

APPENDIX - A, PART - I & II ( Buildings and Support Facilities)

This newsletter supersedes the PAX Newsletter No. 3.2.2, **dated 11 Feb 08**, and updates the Appendix A, Facility Unit Cost Table, Appendix C, Tri-Service Military Construction Program (MCP) Index, and Table-1, Size Adjustment Factors, contained in UFC 3-700-01A, dated 1 Mar 2005 (formally TM 5-800-4, Programming Cost Estimates for Military Construction, dated May 1994). It may be used as a guide for preparation and/or review and budget submission of the FY 11 Army MILCON projects' parametric cost estimates, ENG Form 3086, unless otherwise noted. This is published and maintained on the web page at <http://www.usace.army.mil/CaEI/Pages/PAX.aspx>

**1. APPENDIX A - FACILITY UNIT COST TABLE (FOR FY11 and later MILCON, GTF (Grow The Force) Projects)**

a. Most unit costs are based on historic construction award data from FY2006 to 2008 projects, with a few exceptions. In rare cases, where we did not have at least three recently (FY 2006-08) entered projects for a facility-type in HAG (Historic Analysis Generator) database, we used FY 2005 awards. All bid data was normalized for 3 (instead of 7 bidder traditionally used) bidders reflecting in the current bidding climate, incorporated actual construction inflation rate thru 30 Sep 2008, and escalated from 1 Oct 2008 to the assumed mid-point of construction of October 2011 using the inflation rate published in the OSD memo, dated 13 Feb 09, Subject: Inflation Guidance - Fiscal Year FY2010 President's Budget. The unit cost database include only new construction projects, and does not include data from renovation or addition/alteration projects.

b. The tabulation is arranged numerically by category codes. Category code series descriptions are contained in DA Pamphlet 415-28, Guide to Army Real Property Category Codes, dated 11 Apr 2006. The five (5) digit category code is designated by adding XX behind the three (3) digit main category code for this group where unit costs span a group of subcategories or cat code is still not officially established. For example, 851XX and 852XX are designated for roads, streets, parking, apron and sidewalks pavements.

c. Escalation - Unit costs are escalated to 1 October **2011**, the assumed midpoint of construction for **FY11** projects, with an area cost factor (ACF) of 1.00. The MCP inflation indices shown in **Appendix C** (PAX Processor) should be used to escalate the **FY11** unit costs beyond **1 Oct 11**. These unit costs include installed (built-in) building equipment and furnishings normally funded by the MILCON funds as described in AR 420-1, contractor's markup cost for overhead & profit, but do not include allowances for construction contingencies and supervision, inspection, and overhead (SIOH), or construction cost growth resulting from user changes, unforeseen site conditions, or contract document errors and omissions. Unit costs for DoD medical facilities include category A and B equipment, but do not include category E and F equipment costs.

d. The unit costs for Primary Facilities (buildings) in Appendix A, Part I, are for the primary facilities gross areas only, and do not include costs for support facilities, equipment acquired with other fund (non-MILCON) sources, anti-terrorism/force protection, sustainable construction features, or construction cost growth resulting from unforeseen site conditions or user requested change orders. For medical facilities, the building costs include Categories A and B equipment, but exclude Categories E and F equipment.

e. Unit costs should be adjusted by the appropriate area cost factor, cost escalation factor as shown in Appendix C, size adjustment factor in Table I, and other adjustment factors as described in the UFC 3-700-01A, when applicable. The ACF list is contained in Appendix B, Location Adjustment Factors in the UFC 3-700-01A, and updated by the latest PAX Newsletter No. 3.2.1, Area Cost Factors Indexes, dated 5 Mar 09, which is also available on the web page as addressed above.

**UNIT COSTS for The ARMY FACILITIES - MILITARY CONSTRUCTION PROGRAM  
PAX NEWSLETTER 3.2.2, dated 20 Mar 2009**

f. Size Adjustment Tables, Table -1: Building size identified in Part I of Appendix A is a reference size, and may not represent the standard size shown in the Army Standard Facilities design criteria. Table I, Size Adjustment Factors, shows a correlation between project size and construction cost, and is used to determine an appropriate size adjustment factor for the proposed facility.

g. Chart A in Appendix A contains unit costs for Sitework Utility Piping. Chart C in Appendix A contains information for unit of measurement conversion factors between Metric and English Systems.

**2. APPENDIX C - TRI-SERVICE MILITARY CONSTRUCTION PROGRAM (MCP) INDEX**

Unit costs are escalated to 1 Oct 2011, the assumed midpoint of construction for a typical FY11 MCA project at a location with an Area Cost Factor of 1. The Military Construction Program (MCP) cost index for 1 October 2011 is 2556. For a project with an anticipated midpoint of construction date other than 1 October 2011 a cost escalation factor can be determined from this appendix as follows:

Project Anticipated Midpoint Date - **1 Apr 2012 (MCP Index = 2579)**

Cost Escalation Factor = MCP Index **1 Apr 2012 / MCP Index 1 Oct 2011 = 2579/2556 = 1.0089**

3. The Point of Contacts for this Newsletter letter at HQUSACE can be reached at (202) 761-7503, DSN-763-7503, or (202) 761-5887, DSN 763-5887.

APPENDIX A - FACILITY UNIT COST TABLE, PART-1 (Buildings & Major Facilities)						
Note - Primary Facilities Unit Costs are based on the most recent 3-year (2005-08) bid results of MCA and BRAC projects, where at least 3-project bids are entered into the Historic Analysis Generator (HAG) database by 15 Nov 08. All bid pricing data were escalated to 1 Oct 2011, the assumed mid-point of construction of a typical FY11 MILCON project, using the inflation factors provided in the Budget Authority section of the OSD memo, dated 13 Feb 09, Subject - Inflation Guidance - FY 2010 President's Budget. Newly updated and/or approved Army Standard Design Unit Costs are provided by the respective Center of Standardization and validated by HQUSSACE. The unit cost listed below represents the average of bid data normalized to an Area Cost Factor of 1 for each facility type.						
Category Codes	Facility Description	Reference/Standard Size	Unit of Measure	Draft Unit Cost (U/C) \$/Unit	REMARK	
124XX	FUEL STORAGE (OPERATING)	1,000	GA	\$5.50	UNDERGROUND STORAGE - INCLUDES EXCAVATION, BACKFILL & MANHOLE, EXCLUDES EXTERIOR PIPING & PUMPING	
		5,000	GA	\$5.30		
		10,000	GA	\$5.00		
		20,000	GA	\$4.90		
		30,000	GA	\$4.70		
13115	INFORMATION SYSTEMS FACILITY (INFO SYS FAC)	58,000	SF	\$256.00	ALSO SEE CATCODE 13131 BELOW. HOUSES MAJORITY OF GARRISON LEVEL INFO MGMT & INFO TECH SERVICES, ASSOCIATED ADMIN SUPPORTS & SHOP SPACE	
13120	COMMUNICATIONS CENTER (COMMO CTR)	6,000	SF	\$305.00	HUB FACILITY FOR INTERNAL & EXTERNAL COMMO SYSTEMS AND EQUIPMENT. NO SHIELDING	
13181	SATELLITE COMMUNICATIONS CENTER	6,000	SF	\$540.00	W/ SHIELDING & GENERATOR	
13131	INFORMATION PROCESSING CTR (Also called DATA PROCESSING CTR)	21,000	SF	\$305.00	AUTOMATIC COMPUTER EQUIPMENT & DATA PROCESSING FACILITY W/ RAISED FLOOR, SPECIAL TEMPERATURE, HUMIDITY & OTHER ENVIRONMENTAL CONTROL REQMS.	
13310	FLIGHT CONTROL TOWER (Stand Alone)	HEIGHT	LF	\$39,360.00	PRICE FOR EACH 1-FOOT VERTICAL HEIGHT OF THE TOWER USED FOR AIR TRAFFIC CONTROL SERVICE TO AIRFIELDS/HELIPORTS	
14110	AIRFIELD OPERATIONS BLDG	25,000	SF	\$292.00	HOUSES FLIGHT OPERATIONS & AIRFIELD HQ FUNCTIONS W/O TOWER LOCATED. INCLUDES PASSENGER SUPPORT FACILITIES SIMILAR TO A CIVILIAN AIR TERMINAL. ALSO SEE CATCODE 14132, READY BUILDING	
14112	AVIATION UNIT OPS BLDG (AT AIRFIELD)	25,000	SF	\$246.00	HOUSES AVN UNIT HQ (ADMIN & TRNG) & SUPPLY FUNCTIONS AT AIRFIELD	
14113	ACCESS CONTROL FAC (ACP)				THIS CATCODE INDICATES A BUILDINGS ONLY. OVERHEAD PROTECTION CANOPY NOT INCLUDED	
	VISITOR CONTROL CENTER (VCC-6 Processors)	2,960	SF	\$265.00		
	USE SIZE ADJUSTMENT FACTOR, Table-1 for Unit Cost for 2-PROCESSOR ACP (2480 SF) & 9-PROCESSOR ACP (3440 SF)					
	GATEHOUSE	840	SF	\$362.00		
	SEARCH OFFICE	900	SF	\$335.00		
14114	CIDC FIELD OPERATIONS BLDG (CIDC)	9,850	SF	\$191.00	THE STANDARD SIZE APPROXIMATES 9-12 RESIDENT AGENT CIDC USE SIZE ADJUSTMENT FACTOR, Table-1 for Unit Cost for CIDC FIELD OPS BLDG - 5-8 RESIDENT AGENTS (7674 SF) & CIDC DISTRICT OFFICE (14,634 SF)	
14129	TRAINING AIDS CENTER - FOR RANGE PROJECT	84,500	SF	\$160.00		
14132	READY BUILDING/ADACG FAC	20,000	SF	\$220.00	ARRIVAL & DEPARTURE AIRFIELD CONTROL GROUP (ADACG) FACILITIES, SIMILAR TO AIRFIELD OPS BLD, CATCODE 14110	
14162	SCIF FACILITY	25,000	SF	\$253.00		
14165	FUELING/POL SUPPORT BLDG	195	SF	\$271.00	HOUSES PUMPING EQUIPMENT. ADD PUMPS, ADD STORAGE TANKS (SEE CATCODE 124XX) AND PAVING (SEE CATCODE 851XX)	
14179	OVERHEAD PROTECTION FOR COMPANY OPS FACILITY - FOR COF HARDSTAND COVER only	10,600	SF	\$68.00	PRE-ENGINEER CANOPY W/ LIGHTING, POWER & LIGHTNING PROTECTION FOR A TYPICAL CO OPS FACILITY (CAT CODE 14185) EQUIPMENT LAYOUT AREA. THE COST OF HARDSTAND IS NOT INCLUDED IN THE U/C, AND SHOULD BE PRICED IN THE SUPPORT FACILITIES PAVEMENTS.	
14182	BRIGADE HQS BLD, (NEW STD DES)	40,100	SF	\$222.00	125-156 Staff, Battlefield Surveillance, Combat & Support Bde USE SIZE ADJUSTMENT FACTOR, Table-1 for other BRIGADE HQS SIZES: Non Modular Legacy Brigade, less than 70 staff (18,100 SF), Combat Aviation Brigade, 71-104 staff (31,200 SF), Fire Brigade, 105-121 staff (34,500 SF), Sustainment Bde, over 156 staff (55,300 SF)	
14183	BATTALION HQS BLDG W/ CLASSROOMS	18,100	SF	\$215.00	51-70 Staff HQ USE SIZE ADJUSTMENT FACTOR, Table-1 for other BATTALION HQS SIZES: 20-35 staff (14,100 SF), 36-50 staff (16,400 SF)	
14185	COMPANY OPERATIONS FACILITY (COF) - SEE CAT CODE 14179 FOR HARDSTAND COVER	VARIES			AREA FOR THE ADMIN & READINESS MODULES WILL BE LISTED & ESTIMATED SEPARATELY IN DD1391 AND ENG3086. THE U/C FOR ADMIN & READINESS MODULES WILL NOT EXCEED THE AMOUNTS SHOWN HERE. FOR COVERED OVERHEAD PROTECTION, SEE CAT CODE 14179 ABOVE. 16,000 SF ADMIN MODULE & 42,000 SF READINESS MODULE (RM) SIZES REFLECT REFERENCE SIZE FOR A TYPICAL 4-COMPANY (2 SMALL COMPANY @150 SOLDIERS/CO PLUS 2 MEDICAL COMPANY @200 SOLDIERS/CO) ADMIN & READINESS SPACES RESPECTIVELY. RM AREA CONTAINS FULLY CONDITIONED & SPRINKLED STORAGE SPACE FOR TA-50 LOCKERS & ARMS VAULT. THE COST FOR CONTRACTOR FURNISHED AND INSTALLED LOCKERS IS INCLUDED IN THE U/C	
	ADMINISTRATIVE MODULE - DETACHED (14185)	16,000	SF	\$211.00		
	READINESS MODULE (RM) - STORAGE BLDG (14185)	42,000	SF	\$168.00		
<b>COMMAND &amp; CONTROL FAC (C2F- DIV &amp; CORPS LEVEL ONLY)</b>		143,000	SF	Not To exceed \$255/SF FOR THE COMPLEX		
14190	ADMINISTRATIVE AREAS	110,110	SF	\$237.00	THIS IS A DIVISION/CORPS LEVEL COMMAND FAC. ABOVE CORPS LEVEL C2F FACILITY IS NON STANDARD. THE COST OF RAISED FLOORING, REDUNDANT ELECT/MECH SYSTEM, AND SECURITY ACCESS SYSTEM IS INCLUDED IN THE U/C. THE COMPOSITE COST OF THE MULTIFUNCTIONAL C2F BLDG SHALL NOT EXCEED \$255/SF	
	NETWORK/EMERGENCY OPERATIONS CTR	17,160	SF	\$305.00		
	SCIF AREAS	15,730	SF	\$253.00		
14955	WASH PLATFORM - ORG	1	EA	\$82,330.00	2 VEHICLES - LOW PRESSURE W/ WASH WATER TREATMENT	
14960	GREASE RACK	1	EA	\$64,160.00		
14962	CENTRALIZED WASH FACILITY	1	EA	\$8,003,170.00	16 STATIONS WITH WASHWATER RECYCLING	
17120	GENERAL INSTRUCTION BLDG (GIB) (GEN INST BLDG)	25,000	SF	\$232.00	DISTINCT FROM ORGANIZATIONAL CLASSROOMS (Cat Code 17119). MAY INCLUDE AUDITORIUM, LEARNING RESOURCE CTRS, LIBRARY & ADMIN SUPPORT SPACES A SEPARATE NEW CAT CODE FOR RANGE GIB PENDING	
	GENERAL INSTRUCTION BLDG - RANGE	800	SF	\$236.00		
17121	INDOOR FIRING RANGE	23,000	SF	\$228.00		
17122	RANGE OPERATIONS & STORAGE FACILITIES				RANGE OPERATIONS & STORAGE BLD AMMUNITION BREAKDOWN BUILDING RANGE OPERATIONS CENTER	
		800	SF	\$160.00		
		120	SF	\$335.00		
		2,000	SF	\$165.00		

