U.S. ARMY ENGINEER DISTRICT FAR EAST

CORPS OF ENGINEERS

UNIT#15546

APO AP 96205-0610

GOVERNMENT ESTIMATE

OF

FAIR AND REASONABLE COST

TO THE CONTRACTOR

INCLUDING PROFIT

FOR

PROPOSED MODIFICATION TO

FY99 FLOOD SUPPLEMENTAL MILCON PN 51827 BACHELOR OFFICER QUARTERS

CONTRACT NO. DACA81-99-C-0059

CI #4

CAMP RED CLOUD, KOREA.

SCOPE OF REVISE
1. CHANGED THE HARDWARE TO CARD KEY OPERATED LOCK SYSTEM FOR 48 PN UOPH.
2. PROVIDE ADDITIONAL PURLINS.

U.S. ARMY ENGINEER DISTRICT FAR EAST
CORPS OF ENGINEERS
UNIT#15546
APO AP 96205-0610

GOVERNMENT ESTIMATE OF FAIR AND REASONABLE COST TO THE CONTRACTOR INCLUDING PROFIT
FOR PROPOSED MODIFICATION TO FY99 FLOOD SUPPLEMENTAL MILCON PN 51827 BACHELOR OFFICER QUARTERS
CONTRACT NO. DACA81-99-C-0059, CI #4
CAMP RED CLOUD, KOREA.

TOTAL INCREASE	₩	345,163,888
TOTAL DECREASE	₩	180,503,778
AGGREATE TOTAL	₩	525,667,666
NET INCREASE	₩	164,660,110
[1 $ = 1,190.10]		$137,319.75

PREPARED AND SUBMITTED BY :

CHOE YONG TO
ARCHITECT

SUBMITTED, REVIEWED AND
APPROVAL RECOMMENDED BY :

HENRY H. MIYAMOTO, P.E.
CHIEF, COST ENGINNERING BRANCH

3 Jun 00
DATE

APPROVED BY :

for RICHARD F. SCHIAVONI, P.E.
CHIEF, DESIGN BRANCH

3 Jun 00
DATE

CONSTRUCTION COST ESTIMATE WORKSHEET | DATE JUN 00 | 3-22

PROJECT : FY99 FLOOD SUPPLEMENTAL MILCON PN 51827 BACHELOR OFFICER QUARTERS

LOCATION : CAMP RED CLOUD, KOREA.

PLAN NO. | ESTIMATOR Choe, yong to

1 $ = 1199.10

DESCRIPTION	DIRECT COST	O/H=HOME OFFICE 4.30%	SUB TOTAL	PROFIT = 8.530%	TOTAL ECC
INCREASE	304,923,742	13,111,721	318,035,463	27,128,425	345,163,888
DECREASE	159,460,155	6,856,787	166,316,942	14,186,836	180,503,778
TOTAL AGGREGATE	464,383,897				525,667,666
NET INCREASE	145,463,587	6,254,934	151,718,521	12,941,589	164,660,110
					$137,319.75

CONSTRUCTION COST ESTIMATE WORKSHEET			DATE JUN 00		4-22
PROJECT : FY99 FLOOD SUPPLEMENTAL MILCON PN 51827 BACHELOR OFFICER QUARTERS					
LOCATION : CAMP RED CLOUD, KOREA.					
PLAN NO.		ESTIMATOR Choe, yong to			
				1 $ =	1199.10
DESCRIPTION	DIRECT COST	O/H=HOME OFFICE 4.30%	SUB TOTAL	PROFIT = 8.530%	TOTAL ECC
PRIMARY FACILITIES					
0001 **48 PN UOPH #1**					
INCREASE	152,461,871				
DECREASE	79,730,078				
NET INCREASE	72,731,793	3,127,468	75,859,261	6,470,795	82,330,056
0002 **48 PN UOPH #2**					
INCREASE	152,461,871				
DECREASE	79,730,078				
NET INCREASE	72,731,793	3,127,468	75,859,261	6,470,795	82,330,056
TOTAL INCREASE	145,463,586	6,254,936	151,718,522	12,941,590	164,660,112
					$137,319.75

CONSTRUCTION COST ESTIMATE WORKSHEET | DATE JUN 00 | 5-22

PROJECT : FY99 FLOOD SUPPLEMENTAL MILCON PN 51827 BACHELOR OFFICER QUARTERS

LOCATION : CAMP RED CLOUD, KOREA.

PLAN NO. | ESTIMATOR Choe, yong to

1 $ = 1199.10

	DESCRIPTION	MATERIAL	OFF-SHORE	LABOR	EQUIPMENT	TOTAL AMOUNT
	ADDITION WORK					
	PRIMARY FACILITIES					
0001	**48 PN UOPH #1**					
	ARCHITECTURAL	26,346,392	$41,509.00	6,775,019	35,888	
	STRUCTURAL	17,328,161	$0.00	44,743,822	7,459,147	
	SUB TOTAL	43,674,553	$41,509.00	51,518,841	7,495,035	152,461,871
0002	**48 PN UOPH #2**					
	ARCHITECTURAL	26,346,392	$41,509.00	6,775,019	35,888	
	STRUCTURAL	17,328,161	$0.00	44,743,822	7,459,147	
	SUB TOTAL	43,674,553	$41,509.00	51,518,841	7,495,035	152,461,871
	TOTAL INCREASE	87,349,106	$83,018.00	103,037,682	14,990,070	304,923,742
	DELETION WORK					
	PRIMARY FACILITIES					
0001	**48 PN UOPH #1**					
	ARCHITECTURAL	30,774,392	$28,145.00	7,201,299	35,888	
	STRUCTURAL	2,223,912	$0.00	4,903,396	842,521	
	SUB TOTAL	32,998,304	$28,145.00	12,104,695	878,409	79,730,078
0002	**48 PN UOPH #2**					
	ARCHITECTURAL	30,774,392	$28,145.00	7,201,299	35,888	
	STRUCTURAL	2,223,912	$0.00	4,903,396	842,521	
	SUB TOTAL	32,998,304	$28,145.00	12,104,695	878,409	79,730,078
	TOTAL DECREASE	65,996,608	$56,290.00	24,209,390	1,756,818	159,460,155

