

PROJECT = CONSTRUCTION OF THE HORIZONTAL INFRASTRUCTURE PROJECT
 OF THE CLARK INTERNATIONAL AIRPORT NEW TERMINAL BUILDING PROJECT
 (FORMERLY CLARK AIRPORT LOW COST TERMINAL)

COST ESTIMATE

ITEM	DESCRIPTION			MATERIALS		LABOR		EQUIPMENT	TOTAL
		QTY	UNIT	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST		
1	Temporary Facilities								
a	Field Office For the Engineers, 20 Footer Container Van (Rental Basis) 6 -Units	6	pc						
b	portalets minimum of 4 units	4	pc						
c	Living Quarters for the Engineer 2units (Rental Basis)	2	pc						
d	Furnitures/Fixtures, Equipment & Appliances for the Field Office for the Engineer	1	set						
e	10 laptops	10	pc						
f	4 A3 size printer	4	pc						
g	3 copiers	3	pc						
h	2 scanners	2	pc						
i	office supplies	1	set						
j	Furnitures/Fixtures, Equipment & Appliances for the Living Quarters for the Engineer	1	set						
k	Operation and Maintenance of Field Office for the Engineer	1	set						
l	Operation and Maintenance of Living Quarters for the Engineer	1	set						

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m	(3units) 4x4 Pick Up Type Service Vehicle for the Engineer on Bare Rental Basis	3	pc						
n	Operation and Maintenance of (3units) 4x4 Pick Up Type Service Vehicle for the Engineer	3	pc						
o	Surveying Works	1	l.s.						
p	Progress Photographs, Reports	1	l.s.						
q	Communication Facility for the Engineer	1	set						
2	Other Requirements								
a	(Mob/Demob, Medical personnel and facilities)								
b	Temp. Security Fence (chain link fence with light and signage)	3,197.33	l.m.						
c	Safety, Construction Signs (including construction safety and health program, PPE's)	20	ea.						
d	Lighted "X" Signs standee	8	sets						
e	Permits, access pass and licences (including application for temporary power supply and other utilities e.g.								
3	Haulage	141,077	cu.m.						
4	Site Preparation								
a	Subgrade Preparation(lean concrete, aggregate subbase, subgrade)	447,589	sq.m.						
b	Sodding	34,400	sq.m.						
5	Demolition Works(Taxiways F1, F2, portion of Alpha and portion of old runway)	85,582	cu.m.						
6	TAXIWAYS								
a	Echo Taxiway								
	Cut(0.20 meter top soil)	28,000	cu.m.						
	Total fill	87,515	cu.m.						
	Total cut	93,017	cu.m.						
	Lean Concrete	7,361	cu.m.						

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	PCCPavement ,440 mm thick	26,497	cu.m.						
	Rebars 40 mm dia.	1,885	kg						
	PU Sealant	24,415	lm						
	Taxiway Shoulder								
	Lean Concrete	10,237	cu.m.						
	Asphalt Shoulder	53,910	sm						
b	Taxiway F1								
	Total Fill	12,966	cu.m.						
	Total Cut	2,499	cu.m.						
	Lean Concrete	1,046	cu.m.						
	PCCPavement ,440 mm thick	5,091	cu.m.						
	Rebars 40 mm dia.	11,844	kg						
	PU Sealant	3,457	lm						
	Taxiway Shoulder								
	Lean Concrete	1,455	cu.m.						
	Asphalt Shoulder	10,129	sq.m.						
c	Taxiway F2								
	Total Fill	2,268	cu.m.						
	Total Cut	4,564	cu.m.						
	Lean Concrete	1,072	cu.m.						
	PCCPavement ,440 mm thick	5,091	cu.m.						
	Rebars 40 mm dia.	11,844	kg						
	PU Sealant	3,457	lm						
	Taxiway Shoulder								
	Lean Concrete	1,490	cu.m.						
	Asphalt Shoulder	10,129	sq.m.						
d.	PCCP Joint Rebars								
	12mm x 6.0M rebars	80,600	kg						
e	Taxiway Markings	2,819	sq.m.						
7	APRON								
a	PCCP, 440 mm thick (7000 psi comp.)	109,667	cu.m.						
b	Rebars 40 mm dia.	304,459	kg						
c	PU Sealant	96,112	lm						
d	Lean Concrete	37,385	cu.m.						
e	Sub-Base	53,594	cu.m.						
f	Total Fill	83,827	cu.m.						
g	Total Cut	258,550	cu.m.						
h	Drainage	23	hec						
	Misc.(Earthworks, Shipping, etc.)								