APPENDIX A - FACILITY UNIT COST TABLE, PART-1 (Buildings & Major Facilities)

Note - Primary Facilities Unit Costs are based on the most recent 3-year (2005-08) bid results of MCA and BRAC projects, where at least 3-project bids are entered into the Historic Analysis Generator (HAG) database by 15 Nov 08. All bid pricing data were escalated to 1 Oct 2011, the assumed mid-point of construction of a typical FY11 MILCON project, using the inflation factors provided in the Budget Authority section of the OSD memo, dated 13 Feb 09, Subject - Inflation Guidance - FY 2010 President's Budget. Newly updated and/or approved Army Standard Design Unit Costs are provided by the respective Center of Standardization and validated by HQUSSACE. The unit cost listed below represents the average of bid data normalized to an Area Cost Factor of 1 for each facility type.

Category Codes	Facility Description	Reference/Standard Size	Unit of Measure	Draft Unit Cost (U/C) \$/Unit	REMARK
17123	<b>RANGE SUPPORT BLDGS</b>				
	AFTER ACTION REVIEW (AAR) BLD	2,600		\$207.00	
	RANGE CLASSROOM BUILDING	800	SF	\$212.00	
	RANGE CONTROL TOWER (CC 17971)	250	SF	\$418.00	USE CAT CODE 17971 U/C FOR THIS FACILITY
	FIELD LATRINES, AERATED VAULT TYPE (CC 73075)	200	SF	\$615.00	USE CAT CODE 73075 FOR THIS FACILITY
	COVERED BLEACHER (CC 75061)	600	SF	\$138.00	USE CAT CODE 75061 FOR THIS FACILITY
	COVERED MESS (CC 17139)	800	SF	\$82.00	
17133	<b>VEHICLE MAINTENANCE INST BLDG</b>	30,000	SF	\$206.00	
17134	<b>AIRCRAFT MAINTENANCE INST BLDG</b>	35,000	SF	\$239.00	HIGH BAY BUILDING
17135	LABORATORY INSTRUCTION BLDG	9,000	SF	\$247.00	
17136	<b>AUTOMATION-AIDED INSTRUCTION BLDG</b>	25,000	SF	\$296.00	
17137	MATERIAL HANDLING INSTRUCTION BLDG	40,000	SF	\$119.00	
17139	COVERED MESS - FOR RANGE PROJECT	800	SF	\$82.00	
17140	<b>ARMY RESERVE CENTER BLD</b>	48,000	SF	\$182.00	FOR OTHER RESERVE FACILITIES USE UNIT COST FROM APPROPRIATE FACILITY TYPE
17141	<b>ARMED FORCES RESERVE CENTER BLD</b>	48,000	SF	\$182.00	NEW CAT CODE FOR RESERVE CTR
17142	ARMY NATIONAL GUARD/ARMORY	20,000	SF		THIS CAT CODE IS NO LONGER USED, WILL BE DELETED FROM DA PAM 428-15
17180	<b>ARMY NATIONAL GUARD (NG) READINESS CTR</b>	48,000	SF	\$182.00	NEW CAT CODE FOR NG READINESS CTR
17210	SIMULATOR BUILDING (MOTION-BASED)	32,000	SF	\$181.00	BUILDING ONLY, NOT TO BE USED FOR RANGE PROJECTS
17971	CONTROL/OBSERVATION TOWER, RANGE	250	SF	\$418.00	COST EXCLUDES EQUIPMENT
21110	<b>AIRCRAFT MAINTENANCE HANGARS</b>				
	MAINTENANCE GENERAL PURPOSE	80,000	SF	\$239.00	
	HIGH BAY MAINTENANCE	60,000	SF	\$271.00	
	CORROSION CONTROL	35,000	SF	\$332.00	
	<b>ROTARY WING MAINTENANCE HANGARS- PROPOSED ARMY STANDARDS</b>				
	ATTACK-ASSAULT-CAVALRY BATTALION (AAC)	147,470	SF	\$265.00	
	AVIATION SUPPORT BATTALION (ASB)	157,500	SF	\$275.00	
	GROUND SUPPORT AVIATION BATTALION (GSAB)	157,500	SF	\$251.00	
21115	UAV MAINTENANCE HANGAR (UASHGR)	134,400	SF	\$246.00	
21120	<b>AIRCRAFT COMPONENT REPAIR SHOP</b>	20,000	SF	\$245.00	
21130	AIRCRAFT PAINT SHOP	70,000	SF	\$304.00	
21140	AIRCRAFT ENGINE TEST CELL FAC	13,000	SF	\$187.00	
21210	GUIDED MISSILE MAINTENANCE FAC	10,300	SF	\$208.00	
21410	<b>VEHICLE MAINT. SHOP - TRACKED &amp; WHEELED</b>	35,000	SF	\$216.00	NEW ARMY STD FOR TACTICAL EQUIP MAINT FACILITY (TEMF)
	USE SIZE ADJUSTMENT FACTOR, Table-1 for other VEHICLE MAINT SHOP SIZES: 18,000 SF; 35,290 SF; 57,031 SF & 74,698 SF				
21470	OIL STORAGE BLDG	700	SF	\$107.00	
21610	AMMUNITION RENOVATION SHOP	6,500	SF	\$170.00	
21612	AMMUNITION SURVEILLANCE SHOP	13,000	SF	\$193.00	
21630	AMMUNITION DEMIL. FACILITY	82,500	SF	\$1,064.00	CHEMICAL DEMILITARIZATION FAC
21710	ELECTRONICS MAINTENANCE SHOP	5,500	SF	\$175.00	
21740	<b>AIRCRAFT AVIONICS MAINTENANCE SHOP</b>	23,000	SF	\$201.00	
21850	BATTERY SHOP	5,000	SF	\$147.00	
21881	<b>PARACHUTE REPAIR SHOP</b>	8,000	SF	\$262.00	
21885	<b>INSTALLATION MAINT. SHOP, GEN PURPOSE</b>	31,000	SF	\$163.00	
21910	ENGINEERING/HOUSING MAINTENANCE SHOP	31,000	SF	\$163.00	
31010	CHEMISTRY LAB	9,000	SF	\$247.00	
31410	GROUND TRANSPORTATION EQUIPMENT BLDG	31,000	SF	\$190.00	
411XX	LIQUID FUEL STORAGE - BULK	2,500	BL	\$93.00	ABOVE GROUND STEEL TANK INCLUDES FOUNDATION DIKE AND EXTERIOR COATINGS (42 US GALS/BL)
		5,000	BL	\$61.00	
		10,000	BL	\$45.00	
		25,000	BL	\$34.00	
		50,000	BL	\$24.00	
		100,000	BL	\$17.00	
	LIQUID FUEL STORAGE - BULK	2,500	BL	\$93.00	ABOVE GROUND STEEL TANK W/ FLOAT PANS INCLUDES FOUNDATION DIKE AND INTERIOR EPOXY LINING & INTERIOR COATING
		5,000	BL	\$61.00	
		10,000	BL	\$50.00	
		25,000	BL	\$39.00	
		50,000	BL	\$31.00	
		100,000	BL	\$23.00	
250,000	BL	\$19.00			
42180	<b>HIGH EXPLOSIVE IGLOO STORAGE DEPOT</b>	5,000	SF	\$268.00	HIGH EXPLOSIVE MAGAZINE W/ CRANE - EARTH MOUNDING
42183	<b>GENERAL PURPOSE IGLOO STORAGE, DEPOT</b>	10,000	SF	\$251.00	GEN PURPOSE MAGAZINE W/O CRANE
42280	HIGH EXPLOSIVE IGLOO STORAGE, INSTALLATION				SEE CATCODE 42180
42283	GEN PURPOSE MAGAZINE, INSTALLATION				SEE CATCODE 42183
43211	<b>COLD STORAGE WAREHOUSE</b>				
	WAREHOUSE W/ PROCESSING	11,000	SF	\$176.00	
	WAREHOUSE W/O PROCESSING	6,000	SF	\$242.00	
44110	<b>GENERAL PURPOSE (G.P.) WAREHOUSE</b>				
	LOW BAY	40,000	SF	\$112.00	16 FT STACK HEIGHT
	HIGH BAY	100,000	SF	\$133.00	UP TO 26 FT STACK HEIGHT
44130	CONTROLLED HUMIDITY WHSE, DEPOT	40,000	SF	\$119.00	
44135	HAZARDOUS MATERIAL STORAGE	21,000	SF	\$157.00	