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CONSTRUCTION COST ESTIMATE	Date Prepared : Jun-00	Page 1 of 4
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)	BASIS OF ESTIMATE
Location :	CAMP RED CLOUD / KOREA	CODE A (No Design Complete) CODE B (Preliminary Design) CODE C (Final Design)
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE	X Orther (Specify)
Drawing Number :	Estimator : C. R. YOO	Chedcked By :

Descriptions : Archilectural Summary	QUANTITY		MATERIAL COST			LABOR COST		EQUIP. COST	
	No Unit	Unit	perUnit	Local(Won)	Offshr($)	perUnit	Total(Won)	perUnit	Total(Won)
Increase									
ARCH.-DIRECT COST ESTIMATE SUMMARY				Won	$		Won		Won
Revision "d"									
ADDITION WORK									
1. TEMPORARY & REMOVAL WORK $0				0	0		0		0
7. MOISTURE & DAMP PROTECTION WORK $0				0	0		0		0
8. DOOR, WINDOW, GLASS, & HARDWARE WORK $43,415				284,392	41,509		1,965,019		35,888
9. FINISH WORK $25,746				26,062,000	0		4,810,000		0
10. MISC. & SPECIALITY WORK $0				0	0		0		0
[TOTAL ARCH.-DIRECT COST] $69,161				26,346,392	41,509		6,775,019		35,888

	(Local MAT. + LAB. + EQP.) +	(Offshr MAT.)	=	(Total)
	33,157,299 Won			
Dollar Exchange Rate : 1 $ = 1,199.10 Won	$27,652	+ $41,509	=	$69,161

CONSTRUCTION COST ESTIMATE		Date Prepared :	Jun-00	Page 2 of 4
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)		BASIS OF ESTIMATE	
Location :	CAMP RED CLOUD / KOREA		CODE A	(No Design Complete)
			CODE B	(Preliminary Design)
			CODE C	(Final Design)
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE		X Other	(Specify)
Drawing Number :		Estimator : C. R. YOO	Chedcked By :	

Descriptions : Architectural Summary	QUANTITY		MATERIAL COST			LABOR COST		EQUIP. COST	
	No Unit	Unit	perUnit	Local(Won)	Offshr($)	perUnit	Total(Won)	perUnit	Total(Won)
8. DOORS & WINDOWS WORK									
* **HARDWARES WORK**							(CREWDAY)		
(MATERIAL)									
LOCKSET, MORTISE									
F01/PASSAGE, CLST, LATCH		SET	$92.39		0	1/8	0.0		
F04/ENTRY		SET	$131.5		0	1/8	0.0		
F07/STORAGE,CLOSET	8	SET	$138.82		1,111	1/8	1.0		
F08/FRONT DOOR	2	SET	$151.12		302	1/8	0.3		
F13/DITTO but SGL ACTG	96	SET	$141.36		13,571	1/8	12.0		
LOCKSET, BORED									
F76/PRIVACY,BED,BATH	48	SET	$111.76		5,364	1/8	6.0		
COREKEY									
COREKEY, 500T, Motise Cylinder	129	SET	$131.30		16,938		* Add 15% Replacement		
COREKEY, 500T (Hotel Function)		SET	$156.30		0		* Add 15% Replacement		
COREKEY, 400T, Single Cylinder		SET	$137.50		0		* Add 15% Replacement		
CORKEY CARDS									
127SC, SST, FACTORY CODED	387	SET	$3.13		1,211		* 3 Changed Keys each Lock		
127SB, SST, BLANK	194	SET	$2.75		532		* 50% of Total Change Keys		
ENCODING KITS									
1280, Professional Encoding Kits	1	SET	$1,375.0		1,375				
KEY BOX for CORKEY	1	SET	$200.00		200	1/2	0.5		
PUSH/PULL PLATE									
J501 PUSH BAR		EA	$173		0	1/12	0.0		
J502 PULL BAR	1	EA	$190		190	1/12	0.1		
ADJUSTABLE ASTRAGAL	3	SET	$210		630	1/11	0.3		
THRESHOLD, J32100 /SGL.	9	SET	27000	243,000		1/12	0.8		
J33100 /SGL.	1	EA	$85		85	1/12	0.1		

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CONSTRUCTION COST ESTIMATE	Date Prepared : Jun-00	Page 3 of 4
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)	BASIS OF ESTIMATE CODE A (No Design Complete) CODE B (Preliminary Design) CODE C (Final Design) X Orther (Specify)
Location :	CAMP RED CLOUD / KOREA	
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE	
Drawing Number :	Estimator : C. R. YOO	Chedcked By :

increase

Descriptions : Architectural Summary	QUANTITY		MATERIAL COST			LABOR COST		EQUIP. COST	
	No Unit	Unit	perUnit	Local(Won)	Offshr($)	perUnit	Total(Won)	perUnit	Total(Won)
(LABOR)									
CARPENTER	1.0	MD				60176			
SKILLED LABOR	0.5	MD				50160			
+PRODUCTION	22.0	CD				85256	1,875,632		
4.5 TON TRUCK W/ DRIVER	1.0	ED	41392			89387		35888	
+PRODUCTION :	1	CD	41392	41,392		89387	89,387	35888	35,888
(SUB-TOTAL for HARDWARES WORK)				284,392	41,509		1,965,019		35,888
* ADDITION WORK									

