
1,956.000	D3053 272 2030	Replace air conditioner, DX, 20 ton	20	Q7	Ea.	34,609,307.52	40,014,283.20	2.75	2	\$ 69,218,615	\$ 80,028,566
1,564.000	D3053 276 1040	Repair computer room A/C, chilled water, 20 ton	10	1 Stpi	Ea.	26,970,257.24	31,095,573.12	5.50	5	\$ 134,851,286	\$ 155,477,866

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 Design Life 55  
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1,564.000	D3053 276 1045	Replace computer room A/C, chilled water, 20 ton	20	Q6	Ea.	26,901,800.96	31,222,444.80	2.75	2	\$ 53,803,602	\$ 62,444,890
206.000	D3053 286 6010	Repair central station A.H.U., 33,500 CFM	10	1 Stpi	Ea.	491,703.46	566,046.80	5.50	5	\$ 2,458,517	\$ 2,830,234
206.000	D3053 286 6040	Replace central station A.H.U., 33,500 CFM	15	Q6	Ea.	9,253,552.96	10,821,097.60	3.67	3	\$ 27,760,659	\$ 32,463,293
33.000	D4013 110 3010	Rebuild 4" diameter reduced pressure backflow pr	10	1 Plum	Ea.	14,584.02	17,132.61	5.50	5	\$ 72,920	\$ 85,663
1.000	D4013 310 1020	Inspect sprinkler system	1	1 Plum	Ea.	26.55	32.89	55.00	55	\$ 1,460	\$ 1,809
31,000.000	D4013 310 1030	Replace sprinkler head	20	1 Plum	Ea.	1,967,880.00	2,425,130.00	2.75	2	\$ 3,935,760	\$ 4,850,260
50.000	D4013 310 1040	Rebuild double check 3" backflow preventer sprink	1	1 Plum	Ea.	29,544.00	35,383.50	55.00	55	\$ 1,624,920	\$ 1,946,093
52.000	D5013 210 0010	Repair switchgear 1200 A mainframe	5	1 Elec	Ea.	87,237.80	101,733.84	11.00	11	\$ 959,616	\$ 1,119,072
52.000	D5013 210 0020	Maintenance and inspection switchgear, mainframe	1	1 Elec	Ea.	2,382.12	2,964.52	55.00	55	\$ 131,017	\$ 163,049
52.000	D5013 210 0030	Replace switchgear 1200 A mainframe	20	3 Elec	Ea.	209,175.72	248,275.04	2.75	2	\$ 418,351	\$ 496,550
611.000	D5013 216 0010	Replace fuse	25	1 Elec	Ea.	204,660.56	234,037.44	2.20	2	\$ 409,321	\$ 468,075
230.000	D5013 224 0010	Maintenance and repair - (5% of total fuses) switch	10	1 Elec	Ea.	77,040.80	88,099.20	5.50	5	\$ 385,204	\$ 440,496
230.000	D5013 224 0020	Maintenance and inspection switchgear, indoor, 60	3	1 Elec	Ea.	6,555.00	8,194.90	18.33	18	\$ 117,990	\$ 147,508
230.000	D5013 224 0030	Replace switchgear, indoor, 600 V	30	2 Elec	Ea.	670,670.80	790,192.60	1.83	1	\$ 670,671	\$ 790,193
676.000	D5013 230 0010	Repair switchboard meter	10	1 Elec	Ea.	930,459.92	1,068,289.56	5.50	5	\$ 4,652,300	\$ 5,341,448
676.000	D5013 230 0020	Replace switchboard meter	20	1 Elec	Ea.	3,742,552.32	4,264,471.64	2.75	2	\$ 7,485,105	\$ 8,528,943