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Category Codes	Facility Description	Reference/Standard Size	Unit of Measure	Draft Unit Cost (U/C) \$/Unit	REMARK
44150	FLAMMABLE MATERIAL STORAGE	8,200	SF	\$151.00	
44181	VEHICLE STORAGE FACILITY	16,000	SF	\$54.00	OPEN SIDES
		16,000	SF	\$74.00	ENCLOSED
44210	AC PARTS STORAGE BLDG	16,000	SF	\$92.00	
44220	G P STORAGE FACILITY, INST				SEE CATCODE 44110
44222	STORAGE SHED, COVERED	8,000	SF	\$46.00	OPEN SIDES
44224	ORGANIZATIONAL EQUIP STORAGE BLDG	3,400	SF	\$99.00	FOR COF READINESS MODULE (RM) USE CAT CODE 14185 RM U/C
44230	CONTROLLED HUMIDITY WHSE, INST				SEE CATCODE 44130
44240	FLAMMABLE MATERIAL STORAGE, INST				SEE CATCODE 44150
45110	OPEN STORAGE AREA, DEPOT				SEE CATCODE 851XX (PART-II)
45210	OPEN STORAGE AREA, INST				SEE CATCODE 851XX (PART-II)
51010	MEDICAL CENTER/HOSPITAL		SF	\$516.00	STATION HOSPITAL
			SF	\$557.00	REGIONAL MEDICAL CTR
53060	MEDICAL WAREHOUSE	44,000	SF	\$121.00	
53071	AMBULANCE GARAGE	480	SF	\$86.00	
54010	DENTAL CLINIC	20,000	SF	\$475.00	
55010	MEDICAL CLINIC	50,000	SF	\$368.00	ALSO REFERRED AS HEALTH CLINIC
	AMBULATORY CLINIC	100,000	SF	\$443.00	
61001	MILITARY ENTRANCE PROCESSING STATION (MEPS)	26,810	SF	\$237.00	
	USE SIZE ADJUSTMENT FACTOR, Table-1 for other MEPS SIZES: upto 60 staff (21,205 SF) & 76-90 staff (32,717 SF)				
61050	ADMIN FACILITY GENERAL PURPOSE	65,000	SF	\$222.00	INCLUDES ADP CTR, AUDITORIUM, CAFETERIA, SECURITY. PRE-WIRED WORK STATION COST NOT INCLUDED
	PRE-WIRED WORK STATION		EA	\$4,505.00	INCLUDES INSTALLATION COST
	COMMAND HEADQUARTERS BLD	40,000	SF	\$262.00	THIS U/C SHOULD NOT BE USED FOR BRIGADE (CC14182) OR BATTALION (CC14183) HQ BLDGS. USE U/C FROM APPROP. CAT CODES FOR BDE & BN HQS.
62010	UNDERGROUND ADMINISTRATIVE FAC	6,000	SF	\$235.00	HARDENED FACILITY
71114-16	FAMILY HOUSING W/SPRINKLERS OR FIRE RATED CONSTRUCTION	3-5 Bedroom	varies	\$117.00	CONUS \$/GROSS SF INCLUDES POST AWARD DESIGN COST
	FAMILY HOUSING W/SPRINKLERS OR FIRE RATED CONSTRUCTION	3-5 Bedroom	varies	\$138.00	OCONUS \$/GROSS SF INCLUDES POST AWARD DESIGN COST
71410	DETACHED GARAGES	240	SF	\$65.00	SINGLE CAR/ MASONRY
				\$55.00	SINGLE CAR/ WOOD
71411	CARPORT	240	SF	\$46.00	OPEN SIDES
72010	TEMPORARY LODGING FACILITY (Guest House)	30,000	SF	\$211.00	TEMPORARY LODGING FACILITIES
72111	BARRACKS (UNACCOMPANIED PERSONNEL HOUSING ENLISTED) - PERMANENT PARTY	99,500	SF	\$213.00	DOES NOT INCLUDE FREE STANDING EQUIPMENT. NOTE: ALL UNFINISHED OR FINISHED ATTIC AREAS WITH AN AVERAGE HEIGHT OF 6'-11" (2100 MM) MEASURED FROM THE UNDERSIDE OF THE STRUCTURAL SYSTEM AND AREAS WITH PERIMETER WALLS, MEASURING A MINIMUM HEIGHT OF 4'-11" (1500 MM), MUST BE COUNTED AS FULL SCOPE. SOLDIERS COMMUNITY BUILDING IS NO LONGER PROGRAMMED.
72112	WARRIORS IN TRANSITION COMPLEX (WT)				USE CAT CODE 72112 FOR WT BARRACKS PORTIONS ONLY. FOR OTHER FACILITIES IN THE COMPLEX, USE CC AS SHOWN HERE
	BARRACKS BLDG, 56 PERSON MODULE	37,800	SF	\$233.00	USE CAT CODE 72112 FOR WT BARRACKS. USE SIZE ADJUSTMENT TABLE TO DETERMINE UNIT COST FOR 29,680 SF OPTION
	14188 - WT BATTALION HQS (W/O CLASSROOM)	8,100	SF	\$240.00	USE CAT CODE 14188 FOR WT BATTALION HQ (W/O CLASSROOMS).
	14188 - WT COMPANY HQS BLD	10,300	SF	\$235.00	USE CAT CODE 14188 FOR WT COMPANY HQS. WHEN WT BN HQS & CO HQS ARE PROGRAMMED & BUILT JOINTLY AS ADMIN/OPS FACILITY, USE 18,400 SF AS THE REFERENCE SIZE FOR THE UNIT PRICE ADJUSTMENT
	74033 - SOLDIER FAMILY ASSISTANCE CTR, LGE	15,000	SF	\$0.00	
	72210 - DINING, SEATING 251-500 PERSON	18,000	SF		USE SIZE ADJUSTMENT TABLE TO DETERMINE U/C, IF PROGRAMMED
72121	ADVANCED INDIVIDUAL TRAINING COMPLEX(AIT)				A TYPICAL AIT COMPLEX HOUSES APPROX. 1,200 TRAINEES, 300 EA. IN 4 BARRACK/CO OPS BLD. @92,800 SF/ BLD, BN HQS, AND A 1-BN DINING FACILITY. THE AREA FOR EACH FACILITY WITHIN THE COMPLEX WILL BE LISTED SEPARATELY IN DD1391 AND ENG3086. ONLY AIT BARRACKS HAVE A SEPARATE CAT CODE (72121); USE REGULAR CAT CODES FOR OTHER BLDGS IN THE AIT COMPLEX & MARK THEM AS AIT IN THE DD1391/ENG3086 ENTRY. THE NORMALIZED U/C FOR EACH FACILITY TYPES WILL NOT BE EXCEED.
	72121 - BARRACKS/ COMPANY (CO) OPS BLD	360,000	SF	\$196.00	
	14183 - AIT BATTALION (BN) HQS W/CLASSRMS	13,285	SF	\$215.00	
	14182 - AIT BRIGADE HEADQUARTERS, IF NEEDED	9,650	SF	\$222.00	
	72110 - DINING FACILITY - 1 BN, 1300 PN, 544-SEAT	30,500	SF	\$330.00	30,500 SF IS THE REF. SIZE FOR AIT DFAC. USE SIZE ADJUST FACTOR TO DETERMINE THE UNIT COST FOR THE 2600 PN SEATING AIT DFAC
	72110 - DINING FACILITY- 2 BN, 2600 PN, 1088-SEAT	62,390	SF		USE SIZE ADJUST TABLE
72181	BASIC TRAINEE (BT) & ONE STATION UNIT TRAINING (BT/OSUT) COMPLEX				A TYPICAL BT/OSUT COMPLEX HOUSES APPROX. 1,200 TRAINEES (240 EA IN 5 OPEN BAY BARRACK/CO OPS BLD. @64,680 SF/ BLD), BN HQS, AND A 1-BN DINING FACILITY. LAWN EQUIPMENT STORAGE (2,000 SF), 1/4 MILE ATHLETIC TRACK (8 LANES), AND CENTRAL ENERGY PLANT, IF NEEDED, SHOULD ALSO BE PROGRAMMED FOR THE COMPLEX. ALL FUNCTIONAL ELEMENTS OF THE COMPLEX IS PROGRAMMED UNDER THE BT COMPLEX CC72121.
	BARRACKS BLDG (W/ CO OPS SPACE)	323,400	SF	\$186.00	FULL SCOPED COVERED TRAINING AREAS UNDER BARRACK BUILDINGS ARE INCLUDED IN THE GSF. DINING FACILITY INCLUDES COVERED QUEUING AREA. THE AREA FOR EACH FACILITY WITHIN THE COMPLEX WILL BE LISTED SEPARATELY IN DD1391 AND ENG3086. THE NORMALIZED U/C FOR EACH FACILITY TYPES WILL NOT BE EXCEED. PN = PERSON
	BATTALION (BN) HQS W/CLASSROOMS	23,335	SF	\$189.00	
	DINING FACILITY- 1 BN, 1300 PN, 544 SEATS	30,500	SF	\$330.00	
	DINING FACILITY - 2 BN, 2600 PN, 1088 SEATS	56,000	SF		USE SIZE ADJUST TABLE

