

**DETAIL DESIGN  
FOR  
LABORATORY BUILDING  
OF  
DESALINATION RESEARCH PROJECT  
IN  
THE KINGDOM OF SAUDI ARABIA**

**VOLUME 6 of 6 VOLUMES**

**AUGUST, 1987**

**JAPAN INTERNATIONAL COOPERATION AGENCY**

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DETAIL DESIGN FOR  
LABORATORY BUILDING OF  
DESALINATION RESEARCH PROJECT  
IN THE KINGDOM OF SAUDI ARABIA

VOLUME 6 OF 6 VOLUMES

BILL OF QUANTITIES

BUILDING WORKS  
AIR-CONDITIONING WORKS  
MECHANICAL WORKS  
ELECTRICAL WORKS  
LABORATORY FURNITURE

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AUGUST 1987

JAPAN INTERNATIONAL COOPERATION AGENCY

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**BUILDING WORKS**

**SCHEDULES OF APPROXIMATE QUANTITIES**

**(Bill of Quantities  
and Unit Costs Schedules)**

**LABORATORY BUILDING**



LABORATORY BUILDING

BILL OF QUANTITIES & UNIT COSTS SCHEDULES							
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST		
1	EARTH WORK						
	a) EXCAVATION						
	Only .....						
	Saudi Rials per cubic meter.	M <sup>3</sup>	2.76				
1	b) EXCESS SOIL DISPOSAL						
	Only .....						
	Saudi Rials per cubic meter.	M <sup>3</sup>	2.71				
	c) BACKFILLING W/COMPACTION TO GL W/EXCAVATED SOIL						
1	Only .....						
	Saudi Rials per cubic meter.	M <sup>3</sup>	0.05				
	d) COBBLESTONE t= 100 mm						
	Only .....						
1	Saudi Rials per cubic meter.	M <sup>3</sup>	1.55				
	2	CONCRETE WORK					
		a) LEVELING CONCRETE t= 50 mm					
		Only .....					
Saudi Rials per cubic meter.		M <sup>3</sup>	0.28				
2	B) CONCRETE FOR SLAB - ON - GRADE & STOOP (GRADE 20)						
	Only .....						
	Saudi Rials per cubic meter.	M <sup>3</sup>	2.05				

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
3	c) CONCRETE FOR SUPER STRUCTURE (GRADE 25) Only .....	M <sup>3</sup>	1.4			
	..... Saudi Rials per cubic meter.					
3	FORM WORK a) FORM WORK FOR STOOP Only .....	M <sup>2</sup>	2.39			
	..... Saudi Rials per square meter.					
3	b) FAIR FACED FORM WORK Only .....	M <sup>2</sup>	13.25			
	..... Saudi Rials per square meter.					
4	REINFORCEMENT WORK a) REINFORCING BAR (CHARACTERISTIC STRENGTH : 410 N/mm <sup>2</sup> ) Only .....	kg	84.4			
	..... Saudi Rials per metric kilogram.					
4	b) WELDED WIRE FABRIC φ 6 × 150 × 150 Only .....	M <sup>2</sup>	9.16			
	..... Saudi Rials per square meter.					



BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
5	MASONRY WORK a) CONCRETE BLOCK 200mm THK Only ..... ..... Saudi Rials per square meter.	M <sup>2</sup>	9.36			
6	WATERPROOF WORK (190 × 190 × 390mm) a) WATERPROOFING CEMENT MORTAR Only ..... ..... Saudi Rials per square meter.	M <sup>2</sup>	8.34			
7	DOOR (INCLUDING FRAME, HARDWARES, GLAZING) 7A. ADDITIONAL DOOR a) DOUBLE FLUSH HOLLOW WOOD 1,800W × 2,100H Only ..... ..... Saudi Rials per unit.	NOS	3			
	b) SINGLE SWING FLUSH HOLLOW WOOD W/WICKET 1,200W × 2,100H Only ..... ..... Saudi Rials per unit.	NOS	3			
	c) FLUSH HOLLOW WOOD 1,000W × 2,100H Only ..... ..... Saudi Rials per unit.	NOS	1			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
8	FINISH WORK					
	8A. FLOOR (ADDITIONAL)					
	a) VINYL TILE (300 mm x 300 mm x 3 mm THK) W/MORTAR BEDDING t=20 mm Only .....					
	Saudi Rials per square meter.	M <sup>2</sup>	334.06			
	b) FLOATING FLOOR W/VINYL TILE Only .....					
	Saudi Rials per square meter.	M <sup>2</sup>	232.74			
	c) VINYL COVE BASE h=100 mm Only .....					
	Saudi Rials per meter run.	M	315.2			
	d) CONCRETE STEEL TROWEL FINISH Only .....					
	Saudi Rials per square meter.	M <sup>2</sup>	9.16			
8B. FLOOR (REMOVAL)						
a) CARPET Only .....						
Saudi Rials per square meter.	M <sup>2</sup>	566.8				
b) VINYL COVE BASE Only .....						
Saudi Rials per meter run.	M	289.9				

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	8C. WALL (ADDITIONAL)				
	a) PLASTER BOARD				
	Only .....				
	.....				
	Saudi Rials per square meter.	M <sup>2</sup>	123.66		
	b) CEMENT PLASTER				
	Only .....				
	.....				
	Saudi Rials per square meter.	M <sup>2</sup>	4.86		
	c) LITHING SPRAY				
	Only .....				
	.....				
	Saudi Rials per square meter.	M <sup>2</sup>	12.8		
	8D. WALL (REMOVAL)				
	a) CONCRETE BLOCK W/PLASTER				
	Only .....				
	.....				
	Saudi Rials per square meter.	M <sup>2</sup>	71.28		
	8E. PAINTING (ADDITIONAL)				
	a) FOR PLASTER BOARD				
	Only .....				
	.....				
	Saudi Rials per square meter.	M <sup>2</sup>	123.66		
	b) FOR WOOD DOOR				
	Only .....				
	.....				
	Saudi Rials per square meter.	M <sup>2</sup>	56.7		

**BILL OF QUANTITIES & UNIT COSTS SCHEDULES**

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
9	c) FOR CEMENT PLASTER				
	Only .....				
	.....				
	Saudi Rials per square meter.	M <sup>2</sup>	4.86		
	MISCELLANEOUS WORK				
	a) GALVANIZED WIRE MESH DOOR				
W/STEEL FRAME					
Only .....					
.....					
Saudi Rials per square meter.	M <sup>2</sup>	2.16			
b) MOVABLE PARTITION (REMOVAL)					
Only .....					
.....					
Saudi Rials per square meter.	M <sup>2</sup>	29.7			

SUMMARY

LABORATORY BUILDING

S. R.

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TOTAL CARRIED TO SUMMARY OF BUILDING WORKS

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TEST PLANT BUILDING

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
1	EARTH WORK					
	a) EXCAVATION					
	Only .....					
	Saudi Rials per cubic meter.	M <sup>3</sup>	296.88			
	b) EXCESS SOIL DISPOSAL					
	Only .....					
	Saudi Rials per cubic meter.	M <sup>3</sup>	68.49			
	c) BACK FILLING W/COMPACTION TO GL W/EXCAVATED SOIL					
	Only .....					
	Saudi Rials per cubic meter.	M <sup>3</sup>	228.39			
	d) CUTTING t = 100 mm ~ 300 mm					
	Only .....					
	Saudi Rials per square meter.	M <sup>2</sup>	386.04			
	e) COBBLESTONE t= 100mm					
	Only .....					
	Saudi Rials per cubic meter.	M <sup>3</sup>	53.08			
	f) DAMPPROOF COURSE (POLYETHYLENE FILM 0.15 mm thick)					
	Only .....					
	Saudi Rials per square meter.	M <sup>2</sup>	367.89			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
2	CONCRETE WORK					
	a) LEVELING CONCRETE t=50 mm Only .....					
	Saudi Rials per cubic meter.	M <sup>3</sup>	7.32			
	b) CONCRETE FOR FOUNDATION SLAB - ON - GRADE & STOOP (GRADE 20) Only .....					
	Saudi Rials per cubic meter.	M <sup>3</sup>	108.62			
	c) CONCRETE FOR SUPER STRUCTURE (GRADE 25) Only .....					
	Saudi Rials per cubic meter.	M <sup>3</sup>	96.97			
3	FORM WORK					
	a) FORM WORK FOR UNDERGROUND Only .....					
	Saudi Rials per square meter.	M <sup>2</sup>	222.81			
	b) FORM WORK FOR STOOP Only .....					
	Saudi Rials per square meter.	M <sup>2</sup>	4.17			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	c) FORM WORK FOR ABOVE GROUND Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	515.88		
	d) FAIR FACED FORM WORK Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	444.0		
4	REINFORCEMENT WORK				
	a) REINFORCING BAR (CHARACTERISTIC STRENGTH : 410 N/mm <sup>2</sup> ) Only .....				
	Saudi Rials per metric ton.	TON	17.65		
	b) WELDED WIRE FABRIC φ6 × 150 × 150 Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	397.34		
5	MASONRY WORK				
	a) CONCRETE BLOCK 200 mm THK (190 × 190 × 290 mm) Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	344.28		
	b) CONCRETE BOOCK 100 mm THK (190 × 190 × 290 mm) Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	94.51		



BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
6	WATERPROOF WORK				
	6A. WATERPROOFING				
	a) LIGHT WEIGHT CONCRETE t= 60mm Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	379.19		
	b) WATER TIGHTNESS PVC SHEET t= 1 mm Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	424.45		
	c) THERMAL INSULATION t= 40 mm Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	379.19		
	d) PVC VAPOR TIGHTNESS MEMBRANE PVC - 200 MICRON Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	379.19		
6B. SEALING					
a) COMPRESSIVE FILLER Only .....					
Saudi Rials per meter run.	M	118.03			
b) SEALING FOR ROOF Only .....					
Saudi Rials per meter run.	M	149.0			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	c) SEALING FOR EXTERIOR DOOR, WINDOW & VENTILATOR Only .....				
	..... Saudi Rials per meter run.	M	155.5		
7	DOOR & WINDOW WORK (INCLUDING FRAME, HARDWARES, GLAZING)				
	7A. DOOR				
	a) DOUBLE FLUSH HOLLOW STEEL 3,000W x 4,000H Only .....				
	..... Saudi Rials per unit.	NOS	1		
	b) DOUBLE FLUSH HOLLOW STEEL 1,800W x 2,100H Only .....				
	..... Saudi Rials per unit.	NOS	4		
	c) FLUSH HOLLOW STEEL 900W x 2,100H Only .....				
	..... Saudi Rials per unit.	NOS	2		
	d) DOUBLE FLUSH HOLLOW WOOD 1,600W x 2,100H Only .....				
	..... Saudi Rials per unit.	NOS	1		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	e) SINGLE SWING FLUSH HOLLOW WOOD W/WICKET 1,200 <sup>W</sup> x 2,100 <sup>H</sup> Only .....					
	Saudi Rials per unit.	NOS	1			
	f) FLUSH HOLLOW WOOD 800 <sup>W</sup> x 2,100 <sup>H</sup> Only .....					
	Saudi Rials per unit.	NOS	5			
	g) FLUSH HOLLOW WOOD 650 <sup>W</sup> x 2,100 <sup>H</sup> Only .....					
	Saudi Rials per unit.	NOS	1			
	h) DOUBLE FLUSH HOLLOW WOOD 1,800 <sup>W</sup> x 2,100 <sup>H</sup> Only .....					
	Saudi Rials per unit.	NOS	1			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	7B. WINDOW					
	a) ALUMINUM FRAME FIXED WINDOW 3,000 <sup>W</sup> × 1,800 <sup>H</sup> Only .....					
	Saudi Rials per unit.	NOS	3			
	b) ALUMINUM FRAME FIXED WINDOW 2,000 <sup>W</sup> × 1,800 <sup>H</sup> Only .....					
	Saudi Rials per unit.	NOS	3			
	c) ALUMINUM FRAME FIXED WINDOW 2,000 <sup>H</sup> × 900 <sup>H</sup> Only .....					
	Saudi Rials per unit.	NOS	3			
	d) ALUMINUM FRAME FIXED WINDOW 7,000 <sup>W</sup> × 900 <sup>H</sup> Only .....					
	Saudi Rials per unit.	NOS	2			
	e) ALUMINUM FRAME FIXED WINDOW 2,000 <sup>W</sup> × 500 <sup>H</sup> Only .....					
	Saudi Rials per unit.	NOS	1			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
8	FINISH WORK				
	8A. PLASTERING (INTERIOR)				
	a) CEMENT MORTAR STEEL TROWEL FINISH FLOOR t=20 mm Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	257.36		
	b) CEMENT MORTAR STEEL TROWEL BASE h=100MM t=30 mm Only .....				
	Saudi Rials per meter run.	M	99.6		
	c) CEMENT MORTAR STEEL TROWEL WALL t=20 mm Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	599.24		
	8B. PLASTERING (EXTERIOR)				
	a) CEMENT MORTAR BROOM FINISH WALL t=20 mm Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	442.61		
	b) CEMENT MORTAR STEEL TROWEL BASE t=20 mm Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	17.48		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	c) CEMENT MORTAR STEEL TROWEL COPING Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	21.05		
	d) CEMENT MORTAR STEEL TROWEL WINDOW SILL Only .....				
	Saudi Rials per meter run.	M	37.0		
	e) CONCRETE STEEL TROWEL FINISH FLOOR Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	23.71		
	f) LITHING SPRAY Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	442.61		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	8C. TILING (FLOOR, WAINSCOT & WALL)					
	a) VINYL TILE (300mm x 300mm x 3mm THK) W/MORTAR BEDDING t=20 mm Only .....					
	Saudi Rials per square meter.	M <sup>2</sup>	85.73			
	b) CERAMIC TILE (50mm x 50mm) W/MORTAR BEDDING t=35mm Only .....					
	Saudi Rials per square meter.	M <sup>2</sup>	13.18			
	c) VINYL COVE BASE h=100 mm Only .....					
	Saudi Rials per meter run.	M	83.0			
	d) CERAMIC WALL TILE (108mm x 108mm) W/MORTAR BEDDING t=30 mm Only .....					
	Saudi Rials per square meter	M <sup>2</sup>	31.76			
	8D. WALL BOARD					
	a) PLASTER BOARD t=12 mm Only .....					
	Saudi Rials per square meter.	M <sup>2</sup>	104.9			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	<b>8E. SUSPENDED CEILING</b>				
	a) ACOUSTIC FIBER BOARD CEILING (600mm x 300mm) Only .....				
	..... Saudi Rials per square meter.	M <sup>2</sup>	61.05		
	b) GLASS FIBER CEMENT BOARD CEILING (600mm x 600mm x 6mm THK) Only .....				
	..... Saudi Rials per square meter.	M <sup>2</sup>	40.93		
	c) EXISTING CEILING (REARRANGE) Only .....				
	..... Saudi Rials per square meter.	M <sup>2</sup>	73.86		
	<b>8F. PAINTING</b>				
	a) FOR CEMENT MORTAR Only .....				
	..... Saudi Rials per square meter.	M <sup>2</sup>	205.55		
	b) FOR GLASSFIBER CEMENT BOARD Only .....				
	..... Saudi Rials per square meter.	M <sup>2</sup>	40.93		
	c) FOR STEEL DOOR Only .....				
	..... Saudi Rials per square meter.	M <sup>2</sup>	78.32		



BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	d) FOR WOOD DOOR Only .....					
	..... Saudi Rials per square meter.	M <sup>2</sup>	52.45			
	e) FOR MISC. STEEL Only .....					
	..... Saudi Rials per square meter.	M <sup>2</sup>	3.2			
	f) FOR PLASTER Only .....					
	..... Saudi Rials per square meter.	M <sup>2</sup>	104.9			
	g) PROTECTIVE COATING OF UNDERGROUND CONCRETE SURFACE COAL TAR PAINT ± = 200 MICRONS Only .....					
	..... Saudi Rials per square meter.	M <sup>2</sup>	367.14			
9	MISCELLANEOUS WORK					
	a) TOILET & SHOWER PARTITION (INCLUDE DOOR & ACCESSORIES) Only .....					
	..... Saudi Rials per square meter.	M <sup>2</sup>	32.45			
	b) VINYL CURTAIN W/PIPE Only .....					
	..... Saudi Rials per square meter.	M <sup>2</sup>	3.24			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	c) GALVANIZED STEEL FRAME FOR INTERIOR WALL (PLASTER BOARD) Only .....				
	Saudi Rials per square meter.	M <sup>2</sup>	52.45		
	d) MISCELLANEOUS STEEL (LADDER) Only .....				
	Saudi Rials per metric kilogram.	kg	83.78		
	e) ROOF DRAIN (CASE-IRON HORIZONTAL TYPE) $\phi$ 100 mm Only .....				
	Saudi Rials per unit.	NOS	3		

SUMMARY

TEST PLANT BUILDING

S. R.

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TOTAL CARRIED TO SUMMARY OF BUILDING WORKS

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BUILDING WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities  
and Unit Costs Schedules)

CAR SHELTER



CAR SHELTER

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
1	EARTH WORK					
	a) EXCAVATION					
	Only .....					
	Saudi Rials per cubic meter.	M <sup>3</sup>	28			
	b) EXCESS SOIL DISPOSAL					
Only .....						
Saudi Rials per cubic meter.	M <sup>3</sup>	4				
c) BACK FILLING W/COMPACTION TO GL W/EXCAVATED SOIL						
Only .....						
Saudi Rials per cubic meter.	M <sup>3</sup>	24				
d) CUTTING t = 100 mm ~ 300 mm						
Only .....						
Saudi Rials per square meter.	M <sup>2</sup>	0				
e) COBBLESTONE t=100mm						
Only .....						
Saudi Rials per cubic meter.	M <sup>3</sup>	1.0				

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
2	CONCRETE WORK					
	a) LEVELING CONCRETE t= 50 mm Only .....					
	Saudi Rials per cubic meter.	M <sup>3</sup>	0.5			
	b) CONCRETE FOR FOUNDATION SLAB - ON - GRADE & STOOP (GRADE 20) Only .....					
	Saudi Rials per cubic meter.	M <sup>3</sup>	2.1			
3	FORM WORK					
	a) FORM WORK FOR UNDERGROUND Only .....					
	Saudi Rials per square meter.	M <sup>2</sup>	13			
	b) FORM WORK FOR STOOP Only .....					
	Saudi Rials per square meter.	M <sup>2</sup>				



BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
4	REINFORCEMENT WORK				
	a) REINFORCING BAR (CHARACTERISTIC STRENGTH : 410 N/mm <sup>2</sup> )				
	Only .....				
	.....				
	Saudi Rials per metric ton.	TON	0.24		
5	STEEL WORK				
	a) STEEL FRAME				
	Only .....				
	.....				
	Saudi Rials per ton.	TON	9.4		
	b) ROOF PANEL				
	Only .....				
	.....				
	Saudi Rials per square meter.	M <sup>2</sup>	180		
6	PAINTING				
	a) FOR STEEL				
	Only .....				
	.....				
	Saudi Rials per square meter.	M <sup>2</sup>	376		



ROADS WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities  
and Unit Costs Schedules)



ROADS

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
1	EARTH WORK					
	a) EXCAVATION					
	Only .....					
	Saudi Rials per cubic meter.	M <sup>3</sup>	202			
2	b) EXCESS SOIL DISPOSAL					
	Only .....					
	Saudi Rials per cubic meter.	M <sup>3</sup>	202			
	a) PAVING WORK					
a) PAVING						
Only .....						
Saudi Rials per square meter.	M <sup>2</sup>	323				
	b) PRECAST CONCRETE CURB					
	Only .....					
	Saudi Rials per meter.	M	97			



**AIR - CONDITIONING WORKS**

**SCHEDULES OF APPROXIMATE QUANTITIES**

**(Bill of Quantities  
and Unit Costs Schedules)**

**TEST PLANT BUILDING**





Prices for each item to include :

- All custom duties, taxes, profit, any fees and profits,
- All freights and transportation to site,
- Office overhead expenses,
- The required labor,
- All required and specialized tools,
- Pipes connections, with all specified valves, insulation, etc... for each piece of equipment,
- All required accessories as specified and recommended by the Manufacturer to increase efficiency of the installation,
- Painting and special protection for each piece of equipment, taking into consideration that the building is in YANBU, near the sea, where the atmosphere contains a high percentage of corrosive salt,
- Bases with vibration isolator as recommended by the Manufacturer, for each equipment installed,
- Wiring, control panel, cables for each motor,
- Start Up, Test,
- One year free maintenance.

