

## Appendix A, Part I and II (Building and Support Facilities)

This Newsletter Supersedes the PAX Newsletter No. 3.2.2, dated 4 Jan 2011, and updates Appendix – A, Facility Unit Cost Table, Appendix – C, Tri-Service Military Construction Program (MCP) Index, and Table-1, Size Adjustment Factors, contained in TM 5-800-4, Programming Cost Estimates for Military Construction, dated May 1994. These costs will be used as a guide for preparation and/or review of Budget Submission of the FY14 Army Military Construction (MCA) and Army Family Housing (AFH) projects' parametric cost estimates, ENG3086, etc, unless otherwise noted. This Newsletter is published and maintained on the web page at: <http://www.usace.army.mil/CostEngineering.aspx>

### A. APPENDIX A, PART-I – PRIMARY FACILITIES UNIT COSTS, dated 28 MAR 2012

A.1. Most of the costs are based on historic construction award data from FY 2009-11 projects entered into the Historic Analysis Generator (HII) database. In rare cases, when at least 3 recently awarded (2009-11) project data for a facility-type are not available/entered in the HII database, last 4- years' (2008-2011) award data were considered. Only new construction project data were utilized to develop facility specific unit costs; renovation and addition-alteration projects were not included in the database.

A.2. All bid data were normalized to 5 bidders reflecting the current bidding trend, Area Cost Factor of 1.0, Reference size, and 1 Oct 2011 price level using the actual construction inflation index. Published Unit Costs in the database are escalated to 1 Oct 2014, the assumed mid-point of construction for a typical FY 2014 MILCON project using the Military Construction Program (MCP) Index in Appendix-C.

A.3. Facilities with PAX Newsletter guidance unit costs are assumed to include the costs of the following features/requirements. Therefore NO Separate Line Item shall be added for the following features:

- a. AT-FP features inside the building, when minimum set back/stand-off distance is achieved,
- b. Building Information Systems (e.g. conduits, racks, trays, telecommunication rooms) for facilities without any Special Communications Requirements,
- c. Energy Management Control System (EMCS) Connection,
- d. Intrusion Detection System (IDS) Installation,
- e. Sustainable Design and Development features for criteria in effect from September 2007 thru September 2009 (e.g. LEED Silver Rating, Energy Policy Act of 2005),
- f. Built-in Equipment and furnishings normally funded by MILCON funds,
- g. Uncomplicated Spread-footing type foundation. Any Special Foundations, such as Pile Foundations and Structural Fill cost should be listed separately,
- h. Contractor's mark-ups for overhead, and profit

A.4. PAX Guidance Unit costs do NOT generally include the following feature/requirement costs. Therefore, these costs are to be added as a Separate Line Item(s) in the budget estimate:

- a. Inside the building AT-FP features when minimum stand-off distance cannot achieved or when enhanced AT-FP features are required due to the height of the building, such as for 3 or more storied buildings when the past designs did not require Progressive Collapse measures,
- b. Specialized/Secured Building Information System costs
- c. Sustainable Design and Development features for criteria not covered thru September 2009,
- d. Inside the building or Built-in Renewable and alternative Energy features (e.g. roof mounted Solar Panels)
- e. Special Foundation cost, e.g. cost of Pile or Foundation or Structural Fill,

- f. Special Architectural features to comply with the Historic Preservation Guidelines
- g. Equipment acquired with non-MILCON fund sources, e.g., intrusion detection systems,
- h. Construction Contingency and Supervision, Inspection, and Overhead (SIOH) allowances,
- i. Design-Build Design Cost,
- j. State imposed Gross Receipt Taxes (also referred to as General Exercise Tax),
- k. Construction Cost Growth resulting from Change Orders, Contract document Errors and/or omissions

A.5. User Generated Unit Costs (UGUC): User Generated Unit costs may be used when PAX UC is not available or when it is not completely applicable for the project. UGUC requires an explanation of how the unit cost was derived. When UGUC is used NO adjustments for ACF, size adjustment, and escalation shall be made for all line items in the cost estimate that are based on UGUC. The ACF and Size Adjustment Factor shall set as 1 in PC-Cost/ENG3086 software.

A. 6. Reference or Standard Size shown in Appendix-A, Part-I may or may not be identical to the size/sizes listed in the Center of Standardization (COS) websites. Table-1, Size Adjustment Factor, which shows correlation between project size and construction cost, should be used to determine the appropriate project cost.

A.7. PAX listed Unit costs are escalated to 1 Oct 2014. Appendix-C, Tri-Service Military Construction Program (MCP) Index should be used for determining Cost Escalation Factor when a project's mid-point of construction is different than 1 Oct 2014, as follows:

Anticipated Midpoint of Construction for given project = 1 April 2015  
MCP Indexes for 1 Oct 14 and 1 Apr 15 from Appendix-C are 2710 and 2735 respectively  
Cost Escalation Factor = MCP Index, 1 Apr 15 / MCP Index, 1 Oct 14 = 2735/2710 = 1.00922

**B. APPENDIX A, PART-II – SUPPORT FACILITIES UNIT COSTS, DATED 25 APR 2012**

B.1. Support Facilities unit costs are based upon National Average Davis Bacon wages and material pricing. The Area Cost Factor (ACF) for this database is 1.0. The Support Facility unit costs should be adjusted for the project location only when guidance unit costs are used; when local cost data (user generated cost data) is used, no ACF adjustments should be made.

B.2. All pricing includes the installing contractor's Overhead and Profit (O&P). General Contractor's mark-up is not included. The installing contractor's O&P is based upon the following factors:

- a. Employees wage rate and fringe benefits
- b. Workmen's compensation insurance
- c. Social Security and Federal and State Unemployment taxes
- d. Contractor's Overhead (11%) and Profit (10%)
- e. Data incorporates a 6% Sales Tax.

CONTACT: Point of Contact (POC) for this Newsletter can be reached at Headquarters, US Army Corps of Engineers (HQUSACE) by phone, (202)-761-7503; alternate POC, (202)-761-5887.

**Unit Costs for the ARMY Facilities - Military Construction Program (MILCON)  
PAX Newsletter 3.2.2, dated 28 Mar 2012**

<b>APPENDIX-A, PRIMARY FACILITIES UNIT COST TABLE - Final version (PART - I, Buildings)</b>					
Facility Unit Costs (UC) are based on the Most Recent 3-Year (2009-11) Bid Results, where at least 3 Projects were entered into the HII database by 15 Oct 11. The UC below Represents the Average of Bid Price Escalated to 1 OCT 2014, the assumed Mid-point of Construction for a typical FY14 MILCON Project, using the Inflation Guidance for FY13 Presidents Budget published on 10 Feb 2012 and Normalized to an Area Cost Factor (ACF) of 1. <b>Please refer to the Note pages in the PAX Newsletter 3.2.2 regarding what costs are included in the UC.</b>					
<b>CAT CODE</b>		<b>Reference/ Standard Size</b>	<b>Unit Of Measure (UOM)</b>	<b>Unit Cost \$/UOM (Interim UC))</b>	<b>Remarks</b> <b>Note-1:</b> Not enough recent Army Bid Data since 2008 to Forecast UC
13115	Information Systems Facility	40,000	SF	259.00	
	Houses majority of Garrison level Info Management & Info Tech services plus associated admin Support & shop spaces				
13120	Communications Center	10,000	SF	305.00	
	Hub facility for Internal and External Communications, commercial telephone feeds, and environmental control requirements; DSN switching equipment. No shielding included.				
13120	Remote Switching Unit (RSU)	3000	SF	305.00	Commo. feeds & Switching equipment costs included in UC
13131	Information Processing Center	21,000	SF	328.00	
	Also called Data processing Ctr. Houses personnel and equipment for data-processing; special temperature, humidity, environmental control requirements, raised flooring and security measures				
13181	Satellite Communications Center	6,000	SF	347.00	UC based on DoD guidance cost for FY14 MILCON
13310	Flight Control Tower	7,500	SF	XXX	See Note-1 above
14110	Airfield Operations (Ops) Building	36,000	SF	XXX	See Note-1 above
	Houses flight operations and Airfield HQ functions with or w/o Flight Control Tower. May include passenger support facilities similar to a civilian air terminal. See catcode 13310 above for Flight Control Tower				
14112	Aviation Unit Ops Bldg at Airfield	36,000	SF	XXX	See Note-1 above
	Houses Aviation Unit HQ admin, training, and storage area				
14113	Access Control Point (ACP) -MTC	400	SF	See Range	MTC = Mission Training Complex
14114	CIDC Field Operations Bldg	9,854	SF	XXX	See Note-1 above
14126	Kennel Facilities	8,200	SF	211.50	New UC based on DOD Guidance Cost for FY14
14129	Training Aid Spt Ctr for Range Complex	varies	SF	See Range	See Unit Cost under Range Complex, catcode 14129
14132	Ready Building- Airfield Arrival/Depart.	20,000	SF	XXX	See Note-1 above
14161	Emergency Operations Ctr (EOC)		SF	XXX	See Note-1 above
14162	Sensitive Compartmented Info Fac	3,000	SF	236.00	SCIF UC does not include costs for ODNI-705 countermeasures
14165	Fuel/POL/Wash Support Bldg	195	SF	XXX	See Note-1 above
14179	Overhead Protection/Canopy - General	10,600	SF		see COF Covered Hardstand (Canopy) below
14182	Brigade (BDE) Headquarters Bldg	43,400	SF	161.00	Ref Size based on Large BDE HQ w/SCIF, 125-156 staff
	Use Size Adj Table-1, Part-1 to determine unit cost for Small (34,400 SF), Medium (37,700 SF), and X-Large (59,200 SF) BDE HQs				
14183	Battalion (BN) HQ Bldg w/Classrms	20,400		222.00	Ref Size based on Large BN, 51-71 staff
	Use Size Adj Table-1, Part-1 to determine unit cost for Small (16,000 SF), Medium (18,600 SF), and X-Large (22,600 SF) BN HQs				

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<b>14185</b>	COMPANY OPERATIONS FACILITY (COF)	varies	SF		COF Ref Size varies based on AM & RM configuration
	Admin & Readiness Modules are usually combined for small 1-Company (150 soldiers) or 2-CO (300 soldiers @ 150 PN/Company Units. For larger COFs (i.e., 3 or more companies) Admin (AM) and Readiness Modules (RM) are normally detached. RM storage space is a fully conditioned and sprinklered storage space for TA-50 Lockers and Arms Vault. The cost of contractor furnished and installed TA-50 Lockers are included in the UC. Admin & Readiness Modules will be programmed seperately in DD1391/ENG3086.				
	Admin Module (AM) - Detached	16,600	SF	<b>184.00</b>	AM size for a 3-7 Companies w/ detached AM & RM
	Admin Module- Integrated	16,100	SF	<b>173.00</b>	for 3-7 Companies that houses AM & RM under one roof
	Readiness Module (RM)	45,900	SF	<b>157.00</b>	RM size is based on 3-CO COF @ 15,300 SF/Company
<b>14179</b>	Canopy for Covered Hardstand, COF	9,000	SF	<b>45.00</b>	Hardstand cover for 3-CO COF, use size adj factor for others
	Includes the cost of Canopy, supporting posts and their foundation. Hardstand (8" pavement) cost not included.				
<b>85210</b>	8"Conc. Pavement w/ 8"base - COF	varies	SY	<b>70.00</b>	Should be programmed under the Support Facility item
	COF Overhead Protection is a Pre-engineered Canopy w/lighting, power, and lightning protection over the equipment layout area. Standard COF contains 4 Overhead Protection canopies for a typical 2-150 Company & 2-200 CO COF.				
<b>14190</b>	Command & Control Fac (C2F)	143,090		<b>XXX</b>	See Note-1 above
	Division and Corps Level Command & Control Bld for a all service components. C2F Bld contains 3 distinct functional elements, e.g., Admin, Emergency Network Operation Ctr and SCIF spaces. The cost of raised flooring, redundant electrical/mechanical systems, and secured access system is included in the UC. C2F Bldg above Corps level is a non-standard facility.				
<b>14190</b>	Army Command (ACOM) Headquarters	varies	SF	<b>267.00</b>	For ACOM HQ facilities, use Size Factor of 1
<b>14955</b>	Wash Platform	1	EA	<b>106,450.00</b>	2 Vehicles - Low pressure w/Wash Water treatment
<b>14960</b>	Grease Rack	1	EA	<b>XXX</b>	See Note-1 above
<b>14962</b>	Central Wash Facility, 16 Stations	1	EA	<b>6,042,395.00</b>	CC-83180, Oil & Grease Separator is collocated w/ this
<b>17120</b>	General Instruction Bldg (GIB)	50,000	SF	<b>201.00</b>	This UC is NOT for the Range GIB or Range Classroom
	General Instruction Bldg for Range			<b>See Range below</b>	bldg. For Range Classroom Bld, catcode 17123, see below
<b>Various</b>	<b><u>RANGE FACILITIES COMPLEX</u></b>				
	A typical Range Complex consists of Target Emplacements/Firing Points, Range Ops and Control Area, and a number of vertical structures, such as, Control Tower, Range Ops & Storage Bld, Range Classroom Bld, Ammo Breakdown Bld, Field Latrines plus other covered (but not enclosed) structures, e.g. Covered Bleachers, Covered Mess, etc.				
<b>14113</b>	Access Control Point -Mission Trng Complex	400	SF	<b>348.00</b>	Reference Size & estimated UC from COS