APPENDIX A - FACILITY UNIT COST TABLE, PART-1 (Buildings & Major Facilities)						
Note - Primary Facilities Unit Costs are based on the most recent 3-year (2005-08) bid results of MCA and BRAC projects, where at least 3-project bids are entered into the Historic Analysis Generator (HAG) database by 15 Nov 08. All bid pricing data were escalated to 1 Oct 2011, the assumed mid-point of construction of a typical FY11 MILCON project, using the inflation factors provided in the Budget Authority section of the OSD memo, dated 13 Feb 09, Subject - Inflation Guidance - FY 2010 President's Budget. Newly updated and/or approved Army Standard Design Unit Costs are provided by the respective Center of Standardization and validated by HQUSACE. The unit cost listed below represents the average of bid data normalized to an Area Cost Factor of 1 for each facility type.						
Category Codes	Facility Description	Reference/Standard Size	Unit of Measure	Draft Unit Cost (U/C) \$/Unit	REMARK	
72210	<b>DINING FACILITIES (DFAC)</b>	VARIES				
	INCLUDES MCA FUNDED KITCHEN EQUIPMENT & INSTALLATION COSTS. THE SIZE ADJUSTMENT TABLE (Table -A) WILL BE USED TO DETERMINE UNIT COSTS FOR 251-500 PERSON (18,000 SF) & 501-800-PERSON (19,500 SF) DINING FACILITY					
	DINING FACILITY - SEATING 801-1300 PERSON	26,500	SF	\$344.00	THIS IS THE REFERENCE SIZE FOR SIZE ADJUSTMENT FACTOR	
	DINING FACILITY - BASIC TRAINING/AIT/OUST, 1300 PN, USE CAT CODE 72181 FOR BT/OUST	30,500	SF	\$330.00	30,500 SF IS THE REF. SIZE FOR SIZE ADJUST FACTOR TO DETERMINE THE UNIT COST FOR 2600 PN SEATING (56,000 SF) BT/AIT/OUST DFAC	
	DINING FACILITY- OPERATIONAL READINESS TRNG, 720 PN, USE CAT CODE 72212 FOR ORTC DINING	16,960	SF		16,960 SF IS THE REF. SIZE FOR SIZE ADJUST FACTOR TO DETERMINE THE UNIT COST FOR 1428 PN SEATING (20,990 SF) ORTC DFAC	
72410	<b>UNACCOMPANIED OFFICERS QUARTERS</b>	44,000	SF	\$231.00	DOES NOT INCLUDE FREE-STANDING KITCHENETTE EQUIPMENT	
72412	UNACCOMP. OFFICERS QTRS - TRANSIENT	44,000	SF	\$185.00		
	<b>OPERATIONAL READINESS TRAINING COMPLEX (ORTC)/ TRANSIENT TRNG</b>				NO SEPARATE CAT CODE FOR ORTC, USED CODES FOR TRANSIENT TRNG	
	14184 - BATTALION HQ, TRANSIENT TRNG	11,235	SF	\$160.00		
	14186 - COMPANY OPS FAC, TRANSIENT TRNG	19,580	SF	\$158.00	GROSS AREA IS BASED ON THE 6-COMPANY OPTION	
	14187 - BRIGADE HQ, TRANSIENT TRNG	10,240	SF	\$171.00		
	21406 - VEHICLE MAINT. SHOP, TRANSIENT TRNG	11,855	SF	\$175.00		
	72212 - DINING FACILITY, 720 PN, TRANSIENT TRNG	16,960	SF	\$309.00	THIS IS THE REFERENCE SIZE FOR SIZE ADJUSTMENT FACTOR	
	72212 - DINING FACILITY, 1428 PERSON	20,990	SF		USE SIZE ADJUST TABLE	
	72114 - ENLISTED BARRACKS, TRANSIENT TRNG	30,560	SF	\$161.00		
	72412 - TRANSIENT SN. ENLISTED OFFICERS QTS	22,560	SF	\$186.00		
	44222 - COMPANY SHEDS, ORTC	800	SF	\$76.00	ROOFED BUT NOT ENCLOSED	
73010	<b>FIRE STATION</b>	8,000	SF	\$257.00		
	<b>Consolidated FIRE, SAFETY &amp; SECURITY (FSS) FAC</b>					
	<b>Consolidated FSS - Satellite (Medium)</b>	24,000	SF	\$237.00	USE SIZE ADJ TABLE FOR SMALL (21,500) & LARGE (26,500) FSS	
	<b>Consolidated FSS - HQ</b>	47,700	SF	\$232.00	USE SIZE ADJ TABLE FOR OTHER HQ FSS SIZES	
73016	POLICE/LAW ENFORCEMENT (MP) STATION	4,200	SF	\$263.00		
73017	<b>CHAPEL (SEATING CAPACITY UPTO 200 PERSON)</b>	17,900	SF	\$298.00		
	USE SIZE ADJUSTMENT FACTOR, TABLE-1 for OTHER STANDARD SIZES, 22,600 SF (UPTO 400 PN SEATING) & 32,900 SF (UPTO 600 PN SEATING)					
73018	<b>RELIGIOUS EDUCATION FAC</b>	5,320	SF	\$279.00	FOR 10 SMALL GROUPS /55-70 INDIVIDUALS	
	A DEDICATED SPACE FOR RELIGIOUS EDUCATION AND FOR RELIGIOUS ACTIVITIES AND SHOULD BE REPORTED SEPARATELY FROM THE WORSHIP SPACE IF COLLOCATED IN A CHAPEL BUILDING (CAT CODE 73017). USE SIZE ADJUSTMENT FACTOR, TABLE-1 for UNIT COST for SMALL (3350 SF) & LARGE (9550 SF) FACILITIES					
73019	<b>CHAPEL FAMILY LIFE CENTER (300-450 PERSON)</b>	16,970	SF	\$269.00		
	SPACE FOR FAMILY COUNSELING, PASTORAL EDUCATION, COMMUNITY BASED ACTIVITIES IN SUPPORT OF THE COMMAND RELIGIOUS PROGRAM. USE SIZE ADJUSTMENT FACTOR, TABLE-1 for UNIT COST for 200-300 PERSON, 11,770 SF FACILITY					
73046	<b>DEPENDENT SCHOOLS</b>					
	<b>ELEMENTARY</b>		SF	\$211.00		
	<b>JUNIOR HIGH SCHOOL</b>		SF	\$212.00		
	<b>HIGH SCHOOL</b>		SF	\$223.00		
74010	AUDITORIUM, GEN PURPOSE	4,000	SF	\$172.00		
74011	<b>BOWLING CENTER</b>	7,800	SF	\$244.00	8 LANES W/PIN SPOTTING EQUIP & AUTO. SCORING DEVICE	
74012	CAFETERIA	5,000	SF	\$212.00		
74014	CHILD DEVELOPMENT CENTER	25,000	SF		THIS CAT CODE IS NO LONGER USED, WILL BE DELETED FROM DA PAM 428-15	
74016	<b>CHILD DEVELOPMENT CTR-SCHOOL AGE (6-10 YR)</b>	20,500	SF	\$240.00	NEW CAT CODE, DOES NOT INCLUDE PLAYGROUND	
	SCHOOL AGE CDC MEDIUM, 20,484 SF, IS THE REFERENCE SIZE. USE SIZE ADJUSTMENT FACTOR, TABLE-1 for OTHER CDC SIZES: SMALL (13,929 SF) AND LARGE (22,929 SF) SF).					
74017	<b>CHILD DEVELOPMENT CTR (CDC) UNDER 6 YEARS AGE, 150 to 180 CHILDREN CAPACITY</b>	26,450	SF	\$245.00	DOES NOT INCLUDE FREE-STANDING FOOD SERVICE EQUIPMENT OR PLAYGROUND AREA AND EQUIPMENT. FOR OUTDOOR PLAY AREA, SEE CATCODE 75018	
	UNDER 6 YRS OF AGE CDC MEDIUM, 26,450 SF, IS THE REFERENCE SIZE. USE SIZE ADJUSTMENT FACTOR, TABLE-1 for OTHER SIZES: SMALL (15,850 SF) AND LARGE (37,300 SF) SF).					
74021	<b>COMMISSARY</b>	85,000	SF	\$226.00		
74022	SKILL DEVELOPMENT CENTER	22,000	SF	\$148.00	NON-AUTOMOTIVE CRAFTS/GENERAL SKILL	
74023	CREDIT UNION	3,000	SF	\$168.00	INCLUDES VAULT	
74024	SKILL DEVELOPMENT CENTER	15,000	SF	\$141.00	AUTOMOTIVE CRAFTS	
74025						
	<b>EDUCATION CENTER (10,001-15,000 PERSONS)</b>	23,300	SF	\$239.00	ALSO CALLED ARMY CONTINUING EDUCATION SYSTEM FAC.	
	USE SIZE ADJUSTMENT FACTOR, TABLE-1 FOR OTHER EDUC CTR SIZES AS FOLLOWS: 251-1000 PN (4,125 SF), 1001-3,000 PN (8,700 SF), 3,001-5,000 PN (13,500 SF), 5,001-7,000 PN (16,100 SF), 7,001-10,000 PN (19,800 SF), 15,001-20,000 PN (31,800 SF), 20,001-25,000 PN (36,300 SF), 25,001-30,000 PN (40,500 SF), 30,000-40,000 PN (48,000 SF), AND 40,001-50,000 PN (55,000 SF)					
74028	<b>PHYSICAL FITNESS FACILITY (PFF)</b>	65,000	SF	\$191.00	EXCLUDES INDOOR SWIMMING POOL (74042). THIS IS THE REF SIZE	
	USE SIZE ADJUSTMENT FACTOR, TABLE-1 for OTHER PFF SIZES - X-SMALL (27, 771 SF), SMALL (44,347 SF), LARGE (89,448 SF), & X-LARGE (120,125 SF)					
74030	SPORTS PRO SHOP	28,000	SF	\$170.00	INCLUDES SNACK BAR, PRO SHOP SALES AREAS	
74033	<b>ARMY COMMUNITY SERVICE CENTER</b>	17,215	SF	\$232.00	ALSO CALLED FAMILY SERVICE CENTER	
	USE SIZE ADJUSTMENT FACTOR, TABLE-1 for OTHER ACSC SIZES (4130 SF, 10,896, 45,000 SF)					
74041	<b>MAIN LIBRARY</b>	12,000	SF	\$245.00		
74047	<b>SERVICE CLUB (ENLISTED OPEN DINING FACILITY)</b>	22,500	SF	\$333.00		
74048	OFFICER OPEN DINING	22,500	SF		SEE CATCODE 74047	
74053	<b>MAIN EXCHANGE</b>	80,000	SF	\$166.00	EXCHANGE MAIN RETAIL STORE	

APPENDIX A - FACILITY UNIT COST TABLE, PART-1 (Buildings & Major Facilities)

Note - Primary Facilities Unit Costs are based on the most recent 3-year (2005-08) bid results of MCA and BRAC projects, where at least 3-project bids are entered into the Historic Analysis Generator (HAG) database by 15 Nov 08. All bid pricing data were escalated to 1 Oct 2011, the assumed mid-point of construction of a typical FY11 MILCON project, using the inflation factors provided in the Budget Authority section of the OSD memo, dated 13 Feb 09, Subject - Inflation Guidance - FY 2010 President's Budget. Newly updated and/or approved Army Standard Design Unit Costs are provided by the respective Center of Standardization and validated by HQUSACE. The unit cost listed below represents the average of bid data normalized to an Area Cost Factor of 1 for each facility type.