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
1	<p><u>SEAMLESS GALVANIZED PIPES</u>  Supplying and installation of all UPVC pipe for drinking cold water system.</p> <p>The price shall include elbows, tees, supports, hangers, guides, sleeves and necessary and required accessories as specified and shown on the drawings.</p> <p>Excavation and backfilling of underground pipes shall be included in price.</p> <p>Supply connection to sanitary fixtures are not included in this price.</p> <p>a- 1/2" pipe size  Only .....  .....  Saudi Rials per linear meter.</p> <p>b- 3/4" pipe size  Only .....  .....  Saudi Rials per linear meter.</p> <p>c- 1" pipe size  Only .....  .....  Saudi Rials per linear meter.</p> <p>d- 1 1/4" pipe size  Only .....  .....  Saudi Rials per linear meter.</p>				
		L/M	---		
		L/M	11		
		L/M	14		
		L/M	16		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
2	<p><u>SEAMLESS GALVANIZED PIPES FOR CONNECTIONS TO THE FIXTURES</u> Ditto as Item (1) for the following UPVC pipes inside toilet, tearoom and shower room.</p> <p>a- 1/2" pipe size Only .....</p> <p>Saudi Rials per linear meter.</p> <p>b- 3/4" pipe size Only .....</p> <p>Saudi Rials per linear meter.</p> <p>c- 1" pipe size Only .....</p> <p>Saudi Rials per linear meter.</p>	L/M	34		
		L/M	38		
		L/M	10		
3	<p><u>TYPE "M" COPPER PIPES</u> Supplying and installation of all type "M" copper pipes for hot water systems.</p> <p>The price shall include elbows, tees, supports, hangers, guides, sleeves, and necessary and required accessories as specified and shown on the drawings.</p>				
	- to be continued -				

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	2 (Cont'd)				
	WF - 1- Exhaust fan for shower room capacity 390 CMH at the required static pressure (3mm Aq) of the system.				
	Only .....				
	Saudi Rials per unit.	N°	1		
	WF - 2- Exhaust fan for toilet capacity 390 CMH at the required static pressure (3mm Aq) of the system.				
	Only .....				
	Saudi Rials per unit.	N°	1		
	WF - 3- Exhaust fan for chemical analysis capacity 840 CMH at the required static pressure (3mm Aq) of the system.				
	Only .....				
	Saudi Rials per linear meter.	N°	1		
	WF - 4- Exhaust fan for machine				
	- to be continued -				

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	2 (Cont'd)					
	Shop capacity 1,500 CMH at the required static pressure (4mm Aq) of the system.					
	Only .....					
	.....					
	Saudi Rials per unit.	N°	1			
	WF- 5- Air supply fan with weather cover and air filter for R.O. module room capacity 1,650 CMH at the require static pressure (8mm Aq) of the system.					
	Only .....					
	.....					
	Saudi Rials per unit.	N°	6			
3	<u>ROOF MOUNTED EXHAUST FAN</u> As specified and shown on the drawing installed complete with all require accessories as recommended by manufacturer and the requirements of the installation.					
	Price to include also :					
	- Roof cover,					
	- Electrical wiring, with all required starters, wiring from fan to switch panel,					
	- Painting,					
	- to be continued -					

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	<p>3 (Cont'd)</p> <ul style="list-style-type: none"> <li>- Start Up,</li> <li>- Test,</li> <li>- One year guaranty.</li> </ul> <p>Only .....</p> <p>.....</p> <p>Saudi Rials per unit.</p>	N°	3		
4	<p><u>GALVANIZED STEEL DUCT SYSTEM</u></p> <p>As specified, installed complete with all required accessories, ventilation duct and air-conditioning duct.</p> <p>Given price for each square meter of duct surface and price to include also :</p> <ul style="list-style-type: none"> <li>- The angle iron,</li> <li>- The vanes, duct partitions, etc....</li> </ul> <p>No extra shall be allowed for the price of the duct.</p> <p>a- Galvanized steel sheet gage No. 26, 0.5mm thick</p> <p>Only .....</p> <p>.....</p> <p>Saudi Rials per square meter.</p>	MS	45		
	- to be codtinued -				

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	b- Galvanized steel sheet. gage No. 24. 0.6mm thick  Only ..... ..... Saudi Rials per unit.	MS	2			
	c- Galvanized steel sheet. gage No. 22. 0.8mm thick  Only ..... ..... Saudi Rials per unit.	MS	21			
	d- 200mm W x 200mm H. Air volume control damper.  Only ..... ..... Saudi Rials per unit.	N°	1			
	e- 300mm W x 250mm H. Air volume control damper.  Only ..... ..... Saudi Rials per unit.	N°	1			
	f- 200mm W x 200mm H. Flexible duct.  Only ..... ..... Saudi Rials per unit.	N°	1			
	- to be continued -					

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	g- 300mm W x 250mm H. Flexible duct.  Only ..... ..... Saudi Rials per unit.	N°	1			
	h- 300mm W x 250mm H. Air intake louver.  Only ..... ..... Saudi Rials per unit.	N°	1			
	i - 450mm W x 400mm H. Air intake louver with vashable air fileter  Only ..... ..... Saudi Rials per unit.	N°	1			
	j- 950mm W x 350mm H. Washable air filter with aluminum flame  Only ..... ..... Saudi Rials per unit.	N°	1			
	k- 1,200mm W x 600mm H. Slit type blade Return grille.  Only ..... ..... Saudi Rials per unit.	N°	1			
	- to be continued -					



BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	l - 1,000mm W x 600mm H, Slit type blade return grill.  Only ..... ..... Saudi Rials per unit.	N°	1			
	m-800mm W x 350mm H, Double deflection type Air-supply register with opposed action blade shutter steel construction, backed enamel finish.  Only ..... ..... Saudi Rials per unit.	N°	1			
	n- Ceiling Diffuser Square face 250mm $\phi$ neck dia with damper, steel construction, backed enamel finish.  Only ..... ..... Saudi Rials per unit.	N°	9			
	o- Ceiling Diffuser Square face 200mm $\phi$ neck dia with damper, steel construction, backed enamel finish.  Only ..... ..... Saudi Rials per unit.	N°	10			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
5	<p><u>REFRIGERANT PIPES</u></p> <p>Supplying and installation of all type "L" hard draw copper pipe for refrigerant piping system.</p> <p>The price shall include elbows, supports, hangers, guides, sleeves and necessary and required accessories as specified and shown on the drawings.</p> <p>a- <math>\phi</math> 15.9 Type "L" Copper Pipe Only .....</p> <p>.....</p> <p>Saudi Rials per linear meter.</p> <p>b- <math>\phi</math> 25.4 Type "L" Copper Pipe Only .....</p> <p>.....</p> <p>Saudi Rials per linear meter.</p> <p>c- <math>\phi</math> 31.5 Type "L" Copper Pipe Only .....</p> <p>.....</p> <p>Saudi Rials per linear meter.</p>					
		L/M	20			
		L/M	10			
		L/M	10			
6	<p><u>GALVANIZED STEEL PIPES</u></p> <p>Supplying and installation of all galvanized steel pipe for condensed drain piping system.</p> <p>The price shall include elbows, supports, hangers, guides, sleeves and necessary and required accessories as specified and shown on the drawings.</p>					
	- to be continued -					

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	6 (Cont'd)					
	For - 3/4" galvanized steel pipe Only .....					
	Saudi Rials per linear meter.	L/M	13			
7	<b>INSULATION</b> As specified installed with all required accessories for a perfect and neat work.  Price to include :  - Labor insulation, - Vapor barrier, - Tape, - All fixing product,  a- Air Supply Duct.  Only .....					
	Saudi Rials per unit.	MS	62			
	b- Various Size Refrigerant Pipes.  Only .....					
	Saudi Rials per linear meter.	L/M	40			
	c- 3/4" Size Condensed Drain Pipe.  Only .....					
	Saudi Rials per linear meter.	L/M	8			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
8	<u>LABELS</u> Labels in Arabic and English for each piece of equipment, installed.  Only ..... ..... Saudi Rials per lot.	Lot	1			
9	<u>PAINTING</u> Of the complete installation.  Only ..... ..... Saudi Rials per lot.	Lot	1			
10	<u>TOOLS</u> Supplying of special tools for air-conditioner as recommended by the Manufacture.  Only ..... ..... Saudi Rials per lot.	Lot	1			
11	<u>SPARE PARTS</u> Supplying of spare parts of air-conditioner as recommended by the Manufacture.  Only ..... ..... Saudi Rials per lot.	Lot	1			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
12	<u>UNFORSEEN</u>  Only ..... ..... Saudi Rials per unit.	Lot	1		

SUMMARY

TEST PLANT BUILDING

S. R.

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TOTAL CARRIED TO SUMMARY OF AIR-CONDITIONING WORKS

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VENTILATION WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities  
and Unit Costs Schedules)

LABORATORY BUILDING





Prices for each item to include :

- All custom duties, taxes, profit, any fees and profits,
- All freights and transportation to site,
- Office overhead expenses,
- The required labor,
- All required and specialized tools,
- Pipes connections, with all specified valves, insulation, etc... for each piece of equipment,
- All required accessories as specified and recommended by the Manufacturer to increase efficiency of the installation,
- Painting and special protection for each piece of equipment, taking into consideration that the building is in YANBU, near the sea, where the atmosphere contains a high percentage of corrosive salt,
- Bases with vibration isolator as recommended by the Manufacturer, for each equipment installed,
- Wiring, control panel, cables for each motor,
- Start Up, Test,
- One year free maintenance.