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	RANGE FACILITIES COMPLEX (Cont'd from the Previous Page)				
14129	Training Support Center (TSC)	74,025	SF	122.00	Use Size Adj. Table for 27,820 SF and 124,630 SF TSC
14970	Vehicle Instrumentation Dock, 900 SF	1	EA	XXX	Covered dock, See Note-1 above
14970	Ammo Loading Dock, 480 SF	1	EA	66,930.00	Not Covered. Loading Dock is programmed as 1 each.
17121	Indoor Firing Range	23,000	SF	198.00	
17122	Ammunition Breakdown Bldg	185	SF	525.00	
17122	Operations/Storage Bld - Small	800	SF	227.00	
17122	Operations/Storage Bld - Large	1800	SF	233.00	
17123	Range Classroom Building	800	SF	246.00	This is the same Bldg as the Gen Instruction Bldg- Range
17123	After Action Review Bld - Small	1,064	SF	247.00	Use Size Adj Table for 3024 SF AAR & 4176 SF ROC/AAR
17123	After Action Review Bld - Large	3,024	SF		Use Size Adj Table to determine this UC
17123	Combined ROC/AAR-Digital Range	4,176	SF	XXX	See Note-1 above
17139	Covered Mess - Range	800	SF	139.00	Includes hardstand cost below canopy
17139	Covered Mess - Service Schools	1413	SF		Use Size Adj Table to determine UC
17213	Mission Trng Complex (formerly BCTC)	85,630	SF	266.00	Use Size Adj Table for other sizes: 46,060 & 145,585 SF
17801	Basic 10-25m Firing Range (Zero)	FP	EA	Site Specific	Requires 32 Firing Points (FP)
17805	Automated Record Fire Range	FP	EA	Site Specific	Requires 16 FPs
17806	Modified Record Fire Range	FP	EA	Site Specific	Requires 16 FPs
17821	Combat Pistol/MP Firearms Qualifications	FP	EA	Site Specific	Requires 15 FPs
17878	Urban Assault Course	FP	EA	Site Specific	Requires 5 Stations. Each station represents one FP
	Five Stations are: Station 1 - Individual/Team Task; Station 2 - Squad/Platoon Task; Station 3 - Grenadier Gunnery;				
	Station 4 - Urban Offence/defense, and Station 5 - Underground Trainer				
17879	Live Fire Exercise Shoothouse	FP	EA	Site Specific	
	Requires 10 FPs. Each room & corridor represents 1 FP. There are 8 rooms and 2 corridors in a standard shoothouse				

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	<b><u>Range Control Towers (RCT)</u></b>				
	Open Observation decks, stairs, and walkways are calculated as half areas. Foundation cost is included in the Unit Cost.				
17971	Control Tower - Small	1	EA	286,350.00	Open Observation Deck, Std size 657 SF
17971	Control Tower - Medium	1	EA	323,110.00	Enclosed Observation Deck, Std size 802 SF
17971	Control Tower, Instrumented - Large	1	EA	493,175.00	Enclosed Observation Deck, Std size 1544 SF
73075	Field Latrine-Dry Type	330	SF	476.00	Aerated Vault
73075	Field Latrine-Wet Closet	550	SF	586.00	Water Closet
75061	Covered Bleacher	1	EA	102,350.00	Standard Size 726 SF
75061	Covered Bleacher for Svc Schools	1	EA	145,185.00	Standard size 1078 SF, UC provided by COS
17133	Vehicle Maint. Instructional Bldg	30,000	SF	XXX	See Note-1 above
17134	Aircraft Maint Instructional Bldg	35,000	SF	XXX	See Note-1 above
17135	Laboratory Instructions Bldg	9,000	SF	XXX	See Note-1 above
17136	Automation Aided Instruction Bldg	25,000	SF	XXX	See Note-1 above
17137	Material Handling Instructional Bldg	40,000	SF	XXX	See Note-1 above
17139	Covered Mess	800	SF	See Range	See Range Complex
17140	Army Reserve Center Bldg	48,000	SF	184.00	
17141	Armed Forces Reserve Center Bldg	48,000	SF	187.00	New Catcode for Reserve Ctr
17142	National Guard/Reserve Ctr Bldg	XXX	XX	XXXX	This Catcode is No longer Used by the Army
17180	Army National Guard Readiness Ctr	48,000	SF	XXX	New Catcode for ARNG Readiness Ctr
17210	Simulator Building- Motion Based	32,000	SF	195.00	
17971	Control/Observation Tower	XXX	XX	See Range	See Range Complex
	<b><u>AIRCRAFT (AC) MAINT HANGARS</u></b>				
21110	Hangar - General Purpose, <40' ht	75,000	SF	216.00	UC based on DOD Guidance cost For FY14 MILCON
21110	Hangar - High Bay, >40' height	84,000	SF	257.00	UC based on DOD Guidance cost For FY14 MILCON

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	<u>ARMY HANGAR STANDARDS- Rotary Wing AC Maint Hangars</u>				
21110	Attack-Assault-Cavalry (AAC) BN	135,636	SF	242.00	Reference size & estimated UC from the COS website
21110	Aviation Support Battalion (ASB)	134,526	SF	252.00	Reference size & estimated UC from the COS website
21110	Gen Spt Aviation Battalion (GSAB)	154,208	SF	230.00	Reference size & estimated UC from the COS website
21115	Unmanned Aircraft Sys (UAS) Maint Hangar	134,400	SF	230.00	Reference size & estimated UC from the COS website
XXXXX	Unmanned Areal Vehicle Storage Bld	1,800	SF	See CC21412	Catcode changed to 21412, See TEMF Complex below
21117	Avionics/Aircraft Electronic Maint Shop	16,000	SF	252.00	UC based on DOD Guidance cost For FY14 MILCON
21120	Aircraft Component Repair Shop	26,000	SF	226.00	UC based on DOD Guidance cost For FY14 MILCON
21130	Aircraft Paint/Corrosion Control Shop	36,000	SF	337.00	UC based on DOD Guidance cost For FY14 MILCON
21140	Aircraft Engine Test facility	26,000	SF	XXX	See Note-1 above
Varies	<u>TACTICAL EQUIPMENT MAINT FACILITY (TEMF) COMPLEX</u>				For Track and Wheeled vehicles
	TEMF Complex includes Admin space, Repair & Maintenance shops and work-bays w/ overhead crane, arms/COMSEC vault, Storage areas, Deployment Storage bldg, POL Storage bldg, Tactical Vehicle Parking Apron, Hazard Waste Storage area,				
21409	Vehicle Maint Shop, Army Reserve	13,000	SF	214.00	
		varies			
21410	Small TEMF	18,400	SF	221.00	COS Std Size 18,400 SF
21410	Medium TEMF	35,290	SF	193.00	Std Size from COS website
21410	Large TEMF	57,300	SF	185.00	COS Std Size 57,301 SF
21410	Extra Large TEMF	74,700	SF	173.00	COS Std Size 74,688 SF
21412	Unmanned Areal Vehicle Storage Bld	1,800	SF	129.00	Includes wet-pipe sprinklers, Formerly CC 21115
21412	Distribution CO Storage Bldg w/Bins	8,000	SF	104.00	Incl. wet-pipe sprinklers, secured storage area (old 44220)
21470	POL Storage Bldg, Veh Maint Shop	600	SF	149.00	Not routinely occupied by personnel. No HVAC system
21470	Hazardous Waste Storage Bldg	600	SF	189.00	Use the same UC as the POL Storage Bldg above
44135	Hazardous Material Storage Bldg	600	SF	189.00	CC44135 is used for Army Reserve HAZMAT Storage Fac.
44224	Org. Equip. Storage Bldg, Veh Maint Shop	6,000	SF	95.00	Use this UC for CC44224, Organizational Equip Storage Bldg
	Includes Loading Dock, Secured Storage area and Wet-pipe Sprinklers				
85210	Organizational (tactical) Veh Parking	varies	SY	74.00	9" Conc. w/ 8" base; use local data if available

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21610	Ammunition Renovation Shop	6,500	SF	XXX	See Note-1 above
21612	Ammunition Surveillance Shop	13,000	SF	XXX	See Note-1 above
21630	Ammunition Demilitarization Fac	82,500	SF	XXX	See Note-1 above
21710	Electronics Maint Shop	5,500	SF	160.00	
21740	Aircraft Avionics Maint Shop		SF		See Avionics Maint Shop, Catcode 21117 UC above
21850	Battery Shop	5,000	SF	XXX	See Note-1 above
21881	Parachute Repair Shop	6,600	SF	204.00	UC based on DOD Guidance Cost for FY14 MILCON
21885	General Purpose Maint Shop	31,000	SF		See Eng/Housing Maint Shop, Catcode 21910 UC below
21910	Engineering/Housing Maint Shop	22,000	SF	190.00	UC based on DOD Guidance Cost for FY14 MILCON
31010	Chemistry Lab	9,000	SF	XXX	See Note-1 above
31410	Ground Transportation Equip Bldg	31,000	SF	XXX	See Note-1 above
42120	Hi Explosive Magazine w/Crane, Depot	7,800	SF	226.00	UC based on DOD Guidance Unit Cost
42180	Igloo Storage, Depot Level	7,800	SF		Use same UC as in CC42120
42183	Gen. Purpose Magazine w/o Crane	5,100	SF	194.00	UC based on DOD Guidance Unit Cost
42280	Igloo Storage, Installation	7,800	SF		Use same UC as in CC42120
42283	Magazine, Gen Purpose- Installation				w/o Crane. Use same UC as in CC42183
43211	Cold Storage Bld w/Processing	11,000	SF	XXX	See Note-1 above
43211	Cold Storage Bldw/o Processing	6,000	SF	XXX	See Note-1 above
44110	General Purpose (GP) Warehouse, Depot				See CC44220 below
44130	Controlled Humidity Warehouse	40,000	SF	XXX	See Note-1 above
44135	Hazardous Material Storage, Depot	21,000	SF	XXX	See Note-1 above
44150	Flammable Material Storage, Depot	8,200	SF	XXX	See Note-1 above
44181	Covered Vehicle Storage, Depot	16,000	SF	XXX	See Note-1 above
44182	Vehicle Storage Building, Depot	16,000	SF	XXX	See Note-1 above
44210	Aircraft Parts Storage Fac, Installation	16,000	SF	XXX	See Note-1 above
44220	Gen Purpose (GP) Warehouse, Installation				
	Lo-Bay, upto 16' Clear Stack height	22,000	SF	106.00	UC based on DOD Guidance Unit Cost
	Hi-Bay, upto 26' Clear Stack height	40,000	SF	122.00	UC based on DOD Guidance Unit Cost
44220	Distrib. CO Storage Bldg w/Loading Dock	XXX	SF	See CC21412	See TEMF Complex above, New Catcode 21412

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<b><u>CAT CODE</u></b>		<b><u>Reference/ Standard Size</u></b>	<b><u>Unit Of Measure (UOM)</u></b>	<b><u>Unit Cost \$/UOM (Interim UC)</u></b>	<b><u>Remarks</u></b> <b>Note-1:</b> Not enough recent Army Bid Data since 2008 to Forecast UC
44222	Storage Shed (Covered, not Enclosed)	2,500	SF	51.00	
44224	Organizational Equipment Storage Bldg	6,000	SF		See TEMF Complex above for this Catcode
	For TEMF Org. Equip. Storage UC, see TEMF Complex. For COF Equip. Storage UC, see Readiness Module- CC14185				
44224	Org. Storage Bld for Army Reserve	30,000	SF	185.00	Heated storage building
44228	HAZMAT Storage- Installation	500	SF	See CC21470	Use the same UC as CC21470
45210	Open Storage Area, Installation	XXX	SY		Use Catcode 851XX, Pavements, from Part-II, PAX
varies	<b><u>MEDICAL FACILITIES</u></b>				
51010	Inpatient Hospital/Medical Center	Varies	SF	429.00	Excludes boilers & chillers (cost) which is housed seperately
51010	Medical Clinic attached to Hospital	76,000	SF	328.00	Typically excludes boilers & chillers cost
55010	Small Medical Clinic, Free Standing	29,000	SF	280.00	Less than 60,000 SF size. Includes boilers & chillers cost
55010	Large Medical Clinic, Free Standing	180,000	SF	307.00	>60,000 SF size. Excludes boiler & chillers cost
55010	Mental/Behavioral Health Clinic	41,000	SF	227.00	New UC. Includes boiler & chillers cost
54010	Dental Clinic	12,000	SF	372.00	Includes boilers & chillers cost
53060	Medical Warehouse	44,000	SF	XXX	See Note-1 above
53071	Ambulance Garage	480	SF	XXX	See Note-1 above
61001	Military Entrance Processing Stn	26,810	SF	XXX	See Note-1 above
61050	Administrative Fac, General Purpose	65,000	SF	201.00	Prewired work station @ \$4500/Stn - installed, NOT incl.
	This multipurpose building provided office space, visitors area, auditorium, cafeteria, storage space, etc for administrative personnel				
61050	Command Headquarters Bldg	Varies	SF	XXX	New Catcode 14190, see CC14190 for UC
62010	Underground Administrative Facility	6,000	SF	XXX	See Note-1 above

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<b><u>CAT CODE</u></b>		<b><u>Reference/ Standard Size</u></b>	<b><u>Unit Of Measure (UOM)</u></b>	<b><u>Unit Cost \$/UOM (Interim UC)</u></b>	<b><u>Remarks</u></b> <b>Note-1:</b> Not enough recent Army Bid Data since 2008 to Forecast UC
	<b><u>FAMILY HOUSING DWELLINGS - CONUS &amp; OCONUS</u></b>				
	Show "Families (FA)" as the UOM in the in the Primary Line item by category code. Use SF per Family as the UOM in Subline item.				
	Don't need to size adjust the UC per SF (using the Size Adj Table-1, Part -I) as the adjusted unit cost per FA by catcode, grade, and number of bedroom/per dwelling is already provided in the UC column below. Use Size Adj Table-1, Part - II only for project size adj.				
	Normally 2-car garage (400 SF) are provided with each dwelling. GSF of garage is not included in the dwelling GSF, but cost of garage is considered included in the AFH unit cost as a norm. (i) Add up to 300 SF/FA for harsh climates, defined as having more than 7,500 Heating Degree Days (HDD) annually, or 5,500 Cooling Degree Days (CHD), annually. (ii) Gross SF may be increased by 10% FA for housing units for an officer holding a special command position for the commanding officer of a military installation, and for the senior non-commissioned officer of a military installation.				
<b>Varies</b>	<b><u>FAMILY HOUSING DWELLINGS</u></b>	<b><u>No. of Bedroom</u></b>	<b><u>Family Unit&amp; SF</u></b>	<b><u>CONUS/ OCONUS</u></b>	
71111	General Officer, Grade O10	4 Bedrooms	4,060 SF/FA	<b>145.50/ 165.50</b>	
71111	General Officer, Grade O9	4 Bedrooms	4,060 SF/FA	<b>145.50/ 165.50</b>	
71111	General Officer, Grade O8	4 Bedrooms	3,330 SF/FA	<b>147.50/ 167.50</b>	
71111	General Officer, Grade O7	4 Bedrooms	3,330 SF/FA	<b>147.50/ 167.50</b>	
71112	Colonel, Grade O6	4 Bedrooms	2,520 SF/FA	<b>142.50/ 162.50</b>	
71113	LT. Colonel & Major, Grade O4&5	4 Bedrooms	2,310 SF/FA	<b>138.00/ 158.00</b>	
71113	LT. Colonel & Major, Grade O4&5	3 Bedrooms	2,020 SF/FA	<b>144.50/ 164.50</b>	
71113	Warrant Officer, Grade W4&5	4 Bedrooms	2,310 SF/EA	<b>138.00/ 158.00</b>	
71113	Warrant Officer, Grade W4&5	3 Bedrooms	2,010 SF/FA	<b>144.50/ 164.50</b>	
71114	CO Grade Officer, O1-3	5 Bedrooms	2,510 SF/FA	<b>134.00/ 154.00</b>	Use this for Warrant Officer, W1-3, too
71114	CO Grade Officer, O1-3	4 Bedrooms	2,150 SF/FA	<b>137.00/ 157.00</b>	Use this for Warrant Officer, W1-3, too
71114	CO Grade Officer, O1-3	3 Bedrooms	1,860 SF/FA	<b>137.00/ 157.00</b>	Use this for Warrant Officer, W1-3, too
71115	Senior NCO, E-9	4 Bedrooms	2,310 SF/FA	<b>138.00/ 158.00</b>	
71115	Senior NCO, E-9	3 Bedrooms	2,020 SF/FA	<b>144.50/ 164.50</b>	
71115	Senior NCO, E-7&8	5 Bedrooms	2,510 SF/FA	<b>134.00/ 154.00</b>	
71115	Senior NCO, E-7&8	4 Bedrooms	2,150 SF/FA	<b>137.00/ 157.00</b>	
71115	Senior NCO, E-7&8	3 Bedrooms	1,860 SF/FA	<b>139.00/ 159.00</b>	