CONSTRUCTION COST ESTIMATE		Date Prepared :	Jun-00	9 Page 4 of 4
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)		BASIS OF ESTIMATE	
Location :	CAMP RED CLOUD / KOREA		CODE A	(No Design Complete)
			CODE B	(Preliminary Design)
			CODE C	(Final Design)
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE		X Orther	(Specify)
Drawing Number :		Estimator : C. R. YOO	Checked By :	

Descriptions : Architectural Summary	QUANTITY		MATERIAL COST			LABOR COST		EQUIP. COST	
	No Unit	Unit	perUnit	Local(Won)	Offshr($)	perUnit	Total(Won)	perUnit	Total(Won)
Interior									
9. FINISH WORK									
* WOOD FINISH WORK									
SOLID OAK WINDOW TRIM									
W-1, 1800 x 1300 x (120x45)	96	EA	241000	23,136,000		45000	4,320,000		
W-2, 1000 x 900 x (120x45)	10	EA	153000	1,530,000		30000	300,000		
W-4, 1800 x 2200 x (120x45)	3	EA	305000	915,000		45000	135,000		
W-5, 2400 x 4000 x (120x45)	1	EA	481000	481,000		55000	55,000		
(SUB-TOTAL for WOOD & STEEL FINISHES)				26,062,000	0		4,810,000		0
* ADDITION WORK									

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CONSTRUCTION COST ESTIMATE		Date Prepared :	Jun-00
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)	BASIS OF ESTIMATE	
Location :	CAMP RED CLOUD / KOREA	CODE A	(No Design Complete)
		CODE B	(Preliminary Design)
		CODE C	(Final Design)
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE	X Orther	(Specify)
Drawing Number :		Estimator : C. R. YOO	Chedcked By :

Descriptions : Structural Summary	QUANTITY No Unit	Unit	MATERIAL COST perUnit	Local(Won)	Offshr($)	LABOR COST perUnit	Total(Won)	EQUIP. COST perUnit	Total(Won)
Increase									
STRUCTURAL COST ESTIMATE SUMMARY				Won	$		Won		Won
Revision "d"									
ADDITION WORK									
1. TEMPORARY & REMOVAL WORK $0	$0.00	/M2		0	0		0		0
2. EARTH WORK $0	$0.00	/M2		0	0		0		0
3. CONCRETE WORK $0	$0.00	/M2		0	0		0		0
4. C. M. U. WORK $0	$0.00	/M2		0	0		0		0
5. STRUCTURAL STEEL WORK $57,986	$16.61	/M2		17,328,161	0		44,743,822		7,459,147
[Total STRUC.-Direct Cost]	Unit Cost								
$57,986	$16.61	/M2		17,328,161	0		44,743,822		7,459,147

Designed Bldg Area :	3,490 M2	(Local MAT. + LAB. + EQP.) 69,531,130	+	(Offshr MAT.)	=	(Total)
Dollar Exchange Rate :	1 $ = 1199.1 Won	$57,986	+	0	=	$57,986

CONSTRUCTION COST ESTIMATE	Date Prepared : Jun-00	14
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)	BASIS OF ESTIMATE
Location :	CAMP RED CLOUD / KOREA	CODE A (No Design Complete)
		CODE B (Preliminary Design)
		CODE C (Final Design)
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE	X Orther (Specify)
Drawing Number :	Estimator : C. R. YOO	Chedcked By :

Descriptions : Structural Summary		QUANTITY No-Unit	Unit	MATERIAL COST perUnit	Local(Won)	Offshr($)	LABOR COST perUnit	Total(Won)	EQUIP. COST perUnit	Total(Won)
Increase										
5. STRUCTURAL STEEL WORK										
STRUCTURAL STEEL WORK										
A) PURCHASING STEELS	TOTAL	26.4	Ton							
H 250x125x6x9		1.1	Ton	400000	440,000					
H 200x100x5.5x8		4.2	Ton	400000	1,680,000					
H 194x150x6x9		14.9	Ton	400000	5,960,000					
ㄷ 200x80x7.5x11		0.5	Ton	450000	243,000					
L 90x90x6		0.5	Ton	390000	195,000					
STEEL PLATES (Included Bent Plate)		5.2	Ton	410000	2,132,000					
B) SHOP FABRICATION into SUB-ASSEMBLY	20.00%	5.3	Ton							
OIL	0.7	3.8	LIT	202	768					
COKES	75	396.6	KG	173	68,612					
SLACK, DUST COAL	6	31.8	KG	429	13,642					
OXIGEN	4500	23796	LIT	1	23,796					
ACETYLENE	2	10.6	KG	2500	26,500					
BOLT, NUT, & WASHER	5	26.5	SET	160	4,240					
MISC. ANGLE, PLATES, ADDED	1.7	9.0	KG	310	2,790					
STEEL SKELETON WORKER	13.22	70.0	MD				64454	4,511,780		
RIGGER	3	15.9	MD				66149	1,051,769		
COMMON LABOR	0.25	1.4	MD				34360	48,104		
C) SITE FABRICATION before ERECTION	80.00%	21.2	Ton							
OIL	0.7	14.9	LIT	202	3,010					
COKES	75	1586.4	KG	173	274,447					
SLACK, DUST COAL	6	127.0	KG	429	54,483					
OXIGEN	4500	95184	LIT	1	95,184					
ACETYLENE	2	42.4	KG	2500	106,000					
BOLT, NUT, & WASHER	5	105.8	SET	160	16,928					
MISC. ANGLE, PLATES, ADDED	1.7	36.0	KG	310	11,160					
STEEL SKELETON WORKER	16.34	345.7	MD				64454	22,281,748		
RIGGER	3	63.5	MD				66149	4,200,462		
COMMON LABOR	0.3	6.4	MD				34360	219,904		
Da)REMOVE RUST W/GASOLINE --->	0.00%	0.0	Ton	IF NEED						
(CONDITION : A-GRADE, 50 M2/TON)		0	M2	for EXST						
LABOR SKILLED	0.05	0.0	MD				50160	0		

