PROJECT: UPGRADING OF ARC BUILDING (2018)

SUBJECT : DETAILED COST ESTIMATE

				MATERI	AL COST	LABOR	R COST	ESTIMATED	MARK-	UPS IN PE	RCENT	TOTAL	MARK-UP				
No.	ITEM/DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	DIRECT	CONT.	ОСМ	PROFIT	%	VALUE	VAT	TOTAL INDI. COST	TOTAL COST	UNIT COST
Α	GENERAL REQUIREMENTS																
1	Mobilization / Demobilization	1	lot														
2	Bonds/Insurance	1	lot														
3	Temporary Facilities	1	lot														
4	As-Built Plans	1	lot														
5	Project Billboard	1	lot														
	TOTAL A																
В	CIVIL WORKS																
B.1	BASEMENT, GROUND AND SECOND FLOORS																
B.1.1	Dry Partition Wall @ Ping-Pong Area																
1	Dry Wall Partition w/ 2" x 4" Metal Stud Frame	20	sq.m.														
	at 0.60m O.C B.W w/ 1/4" thk Ficem Board on																
	both face from Floor to Ceiling Concrete Slab																
2	(1.80m x 2.10m) Analok Alum. Frame Swing Door	1	set														
	w/ 1/4" thk Bronze Glass Complete w/ Lock																
	and Accessories																
3	Relocate Lighting Fixtures	1	lot														
4	Painting (3 Coats Latex Paint w/ Surface	65	sq.m.														
	Preparation)																
5	Removal, Replacement & Re-Installation of Metal	1	lot														
	T-Runners, Wall Angles and Acoustic Board																
B.1.2	Filling and Concreting of Pool																
	5.50m x 13.10m x 1.50m (thk) w/ Tile Finish																
1	Removal of Existing Electrical Power &	1	lot														
	Accessories																
2	Filling Materials and Compaction	137	cu.m.														
3	Chipping Works & Cutting of Concrete	30	lm														
4	4" thk Concrete Flooring (Job Mix)	9	cu.m.														
5	10mmØ x 6.00m Def. Bar	96	pcs														
6	G.A 16 G.I Wire	3	kgs														

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7	(0.60m x 0.60m) Polished Granite Tiles	264	pcs											——
	(Same as Existing)													
	Disposal of Waste Concrete Debris	1	lot											
9	Tile Grout	6	kgs											
10	Tile Adhesive	44	bags											
B.1.2.1	Demolition of Concrete Flooring and													
	Excavation of Foundation													
	Demolition of Concrete Flooring	7	sqm											
	Excavation	5	cu.m.											
B.1.2.2	New CHB Walls with Reif. Concrete Wall													
	Footing Pedestal w/ Footing													
	(Smooth Cement Plastered Finish)													
1	Concrete (Job Mix)	4.56	cu.m.											
2	16mmØ x 6.00m Rebar	22	pcs											
3	10mmØ x 6.00m Rebar	50	pcs											
4	G.A 16 G.I Wire	12	kgs											
5	1/4" Ord. Plywood	3	pcs											
6	2" x 3" x 10' Coco Lumber	20	pcs											
7	Asst. CW Nail	4	kgs											
8	6" x 8" x 16" Ord. CHB	500	pcs											
9	Portland Cement	40	bags											
10	White Sand	6	cu.m.											
11	Painting Latex Paint (3 Coats) w/ Skim Coat	30	sq.m											
B.1.2.3	Removal of Existing Stainless Steel Railing	1	lot											
	w/ Ballusters and Re-Installation													
B.1.2.4	Fabrication & Installation of New Stainless	14	lm											
	Steel Railing w/ Balluster (Same as Existing)													
B.1.3	Landscaping of Two (2) Pool at Main													
	Entrance													
1	Removal of Existing Electrical Power &	1	lot											
	Accessories													
2	Chipping/Demolition of Concrete Flooring &	1	lot											
	Top Perimeter													
3	Filling of Garden Soil and Compaction	80	cu.m											
4	Installation of Bermuda Grass	120	sq.m											
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Гваа	Repair and Relocation of Existing Leaking G.I	1 1	I	<u> </u>		I	l	l	l	i i		İ	İ	i I
D.1.4	Waterline at the back of RBA Lab. Bldg.													
1	1/2"Ø x 20', Sch. 40 G.I Pipes and Fittings	1	lot											
	2 1/2"Ø x 20' , Sch. 40 G.I Pipe	1	рс											
	2 1/2"Ø G.I Fittings	1	lot											
4	1 1/2"Ø x 20' Sch. 40 G.I Pipe	1	рс											
5	1 1/2"Ø G.I Fittings	1	lot											
	2 1/2"Ø Brass Gate Valve	1	рс											
7	Teflon Tape	10	pcs											
8	G.I Clamps	12	pcs											
9	Miscellaneous	1	lot											
B.1.5	Cutting of One (1) Big Mahogany Tree at the													
	back of RBA Lab. Bldg. & One (1)													
	Medium Tree													
1	Cutting of Tree from Top to Bottom	1	lot											
2	Slicing of Log & Branches into Small Pieces	1	lot											
3	Hauling and Disposal to Designated Area	1	lot											
4	Site Cleaning	1	lot											
B.1.6	Concreting of Open Space at the back of													
	RBA Lab. Bldg.													
1	Leveling & Compaction of the Ground	97	sq.m											
2	Gravel Bedding (1" Crashed Gravel)	3	cu.m											
3	Cleaning and Disposal	1	lot											
B.1.7	4" thk Concrete with 10mmØ Rebar @ 0.40m													
	O.C B.W (Smooth Cement Finish) Provide													
	Slope to Nearest Storm Drainage													
1	Portland Cement	92	bags											
2	3/4" Crashed Gravel	12	cu.m											
3	Whie Sand	9	cu.m											
4	10mmØ x 6.00m Def. Bar	100	pcs											
5	G.A 16 G.I Wire	3	kgs											