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i	Markings	1,248	sq.m.						
j	Fire Protection								
	Structure Excavation (Drainage, Culvert and other Structures)	1,377.00	cu.m.						
	Embankment (from Excavation)	413.00	cu.m.						
	Black Iron Steel Pipe 6" Ø schedule 40 ASTM A53 & Fittings	459.00	pc.						
	4" Fire Hydrant with 4" Elbow and Complete Accessories	9.00	set						
8	Special Paving Equipments								
9	Signages								
	Earthwork								
	Concrete								
	Signages								
	Guidance Signs								
	Mandatory signs								
	Internally illuminated guidance sign type PVL with:								
	- aluminium housing, length: 330 cm	10	pc						
	- polycarbonate front panel, height: 80 cm								
	- series/parallel power adaptor for supply 6.6 A fix								
	- Led strips								
	- support columns								
	- breakable couplings								
	Internally illuminated guidance sign type PVL with:								
	- aluminium housing, length: 110 cm	4	pc						
	- polycarbonate front panel, height: 80 cm								
	- serie/parallel power adaptor for supply 6.6 A fix								
	- Led strips								
	- support columns								
	- breakable couplings								
	Internally illuminated guidance sign type PVL with:								

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	aluminium housing, length: 170 cm	4	pc						
	- polycarbonate front panel, height: 80 cm								
	- serie/parallel power adaptor for supply 6.6 A fix								
	Led strips								
	- support columns								
	- breakable couplings								
	Internally illuminated guidance sign type PVL with:	14	pc						
	aluminium housing, length: 190 cm								
	polycarbonate front panel, height: 60 cm								
	- serie/parallel power adaptor for supply 6.6 A fix								
	Led strips								
	- support columns								
	- breakable couplings								
	Internally illuminated guidance sign type PVL with:	2	pc						
	aluminium housing, length: 150 cm								
	polycarbonate front panel, height: 60 cm								
	- serie/parallel power adaptor for supply 6.6 A fix								
	Led strips								
	- support columns								
	- breakable couplings								
	Internally illuminated guidance sign type PVL with:								
	aluminium housing, length: 230 cm	10	pc						
	polycarbonate front panel, height: 60 cm								
	- serie/parallel power adaptor for supply 6.6 A fix								
	Led strips								
	- support columns								
	- breakable couplings								
	Internally illuminated guidance sign type PVL with:	8	pc						

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				UNIT COST	TOTAL COST	UNIT COST	TOTAL COST		
	- aluminium housing, length: 290 cm								
	polycarbonate front panel, height: 60 cm								
	- serie/parallel power adaptor for supply 6.6 A fix								
	Led strips								
	- support columns								
	- breakable couplings								
	Internally illuminated guidance sign type PVL with:	5	pc						
	- aluminium housing, length: 70 cm								
	- polycarbonate front panel, height: 60 cm								
	- serie/parallel power adaptor for supply 6.6 A fix								
	Led strips								
	- support columns								
	- breakable couplings								
	Internally illuminated guidance sign type PVL with:	3	pc						
	- aluminium housing, length: 90 cm								
	- polycarbonate front panel, height: 60 cm								
	- serie/parallel power adaptor for supply 6.6 A fix								
	Led strips								
	- support columns								
	- breakable couplings								
	Internally illuminated guidance sign type PVL with:	1	pc						
	- aluminium housing, length: 130 cm								
	- polycarbonate front panel, height: 60 cm								
	- serie/parallel power adaptor for supply 6.6 A fix								
	Led strips								
	- support columns								
	- breakable couplings								
10	Electrical Works								
a	High Mast Lighting at Apron								