not in project

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CONSTRUCTION COST ESTIMATE		Date Prepared :	Jun-00
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)	BASIS OF ESTIMATE	
Location :	CAMP RED CLOUD / KOREA	CODE A	(No Design Complete)
		CODE B	(Preliminary Design)
		CODE C	(Final Design)
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE	X Orther	(Specify)
Drawing Number :		Estimator : C. R. YOO	Chedcked By :

Descriptions : Structural Summary		QUANTITY No Unit	Unit	MATERIAL COST perUnit	Local(Won)	Offshr($)	LABOR COST perUnit	Total(Won)	EQUIP. COST perUnit	Total(Won)
Increase										
b)REMOVE RUST by SAND-BLAST->	0.00%	0.0	Ton	IF NEED						
		0	M2							
SAND	0.0506	0.0	M3	7500	0					
LABOR SKILLED	0.0329	0.0	MD				50160	0		
COMMON LABOR	0.036	0.0	MD				34360	0		
E) STEEL ERECTION										
* FACTOR-1 by STL-QTY per BLDG.AREA		26.4	Ton	#########	M2					
		7.6	KG / M2							
Qty/M2 Less than 50 Kg	130.0%	130%	UP%							
50 - 60 Kg	126.0%	0%	UP%							
60 - 70 Kg	118.0%	0%	UP%							
70 - 90 Kg	110.0%	0%	UP%							
90Kg & Over	100.0%	0%	UP%							
	FACTOR	130%	UP%							
* FACTOR-2 by TOTAL-STL-QTY		26.4	Ton							
STL-Qty Less than 10 Ton	134.0%	0%	UP%							
10 - 15 Ton	130.0%	0%	UP%							
15 - 20 Ton	126.0%	0%	UP%							
20 - 30 Ton	122.0%	122%	UP%							
30 T & Over	118.0%	0%	UP%							
	FACTOR	122%	UP%							
** ERECTION		26.4	Ton							
(LAB. FACTOR) = (FACOR-1)x(FACOR-2)		1.586								
BOLT,for TEMPORARY FABRIC.	20*0.04	21.2	SET	220	4,664					
RIGGER 0.4 x	1.586	16.8	MD				66149	1,111,303		
STL SKELETON WORKER, 0.067x	1.586	2.9	MD				64454	186,917		
F) HAULING for STR-STEEL	20 KM	26.4	Ton							
DUMP TRUCK, 8 TON (0.2315/10Km, 0.2717/15, 0.4019/30)	0.0391	2.0	ED	76616	153,232		89387	178,774	49360	98,720
* ANCHOR-BOLT WORK										
A) PURCHASING ANCHOR-BOLTS										
A.B. 13mm(1/2") Dia.& less		0	SET	180	0					
16mm(5/8") Dia.		312	SET	270	84,240					
19mm(3/4") Dia.		76	SET	370	28,120					
22mm(7/8") Dia.		0	SET	750	0					
25mm(1 ") Dia.		0	SET	850	0					
25mm(1 ") Dia. over		0	SET	1500	0					

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CONSTRUCTION COST ESTIMATE	Date Prepared : Jun-00
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)
Location :	CAMP RED CLOUD / KOREA
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE
Drawing Number :	
Estimator :	C. R. YOO

BASIS OF ESTIMATE
- CODE A (No Design Complete)
- CODE B (Preliminary Design)
- CODE C (Final Design)
- X Orther (Specify)

Chedcked By :

Descriptions : Structural Summary		QUANTITY No.Unit	Unit	MATERIAL COST perUnit	Local(Won)	Offshr($)	LABOR COST perUnit	Total(Won)	EQUIP. COST perUnit	Total(Won)
(Increase 20)										
B) INSTALLING		388	SET							
a) INSTALLING A.B, 1/2"-3/4" Dia.		388	EA							
STEEL SKELETON WORKER	0.12	46.6	MD				64454	3,003,556		
b) INSTALLING A.B, 7/8"- 1" Dia.		0	EA							
STEEL SKELETON WORKER	0.23	0.0	MD				64454	0		
C) INSTALLING A.B, over 1" Dia.		0	EA							
STEEL SKELETON WORKER	0.3	0.0	MD				64454	0		
BOLTING WORK										
A) PURCHASING BOLTS										
H.B. M-6 (1/4") Dia.			SET	45	0					
M-10 (3/8") Dia.			SET	105	0					
M-12 (1/2") Dia.			SET	137	0					
M-16 (5/8") Dia.		1147	SET	235	269,545					
M-20 (3/4") Dia.			SET	370	0					
M-22 (7/8") Dia.			SET	450	0					
M-24 (1 ") Dia.			SET	600	0					
M.B. M-6 (1/4") Dia.			SET	25	0					
M-10 (3/8") Dia.			SET	73	0					
M-12 (1/2") Dia.			SET	100	0					
M-16 (5/8") Dia.			SET	185	0					
M-20 (3/4") Dia.			SET	293	0					
M-22 (7/8") Dia.			SET	368	0					
M-24 (1 ") Dia.			SET	460	0					
	Total	1147	SET	26.44	Ton					
B) INSTALLING		43.4	SET/TON							
a) INSTALLING, IF Qty Upto 50 EA/TON		26.44	Ton							
STEEL SKELETON WORKER	0.91	24.1	MD				64454	1,553,341		
b) INSTALLING, IF Qty Upto 100 EA/TON		0	Ton							
STEEL SKELETON WORKER	1.21	0.0	MD				64454	0		
c) INSTALLING, IF Qty over 100 EA/TON		0	Ton							
STEEL SKELETON WORKER	1.3	0.0	MD				64454	0		