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<u>CAT CODE</u>		<u>Reference/Standard Size</u>	<u>Unit Of Measure (UOM)</u>	<u>Unit Cost \$/UOM (Interim UC)</u>	<u>Remarks</u> Note-1: Not enough recent Army Bid Data since 2008 to Forecast UC
<b>Varies</b>	<u>FAMILY HOUSING DWELLINGS</u>	<b>No. of Bedroom</b>	<b>Family Unit&amp; SF</b>	<b>CONUS/ OCONUS</b>	
	FAMILY HOUSING DWELLINGS (Continued from the Previous Page)				
<b>71116</b>	Junior NCO/Enlisted, E-1 thru 6	5 Bedrooms	2,300 SF/FA	<b>137.00/ 157.00</b>	
<b>71116</b>	Junior NCO/Enlisted, E-1 thru 6	4 Bedrooms	1,950 SF/FA	<b>139.00/ 159.00</b>	
<b>71116</b>	Junior NCO/Enlisted, E-1 thru 6	3 Bedrooms	1,630 SF/FA	<b>141.00/ 161.00</b>	
	<u>GARAGE &amp; CARPORTS</u>				
<b>71410</b>	Detached Garage	500	SF	<b>XXX</b>	See Note-1 above
<b>71410</b>	Detached Garage	500	SF	<b>XXX</b>	See Note-1 above
<b>71411</b>	Carport - 2 Cars	500	SF	<b>XXX</b>	See Note-1 above
<b>85218</b>	Parking Garage, Multistoried	240,000	SF	<b>See CC below</b>	UC provided under CC 85218 below
<b>72010</b>	Temporary Lodging	30,000	SF		See Catcode 72412 also called Transient Housing
<b>72111</b>	Barracks - Permanent Party (UEPH)	150-199	Person	<b>162.00</b>	Use Table-1, Part-II, Project Size Adj. Table for CC-72111
	Unit cost does not include the cost for free standing equipment. All finished or unfinished areas with an average height of 6'-11" (2100 MM), measured from the underside of the structural system, and areas with perimeter walls measuring 4'-11" (155 MM) or more, shall be counted as full scope.				
<b>Various</b>	<u>WARRIORS IN TRANSITION (WT) BARRACKS COMPLEX</u>				
<b>72112</b>	WT Barracks, 56 Person Module	37,800	SF	<b>178.00</b>	Use Table-1, Part-I, Size Adj. Factor Table for CC7212
<b>14188</b>	WT Unit Admin Fac w/o Classrm	8,100	SF	<b>190.00</b>	For Stand Alone Battalion (BN) HQS Bldg
<b>14188</b>	WT Company (CO) Admin Fac	8,100	SF	<b>211.00</b>	No Classroom, Admin Unit only
<b>14188</b>	WT Jt BN-CO Admin/Ops Fac	18,400	SF	<b>212.00</b>	
<b>72210</b>	WT Dining Fac-Seating 251-500 Pers	18,000	SF		See Catcode 72210, Dining Fac (DFAC), below for UC
<b>74033</b>	WT Soldiers and Family Assist. Ctr	15,000	SF	<b>222.00</b>	Use Size Adj Table for UC calculation for 7000 SF SFAC
<b>Various</b>	<u>OPERATIONAL READINESS TRAINING COMPLEX (ORTC)/ TRANSIENT TRAINING COMPLEX</u>				
	The ORTC Std design is based on a Brigade Combat Team (BCT) consisting of six individual Battallion to accommodate 752-880 transient trainees. These are more austere than permanent party facilities				
<b>72114</b>	Enlisted Barracks, Transient Trng	30,560	SF	<b>XXX</b>	See Note-1 above.
<b>72412</b>	Sn. Enlisted Officers Qtrs, Transient	22,560	SF	<b>XXX</b>	See Note-1 above
<b>14184</b>	Battalion HQ Bldg, Transient Trng	11,235	SF	<b>XXX</b>	See Note-1 above

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<b><u>CAT CODE</u></b>		<b><u>Reference/Standard Size</u></b>	<b><u>Unit Of Measure (UOM)</u></b>	<b><u>Unit Cost \$/UOM (Interim UC)</u></b>	<b><u>Remarks</u></b> <b>Note-1:</b> Not enough recent Army Bid Data since 2008 to Forecast UC
	<b>OPERATIONAL READINESS TRAINING COMPLEX (ORTC)/ TRANSIENT TRAINING COMPLEX (Cont'd from the Previous Page)</b>				
<b>14186</b>	COF/Company HQ, Transient Trng	19,580	SF	<b>XXX</b>	See Note-1 above
<b>14187</b>	Brigade HQ Bldg, Transient Trng	10,240	SF	<b>XXX</b>	See Note-1 above
<b>14179</b>	Hardstand Cover - Transient Trng	12,853	SF	<b>45.00</b>	Canopy column+foundation cost incl, Hardstand cost extra
<b>21406</b>	Vehicle Maint Shop, Transient Trng	11,855	SF	<b>XXX</b>	See Note-1 above
<b>72212</b>	Dining Fac, 720 PN-Transient Trng	16,980	SF	<b>XXX</b>	No data under CC72212; See DFAC CC 72210 below
<b>72212</b>	Dining Fac, 1428 PN-Transient Trng	20,786	SF	<b>XXX</b>	No data under CC72212; See DFAC CC 72210 below
<b>85210</b>	Veh. Maint Shop (Motor Pool) Hardstand	varies	SY	<b>70.00</b>	Guidance only. Program this item under Supporting Fac
<b>44222</b>	6 Storage Sheds @800 SF per BN	4,800	SF	<b>51.00</b>	Cover/Shed cost only, cost of flooring underneath extra
<b>Various</b>	<b><u>ADVANCE INDIVIDUAL TRAINING (AIT) COMPLEX</u></b>				
	A Standard AIT Barracks Complex consists of Brigade HQ, Battalion HQ, 4-93,000 SF each Barracks/CO Operations buildings for 1200 soldiers, total 372,000 SF, Dining Facility, and other required buildings and site facilities.				
<b>72121</b>	AIT Barracks w/CO Ops Space	186,000	SF	<b>162.00</b>	Std size for 2 Barracks/CO Ops Bld @93,000 SF/Ea
	Calculate average individual Barrack/CO Ops Bldg size, then use Size Adj. Factor Table-1, Part-I Table to determine AIT Barracks/CO Ops Bld UC using Base price of \$162/SF. AIT Complex may contain 1,2,3, or 4 Brks/CO Ops Bldgs.				
<b>14182</b>	AIT Brigade HQS, if needed	9,100	SF	<b>195.00</b>	
<b>14183</b>	AIT Battalion HQS w/ Classrms	12,300	SF	<b>218.00</b>	UC based on limited records
<b>72210</b>	Dining Fac, AIT, 1300 PN, 544 seats	30,500	SF	<b>See DFAC UC</b>	Std REF Size for AIT-Dining Fac is 30,500 SF.
<b>72210</b>	Dining Fac, AIT, 2600 BN, 1088 seats	56,000	SF	<b>See DFAC UC</b>	Use Size Adj Table-1, Part-1 for 56,000 SF AIT Dining.
<b>Varies</b>	<b><u>BASIC TRAINING (BT/IET) and ONE STATION UNIT TRAINING (OUST) BARRACKS COMPLEX</u></b>				
	A Standard BT/OUST Complex includes 5-64,700 SF each Barracks buildings w/ Company Ops space in the main level for 1200 soldiers, a Battalion HQ bldg w/ classrooms, a 1300 person Dining Facility, Lawn equipment Storage (2000 SF) building, and a 1/4 mile 8-lane running track, training pits.				
<b>72181</b>	BT/OUST Brks w/ CO Ops Space	194,100	SF	<b>162.00</b>	Std size for 3 Barracks/CO Ops Bld @64,700 SF/Ea
	Calculate average individual Barrack/CO Ops Bldg size, then use Size Adj. Factor Table-1, Part-I Table to determine BT Barracks/CO Ops Bld UC using Base price of \$162/SF. BT/OUST Barracks Complex may contain 1,2,3, 4 or 5 Brks/CO Ops Bldgs.				
	Scope of Covered Training Area under Barracks w/CO Ops Space is included in the each individual Bldg gross area.				
<b>72181</b>	Battalion (BN) HQS W/ Classrms	23,500	SF	<b>186.00</b>	UC based on limited records

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72210	Dining Fac for 1 BN, 1300 trainees	30,500	SF	See DFAC UC	544 seats
72210	Dining Fac for 2 BN, 2600 trainees	56,000	SF		1088 seats, See comments below for UC
	Covered Queuing Area is included in the Dining Facility area calculation. Standard Reference Size for the BT/OUST Training Dining Facility is 30,500 SF. Use Size Adjustment Table-1, Part-1 for calculating other Dining Facility UCs.				
<b>Varies</b>	<b>DINING FACILITIES (DFAC)</b>	Varies	SF		
	Cost includes MCA Funded Kitchen equipment & installation. DFACs are categorized and, then unit cost for each size is developed seperately.				
72210	DFAC - Permanent Party, 801-1300 PN	26,500	SF	<b>316.00</b>	
72210	Dining Facility for 251 to 500 PN	18,000	SF	<b>338.00</b>	Use this value for WT Dining Facility, too
72210	Dining Facility for 501 to 800 PN	19,500	SF	<b>Use Size Adj</b>	Use Size Adj Factor Table for 19,500 SF UC calculation
72210	DFAC-Basic & OUST Trng, 1300 PN	30,500	SF	<b>277.00</b>	Covered Queuing area is included in the Dining Fac SF.
72210	DFAC-Basic & OUST Trng, 2600 PN	56,000	SF	<b>300.00</b>	
72210	DFAC - AIT Complex, 1300 PN	30,500	SF	<b>277.00</b>	
72210	DFAC - AIT Complex, 2600 PN	56,000	SF	<b>300.00</b>	
72212	Dining Facility - ORTC, 720 PN	16,980	SF	<b>No data</b>	Check w/ COS
72212	Dining Facility - ORTC 1248 PN	20,786	SF	<b>No data</b>	Check w/COS
72410	Unaccompanied Officers Quarters	44,000	SF	<b>XXX</b>	See Note-1 above
72412	Transient Training Officers Quarters	63,000	SF	<b>205.00</b>	UC and std size based on DOD Guidance Unit Cost
<b>73010</b>	<b>STAND ALONE FIRE STATIONS (FS) - FS &amp; Air Rescue Fire Fighting Fire Stations (ARFF)</b>				
	These are stand alone Fire Stations. Their sizes are determined by the authorized number of Apparatus Bays which house Emergency Vehicles, number of Dorm rooms, and whether they are HQs or Satellite Stations. A standard Apparatus Bay shall be 62' x 91' for a 2- or 3-CO Station; for a Air Rescue Fire Fighting (ARFF) Apparatus Bay is 70' x 91'				
73010	Fire Station, 1-CO HQs, Apparatus	16,434	SF	<b>238.00</b>	Use Size Adj Table-1, Part-1 for UCs of other sizes
73010	Airfield Fire/Crash Rescue Station	30,000	SF	<b>242.00</b>	To be used for USAF projects only - DOD Guidance UC
	<b>CONSOLIDATED FIRE, SAFETY &amp; SECURITY Facilities (FSS)/DEPT of EMERGENCY SERVICES (DES) Facilities</b>				
	Combined Military Police, Safety, Fire & Emergency Svc. Also called Directorate of Emergency Services (DES) Facility				
73010	Consolidated FSS Fac - Medium	15,000	SF	<b>XXX</b>	See Note-1 above
73016	Police/Law Enforcement (MP) Station	4,200	SF	<b>XXX</b>	See Note-1 above