Category Codes	Facility Description	Reference/Standard Size	Unit of Measure	Draft Unit Cost (U/C) \$/Unit	REMARK
74056	EXCHANGE SERVICE OUTLET				SEE CATCODE 74053
74066	YOUTH CENTER	19,650	SF	\$242.00	
74068	RECREATION CENTER	20,000	SF	\$242.00	
74070	INDOOR ROLLER SKATING RINK	20,000	SF	\$132.00	
74072	NATATORIUM (INDOOR SWIMMING POOL)	20,000	SF	\$207.00	25 METER SWIMMING POOL (6200 SF WATER AREA) & ANCILLIARY AREAS
74075	RECREATIONAL SUPPORT BUILDING	5,000	SF	\$90.00	ALSO RECREATIONAL EQUIP CHECKOUT
	PLAYGROUND, CHILD DEVELOPMENT CENTER				
	FOR UNDER 6 YRS OF AGE, PRE-SCHOOL				
	SMALL	16,667	SF	\$29.00	
	MEDIUM	23,870	SF	\$25.00	
	LARGE (338 CHILDREN)	38,310	SF	\$20.00	
	FOR SCHOOL AGE CHILDREN, 6-10 YRS				
	SMALL (105 -135 CHILDREN)	47,605	SF	\$25.00	
	MEDIUM/LARGE (150 - 225 CHILDREN)	52,105	SF	\$21.00	
75022	MULTI-PURPOSE ATHLETICS FIELD	1	EA	\$196,544.00	TURFED AREA EXCLUDES SITE PREP & ELECTRICAL LIGHTING
75030	OUTDOOR SWIMMING POOL	13,000	SF	\$125.00	50 METER WITH CHANGE HOUSE
891XX	PLANT/UTILITIES BLDG		SF	\$167.00	NO PLANT EQUIPMENT
	<b>NO CATEGORY CODE IS AVAILABLE FOR FOLLOWING ITEMS:</b>				
	FOUNDATIONS, UNUSUAL				
	PILING, TREATED WOOD, 50' L, 12" BUTT		LF	\$33.00	
	PILING, CONCRETE 14" SQUARE		LF	\$50.00	
	PILING, CONCRETE 16" SQUARE		LF	\$53.00	
	PILING, CONCRETE 18" DIAMETER		LF	\$60.00	Also called DTAT
	PILING, STEEL H, 50' LONG, HP12X53		LF	\$41.00	
	PILING, STEEL PIPE 12"D, CONC. FILLED		LF	\$50.00	

**Unit Cost for Army Facilities**  
**PAX Newsletter 3.2.2, dated 20 Mar 09**

<b>APPENDIX A - FACILITY UNIT COST TABLE ( Part - II, Support Facilities)</b>					
<b>NOTE: The Support Facilities Unit Costs are for guidance only. Adjustment to these unit costs are allowed when local cost data are allowed when local cost data are available and provided with back-ups</b>					
<u>CATEGORY</u>	<u>ITEM</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>REMARK</u>
<u>CODE</u>				<u>\$/UNIT</u>	
111XX	AIRFIELD RUNWAYS				SEE CATCODE 851XX
112XX	AIRFIELD TAXIWAYS				SEE CATCODE 851XX
113XX	AIRFIELD APRONS				SEE CATCODE 851XX
116XX	AIRFIELD PAVING, MISC				SEE CATCODE 851XX
81150	UNINTERRUPTIBLE POWER SUPPLY (UPS)		KW	\$4,898.00	UTILITY SYSTEM TO ENSURE CONTINUOUS ELECTRIC PWR SUPPLY DURING OUTAGES AND INCLUDES ELECTRIC SYSTEM COMPONENTS (RECTIFIER, CHARGER, BATTERY, INVERTER, ETC)
81160	STANDBY GENERATOR	75	KW	\$534.00	UTILITY SYSTEM TO ENSURE CONTINUOUS ELECTRIC PWR SUPPLY DURING OUTAGES. COST INCLUDES ELECTRIC SYSTEM COMPONENTS SUCH AS RECTIFIER, CHARGER, BATTERY, INVERTER, TRANSFER SWITCH ETC)
		125	KW	\$383.00	
		200	KW	\$305.00	
		300	KW	\$260.00	
89111	POWER PLANT BUILDING		SF	\$170.00	STAND ALONE BUILDING TO HOUSE EQUIPMENT AND STATIC SWITCHGEAR NECESSARY TO GENERATE ELECTRIC POWER
81230	EXTERIOR LIGHTING w/ UNDER GROUND DISTRIBUTION		LF	\$33.00	BASED ON WOOD POLE, 1" PVC DIRECT BURIAL CONDUIT, WITH 3' DEEP EXCAVATION, #10 WIRE AND 500 WATT MV LAMINAR FIXTURE
81241	OVERHEAD ELECTRIC LINES				
	MEDIUM TO HEAVY DISTRIBUTION LINES		MI	\$112,120.00	BASED ON WOOD POLES 15 KV TO 69 KV SHORT LINES, WOOD POLE, 3 PH, 4 WIRE
	OVERHEAD W/ WOOD POLES		LF	\$27 - 32.00	BASED ON POLE SPACING 250', WITH 15 KV MAX, 3 PHASE, 4 WIRE
81242	UNDERGRD ELECTRIC LINES				
	DIRECT BURIAL:				COSTS INCL TRENCH, SAND BASE, BACKFILL AND MARKER
	# 1/0		LF	\$18.00	3/C - 600V DB
	# 4/0		LF	\$30.00	3/C - 600V DB
	UG DUCTS:				
	1-WAY-4"		LF	\$23.00	TYPE EB, PVC, CONCRETE ENCASED 3" EACH WAY, INCLUDES EXCAVATION AND BACKFILL TO 3 FEET DEEP
	2-WAY-4"		LF	\$28.00	
4-WAY-4"		LF	\$35.00		
6-WAY-6"		LF	\$52.00		
81320	SUBSTATION, LOAD UNINTER. SWITCH 600 AMP		KVA	\$75.00	300 KVA & BELOW W/CLF FUSES. DOES NOT INCL BUILDING (89113)
81360	TRANSFORMERS				PRIMARY DELTA OR Y,277/480 V SECONDARY
	150 KVA		EA	\$12,620.00	OIL-FILLED, PAD MOUNTED, 3-PHASE
	500 KVA		EA	\$18,880.00	
	1,000 KVA		EA	\$34,100.00	
	2,000 KVA		EA	\$50,170.00	
82110	HEAT PLANT COAL-FIRED				
	STEAM:				
	50 MBTU/H (MILLION BTU/H)		EA	\$4,123,190.00	UTILITY SYSTEM THAT GENERATE HEAT FROM COAL AND INCLUDES FURNACE, BOILERS, WATER SUPPLY, PUMPS, PIPELINES, & FUEL & ASH HANDLING FACILITIES.
	100 MBTU/H		EA	\$7,561,020.00	
	150 MBTU/H		EA	\$10,774,790.00	
200 MBTU/H		EA	\$13,804,120.00		



**Unit Cost for Army Facilities**  
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<b>APPENDIX A - FACILITY UNIT COST TABLE ( Part - II, Support Facilities)</b>					
<b>NOTE: The Support Facilities Unit Costs are for guidance only. Adjustment to these unit costs are allowed when local cost data are allowed when local cost data are available and provided with back-ups</b>					
CATEGORY	ITEM	QUANTITY	UNIT	UNIT COST	REMARK
				\$/UNIT	
	HEAT PUMP COAL FIRED (CONT'D)				
	HITEMP WATER:				
	50 MBTU/H		EA	\$3,931,420.00	INCLUDES FURNACE, BOILERS, WATER SUPPLY, PUMPS, PIPELINES, & FUEL & ASH HANDLING FACILITIES
	100 MBTU/H		EA	\$6,312,400.00	
	150 MBTU/H		EA	\$8,417,270.00	
	200 MBTU/H		EA	\$10,774,790.00	
82120	HEAT PLANT OIL-FIRED				
	STEAM:				
	10 MBTU/H		EA	\$744,480.00	INCLUDES PLANT EQUIP & OIL HANDLING FACILITY
	50 MBTU/H		EA	\$2,557,600.00	
	100 MBTU/H		EA	\$4,898,340.00	
	150 MBTU/H		EA	\$7,106,070.00	
	200 MBTU/H		EA	\$8,607,320.00	
	HITEMP WATER:				
	10 MBTU/H		EA	\$672,930.00	INCLUDES PLANT EQUIP & OIL HANDLING FACILITY
	50 MBTU/H		EA	\$2,375,410.00	
	100 MBTU/H		EA	\$4,432,220.00	
	150 MBTU/H		EA	\$6,312,400.00	
	200 MBTU/H		EA	\$8,209,360.00	
82210	STEAM CONDENSATE LINES - UNDERGROUND				STEAM SUPPLY & RETURN LINES, COST INCLUDES INSULATION, FITTINGS, ACCESSORIES, 3 FEET EXCAVATION, BACKFILL AND TESTING
	COMMON CONDUIT:				
	11-1/4"		LF	\$218.00	STM: 2", RET: 1-1/2"
	10"		LF	\$199.00	STM: 1-1/2", RET: 1-1/2"
	10"		LF	\$189.00	STM: 1-1/4", RET: 1"
	10"		LF	\$187.00	STM: 1", RET: 1"
	SINGLE CONDUIT:				STEAM OR HITEMP WATER, COST INCLUDES FITTINGS, ACCESSORIES, 3 FT EXCAVATION, BACKFILL AND TESTING
	6"		LF	\$119.00	1-1/4" PIPE
	8"		LF	\$129.00	1-1/2" PIPE
	8"		LF	\$131.00	2" PIPE
	10"		LF	\$157.00	2-1/2" PIPE
	10"		LF	\$168.00	3" PIPE
	11-1/8"		LF	\$203.00	4" PIPE
	15"		LF	\$233.00	6" PIPE
82220	HOT WATER LINES - HIGH TEMPERATURE				HOT WATER SUPPLY & RETURN LINES
	COMMON CONDUIT - UNDERGROUND				INCLUDES FITTINGS, ACCESSORIES, 3 FT EXCAVATION, BACKFILL & TESTING
	12"		LF	\$170.00	HW: 1", RET: 1"
	12-7/8"		LF	\$208.00	HW: 1-1/2", RET: 1-1/2"
	15"		LF	\$256.00	HW: 2", RET: 2"
	18"		LF	\$281.00	HW: 3", RET: 3"
	21"		LF	\$326.00	HW 4., RET: 4"
82220	STEAM DISTRIBUTION MANHOLE, PREFAB STEEL, 8' X 6' HT		EA	\$17,220.00	VENT, MH VENT, NORMAL PIPING & INSTALLATION, CONDUIT, INCL LADDER
82410	GAS PIPE LINES - HEATING GAS TRANSMISSION				SEE CHART A