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		QTY	UNIT	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST		
	Earthworks	2,482	cu.m.						
	Concreting	639	cu.m.						
	Electrical Works including posts and accessories								
	400W LED LUMINAIRES	300	set						
	CONCRETE PEDESTALS FOR FEEDER	7	lot						
	STEEL LAMP POST; 25M	24	set						
	MANHOLE 1000Lx1000Wx1000mmD	31	set						
	MANHOLE 1500Lx1500Wx1000mmD	2	set						
	MDP1 (EAST 1 RAMP); MAIN:	1	set						
	MDP2 (EAST 2 RAMP); MAIN:	1	set						
	PILLAR FEEDER; MAIN: 4P60AT/225AF	7	set						
	14MM ² THWN	6,556	lm						
	5.5MM ² THWN	2,957	lm						
	8MM ² THWN(G)	3,117	lm						
	80MM ² THWN	341	lm						
	38MM ² THWN	176	lm						
	38MM ² THWN(G)	44	lm						
	14MM ² THWN(G)	44	lm						
	100mm Ø PVC; 3000mm(L)	972	pc						
	MAGNETIC CONTACTOR 3P 600V	24	set						
	CONSUMABLES	1	lots						
	Fiber optic single mode 12 core 2	2	km						
	Fiber optic patch panel 12 port	2	lots						
	Software	1	lots						
b	Taxiway lights								
	Earthworks	9,844	cu.m.						
	Concreting	683	cu.m.						
	Taxiway Lights including accessories								
	taxiway edge medium intensity								
	omidirectional elevated light type	157	sets						
	deep base mounted								
	led type 20W								
	ETL certified								
	long life led								
	Constant current regulator 15KVA/6.6A	2	sets						
	air cooled and controlled by microprocessor with:								

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				UNIT COST	TOTAL COST	UNIT COST	TOTAL COST		
	* modular concept including								
	a low voltage compartment with								
	- the power module with the thyristors								
	- the control module with monitoring functions								
	a high voltage compartment with:								
	- the output transformer								
	- the measurement transformers and lightning arresters								
	* brightness selector in 1 to 8 steps								
	* status information display on the front panel								
	* input voltage single phase 240V - 60 Hz - 2 wires								
	* analogic remote control by cable multiwire - 48 VDC								
	* dual digital remote control by RS485 signal								
	* earth fault detection circuit type EFD								
	* plug-in high voltage cut out to isolate								
	the serie circuit from the regulator output								
	* set of 2 pivot and 2 fixed wheels								
	Constant current regulator 5KVA/6.6A	1	sets						
	air cooled and controlled by microprocessor with:								
	* modular concept including								
	a low voltage compartment with								
	- the power module with the thyristors								
	- the control module with monitoring functions								
	a high voltage compartment with:								
	- the output transformer								
	- the measurement transformers and lightning arresters								
	* brightness selector in 1 to 8 steps								
	* status information display on the front panel								

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	* analogic remote control by cable multiwire - 48 VDC								
	* dual digital remote control by RS485 signal								
	* earth fault detection circuit type EFD								
	* plug-in high voltage cut out to isolate								
	the serie circuit from the regulator output								
	* set of 2 pivot and 2 fixed wheels								
	Constant current regulator 20KVA/6.6A	2	sets						
	air cooled and controlled by microprocessor with:								
	* modular concept including								
	a low voltage compartment with								
	- the power module with the thyristors								
	- the control module with monitoring functions								
	a high voltage compartment with:								
	- the output transformer								
	- the measurement transformers and lightning arresters								
	* brightness selector in 1 to 8 steps								
	* status information display on the front panel								
	* input voltage single phase 240V - 60 Hz - 2 wires								
	* analogic remote control by cable multiwire - 48 VDC								
	* dual digital remote control by RS485 signal								
	* earth fault detection circuit type EFD								
	* plug-in high voltage cut out to isolate								
	the serie circuit from the regulator output								
	* set of 2 pivot and 2 fixed wheels								

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		QTY	UNIT	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST		
	Isolation Transformers								
	25W, 6.6A/6.6A, 5KV	117	pcs						
	45W, 6.6A/6.6A, 5KV	157	pcs						
	65W, 6.6A/6.6A, 5KV	24	pcs						
	100W, 6.6A/6.6A, 5KV	18	pcs						
	150W, 6.6A/6.6A, 5KV	4	pcs						
	200W, 6.6A/6.6A, 5KV	4	pcs						
	Spares								
	65W, 6.6A/6.6A, 5KV	5	pcs						
	100W, 6.6A/6.6A, 5KV	5	pcs						
	150W, 6.6A/6.6A, 5KV	5	pcs						
	200W, 6.6A/6.6A, 5KV	5	pcs						
	Wires and Cables								
	200mm ² THHN/THWN	50	m						
	50mm ² THHN/THWN	100	m						
	38mm ² THHN/THWN	100	m						
	8.0mm ² THHN/THWN	50	m						
	30mm ² TW	50	m						
	22mm ² TW	100	m						
	8.0mm ² TW	150	m						
	4mm ² Green/Yellow	8,100	m						
	6mm ² Green/Yellow	500	m						
	2.5mm ² Green/Yellow	500	m						
	Panelboard	1	sets						
	Main - 3P, 350AT/400AF, 240V 60hz 35KAIC								
	Branches : 2-2P, 100AT/100AF, 240V, 35KAIC								
	1-2P, 50AT/100AF, 240V, 35KAIC								
	2-2P, 125AT/150AF, 240V, 35KAIC								
	Control System	1							
	ALCMS	1	sets						
	Software	1	sets						
	22 inch HMI workstation Touchscreen	3	sets						
	Fiber optic 12 core	1	km						