B.1.8	Installation of 10mm thk Clear Tempered	ĺ							1	
	Glass Roofing @ Pool Site (6.50m x 14.50m)									
	Roof w/ Frame Steel Tubular Frame									
	(See Plan)									
1	10mm thk Tempered Glass	95	sq.m							
2	Structural Steel Roof Frame	95	sq.m							
B.1.9	Replace Wooden Door @ EE Room with									
	Alum. Frame w/ 1/4" thk Bronze Glass									
	Swing Door									
1	(1.70m x 2.10m) Analok Alum. Swing Glass Door	1	set							
B.1.10	Repair and Additional Works at the									
	Liquid Nitrogen Plant									
B.1.10.1	Installation of Steel Louver on the Existing									
	External Double Steel Door									
1	Removal of Existing Double Steel Door	1	lot							
2	Repair of Exisiting Steel Door & Install New Steel	2	set							
	Louver (0.80m x 1.90m) G.A 16 Steel Louver									
	w/ Alum. Flat Bar at the Back of the Steel Louver									
3	Re-installation and Re-painting Works	1	lot							
B.1.10.2	Replacement of Existing Alum. Swing Door									
	into Steel Door w/ Louver									
1	Removal of Existing Alum. Swing Door & Jamb	1	lot							
2	Installation of Steel Louver Door Complete with	1	set							
	Stainless Steel Hinges & Lockset									
	(0.85m x 2.10m)									
3	Installation of Alum. Screen w/ Alum. Expounded	1	set							
	Wire Support and Alum. Flat Bar at the back of									
	of Steel Louver Door									
B.1.10.3	Repair of Room Ceiling (Liquid Nitrogen									
	Plant)									
	Demolition of Existing Ceiling and Disposal	17	sq.m							
2	New 10mm thk Gypsum Ceiling with 1" x 2" Metal	17	sq.m							
	Furring at 0.60m O.C B.W w/ Steel Hangers									
	Painting (3 Coats Latex Paint w/ Surface Prep)	17	sq.m					 		
4	Re-Installation of Existing Lighting Fixtures	1	lot							

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	Air Compressor Room															
	Supply and Installation of Air Supply Line															
1	Including Isolation Valve and other Related Fittings	1	lot													
	for the Back-up Compressor @ Air Compressor															
	Room															
B.1.11.2	Installation of Additional Two (2) Units															
	Exhaust Fan w/ Louver and Provide Concrete															
	Canopy for One (1) Unit @ Air Compressor															
	Room															
1	Concrete Canopy w/ 12mmØ Rebars w/ Paiting	1	lot													
2	Chipping Works & Concrete Restoration	1	lot													
B.1.11.3	Repair of Broken Ceramic Floor Tiles @															
	Liquid Nitrogen Plant															
1	Chipping Works	1	lot													
2	(0.30m x 0.30m) Ceramic Floor Tiles	10	pcs													
3	Tile Adhesive	1	bag													
4	Tile Grout	1	kg													
5	Cleaning and Disposal	1	lot													
B.1.11.4	Wall Painting inside Liquid Nitrogen Plant															
1	Latex Gloss Paint (3 Coats) w/ Surface	48	sq.m.													
	Preparation															
B.1.11.5	Epoxy Painting of Flooring w/ Five (5) Coats															
	Pioneer Brand Epoxy Paint w/ Silica Sand															
	Reinforcement															
1	Liquid Nitrogen Plant Exterior Flooring	15	sq.m													
2	Air Compressor Room Interior Flooring	15	sq.m													
B.1.11.6	Supply and Installation of Detachable Skirt															
	Brush Covering the Gap/Opening Between															
	the Flooring and Bottom of the Steel															
	Door @ Air Compressor Room															
1		1	lot													
B.1.12	Installation of Stainless Steel Capping on															
	Existing Stainless Steel Balluster of Stairs															
1	4" x 4" Stainless Steel Capping "Mirrorized"	120	pcs													
2	Cutting & Welding Works and Polishing	120	pcs													

