

**Project: Augusta Victoria Hospital - Triage Department**  
**Preambles**

**1. Introduction:**

These Pricing Preambles set out the basis on which the Bills of Quantities have been prepared. Notwithstanding the provisions of these pricing preambles, the Contractor is reminded that the Tender Drawings and the Specifications form part of the Tender Documents and as such mutually refer to the intent of the Tender Documents.

Where a discrepancy occurs, it is deemed that the Contractor has allowed for the intent of the Tender Documents unless this is clarified specifically at the time of Tender.

All works included in the Bills of Quantities shall be executed according to the drawings, specifications and engineer's instructions and approval.

**2. Bills of Quantities:**

The Bills of Quantities define the items, which are measurable, and the units of measurement represent the entire work to be carried out in accordance with the Drawings and the Specifications. The measurement items in the Bills of Quantities are to be accepted as the full interpretation of the requirement of the Drawings and Specifications. "Descriptions" are given in outline only, the Contractor is to refer to the Specifications and Drawings and make himself familiar with the requirements. No additional measured items will be allowed to interpret further the information so given. Other requirements which are not measurable in terms of quantity of labor and materials (e.g., specialist supervision, shop drawings, bar bending schedules, as built drawings, samples, tests, mock-ups, maintenance, materials, guarantees and the like) and are not given as specific items in the Bills, are to be included in the prices of the measured items. The measured items and units of the measurement thus establish the method of measurement for the Contract in the Bills of Quantities. No other measurement method shall be used to measure the executed works.

The same method of measurement and no other will be used in re-measuring the executed work.

**3. Pricing:**

The Contractor shall satisfy himself as to the meaning of every item in the Bills of Quantities and the rates and prices inserted by him shall cover all Works required by the Contract Documents. All costs in connection with the proper and successful construction, completion and maintenance of the Works including, but not limited to, completion of all temporary works, furnishing all materials, equipment, supply and appurtenance, providing all construction Plants, equipment, tools, sampling, testing, profits, overheads, charges, provision of guarantees, performing all necessary labor and supervision and other cost of

whatsoever nature necessary to fully complete the Works, shall be included in the unit and lump sum prices called for in the bills of Quantities. All Works not specifically set fourth as a pay item in the Bills of Quantities shall be considered as subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the Priced Tender. Prices shall be deemed to include for all straight ranking and circular cutting and consequent waste. All prices shall include all fees, levies and taxes. Value Added Tax (VAT) shall not be included in the unit price and shall be added separately as indicated in the summary sheet.

The Contractor shall maintain and keep all item rates and prices fixed through out the execution of the contract. No extra rates shall be allowed for the changes of specified materials, if required by the Contractor and approved by the Engineer, due to the unavailability of the material or to improve the quality of the same.

**Project: Augusta Victoria Hospital - Triage Department**  
**Preambles**

**4. Quantities:**

All estimated quantities stipulated in the Bills of Quantities or other Tender Documents are approximate and are to be used only;

- a) as a basis for estimating the probable cost of the Work and
- b) for the purpose of comparing the bids submitted for the Work.

The actual amount of work done under each unit price items may differ from the estimated quantities. The basis of payment for work will be the actual quantities. The Contractor agrees that he will make no claim for damages anticipated profits or otherwise on account of any difference between the amounts of work actually executed and the estimated amount.

**5. Items in Bills of Quantities**

Such items are the subject of re-measurement of completion in accordance with Clause 56 of the General Conditions of Contract. Quantities given in the Bills are based upon measurement from the Contract Drawings and Specifications.

**6. Measurement**

Metric measurements and weights have been used throughout the Bills of Quantities. Work is measured net as fixed in position and each measurement is taken to the nearest centimeter. Fractions of a centimeter less than half are disregarded and all other fractions are regarded as whole centimeters. This principle shall not apply to dimensions stated in item descriptions. Where minimum deductions of voids are dealt with they refer only to openings or voids which are wholly within the boundaries of measured areas. Openings or voids that are at the boundaries of measured areas are always the subject of deduction irrespective of size.

No items are to be measured twice under separate headings under all circumstances.

**7. Descriptions**

The order of stating dimensions in descriptions is generally in the sequence of Length, Width and Height. Unless otherwise stated in the Bills of Quantities or herein, all measured items are deemed to include supply and fix in place complete, thus all measured items shall include all incidentals to complete the work in a proper manner such as but not limited to the following:

- a) Labor.
- b) Materials, including all costs in connection herewith (e.g. conveyance, delivery, unloading, storing, and handling, lowering into position and the like).

