ENGLISH

FACILITIES UNIT COSTS - MILITARY CONSTRUCTION

PAX NEWSLETTER NO. 3.2.2 - 09 Jan 2004

This updated newsletter supersedes the PAX Newsletter No. 3.2.2, 20 March 2003, 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 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 of the Army military construction cost estimates for programming and budgeting purposes for FY 2006/2007 and beyond unless otherwise noted. This newsletter is also published and maintained on the web page at **http://www.hq.usace.army.mil/cemp/e/ec/pax/paxtoc.htm**.

1. APPENDIX A - FACILITY UNIT COST TABLE

a. 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, 3 October 2003. Where unit costs span a group of subcategories, the five (5) digit category code is designated by adding XX behind the three (3) digit main category code for this group. For example, 851XX and 852XX are designated for roads, streets, parking, apron and sidewalks pavements.

b. Unit costs reflected herein are escalated to 1 October 2006 (MCP Index = 2309), the assumed midpoint of construction for FY06 projects, with an area cost factor (ACF) of 1.00. The MCP inflation indices shown in Appendix C should be used to escalate the FY06 and future unit costs beyond 1 Oct 06. These unit costs do not include allowances for construction contingencies and S&A, but do include contractor's markup cost for overhead & profit.

c. Unit costs reflected herein should be adjusted by the appropriate area cost factor, cost escalation factor as described in Appendix C, size adjustment factor in Table I, and other adjustment factors as described in the TM 5-800-4, when applicable. The ACF list is contained in Appendix B, Location Adjustment Factors in the TM 5-800-4, and updated by the latest PAX Newsletter No. 3.2.1, Area Cost Factors Indexes, which is also available on the web page as addressed above.

d. Building size identified in Part I of Appendix A is a reference size, but may not be a standard size from facility standard design criteria. This quantity may be used in conjunction with Table I, Size Adjustment Factors, to determine an appropriate size adjustment factor for the proposed facility.

e. The building unit costs in Appendix A, Part I, are for the primary gross areas only, and do not include support facilities cost, equipment acquired with other fund (non-MILCON) sources, anti-terrorism/force protection costs, or construction cost growth resulting from unforeseen site conditions or user requested change orders.

f. Building unit costs include installed (built-in) building equipment and furnishings normally funded with MILCON funds as described in AR 415-15. For medical facilities, the building costs include Categories A and B equipment, but exclude Categories E and F equipment.

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

The base cost index for the unit costs in Appendix A is for an assumed midpoint of construction date of 1 October 2006 (MCP Index = 2309) as described in paragraph 1.b above. For a project with an anticipated midpoint of construction date other than 1 October 2006, a cost escalation factor can be determined from this appendix as follows:

Project Anticipated Midpoint Date - 1 January 2008 (MCP Index = 2365)
Cost Escalation Factor = MCP Index 1 Jan 08 / MCP Index 1 Oct 2006 = 2365/2309 = 1.0243

3. PROPONENT OF THIS NEWSLETTER: HQUSACE/CECW-EI, 202-761-5545 or DSN-763-5545, and FAX 202-761-0623 and Internet Address: "amitava.ghosh@usace.army.mil".

APPENDIX A - FACILITY UNIT COST TABLE
PART I - BUILDINGS AND MAJOR FACILITIES
(09 Jan 04)

CATEGORY CODE	ITEM	QUANTITY	UNIT	UNIT COST $/UNIT	REMARK
111XX	AIRFIELD RUNWAYS				SEE CATCODE 851XX
112XX	AIRFIELD TAXIWAYS				SEE CATCODE 851XX
113XX	AIRFIELD APRONS				SEE CATCODE 851XX
116XX	AIRFIELD MISC. PAVING				SEE CATCODE 851XX
124XX	FUEL STORAGE (OPERATING)	1,000	GA	$4.30	UNDERGRD STG - INCLUDES EXCAVATION, BACKFILL & MANHOLE, EXCLUDES EXTERIOR PIPING & PUMPING
		5,000	GA	$4.10	
		10,000	GA	$3.90	
		20,000	GA	$3.80	
		30,000	GA	$3.60	
13120	COMMUNICATIONS CENTER	6,000	SF	$199.00	NO SHIELDING
	SATCOM CENTER	6,000	SF	$494.00	W/ SHIELDING & GENERATOR
13131	INFORMATION PROCESS CTR	21,000	SF	$187.00	AUTOMATIC DATA PROCESSING W/ RAISED FLOOR, ADMIN & STG AREAS
13310	FLIGHT CONTROL TOWER	5,000	SF	$253.00	
14110	AIRFIELD OPS BLDG	10,000	SF	$221.00	WITHOUT TOWER
14112	AVIATION UNIT OPS BLDG	12,000	SF	$155.00	SQUADRON
14113	ACCESS CONTROL FAC	280	SF	$194.00	SENTRY STATION
14114	CIDC FIELD OPS BLDG	9,400	SF	$146.00	
14129	TRAINING AIDS CENTER	800	SF	$121.00	
14132	READY BUILDING	20,000	SF	$131.00	
14162	SCIF FACILITY	25,000	SF	$183.00	
14165	FUELING/POL SUPP. BLDG	195	SF	$211.00	ADD PUMPS ($4500 EA) ADD STG TANKS (SEE CATCODE 124XX) AND PAVING (SEE CATCODE 851XX)
14182	BRIGADE HQS BLDG	11,000	SF	$160.00	
14183	BATTALION HQS BLDG	11,000	SF	$153.00	
14185	COMPANY OPS BLDG	8,000	SF	$145.00	
14955	WASH PLATFORM, ORG	1	EA	$69,020.00	2 VEHICLES - LOW PRES. W/ WASHWATER TREATMENT
14960	GREASE RACK	1	EA	$54,040.00	2 VEHICLES
14962	CENTRALIZED WASH FAC	1	EA	$6,741,920.00	16 STATIONS WITH WASHWATER RECYCLING
17112	FLIGHT SIMULATOR BLDG	32,000	SF	$142.00	BUILDING ONLY
17119	ORGANIZATIONAL CLASSROOM	32,000	SF	$129.00	
17120	GENERAL INSTRUCTION BLDG	25,000	SF	$158.00	
17121	INDOOR FIRING RANGE	5,600	SF	$114.00	
17123	RANGE SUPPORT BLDG	2,000	SF	$111.00	
	FIELD RANGE LATRINES	600	SF	$175.00	
17131	COMPACT ITEM REPAIR INST BLDG	6,000	SF	$122.00	
17132	GEN ITEM REPAIR INST BLDG	25,000	SF	$114.00	
17133	VEHICLE MAINT INST BLDG	30,000	SF	$147.00	
17134	AIRCRAFT MAINT INST BLDG	35,000	SF	$200.00	HIGH BAY BUILDING
17135	LABORATORY INST BLDG	9,000	SF	$193.00	
17136	AUTO-AIDED INSTRUCTION BLDG	25,000	SF	$178.00	
17137	MATERIAL HANDLING INST BLDG	40,000	SF	$82.00	
17139	COVERED TRAINING AREA	6,000	SF	$44.00	
17140	ARMY RESERVE CENTER BLDG	20,000	SF	$140.00	FOR OTHER RESERVE FACILITIES USE UNIT COST FROM APPROPRIATE FACILITY TYPE
17142	ARMY NATIONAL GUARD/ARMORY	20,000	SF	$140.00	