**BILL OF QUANTITIES & UNIT COSTS SCHEDULES**

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
1	<p><u>WALL MOUNTED AXIAL FANS</u>                      As specified and shown on the drawings installed complete with all required accessories as recommended by manufacturer and the requirements of the installation.</p> <p>Price to include also :</p> <ul style="list-style-type: none"> <li>- Automatic shutter,</li> <li>- Power cable 2 meter,</li> <li>- Tatch-up painting,</li> <li>- Start up,</li> <li>- Test,</li> <li>- One year guaranty.</li> </ul> <p>WF - 1. Exhaust fan for Polishing room capacity 840 CMH at the required d static pressure (2mm Aq) of the system.</p> <p>Only .....</p> <p>.....</p> <p>Saudi Rials per unit.</p> <p>WF - 2 Exhaust fan for Dark room capacity 390 CMH at the required d static pressure (2mm Aq) of the system.</p> <p>Only .....</p> <p>.....</p> <p>Saudi Rials per unit.</p>	<p>N°</p> <p>N°</p>	<p>1</p> <p>1</p>		

**BILL OF QUANTITIES & UNIT COSTS SCHEDULES**

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	WF - 3 Exhaust fan for Instrumental analysis room capacity 840 CMH at the required static pressure (2mm Aq) of the system.  Only ..... Saudi Rials per unit.	N°	1		
	WF - 4 Exhaust fan for Corrosion test room capacity 1,500 CMH at the required static pressure (4mm Aq) of the system.  Only ..... Saudi Rials per unit.	N°	1		
	WF - 5 Ditto as above for Chemical analysis room.  Only ..... Saudi Rials per unit.	N°	1		
2	<u>CENTRIFUGAL TYPE AIR SUPPLY FAN</u> As specified and shown on the drawings installed complete with all required accessories as recommended by manufacturer and the requirements of the installation.  Price to include also :  - Air intake louver 600mm W x 450mm H,				
	- to be continued -				

**BILL OF QUANTITIES & UNIT COSTS SCHEDULES**

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	2 (Cont'd)				
	- Washable air filter, - Galvanized steel sheet casing, - Flexible joint, - Fan and motor base, - Startup, running test, - One year free maintenance.				
	a- Air supply fan for draft chamber in Corrosion test room capacity 2,000 CMH at required static pressure (12mm Aq) of the system.  Only ..... ..... Saudi Rials per unit.	N°	1		
	b- Ditto as above for Chemical analysis room.  Only ..... ..... Saudi Rials per unit.	N°	1		
3	<u>GALVANIZED STEEL DUCT SYSTEM</u> As specified, installed complete with all required accessories for air supply duct.  Given price for each square meter of duct surface area and price to include also :  - The duct supports, - Flexible duct,				
	-to be continued-				

**BILL OF QUANTITIES & UNIT COSTS SCHEDULES**

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	<p>3 (Cont'd)</p> <ul style="list-style-type: none"> <li>- The vanes, duct partitions,</li> <li>- Painting,</li> <li>- Test and adjustment.</li> </ul> <p>No extra shall be allowed for the price of the duct.</p> <p>a- Galvanized steel sheet gage No. 26. 0.5mm thick Only .....</p> <p>Saudi Rials per unit.</p> <p>b- 350mm W x 350mm H Air volume control damper. Only .....</p> <p>Saudi Rials per unit.</p> <p>c- 350mm W x 200mm H Air volume control damper. Only .....</p> <p>Saudi Rials per unit.</p> <p>d- 350mm W x 350mm H Flexible duct. Only .....</p> <p>Saudi Rials per unit.</p>	<p>MS</p> <p>N°</p> <p>N°</p> <p>N°</p>	<p>8</p> <p>2</p> <p>2</p> <p>2</p>		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	e- 600mm W x 150mm H Double deflection type air supply register with opposed action blade shutter, steel construction, backed enamel finish.  Only ..... ..... Saudi Rials per unit.	N°	4			
4	<u>POLYCHLORIDE VINYL DUCT</u> Supplying and installation of all polychloride vinyl duct for exhaust air from the draft chambers.  The price shall include for elbows, supports, hangers, sleeves and all necessary accessories, as specified and shown on the drawings.  For- $\phi$ 200 Porichroride vinyl duct  Only ..... ..... Saudi Rials per linear meter.	L/M	36			
5	<u>TYPE "M" COPPER PIPES FOR LPG GAS PIPING SYSTEMS</u> Supplying and installation of all type "M" copper pipe for LPG gas piping systems.  The price shall include elbows, tees, supports, hangers, guides, sleeves, and necessary required accessoried as specified and shown on the drawings.					
	-to be continued-					

**BILL OF QUANTITIES & UNIT COSTS SCHEDULES**

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	a- $\phi$ 6.5 Type "M" copper pipe. Only ..... Saudi Rials per linear meter.	L/M	12		
	b- $\phi$ 9.5 Type "M" copper pipe. Only ..... Saudi Rials per linear meter.	L/M	20		
	c- $\phi$ 12.7 Type "M" copper pipe. Only ..... Saudi Rials per linear meter.	L/M	55		
	d- 4 LPG BOMBS MANIHOLD The price include for pressure regulator, stop valves and flexible hose. Only ..... Saudi Rials per unit.	N°	1		
	e- <u>BOMB RACK FOR 4 BOMBS</u> The price include for bandage chain. Only ..... Saudi Rials per unit.	N°	1		

**BILL OF QUANTITIES & UNIT COSTS SCHEDULES**

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
6	<p><u>TESTING</u>                      Supplying all testing equipments and marking all testing as specified and required by the local Authorities.</p> <p>Only .....</p> <p>.....</p> <p>Saudi Rials Lump Sum.</p>	Lot	1		
7	<p><u>OTHERS</u>                      All required accessories not shown on the drawings or specified, but necessary for the good running of the installation.</p> <p>Only .....</p> <p>.....</p> <p>Saudi Rials Lump Sum</p>	Lot	1		
8	<p><u>UNFORSEEN</u></p> <p>Only .....</p> <p>.....</p> <p>Saudi Rials Lump Sum.</p>	Lot	1		



SUMMARY

LABORATORY BUILDING

S. R.

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TOTAL CARRIED TO SUMMARY OF MECHANICAL WORKS

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MECHANICAL WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities  
and Unit Costs Schedules)

LABORATORY BUILDING



Prices for each item to include :

- All custom duties, taxes, profit, any fees and profits,
- All freights and transportation to site,
- Office overhead expenses,
- The required labor,
- All required and specialized tools,
- Pipes connections, with all specified valves, insulation, etc... for each piece of equipment,
- All required accessories as specified and recommended by the Manufacturer to increase efficiency of the installation,
- Painting and special protection for each piece of equipment, taking into consideration that the building is in YANBU, near the sea, where the atmosphere contains a high percentage of corrosive salt.

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
1	<p><u>SEAMLESS GALVANIZED STEEL PIPES</u>  Supplying and installation of all UPVC pipe for domestic coled water system.</p> <p>The price shall include elbows, tees, supports, hangers, guides, sleeves and necessary and required accessories as specified and shown on the drawings.</p> <p>Excavation and backfilling of underground pipes, chipping and sleeve shall be included in price.</p> <p>Supply connection to laboratory work table are include in this price.</p> <p>a- 1/2" pipe size  Only .....</p> <p>Saudi Rials per linear meter.</p> <p>b- 3/4" pipe size  Only .....</p> <p>Saudi Rials per linear meter.</p> <p>c- 1" pipe size  Only .....</p> <p>Saudi Rials per linear meter.</p> <p>- to be continued -</p>	L/M	69		
		L/M	62		
		L/M	18		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	d- 1 1/4" pipe size Only .....					
	..... Saudi Rials per linear meter.	L/M	44			
2	<u>POLYCHLORIDE VINYL PIPES</u> Supplying and installation of all polychloride vinyl pipes for chemical drain systems. The price shall include for elbows, tees, supports, hangers, sleeves and all necessary accessories, as specified and shown on the drawings.  Excavation and backfilling of underground pipes shall be included in price.  Connection to chemical work table are include in the price.					
	a- $\phi$ 30 PVC pipe size Only .....					
	..... Saudi Rials per linear meter.	L/M	44			
	b- $\phi$ 40 PVC pipe size Only .....					
	..... Saudi Rials per linear meter.	L/M	12			
	c- $\phi$ 50 PVC pipe size Only .....					
	..... Saudi Rials per linear meter.	L/M	96			
	- to be continued -					