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CONSTRUCTION COST ESTIMATE Date Prepared : Jun-00

Project Name : FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)

Location : CAMP RED CLOUD / KOREA

Architect Engineer : AMKOR / SAC - A JOINT VENTURE

Drawing Number :

Estimator : C. R. YOO

BASIS OF ESTIMATE
- CODE A (No Design Complete)
- CODE B (Preliminary Design)
- CODE C (Final Design)
- X Orther (Specify)

Chedcked By :

Descriptions : Architectural Summary	QUANTITY No.Unit	Unit	MATERIAL COST perUnit	Local(Won)	Offshr($)	LABOR COST perUnit	Total(Won)	EQUIP. COST perUnit	Total(Won)
Deleted									
ARCH.-DIRECT COST ESTIMATE SUMMARY				Won	$		Won		Won
Revision "d"									
DELETION WORK									
1. TEMPORARY & REMOVAL WORK $0				0	0		0		0
7. MOISTURE & DAMP PROTECTION WORK $0				0	0		0		0
8. DOOR, WINDOW, GLASS, & HARDWARE WORK $30,226				68,392	28,145		2,391,299		35,888
9. FINISH WORK $29,619				30,706,000	0		4,810,000		0
10. MISC. & SPECIALITY WORK $0				0	0		0		0
[TOTAL ARCH.-DIRECT COST] $59,845				30,774,392	28,145		7,201,299		35,888

	(Local MAT. + LAB. + EQP.) +	(Offshr MAT.)	=	(Total)
	38,011,579 Won			
Dollar Exchange Rate : 1 $ = 1,199.10 Won	$31,700	+ $28,145	=	$59,845

CONSTRUCTION COST ESTIMATE Date Prepared : Jun-00

Project Name : FY99 KOREA FLOOD SUPPLEMENTAL
BACHELOR OFFICER QUARTERS (48PN UOPH)

Location : CAMP RED CLOUD / KOREA

Architect Engineer : AMKOR / SAC - A JOINT VENTURE

Drawing Number :

Estimator : C. R. YOO

BASIS OF ESTIMATE
CODE A (No Design Complete)
CODE B (Preliminary Design)
CODE C (Final Design)
X Orther (Specify)

Chedcked By :

Descriptions : Architectural Summary	QUANTITY		MATERIAL COST			LABOR COST		EQUIP. COST	
	No Unit	Unit	perUnit	Local(Won)	Offshr($)	perUnit	Total(Won)	perUnit	Total(Won)
8. DOORS & WINDOWS WORK									
* HARDWARES WORK							(CREWDAY)		
(MATERIAL)									
LOCKSET, MORTISE									
F01/PASSAGE, CLST, LATCH		SET	$92.39		0	1/8	0.0		
F04/ENTRY		SET	$131.5		0	1/8	0.0		
F07/STORAGE,CLOSET		SET	$138.82		0	1/8	0.0		
F08/FRONT DOOR		SET	$151.12		0	1/8	0.0		
F13/DITTO but SGL ACTG		SET	$141.36		0	1/8	0.0		
F22	48	SET	$129.68		6,234	1/8	6.0		
LOCKSET, BORED									
F76/PRIVACY,BED,BATH		SET	$111.76		0	1/8	0.0		
F81/ENT,STORE	2	SET	$128.82		258	1/8	0.3		
F82/ENTRY		SET	$128.82		0	1/8	0.0		
F86/STORAGE,CLOSET	8	SET	$125.10		1,001	1/8	1.0		
F90/CORRIDOR	110	SET	$125.10		13,761	1/8	13.8		
CORE CYLINDER									
MORTISE LOCK	121	SET	$28.12		3,403				
EXIT DEVICE	6	SET	$28.12		169				
DEAD BOLT		SET	$35.00		0				
FLOOR CLOSER W/TOP PIVOT									
C06012, DOUBLE ACTING		SET	$348		0	1/2	0.0		
C06013, INT. DOOR ONLY		SET	$359		0	1/2	0.0		
C06041, SINGLE ACTING	1	SET	$363		363	1/2	0.5		
THRESHOLD, J32100 /SGL.	1	SET	27000	27,000		1/12	0.1		
J32140 /SGL.	48	SET	$42		2,016	1/12	4.0		
J33100 SGL.	9	SET	$85		765	1/12	0.8		
J39150 /SGL.	1	EA	$175		175	1/12	0.1		
(LABOR)									
CARPENTER	1.0	MD				60176			
SKILLED LABOR	0.5	MD				50160			
+PRODUCTION	27.0	CD				65256	2,301,912		
4.5 TON TRUCK W/ DRIVER	1.0	ED	41392			89387		35888	
+PRODUCTION :	1	CD	41392	41,392		89387	89,387	35888	35,888
(SUB-TOTAL for HARDWARES WORK)				68,392	28,145		2,391,299		35,888
* DELETION WORK									