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17971	OBSERVATION TOWER/BUNKER	800	SF	$181.00	COST EXCLUDES EQUIP
21110	AIRCRAFT MAINT. HANGARS				
	MAINT GEN PURPOSE	23,000	SF	$172.00	
	HIGH BAY MAINTENANCE	35,000	SF	$200.00	
	CORROSION CONTROL	35,000	SF	$193.00	
21120	A/C COMPONENT MAINT SHOP	20,000	SF	$129.00	
21130	A/C PAINT SHOP	70,000	SF	$237.00	
21140	A/C ENGINE TEST CELL FAC	13,000	SF	$146.00	
21210	GUIDED MISSILE MAINT FAC	10,300	SF	$163.00	
21410	VEHICLE MAINT SHOP - TRACK	25,000	SF	$152.00	
	VEHICLE MAINT SHOP - WHEELED	30,000	SF	$147.00	
21470	OIL STORAGE BLDG	700	SF	$90.00	
21610	AMMO RENOVATION SHOP	6,500	SF	$134.00	
21612	AMMUNITION SURVEILLANCE	13,000	SF	$151.00	
21630	AMMUNITION DEMIL. FAC	82,500	SF	$889.00	CHEM DEMILITARIZATION FAC
21710	ELECTRONICS MAINT. SHOP	5,500	SF	$114.00	
21740	AVIONICS MAINT SHOP	23,000	SF	$150.00	
21850	BATTERY SHOP	5,000	SF	$114.00	
21881	ABN EQUIP/PARACHUTE REPAIR	8,000	SF	$163.00	
21885	INST MAINT SHOP, GEN PURPOSE	26,000	SF	$120.00	
21910	ENG/HOUSING MAINT SHOP	31,000	SF	$114.00	
31010	CHEMISTRY LAB	9,000	SF	$193.00	
31410	GROUND TRANS EQUIPMENT BLDG	31,000	SF	$148.00	
411XX	LIQUID FUEL STORAGE - BULK	2,500	BL	$72.40	ABOVE GROUND STEEL TANKS INCLUDES FOUNDATION DIKE AND EXTERIOR COATINGS (42 US GALS/BBL)
		5,000	BL	$48.20	
		10,000	BL	$34.80	
		25,000	BL	$26.60	
		50,000	BL	$19.30	
		100,000	BL	$13.80	
		250,000	BL	$12.20	
		2,500	BL	$72.40	ABOVE GRD STEEL TANK W/ FLOAT PANS INCLUDES FOUNDATION DIKE, INTERIOR EPOXY LINING & INTERIOR COATING
		5,000	BL	$48.20	
		10,000	BL	$39.30	
		25,000	BL	$30.50	
		50,000	BL	$23.80	
		100,000	BL	$18.30	
		250,000	BL	$15.50	
42180	IGLOO STORAGE, DEPOT	5,000	SF	$212.00	HIGH EXPLOSIVE MAGAZINE, WITH EARTH MOUNDING
42183	G P MAGAZINE, DEPOT	10,000	SF	$198.00	W/O CRANE
42280	IGLOO STORAGE, INST				SEE CATCODE 42180
42283	G P MAGAZINE, INST				SEE CATCODE 42183
43211	COLD STORAGE FACILITY				
	WAREHOUSE W/ PROCESSING	11,000	SF	$122.00	
	COLD STORAGE WAREHOUSE	6,000	SF	$163.00	
44110	GENERAL PURPOSE WAREHOUSE				
	LOW BAY	40,000	SF	$77.00	16 FT STACK HEIGHT