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B.1.13	Installation of Ficem Board Cover on Ceiling	1													
	@ ARC Ground Floor														
1	1/4" x 4 x 8	1	рс												
2	1" x 2" Metal Furring Frame	4	pcs												
3	Blind Rivets & Black Screw	1	lot												
4	Paint (3 Coats)	1	lot												
B.1.14	Tables and Cabinets @ NATA Office														
1	6 Individual Small Tables 0.60m(w) x 0.75m(h)	1	set												
	x 4.00m(L) 3/4" thk Plywood, Laminated Top														
	Finish & Semi-Duco Painted Finish w/ Drawer														
	each														
2	0.60m(w) x 0.90m(h) x 3.00m(L) Reinforced	1	set												
	Concrete Table w/ PVC Louver Doors & Jamb														
	below, Granite Tile finish Stainless Steel Sink w/														
	Complete Accessories including 2"Ø PVC														
	Sewerline, Connect to nearest Storm Drain														
3	0.60m(w) x 1.80m(h) x 1.20m(L) 3/4" thk Pigeon	1	set												
	Holw Cabinet, Semi-Duco Painted Finish														
4	0.70m(w) x 0.75m(h) x 1.05m(L) Wooden Low	3	set												
	Partition w/ Working Table, Laminated Top Finish														
	w/ 1/4" thk Glass on Top, Semi-Duco Painted														
	Finish w/ Drawers														
B.1.15	Upgrading of APRS Office and Laboratory														
	0.60m(w) x 0.90m(h) x 1.40m(L) Stainless Steel	1	set												
	Sink Table w/ Stainless Steel Legs and Frames,														
	w/ 2 Door Cover w/ Handle & Hinges, Mirrorized														
	Single Tab w/ Big goose type faucet and														
	complete accessories and 2"Ø PVCSewerline														
	Pipes & Fittings connect to nearest Storm Drain								1						
2	Replace Existing Stainless Steel Sinks (Same	4	set												
	Size) with new S. Steel Sink with new big goose	1													
	type faucet, S. Steel flexible Hose, S. steel P-Trap														
	& Strainer and & Fittings (Mirrorized S.Steel Sink)							1							
	a station and a ritarigo (Militorizod Stoteon Sink)				<u> </u>	<u> </u>	<u> </u>	L	<u> </u>	<u> </u>	<u> </u>		<u> </u>	ļ	

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B.1.15.1	Installation of G.I Steel Plate on Existing Wall													
	Wire Mesh													
1	1.2mm x 4' x 8' Plain G.I Sheet	2	pcs											
2	Steel Support / Bracket	1	lot											
3	Epoxy Painting (Whole Chiller House)	1	lot											
4	Provide Aircon Frame / Bracket	4	set											
5	Provide Aircon Blackout including Plastering	1	set											
6	Repair & Repainting of Door Cabinets (Inside and	4	set											
	Outside) of Concrete Working Tables with Sink													
B.1.16	Landscaping of ARC Bldg. at Front Elevation													
	w/ (808 sq.m) Lot Area w/ 2-Layers CHB Wall													
	Plastered Finish													
1	Site Cleaning and Grabbing	1	lot											
2	Excavate & Leveling of the Ground	1	lot											
3	Filling of Garden Soil and Compaction	240	cu.m											
4	Installation of Bermunda Grass	808	sq.m											
5	6" CHB	380	pcs											
6	Portland Cement	50	bags											
7	Sand	10	cu.m.											
8	10mmØ x 6.00m	20	pcs											
9	Paint	50	sq.m											
10	Gravel	3	cu.m											
B.1.17	Plant Box w/ Steel Grills													
B.1.17.1	Installation of 6" thk CHB w/10mmØ													
	Vertical Rebars @ 0.60m O.C, Smooth Cement													
	Plastered finish on both face w/ 12mmØ													
	Plain Round Bar Grills on Top													
	(Same as Existing) Painted w/ Three Coats													
	Both Face (CHB & Grills)										_			
1	(0.40m high 6" CHB x 52m) w/ Steel Grills on Top	52	lm											
2	(0.40m high 6" CHB x 33m) w/ Steel Grills on Top	33	lm											
3	(0.40m high 6" CHB x 15m) w/ Steel Grills on Top	15	lm											
4	(0.40m high 6" CHB x 100m) w/ Steel Grills on Top	100	lm											