54.000	D5013 272 0010	Maintenance and repair secondary transformer, liq	25	1 Elec	Ea.	6,904.44	8,334.36	2.20	2	\$ 13,809	\$ 16,669
54.000	D5013 272 0020	Maintenance and inspection secondary transforme	0.5	1 Elec	Ea.	2,061.18	2,583.90	110.00	110	\$ 226,730	\$ 284,229
3,225.000	D5013 280 0020	Maintenance and inspection lighting panel, indoor	3	1 Elec	Ea.	91,912.50	114,906.75	18.33	18	\$ 1,654,425	\$ 2,068,322
260.000	D5023 130 3010	Repair failed breaker, 3 pole circuit breaker	10	1 Elec	Ea.	88,251.80	103,352.60	5.50	5	\$ 441,259	\$ 516,763
260.000	D5023 130 3020	Maintenance and inspection C.B., 3 pole circuit bre	0.33	1 Elec	Ea.	5,956.60	7,410.00	166.67	166	\$ 988,796	\$ 1,230,060
260.000	D5023 130 3030	Replace C.B. molded case, 600 V, 3 pole circuit br	50	1 Elec	Ea.	811,532.80	928,231.20	1.10	1	\$ 811,533	\$ 928,231
9,610.000	D5023 150 0010	Maintenance and repair receptacles and plugs	20	1 Elec	Ea.	298,390.50	371,810.90	2.75	2	\$ 596,781	\$ 743,622
9,610.000	D5023 150 0020	Replace receptacle/plug receptacles and plugs	20	1 Elec	Ea.	505,678.20	617,538.60	2.75	2	\$ 1,011,356	\$ 1,235,077
900.000	D5023 220 0010	Maintenance and repair wiring devices, switches	10	1 Elec	Ea.	27,945.00	34,821.00	5.50	5	\$ 139,725	\$ 174,105
900.000	D5023 220 0020	Replace switch wiring devices, switches	15	1 Elec	Ea.	45,981.00	55,998.00	3.67	3	\$ 137,943	\$ 167,994
55,500.000	D5023 260 0010	Replace fluor. ballast for fluorescent lighting fixture	10	1 Elec	Ea.	5,497,830.00	6,631,140.00	5.50	5	\$ 27,489,150	\$ 33,155,700
55,500.000	D5023 260 0020	Replace lamps (2 lamps) fluorescent lighting fixture	10	1 Elec	Ea.	1,406,370.00	1,724,385.00	5.50	5	\$ 7,031,850	\$ 8,621,925
55,500.000	D5023 260 0030	Replace fixture fluorescent lighting fixture, 80 W	20	1 Elec	Ea.	9,839,595.00	11,888,100.00	2.75	2	\$ 19,679,190	\$ 23,776,200
9,610.000	D5033 510 0010	Maintenance and repair TV cable outlet	10	1 Elec	Ea.	362,008.70	450,036.30	5.50	5	\$ 1,810,044	\$ 2,250,182
9,610.000	D5033 510 0020	Replace TV cable outlet	20	1 Elec	Ea.	608,793.50	739,489.50	2.75	2	\$ 1,217,587	\$ 1,478,979
2,555.000	D5033 710 0010	Repair smoke detector	10	1 Elec	Ea.	97,422.15	119,931.70	5.50	5	\$ 487,111	\$ 599,659
2,555.000	D5033 710 0020	Check operation smoke detector	1	1 Elec	Ea.	29,127.00	36,536.50	55.00	55	\$ 1,601,985	\$ 2,009,508
2,555.000	D5033 710 0030	Replace smoke detector	15	1 Elec	Ea.	481,413.10	576,689.05	3.67	3	\$ 1,444,239	\$ 1,730,067
2,555.000	D5033 712 0010	Repair heat detector	10	1 Elec	Ea.	106,543.50	130,356.10	5.50	5	\$ 532,718	\$ 651,781