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	d- $\phi$ 65 PVC pipe size Only .....					
	..... Saudi Rials per linear meter.	L/M	8			
	e- $\phi$ 75 PVC pipe size Only .....					
	..... Saudi Rials per linear meter.	L/M	24			
	f- $\phi$ 100 PVC pipe size Only .....					
	..... Saudi Rials per linear meter.	L/M	76			
3	<b><u>BRONZE GATE VALVE</u></b> Supplying and installations of the following bronze gate valves with all necessary accessories all as specified and shown on the drawings.					
	a- 1/2" bronze gate valve Only .....					
	..... Saudi Rials per unit.	N°	5			
	b- 3/4" bronze gate valve Only .....					
	..... Saudi Rials per unit.	N°	1			



**BILL OF QUANTITIES & UNIT COSTS SCHEDULES**

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	c- 1" bronze gate valve Only .....				
	..... Saudi Rials per unit.	N°	---		
	d- 1 1/4" bronze gate valve Only .....				
	..... Saudi Rials per unit.	N°	2		
4	<b><u>BRONZE Y-STRAINER</u></b> Supplying and installations of the following bronze Y-strainer with all necessary accessories, all as specified and shown on the drawings.				
	For 1 1/4" bronze Y-strainer Only .....				
	..... Saudi Rials per unit.	N°	1		

**BILL OF QUANTITIES & UNIT COSTS SCHEDULES**

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
5	<p><b><u>NEUTRALIZATION PIT</u></b>                      Supplying and construction of the following neutralization pit for chemical drain as specified and shown on the drawing.</p> <p>The price shall include excavation and backfilling, all concrete works and benching, frame and cast iron cover, fill up Limestone and all necessary accessories as shown on the detail drawing.</p> <p>a- 2,000mm L x 1,200mm W x 1,300mm D neutralization pit.                      Only .....                      .....                      Saudi Rials per unit.</p> <p>b- 2,000mm L x 1,000mm W x 1,200mm D neutralization pit.                      Only .....                      .....                      Saudi Rials per unit.</p>	<p>N°</p> <p>N°</p>	<p>1</p> <p>1</p>		
6	<p><b><u>MANHOLES FOR CHEMICAL DRAIN</u></b>                      Supplying and installation of the following manholes for chemical drain as specified and shown on the drawings.</p> <p>The price shall include excavation and backfilling, all concrete works and benching, frame and cast iron cover all necessary accessories as shown on the details drawing.</p>				
- to be continued -					

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	6 (Cont'd)					
	a- 450mm x 450mm Chemical drain manhole. Only .....					
	Saudi Rials per unit.	N°	1			
	b- 550mm x 550mm Chemical drain manhole. Only .....					
	Saudi Rials per unit.	N°	10			
7	<u>TESTING</u> Supplying all testing equipments and marking all testing as specified and required by the local Authorities.  Only .....					
	Saudi Rials Lump Sum.	Lot	1			
8	<u>OTHERS</u> All required accessories not shown on the drawings or specified but necessary for the good running of the installation.  Only .....					
	Saudi Rials Lump Sum.	Lot	1			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
9	<u>UNFORSEEN</u>  Only ..... ..... Saudi Rials per linear meter.	Lot	1			
10	<u>OUT OF SCOPE</u> Following item are not included in this work.  - Supplying and installation of all Laboratory Equipment and Laboratory work table.					

SUMMARY

TEST PLANT BUILDING

S. R.

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TOTAL CARRIED TO SUMMARY OF MECHANICAL WORKS

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MECHANICAL WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

( Bill of Quantities  
and Unit Costs Schedules)

TEST PLANT BUILDING





Prices for each item to include :

- All custom duties, taxes, profit, any fees and profits,
- All freights and transportation to site,
- Office overhead expenses,
- The required labor,
- All required and specialized tools,
- Pipes connections, with all specified valves, insulation, etc... for each piece of equipment,
- All required accessories as specified and recommended by the Manufacturer to increase efficiency of the installation,
- Painting and special protection for each piece of equipment, taking into consideration that the building is in YANBU, near the sea, where the atmosphere contains a high percentage of corrosive salt,
- Start Up, Test,
- One year free maintenance.

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
1	<p><u>SEAMLESS GALVANIZED PIPES</u>  Supplying and installation of all seamed galvanized steel pipe for drinking cold water system.</p> <p>The price shall include elbows, tees, supports, hangers, guides, sleeves and necessary and required accessories as specified and shown on the drawings.</p> <p>Excavation and backfilling of underground pipes shall be included in price.</p> <p>Supply connection to sanitary fixtures are not included in this price.</p> <p>a- 1/2" pipe size  Only .....</p> <p>Saudi Rials per linear meter.</p> <p>b- 3/4" pipe size  Only .....</p> <p>Saudi Rials per linear meter.</p> <p>c- 1" pipe size  Only .....</p> <p>Saudi Rials per linear meter.</p> <p>d- 1 1/4" pipe size  Only .....</p> <p>Saudi Rials per linear meter.</p>	L/M	---			
		L/M	11			
		L/M	14			
		L/M	16			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
2	<u>SEAMLESS GALVANIZED PIPES FOR CONNECTIONS TO THE FIXTURES</u> Ditto as Item (1) for the following galvanized pipes inside toilet, tearoom and shower room.  a- 1/2" pipe size Only ..... ..... Saudi Rials per linear meter.	L/M	34			
	b- 3/4" pipe size Only ..... ..... Saudi Rials per linear meter.	L/M	38			
	c- 1" pipe size Only ..... ..... Saudi Rials per linear meter.	L/M	10			
3	<u>TYPE "M" COPPER PIPES</u> Supplying and installation of all type "M" copper pipes for hot water systems.  The price shall include elbows, tees, supports, hangers, guides, sleeves, and necessary and required accessories as specified and shown on the drawings.					
	- to be continued -					

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	3 (Cont'd)					
	Supply connection to sanitary fixtures are not included in the price.					
	a- 1/2" pipe size					
	Only .....					
	.....					
	Saudi Rials per linear meter.	L/M	2			
	b- 3/4" pipe size					
	Only .....					
	.....					
	Saudi Rials per linear meter.	L/M	6			
	c- 1" pipe size					
	Only .....					
	.....					
	Saudi Rials per linear meter.	L/M	3			
4	<u>TYPE "M" COPPER PIPES</u>					
	Ditto as item (3) for the following copper pipes inside locker room.					
	a- 1/2" pipe size					
	Only .....					
	.....					
	Saudi Rials per linear meter.	L/M	10			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
5	<p><u>POLYCHLORIDE VINYL PIPES</u>  Supplying and installation of all polychloride vinyl pipes for soil and waste drainage systems.</p> <p>The price shall include for elbows, tees, supports, hangers, sleeves and all necessary accessories, as specified and shown on the drawings.</p> <p>Excavation and backfilling of underground pipes shall be included in price.</p> <p>Polychloride vinyl pipes inside toilet and locker room are not included.</p> <p>a- <math>\phi</math> 50 pipe size  Only .....</p> <p>Saudi Rials per linear meter.</p> <p>b- <math>\phi</math> 65 pipe size  Only .....</p> <p>Saudi Rials per linear meter.</p> <p>c- <math>\phi</math> 75 pipe size  Only .....</p> <p>Saudi Rials per linear meter.</p> <p>d- <math>\phi</math> 100 pipe size  Only .....</p> <p>Saudi Rials per linear meter.</p>					
		L/M	4			
		L/M	8			
		L/M	---			
		L/M	44			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
6	<u>POLYCHLORIDE VINYL PIPES FOR CONNECTION TO THE FIXTURES</u> Ditto as Item (5) for the following polychloride vinyl pipes inside toilet and locker room.				
	a- $\phi$ 40 pipe size Only .....				
	..... Saudi Rials per linear meter.	L/M	4		
	b- $\phi$ 50 pipe size Only .....				
	..... Saudi Rials per linear meter.	L/M	40		
c- $\phi$ 65 pipe size Only .....					
..... Saudi Rials per linear meter.	L/M	16			
d- $\phi$ 75 pipe size Only .....					
..... Saudi Rials per linear meter.	L/M	2			
e- $\phi$ 100 pipe size Only .....					
..... Saudi Rials per linear meter.	L/M	12			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
7	<b>BRONZE GATE VALVE</b> Supplying and installations of the following bronze gate valves with all necessary accessories. All as specified and shown on the drawings.					
	a- 3/4" bronze gate valve Only .....					
	Saudi Rials per unit.	N°	1			
	b- 1" bronze gate valve Only .....					
	Saudi Rials per unit.	N°	1			
	c- 1 1/4" bronze gate valve Only .....					
	Saudi Rials per unit.	N°	1			
8	<b>BRONZE Y-STRAINER</b> Supplying and installations of the following bronze Y-strainers with all necessary accessories. All as specified and shown on the drawings.					
	a- 1" bronze Y-strainer Only .....					
	Saudi Rials per unit.	N°	1			
	- to be continued -					

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	8 (Cont'd)					
	b- 1 1/4" bronze Y-strainer Only .....					
	Saudi Rials per unit.	N°	1			
9	<u>INSULATION FOR HOT WATER PIPES</u> Supplying and installations of all the hot water pipes insulation as specified. The price shall include all materials to make a complete insulation system.					
	a- 1/2" pipe size Only .....					
	Saudi Rials per linear meter.	L/M	11			
	b- 3/4" pipe size Only .....					
	Saudi Rials per linear meter.	L/M	6			
	c- 1" pipe size Only .....					
	Saudi Rials per linear meter.	L/M	4			