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5	(0.40m high 6" CHB x 35m) w/ Steel Grills on Top	35	lm								
6	(0.40m high 6" CHB x 68m) w/ Steel Grills on Top	68	lm								
7	(040m high 6" CHB x 40m) w/ Steel Grills on Top	40	lm								
8	(0.40m high 6" CHB x 70m) w/ Steel Grills on Top	70	lm								
B.1.18	Provision of Electrical Room @ Chemical										
	Storage Storage Room, Basement, ARC										
	(1.80m x 5.00m)										
1	6" x 8" x 16" Ordinary CHB	350	pcs								
2	Portland Cement	40	bags								
3	White Sand	6	cu.m.								
4	(0.90m x 2.10m) Steel Louver Door w/ Jamb	1	set								
	G.A 16, Epoxy Painted w/ S. Steel Hinges &										
	Lockset										
5	Relocate / Re-Install Existing Double Steel Door	1	lot								
	Chipping Works & Demolition of Conc. Wall	1	lot								
6	Ceramic Floor Tiles	9	sq.m.								
7	Painting Works w/ Skim Coat Preparation	90	sq.m.								
8	Hauling of Const. Materials to Basement	1	lot								
B.1.19	Replacement of Damaged Granite Floor Tiles										
	@ Ground Floor Lobby and Hallway										
1	(0.60m x 0.60m) Glazed Granite Tiles	40	pcs								
	(Same Color as Existing)										
2	ABC Tile Adhesive	10	bags								
3	ABC Tile Grout	4	kgs								
4	Removal, Chipping and Disposal	15	sq.m.								
B.1.20	Replacement of Old and Dirty Acoustic										
	Ceiling Board Along Ground Floor Hallway										
1	(0.60m x 0.60m) White Acoustic Board	100	pcs								
B.1.21	Installation of Steel Support for Existing										
	Sliding Alum. Door @ 2nd Floor Electrical										
	Panel Board										
1	3" x 4" x 1.5mm thk x 20' Steel Tubular Pipe	1	рс								
2	Steel Plate 1/4" thk	1	lot								
3	1/2"Ø x 3" Dynabolt	12	pcs								
4	Welding Rod	1	kg								
5	Paint and Thinner	1	lit								
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1 1 2 0 B.1.23 S	nstallation of Deco Tiles on Existing															
2 C B.1.23 S	Concrete Wall @ Pool Site															
B.1.23	1/4" thk Ceramic Decotiles (2.40m x 17.00m)	41	sq.m.													
	Chipping Works	1	lot													
S	Supply and Installation of Room Signages,															
	Stainless Steel, Engraved Letters,															
	Epoxy-Painted with Acrylic Backing															
1 (50cm x 13cm) Office and Laboratory Names	36	pcs													
2 (30cm x 13cm) Male and Female Toilets	24	pcs													
3 (100cm x 30cm) Building Name	1	рс													
B.1.24 F	Reactor Operations Office Tables															
1 V	Norking Table w/ Drawers (same as existing)	3	sets													
	Sub-total B.1															
B.2 F	Radioecology Laboratory															
B.2.1	Site Works															
1 [Demolition of Existing One (1) Storey Bldg.	1	lot													
lı	ncluding Foundation															
2	Disposal of Demolished Waste Materials	1	lot													
3 E	Excavation of New Bldg. Foundation	97	cu.m.													
(Soil w/ Adobe Rock)															
4 (Gravel Bedding	8	cu.m.													
5 F	Filling Materials and Compaction	170	cu.m.													
6 E	Back Filling and Compaction	97	cu.m.													
7 8	Soil Poisoning	155	sq.m.													
8 F	Relocation of Two (2) Units Steel Container Van	1	lot													
9 8	Site Cleaning, Clearing and Disposal of Waste	1	lot													
N	Materials															
10	Chipping/Restoration of Existing Ramp w/ Steel	1	lot													
F	Handrail															
B.2.2 F	Reinforced Concrete Works															
1 3	3,000 PSI Job Mixed Concrete	81	cu.m.													

2	16mmØ x 6.00m def. bar	362	pcs.							
3	12mmØ x 6.00m def. bar	393	pcs.							
4	10mmØ x 6.00m def. bar	342	pcs.							
5	G.A 16 G.I Wire	100	kgs.							
B.2.3	Scaffoldings and Formworks									
1	2" x 4" x 12' Coco Lumber	220	pcs.							
2	2" x 3" x 12' Coco Lumber	292	pcs.							
3	1/2" x 4' x 8' Ordinary Plywood	50	pcs.							
4	Assorted C.W Nail	30	kgs.							
5	G.A 16 G.I Wire	5	kgs.							
B.2.4	Masonry Works									
B.2.4.1	CHB Walls (Mortar)									
1	6" thk. Ordinary CHB	5150	pcs.							
2	Portland Cement	268	bags							
3	White Sand	32	cu.m.							
4	10mmØ x 6.00m def. bar	270	pcs.							
5	G.A 16 G.I Wire	15	kgs.							
B.2.4.2	Plastering Works (Interior & Exterior)									
	CHB Walls, Columns and Beams									
1	Portland Cement	144	bags							
2	White Sand	22	cu.m.							
B.2.5	Carpentry Works									
B.2.5.1	Interior Ceiling									
	10mm thk Gypsum Board w/ 1" x 2" Metal Furring									
	@ 0.60m O.C B.W w/ Steel Hanger Support	120	sq.m.							
B.2.5.2	Exterior Ceiling									
	6mm thk Ficem Board w/ 1" x 2" Metal Furring	48	sq.m.					_		
	@ 0.60m O.C B.W w/ Steel Hanger Support									