**CostWorks 2008 Quarter 1 - Pentagon**

Zip Code Prefix 200 Type FMR Release 2008 Qtr 1

 Design Life 55  
 Area 5,569,644

Qty	Assembly Number	Description	Frequency	Crew	Unit	Total In-House	Total Incl. O&P	Design Life / Frequency	DL / F Truncated	Design Life Cost In House	Design Life Cost All Contracted
2,555.000	D5033 712 0020	Check operation heat detector	1	1 Elec	Ea.	29,127.00	36,536.50	55.00	55	\$ 1,601,985	\$ 2,009,508
2,555.000	D5033 712 0030	Replace heat detector	15	1 Elec	Ea.	297,759.70	363,091.05	3.67	3	\$ 893,279	\$ 1,089,273
534.000	D5033 720 0010	Check and repair manual pull station	10	1 Elec	Ea.	36,824.64	45,171.06	5.50	5	\$ 184,123	\$ 225,855
534.000	D5033 720 0020	Replace manual pull station	15	1 Elec	Ea.	66,862.14	80,788.86	3.67	3	\$ 200,586	\$ 242,367
369.000	D5033 760 0010	Minor repairs to fire alarm control panel	5	1 Elec	Ea.	39,634.29	48,147.12	11.00	11	\$ 435,977	\$ 529,618
369.000	D5033 760 0020	Maintenance and inspection fire alarm control panel	0.5	1 Elec	Ea.	11,269.26	14,084.73	110.00	110	\$ 1,239,619	\$ 1,549,320
369.000	D5033 760 0030	Replace fire alarm control panel	15	1 Elec	Ea.	957,776.40	1,138,398.21	3.67	3	\$ 2,873,329	\$ 3,415,195
4,450.000	D5033 770 0010	Replace fire alarm bell, 6"	20	1 Elec	Ea.	629,853.00	759,437.00	2.75	2	\$ 1,259,706	\$ 1,518,874
7.000	D5093 230 0010	Maintenance and repair transfer switch	5	1 Elec	Ea.	1,472.31	1,789.55	11.00	11	\$ 16,195	\$ 19,685
7.000	D5093 230 0020	Maintenance and inspection transfer switch	0.5	1 Elec	Ea.	199.50	249.41	110.00	110	\$ 21,945	\$ 27,435
7.000	D5093 230 0030	Replace transfer switch	18	1 Elec	Ea.	27,464.01	31,475.01	3.06	3	\$ 82,392	\$ 94,425
3,174.000	D5093 240 0020	Replace lamp emergency lighting fixture	2	1 Elec	Ea.	170,158.14	202,152.06	27.50	27	\$ 4,594,270	\$ 5,458,106
3,174.000	D5093 240 0030	Replace emergency lighting fixture	20	1 Elec	Ea.	2,649,020.40	3,052,657.98	2.75	2	\$ 5,298,041	\$ 6,105,316
2,725.000	D5093 250 0010	Maintenance and repair exit light	20	1 Elec	Ea.	89,107.50	108,264.25	2.75	2	\$ 178,215	\$ 216,529
2,725.000	D5093 250 0020	Replace lamp exit light	5	1 Elec	Ea.	33,408.50	39,539.75	11.00	11	\$ 367,494	\$ 434,937
2,725.000	D5093 250 0030	Replace lighting fixture exit light	20	1 Elec	Ea.	340,706.75	410,248.75	2.75	2	\$ 681,414	\$ 820,498
7.000	D5093 280 0020	Maintenance and inspection UPS battery	0.17	1 Elec	Ea.	320.67	399.07	323.53	323	\$ 103,576	\$ 128,900
7.000	D5093 280 0030	Replace motor generator UPS battery	15	1 Elec	Ea.	3,990.63	4,767.91	3.67	3	\$ 11,972	\$ 14,304
10.000	E1093 315 0020	Replace unit dishwasher	10	2 Plum	Ea.	46,415.10	53,338.10	5.50	5	\$ 232,076	\$ 266,691
713.000	D5013 264 0010	Maintenance and repair motor starter, up to 600 V	5	1 Elec	Ea.	121,281.30	147,427.01	11.00	11	\$ 1,334,094	\$ 1,621,697
713.000	D5013 264 0020	Maintenance and inspection motor starter, up to 600 V	0.5	1 Elec	Ea.	27,215.21	34,117.05	110.00	110	\$ 2,993,673	\$ 3,752,876
713.000	D5013 264 0030	Replace starter motor starter, up to 600 V	18	1 Elec	Ea.	374,161.01	446,723.02	3.06	3	\$ 1,122,483	\$ 1,340,169
847.000	D5013 220 0010	Repair switchgear, - (5% of total C.B.), indoor, less	10	1 Elec	Ea.	227,504.20	266,771.12	5.50	5	\$ 1,137,521	\$ 1,333,856
847.000	D5013 220 0020	Maintenance and inspection switchgear, indoor, less	3	1 Elec	Ea.	24,139.50	30,178.61	18.33	18	\$ 434,511	\$ 543,215
847.000	D5013 220 0030	Replace switchgear, indoor, less than 600 V	30	1 Elec	Ea.	2,791,889.87	3,269,665.63	1.83	1	\$ 2,791,890	\$ 3,269,666
173.000	D5023 210 0010	Maintenance and repair contactors and relays	3	1 Elec	Ea.	34,447.76	41,935.20	18.33	18	\$ 620,060	\$ 754,834
173.000	D5023 210 0020	Maintenance and inspection contactors and relays	0.5	1 Elec	Ea.	2,465.25	3,091.51	110.00	110	\$ 271,178	\$ 340,066
173.000	D5023 210 0030	Replace contactor contactors and relays	18	1 Elec	Ea.	116,300.98	136,294.59	3.06	3	\$ 348,903	\$ 408,884
5.000	D5093 220 0010	Maintenance and inspection generator, diesel, 750 KW	0.08	1 Elec	Ea.	229.05	285.05	687.50	687	\$ 157,357	\$ 195,829
5.000	D5093 220 0020	Replace diesel generator component, 750 KW	25	4 Elec	Ea.	1,010,697.00	1,154,997.50	2.20	2	\$ 2,021,394	\$ 2,309,995
260.000	D5093 260 0010	Maintenance and inspection battery, wet	0.02	1 Elec	Ea.	7,410.00	9,263.80	2750.00	2,750	\$ 20,377,500	\$ 25,475,450
260.000	D5093 260 0020	Replace battery, wet	10	1 Elec	Ea.	98,269.60	111,898.80	5.50	5	\$ 491,348	\$ 559,494
479.000	D5013 274 0010	Maintenance and repair secondary transformer, dry	10	1 Elec	Ea.	114,734.87	134,747.49	5.50	5	\$ 573,674	\$ 673,737
479.000	D5013 274 0020	Maintenance and inspection secondary transformer	0.5	1 Elec	Ea.	27,307.79	34,133.54	110.00	110	\$ 3,003,857	\$ 3,754,689
479.000	D5013 274 0040	Replace transformer 112.5 KVA	30	R3	Ea.	3,502,198.92	4,065,943.60	1.83	1	\$ 3,502,199	\$ 4,065,944