CONSTRUCTION COST ESTIMATE		Date Prepared :	Jun-00	12 -
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)		BASIS OF ESTIMATE	
Location :	CAMP RED CLOUD / KOREA		CODE A	(No Design Complete)
			CODE B	(Preliminary Design)
			CODE C	(Final Design)
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE		X Other	(Specify)
Drawing Number :		Estimator : C. R. YOO	Chedcked By :	

Descriptions : Architectural Summary	QUANTITY		MATERIAL COST			LABOR COST		EQUIP. COST	
	No Unit	Unit	perUnit	Local(Won)	Offshr($)	perUnit	Total(Won)	perUnit	Total(Won)
9. FINISH WORK									
* WOOD FINISH WORK									
SOLID OAK WINDOW TRIM									
W-1, 1800 x 1300 x (120x90)	96	EA	284000	27,264,000		45000	4,320,000		
W-2, 1000 x 900 x (120x90)	10	EA	180000	1,800,000		30000	300,000		
W-4, 1800 x 2200 x (120x90)	3	EA	359000	1,077,000		45000	135,000		
W-5, 2400 x 4000 x (120x90)	1	EA	565000	565,000		55000	55,000		
(SUB-TOTAL for WOOD & STEEL FINISHES)				30,706,000	0		4,810,000		0
* DELETION WORK									

CONSTRUCTION COST ESTIMATE	Date Prepared : Jun-00	Page 1 of 5 18
Project Name : FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)		BASIS OF ESTIMATE
Location : CAMP RED CLOUD / KOREA		CODE A (No Design Complete)
		CODE B (Preliminary Design)
		CODE C (Final Design)
Architect Engineer : AMKOR / SAC - A JOINT VENTURE		X Orther (Specify)
Drawing Number :	Estimator : C. R. YOO	Checked By :

Descriptions : Structural Summary	QUANTITY No.Unit	Unit	MATERIAL COST perUnit	Local(Won)	Offshr($)	LABOR COST perUnit	Total(Won)	EQUIP. COST perUnit	Total(Won)
decrease									
STRUCTURAL COST ESTIMATE SUMMARY				Won	$		Won		Won
Revision "d"									
DELETION WORK									
1. TEMPORARY & REMOVAL WORK $0	$0.00	/M2		0	0		0		0
2. EARTH WORK $0	$0.00	/M2		0	0		0		0
3. CONCRETE WORK $0	$0.00	/M2		0	0		0		0
4. C. M. U. WORK $0	$0.00	/M2		0	0		0		0
5. STRUCTURAL STEEL WORK $6,647	$1.90	/M2		2,223,912	0		4,903,396		842,521
[Total STRUC.-Direct Cost]	Unit Cost								
$6,647	$1.90	/M2		2,223,912	0		4,903,396		842,521

Designed Bldg Area :	3,490	M2	(Local MAT. + LAB. + EQP.) 7,969,829	+	(Offshr MAT.)	=	(Total)
Dollar Exchange Rate :	1 $ = 1199.1	Won	$6,647	+	0	=	$6,647

CONSTRUCTION COST ESTIMATE		Date Prepared :	Jun-00	Page 2 of 5 19
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)		BASIS OF ESTIMATE	
Location :	CAMP RED CLOUD / KOREA		CODE A	(No Design Complete)
			CODE B	(Preliminary Design)
			CODE C	(Final Design)
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE		X Orther	(Specify)
Drawing Number :		Estimator : C. R. YOO	Chedcked By :	

Descriptions : Structural Summary		QUANTITY No Unit	Unit	MATERIAL COST perUnit	Local(Won)	Offshr($)	LABOR COST perUnit	Total(Won)	EQUIP. COST perUnit	Total(Won)
decrease										
5. STRUCTURAL STEEL WORK										
STRUCTURAL STEEL WORK										
A) PURCHASING STEELS	TOTAL	3.0	Ton							
H 250x125x6x9			Ton	400000	0					
H 200x100x5.5x8			Ton	400000	0					
H 194x150x6x9			Ton	400000	0					
⊂ 200x80x7.5x11			Ton	450000	0					
L 90x90x6		2.6	Ton	390000	1,014,000					
STEEL PLATES		0.4	Ton	410000	164,000					
B) SHOP FABRICATION into SUB-ASSEMBLY		0.6	Ton							
	20.00%									
OIL	0.7	0.5	LIT	202	101					
COKES	75	45	KG	173	7,785					
SLACK, DUST COAL	6	3.6	KG	429	1,544					
OXIGEN	4500	2700	LIT	1	2,700					
ACETYLENE	2	1.2	KG	2500	3,000					
BOLT, NUT, & WASHER	5	3.0	SET	160	480					
MISC. ANGLE, PLATES, ADDED	1.7	1.1	KG	310	341					
STEEL SKELETON WORKER	13.22	8.0	MD				64454	515,632		
RIGGER	3	1.8	MD				66149	119,068		
COMMON LABOR	0.25	0.2	MD				34360	6,872		
C) SITE FABRICATION before ERECTION		2.4	Ton							
	80.00%									
OIL	0.7	1.7	LIT	202	343					
COKES	75	180	KG	173	31,140					
SLACK, DUST COAL	6	14.4	KG	429	6,178					
OXIGEN	4500	10800	LIT	1	10,800					
ACETYLENE	2	4.8	KG	2500	12,000					
BOLT, NUT, & WASHER	5	12.0	SET	160	1,920					
MISC. ANGLE, PLATES, ADDED	1.7	4.1	KG	310	1,271					
STEEL SKELETON WORKER	16.34	39.3	MD				64454	2,533,042		
RIGGER	3	7.2	MD				66149	476,273		
COMMON LABOR	0.3	0.8	MD				34360	27,488		
Da)REMOVE RUST W/GASOLINE --->	0.00%	0.0	Ton	IF NEED						
(CONDITION : A-GRADE, 50 M2/TON)		0	M2	for EXST						
LABOR SKILLED	0.05	0.0	MD				50160	0		