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	HIGH BAY	100,000	SF	$87.00	UP TO 26 FT STACK HEIGHT
44130	CONTROLLED HUMIDITY WHSE, DEPOT	40,000	SF	$81.00	
44135	HAZARDOUS MATERIAL STORAGE	21,000	SF	$123.00	
44150	FLAMMABLE MATERIAL STRHSE	8,200	SF	$118.00	
44181	VEHICLE STORAGE FACILITY	16,000	SF	$42.00	OPEN
		16,000	SF	$62.00	ENCLOSED
44210	AC PARTS STORAGE BLDG	16,000	SF	$72.00	
44220	G P STORAGE FACILITY, INST				SEE CATCODE 44110
44222	STORAGE SHED, COVERED	24,000	SF	$32.00	OPEN SIDES
44224	DEPLOYMENT EQUIP STG BLDG	3,400	SF	$73.00	
44230	CONTROLLED HUMIDITY WHSE, INST				SEE CATCODE 44130
44240	FLAMMABLE MATERIAL STRHSE, INST				SEE CATCODE 44150
45110	OPEN STORAGE AREA, DEPOT				SEE CATCODE 851XX
45210	OPEN STORAGE AREA, INST				SEE CATCODE 851XX
51010	MEDICAL CENTER/HOSPITAL	180,000	SF	$218.00	STATION HOSPITAL
				$248.00	REGIONAL MEDICAL CTR
				$248.00	TEACHING HOSPITAL
53060	MEDICAL WAREHOUSE	44,000	SF	$81.00	
53071	AMBULANCE GARAGE	480	SF	$67.00	
54010	DENTAL CLINIC	20,000	SF	$217.00	
55010	MEDICAL/HEALTH CLINIC	50,000	SF	$196.00	
	AMBULATORY HEALTH CLINIC	100,000	SF	$185.00	
61050	ADMIN FACILITY GEN PURP	25,000	SF	$142.00	ADP CTR, AUDITORIUM, CAFETERIA, SECURITY & PRE-WIRED WORK STA. NOT INCLUDED
	COMMAND HQS BUILDING	40,000	SF	$184.00	
	PRE-WIRED WORK STATION		EA	$5,351.00	
62010	UNDERGROUND ADMIN FAC	6,000	SF	$180.00	HARDENED FACILITY
711XX	FAMILY HOUSING W/SPRINKLERS	N/A	SF	$72.00	CONUS $/GROSS SF INCLUDES POST AWARD DESIGN COST
	OR FIRE RATED CONSTRUCTION	N/A	SF	$72.00	CONUS $/GROSS SF INCLUDES POST AWARD DESIGN COST
71410	DETACHED GARAGES	240	SF	$44.00	SINGLE CAR/MASONRY
				$28.00	SINGLE CAR/WOOD
71411	CARPORT	240	SF	$23.00	OPEN SIDES
72111	UNACCOMPANIED PERSONNEL HOUSING, ENLISTED	99,500	SF	$153.00	DOES NOT INCLUDE FREE-STANDING KITCHENETTE EQUIPMENT
	SOLDIER COMMUNITY BLDG	14,620	SF	$148.00	300 PERSON MODULE
NOTE: ALL UNFINISHED, OR FINISHED ATTIC AREAS WITH AN AVERAGE HEIGHT OF 2100 MM (6'-11") MEASURED FROM THE UNDERSIDE OF THE STRUCTURAL SYSTEM AND WITH PERIMETER WALLS MEASURING A MINIMUM 1500 MM (4'-11"), MUST BE COUNTED AS FULL SCOPE.					
72181	BASIC TRAINEE BARRACKS	369,370	SF	$136.00	COST APPLIES TO ENTIRE COMPLEX
	COMPANY/BARRACKS	313,680	SF	$127.00	
	BATTALION HQS	22,040	SF	$142.00	BLDG ONLY, CENTRAL ENERGY PLANT NOT INCLUDED

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CATEGORY CODE	ITEM	QUANTITY	UNIT	UNIT COST $/UNIT	REMARK
	DINING FACILITY	33,650	SF	$224.00	INCLUDES
72210	DINING FACILITY	21,500	SF	$248.00	INCLUDES MCA FUNDED KITCHEN EQUIPMENT & INSTALLATION COSTS
72410	UNACCOMP. OFFICERS QTRS	44,000	SF	$150.00	DOES NOT INCLUDE FREE-STANDING KITCHENETTE EQUIPMENT
72411	UNACCOMP. OFFICERS QTRS	44,000	SF	$150.00	TRANSIENT
73010	FIRE STATION, COMMUNITY	8,000	SF	$172.00	
73016	POLICE/MP STATION	4,200	SF	$147.00	
73017	CHAPEL	15,000	SF	$174.00	
73018	RELIGIOUS EDUCATION FAC	15,000	SF	$142.00	WITH FAMILY LIFE CTR.
73046	DEPENDENT SCHOOLS				
	ELEMENTARY		SF	$142.00	
	JUNIOR HIGH SCHOOL		SF	$144.00	
	HIGH SCHOOL		SF	$150.00	
74010	AUDITORIUM G P	4,000	SF	$135.00	
74011	BOWLING CENTER	7,800	SF	$164.00	W/ EQUIP - 8 LANES (PIN SPOTTING EQUIP & AUTO. SCORING DEVICE)
74012	CAFETERIA	5,000	SF	$166.00	
74014	CHILD DEVELOPMENT CENTER	25,000	SF	$169.00	DOES NOT INCLUDE FREE-STANDING FOOD SERVICE EQUIPMENT OR PLAYGROUND AREA AND EQUIPMENT. FOR OUTDOOR PLAY AREA, SEE CATCODE 75018
74021	COMMISSARY W/ OPERATIONAL EQUIPMENT	85,000	SF	$138.00	
74022	SKILL DEVELOPMENT CENTER	22,000	SF	$116.00	NON-AUTOMOTIVE CRAFTS/GENERAL SKILL
74023	CREDIT UNION	3,000	SF	$132.00	INCLUDES VAULT
74024	SKILL DEVELOPMENT CENTER	15,000	SF	$118.00	AUTOMOTIVE CRAFTS
74025	EDUCATION CENTER	30,000	SF	$170.00	ARMY CONTINUING EDUC SYSTEM FACILITY
74028	PHYSICAL FITNESS CTR	30,000	SF	$167.00	EXCLUDES INDOOR SWIMMING POOL (74042)
74030	SPORT PRO SHOP	28,000	SF	$136.00	CLUB
74032	GUEST HOUSE	30,000	SF	$143.00	TEMPORARY LODGING FACILITIES
74033	COMMUNITY SERVICE CENTER	34,000	SF	$147.00	
74041	MAIN LIBRARY	12,000	SF	$165.00	
74046	CONSOLIDATED OPEN DINING FAC				SEE CATCODE 74047
74047	NCO OPEN DINING / SERVICE CLUB	22,500	SF	$231.00	
74048	OFFICER OPEN DINING	22,500	SF		SEE CATCODE 74047
74053	MAIN EXCHANGE	80,000	SF	$111.00	W/ MALL SERVICE SHOPS
74056	EXCHANGE SERVICE OUTLET				SEE CATCODE 74053
74066	YOUTH CENTER	25,000	SF	$162.00	
74068	RECREATION CENTER	20,000	SF	$155.00	
74070	INDOOR ROLLER SKATING RINK	20,000	SF	$103.00	
74072	INDOOR SWIMMING POOL	6,000	SF	$162.00	25 METER NATATORIUM
74075	RECREATIONAL EQUIP CHECKOUT	5,000	SF	$75.00	
	RECREATIONAL SUPPORT BUILDING				SEE RECREATIONAL EQUIP CHECKOUT
75018	PLAYGROUND, G P				
	CHILD DEVELOPMENT CTR OUTDOOR PLAY AREA:				
	60 CHILD CAPACITY	6,000	SF	$31.00	
	99 CHILD CAPACITY	9,900	SF	$25.00	
	122 CHILD CAPACITY	12,200	SF	$22.00	
	145 CHILD CAPACITY	14,500	SF	$19.00	COST OF PLAY AREA INCLUDES FENCE, EQUIPMENT, AND SHED