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	Structrural Works												
	3" x 3" x 3/16" x 20' Angular Bar	10	pcs.										
2	2" x 2" x 3/16" x 20' Angular Bar	30	pcs.										
3	1 1/2" x 1 1/2" x 3/16" x 20' Angular Bar	52	pcs.										
4	2" x 4" x 1.5mm thk x 20' Metal C-Purlins	48	pcs.										
5	16mmØ x 7.50m Plain Round Bar (Cross Bracing)	12	pcs.										
6	16mm Turn Buckle	12	pcs.										
7	12mmØ x 6.00m Plain Round Bar (Sag Rod)	10	pcs.										
8	5/8"Ø x 3" Dyna Bolt	24	pcs.										
9	Welding Rod 1/8"Ø Fuji	3	box										
10	14"Ø Cutting Disc TyroLit	2	pcs.										
11	4"Ø Grinding Disc TyroLit	6	pcs.										
12	Hacksaw Blade	6	pcs.										
13	Red Oxide Paint	2	tin										
14	Turco Rust Converter	1	gal.										
15	Steel Brush	4	pcs.										
16	Paint Brush and Roller	4	pcs.										
17	4"Ø Cutting Disc TyroLit	6	pcs.										
18	3/8" x 6" x 24" Steel Plate	2	pcs.										
19	3/8" x 4" x 24" Steel Plate	6	pcs.										
B.2.7	Roofing Works												
1	0.40mm thk Pre-Painted Long Span G.I Sht.	176	lm										
	Rib-Type Green												
2	0.40mm thk x 0.60m x 2.40m Pre-Painted Side	14	pcs.										
	Flashing												
3	G.A 24" x 24" Stainless Steel Spanish Type Gutter	6	pcs.										
4	0.40mm thk x 4' x 8' Pre-Painted G.I Sheet	6	pcs.										
5	Roofing Insulation (10mm thk x 1.00m x 50m)	4	roll										
	Polythelene Foam w/ One Side Aluminum Sheet												
6	Ficem Board (12mm x 12" x 8')	19	pcs.										
7	3 1/2" Steel Texscrew	1400	pcs.										
8	Blind Rivets	3	boxes										
9	Rubber Sealant	2	lits.										

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10	Siliconce Sealant	6	Tube											
11	1" x 1" G.I Screen (Support for Insulation)	200	sq.m.											
12	Miscellaneous	1	lot											
B.2.8	Doors and Windows													
1	G.A 16 Single Steel Door (0.90m x 2.10m)	1	set											
2	G.A 16 Double Steel Door (1.80m x 2.10m)	2	set											
3	Sinle Analok Aluminum Door Frame w/ 1/4" thk	4	set											
	Bronze Glass Complete w/ Accessories													
	(0.90m x 2.10m)													
4	Double Frameless Door (1/2" thk Bronze	1	set											
	Tempered Glass w/ 1 1/2"Ø x 24" Stainless Steel													
	Handle on both side, Complete w/ Lock and													
	Accessories (1.80m x 2.10m)													
5	Analok Alum. Partition Wall Frame w/ 1/4" thk	1	set											
	Bronze Glass (2.00m x 2.80m(H)) w/ CHB Base													
6	Analok Alum. Partition Wall w/ Single Door w/	1	set											
	1/4" Bronze Glass (2.00m x 2.80m(H)) w/ CHB													
	Base													
7	Analok Alum. Frame w/ 1/4" thk Sliding Bronze	1	set											
	Glass Passbox (0.60m x 1.00m) on both face.													
8	Analok Aluminum Fixed Window w/ 1/4" thk Bronze	3	set											
	Glass High Window (0.45m x 1.50m)													
9	Analok Alum. Sliding Window w/ 1/4" thk Bronze	1	set											
	Glass (1.20m x 2.00m)													
10	Analok Alum. Sliding Window w/ 1/4" thk Bronze	1	set											
	Glass (1.20m x 1.00m)													
11	Single Steel Door w/ 1/4" thk Lead Sheet on both	2	set											
	face (0.90m x 2.10m)													
B.2.9	Specialty Works													
B.2.9.1	Stainless Steel Handrail w/ Balluster													
1	(0.90m x 6.00m) Stainless Steel	1	set											
2	(0.90m x 1.50m) Stainless Steel	2	set						_					
3	(0.90m x 3.00m) Stainless Steel	1	set											
4	(0.90m x 1.80m) Stainless Steel	2	set						_					

B.2.9.2	Ceiling Ventilation									
1	(0.40m x 2.40m) Square Steel Tubular Ceiling	2	set							
	Ventilation w/ 1/4" x 1/4" G.I Screen inside									
2	(0.40m x 1.50m) Square Steel Tubular Ceiling	6	set							
	Ventilation w/ 1/4" x 1/4" G.I Screen inside									
B.2.10	Granite Stair Tread & Porch									
1	(0.60m x 0.60m) Non-Skid Granite Tiles	25	sq.m.							
2	2" x 8' Solid Brass Nosing	8	pcs							
3	Tile Adhesive	7	bags							
4	Tile Grout	4	kg							
5	Concrete Tapping	25	sq.m.							
B.2.11	Painting Works									
1	Ceiling (Gypsum Board) atleast 3 coats of Latex	103	sq.m.							
	Paint									
2	Concrete Wall, Columns & Beams (3 Coats Gloss	675	sq.m.							
	Latex Paint w/ Skim Coat Surface Preparation									
	(Int.& Ext.)									
3	Steel Doors (3 Coats Epoxy Paint w/ Primer)	7	set							
	(0.90m x 2.10m) Both Face									
4	Heavy Duty Floor Paint (Pioneer Brand) atleast	120	sq.m.							
	5 Coats w/ Silica Sand Reinforcement									
	(Green Color)									
5	Ficem Board Ext. Ceiling Board (3 Coats)	72	sq.m.							
	including Fascia Board									
6	3/4" thk Plywood Ceiling (Instrument Room)	17	sq.m.							
	w/ Surface Preparation									
B.2.12	Door Hardwares									
1	4" x 4" Heavy Duty Stainless Steel Hinges	30	pcs							
2	Head Bolt Heavy Duty "Stanley" Stainless Steel	2	set							
3	Foot Bolt Heavy Duty "Stanley" Stainless Steel	2	set							
4	Door Lockset "Yale" Stainless Steel Heavy Duty	5	set							
	Sub-total B.2									
	TOTAL B									