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<b>CAT CODE</b>		<b>Reference/ Standard Size</b>	<b>Unit Of Measure (UOM)</b>	<b>Unit Cost \$/UOM (Interim UC))</b>	<b>Remarks</b> <b>Note-1:</b> Not enough recent Army Bid Data since 2008 to Forecast UC
73017	Chapel - Pew seating capacity 200 PN	17,900	SF	272.00	
	Use Size Adj. Table-1, Part-1 for other standard Chapel sizes: 22,600 SF (400 PN seating), 32,900 SF (600 PN seating)				
73017	Chapel for Initial Entry Trainees (IET)	35,000	SF	XXX	New Std. Worship Center for IET, 1428 PN Pew seating
73018	Religious Education Facility	5,320	SF	XXX	For upto 10 small groups of 55-70 persons
	A dedicated space for Religious Education and Religious Activities. Should be reported separately from the worship space if collocated in a Chapel, catcode 73017. Use Size Adjustment Factor Table-1, for other UC of other sizes.				
73019	Chapel Family Life Ctr (300-450 PN)	17,000	SF	XXX	See Note-1 above
73046	DEPENDENT SCHOOLS	Varies			
	Elementary	83,000	SF	196.00	
	Junior High	XXXX	SF	XXX	See Note-1 above
	High	XXXX	SF	XXX	See Note-1 above
74010	Auditorium, General Purpose	4,000	SF	XXX	See Note-1 above
74011	Bowling Center	7,800	SF	XXX	See Note-1 above
74012	Cafeteria	5,000	SF	XXX	See Note-1 above
74014	Child Development Center (CDC)	25,000	SF	No longer used	CDC CC74014 is replaced by 2 new catcodes below
74016	CDC-School Age, >6 years of age	20,500	SF	260.00	Program CDC Playground, CC75018, separately
	Use this size (Medium), 150-180 School Age children CDC as the Reference size. Use Size Adj. Table-1, Part-1 for other CDCs				
74017	CDC-Preschool, 232 children, 0-6 yrs	26,450	SF	232.00	Program Outdoor Play Area, CC75018, separately
	Use this Medium size Pre-School CDC as the Reference size and the Size Adjust. Factor Table-1, Part-1 for other CDC costs				
74021	Commissary	85,000	SF	XXX	See Note-1 above
74022	Skill Development Center	22,000	SF	XXX	See Note-1 above
74023	Credit Union	3,000	SF	XXX	See Note-1 above
74024	Skill Development Ctr - automotive	15,000	SF	XXX	See Note-1 above
74025	Education Center for 10,000-15,000 PN	23,300	SF	244.00	Also called Army Continuing Education System Fac
	Use Size Adjust. Factor Table-1 and 23,300 SF as the Reference size for other Education Center sizes				
74028	Physical Fitness Facility	59,820	SF	219.00	Includes 3 lane Jogging Track. Cost Based on DOD UC
	Use 59,820 SF as the Reference size and Size Adjust. Table-1 for other Fitness Center sizes. Program Indoor Swimming Pool, CatCode 74042, separately.				
74030	Sports Pro Shop	28,000	SF	XXX	See Note-1 above

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<b>APPENDIX-A, PRIMARY FACILITIES UNIT COST TABLE - Final version (PART - I, Buildings)</b>					
Facility Unit Costs (UC) are based on the Most Recent 3-Year (2009-11) Bid Results, where at least 3 Projects were entered into the HII database by 15 Oct 11. The UC below Represents the Average of Bid Price Escalated to 1 OCT 2014, the assumed Mid-point of Construction for a typical FY14 MILCON Project, using the Inflation Guidance for FY13 Presidents Budget published on 10 Feb 2012 and Normalized to an Area Cost Factor (ACF) of 1. <b>Please refer to the Note pages in the PAX Newsletter 3.2.2 regarding what costs are included in the UC.</b>					
<b>CAT CODE</b>		<b>Reference/Standard Size</b>	<b>Unit Of Measure (UOM)</b>	<b>Unit Cost \$/UOM (Interim UC))</b>	<b>Remarks</b> <b>Note-1:</b> Not enough recent Army Bid Data since 2008 to Forecast UC
74033	Army Community Service Ctr (ACSC)	7,000	SF	See SFSC	See SFSC under Warrior in Transit (WT) Complex
74033	Soldier Family Support Ctr (SFSC)	15,000	SF	See SFSC above	See SFSC under Warrior in Transit (WT) Complex
74041	Main Library	12,000	SF	XXX	See Note-1 above
74047	Service Club	22,500	SF	XXX	See Note-1 above
74048	Officer Open Dining Facility	22,500	SF	XXX	See Note-1 above
74053	Main Exchange	82,000	SF	158.00	UC based on DOD Guidance Unit Cost
74056	Exchange Service Outlet	82,000	SF	XXX	See Note-1 above
74066	Youth Center, medium (105-135 PN)	21,000	SF	204.00	Called Youth Activity Ctr. UC Based on DOD Guidance
74068	Recreation Center	20,000	SF	XXX	See Note-1 above
74070	Indoor Roller Skating Rink	20,000	SF	XXX	See Note-1 above
74072	25 meter Indoor Swimming Pool	20,000	SF	XXX	See Note-1 above, (6200 SF water area w/ancillary areas)
74075	Recreational Support Building	5,000	SF	XXX	See Note-1 above
	PLAYGROUND for PPRESCHOOL CHILDREN, UNDER 6 YEARS of AGE				
75018	Small (126 children)	16,667	SF	22.00	
75018	Medium (232 Children)	23,870	SF	18.00	
75018	Large (338 Children)	38,310	SF	14.00	
	PLAYGROUND for SCHOOL AGE CHILDREN, 6 TO 10 YEARS				
75018	Small (105-135 children)	47,605	SF	6.50	
75018	Medium/Large (150-225 Children)	52,105	SF	6.50	
75022	Multipurpose Athletics Field	1	EACH	XXX	See Note-1 above
75030	Outdoor Swimming Pool	13000	SF	XXX	See Note-1 above
75061	Bleacher, Covered	XXXX	1 EA		See Range Complex above for UC
85210	Organizational Vehicle Parking	Varies	SY		See TEMF Complex for CC 85210 UC
85218	Parking Garage, Multistoried	240,000	SF	41.00	UC based on DOD Guidance Unit Cost
	Assumes 425-450 SF/vehicle with turning radii and ramps.				
89120	Plant /Utilities Building	28000	SF	Data Unreliable	Central Utility Plant. Equipment Cost not included



**Unit Costs for Support Facilities**  
**PAX Newsletter 3.2.2, dated 25 Apr 2012**

<b>APPENDIX A - SUPPORT FACILITIES 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 with back-ups</b>					
CATEGORY	ITEM	QUANTITY	UNIT	UNIT COST	REMARK
CODE				\$/UNIT	
111XX	<b>AIRFIELD RUNWAY - SLIP FORM CONCRETE PAVEMENT, UNREINFORCED, 5000 PSI, 12' PASS, INCLUDES JOINTS, FINISHING, &amp; CURING</b>				
111XX	8" PAVEMENT	1	SY	\$172.00	
	10" PAVEMENT	1	SY	\$205.00	
	12" PAVEMENT	1	SY	\$237.00	
	16" PAVEMENT	1	SY	\$331.00	
111XX	<b>AIRFIELD RUNWAY - FIXED FORM PLAIN CEMENT CONCRETE PAVEMENT, 4500 PSI, 12' PASS, INCLUDES JOINT, FINISHING, &amp; CURING</b>				
111XX	12" PAVEMENT	1	SY	\$245.00	
	14" PAVEMENT	1	SY	\$296.00	
	16" PAVEMENT	1	SY	\$326.00	
111XX	<b>AIRFIELD RUNWAY - LIGHTING</b>				
	CENTER LINE LIGHT, SEMI FLUSH, 200 W	1	EA	\$2,073.00	BI-DIRECTIONAL W/ SHALLOW INSERT BASE
	CENTER LINE LIGHT, FLUSH, 200 W	1	EA	\$2,073.00	BI-DIRECTIONAL W/ SHALLOW INSERT BASE
111XX	<u>TOUCHDOWN ZONE LIGHT, 200 W</u>	1	EA	\$1,736.00	UNIDIRECTIONAL W/ SHALLOW INSERT BASE
	RUNWAY EDGE & THRESHHOLD LIGHT, 200 W	1	EA	\$1,347.00	BI-DIRECTIONAL FOR BASE HOUSING
	THRESHHOLD & APPROACH LIGHT, 200 W	1	EA	\$902.00	UNIDIRECTIONAL FOR BASE HOUSING
	RUNWAY EDGE LIGHT, 2-115 W	1	EA	\$1,839.00	BI-DIRECTIONAL FOR BASE HOUSING
111XX	<b>AIRFIELD STRIPING</b>				
	THERMOPLASTIC PAVEMENT MARKINGS	1	SF	\$3.00	RUNWAY MARKING W 24 LB GLASS BEADS/ 100 SF
	TAXIWAY PAVEMENT MARKINGS	1	SF	\$1.20	
81160	STANDBY GENERATOR, DIESEL, 3 PHASE 4 WIRE, 277/480 VOLTS,	75 kW	EA	\$47,770.00	INCLUDES COST OF COMPONENTS SUCH AS BATTERY, CHARGER, MUFFLER & AUTOMATIC TRANSFER SWITCH, FUEL TANK; EXCLUDES CONDUIT, WIRING & CONCRETE PAD
		125 kW	EA	\$56,480.00	
		200 kW	EA	\$72,020.00	
		300 kW	EA	\$90,160.00	
		400 kW	EA	\$123,320.00	
		500 kW	EA	\$153,370.00	
		750 kW	EA	\$244,570.00	
	1000 kW	EA	\$306,740.00		
81230	<b>EXTERIOR LIGHTING</b>				
81230	EXTERIOR LIGHTING w/ UNDER GROUND DISTRIBUTION (Poles and Light Fixtures costs Extra)	1	LF	\$25.00	INCLUDES 1" PVC DIRECT BURIAL CONDUIT, #10 WIRE 3 STRAND COPPER WIRE; EXCLUDES POLE, LIGHT FIXTURE, EXCAVATION & BACKFILL
81230	<b>EXTERIOR LIGHTING - ALUMINUM POLES &amp; LIGHT FIXTURE ASSEMBLY</b>				
	HIGH PRESSURE SODIUM, 400 Watt	1	EA	\$3,342.00	20' HIGH ALUMINUM POLE
	HIGH PRESSURE SODIUM, 1000 Watt	1	EA	\$5,881.00	40' HIGH ALUMINUM POLE
	HIGH PRESSURE SODIUM, 1000 Watt	1	EA	\$4,819.00	40' HIGH FIBERGLASS POLE
	METAL HALIDE, 400 Watt	1	EA	\$3,316.00	20' HIGH ALUMINUM POLE
	METAL HALIDE, 1000 Watt	1	EA	\$5,829.00	40' HIGH ALUMINUM POLE
	METAL HALIDE, 1000 Watt	1	EA	\$4,767.00	40' HIGH FIBERGLASS POLE
81241	<b>OVERHEAD ELECTRIC LINES - INCLUDES COST OF WOOD POLES @ 250' SPACING, 3 PHASE 4 Wire ALUMINUM CONDUCTOR, CROSS ARMS &amp; INSULATORS</b>				
	H-FRAME DISTRIBUTION LINES, 15-69 kV	1,000	LF	\$48,710.00	Approx cost \$48.70/LF
	OVERHEAD LINES BELOW 15 kV	1,000	LF	\$40,210.00	Approx cost \$42.20/LF
81242	<b>UNDERGROUND ELECTRIC LINES (DIRECT BURIAL) - INCLUDES COST OF SEU COPPER CONDUCTOR, CHAIN EXCAVATOR to 3" and BACKFILL</b>				
	# 1/0, 3C COPPER CONDUCTOR, 600 VOLT	1	LF	\$19.00	
	# 4/0, 3C COPPER CONDUCTOR, 600 VOLT	1	LF	\$30.00	

**Unit Costs for Support Facilities**  
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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 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>	
81242	<b>CABLE TERMINATORS - OUT DOOR SYSTEMS, 15 kV</b>				
	#1 SOLID to 4/0 STRANDED	1	EA	\$337.00	
	#2/0 SOLID to 350 KCMIL STRANDED	1	EA	\$368.00	
	400 KCMIL to 750 KCMIL STRANDED	1	EA	\$425.00	
81242	<b>CABLE TERMINATORS - CABLE SPLICING, 15 kV, URD or SIMILAR</b>				
	#1 STRANDED to 4/0 STRANDED	1	EA	\$394.00	
	4/0 STRANDED to 500 KCMIL STRANDED	1	EA	\$539.00	
81242	<b>UNDERGROUND ELECTRIC LINES (IN CONDUIT)</b>				
	1-WAY-4" PVC	1	LF	\$24.00	ELECTRICAL UNDERGROUND DUCT BANKS READY FOR CONCRETE FILL, PVC, TYPE ENCASED BURIAL (EB), INCLUDES EXCAVATION, BACKFILL, AND CAST IN PLACE CONCRETE FILL TO 3 FEET DEEP
	2-WAY-4" PVC	1	LF	\$30.00	
	4-WAY-4" PVC	1	LF	\$40.00	
	6-WAY-6" PVC	1	LF	\$82.00	
81242	1-WAY-2" RGS	1	LF	\$21.00	ELECTRICAL UNDERGROUND DUCT BANKS, RIGID GALVANIZED STEEL (RGS), INCLUDES EXCAVATION, BACKFILL, AND CAST IN PLACE CONCRETE
	1-WAY-3" RGS	1	LF	\$39.00	
	1-WAY-4" RGS	1	LF	\$54.00	
	1-WAY-5" RGS	1	LF	\$91.00	
	1-WAY-6" RGS	1	LF	\$130.00	
81242	2-WAY-2" RGS	1	LF	\$38.00	
	2-WAY-3" RGS	1	LF	\$74.00	
	2-WAY-4" RGS	1	LF	\$103.00	
	2-WAY-5" RGS	1	LF	\$177.00	
	2-WAY-6" RGS	1	LF	\$254.00	
81242	3-WAY-2" RGS	1	LF	\$55.00	
	3-WAY-3" RGS	1	LF	\$107.00	
	3-WAY-4" RGS	1	LF	\$149.00	
	3-WAY-5" RGS	1	LF	\$257.00	
	3-WAY-6" RGS	1	LF	\$368.00	
81242	4-WAY-2" RGS	1	LF	\$68.00	
	4-WAY-3" RGS	1	LF	\$139.00	
	4-WAY-4" RGS	1	LF	\$198.00	
	4-WAY-5" RGS	1	LF	\$342.00	
	4-WAY-6" RGS	1	LF	\$492.00	
81242	1-WAY-2" PVC	1	LF	\$11.00	ELECTRICAL UNDERGROUND DUCT BANKS READY FOR CONCRETE FILL, PVC, TYPE ENCASED BURIAL (EB), INCLUDES EXCAVATION, BACKFILL, AND CAST IN PLACE CONCRETE FILL TO 3 FEET DEEP
	1-WAY-3" PVC	1	LF	\$13.00	
	1-WAY-4" PVC	1	LF	\$16.00	
	1-WAY-5" PVC	1	LF	\$19.00	
	1-WAY-6" PVC	1	LF	\$23.00	
81242	2-WAY-2" PVC	1	LF	\$19.00	
	2-WAY-3" PVC	1	LF	\$23.00	
	2-WAY-4" PVC	1	LF	\$27.00	
	2-WAY-5" PVC	1	LF	\$33.00	
	2-WAY-6" PVC	1	LF	\$41.00	
81242	4-WAY-2" PVC	1	LF	\$30.00	
	4-WAY-3" PVC	1	LF	\$36.00	
	4-WAY-4" PVC	1	LF	\$45.00	
	4-WAY-5" PVC	1	LF	\$53.00	
	4-WAY-6" PVC	1	LF	\$68.00	
81242	6-WAY-4" PVC	1	LF	\$72.00	
	6-WAY-5" PVC	1	LF	\$84.00	
	6-WAY-6" PVC	1	LF	\$115.00	