**Project: Augusta Victoria Hospital - Triage Department**  
**Preambles**

- c) Customs and import duties as applicable, insurance, levies and the like.
- d) All shop treatment of materials (e.g. Preservation of timbers, galvanizing, priming, chrome plating, stove enameling, anodizing and the like, pipe wrapping, coatings, etc.).
- e) Fitting and fixing materials in position includes all necessary fixing devices and materials.
- f) Commissioning & use of plant.
- g) Disposal of waste of material.
- h) Square, raking or curved cutting.
- i) Work in volumes, areas and length of any size, no separate items being measured for isolated work or work in small quantities, short length, narrow widths, etc.
- j) Establishment charges, on-costs, overhead charge profits and taxes.

Junctions between straight, raking and curved work are in all cases included with the work in which they occur.

Certain items are referenced directly to detail drawings to eliminate detailed description. All such reference includes all work to execute the detail.

Where Specification clauses and / or detail drawing numbers are referred to in a description such information is provided for convenience only and the Contractor is to note that all other relevant Specification requirements and relevant drawings and details are to be taken into account.

#### 8. Abbreviations.

The following abbreviations are used throughout the Bills of Quantities.

mm Millimeter  
 cm Centimeter  
 M.R. Linear meter  
 M2. Square meter  
 M3 Cubic Meter  
 L.S. Lump Sum  
 No. Number  
 Kg. Kilogram  
 Ref. Reference

**Project: Augusta Victoria Hospital - Triage Department**  
**Preambles**

**9. Definitions**

The terms "include", "is included", "including" and similar, are used herein to indicate that the items in question are not measurable as separate items and are not specifically mentioned in the descriptions but the costs of which are to be included in the measured items.

Such references are not comprehensive and are for convenience only and the Contractor is to note that all-relevant requirement of the Specifications and Drawings are to be taken into account in the measured items.

The word "Site" used in the Bills of Quantities means the whole of the areas within the Contract limit lies for this Contract as shown on the Contract Drawings. With reference to the clearance of debris, rubbish, trash, excavated material and the like the definition is extended to include the whole of the site.

The word "ditto" used in the Bills of Quantities means the repetition of all or part of the preceding item as applicable to complete the sense of the item.

The word "extra" used in the Bills of Quantities means the additional cost of the item of work in question over and above the rate of the item as stated in the bills of quantities.

**10. Protection.**

All rates in the Bills of Quantities shall include for protection as required and deemed necessary.

**11. Shop Drawings / co-ordinated drawings.**

It must be clear here that according to this contract the meaning of the term (Shop drawings) in arabic is مخططات تنفيذية and it is applicable for all types of works and wherever it is mentioned and/or required as the responsibility of the contractor.

All rates shall include where required for producing shop drawings & coordinated drawings and supporting calculations.

**12. As Built Drawings.**

All rates shall include where required for producing as-built drawings and supporting calculations.

**13. Cutting and Patching.**

The Contractor shall be responsible for all cutting, patching and making good for all trades for all work and his prices will be deemed to include for all such cutting and patching and making good : -

Setting out of the buildings, yards, car parks, guardroom, retaining walls & boundaries are to be done by licensed authorized surveyor at the contractor's expense and responsibility

**14. Setting out of Works.**

Setting out of the buildings, yards, carparks, guard room, retaining walls & boundaries walls are to be carried out by licensed authorized surveyor at the contractor's expense and responsibility.

## Bill of Quantities

## Project: Augusta Victoria Hospital - Triage Department

## Section 1 - Dismantling and Demolition Works

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
	<b>Demolition works</b> Note: all demolition works should be done according to drawings and after engineer's approval and under his direct supervision. Rates of all Demolition and dismantling works shall include the removal of all depress out of Hospital site to authorized place Any dismantled object or material is a property of the client. The contractor may be asked to store the dismantled objects in a proper space inside the hospital site or he shall remove it out of site according to Engineer's directions <b>The price includes fixing the plaster after demoltion</b>				
1-1	<b>Demolition of existing walls of any kind and thickness.</b> Rates include Removal of existing wall ceramic tiles where exist. Note : thickness of walls in plans are approximate and may vary from existing, the contractor must verify thickness of each wall himself before pricing. <b>Rates of demolition in structural elements include proper strengthening of wall</b> above opening, for example fixing of steel profile of suitable size or building of new RC lintels , all according to Engineer's directions				
A-	Demolition of Existing concrete walls of any thickness (30-50 cm) walls as per drawings to open a door opening	M <sup>2</sup>	10		
B-	Demolition of Existing Block walls of any thickness walls as per drawings (11)	M <sup>2</sup>	120		
1-2	<b>Dismantling and Removal of Existing Tiles</b>				
A	Terrazzo, Ceramic, Marble or any kind of tiles of any thickness on the floor or at the walls, Price includes removal of any carpet or PVC sheet above and also removal of fill under tiles including stairs and according to engineers directions. as per drawings (02)	M <sup>2</sup>	400		
B-	Dismantling and removal of existing wall tiles carefully from the toilets, the price include compensates the damaged and lost parts (08)	M <sup>2</sup>	70		
C-	Dismantling and removal of existing historical floor tiles carefully from the reception area according to engineers directions and saving the tiles in a safe place to retile it after the works finish, the price include compensates the damaged and lost parts (08)	M <sup>2</sup>	50		