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CATEGORY CODE	ITEM	QUANTITY	UNIT	UNIT COST $/UNIT	REMARK
	198 CHILD CAPACITY	19,800	SF	$16.00	
	244 CHILD CAPACITY	24,400	SF	$15.00	
	303 CHILD CAPACITY	30,300	SF	$13.00	
75022	MULTI-PURPOSE ATH FIELD	1	EA	$188,880.00	TURFED AREA EXCLUDES SITES PREP & ELECTRICAL LIGHTING
75030	OUTDOOR SWIMMING POOL	13,000	SF	$107.00	50 METER WITH CHANGE HOUSE
891XX	PLANT/UTILITIES BLDG		SF	$164.00	NO PLANT EQUIPMENT
	NO CATEGORY CODE IS AVAILABLE FOR FOLLOWING ITEMS:				
	FOUNDATIONS, UNUSUAL				
	PILING, TREATED WOOD, 50' L, 12" BUTT		LF	$27.00	
	PILING, CONCRETE 14" SQUARE		LF	$40.00	
	PILING, CONCRETE 16" SQUARE		LF	$42.00	
	PILING, CONCRETE 18" DIAMETER		LF	$48.00	
	PILING, STEEL H, 50' LONG, HP12X53		LF	$32.00	
	PILING, STEEL PIPE 12"D, CONC FILLED		LF	$41.00	

APPENDIX A - FACILITY UNIT COST TABLE
PART II - SUPPORT FACILITIES AND ITEMS
(09 Jan 04)

CATEGORY CODE	ITEM	QTY	UNIT	UNIT COST $/UNIT	REMARK
81117	PRIME POWER PLANT		KW	$1,038.00	EQUIPMENT ONLY - INCLUDES SWITCHGEAR
81150	UNINTER. PWR SUP (UPS)		KW	$4,720.00	UNINTERRUPTIBLE POWER SYSTEM (UPS), COST INCLUDES STATIC SWITCHGEAR
81160	STANDBY GENERATOR				
		75	KW	$514.00	COST INCL. BATTERY, CHARGE/MUFFLER/TRANSFER SWITCH & FUEL TANK
		125	KW	$369.00	
		200	KW	$294.00	
		300	KW	$251.00	
	POWER PLANT BUILDING		SF	$163.00	NO EQUIPMENT AND SWITCHGEAR
81230	EXTERIOR LIGHTING		LF	$32.00	UG DIRECT BURIAL W/ 500 WATT MV LAMINAR
81241	OVERHEAD ELECTRIC LINES				
	H-FRAME		MI	$107,340.00	15 KV UP TO 69 KV SHORT LINES, WOOD POLE, 3 PH, 4 WIRE
	OVERHEAD W/ POLES		LF	$16.00	BELOW 15 KV WOOD POLE, 3 PH, 4 WIRE
81242	UNDERGRD ELECTRIC LINES				
	DIRECT BURIAL:				COSTS INCL TRENCH, SAND BASE, TREATED BOARD, BACKFILL AND MARKER
	# 1/0		LF	$16.00	3/C - 600V DB
	# 4/0		LF	$21.00	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	$27.00	
	4-WAY-4"		LF	$34.00	
	6-WAY-6"		LF	$41.00	
81320	SUBSTATION, LOAD UNINTER. SWITCH 600 AMP		KVA	$73.00	300 KVA & BELOW W/CLF FUSES
81360	TRANSFORMERS, PRIMARY DELTA OR Y,277/480 V SECONDARY				
	150 KVA		EA	$12,090.00	OIL-FILLED, PAD MOUNTED, 3-PHASE
	500 KVA		EA	$18,080.00	
	1,000 KVA		EA	$32,640.00	
	2,000 KVA		EA	$48,800.00	
82110	HEAT PLANT COAL-FIRED				
	STEAM:				
	50 MBTU/H (MILLION BTU/H)		EA	$3,995,000.00	INCLUDES FUEL & ASH HANDLING FACILITIES
	100 MBTU/H		EA	$7,238,720.00	
	150 MBTU/H		EA	$10,315,490.00	
	200 MBTU/H		EA	$13,215,690.00	
	HITEMP WATER:				
	50 MBTU/H		EA	$3,763,830.00	INCLUDES FUEL & ASH HANDLING FACILITIES
	100 MBTU/H		EA	$6,043,320.00	
	150 MBTU/H		EA	$8,058,470.00	
	200 MBTU/H		EA	$10,315,490.00	
82120	HEAT PLANT OIL-FIRED				