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CATEGORY	ITEM	QUANTITY	UNIT	UNIT COST	REMARK
CODE				\$/UNIT	
81242	UNDERGROUND HAND HOLES, 4' x 4' x 4'	1	EA	\$2,772.00	INCLUDES IN PLACE CONCRETE
81242	<u>ELECTRICAL UNDERGROUND MANHOLES, PRECAST w/ IRON RACKS &amp; PULLING IRONS, C.I. FRAME AND COVER, EXCLUDES EXCAVATION, BACKFILL &amp; CAST IN PLACE CONCRETE</u>				
	MANHOLES, 6' x 8' x 7' DEEP	1	EA	\$7,772.00	
	MAHHOLES, 6' x 10' x 7' DEEP	1	EA	\$8,549.00	
81320	<u>SUBSTATION, LOAD INTERRUPTER SWITCH, 600 AMP</u>		KVA	\$30,050.00	2 POSITION, 300 KVA & BELOW W/CLF FUSES, 4.8 kV, 600 AMP, NEMA 1 & GROUNDING LOOP
81360	<u>TRANSFORMERS - ALL PAD MOUNTED w/ BOLLARDS AND GROUNDING LOOP</u>				
	150 kVA, OIL FILLED	1	EA	\$22,380.00	5 kv W/ TAPS, 277/480 V SECONDARY, 3-PHASE
	225 kVA, OIL FILLED	1	EA	\$23,520.00	
	500 kVA, OIL FILLED	1	EA	\$26,630.00	15 kv W/ TAPS, 480 V SECONDARY, 3 PHASE
	1,000 kVA, OIL FILLED	1	EA	\$46,220.00	
	2,000 kVA, OIL FILLED	1	EA	\$63,730.00	
81360	15 kVA, DRY TYPE	1	EA	\$9,042.00	SINGLE PHASE, 240/480 V PRIMARY 120/240 V SECONDARY
	25 kVA, DRY TYPE	1	EA	\$9,819.00	
	37.5 kVA, DRY TYPE	1	EA	\$10,780.00	
	50 kVA, DRY TYPE	1	EA	\$11,500.00	
	75 kVA, DRY TYPE	1	EA	\$12,950.00	
	100 kVA, DRY TYPE	1	EA	\$13,890.00	
	167 kVA, DRY TYPE	1	EA	\$17,820.00	
81360	75 kVA, DRY TYPE - VENTILATED	1	EA	\$11,400.00	3-PHASE 480 V PRIMARY, 120/208 V SECONDARY
	112.5 kVA, DRY TYPE - VENTILATED	1	EA	\$12,440.00	
	150 kVA, DRY TYPE - VENTILATED	1	EA	\$13,680.00	
	225 kVA, DRY TYPE - VENTILATED	1	EA	\$16,060.00	
	500 kVA, DRY TYPE - VENTILATED	1	EA	\$24,560.00	
	750 kVA, DRY TYPE - VENTILATED	1	EA	\$36,060.00	
	1000 kVA, DRY TYPE - VENTILATED	1	EA	\$40,000.00	
81360	10 kVA, DRY TYPE	1	EA	\$4,637.00	SINGLE PHASE 240/480 V PRIMARY, 120/240 SECONDARY, ON 36' POLE
	15 kVA, DRY TYPE	1	EA	\$5,415.00	
	25 kVA, DRY TYPE	1	EA	\$3,446.00	
81360	<u>MAIN CONVERSION EQUIPMENT, POWER TRANSFORMER - ALL PAD MOUNTED W/BOLLARDS &amp; GROUNDING LOOP</u>				
	46 kv		MVA	\$34,820.00	
	110 kv		MVA	\$29,850.00	
	161 kv		MVA	\$27,880.00	
	500 kv		MVA	\$27,250.00	
81360	<u>TRANSFORMERS 13,800 VOLTS TO 480/277 VOLTS - ALL PAD MOUNTED W/BOLLARDS AND GROUNDING LOOP</u>				
	112.5 kVA	1	EA	\$49,740.00	
	150 kVA	1	EA	\$50,470.00	
	225 kVA	1	EA	\$57,510.00	
	500 kVA	1	EA	\$65,290.00	
1351X	<u>COMMUNICATIONS DISTRIBUTION CABLE SPLICING &amp; TERMINATIONS - CABLE SPLICING</u>				
	#6 STRANDED TO #1 STRANDED, 5 kv	1	EA	\$337.00	URD OR SIMILAR
	#6 STRANDED TO #1 STRANDED, 15 kv	1	EA	\$65,290.00	URD OR SIMILAR
	#6 STRANDED TO #1 STRANDED, 25 kv	1	EA	\$65,290.00	URD OR SIMILAR
1351X	#1 STRANDED TO #4/0 STRANDED, 25 kv	1	EA	\$373.00	URD OR SIMILAR
	#1 STRANDED TO #4/0 STRANDED, 25 kv	1	EA	\$394.00	URD OR SIMILAR
	#1 STRANDED TO #4/0 STRANDED, 25 kv	1	EA	\$430.00	URD OR SIMILAR

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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>	
<u>COMMUNICATIONS DISTRIBUTION CABLE SPLICING (CONT'D)</u>					
1351X	4/0 STRN'DED TO 500 KCMIL STRN'DED, 5 kV	1	EA	\$513.00	URD OR SIMILAR
	4/0 STRN'DED TO 500 KCMIL STRN'DED, 15 kV	1	EA	\$539.00	URD OR SIMILAR
	4/0 STRN'DED TO 500 KCMIL STRN'DED, 25 kV	1	EA	\$575.00	URD OR SIMILAR
1351X	500 KCMIL STRANDED, 5 kV	1	EA	\$518.00	URD OR SIMILAR
	500 KCMIL STRANDED, 15 kV	1	EA	\$544.00	URD OR SIMILAR
	500 KCMIL STRANDED, 25 kV	1	EA	\$601.00	URD OR SIMILAR
1351X	600 KCMIL STRANDED, 5 kV	1	EA	\$539.00	URD OR SIMILAR
	600 KCMIL STRANDED, 15 kV	1	EA	\$591.00	URD OR SIMILAR
	600 KCMIL STRANDED, 25 kV	1	EA	\$643.00	URD OR SIMILAR
1351X	750 KCMIL STRANDED, 5 kV	1	EA	\$663.00	URD OR SIMILAR
	750 KCMIL STRANDED, 15 kV	1	EA	\$715.00	URD OR SIMILAR
	750 KCMIL STRANDED, 25 kV	1	EA	\$762.00	URD OR SIMILAR
1351X	1000 KCMIL STRANDED, 5 kV	1	EA	\$731.00	URD OR SIMILAR
	1000 KCMIL STRANDED, 5 kV	1	EA	\$793.00	URD OR SIMILAR
	1000 KCMIL STRANDED, 5 kV	1	EA	\$860.00	URD OR SIMILAR
<u>COMMUNICATIONS DISTRIBUTION CABLE SPLICING &amp; TERMINATIONS - TERMINAL LUGS, SOLDERLESS</u>					
1351X	#16 TO #10	1	EA	\$14.00	
	#8 TO #4	1	EA	\$24.00	
	#2 TO #1	1	EA	\$33.00	
1351X	1/0 TO 2/0	1	EA	\$45.00	
	3/0	1	EA	\$62.00	
	4/0	1	EA	\$66.00	
1351X	250 KCMIL	1	EA	\$80.00	
	500 KCMIL	1	EA	\$126.00	
	750 KCMIL	1	EA	\$146.00	
<u>COMMUNICATIONS DISTRIBUTION CABLE SPLICING &amp; TERMINATION - FIBER OPTICS CABLE</u>					
1351X	12 STRAND	1	LF	\$2.20	W/ 1" PVC INNER DUCT RUN IN DUCTBANK
	24 STRAND	1	LF	\$2.50	W/ 1" PVC INNER DUCT RUN IN DUCTBANK
	36 STRAND	1	LF	\$2.80	W/ 1" PVC INNER DUCT RUN IN DUCTBANK
<u>COMMUNICATION DISTRIBUTION CABLE - FIBER OPTICS SPLICE BOX</u>					
1351X	6 STRAND 6 SPLICE	1	EA	\$425.00	INCLUDES SPLICE BOX AND CABLE SPLICES
	12 STRAND 12 SPLICE	1	EA	\$513.00	
	24 STRAND 24 SPLICE	1	EA	\$694.00	
	36 STRAND 36 SPLICE	1	EA	\$881.00	
<u>COMMUNICATIONS DISTRIBUTION CABLE - FIBER OPTICS TERMINATION BOX &amp; CABLE CONNECTIONS</u>					
1351X	6 STRAND 6 CABLE CONNECTIONS	1	EA	\$544.00	INCLUDES BOX & 6 CABLE CONNECTIONS
1351X	12 STRAND 12 CABLE CONNECTIONS	1	EA	\$622.00	INCLUDES BOX & 12 CABLE CONNECTIONS
	24 STRAND 24 CABLE CONNECTIONS	1	EA	\$834.00	INCLUDES BOX & 24 CABLE CONNECTIONS
	36 STRAND 36 CABLE CONNECTIONS	1	EA	\$1,036.00	INCLUDES BOX & 36 CABLE CONNECTIONS
82110	<u>STEAM CONDENSATE LINES, UNDERGROUND - FROM CENTRAL PLANT TO BUILDING</u>				
82210	COMMON CONDUIT - COMBINED STEAM SUPPLY & RETURN PIPES, PREFABRICATED BLACK STEEL, INSULATED CASE, INCLUDES FITTINGS, TESTING, STEAM MANHOLES @ 250' O.C., 3' EXCAVATION & BACKFILL				
82210	12-3/4"	1	LF	\$508.00	STEAM 2"; RETURN 1-1/4"
	10-3/4"	1	LF	\$461.00	STEAM 1-1/2"; RETURN 1-1/2"
	10-3/4"	1	LF	\$461.00	STEAM 1-1/4"; RETURN 1-1/2"
	10-3/4"	1	LF	\$461.00	STEAM 1"; RETURN 1"

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CATEGORY	ITEM	QUANTITY	UNIT	UNIT COST	REMARK
CODE				\$/UNIT	
	<b>STEAM CONDENSATE LINES, UNDERGROUND - FROM CENTRAL PLANT TO BUILDING (CONT'D)</b>				
82210	<b>SINGLE CONDUIT - STEAM PIPE, PREFABRICATED BLACK STEEL, INSULATED CASE ON SUPPORTS, INCLUDES FITTINGS, TESTING, 3' EXCAVATION &amp; BACKFILL</b>				
82210	12-3/4"	1	LF	\$332.00	1-1/4" PIPE
	12-3/4"	1	LF	\$337.00	1-1/2" PIPE
	12-3/4"	1	LF	\$352.00	2" PIPE
	12-3/4"	1	LF	\$358.00	2-1/2" PIPE
82210	14"	1	LF	\$373.00	3" PIPE
	14"	1	LF	\$399.00	4" PIPE
	18"	1	LF	\$503.00	6" PIPE
82210	<b>CONCRETE TRENCH for STEAM AND HOT WATER PIPING</b>				
	18" DEEP x 24" WIDE x 6" THICK WALL	1	LF	\$138.00	WITH CONCRETE COVER
82220	<b>HOT WATER LINES, UNDERGROUND</b>				
82220	<b>COMMON CONDUIT - COMBINED HOT WATER SUPPLY &amp; RETURN PIPES, PREFABRICATED BLACK STEEL, INSULATED CASE, INCLUDES FITTINGS, TESTING, 3' EXCAVATION &amp; BACKFILL</b>				
	10-3/4"	1	LF	\$358.00	HW 1"; RET 1"
	10-3/4"	1	LF	\$358.00	HW 1-1/2"; RET 1-1/2"
	10-3/4"	1	LF	\$404.00	HW 2"; RET 2"
	16"	1	LF	\$456.00	HW 3"; RET 3"
	20"	1	LF	\$606.00	HW 4"; RET 4"
82220	STEAM DISTRIBUTION MANHOLE, PREFAB STEEL, 8' X 6' HT	1	EA	\$17,820.00	INCLUDES MANHOLE VENT, NORMAL PIPING & INSTALLATION, CONDUIT AND LADDER
82410	<b>GAS PIPELINE for PLAIN &amp; NATURAL GAS DISTRIBUTION - STEEL PIPE, PLAIN END, TAR COATED AND WRAPPED, INCLUDES EXCAVATION &amp; BACKFILL</b>				
	1" DIA. STEEL PIPE, SCHEDULE 40	1	LF	\$18.00	
	2" DIA. STEEL PIPE, SCHEDULE 40	1	LF	\$23.00	
	3" DIA. STEEL PIPE, SCHEDULE 40	1	LF	\$31.00	
	4" DIA. STEEL PIPE, SCHEDULE 40	1	LF	\$42.00	
	6" DIA. STEEL PIPE, SCHEDULE 40	1	LF	\$67.00	
	8" DIA. STEEL PIPE, SCHEDULE 40	1	LF	\$98.00	
	12" DIA. STEEL PIPE, SCHEDULE 40	1	LF	\$168.00	
	18" DIA. STEEL PIPE, SCHEDULE 40	1	LF	\$237.00	
	24" DIA. STEEL PIPE SCHEDULE 40	1	LF	\$386.00	
	4" DIA. STEEL PIPE, SCHEDULE 80	1	LF	\$143.00	
	6" DIA. STEEL PIPE, SCHEDULE 80	1	LF	\$182.00	
83150	<b>SEWAGE LIFT STATION - PACKAGED SEWAGE LIFT STATION, INCLUDES FITTINGS ACCESSORIES; EXCLUDES FENCING, EXTERNAL PIPING OR BUILDING TO HOUSE THE EQUIPMENT</b>				
	200,000 GPD	1	EA	\$319,700.00	
	100 GPM	1	EA	\$274,620.00	
	200 GPM	1	EA	\$357,520.00	
83150	<b>SEWERAGE EJECTOR PUMP - DUPLEX SYSTEM, FIBERGLASS TANK, 0.7 HP, 15' HEAD, 135 GALLONS, 2" DISCHARGE.</b>				
	174 GPM (INCL. TANK, COVER & PUMP)	1	EA	\$4,119.00	INCLUDES OPERATING & LEVEL CONTROLS
83210	<b>SANITARY SEWER/ STORM DRAINAGE MANHOLES, CONCRETE CAST IN PLACE; INCLUDES MANHOLE, FRAMES &amp; COVERS</b>				
	4' DEEP, 4' x 4' x 8" THICK WALL	1	EA	\$2,306.00	EXCL. FOOTING, EXCAVATION AND BACKFILL
	6' DEEP, 4' x 4' x 8" THICK WALL	1	EA	\$3,161.00	EXCL. FOOTING, EXCAVATION AND BACKFILL
	8' DEEP, 4' DIA, 8" THICK WALL	1	EA	\$4,663.00	INCL. BASE, EXCAVATION, BACKFILL
	OVER 8' DEEP, 4' DIA, 8" THICK WALL	1	VLF	\$565.00	INCL. BASE, EXCAVATION, BACKFILL
83210	<b>SANITARY SEWER/ STORM DRAINAGE MANHOLES, CONCRETE PRECAST, INCLUDES MAHOLES, FRAMES &amp; COVERS</b>				
	UPTO 8' DEEP, 4' INTERNAL DIA.	1	VLF	\$425.00	
	OVER 8' DEEP, 4' INTERNAL DIA.	1	VLF	\$347.00	