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 1 - Dismantling and Demolition Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
1-3	<b>Dismantling and Removal of Existing windows</b> of any size . Price includes removal of existing frames or sub frames and transfer of doors to a store inside hospital site according to engineer's directions. As per drawings (03)	No	19		
1-4	<b>Dismantling and Removal of Existing doors</b> of any size . Price includes removal of existing frames or sub frames and transfer of doors to a store inside hospital site according to engineer's directions. As per drawings (04)	No	17		
1-5	<b>Dismantling and Removal of Existing False ceiling of all kinds.</b> Price includes removal and transfer of False ceiling to a store inside hospital site or outside hospital site as per engineer's directions.	M2	70		
1-6	<b>Dismantling and Removal of Existing equipment's</b> , includes Wash Basin, WC, counters, sinks worktop, built in cupboards, Hoods, Air conditioning ducts and equipment's , Etc. Price includes removal and transfer of all that to a store inside hospital site or outside hospital site as per engineer's directions. as per drawings (07)	L.S	1		
	<b>Total Carried to Summary</b>				

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 2 - Masonry Works**

<b>Item No.</b>	<b>Item Name and Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate US\$</b>	<b>Amount US\$</b>
<b>2-1</b>	<p><b>Block Works:</b> Hollow concrete block walls as shown on drawing and in accordance with specification. All works of this bill shall be of Concrete blocks Grade 35 of high quality standards and as per specifications.  Block works shall be measured in meter square. The net No allowance for thickness used other than those shown in the drawings. <b>Rates of Block works include:-</b></p> <ul style="list-style-type: none"> <li>• Vertical and horizontal joints.</li> <li>• Cement and mortar (1:4)</li> <li>• Galvanized angles butter fly ties (at joints and between walls in cavity walls.</li> <li>• Concrete filling at all ends including reinforcing steel to cavities at quoins and door and window openings, reveals, sills for windows and the like.</li> <li>• R.C. Door jambs for doors</li> <li>• Lintels and bond beams to the full length of the wall, min 20 cm. High and in the same wall thickness of reinforced concrete grade B-250 with due reinforcement steel, on top of doors and windows or as specified per drawings.</li> <li>• Window jambs of min. 20 cm width and in same wall thickness to full height of window.</li> </ul> <p><b>and all needed to complete job as per drawings, specifications and engineers directions and approval</b></p> <p>The price includes isolate the first row against humidity with sica top.</p>				
<b>A-</b>	10cm thick wall.	M <sup>2</sup>	100		

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 2 - Masonry Works**

<b>Item No.</b>	<b>Item Name and Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate US\$</b>	<b>Amount US\$</b>
<b>2-2</b>	<p><b>Concrete Works and Steel Works:</b></p> <p>The Contractor shall when pricing the rates of this bill, take into consideration including and allow for the cost or expenses of all requirements stipulated in the preambles, drawings, and technical specifications.</p> <p>All concrete works include the supply of ready mix concrete, formwork, shuttering, vibration, curing and whatever needed for the completion of the work as shown in drawings, and specifications. The rate includes also the supply, fabrication and installation of steel reinforcement (Yield strength = 4200 kg/cm<sup>2</sup>) as shown in drawings.</p>				
<b>A-</b>	10 cm thick ground slab (slab on grade) with one layer 20*20 cm steel gird net. Price to include leveling, finishing, and all related works according to drawings, specifications and engineering instructions. The price includes plastic layer under the slab	M2	200		
<b>Total Carried to Summary</b>					



## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 3 - Plaster Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
	Plastering to all areas shall be measured net, including openings that are less than 0.25-Meter Sq. The price shall include for running rules, all narrow Widths, for taking out joints on block walls or backing concrete face for key, for making good to frames around pipes and other fittings, plastering to jambs and reveals of openings, side of columns, window sills; all of which shall be measured as plastering.				
	Expanded metal lath, angle beads at all corners, expanded metal (wire mesh) strips at joints of different background and along all electrical and mechanical installations and plaster stops at opening edges, expansion joints, , sills... Etc. shall be included in the price of the item, labor, curing, erecting and dismantling of scaffoldings, additives, and all incidentals required as specified and / or detailed on the Drawings.				
	Plastering to walls of rooms having suspended ceiling shall be 10 cm. Above suspended false ceiling level.				
<b>3-1</b>	<b>Internal Plastering</b>				
<b>a-</b>	20mm thick, three coat plastering, in accordance with details and specifications.(for new walls)	M <sup>2</sup>	200		
<b>b-</b>	20mm thick, three coat plastering, in accordance with details and specifications.(for repearin the walls after demoltion) as per engineers direction and approval	M <sup>2</sup>	70		
	<b>Total Carried to Summary</b>				