**Unit Cost for Army Facilities**  
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<b>APPENDIX A - FACILITY UNIT COST TABLE ( Part - II, Support Facilities)</b>					
<b>NOTE: The Support Facilities Unit Costs are for guidance only. Adjustment to these unit costs are allowed when local cost data are available and provided with back-ups</b>					
CATEGORY CODE	ITEM	QUANTITY	UNIT	UNIT COST	REMARK
				\$/UNIT	
82610	AIR CONDITIONING/REFRIG PLANT				DOES NOT INCLUDE AIR-CONDITIONING/ REFRIGERATION PLANT, COST INCLUDES EQUIPMENT, SUCH AS COMPRESSOR, CONDENSER, PUMPS, VALVES, ONLY
	NEW BLDG		TON	\$3,388.00	
	EXISTING BLDG		TON	\$4,739.00	
83140	INDUSTRIAL WASTE TREATMENT PLANT		EA	\$1,826,550.00	500,000 GPD , TREATMENT EQUIPMENT ONLY, DOES NOT INCLUDE A BUILDING TO HOUSE THE EQUIPMENT
83150	SEWAGE LIFT STATION		EA	\$210,400.00	1,000 GPM; EQUIPMENT ONLY, DOES NOT INCLUDE A BUILDING TO HOUSE THE EQUIPMENT
83210	SANITARY SEWER				SEE CHART A
83210	SANITARY SEWER MANHOLES:				MANHOLE, 4 FT ID, INCLUDES FOOTING, EXCAVATION & BACKFILL, 24" DIA COVER & FRAME
	CONCRETE, CAST-IN-PLACE				
	UP TO 8' DEEP		VLF	\$570.00	
	OVER 8' DEEP		VLF	\$610.00	
	CONCRETE, PRECAST:				
	UP TO 8' DEEP		VLF	\$393.00	
	OVER 8' DEEP		VLF	\$431.00	
832XX	MISC:				
	CATCH BASINS		EA	\$2,619.00	4 FT DEEP
	CATCH BASINS		EA	\$3,039.00	6 FT DEEP
	CURB INLETS		EA	\$618.00	GUTTERMOUTH
83310	INCINERATOR		EA	\$49,940.00	200 LB PER HR PER UNIT (EQUIPMENT ONLY, BUILDING NOT INCLUDED)
84210	WATER DISTRIBUTION LINES				SEE CHART A
84472	WATER PUMP STATION, NONPOTABLE				
	500 GPM		EA	\$76,560.00	EQUIPMENT ONLY, INCLUDES PUMPS, VALVES, AUTO CONTROLS, FILLINGS & ACCESSORIES, COMPLETE W/ INSTALLATION COSTS, DOES NOT INCLUDE A BUILDING TO HOUSE THE EQUIPMENT
	1,000 GPM		EA	\$101,630.00	
	2,000 GPM		EA	\$114,290.00	
	2,500 GPM		EA	\$117,660.00	
84610	WATER STORAGE TANK				
	ELEVATED WATER STG TANK				INCLUDES STEEL STORAGE TANK STANDPIPE, 125 FEET HIGH TOWER, VALVES AND STD FOUNDATIONS, BUT DOES NOT INCLUDE PUMPHOUSE BUILDING
	50,000 GA		EA	\$381,690.00	
	100,000 GA		EA	\$478,810.00	
	150,000 GA		EA	\$573,670.00	
	250,000 GA		EA	\$660,620.00	
	500,000 GA		EA	\$1,062,630.00	
	750,000 GA		EA	\$1,467,920.00	
	1,000,000 GA		EA	\$1,865,630.00	
	GROUND STG TANK (WATER)				INCLUDES CONCRETE TANK AND STD FOUNDATIONS, BUT DOES NOT INCLUDE EXTERNAL PIPING AND PUMPING
	100,000 GA		EA	\$264,280.00	
	250,000 GA		EA	\$438,150.00	
	500,000 GA		EA	\$539,750.00	
	1,000,000 GA		EA	\$724,970.00	
	2,000,000 GA		EA	\$1,044,540.00	
	4,000,000 GA		EA	\$1,652,250.00	

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CATEGORY CODE	ITEM	QUANTITY	UNIT	UNIT COST	REMARK
				\$/UNIT	
84620	RESERVOIR, POTABLE				
	250,000 GA		EA	\$426,830.00	INCLUDES 6" CONCRETE FLOOR SLAB, ORDINARY EXCAVATION AND PUMPING WITHIN
	500,000 GA		EA	\$569,190.00	
	1,000,000 GA		EA	\$785,920.00	
	2,000,000 GA		EA	\$1,208,090.00	
	4,000,000 GA		EA	\$1,985,360.00	
851XX	ROADS/ PAVEMENTS				INCLUDE DRIVEWAYS, EXCLUDES VEHICLE PARKING, EARTHWORK (CUT & FILL, CATCODE 93410, COST NOT INCLUDED)
	ASPHALT CONCRETE SURFACE				
	1-1/2"		SY	\$5.20	FOR PAVEMENT ONLY, A/C SURFACE, URBAN AREA
	2"		SY	\$6.80	
	3"		SY	\$9.90	
	CONCRETE SURFACE - NON REINFORCED				
	6"		SY	\$32.00	12 FEET PASS FIXED FORM, JOINTS, FINISHING, CURING, URBAN AREA
	8"		SY	\$44.00	
	10"		SY	\$51.00	
	12"		SY	\$59.00	
	BASE COURSE (CRUSHED STONES), THICKNESS:				
	4"		SY	\$7.10	INCLUDES MATERIAL, EQUIPMENT & COMPACTION
	6"		SY	\$10.00	
	8"		SY	\$13.00	
	12"		SY	\$20.00	
	BASE COURSE (BANK RUN GRAVEL), THICKNESS:				INCLUDES MATERIAL, TRANSPORT & PLACEMENT
	6"		SY	\$5.50	
	9"		SY	\$8.20	
	12"		SY	\$11.00	
	BASE COURSE (BITUM. CONCRETE) THICKNESS:				
	4"		SY	\$12.00	
	6"		SY	\$18.00	
	8"		SY	\$23.00	
	10"		SY	\$30.00	
	6" x 8" CURB/GUTTER (CONCRETE)		LF	\$17.00	INCLUDES CURB & GUTTER AND STEEL FORMS
852XX	SIDEWALK & OTHER PAVEMENTS				INCLUDES VEHICLE PARKING AREAS, PEDESTRIAN WALKWAYS, ETC. SEE CATCODE 851XX FOR DRIVEWAYS & ROADS
85220	SIDEWALKS & WALKWAYS				
	4" CONCRETE CAST IN PLACE, NO BASE		SF	\$4.50	INCLUDES GRADING & FORMING
	2-1/2" ASPHALT CONCRETE		SF	\$2.10	
86010	RAILROAD TRACKS W/TIES AND BALLAST		LF	\$322.40	STANDARD GAUGE RAILROAD, STEEL TIES IN CONC W/ 100# RAIL, FASTNERS & PLATES COMPLETE. PARALLEL TRACKS COUNTED SEPARATELY
87110	STORM SEWER		LF		SEE CHART A
87210	FENCING & WALLS				
	CHAIN LINK:				9 GAUGE GALVANIZED STEEL
	6 FT HIGH		LF	\$20.00	TYPE A (9 GA) INCLUDES 3 STRAND BARBED WIRE
	8 FT HIGH		LF	\$24.00	
	10 FT HIGH		LF	\$29.00	

**Unit Cost for Army Facilities**  
**PAX Newsletter 3.2.2, dated 20 Mar 09**

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<b>NOTE: The Support Facilities Unit Costs are for guidance only. Adjustment to these unit costs are allowed when local cost data are allowed when local cost data are available and provided with back-ups</b>					
CATEGORY CODE	ITEM	QUANTITY	UNIT	UNIT COST	REMARK
				\$/UNIT	
87250	ENTRANCE GATES				
	4' WIDE, SINGLE SWING, 6' HIGH W/ GATE POSTS		EA	\$327.00	
	12' WIDE, SINGLE SWING, 6' HIGH W/ GATE POSTS		EA	\$902.00	FOR MOTOR OPERATED (SWING) ADD \$2,000
	24' WIDE, SWING GATE - DOUBLE, 6' HIGH		EA	\$1,576.00	FOR MOTOR OPERATED (SWING) ADD \$3,150
	36' WIDE, SLIDING GATE - DOUBLE, 8' HIGH		EA	\$2,168.00	FOR MOTOR OPERATED (SLIDE) ADD \$4,410
88110	AUTOMATIC WATER SPRINKLER SYSTEMS (2,000 SF, PROTECTED AREA ONLY, INCL GATE VALVE)				
	WET PIPE		SF	\$4.30	PROTECTED AREA ONLY
	DRY PIPE		SF	\$4.80	PROTECTED AREA ONLY
	DELUGE		SF	\$6.40	PROTECTED AREA ONLY, EXCLUDES DELUGE VALVE, PUMPING ELEVATED WATER STG, & EXTERIOR PIPING
89240	FIRE HYDRANTS, STANDARD 6' DEPTH		EA	\$3,231.00	INCL EXCAVATION & BACKFILL, 4-1/2" CUTOFF VALVE, PIPING & CONNECTION TO MAIN LINE
93210	SITE CLEARING & GRADING				
	SITE CLEARING & GRUBBING		AC	\$4,198.00	CLEAR & GRUB MEDIUM WOODED AREA, GRUB & REMOVE STUMPS & HAUL
	SITE CLEARING, MEDIUM		SY	\$0.60	SUNDRY SURFACE ITEM CLEARING EXCL. WOODS & PAVING
	GRADING:				
	ROUGH - LARGE OPEN AREA		SY	\$2.70	AVG 2' C/F, SPREAD DUMP FILL, NO COMPACTION
	FINE		SY	\$1.40	3 PASSES WITH DOZER, COMPACTION
	BORROW, UNCLASSIFIED MATERIAL		CY	\$18.00	BUY, LOAD AT PIT, UPTO 5-MILE RT HAUL, & SPREAD W/ DOZER
93220	LANDSCAPE AND PLANTING				
	TOPSOIL:				
	HAUL & SPREAD		CY	\$21.00	INCLUDES MATERIAL, TRANSPORT & PLACEMENT
	STRIP/STOCKPILE		SY	\$1.60	6" DEEP
	MULCHING:				
	WOOD CHIPS		SY	\$2.70	2" DEEP
	GRASS:				
	SEEDING		SY	\$0.80	HYD W/FERTILIZER
	SODDING		SY	\$6.90	1" DEEP BLUE GRASS
93310	DEMOLITION W/ DISPOSAL				
	BUILDING: 10,000 SF, 10' EAVE HEIGHT, 25 MILES HAUL, NO DISPOSAL (DUMP) FEE INCLUDED. RECYCLE WILL REDUCE DISPOSAL COST:				<b>NOTE:</b> ASBESTOS REMOVAL/DISPOSAL NOT INCLUDED. COST ESTIMATE FOR THIS WORK ITEM SHOULD BE BASED ON SITE SURVEY/EVALUATION AND LOCAL EXPERIENCE, AND SEPARATELY IDENTIFIED.
	CONCRETE STRUCTURE		PER BLDG SF	\$5.60	FOUNDATION REMOVAL OR VALUE OF RECOVERED CONCRETE AGGREGATE FOR USE AS ENGINEERED BACKFILL NOT INCLUDED
	STEEL FRAME BUILDING		PER BLDG SF	\$4.30	FOUNDATION REMOVAL OR SALVAGE VALUE CREDIT FOR STEEL MEMBERS AND STEEL SCRAP NOT INCLUDED
	MASONRY BLDG		PER BLDG SF	\$4.80	FOR SIMPLE CONCRETE BLOCK CONSTRUCTION, NO FOUNDATION
	WOOD FRAME		PER BLDG	\$3.60	FOR POST AND BEAM OR STUD WALL
	CONCRETE SLAB 6" THICK (IF SEPARATE FROM BLDG)		SF	\$2.30	6 INCH THICK WITH TURNED DOWN FOOTING
	BUILDING INTERIOR		SF		NOT REQUIRED FOR CONVENTIONAL DEMOLITION
	LEAD BASED PAINT (LPB) REMOVAL/DISPOSAL		N/A	\$0.00	
	<b>NOTE:</b> LPB IS NOT REQUIRED TO BE ABATED PRIOR TO OR AS A PART OF THE BLDG DEMOLITION, UNLESS SPECIFICALLY REQUIRED IN COMPLIANCE WITH EM 385-1-1. UNLESS OTHERWISE RESTRICTED, MATERIALS COATED W/ LBP MAY BE PLACES IN THE INSTALLATION LANDFILL.				
	CONCRETE PAVEMENT, UPTO 4" THICK		SY	\$16.00	1.32/SF, INCLUDES 2" GRAVEL
	BITUMINOUS PAVEMENT, 2" THICK		SY	15.00	\$1.25/SF, INCLUDES 2" GRAVEL