**Unit Costs for Support Facilities**  
**PAX Newsletter 3.2.2, dated 25 Apr 2012**

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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>	
832XX	<b>CATCH BASIN</b> - CONCRETE PRECAST, INCLUDE MANHOLE, FRAMES, & COVER				
	4' DEEP, 5' INTERNAL DIA.	1	EA	\$3,938.00	INCL. BASE, EXCAVATION, & BACKFILL
	6' DEEP, 5' INTERNAL DIA	1	EA	\$4,715.00	INCL. BASE, EXCAVATION, & BACKFILL
832XX	<b>CURB INLET/ GUTTERMOUTH</b> - INCLUDES CURB INLET FRAME; EXCLUDES FOOTING, CATCHBASIN EXCAVATION & BACKFILL, AND PIPING OF DRAIN				
	24" x 36", LARGE, HEAVY DUTY	1	EA	\$1,399.00	
832XX	<b>STORMWATER DRAINAGE PONDS</b> - INCLUDES FENCE, SEEDING SLOPES, PARTIAL LINER & EXCAVATION				
	1/8 ACRES	1	EA	\$25,080.00	5 FT DEEP
	1/4 ACRES	1	EA	\$50,260.00	5 FT DEEP
	3/8 ACRES	1	EA	\$75,650.00	5 FT DEEP
	1/2 ACRES	1	EA	\$100,520.00	5 FT DEEP
84210	<b>WATER DISTRIBUTION LINES</b> - CEMENT LINED DUCTILE IRON PIPE, MECHANICAL JOINT, NO FITTING; INCL. EXCAVATION & BACKFILL,				
	4" DIA. PIPE, 18' LENGTH, CLASS 50	1	LF	\$41.00	
	6" DIA. PIPE, 18' LENGTH CLASS 50	1	LF	\$49.00	
	10" DIA. PIPE, 18' LENGTH, CLASS 50	1	LF	\$71.00	
	12" DIA. PIPE, 18' LENGTH, CLASS 50	1	LF	\$80.00	
	18" DIA. PIPE, 18' LENGTH, CLASS 50	1	LF	\$124.00	
	24" DIA. PIPE, 18' LENGTH, CLASS 50	1	LF	\$158.00	
84210	<b>WATER DISTRIBUTION LINES</b> - PLASTIC PIPE, FIBERGLASS, FILAMENT WOUND, GENERAL SVC: INCL. EXCAVATION & BACKFILL				
	2" DIA.	1	LF	\$30.00	
	3" DIA.	1	LF	\$34.00	
	4" DIA	1	LF	\$37.00	
	6" DIA	1	LF	\$50.00	
	10" DIA.	1	LF	\$91.00	
	12" DIA	1	LF	\$112.00	
84210	<b>WATER DISTRIBUTION LINES</b> - PLASTIC PIPE, PVC; INCLUDES EXCAVATION & BACKFILL				
	1" DIA., SCHEDULE 40	1	LF	\$25.00	
	2" DIA., SCHEDULE 40	1	LF	\$28.00	
	3" DIA., SCHEDULE 40	1	LF	\$34.00	
	4" DIA., SCHEDULE 40	1	LF	\$37.00	
	6" DIA., SCHEDULE 40	1	LF	\$49.00	
	10" DIA., SCHEDULE 40	1	LF	\$85.00	
	12" DIA., SCHEDULE 40	1	LF	\$94.00	
84210	<b>WATER DISTRIBUTION LINES</b> - PLASTIC PIPE, PVC; INCLUDES EXCAVATION & BACKFILL				
	1" DIA., SCHEDULE 80	1	LF	\$26.00	
	2" DIA., SCHEDULE 80	1	LF	\$30.00	
	3" DIA., SCHEDULE 80	1	LF	\$34.00	
	4" DIA., SCHEDULE 80	1	LF	\$39.00	
	6" DIA., SCHEDULE 80	1	LF	\$55.00	
	10" DIA., SCHEDULE 80	1	LF	\$82.00	
	12" DIA., SCHEDULE 80	1	LF	\$97.00	
84210	<b>WATER DISTRIBUTION LINE</b> - PLASTIC PIPE, HIGH DENSITY POLYETHYLENE (HDPE), SINGLE WALL, STRAIGHT WELDED				
	1" DIA., 40' LENGTH, DR 11	1	LF	\$10.00	
	2" DIA., 40' LENGTH, DR 11	1	LF	\$11.00	
	3" DIA., 40' LENGTH, DR 11	1	LF	\$12.00	
	4" DIA., 40' LENGTH, DR 11	1	LF	\$13.00	
	6" DIA., 40' LENGTH, DR 11	1	LF	\$18.00	
	10" DIA., 40' LENGTH, DR 11	1	LF	\$34.00	
	12" DIA., 40' LENGTH, DR 11	1	LF	\$45.00	
	18" DIA., 40' LENGTH, DR 11	1	LF	\$77.00	
	24" DIA., 40' LENGTH, DR 11	1	LF	\$94.00	
	36" DIA., 40' LENGTH, DR 11	1	LF	\$130.00	

**Unit Costs for Support Facilities**  
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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>	
84472	<b>WATER PUMP STATION, NONPOTABLE - FIRE PUMP, DIESEL, INCL. COST OF PUMP, CONTROLLER, FITTINGS &amp; RELIEF VALVE</b>				
	500 GPM - 4" PUMP, 125 PSA, 78 HP	1	EA	\$49,950.00	EQUIPMENT ONLY, DOES NOT INCLUDE THE COST OF BUILDING TO HOUSE THE EQUIPMENT
	1000 GPM - 4" PUMP, 100 PSI, 89 HP	1	EA	\$49,850.00	
	2000 GPM - 6" PUMP, 100 PSI, 167 HP	1	EA	\$65,290.00	
	2500 GPM - 8" PUMP, 150 PSI, 365 HP	1	EA	\$89,120.00	
	1000 GPM -5" PUMP, 100 PSI, 86 HP, 3350 RPM	1	EA	\$31,710.00	
	2000 GPM -6" PUMP, 100 PSI, 167 HP, 1770 RPM	1	EA	\$41,350.00	
84610	<b>ELEVATED WATER STORAGE TANK - ABOVEGROUND STEEL TANK, 100' HIGH TOWER; INCL. SPREAD FOUNDATION, PAINTING, EXCLUDES PIPES &amp; PUMPS</b>				
	50,000 GA	1	EA	\$202,080.00	INCLUDES STEEL STORAGE TANK STANDPIIE, 125 FEET HIGH TOWER, VALVES AND STD FOUNDATIONS, BUT DOES NOT INCLUDE PUMPHOUSE BUILDING
	100,000 GA	1	EA	\$307,780.00	
	150,000 GA	1	EA	\$461,670.00	
	250,000 GA	1	EA	\$853,390.00	
	500,000 GA	1	EA	\$1,517,140.00	
	750,000 GA	1	EA	\$1,841,510.00	
	1,000,000 GA	1	EA	\$2,545,150.00	
84610	<b>GROUND STORAGE TANK (WATER) - ABOVEGROUND PRE-STRESSED CONCRETE TANK; INCL. INTEGRAL FOUNDATION, EXCLUDES PIPES AND PUMPS</b>				
	100,000 GA	1	EA	\$129,540.00	INCLUDES CONCRETE TANK AND STD FOUNDATIONS, BUT DOES NOT INCLUDE EXTERNAL PIPING AND PUMPING
	250,000 GA	1	EA	\$324,360.00	
	500,000 GA	1	EA	\$527,480.00	
	1,000,000 GA	1	EA	\$765,310.00	
	2,000,000 GA	1	EA	\$1,161,170.00	
	4,000,000 GA	1	EA	\$1,847,200.00	
84620	<b>RESERVOIR, POTABLE WATER - GROUND LEVEL STEEL STORAGE TANK; INCLUDES 1" x 3" RING WALL FOUNDATION; EXCLUDES PIPES &amp; PUMPS</b>				
	250,000 GA	1	EA	\$380,840.00	INCLUDES 1" x 3" RING FOUNDATION, EXCLUDES PIPE & PUMPS
	500,000 GA	1	EA	\$538,880.00	
	1,000,000 GA	1	EA	\$853,390.00	
	2,000,000 GA	1	EA	\$1,349,780.00	
	4,000,000 GA	1	EA	\$2,742,570.00	
84620	<b>UNDERGROUND STORAGE TANK - FIBERGLASS, DOUBLEWALL, U.L. LISTED, INCLUDES MANWAYS, SLAB, &amp; HOLD-DOWN STRAPS</b>				
	600 GA	1	EA	\$10,780.00	INCLUDES MANWAYS, SLABS, & HOLDDOWN STRAPS
	1,000 GA	1	EA	\$14,920.00	
	2,500 GA	1	EA	\$21,760.00	
	4,000 GA	1	EA	\$24,770.00	
	6,000 GA	1	EA	\$33,580.00	
	8,000 GA	1	EA	\$38,760.00	
	10,000 GA	1	EA	\$43,630.00	
	12,000 GA	1	EA	\$52,850.00	
	15,000 GA	1	EA	\$67,880.00	
	20,000 GA	1	EA	\$84,460.00	
84620	<b>ABOVE GROUND FUEL STORAGE TANK - CONCRETE; INCLUDES PAD</b>				
	500 GA	1	EA	\$12,640.00	
	1,000 GA	1	EA	\$17,510.00	
	2,000 GA	1	EA	\$22,380.00	
	4,000 GA	1	EA	\$28,710.00	
	8,000 GA	1	EA	\$44,770.00	
	12,000 GA	1	EA	\$60,110.00	