С	PLUMBING WORKS									
	Basement, Ground Floor and Second Floor									
	Installation of New PPR Waterline for Water									
C.1.1	Station at ARC Building									
C111	Relocation of Existing 1 1/2"Ø PPR Pipes to									
0.1.1.1	Existing 4"Ø PPR Pipes @ NART Bldg.									
1	4" x 1 1/2"Ø Saddle Clamp	1	рс							
2	1 1/2"Ø PPR Brass Gate Valve	1	рс							
3	Removal, Excavation	1	lot							
	Provision of Concrete Table Water Station	-								
	with New Waterline (2 Units)									
1	1/2"Ø PPR Brass Gate Valve	2	set							
2	Assorted PPR Fittings (1/2"Ø)	1	lot							
3	Stainless Steel Faucet (U.S.A)	2	set							
-		 								
4	6" x 8" x 16" Ordinary CHB	50	pcs							
5	10mmØ x 6.00m Def. Bar	8	pcs							
6	12mmØ x 6.00m Def. Bar	4	pcs							
7	1/4" x 4' x 8' Ordinary Plywood	1	рс							
8	0.60m x 0.60m Granite Tiles	14	pcs							
9	Portland Cement	12	bags							
10	White Sand	1	cu.m.							
11	Tile Adhesive	2	bags							
12	Excavation Work	1	lot							
13	Chipping Works	1	lot							
14	1/2"Ø x 10' PPR Pipes (Mega Green of Equivalent)	8	pcs							
15	Tile Grout	2	kgs							
16	Miscellaneous	1	lot							
C.1.1.3	Installation of PVC P-Trap on Reactor									
	Operations Section Comfort Room									
1	3"Ø PVC P - TRAP	2	pcs							
2	4" x 4" S. Steel Floor Strainer	2	pcs							

3	Chipping Works / Excavation	1	lot		1		1				l I
4	Replace Whole Floor Tiles of Comfort Room	3.6	sq.m.								
5	Sand and Cement	1	lot								
C.1.1.4	Supply of Plastic Basin for Emergency										
	Shower										
1	Plastic basin, 50 cm diameter (min.) , 30 cm height	30	pcs								
	(min.) red color, thick-wall										
	Sub-total										
C.2	Radioecology Laboratory										
	Waterline (Tap to nearest existing waterline)										
1	3/4"Ø PPR Pipes & Fittings	1	lot								
2	PPR w/ Brass Gate Valve	5	pcs								
3	Teflon Tape	5	pcs								
	Sewerline (Tap to nearest existing Storm Drain)										
1	4"Ø x 10' PVC Pipes and Fittings S-1000 Neltex	1	lot								
2	2"Ø x 10' PVC Pipes and Fittings S-1000 Neltex	1	lot								
3	PVC Cement	1	lit								
4	Clamps	1	lot								
5	Miscellaneous	1	lot								
6	Excavation for Pipes Installation	1	lot								
7	Concrete Encasement on PVC Pipes	1	lot								
	Sub-total										
	TOTAL C										
D	ELECTRICAL WORKS										
_	Basement, Ground Floor and Second Floor										
	Machine Room (B)										
D.1.1.1	Removal of Old Lighting Fixtures and										
	Installation of New Lighting Fixtures,										
-	Switches and Exhaust Fan										
1	Removal of old lighting fixtures	10	set								
2	Demolition of concrete for exhaust fan blockout	1	lot								
	including restoration and painting										