CONSTRUCTION COST ESTIMATE	Date Prepared : Jun-00	
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)	BASIS OF ESTIMATE
Location :	CAMP RED CLOUD / KOREA	CODE A (No Design Complete) / CODE B (Preliminary Design) / CODE C (Final Design)
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE	X Orther (Specify)
Drawing Number :	Estimator : C. R. YOO	Chedcked By :

Descriptions : Structural Summary		QUANTITY No Unit	Unit	MATERIAL COST perUnit	Local(Won)	Offshr($)	LABOR COST perUnit	Total(Won)	EQUIP. COST perUnit	Total(Won)
decrease										
b)REMOVE RUST by SAND-BLAST->	0.00%	0.0	Ton	IF NEED						
		0	M2							
SAND	0.0508	0.0	M3	7500	0					
LABOR SKILLED	0.0329	0.0	MD				50160	0		
COMMON LABOR	0.036	0.0	MD				34360	0		
E) STEEL ERECTION										
* FACTOR-1 by STL-QTY per BLDG.AREA		3.0	Ton	#########	M2					
		0.9	KG / M2							
Qty/M2 Less than 50 Kg	130.0%	130%	UP%							
50 - 60 Kg	126.0%	0%	UP%							
60 - 70 Kg	118.0%	0%	UP%							
70 - 90 Kg	110.0%	0%	UP%							
90Kg & Over	100.0%	0%	UP%							
	FACTOR	130%	UP%							
* FACTOR-2 by TOTAL-STL-QTY		3.0	Ton							
STL-Qty Less than 10 Ton	134.0%	134%	UP%							
10 - 15 Ton	130.0%	0%	UP%							
15 - 20 Ton	126.0%	0%	UP%							
20 - 30 Ton	122.0%	0%	UP%							
30 T & Over	118.0%	0%	UP%							
	FACTOR	134%	UP%							
** ERECTION		3.0	Ton							
(LAB. FACTOR) = (FACOR-1)x(FACOR-2)		1.742								
BOLT,for TEMPORARY FABRIC.	20*0.04	2.4	SET	220	528					
RIGGER 0.4 x	1.742	2.1	MD				66149	138,913		
STL SKELETON WORKER, 0.067x	1.742	0.4	MD				64454	25,782		
F) HAULING for STR-STEEL	20 KM	3.0	Ton							
DUMP TRUCK, 8 TON	0.0391	1.0	ED	76616	76,616		89387	89,387	49360	49,360
(0.2315/10Km, 0.2717/15, 0.4019/30)										
* ANCHOR-BOLT WORK										
A) PURCHASING ANCHOR-BOLTS										
A.B. 13mm(1/2") Dia.& less		0	SET	180	0					
16mm(5/8") Dia.		0	SET	270	0					
19mm(3/4") Dia.		0	SET	370	0					
22mm(7/8") Dia.		0	SET	750	0					
25mm(1 ") Dia.		0	SET	850	0					
25mm(1 ") Dia. over		0	SET	1500	0					

CONSTRUCTION COST ESTIMATE		Date Prepared :	Jun-00	Page 4 of 5 21
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)		BASIS OF ESTIMATE	
Location :	CAMP RED CLOUD / KOREA		CODE A	(No Design Complete)
			CODE B	(Preliminary Design)
			CODE C	(Final Design)
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE		X Orther	(Specify)
Drawing Number :		Estimator : C. R. YOO	Chedcked By :	

Descriptions : Structural Summary		QUANTITY No Unit	Unit	MATERIAL COST perUnit	Local(Won)	Offshr($)	LABOR COST perUnit	Total(Won)	EQUIP. COST perUnit	Total(Won)
(decrease)										
B) INSTALLING		0	SET							
a) INSTALLING A.B, 1/2"-3/4" Dia.		0	EA							
STEEL SKELETON WORKER	0.12	0.0	MD				64454	0		
b) INSTALLING A.B, 7/8"- 1" Dia.		0	EA							
STEEL SKELETON WORKER	0.23	0.0	MD				64454	0		
C) INSTALLING A.B, over 1" Dia.		0	EA							
STEEL SKELETON WORKER	0.3	0.0	MD				64454	0		
BOLTING WORK										
A) PURCHASING BOLTS										
H.B. M-6 (1/4") Dia.			SET	45	0					
M-10 (3/8") Dia.			SET	105	0					
M-12 (1/2") Dia.			SET	137	0					
M-16 (5/8") Dia.		685	SET	235	160,975					
M-20 (3/4") Dia.			SET	370	0					
M-22 (7/8") Dia.			SET	450	0					
M-24 (1 ") Dia.			SET	600	0					
M.B. M-6 (1/4") Dia.			SET	25	0					
M-10 (3/8") Dia.			SET	73	0					
M-12 (1/2") Dia.			SET	100	0					
M-16 (5/8") Dia.		630	SET	185	116,550					
M-20 (3/4") Dia.			SET	293	0					
M-22 (7/8") Dia.			SET	368	0					
M-24 (1 ") Dia.			SET	460	0					
B) INSTALLING	Total	1315	SET	3	Ton					
		438.3	SET/TON							
a) INSTALLING, IF Qty Upto 50 EA/TON		0	Ton							
STEEL SKELETON WORKER	0.91	0.0	MD				64454	0		
b) INSTALLING, IF Qty Upto 100 EA/TON		0	Ton							
STEEL SKELETON WORKER	1.21	0.0	MD				64454	0		
c) INSTALLING, IF Qty over 100 EA/TON		3	Ton							
STEEL SKELETON WORKER	1.3	3.9	MD				64454	251,371		