Unit Costs for Support Facilities  
PAX Newsletter 3.2.2, dated 25 Apr 2012

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CATEGORY	ITEM	QUANTITY	UNIT	UNIT COST	REMARK
CODE				\$/UNIT	
851XX	<b>ROADS/ PAVEMENTS - ASPHALT CONCRETE SURFACE; NO EARTHWORK (CUT &amp; FILL, CC 93410) COST INCLUDED</b>				
	1-1/2"	1	SY	\$8.10	PLANT MIX ASPHALT PAVING FOR HIGHWAYS & LARGE PAVED AREAS; INCL. WEARING COURSE, EXCL. EARTHWORK
	2"	1	SY	\$11.00	
	3"	1	SY	\$15.00	
851XX	<b>RECYCLED ASPHALTIC CONCRETE</b>				
	PLANT MIXED BITUMINOUS CONCRETE		TON	\$54.00	RECLAIMED PAVEMENT IN STOCKPILE, 145 lb/CF
	PLANT MIXED BITUMINOUS CONCRETE		TON	\$63.00	RECYCLED PAVEMENT, OLD:NEW RATIO 70:30
851XX	<b>CONCRETE SURFACE FOR HIGHWAYS &amp; LARGE PAVED AREAS, 4500 PSI, FIXED FORM, 12' PASS, INCL. JOINTS, FINISHINGS, &amp; CURING, EXCL. EARTHWORK</b>				
	6", UNREINFORCED	1	SY	\$28.00	12 FEET PASS FIXED FORM, JOINTS, FINISHING, & CURING
	8", UNREINFORCED	1	SY	\$37.00	
	10" UNREINFORCED	1	SY	\$47.00	
	12" UNREINFORCED	1	SY	\$54.00	
	16" UNREINFORCED	1	SY	\$82.00	
851XX	<b>REINFORCED</b>				
	6" REINFORCED	1	SY	\$59.00	
	8" REINFORCED	1	SY	\$68.00	
	10" REINFORCED	1	SY	\$77.00	
	<b>BASE COURSE DRAINAGE LAYERS for ROADWAYS &amp; LARGE PAVED AREAS - COMPACTED, NO EARTHWORK INCLUDED</b>				
851XX	<b>1-1/2" CRUSHED STONE BASE, COMPACTED</b>				
	4" THICK	1	SY	\$6.40	INCLUDES MATERIAL, TRANSPORT, EQUIPMENT & COMPACTION
	6" THICK	1	SY	\$9.00	
	8" THICK	1	SY	\$12.00	
	12" THICK	1	SY	\$17.00	
851XX	<b>BANK RUN GRAVEL BASE COURSE, SPREAD &amp; COMPACTED</b>				
	6" THICK	1	SY	\$6.20	INCLUDES MATERIAL, TRANSPORTATION, PLACEMENT & COMPACTION
	9" THICK	1	SY	\$9.10	
	12" THICK	1	SY	\$12.00	
851XX	<b>BITUMINOUS CONCRETE BASE COURSE, PLANT MIX ASPHALTIC BASE COURSE, NO EARTHWORK INCLUDED</b>				
	4" THICK	1	SY	\$19.00	
	6" THICK	1	SY	\$27.00	
	8" THICK	1	SY	\$36.00	
	10" THICK	1	SY	\$44.00	
851XX	<b>CONCRETE CURB &amp; GUTTER, STRAIGHT, WOOD FORM, NO EARTHWORK INCLUDED</b>				
	6" HIGH CURB, 6" THICK GUTTER, 24" WIDE	1	LF	\$26.00	CAST-IN-PLACE CONCRETE, 0.055 CY PER LF
	6" HIGH CURB, 6" THICK GUTTER, 30" WIDE	1	LF	\$28.00	CAST-IN-PLACE CONCRETE, 0.066 CY PER LF
	6" HIGH, 18" WIDE	1	LF	\$17.00	PRE-CAST CONCRETE
851XX	<b>SURFACE TREATMENTS</b>				
	TACK COAT, ELMUSION, 15 GALLONS/SY	1	SY	\$2.10	
	SLURRY SEAL, TYPE II, 12 lb AGGREGATE/SY		SY	\$5.20	
	PAVEMENT MARKING, 4" WIDE, < 3000 LF	1	LF	\$0.30	WHITE OR YELLOW PAINT, ACRYLIC, WATERBORNE
85220	<b>SIDEWALKS &amp; WALKWAYS - PEDESTRIAN SIDEWALKS &amp; WALKWAYS, WITH BASE COURSE. SEE CC 851XX FOR DRIVEWAYS &amp; ROADS</b>				
	4" CONCRETE CAST IN PLACE, 3000 PSI	1	SY	\$57.00	CAST-IN-PLACE w/ 6 x 6 - W1.4 x W1.4 MESH, BROOMED FINISH, AND GRADING & FORMING
	2-1/2" ASPHALT CONCRETE	1	SY	\$41.00	ASPHALT CONCRETE W/ BASE
86010	<b>RAILROAD TRACKS W/TIES AND BALLAST FOR STANDARD GAUGE. TRACK IS DEFINED AS A SINGLE PAIR OF RAILS,</b>				
	RAILROAD TRACKS W/TIES AND BALLAST	1	LF	\$263.20	WOOD TIES IN CONC W/ 100 LB RAIL, INCLUDES BALLASTS, CLIPS, ANGLES, BARS & BOLTS.

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CATEGORY	ITEM	QUANTITY	UNIT	UNIT COST	REMARK
CODE				\$/UNIT	
87110	<b>STORM SEWER</b> - TO CARRY STORM WATER RUNOFF; INCLUDES EXCAVATION & BACKFILL. TYPICALLY STORM WATER DRAIAGE SYSTEM WILL CONSISTS OF DRAINAGE INLET, RETENTION BASINS, PIPELINES, ACCESS MANHOLES, & OTHER COMPONENTS				
87110	<u>CORRUGATED METAL PIPE, 16 GA</u>				
	8" DIA.	1	LF	\$29.00	GALVANIZED & BITUMINOUS COATED W/ PAVED INVERT, 20' LENGTHS, 16 GA., INCLUDES EXCAVATION & BACKFILL
	10" DIA	1	LF	\$32.25	
	12" DIA	1	LF	\$36.75	
	15" DIA	1	LF	\$40.40	
	18" DIA	1	LF	\$44.00	
	24" DIA	1	LF	\$51.80	
	30" DIA	1	LF	\$72.55	
	36" DIA	1	LF	\$81.35	
	60" DIA	1	LF	\$156.50	
87110	<u>NON-REINFORCED CONCRETE PIPE</u>				
	6" DIA			\$33.15	NON-REINFORCED CONCRETE PIPE, EXTRA STRENGTH, B&S OR T&G JOINTS, INCLUDES EXCAVATION & BACKFILL
	10" DIA			\$34.75	
	12" DIA			\$37.80	
	18" DIA			\$51.80	
	24" DIA			\$73.55	
	36" DIA			\$73.60	
87110	<u>REINFORCED CONCRETE PIPE (RCP)</u>				
	12" DIA	1	LF	\$46.10	RCP 6' LENGTHS, CLASS 3, INCLUDES EXCAVATION & BACKFILL, GASKETS
	18" DIA	1	LF	\$59.05	
	24" DIA	1	LF	\$77.20	RCP 8' LENGTHS, CLASS 3, INCLUDES EXCAVATION & BACKFILL, GASKETS
	36" DIA	1	LF	\$142.00	
	60" DIA	1	LF	\$263.20	
87110	<u>SELECTIVE DEMOLITION OF WATER &amp; SEWAGE PIPES</u>				
	CONCRETE PIPE, 42"- 48" DIAMETER	1	LF	51.30	INCLUDES DEMOLITION OF WATER & SEWER PIPING & FITTINGS, EXCLUDES EXCAVATION
	CONCRETE PIPE, 60"- 84" DIAMETER	1	LF	61.65	
	DUCTILE IRON PIPE, 6"- 12" DIAMETER	1	LF	18.85	
	DUCTILE IRON PIPE, 14"- 24" DIAMETER	1	LF	27.45	
	COPPER PIPE, 3/4" - 2" DIAMETER	1	LF	2.60	
	COPPER PIPE, 2 1/2" - 3" DIAMETER	1	LF	4.35	
87210	<b><u>FENCING &amp; WALLS</u></b>				
87210	<u>INDUSTRIAL CHAIN LINK FENCE</u>				
	4' HIGH	1	LF	\$25.00	GALVANIZED STEEL FENCE, 2" POSTS @ 10' O.C., 9 GAUGE WIRE, SCHEDULE 40, INCLUDES 3 STRAND BARBED WIRE, EXCAVATION & CONCRETE
	6' HIGH	1	LF	\$29.50	
	8' HIGH	1	LF	\$39.35	
	10' HIGH	1	LF	\$42.50	
	<u>FENCE TOPPING</u>				
87210	BARBED WIRE, STAINLESS STEEL	100	LF	\$534.00	HELICAL RAZOR TAPE, 18" DIA x 18" SPACING
87250	<b><u>ENTRANCE GATES</u></b>				
87250	CHAIN LINK FENCE GATE, INDUSTRIAL, 6' HIGH GATE, 2" FRAME, 9 GAUGE WIRE, INCLUDES EXCAVATION & CONCRETE				
	GATE 4' WIDE, 6' HIGH, SINGLE SWING, W/ POSTS		EA	\$267.00	
	GATE 12' WIDE, 6' HIGH, SINGLE SWING, W/ POSTS		EA	\$803.00	FOR MOTOR OPERATED SWING ADD \$5,325
	GATE 24' PAIR, 6' HIGH, DOUBLE SWING		EA	\$1,166.00	FOR MOTOR OPERATED SWING, ADD \$5,325
	GATE 36' PAIR, 6' HIGH, SLIDING, DOUBLE		EA	\$1,943.00	FOR MOTOR OPERATED (SLIDE) ADD \$5,400
87250	<b><u>CHAIN LING FENCE GATE</u></b> , INDUSTRIAL, 3 FT WIDE, 1 1/2 " FRAME, INCLUDES EXCAVATION & CONCRETE				
	GATE 3' WIDE, 6' HIGH, FENCE 4' HIGH	1	EA	\$277.00	
	GATE 3' WIDE, 6' HIGH, FENCE 6' HIGH	1	EA	\$394.00	
	GATE 3' WIDE, 6' HIGH, FENCE 8' HIGH	1	EA	\$529.00	
	GATE 10' WIDE, DOUBLE SWING, 8' HIGH	1	EA	\$1,477.00	
	GATE 24' WIDE, CANTILEVER TYPE, 8' HIGH		EA	\$1,477.00	

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CATEGORY	ITEM	QUANTITY	UNIT	UNIT COST	REMARK
CODE				\$/UNIT	
87250	<b>SELECTIVE DEMOLITION - CHAIN LINK FENCE &amp; GATES</b>				
	3' - 4' HIGH FENCE	1	LF	\$1.95	
	5' HIGH FENCE	1	LF	\$2.20	
	12' HIGH FENCE	1	LF	\$4.90	
	3' - 4' WIDE GATE	1	LF	\$65.00	
89240	<b>FIRE HYDRANTS, 2-WAY, 4-1/2" CUTOFF VALVE</b>				
	4-6" DEPTH	1	EA	\$3,705.00	INCLUDES EXCAVATION & BACKFILL, 4-1/2" CUTOFF VALVE AND PIPING & CONNECTION TO MAIN LINE
	6" DEPTH	1	EA	\$3,938.00	
	8" DEPTH	1	EA	\$4,067.00	
93210	<b>SITE CLEARING &amp; GRADING</b>				
	BRUSH AND STUMP	1	SY	\$1.45	SUNDRY SURFACE ITEM CLEARING
	CLEAR & GRUB, LIGHT TREES TO 6" DIAMETER		ACRE	\$4,819.00	GRUB, REMOVE STUMPS & HAUL
	CLEAR & GRUB, MEDIUM TREES TO 12" DIAMETER		ACRE	\$6,865.00	GRUB, REMOVE STUMPS & HAUL
	CLEAR & GRUB, HEAVY TREES TO 24" DIAMETER		ACRE	\$16,060.00	GRUB, REMOVE STUMPS & HAUL
93210	<b>SITE CLEARING &amp; GRADING - GRADING</b>				
	ROUGH - NO COMPACTION, LOOSE	1	SY	\$2.40	DUMPED MATERIAL, SPREAD BY DOZER
	FINE - COMPACTED, +/- 1" COMPACTION	1	SY	\$2.00	3 PASSES WITH DOZER, 6" LIFTS
93210	<b>SITE CLEARING &amp; GRADING - BORROW</b>				
	FLY ASH	1	CY	\$54.00	AGGREGATE FOR EARTHWORK, SPREAD W/ 200 H.P. DOZER, INCLUDES LOAD AT PIT & HAUL UPTO 4 MILE ROUND TRIP. NO COMPACTION.
	BANK RUN GRAVEL	1	CY	\$47.00	
	SAND	1	CY	\$52.00	
	GRAVEL	1	CY	\$35.00	
	COMMON FILL	1	CY	\$28.50	
	SILT CLAY	1	CY	\$22.25	
	<b>LANDSCAPE AND PLANTING</b>				
93220	<b>SOIL PREPARATION - TOP SOIL</b>				
	MIX & SPREAD CONDITIONED SOIL	1	SY	\$8.70	SPREAD 4" DEEP BY HAND
	SPREAD SOIL CONDITIONER BY SPREADER	1,000	SF	\$11.00	FERTILIZER 0.2#/SY, TRACTOR SPREAD
	HAUL & SPREAD, TRUCK DUMPED	1	CY	\$8.10	INCLUDES MATERIAL, TRANSPORT & PLACEMENT
	STRIP TOPSOIL & STOCKPILE ON SITE	1	SY	\$0.50	STOCKPILE 6" DEEP BY 200 HP DOZER, 200' HAUL
93220	<b>SOIL PREPARATION - MULCHING</b>				
	HAY, 1" DEEP, POWER MULCHER	1,000	SY	\$47.00	
	PEAT MOSS, 1" DEEP, TRACTOR SPREADER	1,000	SY	\$373.00	
	WOOD CHIPS, 2" DEEP, SKID STEER LOADER	1,000	SY	\$368.00	
	WOOD CHIPS, 2" DEEP, HAND SPREAD	1	SY	\$4.30	SMALL AREA
93220	<b>LANDSCAPE &amp; PLANTING - GRASS</b>				
	SEEDING - TALL FESCUE	1,000	SF	\$33.00	5.5 LB/1000 SF, TRACTOR SPREAD
	SEEDING - BLUE GRASS	1,000	SF	\$52.00	4LB/1000 SF, HYDRO OR AIR SEEDING W/ FERTILIZER
	SODDING - 1" DEEP BLUEGRASS SOD	1,000	SF	\$554.00	1" DEEP BLUE GRASS
93220	<b>LANDSCAPE &amp; PLANTING - PLANTING BED PREPARATION</b>				
	EXCAVATE PLANTING PIT, SANDY SOIL	1	CY	\$10.00	1/2 CY, BACKHOE
	MIX PLANTING SOIL, INCLUDES LOAM	1	CY	\$60.00	SKID STEER LOADER
	REMOVE SOD	1	SY	\$0.60	ARTICULATED LOADER
93220	<b>LANDSCAPE &amp; PLANTING - GROUND COVER</b>				
	PLANTAIN LILY (Hemerocallis Hybrids)		EA	\$23.00	ZONE 4, CONTAINER, 1 QUART
	MOSS OR CREEPING PHLOX (Phlox Subulata)		EA	\$23.00	ZONE 4, CONTAINER, 1 GALLON
	STONECROP (Sedum)		EA	\$21.00	ZONE 4, CONTAINER, 1 GALLON