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PART II - SUPPORT FACILITIES AND ITEMS
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CATEGORY CODE	ITEM	QTY	UNIT	UNIT COST $/UNIT	REMARK
	STEAM:				
	10 MBTU/H		EA	$712,740.00	
	50 MBTU/H		EA	$2,448,580.00	
	100 MBTU/H		EA	$4,689,540.00	INCLUDES PLANT EQUIP & OIL HANDLING FACILITY
	150 MBTU/H		EA	$6,803,160.00	
	200 MBTU/H		EA	$8,240,410.00	
	HITEMP WATER:				
	10 MBTU/H		EA	$644,250.00	
	50 MBTU/H		EA	$2,274,140.00	
	100 MBTU/H		EA	$4,243,280.00	INCLUDES PLANT EQUIP & OIL HANDLING FACILITY
	150 MBTU/H		EA	$6,043,320.00	
	200 MBTU/H		EA	$7,859,420.00	
82182	SOLAR HEATING				SEE SOLAR ENERGY CONVERSION - CHART B
82210	STEAM CONDENSATE LINES				INSUL, STEAM & CONDENS COST INCLUDES FITTINGS, ACCESSORIES, 3 FEET EXCAVATION, BACKFILL AND TESTING
	COMMON CONDUIT:				
	11-1/4"		LF	$208.00	STM: 2", RET: 1-1/2"
	10"		LF	$190.00	STM: 1-1/2", RET: 1-1/2"
	10"		LF	$181.00	STM: 1-1/4", RET: 1"
	10"		LF	$179.00	STM: 1", RET: 1"
	SINGLE CONDUIT:				STEAM OR HITEMP WATER, COST INCLUDES FITTINGS, ACCESSORIES, 3 FT, EXCAVATION, BACKFILL AND TESTING
	6"		LF	$114.00	1-1/4" PIPE
	8"		LF	$122.00	1-1/2" PIPE
	8"		LF	$124.00	2" PIPE
	10"		LF	$150.00	2-1/2" PIPE
	10"		LF	$161.00	3" PIPE
	11-1/8"		LF	$193.00	4" PIPE
	15"		LF	$222.00	6" PIPE
82220	HOT WATER LINES				
	COMMON CONDUIT:				INCLUDES FITTINGS, ACCESSORIES, 3 FT EXCAVATION, BACKFILL & TESTING
	12"		LF	$163.00	HW: 1", RET: 1"
	12-7/8"		LF	$198.00	HW: 1-1/2", RET: 1-1/2"
	15"		LF	$245.00	HW: 2", RET: 2"
	18"		LF	$268.00	HW: 3", RET: 3"
	21"		LF	$313.00	HW 4:, RET: 4"
	STEAM DIST MANHOLE, PREFAB STEEL, 8' X 6' HT		EA	$16,490.00	VENT, MH VENT, NORMAL PIPING & INSTALLATION, CONDUIT, INCL LADDER
82410	GAS PIPE LINES				SEE CHART A
82610	AIR CONDITIONING/REFRIG PLANT				
	NEW BLDG		TON	$3,243.00	
	EXISTING BLDG		TON	$4,537.00	

APPENDIX A - FACILITY UNIT COST TABLE
PART II - SUPPORT FACILITIES AND ITEMS
(09 Jan 04)

CATEGORY CODE	ITEM	QTY	UNIT	UNIT COST $/UNIT	REMARK
83140	INDUSTRIAL WASTE TREATMENT PLANT		EA	$1,748,680.00	500,000 GPD
83150	SEWAGE LIFT STATION		EA	$202,780.00	1,000 GPM
83210	SANITARY SEWER				SEE CHART A
	SANITARY SEWER MANHOLES:				
	CONCRETE, CIP:				
	UP TO 8' DEEP		VLF	$464.00	4 FT ID, INCLUDES FOOTING, EXCAVATION, 24" DIA COVER & FRAME
	OVER 8' DEEP		VLF	$495.00	
	CONCRETE, PRECAST:				
	UP TO 8' DEEP		VLF	$309.00	
	OVER 8' DEEP		VLF	$342.00	
	MISC:				
	CATCH BASINS		EA	$2,227.00	4 FT DEEP
	CATCH BASINS		EA	$2,968.00	6 FT DEEP
	CURB INLETS		EA	$577.00	GUTTERMOUTH
83310	INCINERATOR		EA	$40,450.00	200 LB PER HR PER UNIT (EQUIPMENT ONLY)
84210	WATER DISTRIBUTION LINES				SEE CHART A
84472	WATER PUMP STATION, NONPOTABLE				
	500 GPM		EA	$73,790.00	INCLUDES DIESEL DRIVE, AUTO CONTROLS, FILLINGS & ACCESSORIES, COMPLETE W/ INSTALLATION COSTS
	1,000 GPM		EA	$97,950.00	
	2,000 GPM		EA	$110,140.00	
	2,500 GPM		EA	$113,400.00	
84610	WATER STORAGE TANK				
	ELEVATED WATER STG TANK				
	50,000 GA		EA	$367,870.00	INCLUDES STEEL STG TANK STANDPIIPE, 125 FEET HIGH TOWER, VALVES AND STD FOUNDATIONS, BUT DOES NOT INCLUDE PUMPHOUSE
	100,000 GA		EA	$461,470.00	
	150,000 GA		EA	$552,900.00	
	250,000 GA		EA	$636,700.00	
	500,000 GA		EA	$1,024,160.00	
	750,000 GA		EA	$1,414,780.00	
	1,000,000 GA		EA	$1,798,980.00	
	GROUND STG TANK (WATER)				
	100,000 GA		EA	$254,710.00	INCLUDES CONCRETE TANK AND STD FOUNDATIONS, BUT DOES NOT INCLUDE EXTERNAL PIPING AND PUMPING
	250,000 GA		EA	$422,290.00	
	500,000 GA		EA	$520,210.00	
	1,000,000 GA		EA	$698,720.00	
	2,000,000 GA		EA	$1,006,730.00	
	4,000,000 GA		EA	$1,592,430.00	