CONSTRUCTION COST ESTIMATE		Date Prepared :	Jun-00	Page 5 of 5 22-22
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)		BASIS OF ESTIMATE	
Location :	CAMP RED CLOUD / KOREA		CODE A	(No Design Complete)
			CODE B	(Preliminary Design)
			CODE C	(Final Design)
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE		X Orther	(Specify)
Drawing Number :		Estimator : C. R. YOO	Chedcked By :	

Descriptions : Structural Summary		QUANTITY No Unit	Unit	MATERIAL COST perUnit	Local(Won)	Offshr($)	LABOR COST perUnit	Total(Won)	EQUIP. COST perUnit	Total(Won)
decrease										
* BEDDING MORTAR for STL. COLUMN & BEAM Upto max. 1'-4"x1'-4"		0	EA							
CEMENT	9	0.0	KG	62.5	0					
SAND	0.009	0.0	M3	7500	0					
PLASTERER	0.08	0.0	MD				54467	0		
COMMON LABOR	0.02	0.0	MD				34360	0		
* SAFTY WIRING CANOPY, PVC COATED		0	SF							
(for STR. STEEL WORK)		0	M2							
WIRING PVC COATED,#10-50x50	0.33	0	M2	1520	0					
REINFORCINGS	0.4	0	M	1150	0					
STEEL WIRES, #8	0.035	0	KG	300	0					
RIGGER	0.0175	0	MD				66149	0		
* ELECTRIC GENERATOR		3.0	Ton							
ELECTRIC GENERATOR, 50KW	3	9	ED	67,960	611,640		79952	719,568	43,828	394,452
* TRUCK CRANE		8	HR							
CRANE (20 TON)	0.2525	3	ED						132,903	398,709
OIL	6.8	55	LIT	468	25,740					
HEAVY EQUIP.OPERATOR	0.1894	2	MD				56517	113,034		
ASST.HEAVY EQUIP.OPER	0.0947	1	MD				42624	42,624		
HEAVY EQUIP. LEADER	0.0379	1	MD				63589	63,589		
MISC. OIL (MAIN OIL - 38%)		1	LS	OIL x 38%	9,781					
(SUB-TOTAL for STR. STEEL WORK)					2,223,912	0		4,903,396		842,521

Attachment 9.3-3

Page 5 of 5

CONSTRUCTION COST ESTIMATE		Date Prepared :	Jun-00	17
Project Name :	FY99 KOREA FLOOD SUPPLEMENTAL BACHELOR OFFICER QUARTERS (48PN UOPH)	BASIS OF ESTIMATE		
Location :	CAMP RED CLOUD / KOREA	CODE A	(No Design Complete)	
		CODE B	(Preliminary Design)	
		CODE C	(Final Design)	
Architect Engineer :	AMKOR / SAC - A JOINT VENTURE	X Orther	(Specify)	
Drawing Number :		Estimator : C. R. YOO	Chedcked By :	

Descriptions : Structural Summary		QUANTITY No Unit	Unit	MATERIAL COST perUnit	Local(Won)	Offshr($)	LABOR COST perUnit	Total(Won)	EQUIP. COST perUnit	Total(Won)
Increase										
* BEDDING MORTAR for STL. COLUMN & BEAM		0	EA							
Upto max. 1'-4"x1'-4"										
CEMENT	9	0.0	KG	62.5	0					
SAND	0.009	0.0	M3	7500	0					
PLASTERER	0.08	0.0	MD				54467	0		
COMMON LABOR	0.02	0.0	MD				34360	0		
* SAFTY WIRING CANOPY, PVC COATED		0	SF							
(for STR. STEEL WORK)		0	M2							
WIRING PVC COATED,#10-50x50	0.33	0	M2	1520	0					
REINFORCINGS	0.4	0	M	1150	0					
STEEL WIRES, #8	0.035	0	KG	300	0					
RIGGER	0.0175	0	MD				66149	0		
* ELECTRIC GENERATOR		26.4	Ton							
ELECTRIC GENERATOR, 50KW	3	80	ED	67,960	5,436,800		79952	6,396,164	43,828	3,506,240
* TRUCK CRANE		112	HR	(14 MD * 8HR)						
ST'L STRUCTURE LABOR (415 MD ÷ 30 MD = 14 MD)										
CRANE (20 TON)	0.2525	29	ED						132,903	3,854,187
OIL	6.8	762	LIT	468	356,616					
HEAVY EQUIP.OPERATOR	0.1894	22	MD				56517	1,243,374		
ASST.HEAVY EQUIP.OPER	0.0947	11	MD				42624	468,864		
HEAVY EQUIP. LEADER	0.0379	5	MD				63589	317,945		
MISC. OIL (MAIN OIL - 38%)		1	LS	OIL x 38%	135,514					
(SUB-TOTAL for STR. STEEL WORK)					17,328,161	0		44,743,822		7,459,147