Unit Costs for Support Facilities  
PAX Newsletter 3.2.2, dated 25 Apr 2012

APPENDIX A - SUPPORT FACILITIES UNIT COST TABLE (Part - II, Support Facilities)					
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 with back-ups					
CATEGORY	ITEM	QUANTITY	UNIT	UNIT COST	REMARK
CODE				\$/UNIT	
93220	<b>LANDSCAPE &amp; PLANTING - SHRUBS</b>				B&B = BALLED & BURLAPED
	AZALEA EVERGREEN HYBRIDS	1	EA	\$61.00	ZONE 6, CONTAINER B&B, 3 GALLONS
	COMMON BOXWOOD (Buxus Sempervirens)	1	EA	\$80.00	ZONE 5, CONTAINER B&B, 18" - 24"
	WINGED BURNING BUSH (Eunymus Alatus)	1	EA	\$56.00	ZONE 4, CONTAINER B&B, 18" - 24"
	BLUE HOLLY (Ilex Meserve Blue Holly Hybr)	1	EA	\$62.00	ZONE 5, CONTAINER B&B, 18" - 24"
	OJM RHODODENDRON	1	EA	\$74.00	ZONE 4, CONTAINER B&B, 18" - 24"
93220	<b>LANDSCAPE &amp; PLANTING - DECIDUOUS TREES</b>				B&B = BALLED & BURLAPED
	RED MAPLE (Acer Rubrum)		EA	\$260.00	ZONE 4, CONTAINER B&B, 1-1/2" - 2" CALIPER
	AMERICAN BEECH (Fagus Grandiflora)		EA	\$321.00	ZONE 3, CONTAINER B&B, 1-1/2" - 1-3/4" CALIPER
	LOMBARDY POPLAR (Populus Nigra Italica)		EA	\$112.00	ZONE 4, CONTAINER B&B, 5 GALLON
	RED OAK (Quercus Rubra)		EA	\$76.00	ZONE 4, CONTAINER B&B, 5 GALLON
93220	<b>LANDSCAPE - SUBSURFACE DRIP IRRIGATION</b>				
	IRRIGATED AREA - REGULAR	1	LF	\$0.90	LARGE LINE, HAND BURY, PREINSERTED EMITTER, LOOPED GRID
	IRREGULAR IRRIGATED AREA -INSTALLED IN TRENCH		LF	\$0.50	
	GOLF COURSE w/ FULLY AUTOMAIC SYS	9	HOLES	\$243,530.00	UNDERGROUND SPRINKLERS
	RESIDENTIAL SYSTEM FOR LAWNS	1	SF	\$1.40	UNDERGROUND SPRINKLERS
93310	<b>DEMOLITION W/ DISPOSAL, BUILDING - INCLUDES 20 MILE HAUL. EXCLUDES FOUNDATION DEMOLITION, HAZARDOUS MATERIAL DEMOLITION, SALVAGE/RECYCLE &amp; DUMP FEES. VOLUME (CF) IS THE VOLUME OF THE ENTIRE BUILDING</b>				
	CONCRETE STRUCTURE (LARGE URBAN PROJECT)		CF	\$0.50	
	STEEL FRAME BUILDING - SMALL OR SINGLE BLDG		CF	\$0.40	
	MASONRY OR WOOD FRAME - SMALL OR SINGLE		CF	\$0.40	
93310	<b>SELECTIVE DEMOLITION - BUILDING, EXCLUDES DISPOSAL COST, RUBBISH HANDLING COSTS, SALVAGE &amp; DUMP FEES</b>				
	CONCRETE SLAB UPTO 6" THICK	1	SF	\$2.40	DEMOLITION OF BLDG FOOTINGS & FOUNDATION, FLOOR & CONC. SLAB ON GRADE
	GUTTING COMMERCIAL BLDG. INTERIOR	1	SF		EXCL. COSTS OF HAZARDOUS MATERIAL DEMO, DUMPSTER FEES
	LEAD BASED PAINT (LBP) REMOVAL & DISPOSAL		SF	\$0.00	WALLS SIMPLE DESIGN
	<b>NOTE: LBP 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 LANDFILL.</b>				
93310	RUBBISH HANDLING - DUMPSTER FEES	1	TON	\$99.00	AVERAGE OF ALL SIZES
93310	<b>DEMOLITION - PAVEMENTS, REMOVE PAVEMENT &amp; CURB, EXCLUDES HAULING &amp; DISPOSAL FEES</b>				
	6" CONCRETE, MESH REINFORCED	1	SY	\$16.00	
	7" - 24" THICK PLAIN CONCRETE	1	CY	\$124.00	
	7" - 24" CONCRETE, ROD REINFORCED	1	CY	\$170.00	REMOVE W/ BACKHOE
	REMOVE 3" BITUMINOUS PAVEMENT	1	SY	\$6.00	
	REMOVE PLAIN CONCRETE CURBS	1	LF	\$5.40	
93410	<b>CUT AND FILL: BCY = BANKED CUBIC YARDS, ECY = EMBANKMENT CY, LCY = LOOSE CY</b>				
	<b>EXCAVATION, COMMON EARTH:</b>				
	EXCAVATION, 105 HP BULK DOZER	1	BCY	\$5.60	OPEN SITE, 150' HAUL
	EXCAVATION, 300 HP BULK DOZER	1	BCY	\$3.70	OPEN SITE, 150' HAUL
	EXCAVATION, 700 HP BULK DOZER,	1	BCY	\$2.00	OPEN SITE, 150' HAUL
	EXCAVATION, TRENCH-MACHINE, 12 HP	1	BCY	\$1.30	CHAIN TRENCHER, 18" WIDE, 6' DEEP
	EXCAVATION TRENCH BY HAND	1	BCY	\$114.00	2 TO 6 FT DEEP, HEAVY SOIL, PICK & SHOVEL
93410	BACKFILL- 200 HP DOZER, STRUCTURAL CLAY		LCY	\$2.40	150' HAUL, NO COMPACTION, LCY = LOOSE CY
93410	BACKFILL & COMPACTION, TRENCH	1	ECY	\$4.40	DOZER BACKFILL, SHIPFOOT ROLLER COMPACTION
93410	BACKFILL & COMPACTION, IN 12" LAYERS	1	ECY	\$7.10	DOZER BACKFILL, ROLLER COMPACTION
93410	BACKFILL BY HAND, COMPACTED	1	LCY	\$44.00	HEAVY SOIL, INCLUDES COMPACTION
93410	<b>EXCAVATION &amp; BLASTING</b>				
	EXCAVATION - HARD ROCK	1	BCY	\$70.00	MACHILE DRILL, DEEP HOLE METHOD
	EXCAVATION - SHALE, MEDIUM	1	BCY	\$52.00	RIPPER DOZER & LOAD
	EXCAVATION OF ROCK BY HAND OR AIR TOOL		BCY	\$154.00	BY HAND OR AIR TOOL, MINOR STRUCTURES

Unit Costs for Support Facilities  
PAX Newsletter 3.2.2, dated 25 Apr 2012

APPENDIX A - SUPPORT FACILITIES UNIT COST TABLE (Part - II, Support Facilities)					
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 with back-ups					
CATEGORY	ITEM	QUANTITY	UNIT	UNIT COST	REMARK
CODE				\$/UNIT	
88040	<b>AT/FP VEHICULAR BARRICADES</b>				
	<b>Barrier Standards</b>				
	<b>SD-STD-02.01</b> specifies perpendicular barrier impact by a <b>15,000 lb. (6810 kg)</b> vehicle "K" indicates the Dept of State certified barrier's maximum vehicle impact speed rating "L" indicates the test vehicle's distance of penetration upon impact with barrier				
	<b>K12 = 50 mph (880 kph)</b> <b>K8 = 40 mph (65 kph)</b> <b>K4 = 30 mph (48 kph)</b>				<b>L3 = 3 ft. (915 mm)</b> <b>L2 = 3 ft. to 20 ft. (915 mm to 6.1 m)</b> <b>L1 = 20 ft. to 50 ft. (6.1 m to 15.3 m)</b>
	<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>				
88040	<b>CONCRETE PLANTER</b> - VEHICLE BARRIER				STOPS 4000 IB VEHICLE & 40 MPH
	36" DIAMETER x 30" HIGH (ROUND)	1	EA	\$741.00	EXCLUDES FILLING MATERIALS
	96" L x 24" W x 36" H	1	EA	\$1,016.00	
	84" DIAMETER X 36" HIGH	1	EA	\$1,736.00	24" HIGH, 9' LONG, REMOTE CONTROL PANEL
	DECORATIVE GEOMETRIC DESIGN, 96" L x 24" W x 36" H	1	EA	\$969.00	
88040	<b>GLASS FIBER REINFORCED CONCRETE SECURITY BARRIERS</b> (GFRC)				STOPS 4000 IB VEHICLE & 40 MPH
	CONCRETE FILLED GFRC, DECORATIVE IMPALER, 10' SECTION	1	EA	\$3,000.00	INCLUDES SITE PREPRATION ON BARE GROUND
	CONCRETE FILLED GFRC, DECORATIVE IMPALER, 12' SECTION	1	EA	\$3,500.00	INCLUDES SITE PREPRATION ON BARE GROUND
	GFRC DECORATIVE JERSEY BARRIER COVER, 12' SECTION	1	EA	\$1,500.00	EXCLUDES FILLING MATERIALS (SOIL)
	CONCRETE FILLED, PAINTED PIPE BOLLARD, 8' L x 4' D, 8" DIAMETER	1	EA	\$1,270.00	
88040	<b>CRASH BARRIERS</b> , STOPS 15000 LB VEHICLE @ 50 MPH				INCLUDES ALL LABOR, MATERIAL & EQUIPMENT FOR COMPLETE INSTALLATION
	20' WIDE DROP ARM CRASH BARRIER	1	EA	\$74,610.00	
	24' WIDE DROP ARM CRASH BARRIER	1	EA	\$100,000.00	
	12' W PORTABLE WEDGE CRASH	1	EA	\$132,130.00	
	20' W SLIDING ROLLER CRASH BARRIER	1	EA	\$234,200.00	
	20' W SLIDING CANTILEVER CRASH BARRIER	1	EA	\$234,200.00	
	10' WIDE, RAISED BOLLARD CRASH BARRIER, STANDARD POWER	1	EA	\$46,220.00	
	12' WIDE, RAISED BOLLARD CRASH BARRIER, STANDARD POWER	1	EA	\$52,850.00	
	10' WIDE, RAISED BOLLARD CRASH BARRIER, SOLAR POWER	1	EA	\$55,960.00	
	12' WIDE, RAISED BOLLARD CRASH BARRIER, SOLAR POWER	1	EA	\$61,660.00	
	INGROUND TIRE SHREDDER, 15' WIDE	1	EA	\$51,710.00	

**CHART C, METRIC/ENGLISH SYSTEMS**

<b><u>QUANTITY</u></b>	<b><u>FROM</u></b>			<b><u>TO OBTAIN</u></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 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
	pound (avoirdupois)		0.453592	kilogram
	short ton		907.185000	kilogram
	gram		0.035273	ounce
	kilogram		2.204622	pound
	kilogram		0.001102	short ton
	ENERGY -			
HEAT &	kilowatthour		3.600000	megajoule
WORK	btu		1.055056	kilojoule
	horsepower hour		2.684520	megajoule
	megajoule		0.277780	kilowatthour
	kilojoule		0.947817	btu
	megajoule		0.372506	horsepower hour
	POWER	ton (refrigeration)		3.517000
	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 TM 5-800-4 (UFC 3-700- 01), PAX Newsletter 3.2.2, dated 28 Mar 2012**  
**TRI-SERVICE MILITARY CONSTRUCTION PROGRAM (MCP) INDEX FOR FY 2012-18 PROGRAMS**  
**Based on FY 2012 President's Budget Inflation Guidance, Dated 10 Feb 2012**

<u>FISCAL YEAR (FY)</u>	<u>DATES</u>	<u>INDEX</u>	<u>ESCALATION PERCENTAGE FOR FISCAL YEAR</u>
<b>FY 2010</b>	<b>1-Oct- 2009</b> -----	<b>2483</b>	-----FY10
	1-Jan- 2010 -----	2495	
	1-Apr- 2010 -----	2506	
	1-Jul- 2010 -----	2517	
<b>FY 2011</b>	<b>1-Oct- 2010</b> -----	<b>2528</b>	-----FY11 (1.8%)
	1-Jan- 2011 -----	2539	
	1-Apr- 2011 -----	2550	
	1-Jul- 2011 -----	2561	
<b>FY 2012</b>	<b>1-Oct- 2011</b> -----	<b>2571</b>	-----FY12 (1.7%)
	1-Jan- 2012 -----	2582	
	1-Apr- 2012 -----	2593	
	1-Jul- 2012 -----	2604	
<b>FY 2013</b>	<b>1-Oct- 2012</b> -----	<b>2615</b>	-----FY13 (1.7%)
	1-Jan- 2013 -----	2627	
	1-Apr- 2013 -----	2639	
	1-Jul- 2013 -----	2651	
<b>FY 2014</b>	<b>1-Oct- 2013</b> -----	<b>2662</b>	-----FY14 (1.8%)
	1-Jan- 2014 -----	2674	
	1-Apr- 2014 -----	2686	
	1-Jul- 2014 -----	2698	
<b>FY 2015</b>	<b>1-Oct- 2014</b> -----	<b>2710</b>	-----FY15 (1.8%)
	1-Jan- 2015 -----	2723	
	1-Apr- 2015 -----	2735	
	1-Jul- 2015 -----	2747	
<b>FY 2016</b>	<b>1-Oct- 2015</b> -----	<b>2759</b>	-----FY16 (1.8%)
	1-Jan- 2016 -----	2772	
	1-Apr- 2016 -----	2784	
	1-Jul- 2016 -----	2797	
<b>FY 2017</b>	<b>1-Oct- 2016</b> -----	<b>2809</b>	-----FY17 (1.8%)
	1-Jan- 2017 -----	2822	
	1-Apr- 2017 -----	2835	
	1-Jul- 2017 -----	2848	
<b>FY 2018</b>	<b>1-Oct- 2017</b> -----	<b>2860</b>	-----FY18 (1.8%)

**Notes**

1. Use **1.8%** per fiscal year for projection beyond FY **2018**
2. Tri - Service MCP Index (1,000) = 1 October 1979 ENR Historical Building Cost Index (1,900)
3. The MCP indexes after 1 Oct 2010 were derived using the Price Escalation Indices (Annual Rates in Percentages) for Budget Authority published in the 10 Feb 2012 Inflation Guidance - Fiscal Year (FY) 2013 President's Budget.
4. This revised index table supersedes the MCP index table published as Appendix-C to PAX Newsletter 3.2.2, dated **4 Jan 2011**

**TABLE I - SIZE ADJUSTMENT FACTORS**

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

<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>	
NUMBER OF UNITS in the project	PROJECT SIZE FACTOR	NUMBER OF ROOMS in the project	PROJECT SIZE FACTOR
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		