APPENDIX A - FACILITY UNIT COST TABLE
PART II - SUPPORT FACILITIES AND ITEMS
(09 Jan 04)

CATEGORY CODE	ITEM	QTY	UNIT	UNIT COST $/UNIT	REMARK
84620	RESERVOIR, POTABLE				
	250,000 GA		EA	$411,380.00	INCLUDES 6" CONCRETE FLOOR SLAB, ORDINARY EXCAVATION AND PUMPING WITHIN
	500,000 GA		EA	$548,580.00	
	1,000,000 GA		EA	$757,480.00	
	2,000,000 GA		EA	$1,164,350.00	
	4,000,000 GA		EA	$1,913,480.00	
851XX	ROADS				
	A/C SURFACE				
	1-1/2"		SY	$3.80	FOR PAVEMENT ONLY, A/C SURFACE, NO EARTHWORK INCLUDED, URBAN AREA
	2"		SY	$4.90	
	3"		SY	$6.40	
	CONCRETE				
	6"		SY	$28.00	12 FEET PASS FIXED FORM, JOINTS, FINISHING, CURING, URBAN AREA, DOES NOT INCL REINF
	8"		SY	$38.00	
	10"		SY	$44.00	
	12"		SY	$51.00	
	BASE COURSE (CRUSHED STONES):				
	4"		SY	$5.20	INCLUDES MATERIAL, EQUIPMENT & COMPACTION, NO EARTHWORK INCLUDED
	6"		SY	$7.80	
	8"		SY	$11.00	
	12"		SY	$17.00	
	BASE COURSE (BANK RUN GRAVEL):				
	6"		SY	$3.90	
	9"		SY	$5.50	
	12"		SY	$7.30	
851XX	ROADS				
	BASE COURSE (BITUM. CONCRETE):				
	4"		SY	$7.10	
	6"		SY	$9.10	
	8"		SY	$12.00	
	10"		SY	$14.00	
	6"X8" CURB/GUTTER		LF	$17.00	CONCRETE
852XX	SIDEWALK & OTHER PAVEMENTS				SEE CATCODE 851XX
85220	SIDEWALKS & WALKWAYS				
	4" CONCRETE		SF	$4.30	INCLUDES GRADING & FORMING
	2-1/2" ASPHALT CONCRETE		SF	$2.10	
86010	RAILROAD TRACKS W/TIES AND BALLAST		LF	$268.00	100# RAIL, COMPLETE
87110	STORM SEWER				SEE CHART A

APPENDIX A - FACILITY UNIT COST TABLE
PART II - SUPPORT FACILITIES AND ITEMS
(09 Jan 04)

CATEGORY CODE	ITEM	QTY	UNIT	UNIT COST $/UNIT	REMARK
87210	FENCING AND WALLS				
	CHAIN LINK:				
	6 FT HIGH		LF	$20.00	
	8 FT HIGH		LF	$24.00	TYPE A (9 GA) INCLUDES 3 STRAND BARBED WIRE
	10 FT HIGH		LF	$28.00	
	FENCE TOPPING:				
	BARRED TAPE		LF	$9.90	STAINLESS STEEL, MIL-B-52775 TYPE II
87250	ENTRANCE GATES				
	CHAIN LINK				8' HIGH - 9 GA
	4' WIDE		EA	$316.00	
	12' SINGLE		EA	$863.00	FOR MOTOR OPERATED (SWING) ADD $3,150
	24' PAIR		EA	$1,509.00	FOR MOTOR OPERATED (SWING) ADD $3,150
	36' PAIR		EA	$2,077.00	FOR MOTOR OPERATED (SLIDE) ADD $4,410
88110	WATER SPRINKLER SYSTEMS (2,000 SF, PROTECTED AREA ONLY, INCL GATE VALVE)				
	WET PIPE		SF	$4.10	PROTECTED AREA ONLY
	DRY PIPE		SF	$4.60	PROTECTED AREA ONLY
	DELUGE		SF	$6.20	PROTECTED AREA ONLY, EXCLUDES DELUGE VALVE, PUMPING ELEVATED WATER STG, & EXTERIOR PIPING
	DRAFT CURTAINS		SF	$10.00	CURTAIN AREA SUPPORTED BY EXISTING TRUSSES (HANGERS)
89240	FIRE HYDRANTS, 4-1/2" VALVE		EA	$2,109.00	6' DEEP, INCL EXCAVATION
93210	SITE CLEARING & GRADING				
	GRADING:				
	ROUGH		SY	$4.60	OPEN AREA, AVG 2' C/F
	FINE		SY	$1.30	3 PASSES WITH ROLLER
	SITE CLEARING & GRUBBING		AC	$4,045.00	MEDIUM DENSE AREAS
	BORROW		CY	$15.00	UNCLASSIFIELD, 5-MILE HAUL
93220	LANDSCAPE AND PLANTING				
	TOPSOIL:				
	HAUL & SPREAD		CY	$21.00	
	STRIP/STOCKPILE		SY	$1.60	6" DEEP
	MULCHING:				
	WOOD CHIPS		SY	$2.60	2" DEEP
	GRASS:				
	SEEDING		SY	$0.80	HYD W/FERTILIZER
	SODDING		SY	$6.80	1" DEEP BLUE GRASS
93310	DEMOLITION W/ DISPOSAL				