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3	Chipping works for the relocation of single switch										
	including restoration and painting										
4	LED tube, weatherproof, 2 x 18 watts,	16	set								
	120 cm x 20 cm, IP65										
5	Switch-single	2	set								
6	Utility box, ga 16	2	рс								
7	3.5 mm² THHN/THWN Wire	20	m								
8	15 mm dia. (1/2")	4	length								
9	15 mm dia.	4	pair								
10	Exhaust fan outlet, 3-prong, 250 V, 10 A	1	set								
11	Exhaust fan, 12 in, 230 V, with shutter,	1	set								
	wall-mounted including wires, conduit										
	and accessories										
D.1.1.2	Removal of Old Fuse Boxes and Installation										
	of New Distribution Panelboards										
1	Removal of old fuse box and wire gutter	1	lot								
2	DP (Distribution Panelboard)	3	assy								
	M: 200 AT, 3P, 240 V, BO										
	B: 1-125 AT, 3P										
	1-100 AT, 3P										
	2-50 AT, 3P										
	NEMA 1, industrial-type, bolt-on, with ground										
	bushbar, with provision for lock, surface-mounted										
D.1.2	Ground Floor										
D.1.2.1	Supply and Installation of Panelboard at										
	at Elelctrical Room 5										
1	PP	1	assy								
	M: 70 AT, 3P, 240 V, BO										
	B: 6-30 AT, 3P										
	NEMA 1, industrial-type, bolt-on, with ground				_		 				
	bushbar, with provision for lock, surface-mounted										
	including wires and conduits										
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	Additional Convenience Outlets and Wall Fans												
	at ARC Exhibit Area												
	Wall-fan, 230 volts, with pull string switch	5	set										
2	Convenience outlet, 3-prong, single type,	5	set										
	250 V, 10 A												
3	Convenience outlet, 3-prong, tandem type,	5	set										
	250 V, 10 A												
	3.5 mm² THHN/THWN Wire	2	box										
	3.5 mm ² THW Wire	1.0	box										
	EMT, 15 mm dia.	40	length										
	EMT straight connector, 15 mm dia.	20	pair										
	Utility box, ga 16	10	рс										
	Concrete chipping and restoration works	1	lot										
D.1.2.3	Repiping and Relocation Works on Telephone												
	Main Cable												
1	Removal of existing 8 units 4 in PVC, pullboxes	1	lot										
	and hangers												
	Chipping of concrete and restoration	1	lot										
	Installation of removed PVC, pullbox and hangers	1	lot										
	Terminal block, bolt-on type, 4 pins x 100 slot	6	set										
5	Retermination of 6 cables	1	lot										
D.1.3	Applied Physics Research Section (B & GF)												
D.1.3.1	Removal of Glass Panel and Restoration for												
	ACU Blockout (B)												
1	Removal ofgalss panel	1	lot										
2	Concreting and restoratio works	1	lot										
D.1.3.2	Replacement of Defective Old Panelboard (GF)												
1	Panelboard; M: 150 AT, 3P, 240 volt, Industrial-type	1	assy										
	B: 10 - 20 AT, 2P, comml-type												
	3 - 30 AT, 2P, comml-type												
	2 - 30 AT, 3P, comml-type												
	with ground busbar, surface-mounted, NEMA 1,												
	with pushlock												

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D.1.3.3	Supply and Installation of Power Supply											\vdash
	for ACUs (GF)											
1	Aircon outlet	3	set									
2	Utility box, ga 16	3	рс									
3	Junction box, ga 16	3	рс									
4	5.5 sq mm THHN/THWN wire	150	m									
5	3.5 sq mm THHN/THWN wire	75	m									
6	EMT, 20 mm dia	25	length									
7	EMT elbow, 20 mm dia	6	рс									
8	EMT straight connector with locknut and bushing, 20 mi	6	set									
9	Concrete chipping and restoration works	1	lot									
D.1.4	Nuclear Analytical Techniques Application											
	Section (GF)											
D.1.4.1	Supply and Installation of Power Supply											
	for ACCU											
1	Junction box, ga 16	1	рс									
2	5.5 sq mm THHN/THWN wire	40	m									
3	3.5 sq mm THHN/THWN wire	20	m									
4	EMT, 20 mm dia	7	length									
	EMT elbow, 20 mm dia	2	рс									
6	EMT straight connector with locknut and bushing,	4	set									
	20mm dia											
7	Concrete chipping and restoration works	1	lot									
	Isotopes Techniques Section (GF)											
	ECB: 50 AT, 3P, 240 V, NEMA 3R	1	assy									
	Compressor Room (GF)											
	Supply and Installation of ECB and MTS											
	for New Air Compressor											
	ECB: 40 AT, 3P, 240 V, NEMA 3R	1	assy									
2	MTS, 60 A, non-fusible, 250 V, 3PDT	1	assy									
3	8.0 mm² THHN/THWN Wire	6	m									
4	5.5 mm² THW Wire	3	m									
5	RSC, 20 mm dia.	1	length									
6	RSC locknut and bushing, 20 mm dia.	6	pair									

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	Installation of PNRI owned compressor	1	lot									
	Supply and Insttallation of Exhaust Fans											
1	Exhaust fan, 18 in, 230 V, with shutter, wall-	1	set									
	mounted, industrial-type (same as existing)											
2	Exhaust fan, 12 in, 230 V, with shutter, wall-mounted,	2	set									1
	industrial-type (same as existing) including switch											
	and power outlet with chipping and restoration for											
	PVC conduit and wires											
3	Royal cord, No. 14, 3 wire, 250 volts	8	m									1
	(for exhaust fan)											1
4	Timer switch for 2 exhaust fans (24 hour operation)	1	set									
D.1.7	Molecular Bio Laboratory (2F)											
D.1.7.1	for ACUs											
	for ACUs											
1	Aircon outlet	1	set									
2	Utility box, ga 16	1	рс									
3	Junction box, ga 16	1	рс									
4	5.5 sq mm THHN/THWN wire	46	m									
5	3.5 sq mm THHN/THWN wire	23	m									
6	EMT, 20 mm dia	8	length									
7	EMT elbow, 20 mm dia	2	рс									
8	EMT straight connector with locknut and bushing,	4	set									
	20 mm dia											
9	Concrete chipping and restoration works	1	lot									
10	Steel bracket for ACU	1	set									
	Sub-total											
D.2	Radioecology Laboratory											
D.2.1	Lighting Fixtures											
1	LED tube, mirrorized reflector, 2 x 18 watts,	12	set									
	120 cm x 60 cm, surface, mounted											
2	LED tube, weatherproof enclosure, 1 x 18 watts,	11	set									
	120 cm x 10 cm, IP65											
3	LED bulb, pinlight enclosure, 9 watts,	7	set									
	surface-mounted											