**CostWorks 2008 Quarter 1 - Pentagon**

Zip Code Prefix 200 Type FMR Release 2008 Qtr 1

Design Life 55  
Area 5,569,644

Qty	Assembly Number	Description	Frequency	Crew	Unit	Total In-House	Total Incl. O&P	Design Life / Frequency	DL / F Truncated	Design Life Cost In House	Design Life Cost All Contracted
2,249.000	D3043 210 3010	Repair fan, induced draft, 17,700 CFM	10	1 Stpi	Ea.	536,476.46	658,552.18	5.50	5	\$ 2,682,382	\$ 3,292,761
2,249.000	D3043 210 3030	Replace fan, induced draft, 17,700 CFM	20	Q9	Ea.	22,414,793.44	25,889,408.48	2.75	2	\$ 44,829,587	\$ 51,778,817
106.000	D3043 310 0010	Repair steam converter	5	1 Stpi	Ea.	36,209.60	45,003.36	11.00	11	\$ 398,306	\$ 495,037
106.000	D3043 310 0020	Inspect for leaks steam converter	2	1 Stpi	Ea.	559.68	699.60	27.50	27	\$ 15,111	\$ 18,889
106.000	D3043 310 0030	Replace steam converter	30	Q5	Ea.	292,275.92	334,431.06	1.83	1	\$ 292,276	\$ 334,431
782.000	D3043 120 1010	Repair fan coil unit, 1 ton	10	1 Stpi	Ea.	285,156.30	340,819.06	5.50	5	\$ 1,425,782	\$ 1,704,095
782.000	D3043 120 1030	Replace fan coil unit, 1 ton	15	Q5	Ea.	843,387.00	995,532.92	3.67	3	\$ 2,530,161	\$ 2,986,599
						<b>\$24,408,858.40</b>	<b>\$28,264,446.66</b>			\$ 52,173,605	\$ 60,610,629
							Per Year			\$948,610.99	\$ 1,102,011
							PM			\$ 13,717,206.00	\$ 13,717,206
							Total			\$14,665,816.99	\$ 14,819,217
							Per SF			\$ 2.63	\$ 2.66

FAC 6105 Sustainment by Year - Terminal Cutoff Applied