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	Fiber optic patch panel	2	sets						
	8" high pressure injection shallow base	150	sets						
	- central hole for cables - diam 100 mm								
	- set of fixing screws								
	- earthing connection								
	Certite pourable grout for sealing base in pavement	50	bag						
	Color: black for asphalt (Sealant Grout for shallow base)								
	Utilisation T°: 25°C to 35°C and more								
	Supplied in box of 22.5 Kg								
	Deep base	157	sets						
	- hole for cables - diam 100 mm								
	- set of fixing screws								
	- earthing connection								
	Primary Cable								
	1x6mm², stranded copper conductor, XLPE 5KV	50	km						
	FAA L-824C								
	Secondary Cable								
	2x4mm² TITANEX	10	km						
	Grounding System								
	Counterpoise cable 22mm² bare copper soft drawn	9,640	lm						
	Earth rod 15mmdia. X 1.5m Cu 250um	120	pcs						
	brass conical coupling	60	pcs						
	driving stud	30	pcs						
	steel conical spike	60	pcs						
	brass clamp 22mm² cable to rod	60	pcs						
	Mold for T connection Cu 22mm²	10	sets						
	Welding metal (exothermic)	300	pcs						
	Handle clamp	5	pcs						
	Tool kit	2	sets						
	Cable lug tinned copper	300	pcs						

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	Grounding bar 20mm x 4mm								
	30connections	150	pcs						
	Isolator red 25mm for grounding bar	300	pcs						
	Insulated copper wire for earthing								
	22mm² (7 strands)	5,000	m						
	Earth pit	60	pcs						
	2-pole male plug for 2 core secondary cable	400	pcs						
	Ext. diam.: 11.5/18 mm Section: 4/6 mm² - 8/10 AWG								
	2-pole female plug for 2 core secondary cable	350	pcs						
	Ext. diam.: 11.5/18 mm Section: 4/6 mm² - 8/10 AWG								
	Primary connector kit for screened cable:	400	pcs						
	- external diam, 10 to 14,5 mm, conductor section AWG 8 or 6 mm2		cable						
	Miscellaneous Items								
	4 inch dia. PVC pipes sch.40	36,130	lm						
	2 inch dia. PVC pipes sch.40	8,100	lm						
	PVC solvent	100	pcs						
	4 inch dia. PVC coupling	300	pcs						
	2 inch dia. PVC coupling	200	pcs						
	G.I #10 wire	300	kls						
	Hacksaw blade with handle	10	pcs						
	12mm dia. Rope	6,000	lm						
	Gasoline	100	lit						
	2 inch dia. 90 deg. PVC elbow	300	pcs						
	Hacksaw blade	100	pcs						
	Rubber Tape	300	pcs						
	Electrical Tape	300	pcs						
11	Taxiway Drainage								
	Drainage	23	ha						
12	Runway Converted to Taxiway								
	(Taxiway Golf)								
	Repair cracks (Epoxy grout)	10,624	gals						
	Structural Sealant	8,456	lm						
	4" Asphalt Overlay	56,556	sq.m.						

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	Rebars 40 mm dia.	8,960	kg						
	PU Sealant	2,904	lm						
	Lean Concrete	677	cu.m.						
	Runway Shoulder								
	Lean Concrete	941	cu.m.						
	Asphalt shoulder	52,636	sq.m.						
13	Taxiway F3								
	Total Fill	-	cu.m.						
	Total Cut	9,872	cu.m.						
	Lean concrete	1,549	cu.m.						
	PCC Pavement 0,440M	5,722	cu.m.						
	Rebars 40 mm dia.	12,753	kg						
	PU sealant	3,923	lm						
	Taxiway Shoulder								
	Lean Concrete	2,218	cu.m.						
	Asphalt Shoulder	10,699	sq.m.						
	Taxiway Markings								

A. TOTAL DIRECT COST
B. OCM (8% of A)
C. PROFIT (8% of A)
D. TOTAL PROJECT COST (Php)