**BILL OF QUANTITIES & UNIT COSTS SCHEDULES**

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
10	<p><b>FLOOR DRAINS</b>                      Supplying and installations of the following drains with necessary accessories. All as specified and shown on the drawings.</p> <p>a- <math>\phi</math> 50 toilet floor drain                      Only .....</p> <p>.....                      Saudi Rials per unit.</p> <p>b- <math>\phi</math> 65 toilet floor drain                      Only .....</p> <p>.....                      Saudi Rials per unit.</p>	N°	4		
11	<p><b>CLEAN OUTS</b>                      Supplying and installations of the following clean outs with necessary accessories. All as specified and shown on the drawings.</p> <p>a- <math>\phi</math> 65 toilet floor drain                      Only .....</p> <p>.....                      Saudi Rials per unit.</p> <p>b- <math>\phi</math> 100 toilet floor drain                      Only .....</p> <p>.....                      Saudi Rials per unit.</p>	N°	3		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
12	<p><u>VENT CAPS</u>  Supplying and installation of the following vent caps with all necessary accessories as specified and shown on the drawings.</p> <p>For <math>\phi</math> 50 vent cap  Only .....</p> <p>.....  Saudi Rials per unit.</p>	N°	2			
13	<p><u>MANHOLES FOR SOIL DRAIN</u>  Supplying and installations of the following manholes for soil drain as specified and shown on the drawings.</p> <p>The price shall include excavation and backfilling, all concrete works and benching, frame and cast iron cover and all necessary accessories as shown on the details drawings.</p> <p>For manhole 600mm x 600mm  Only .....</p> <p>.....  Saudi Rials per unit.</p>	N°	4			
14	<p><u>MANHOLES FOR WASTE DRAIN</u>  Supplying and installation of the following manholes for waste drain as specified and shown on the drawings.</p>					
	- to be continued -					

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	<p>14 (Cont'd)</p> <p>The price shall include excavation and backfilling, all concrete works and benching, frame and cast iron cover and all necessary accessories as shown on the details drawing.</p> <p>For manhole 550mm x 550mm Only .....</p> <p>..... Saudi Rials per unit.</p>	N°	3		
15	<p><u>NEUTRALIZATION PIT</u></p> <p>Supplying and construction of the following neutralization pit for chemical drain as specified and shown on the drawing.</p> <p>The price shall include excavation and backfilling, all concrete works and benching, frame and cast iron cover, fill up of Limestone and all necessary accessories as shown on the detail drawing.</p> <p>For Neutralization pit 1,500mm L x 850mm W x 850mm D Only .....</p> <p>..... Saudi Rials per unit.</p>	N°	1		
16	<p><u>ELECTRIC WATER HEATER</u></p> <p>Supplying and installation of electric water heater.</p>				
	- to be continued -				

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	16 (Cont'd)					
	Price shall include an interchangeable resistance element including thermostat, safety valve, automatic air vent, on-off switch, and all necessary valves and accessories as specified.					
	For 360 liters, 5kw 3 $\phi$ x 220 V					
	Only .....					
	.....					
	Saudi Rials per unit.	N°	1			
17	<u>DRINKING FOUNTAIN</u>					
	Supplying and installation of electric drinking fountain were shown on the drawings. Unit shall be as specified with all necessary valve and accessories.					
	Only .....					
	.....					
	Saudi Rials per unit.	N°	1			
18	<u>ELECTRIC HAND DRYER</u>					
	Supplying and installation of electric hand dryer.					
	Price shall include an on-off switch and all necessary accessories as specified.					
	For 1.5kw, 1 $\phi$ x 110 V					
	Only .....					
	.....					
	Saudi Rials per unit.	N°	1			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
19	<p><u>PORTABLE CO<sub>2</sub> EXTINGUISHERS</u>  Supplying and installation of portable CO<sub>2</sub> extinguisher 8 liters capacity as specified.</p> <p>Only .....</p> <p>.....</p> <p>Saudi Rials per unit.</p>	N°	3			
20	<p><u>SANITARY FIXTURES</u>  Supplying and installation of the following sanitary fixtures as specified and shown on the drawings.</p> <p><u>a- Floor Mounted Water Closet</u>  White vitreous china floor mounted water closet with flush tanks, seat with cover, regulating angle valve, waste fitting, faucet with spray flexible hose, nozzle, wall hook and necessary accessories, as specified.</p> <p>Only .....</p> <p>.....</p> <p>Saudi Rials per unit.</p> <p><u>b- Asiatic Water Closets</u>  White vitreous china asiatic water closet, with integral foot threads, "P" or "S" trap, flush tank with chromium plated steel pipe from tank to bowl, faucet with spray flexible hose, nozzle, wall hook and necessary accessories. All as specified.</p>	N°	1			
	-to be continued-					

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	20 (Cont'd) Only .....					
	..... Saudi Riials per unit.	N°	2			
	<u>c- Wall Hung Wash Basins</u> White vitareous ohina wall hung wash basin with faucet, pop-up wast trap, angle valve, supports, with necessary accessories, as specified and shown on the drawings.					
	Only .....					
	..... Saudi Riials per unit.	N°	2			
	<u>d- Wall Hung Wash Basins with Mixing Valve</u> Ditto as above, but with mixing valve instead of faucet as specified.					
	Only .....					
	..... Saudi Riials per unit.	N°	2			
	<u>e- Shower Plate</u> White vitreous china shower plate with mixer, concealed stop valves, flexible hand shower head, "P" trap, with necessary accessories. All as specified.					
	Only .....					
	..... Saudi Riials per unit.	N°	3			
	- to be continued -					

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
	20 (Cont'd)					
	f- <u>Kitchen Sink</u> Stainless steel top kitchen sink with waste trap, swivel type faucet, with necessary accessories. All as specified.  Only ..... ..... Saudi Rials per unit.	N°	1			
	g- <u>Mirror with Shelf</u> Mirror shelf combination above each hanged wash basin, with all necessary accessories. All as specified.  Only ..... ..... Saudi Rials per unit.	N°	4			
21	<u>TESTING</u> Supplying all testing equipments and making all testing as specified and required by the local Authorities.  Only ..... ..... Saudi Rials Lump Sum.	Lot	1			

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
22	<u>OTHERS</u> All required accessories not shown on the drawings or specified, but necessary for the good running of the installation.  Only ..... ..... Saudi Rials Lump Sum	Lot	1			
23	<u>UNFORSEEN</u>  Only ..... ..... Saudi Rials Lump Sum.	Lot	1			



SUMMARY

LABORATORY BUILDING

S. R.

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TOTAL CARRIED TO SUMMARY OF VENTILATION WORKS

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REPAIR AND MAINTENANCE WORKS  
FOR AIR-CONDITIONING  
AND SANITARY EQUIPMENT  
IN EXISTING ADMINISTRATION BUILDING

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities  
and Unit Costs Schedules)



Prices for each item to include :

- All custom duties, taxes, profit, any fees and profits,
- All freights and transportation to site,
- Office overhead expenses,
- The required labor,
- All required and specialized tools,
- Pipes connections, with all specified valves, insulation, etc... for each piece of equipment,
- All required accessories as specified and recommended by the Manufacturer to increase efficiency of the installation,
- Painting and special protection for each piece of equipment, taking into consideration that the building is in YANBU, near the sea, where the atmosphere contains a high percentage of corrosive salt,
- Bases with vibration isolator as recommended by the Manufacturer, for each equipment installed,
- Wiring, control panel, cables for each motor,
- Start Up, Test,
- One year free maintenance.

REFERENCE DRAWING OF 'SOCETEC' FOR EXISTING ADMINISTRATION BUILDING

<u>DWG. No.</u>	<u>CORD No.</u>	<u>TITLE</u>
- 04	65[57]01	ADMINISTRATION GROUND FLOOR AIR-CONDITIONING LAYOUT
- 05	65[57]02	ADMINISTRATION FIRST FLOOR AIR-CONDITIONING LAYOUT
- 06	65[57]03	ADMINISTRATION ROOF FLOOR AIR-CONDITIONING LAYOUT.

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
1	<p><u>REPAIR AND MAINTENANCE WORKS FOR AIR-CONDITIONING AND SANITARY EQUIPMENTS IN EXISTING ADMINISTRATION BUILDING</u></p> <p>The equipments which require to be repaired and/or maintained shall be the following items.</p> <p>The price shall include all repair and change parts, testing and checking tools, consumable materials, start up, running, test, one year maintenance and necessary works.</p> <p><u>AIR COOLED PACKAGED LIQUID CHILLER UNIT</u>            Model :- CARRIER, 30 GB 070</p> <p>Especially :- Repair of air cooled Condenser Fin,            :- Maintenance of Compressors,            :- Maintenance of various Gages,            :- Maintenance of Condenser Fan- Motors,            :- Checking of electrical Insulation,            :- Checking of electric Wirings,            :- Checking of refrigerant gas and oil, etc. ...</p> <p>Only .....</p> <p>.....</p> <p>Saudi Rials per linear meter.</p>	N°	2		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
2	<u>AIR HANDLING UNIT (AHU-1)</u> Model :- CARRIER, 39 ED 18  Especially :- Maintenance of Fan, Motor, V-velts and Bearing. :- Checking of Valves, Gages, and Meters, :- Checking and cleaning of cooling Coil and Filters.  Only ..... ..... Saudi Rials per linear meter.	N°	1		
3	<u>AIR HANDLING UNIT (AHU-2)</u> Model :- CARRIER, 39 ED 15  Especially :- Ditto for above  Only ..... ..... Saudi Rials per linear meter.	N°	1		
4	<u>AIR HANDLING UNIT (AHU-3, 4)</u> Model :- CARRIER, 39 ED 12  Especially :- Ditto for above  Only ..... ..... Saudi Rials per linear meter.	N°	2		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES						
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST	
5	<u>DIRECT EXPANSION AIR HANDLING UNIT WITH AIR COOLED CONDENSER FOR COMPUTER</u> Model :- CARRIER (5900 CFM)  All parts to be maintenance and electric Line check.  Only ..... ..... Saudi Rials per linear meter.	N°	1			
6	<u>CHILLED WATER PUMP</u> Capacity :- 130 GPM.  Especially :- Repair of Ground Packing, :- Maintenance of Motor Bearings, :- Checking of electrical Insulation.  Only ..... ..... Saudi Rials per linear meter.	N°	3			
7	<u>CENTRIFUGAL MULTIBLADE TYPE EXHAUST FAN</u> Model :- RF 1/2 CBI VC 037  Especially :- Maintenance of Motor Bearing, :- Checking of electric Insulation,					
	- to be continued -					



BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	: - Checking of Flexible Joints.				
	Only .....				
	.....				
	Saudi Rials per linear meter.	N°	2		
8	<u>EXHAUST FAN</u>				
	Model :- RF-3 WOODS LMF 10/18				
	All parts to be checking.				
	Only .....				
	.....				
	Saudi Rials per linear meter.	N°	2		
9	<u>KITCHEN AND TOILET EXHAUST FAN</u>				
	All parts to be checking.				
	Only .....				
	.....				
	Saudi Rials per linear meter.	N°	1		
10	<u>ROLL RILTER UNIT</u>				
	Model :- AAF ROLL - 0 - MATIC 4/40				
	All parts to be checking and cleaning filter.				
	Only .....				
	.....				
	Saudi Rials per linear meter.	N°	1		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
11	<u>ELECTRIC MAIN PANEL BOARD</u> Especially :- Checking of electrical Insulation, etc...  Only ..... ..... Saudi Rials per linear meter.	N°	1		
12	<u>CONTROL PANEL BOARD</u> Especially :- Checking of electrical Insulation, :- Confirmation for movement of switches, :- Confirmation of Lamps.  Only ..... ..... Saudi Rials per linear meter.	N°	1		
13	<u>SEWAGE TREATMENT UNIT AND            PERCOLATING PIT</u> Especially :- Maintenance of Motor for percolater, :- Cdchecking of movement of percolater, :- Maintenance of sewage treatment unit.  Only ..... ..... Saudi Rials per linear meter.	N°	1		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
14	<u>OPERATION</u> All repaired and maintained equipment to be test running and adjustment for best condition.  Only ..... ..... Saudi Rials Lump Sum.	Lot	1		
15	<u>ONE YEAR FREE MAINTENANCE</u>  Only ..... ..... Saudi Rials Lump Sum.	Lot	1		

SUMMARY

LABORATORY BUILDING

S. R.

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TOTAL CARRIED TO SUMMARY OF REPAIR & MAINTENANCE WORKS

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ELECTRICAL WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities  
and Unit Costs Schedules)

LABORATORY BUILDING



BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	<u>LABORATORY BUILDING</u>				
	<u>POWER WORK</u>				
	Equipment				
	Power distribution switchboard BP-1				
	Only.....				
	.....				
	Saudi Rials per panel.	Panel	1		
	Power distribution switchboard PP-1				
	W/transformer				
	3 pH 4 W 20 KVA 230 V/220 - 127 V				
	Only.....				
	.....				
	Saudi Rials per panel.	Panel	1		
	Power distribution switchboard PP-2				
	W/transformer				
	3 pH 4 W 10 KVA 230 V/190 - 110 V				
	Only.....				
	.....				
	Saudi Rials per panel.	Panel	1		
	Power distribution switchboard PP-3				
	W/transformer				
	3 pH 4 W 16 KVA 230 V/190 - 110 V				
	Only.....				
	.....				
	Saudi Rials per panel.	Panel	1		
	Materials				
	Cable WV				
	3C - 120 sqmm				
	Only.....				
	.....				
	Saudi Rials per meter.	M	7		
	3C - 25 sqmm				
	Only.....				
	.....				
	Saudi Rials per meter.	M	5		
	3C - 16 sqmm				
	Only.....				
	.....				
	Saudi Rials per meter.	M	30		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	3C - 10 sqmm Only..... Saudi Rials per meter.	M	35		
	3C + E - 10 sqmm Only..... Saudi Rials per meter.	M	65		
	3C + E - 45 sqmm Only..... Saudi Rials per meter.	M	65		
	2C + E - 10 sqmm Only..... Saudi Rials per meter.	M	60		
	2C + E - 6 sqmm Only..... Saudi Rials per meter.	M	220		
	2C + E - 4 sqmm Only..... Saudi Rials per meter.	M	1,250		
	Termination materials Only..... Saudi Rials per lot.	Lot	1		
	Conduit pipe 1" Only..... Saudi Rials per meter.	M	250		
	1-1/4" Only..... Saudi Rials per meter.	M	27		
	2" Only..... Saudi Rials per meter.	M	20		
	Fittings for conduit pipe Only..... Saudi Rials per lot.	Lot	1		



BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	Normal bend 2" Only..... ..... Saudi Rials per piece.	pcs	5		
	Support for conduit pipe Only..... ..... Saudi Rials per lot.	Lot	1		
	Cable tray W = 400 mm Only..... ..... Saudi Rials per meter.	M	62		
	Support for cable tray Only..... ..... Saudi Rials per lot.	Lot	1		
	Power outlet W/plate and box duplex Only..... ..... Saudi Rials per set.	Set	17		
	Tumbler switch W/plate and box Only..... ..... Saudi Rials per set.	Set	1		
	Support for distribution switchboard Only..... ..... Saudi Rials per lot.	Lot	1		
	Steel materials Only..... ..... Saudi Rials per lot.	Lot	1		
	Bolt & Nut Only..... ..... Saudi Rials per lot.	Lot	1		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	Ceiling cutting and curing Only..... ..... Saudi Rials per lot.	Lot	1		
	Miscellaneous and consumable Only..... ..... Saudi Rials per lot.	Lot	1		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	<u>GROUNDING WORK</u>				
	Materials				
	Wire IV 70 sqmm Only..... ..... Saudi Rials per meter.	M	60		
	Wire connector 70 + 70 sqmm Only..... ..... Saudi Rials per piece.	pcs	4		
	Terminal Only..... ..... Saudi Rials per lot.	Lot	1		
	Miscellaneous and consumable Only..... ..... Saudi Rials per lot.	Lot	1		

SUMMARY

LABORATORY BUILDING

S. R.

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TOTAL CARRIED TO SUMMARY OF ELECTRICAL WORKS

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ELECTRICAL WORKS

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities  
and Unit Costs Schedules)

TEST PLANT BUILDING



BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	<u>TEST PLANT BUILDING</u>				
	<u>POWER WORK</u>				
	Equipment				
	Power distribution switchboard PP-4 W/transformer 1 pH 2 W 5 KVA 480 V/110 V Only..... ..... Saudi Rials per panel.	Panel	1		
	power distribution switchboard PP-5 W/transformer 3 pH 4 W 40 KVA 480 V/220 - 127 V Only..... ..... Saudi Rials per panel.	Panel	1		
	Transformer 3 pH 4 W 80 KVA 480 V/220 - 127 V Only..... ..... Saudi Rials per each.	EA	1		
	Transformer 3 pH 4 W 45 KVA 480 V/220 - 127 V Only..... ..... Saudi Rials per each.	EA	1		
	Transformer 1 pH 2 W 5 KVA 480 V/110 V Only..... ..... Saudi Rials per each.	EA	1		
	Materials				
	Cable VVTAZV 3C - 4 sqmm Only..... ..... Saudi Rials per meter.	M	40		
	3C - 2.5 sqmm Only..... ..... Saudi Rials per meter.	M	40		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	2C - 6 sqmm Only..... Saudi Rials per meter.	M	25		
	2C + E - 4 sqmm Only..... Saudi Rials per meter.	M	35		
	VV 3C - 185 sqmm Only..... Saudi Rials per meter.	M	15		
	3C - 95 sqmm Only..... Saudi Rials per meter.	M	20		
	3C - 70 sqmm Only..... Saudi Rials per meter.	M	6		
	3C - 35 sqmm Only..... Saudi Rials per meter.	M	5		
	3C - 4 sqmm Only..... Saudi Rials per meter.	M	10		
	2C - 25 sqmm Only..... Saudi Rials per meter.	M	25		
	2C - 4 sqmm Only..... Saudi Rials per meter.	M	5		
	Wire IV 10 sqmm Only..... Saudi Rials per meter.	M	270		
	4 sqmm Only..... Saudi Rials per meter.	M	600		



BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	Cable gland for VVTAZV Only..... ..... Saudi Rials per lot.	Lot	1		
	Termination materials Only..... ..... Saudi Rials per lot.	Lot	1		
	Conduit pipe 1" Only..... ..... Saudi Rials per meter.	M	160		
	1-1/4" Only..... ..... Saudi Rials per meter.	M	85		
	1-1/2" Only..... ..... Saudi Rials per meter.	M	4		
	3" Only..... ..... Saudi Rials per meter.	M	20		
	Fitting for conduit pipe Only..... ..... Saudi Rials per lot.	Lot	1		
	Normal bend 1-1/2" Only..... ..... Saudi Rials per piece.	pcs	1		
	3" Only..... ..... Saudi Rials per piece.	pcs	2		
	Support for conduit pipe Only..... ..... Saudi Rials per lot.	Lot	1		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	Power outlet w/plate and box duplex				
	Only.....				
	Saudi Rials per set.	Set	5		
	Junction box for aircon. W/MCB				
	Only.....				
	Saudi Rials per set.	Set	2		
	Support for distribution switchboard				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Steel materials				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Bolt and nut				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Ceiling cutting and curing				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Concrete tile				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Sand				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Miscellaneous and consumable				
	Only.....				
	Saudi Rials per lot.	Lot	1		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	<u>LIGHTING WORK</u>				
	Equipment				
	Lighting distribution switchboard LP-1 W/transformer 3 pH 4 W 5 KVA 480 V/208 - 120 V Only..... ..... Saudi Rials per panel.	Panel	1		
	Lighting fixture				
	Fluorescent fixture 2 x 40 watts flush-mounted type Only..... ..... Saudi Rials per each.	EA	4		
	Fluorescent fixture 1 x 40 watts flush-mounted type Only..... ..... Saudi Rials per each.	EA	8		
	Fluorescent fixture 1 x 40 watts ceiling-mounted type Only..... ..... Saudi Rials per each.	EA	4		
	Fluorescent fixture with vapor-tight 2 x 40 watts ceiling-mounted type Only..... ..... Saudi Rials per each.	EA	1		
	Fluorescent fixture with vapor tight 1 x 40 watts ceiling-mounted type Only..... ..... Saudi Rials per each.	EA	2		
	Fluorescent fixture with vapor tight 1 x 40 watts wall-mounted type Only..... ..... Saudi Rials per each.	EA	2		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	Outdoor fixture with a 20 watts fluorescent light Only..... ..... Saudi Rials per each.	EA	5		
	Ceiling mounted fixture with one 250 watts mercury vapor light Only..... ..... Saudi Rials per each.	EA	10		
	Photoelectric switch Only..... ..... Saudi Rials per set.	Set	1		
	Materials				
	Cable				
	3C + E Only..... ..... Saudi Rials per meter.	M.	60		
	2C + E Only..... ..... Saudi Rials per meter.	M	230		
	Wire IV 2.5 sqmm Only..... ..... Saudi Rials per meter.	M	1,380		
	Termination materials Only..... ..... Saudi Rials per lot.	Lot	1		
	Conduit pipe				
	3/4" Only..... ..... Saudi Rials per meter.	M	163		
	1" Only..... ..... Saudi Rials per meter.	M	60		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	1-1/4"				
	Only.....				
	Saudi Rials per meter.	M	50		
	1-1/2"				
	Only.....				
	Saudi Rials per meter.	M	5		
	Fittings for conduit pipe				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Normal bend 1-1/2"				
	Only.....				
	Saudi Rials per piece.	pcs	1		
	Support for conduit				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Outlet box W/cover				
	Only.....				
	Saudi Rials per set.	Set	7		
	Pull box 250 x 250 x 250 mm				
	Only.....				
	Saudi Rials per each.	EA	1		
	Joint box wall mounted				
	3/4" three way				
	Only.....				
	Saudi Rials per each.	EA	1		
	1" three way				
	Only.....				
	Saudi Rials per each.	EA	13		
	1-1/4" three way				
	Only.....				
	Saudi Rials per each.	EA	11		
	Joint box				
	Only.....				
	Saudi Rials per each.	EA	21		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	Tumblerswitch flush-mounted W/plate and box single				
	Only.....				
	Saudi Rials per set.	Set	6		
	3 way				
	Only.....				
	Saudi Rials per set.	Set	2		
	Tumbler switch surface-mounted W/plate and box duplex				
	Only.....				
	Saudi Rials per set.	Set	2		
	3 way				
	Only.....				
	Saudi Rials per set.	Set	4		
	Receptacle W/plate and box Flush-mounted				
	Only.....				
	Saudi Rials per set.	Set	7		
	Surface-mounted				
	Only.....				
	Saudi Rials per set.	Set	16		
	Vapor-Tight				
	Only.....				
	Saudi Rials per set.	Set	2		
	Lighting fixture support				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Ceiling cutting and curing				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Grounding materials				
	Only.....				
	Saudi Rials per lot.	Lot	1		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	Steel materials Only..... ..... Saudi Rials per lot.	Lot	1		
	Bolt and nut Only..... ..... Saudi Rials per lot.	Lot	1		
	Miscellaneous and consumable Only..... ..... Saudi Rials per lot.	Lot	1		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	<u>GROUNDING WORK</u>				
	Wire IV 70 sqmm Only..... ..... Saudi Rials per meter.	M	100		
	Wire connector 70 + 70 sqmm Only..... ..... Saudi Rials per piece.	pcs	7		
	Wire connector GK6426 Only..... ..... Saudi Rials per piece.	pcs	3		
	Chance underground pedestal #CF600 W/cover Only..... ..... Saudi Rials per piece.	pcs	3		
	Grounding rod 19 $\phi$ - 3,050 l Only..... ..... Saudi Rials per piece.	pcs	3		
	Terminal Only..... ..... Saudi Rials per lot.	Lot	1		
	Miscellaneous and consumable Only..... ..... Saudi Rials per lot.	Lot	1		



BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	<u>TELEPHONE WORK</u>				
	Cable CPEVTAVZ 0.65 mm x 3p Only..... ..... Saudi Rials per meter.	M	35		
	Termination materials Only..... ..... Saudi Rials per lot.	Lot	1		
	Cable gland Only..... ..... Saudi Rials per lot.	Lot	1		
	Conduit pipe 1" Only..... ..... Saudi Rials per meter.	M	2		
	Fittings for conduit pipe Only..... ..... Saudi Rials per lot.	Lot	1		
	Telephone outlet w/plate Only..... ..... Saudi Rials per set.	Set	1		
	Steel materials Only..... ..... Saudi Rials per lot.	Lot	1		
	Bolts & nuts Only..... ..... Saudi Rials per lot.	Lot	1		
	Miscellaneous and consumable Only..... ..... Saudi Rials per lot.	Lot	1		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	<u>PUBLIC ADDRESS WORK</u>				
	Equipment				
	Desk top type handset station Only..... ..... Saudi Rials per set.	Set	1		
	Wall mounted type handset station Only..... ..... Saudi Rials per set.	Set	2		
	Trumpet typed loudspeaker Only..... ..... Saudi Rials per set.	Set	2		
	Cone speaker Only..... ..... Saudi Rials per set.	Set	3		
	Materials				
	Cable VVTAZV      3C - 2.5 sqmm Only..... ..... Saudi Rials per meter.	M	45		
	CPEVTAZV    0.65 mm - 3P Only..... ..... Saudi Rials per meter.	M	40		
	0.65 mm - 1P Only..... ..... Saudi Rials per meter.	M	50		
	CPEV            0.65 mm - 3P Only..... ..... Saudi Rials per meter.	M	10		
	Wire IV                2.5 sqmm Only..... ..... Saudi Rials per meter.	M	120		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	Termination materials Only..... ..... Saudi Rials per lot.	Lot	1		
	Cable gland Only..... ..... Saudi Rials per lot.	Lot	1		
	Conduit pipe 3/4" Only..... ..... Saudi Rials per meter.	M	70		
	1" Only..... ..... Saudi Rials per meter.	M	54		
	Fittings for conduit pipe Only..... ..... Saudi Rials per lot.	Lot	1		
	Support for conduit pipe Only..... ..... Saudi Rials per lot.	Lot	1		
	Joint box surface-mounted 3/4" three way Only..... ..... Saudi Rials per each.	EA	3		
	1" three way Only..... ..... Saudi Rials per each.	EA	1		
	Bolt and nut Only..... ..... Saudi Rials per lot.	Lot	1		
	Ceiling cutting and curing Only..... ..... Saudi Rials per lot.	Lot	1		
	Miscellaneous and consumable Only..... ..... Saudi Rials per lot.	Lot	1		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	<u>MODIFICATION WORK</u>				
	Materials				
	Wire IV 4 sqmm				
	Only.....				
	Saudi Rials per meter.	M	250		
	Termination materials				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Conduit pipe				
	1"				
	Only.....				
	Saudi Rials per meter.	M	50		
	1-1/4"				
	Only.....				
	Saudi Rials per meter.	M	5		
	Fittings for conduit pipe				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Support for conduit pipe				
	Only.....				
	Saudi Rials per lot.	Lot	1		
	Joint box				
	1" three way				
	Only.....				
	Saudi Rials per each.	EA	13		
	1-1/4" four way				
	Only.....				
	Saudi Rials per each.	EA	2		
	Tumbler switch flush-mounted				
	W/plate and box				
	duplex				
	Only.....				
	Saudi Rials per set.	Set	3		

BILL OF QUANTITIES & UNIT COSTS SCHEDULES

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT RATE	TOTAL COST
	Ceiling cutting and curing Only..... ..... Saudi Rials per lot.	Lot	1		
	Steel materials Only..... ..... Saudi Rials per lot.	Lot	1		
	Bolt and nut Only..... ..... Saudi Rials per lot.	Lot	1		
	Miscellaneous and consumable Only..... ..... Saudi Rials per lot.	Lot	1		

SUMMARY

TEST PLANT BUILDING

S. R.

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TOTAL CARRIED TO SUMMARY OF ELECTRICAL WORKS

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LABORATORY FURNITURE

SCHEDULES OF APPROXIMATE QUANTITIES

(Bill of Quantities  
and Unit Costs Schedules)





BILL OF QUANTITIES FOR PURCHASING LABORATORY FURNITURE

\*Unit price shall be inclusive of installation rate.

Furniture to be purchased	Q'ty	Unit price	Amount
5- 1 Center table	2		
5- 2 Center table	8		
5- 5 Work table	2		
5- 6 Side table	7		
5- 7 Side table	7		
5- 8 Side table	3		
5-10 Sink for developping	1		
5-11 Sink unit	1		
5-12 Balance table	2		
5-13 Microscope table	2		
5-14 Fume hood	6		
5-15 Fume hood	1		
5-16 Shelf,open type;1800x500	5		
5-17 Shelf,open type;1500x500	5		
5-18 Shelf,locked type;1500x450	18		
5-19 Black curtain	2		
5-20 Laboratory chair	50		
5-21 Tool cabinet	2		

SUMMARY

LABORATORY FURNITURE

S. R.  
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TOTAL CARRIED TO SUMMARY OF  
LABORATORY FURNITURE INSTALLATION WORK

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