4	LED hulb minlight analogues Questo	4	201			1			<u> </u>			I	1	
4	LED bulb, pinlight enclosure, 9 watts,	4	set										1	-
	recessed-mounted													
5	Exit light, LED lamp-type	2	set											
6	Emergency light, LED lamp-type	3	set											
D.2.2	Wiring Devices													
1	Switch-single	8	set											
2	Switch-2-gang	1	set											
3	Switch-3-gang	3	set											
4	Convenience outlet, 3-prong, tandem type, 1	17	set											
	250 V, 10 A													
5	Emer. light outlet, 3-prong, 250 V, 10 A	3	set											
6	Special purpose outlet, twist lock, 3-prong,	3	set											
	250 V, 10 A													
7	Conv. outlet, floor-mounted, 3-prong, tandem type,	2	set											
	250 V, 10 A													
8	Exhaust fan outlet, 3-prong, 250 V, 10 A	6	set											
9	Exit light outlet, 3-prong, 250 V, 10 A	3	set											
10	Exhaust fan, 12 in, 230 V, with shutter,	6	set											
	ceiling mounted													
11	Telephone outlet, modern plate	1	set											
12	Data outlet, modern plate	1	set											
D.2.3	Wires and Cables													
1	3.5 mm² THHN/THWN Wire	4	box											
2	5.5 mm² THHN/THWN Wire	2	box											
3	8.0 mm² THHN/THWN Wire	6	m											
4	50 mm² THHN/THWN Wire (main feeder)	180	m											
5	60 mm² THHN/THWN Wire (presser)	60	m											
6	3.5 mm² THW Wire	2	box											
7	5.5 mm² THW Wire	2	m											
8	22 mm² THW Wire (main feeder)	60	box											
9	22 mm² THW Wire (presser)	20	box											
10	Telephone jac. Wire, 4C	1	roll											
11	CAT 5 UTP Wire	1	roll											
D.2.4	Conduit and Fittings													
	uPVC Conduits													
1	15 mm dia. (1/2")	31	length											
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2	20 mm dia. (3/4")	51	length												
	uPVC Adafter with Locknut and Bushing														
1	15 mm dia.	70	pair]
2	20 mm dia.	32	pair												
	EMT														
1	15 mm dia.	33	length												
	EMT Straight Connector with Locknut														
	and Bushing														
1	15 mm dia.	120	pair												
	RSC														
1	20 mm dia.	1	length												
2	50 mm dia (main feeder and presser)	27	length												
	RSC Locknut and Bushing														
1	20 mm dia.	2	pair												
2	50 mm dia	14	pair												
D.2.5	BOXES AND PULLBOXES														
1	Utility box, ga 16	50	рс												
2	Junction box and cover, ga 16	45	рс												
3	Square box and cover, ga 16	5	рс												
4	Pullbox (30 cm x 30 cm x 10 cm) (for tel. and data)	1	assy												
5	Pullbox (25 cm x 25 cm x 15 cm) (for main	6	assy												
	feederline and presser)														
D.2.6	Panelboards, ECBs and MTS														
1	PP1	1	assy												
	M: 100 AT, 3P, 240 V, BO														
	B. 2-40 AT, 2P														
	11-30 AT, 2P														
	3-20 AT, 2P														
	1-30 AT, 3P														
	NEMA 1, industrial-type main, bolt-on, with ground														
	bushbar, with provision for lock, surface-mounted														
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2	PP2	1	assy									
	M: 30 AT, 3P, 240 V, BO											
	B: 3-15 AT, 2P											
	9-20 AT, 2P											
	NEMA 1, industrial-type main, bolt-on, with ground											
	bushbar, with provision for lock, surface-mounted											
3	ECB: 125 AT, 3P, 240 V, NEMA 3R	1	assy									
4	ECB: 40 AT, 2P, 240 V, NEMA 3R	2	assy									
5	ECB: 30 AT, 2P, 240 V, NEMA 3R	5	assy									
6	MTS, 60 A, non-fusible, 240 V, 2PDT	1	assy									
7	CB, 100 AT, 3P, 240 V, B.O. industrial-type	1	set									
	(at MDPA)											
D.2.7	Miscellaneous											
1	Electrical tape	20	roll									
2	GI pull wire	5	kg									
3	Rubber tape	1	roll									
4	Epoxy enamel paint	1	gal.									
5	Epoxy primer paint	1	gal.									
6	Lacquer thinner	1	gal.									
7	Paint brush	1	lot									
8	Hacksaw blade	5	piece									
9	Flexible uPVC conduit	20	lm									
10	Drill bits	1	lot									
11	Bolts and nuts for new installations	1	lot									
12	Expansion shields	1	lot									
13	Tox and screw	1	lot									
14	PVC solvent	2	can									
15	U-bolts	1	lot									
16	Newspaper	1	kg									
17	Chisel	1	lot									
	Sub-total											
	TOTAL D											
E	MECHANICAL WORKS											
1	Air Conditioning Unit, split-type, 3 TR, 230 Volts,	1	set									
	inverter											
	TOTAL E											
	TOTAL											