APPENDIX A - FACILITY UNIT COST TABLE
PART II - SUPPORT FACILITIES AND ITEMS
(09 Jan 04)

CATEGORY CODE	ITEM	QTY	UNIT	UNIT COST $/UNIT	REMARK
	BUILDING: 10,000 SF, 10 FT CEILING HGT, 25 MILES HAUL:				
	CONCRETE		SF	$4.60	
	STEEL FRAME		SF	$4.10	
	MASONRY OR WOOD		SF	$3.50	
	BUILDING INTERIOR		SF	$6.80	GUTTING INTERIOR
	LEAD PAINT REMOVAL/DISPOSAL		SF	$10.00	WALL SURFACE AREA
	(ASBESTOS REMOVAL/DISPOSAL NOT INCLUDED. COST ESTIMATE FOR THIS WORK ITEM SHOULD BE BASED ON SITE SURVEY/EVALUATION AND LOCAL EXPERIENCE, AND SEPARATELY IDENTIFIED.)				
	PAVEMENT:		SY	$15.00	6" CONCRETE
			SY	$5.70	3" BITUMINOUS
93410	CUT AND FILL				
	EARTH:				
	CUT & FILL, 200 HP DOZER		CY	$7.80	COMMON EARTH, 300' HAUL
	EXCAVATION, 2 MILE ROUND TRIP		CY	$8.40	COMMON EARTH
	TRENCH-MACHINE		CY	$5.70	4' DEEP/2' WIDE
	TRENCH-HAND		CY	$43.00	
	BACKFILL-MACHINE		CY	$6.80	INCLUDES COMPACTION
	BACKFILL-HAND		CY	$33.00	INCLUDES COMPACTION
	ROCK:				
	ROCK, HARD		CY	$86.00	DRILL BLAST & MACHINE
	SHALE, MEDIUM		CY	$45.00	RIPPER DOZER AND LOAD
	TRENCH-HAND		CY	$142.00	
88040	AT/FP VEHICULAR BARRICADES				
	Barrier Standards **SD-STD-02.01** specifies perpendicular barrier impact by a **15,000 lb. (6810 kg)** 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 **K12** = 50 mph (880 kph) **K8** = 40 mph (65 kph) **K4** = 30 mph (48 kph) **L3** = 3 ft. (915 mm) **L2** = 3 ft. to 20 ft. (915 mm to 6.1 m) **L1** = 20 ft. to 50 ft. (6.1 m to 15.3 m) **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 loops, traffic arm, and traffic lights. CCTV, cameras, alarms, etc. not included with these costs.**				
	PORTABLE BEAM BARRICADE		EA	$24,940.00	RATED K4/L2, NO FDN REQUIRED, MOVE WITH FORKLIFT, STOPS 15,000 LB VEHICLE AT 30 MPH
	PORTABLE HYDRAULIC BARRICADE		EA	$34,910.00	TRANSPORTABLE RISING ROAD PLATE BARRICADE, SET UP WITH FORKLIFT, STOPS 15,000 LB VEHICLE AT 30 MPH

APPENDIX A - FACILITY UNIT COST TABLE
PART II - SUPPORT FACILITIES AND ITEMS
(09 Jan 04)

CATEGORY CODE	ITEM	QTY	UNIT	UNIT COST $/UNIT	REMARK
	PORTABLE HEDGEHOG BARRICADE		EA	$2,992.00	BARRICADE MADE OF PAINTED STRUCTURAL STEEL, REMOVABLE PNEUMATIC TIRES AND TOW BAR, 12' LONG
	WEDGE BARRICADE		EA	$54,860.00	24" HIGH, 9' LONG, REMOTE CONTROL PANEL
	WEDGE BARRICADE		EA	$59,840.00	K4/L2 RATED, 30" HIGH, 9' LONG, REMOTE CONTROL PANEL, STOPS 15,000 LB VEHICLE AT 30 MPH
	HYDRAULIC RISING ROAD PLATE		EA	$54,860.00	PLATE RISES TO 18" HIGH, SURFACE MOUNTED, 12' LENGTH, REMOTE CONTROL PANEL, STOPS 15,000 LB VEHICLE AT 63 MPH
	HYDRAULIC WEDGE		EA	$69,820.00	K12/L2 RATED, 9' WIDE X 3'-2" HIGH, STOPS VEHICLE AT 50 MPH, ZERO PENETRATION
	HYDRAULIC RISING ROAD PLATE		EA	$39,900.00	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	$59,840.00	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	$54,860.00	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	$56,850.00	K12/L2 RATED, PLATE RISES TO 39" HIGH, SHALLOW FOUNDATION TO 18" DEPTH, 9' LENGTH, STOPS 15,000 LB VEHICLE AT 50 MPH
	POP-UP BOLLARD SYSTEM		EA	$49,870.00	K4/L2 RATED, HYDRAULIC OR PNEUMATIC, SET OF THREE BOLLARDS, 13.25" DIA, 35" HIGH
	POP-UP BOLLARD SYSTEM		EA	$51,860.00	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	$49,870.00	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	$64,830.00	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	$59,840.00	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	$4,987.00	K4/L2 RATED, COUNTER BALANCED MANUAL LIFT, 10.75" DIA, 30" HIGH
	MANUAL POP-UP BOLLARD SYSTEM		EA	$3,990.00	24" HIGH, STOPS 10,000 LB VEHICLE AT 48 MPH AND STOPS 13,200 LB VEHICLE AT 38 MPH
	CRASH BEAM BARRICADE		EA	$44,880.00	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	$11,970.00	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	$39,900.00	K4/L2 RATED, HYDRAULIC, CONCRETE BOLLARD MOUNTED, STOPS 10,000 LB VEHICLE AT 15 MPH
	CRASH BEAM BARRICADE, HYDRAULIC		EA	$49,870.00	K4/L2 RATED, HYDRAULIC, CONCRETE BOLLARD MOUNTED, STOPS 15,000 LB VEHICLE AT 30 MPH