**Unit Cost for Army Facilities**  
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<b>APPENDIX A - FACILITY UNIT COST TABLE ( Part - II, Support Facilities)</b>					
<b>NOTE: The Support Facilities Unit Costs are for guidance only. Adjustment to these unit costs are allowed when local cost data are allowed when local cost data are available and provided with back-ups</b>					
<u>CATEGORY</u>	<u>ITEM</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>REMARK</u>
<u>CODE</u>				<u>\$/UNIT</u>	
93410	CUT AND FILL				
	EARTH:				
	CUT & FILL, 200 HP DOZER, 300 FT HAUL		CY	\$8.20	COMMON EARTH FILL & SPREAD
	EXCAVATION, BULK DOZER		CY	\$8.80	COMMON EARTH, HAULING 2 MILE ROUND TRIP
	EXCAVATION, TRENCH-MACHINE		CY	\$6.00	4 FT DEEP, 2 FT WIDE, MEDIUM SOIL
	EXCAVATION TRENCH-HAND		CY	\$46.00	2 TO 6 FT DEEP, MEDIUM SOIL
	BACKFILL-MACHINE		CY	\$7.00	INCLUDES COMPACTION
	BACKFILL-HAND		CY	\$34.00	INCLUDES COMPACTION
	ROCK:				
	EXCAVATION ROCK, HARD		CY	\$89.00	DRILL BLAST BY MACHINE
	EXCAVATION SHALE, MEDIUM		CY	\$48.00	RIPPER DOZER AND LOAD
	EXCAVATION ROCK TRENCH-HAND		CY	\$149.00	BY HAND /AIR TOOL
88040	AT/FP VEHICULAR BARRICADES				
	<b>Barrier Standards</b>				
	<b>SD-STD-02.01</b> specifies perpendicular barrier impact by a <b>15,000 lb. (6810 kg)</b> vehicle <b>"K"</b> indicates the Dept of State certified barrier's maximum vehicle impact speed rating <b>"L"</b> indicates the test vehicle's distance of penetration upon impact with barrier				
	<b>K12</b> = 50 mph (880 kph) <b>K8</b> = 40 mph (65 kph) <b>K4</b> = 30 mph (48 kph)				<b>L3</b> = 3 ft. (915 mm) <b>L2</b> = 3 ft. to 20 ft. (915 mm to 6.1 m) <b>L1</b> = 20 ft. to 50 ft. (6.1 m to 15.3 m)
	<b>Note: Electrical connection costs are only included up to five feet from the unit. Additional electrical power requirements to be added separately. All active fixed barriers with a remote control panel include costs for barrier installation, safety loo</b>				
	PORTABLE BEAM BARRICADE		EA	\$25,540.00	RATED K4/L2, NO FDN REQUIRED, MOVE WITH FORKLIFT, STOPS 15,000 LB VEHICLE AT 30 MPH
	PORTABLE HYDRAULIC BARRICADE		EA	\$35,750.00	TRANSPORTABLE RISING ROAD PLATE BARRICADE, SET UP WITH FORKLIFT, STOPS 15,000 LB VEHICLE AT 30 MPH
	PORTABLE HEDGEHOG BARRICADE		EA	\$3,064.00	BARRICADE MADE OF PAINTED STRUCTURAL STEEL, REMOVABLE PNEUMATIC TIRES AND TOW BAR, 12' LONG
	WEDGE BARRICADE		EA	\$55,740.00	24" HIGH, 9' LONG, REMOTE CONTROL PANEL
	WEDGE BARRICADE		EA	\$61,290.00	K4/L2 RATED, 30" HIGH, 9' LONG, REMOTE CONTROL PANEL, STOPS 15,000 LB VEHICLE AT 30 MPH
	HYDRAULIC RISING ROAD PLATE		EA	\$56,170.00	PLATE RISES TO 18" HIGH, SURFACE MOUNTED, 12' LENGTH, REMOTE CONTROL PANEL, STOPS 15,000 LB VEHICLE AT 63 MPH
	HYDRAULIC WEDGE		EA	\$71,500.00	K12/L2 RATED, 9' WIDE X 3'-2" HIGH, STOPS VEHICLE AT 50 MPH, ZERO PENETRATION
	HYDRAULIC RISING ROAD PLATE		EA	\$40,850.00	PLATE RISES TO 18" HIGH, SURFACE MOUNTED, 10' LENGTH, 1' THICK STEEL PLATE, STOPS 6,000 LB VEHICLE AT 40 MPH
	HYDRAULIC RISING ROAD PLATE		EA	\$61,290.00	K12/L2 RATED, PLATE RISES TO 39" HIGH, SURFACE MOUNTED, REMOTE CONTROL PANEL, STOPS 15,000 LB VEHICLE AT 70 MPH
	RISING ROAD PLATE		EA	\$56,170.00	K12/L2 RATED, PLATE RISES TO 18" HIGH, SURFACE MOUNTED, REMOTE CONTROL PANEL, STOPS 15,000 LB VEHICLE AT 63 MPH
	RISING ROAD PLATE		EA	\$58,220.00	K12/L2 RATED, PLATE RISES TO 39" HIGH, SHALLOW FOUNDATION TO 18" DEPTH, 9' LENGTH, STOPS 15,000 LB VEHICLE AT 50 MPH

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<u>CATEGORY</u>	<u>ITEM</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>REMARK</u>
<u>CODE</u>				<u>\$/UNIT</u>	
	POP-UP BOLLARD SYSTEM		EA	\$51,210.00	K4/L2 RATED, HYDRAULIC OR PNEUMATIC, SET OF THREE BOLLARDS, 13.25" DIA, 35" HIGH
	POP-UP BOLLARD SYSTEM		EA	\$53,250.00	K12/L2 RATED, HYDRAULIC, REMOTE CONTROL PANEL, 35" HIGH, 15.25" DIA, STOP-GO SIGNAL ARMS AND LIGHTS, SUMP PUMPS, STOPS 15,000 LB VEHICLE AT 50 MPH, ADD \$10,000 FOR EACH ADDL BOLLARD UP TO FIVE ADDL
	POP-UP BOLLARD SYSTEM		EA	\$51,210.00	HYDRAULIC, SET OF THREE BOLLARDS, 8.63" DIA, 24" HIGH, REMOTE CONTROL PANEL, ADD \$5,000 FOR EACH ADDL BOLLARD UP TO SEVEN ADDL
	POP-UP BOLLARD SYSTEM		EA	\$66,550.00	K4/L2 RATED, HYDRAULIC, SET OF THREE BOLLARDS, 13.25" DIA, 35" HIGH, REMOTE CONTROL PANEL, STOP-GO SIGNAL ARMS AND LIGHTS, SUMP PUMPS, STOPS 15,000 LB VEHICLE AT 30 MPH
	POP-UP BOLLARD SYSTEM		EA	\$61,450.00	K8/L2 RATED, HYDRAULIC, SET OF THREE BOLLARDS, 12.25" DIA, 35" HIGH, REMOTE CONTROL PANEL, STOP-GO SIGNAL ARMS AND LIGHTS, SUMP PUMPS, STOPS 15,000 LB VEHICLE AT 40 MPH
	MANUAL POP-UP BOLLARD SYSTEM		EA	\$5,121.00	K4/L2 RATED, COUNTER BALANCED MANUAL LIFT, 10.75" DIA, 30" HIGH
	MANUAL POP-UP BOLLARD SYSTEM		EA	\$4,096.00	24" HIGH, STOPS 10,000 LB VEHICLE AT 48 MPH AND STOPS 13,200 LB VEHICLE AT 38 MPH
	CRASH BEAM BARRICADE		EA	\$46,080.00	K4/L2 RATED, HYDRAULIC, CONCRETE BOLLARD MOUNTED, REMOTE CONTROL PANEL, STOPS 15,000 LB VEHICLE AT 30 MPH
	CRASH CABLE BEAM BARRICADE SWING GATE, MANUALLY OPERATED		EA	\$12,280.00	K4/L2 RATED, MANUAL HORIZONTAL SWING CRASH BEAM BARRIER, CONCRETE BOLLARD MOUNTED, STOPS 10,000 LB VEHICLE AT 15 MPH
	CABLE BEAM BARRICADE, HYDRAULIC		EA	\$40,960.00	K4/L2 RATED, HYDRAULIC, CONCRETE BOLLARD MOUNTED, STOPS 10,000 LB VEHICLE AT 15 MPH
	CRASH BEAM BARRICADE, HYDRAULIC		EA	\$51,210.00	K4/L2 RATED, HYDRAULIC, CONCRETE BOLLARD MOUNTED, STOPS 15,000 LB VEHICLE AT 30 MPH
	SLIDING LINEAR CRASH GATE		EA	\$63,490.00	K4/L2 RATED, 9' HIGH x 12' WIDE CLEAR OPENING GATE WITH GROUND TRACK, LINEAR GATE OPERATOR, REMOTE CONTROL PANEL, STOP-GO SIGNAL LIGHTS, STOPS 15,000 LB VEHICLE AT 50 MPH
	MANUAL CRASH SWING GATE		EA	\$15,360.00	9' HIGH x 12' WIDE CLEAR OPENING GATE
	HYDRAULIC ROLLING CRASH GATE		EA	\$49,150.00	9' HIGH x 12' WIDE CLEAR OPENING GATE, GATE LEAF LINEAR SLIDE ASSEMBLY, DRIVE SIDE GATE LEAF SUPPORTS AND GUIDES, LINEAR GATE OPERATOR, HYDRUALIC PUMP DRIVEN RACK AND PINION OPERATOR, REMOTE CONTROL PANEL, STOP-GO SIGNAL LIGHTS
	SLIDING CANTILEVER CRASH GATE		EA	\$54,270.00	9' HIGH x 12' WIDE CLEAR OPENING GATE, GATE LEAF LINEAR SLIDE ASSEMBLY, DRIVE SIDE GATE LEAF SUPPORTS AND GUIDES, LINEAR GATE OPERATOR, HYDRUALIC PUMP DRIVEN RACK AND PINION OPERATOR, REMOTE CONTROL PANEL, STOP-GO SIGNAL LIGHTS. THIS GATE DOES NOT NEED T
	PASSIVE VEHICLE BARRIER, SURFACE MOUNTED SABRE TOOTH CONTROLLER		EA	\$615.00	SURFACE MOUNTED TIRE SPIKES, 3' WIDE, MANUALLY OPERATED