APPENDIX A - FACILITY UNIT COST TABLE
PART II - SUPPORT FACILITIES AND ITEMS
(09 Jan 04)

CATEGORY CODE	ITEM	QTY	UNIT	UNIT COST $/UNIT	REMARK
	SLIDING LINEAR CRASH GATE		EA	$61,840.00	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 M\PH
	MANUAL CRASH SWING GATE		EA	$14,960.00	9' HIGH x 12' WIDE CLEAR OPENING GATE
	HYDRAULIC ROLLING CRASH GATE		EA	$47,880.00	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	$52,860.00	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 TRACKS, WHEELS, OR ROLLER PATH
	PASSIVE VEHICLE BARRIER, SURFACE MOUNTED SABRE TOOTH CONTROLLER		EA	$598.00	SURFACE MOUNTED TIRE SPIKES, 3' WIDE, MANUALLY OPERATED

CHART A To Appendix A, Part II PIPING - SITEWORK UTILITIES

SIZE INCHES	UNIT	**BLACK STEEL** $
1	LF	$12.00
2	LF	$17.40
3	LF	$21.40
4	LF	$26.50
6	LF	$32.60
10	LF	$71.00
12	LF	$101.40
18	LF	$133.90
24	LF	$228.10
36	LF	
60	LF	

SIZE INCHES	UNIT	**PVC** $
1	LF	
2	LF	$6.30
3	LF	$9.40
4	LF	$12.50
6	LF	$18.80
10	LF	$24.30
12	LF	$30.60
18	LF	
24	LF	
36	LF	
60	LF	

SIZE INCHES	UNIT	**CORRUGATED** $
1	LF	
2	LF	
3	LF	
4	LF	
6	LF	$11.00
10	LF	$17.00
12	LF	$20.10
18	LF	$28.40
24	LF	$47.50
36	LF	$73.70
60	LF	$198.70

SIZE INCHES	UNIT	**HDPE** $
1	LF	
2	LF	
3	LF	
4	LF	$8.00
6	LF	$13.20
10	LF	$19.10
12	LF	$25.60
18	LF	$48.20
24	LF	$78.60
36	LF	
60	LF	

SIZE INCHES	UNIT	**DUCTILE IRON** $
1	LF	
2	LF	
3	LF	
4	LF	$20.10
6	LF	$22.90
10	LF	$40.40
12	LF	$51.30
18	LF	$90.10
24	LF	$121.20
36	LF	
60	LF	

SIZE INCHES	UNIT	**CONCRETE**	
		PLAIN $	**REINF.** $
1	LF		
2	LF		
3	LF		
4	LF		
6	LF	$15.00	
10	LF	$17.50	
12	LF	$19.30	$25.00
18	LF	$30.70	$35.40
24	LF	$35.40	$46.00
36	LF		$116.90
60	LF		$182.50

SIZE INCHES	UNIT	**REINF. PLASTIC** $
1	LF	
2	LF	
3	LF	$10.40
4	LF	$18.70
6	LF	$22.80
10	LF	$51.90
12	LF	$63.50
18	LF	
24	LF	
36	LF	
60	LF	

SIZE INCHES	UNIT	**VITRIFIED CLAY**	
		STANDARD STRENGTH $	**EXTRA STRENGTH** $
1	LF		
2	LF		
3	LF		
4	LF	$7.50	$8.60
6	LF	$10.40	$11.50
10	LF	$18.40	$21.20
12	LF	$21.80	$24.10
18	LF	$47.60	$57.90
24	LF	$96.90	$115.90
36	LF	$198.00	$220.30
60	LF		

CHART A To Appendix A, Part II PIPING - SITEWORK UTILITIES

NOTES:

1. Black Steel, schedule 40, welded.
2. Corrugated metal piping, galvanized 16 gage up to 18", 14 gage for 24", 12 gage up to 60".
3. Ductile iron, cement lined, class 50 water pipe, 18' in length, and mechanical joint.
4. Reinforced Plastic, fiberglass reinforced, plain end pipe.
5. PVC, schedule 40, Class 150 pipe.
6. Cost includes furnishing and installing pipe only. Trenching, bedding, backfill and compaction must be added to these costs.
7. For cathodic protection (if required), add 14% of total piping cost.

CHART B

SOLAR ENERGY SYSTEM COST ESTIMATING

BUILDING AREA * (SQ. FT.)		SOLAR SYSTEM COST ($)
UP TO	15000.00	$4.70 per sq. ft. ** plus $35,000.00
15001	50000.00	$3.30 per sq. ft. ** plus $51,000.00
50001	AND LARGER	$1.70 per sq. ft. ** plus $140,000.00

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

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

CHART C

METRIC/ENGLISH SYSTEMS

QUANTITY	FROM	MULTIPLY BY	TO OBTAIN

TABLE I - SIZE ADJUSTMENT FACTORS

PART I - BUILDING (OTHER THAN FAMILY HOUSING)

SIZE RATIO	ADJUST FACTOR	SIZE RATIO	ADJUST FACTOR	SIZE RATIO	ADJUST FACTOR	SIZE RATIO	ADJUST FACTOR
< 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 - FAMILY HOUSING

PROJECT SIZE (NO. OF UNITS)	FACTOR
1 - 9	1.25
10 - 19	1.15
20 - 49	1.10
50 - 99	1.04
100 - 199	1.00
200 - 299	0.93
300 & Over	0.90