**CHART A**

CHART A To Appendix A, Part II PIPING - SITEWORK UTILITIES (Catcodes 82410, 83210, 84210, 87110)							
SIZE in INCHES	UNIT	BLACK STEEL U/C 2009	Notes	SIZE in INCHES	UNIT	PVC U/C 2009	
1	LF	\$12.70	BLACK STEEL, SCHEDULE 40, WELDED	1	LF	\$6.70	
2	LF	\$18.40		2	LF	\$10.20	
3	LF	\$22.80		3	LF	\$13.40	
4	LF	\$28.00		4	LF	\$20.30	
6	LF	\$34.50		6	LF	\$26.40	
10	LF	\$75.30		10	LF	\$33.20	
12	LF	\$107.60					
18	LF	\$141.90					
24	LF	\$240.80					
SIZE in INCHES	UNIT	CORRUGATED METAL U/C 2009		SIZE in INCHES	UNIT	HDPE U/C 2009	
6	LF	\$11.60	CORRUGATED METAL PIPING	4	LF	\$8.50	
10	LF	\$18.00		6	LF	\$14.30	
12	LF	\$21.40		10	LF	\$20.70	
18	LF	\$30.20		12	LF	\$30.90	
24	LF	\$50.30		18	LF	\$52.20	
36	LF	\$83.10		24	LF	\$85.20	
60	LF	\$210.40					
SIZE in INCHES	UNIT	DUCTILE IRON U/C 2009		SIZE in INCHES	UNIT	CONCRETE 2009	
						PLAIN	REINF
4	LF	\$21.30	DUCTILE IRON PIPING	6	LF	\$16.20	
6	LF	\$24.30		10	LF	\$18.90	
10	LF	\$42.70		12	LF	\$21.00	\$27.20
12	LF	\$54.40		18	LF	\$33.30	\$38.50
18	LF	\$95.40		24	LF	\$38.50	\$49.80
24	LF	\$128.40		36	LF		\$126.80
				60	LF		\$197.70
SIZE in INCHES	UNIT	REINFORCED PLASTIC U/C		SIZE in INCHES	UNIT	VITRIFIED CLAY	
						STANDARD STRENGTH	STD STRENGTH 06
3	LF	\$11.00	REINFORCED PLASTIC PIPING	4	LF	\$8.10	\$9.30
4	LF	\$19.80		6	LF	\$11.30	\$12.40
6	LF	\$24.20		10	LF	\$19.90	\$23.10
10	LF	\$55.00		12	LF	\$23.70	\$26.20
12	LF	\$67.40		18	LF	\$51.60	\$62.90
				24	LF	\$105.20	\$125.30
				36	LF	\$214.50	\$238.90

Notes:

1. Corrugated metal piping, galvanized 16 gage upto 18", 14 gage for 24", and 12 gage upto 60"
2. Ductile iron, cement lined, class 50 water pipe, 18" in length, and mechanical joint
3. Reinforced plastic, fiberglass reinforced, plain end pipe
4. PVC, schedule 40, class 150 pipe
5. Cost includes furnishing and installing pipes only; trenching, bedding, backfilling & compaction must be added
6. For cathodic protection, if required, add 14% of total piping cost

CHART B

**SOLAR ENERGY SYSTEM COST ESTIMATING \***

**No Current Cost Data Available**

BUILDING AREA ** (SQ. FT.)	SOLAR SYSTEM COST (\$)
----- UP TO 15000.00	----- _____
15001 50000.00	_____
50001 AND LARGER	_____

\* Include solar collection panels, water supply, pumps, pipelines and expansion tank

\*\* Include only heated and/or cooled portions of facilities.

\*\*\*Resulting dollar figure rounded up to next thousand dollar figure.



**UNIT COSTS for ARMY FACILITIES**  
**PAX Newsletter 3.2.2, dated 20 Mar 09**

**CHART C. METRIC/ENGLISH SYSTEMS**

<b>QUANTITY</b>	<b>FROM</b>	<b>MULTIPLY BY</b>	<b>TO OBTAIN</b>	
LENGTH	inch	25.400000	millimeter	
	foot	0.304800	meter	
	yard	0.914400	meter	
	mile (U.S. Status)	1.609344	kilometer	
	millimeter	0.039370	inch	
	meter	3.280840	foot	
	meter	1.093613	yard	
	kilometer	0.621370	mile	
AREA	square inch	645.160300	square millimeter	
	square foot	0.092903	square meter	
	square yard	0.836127	square meter	
	square mile	2.589998	square kilometer	
	acre	4046.873000	square meter	
	acre	0.404687	hectare	
		square millimeter	0.001550	square inch
		square meter	10.763910	square foot
		square meter	1.195990	square yard
		square kilometer	0.386101	square mile
		square meter	0.000247	acre
	hectare	2.471044	acre	
VOLUME	cubic inch	16387.060000	cubic millimeter	
	cubic foot	0.028316	cubic meter	
	cubic yard	0.764555	cubic meter	
	gallon (U.S. liquid)	3.785412	liter	
	quart (U.S. liquid)	0.946353	liter	
		cubic millimeter	0.000061	cubic inch
		cubic meter	35.314662	cubic foot
		cubic meter	1.307951	cubic yard
		liter	0.264172	gallon
		liter	1.056688	quart
MASS	ounce (avoirdupois)	28.349520	gram	
	pound (avoirdupois)	0.453592	kilogram	
	short ton	907.185000	kilogram	
		gram	0.035273	ounce
		kilogram	2.204622	pound
	kilogram	0.001102	short ton	
<b>ENERGY, HEAT</b>				
AND WORK	kilowatthour	3.600000	megajoule	
	btu	1.055056	kilojoule	
	horsepower hour	2.684520	megajoule	
		megajoule	0.277780	kilowatthour
		kilojoule	0.947817	btu
		megajoule	0.372506	horsepower hour
		megajoule	0.372506	horsepower hour
POWER	ton (refrigeration)	3.517000	kw	
	btu/s	1.055056	kw	
	hp (electric)	745.700000	w	
	btu/h	0.293071	w	
		kw	0.284333	ton (refrigeration)
		kw	0.947817	btu/s
		w	0.001341	hp (electric)
		w	3.412141	btu/h

**APPENDIX-C To UFC 3-700-01A  
TRI-SERVICE MILITARY CONSTRUCTION PROGRAM (MCP) INDEX  
FOR FY 2009 THRU FY 2014 PROGRAMS**

<u>FISCAL YEAR (FY)</u>	<u>DATES</u>	<u>INDEX</u>	<u>ESCALATION PERCENTAGE FOR FISCAL YEAR</u>
<b>FY 2008</b>	<b>1-Oct- 2007</b>	----- <b>2406</b>	-----
	1-Jan- 2008	----- 2419	<b>FY 08</b>
	1-Apr- 2008	----- 2430	
	1-Jul- 2008	----- 2442	<b>2.0%</b>
<b>FY 2009</b>	<b>1-Oct- 2008</b>	----- <b>2454</b>	-----
	1-Jan- 2009	----- 2463	<b>FY 09</b>
	1-Apr- 2009	----- 2471	
	1-Jul- 2009	----- 2480	<b>1.4%</b>
<b>FY 2010</b>	<b>1-Oct- 2009</b>	----- <b>2488</b>	-----
	1-Jan- 2010	----- 2495	<b>FY10</b>
	1-Apr- 2010	----- 2501	
	1-Jul- 2010	----- 2507	<b>1.0%</b>
<b>FY 2011</b>	<b>1-Oct- 2010</b>	----- <b>2513</b>	-----
	1-Jan- 2011	----- 2524	<b>FY 11</b>
	1-Apr- 2011	----- 2535	
	1-Jul- 2011	----- 2546	<b>1.7%</b>
<b>FY 2012</b>	<b>1-Oct- 2011</b>	----- <b>2556</b>	-----
	1-Jan- 2012	----- 2568	<b>FY 12</b>
	1-Apr- 2012	----- 2579	
	1-Jul- 2012	----- 2591	<b>1.8%</b>
<b>FY 2013</b>	<b>1-Oct- 2012</b>	----- <b>2602</b>	-----
	1-Jan- 2013	----- 2614	<b>FY 13</b>
	1-Apr- 2013	----- 2626	
	1-Jul- 2013	----- 2638	<b>1.8%</b>
<b>FY 2014</b>	<b>1-Oct- 2013</b>	----- <b>2649</b>	-----
	1-Jan- 2014	----- 2661	<b>FY 14</b>
	1-Apr- 2014	----- 2673	
	1-Jul- 2014	----- 2685	<b>1.8%</b>
<b>FY 2015</b>	<b>1-Oct- 2014</b>	----- <b>2697</b>	-----

**Notes**

1. Use **1.8%** per fiscal year for projection beyond FY **2015**
2. Tri-Service MCP Index 1000 = 1 October 1979 ENR Historical Building Cost Index
3. The MCP indexes after 1 Oct 2008 were derived based on the Price Escalation Indices (Annual Rates in Percentages) for Budget Authority published in the Memorandum, dated 13 February 2009, from the Under Secretary of Defense (Comptroller), Subject: Inflation Guidance - Fiscal Year FY2010 President's Budget.
4. This revised index table supersedes the MCP index table published as Appendix-C to PAX Newsletter 3.2.2, dated **11 February 2008**

**UNIT COSTS for ARMY FACILITIES**  
**PAX Newsletter 3.2.2, dated 20 Mar 09**

**TABLE I - SIZE ADJUSTMENT FACTORS**

**PART I - BUILDING (OTHER THAN BARRACKS & FAMILY HOUSING)**

<u>SIZE RATIO</u>	<u>ADJUST FACTOR</u>	<u>SIZE RATIO</u>	<u>ADJUST FACTOR</u>	<u>SIZE RATIO</u>	<u>ADJUST FACTOR</u>	<u>SIZE RATIO</u>	<u>ADJUST FACTOR</u>
< 0.05	1.2750	0.9000	1.0110	1.8000	0.9490	2.7000	0.9250
0.0500	1.2750	0.9500	1.0050	1.8500	0.9470	2.7500	0.9240
0.1000	1.2690	1.0000	1.0000	1.9000	0.9450	2.8000	0.9240
0.1500	1.2320	1.0500	0.9950	1.9500	0.9430	2.8500	0.9230
0.2000	1.2020	1.1000	0.9900	2.0000	0.9420	2.9000	0.9220
0.2500	1.1750	1.1500	0.9860	2.0500	0.9400	2.9500	0.9210
0.3000	1.1520	1.2000	0.9820	2.1000	0.9390	3.0000	0.9210
0.3500	1.1320	1.2500	0.9780	2.1500	0.9370	3.0500	0.9200
0.4000	1.1140	1.3000	0.9740	2.2000	0.9360	>3.05	0.9200
0.4500	1.0980	1.3500	0.9710	2.2500	0.9350		
0.5000	1.0840	1.4000	0.9680	2.3000	0.9330		
0.5500	1.0720	1.4500	0.9650	2.3500	0.9320		
0.6000	1.0600	1.5000	0.9620	2.4000	0.9310		
0.6500	1.0500	1.5500	0.9600	2.4500	0.9300		
0.7000	1.0410	1.6000	0.9570	2.5000	0.9290		
0.7500	1.0330	1.6500	0.9550	2.5500	0.9280		
0.8000	1.0250	1.7000	0.9530	2.6000	0.9270		
0.8500	1.0180	1.7500	0.9510	2.6500	0.9260		

NOTE: Size ratio is determined by dividing the proposed building size by the average size shown in Part I of Appendix A. To determine the size adjustment factor, use the closest size ratio from above table.

**PART II - PROJECT SIZE ADJUSTMENTS FOR BARRACKS/FAMILY HOUSING**

<b>MILITARY FAMILY HOUSING PROJECT SIZE ADJUSTMENT FACTORS</b>		<b>BARRACKS/ DORMITORIES PROJECT SIZE ADJUSTMENT FACTORS</b>	
<b>NUMBER OF UNITS in the project</b>	<b>PROJECT SIZE FACTOR</b>	<b>NUMBER OF ROOMS in the project</b>	<b>PROJECT SIZE FACTOR</b>
1-9	1.25	1-99	1.07
10-19	1.15	100-149	1.03
20-49	1.10	150-199	1.00
50-99	1.04	200-299	0.97
100-199	1.00	300+	0.95
200-299	0.93		
300+	0.90		