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 4 - Flooring and Marble Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
A	<b>Rates for all tiling works shall include preparation of surfaces under tiles, Finnish to falls and cross falls, special tile pieces for edges and the like, tile surface finishing, pointing and cleaning and all incidentals as per specifications. All tiles should be from Approved source and" TAKEN"</b>	M <sup>2</sup>	100		
	<b>20 cm bascourse layer where needed.</b>				
<b>4-1</b>	<b>Porcelain Floor Tiles</b>				
	Supply, Install and finish Floor Tiles. Work includes Preparation of slab, mortar bed on sand layer, grouting, pointing with ready Epoxy (anti Bacterial), polishing and cleaning, Skirting where necessary, 3 mm Spacers, all works in accordance with details & specification. Engineer should approve color and texture.				
A	Anti Bacterial Non slip Floor tiles for the department floor of min 10 mm thick. Italian made or equivalent (antique style) from approved source - GRADE A. First choice and free from all defects. . First choice and free from all defect. White cement Mortar bed shall be used. Price includes 10 cm Height Skirting around where required.	M <sup>2</sup>	180		
<b>4-2</b>	<b>Porcelain Floor Tiles for Toilets</b>				
	Non-slip extruded Porcelain tiles fixed with cement mortar including appropriate sand fill material( dry mix) "Mfalfaleh", 3 mm Spacers, pointing with ready Epoxy ( <b>anti Bacterial</b> ) and cleaning on site in accordance with specification. Engineer should select colors.				
A	Anti Bacterial Non slip porcelain Floor tiles for bathrooms of min 10 mm thick. Italian made or equivalent from approved source - GRADE A - Full body Italian made First choice and free from all defects.	M <sup>2</sup>	50		

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department**  
**Section 4 - Flooring and Marble Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
<b>4-3</b>	<b>Glazed Wall Tiles:</b>				
	Supply, install and finish Ceramic Wall tiles. Price includes Rough plaster of two coats under wall tiles mortar, grouting, 3 mm spacers, pointing with approved ready Epoxy ( <b>anti Bacterial</b> )				
	Note: Glazed wall tiles and Porcelain floor tiles should be from same brand name, size and color from same catalog and as directed by engineer.				
<b>A</b>	For walls: Anti Bacterial Glazed Wall Tiles of min10mm thick Italian made or equivalent - GRADE A First choice and free from all defects.	M <sup>2</sup>	130		
<b>4-4</b>	<b>Marble Tiles</b>				
	Italian beige color marble tiles(Perlato or equivalent - first quality) as the existing, fixed with white cement mortar, polished finish, including grouting, sand fill and sealant in accordance with specifications				
<b>A</b>	30*30 Perlato marble tiles as existing tiles with 3cm thick tiles fixed with cement mortar including appropriate sand fill material( dry mix) "Mfalfaleh", 3 mm Spacers, pointing with ready Epoxy (anti Bacterial) and cleaning on site in accordance with specification. Engineer should select colors. the price also includes polish after finishing the works ( the marble tile with two colors similar to existing.)	M <sup>2</sup>	150		
<b>B</b>	Omani stone for Windows sills and Door thresholds of various width and 30mm thick and as per drawings.	M.L	80		
	<b>Total Carried to Summary</b>				

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 5 - Painting Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
	Painting to all other works not indicated in bills of quantities shall be included in rates of related items. Paints shall be supplied to site in sealed container, as approved by the Engineer, and site mixings not permitted. All painting materials should be first quality (Taken) and in accordance with specifications Rates of oil paint works for walls include removal of old paint at existing walls When Required - as per engineer's directions and approval				
<b>5-1</b>	<b>Polycide Paint</b>				
	Polycid paint to cement plaster or gypsum for ceilings in accordance with specification and from an approved source equal to Tanbour products.				
	<b>Measurement should be in square meter superficially for the area. Edges will not be measured</b>				
<b>A</b>	To Gypsum board ceiling (prepare surface, 2 putty coats, one prime coat and two Polycide paint coats)	M <sup>2</sup>	50		
<b>B</b>	To plaster ceiling (prepare surface, one prime coat and two Polycide paint coats)	M <sup>2</sup>	400		
<b>5-2</b>	<b>Emulsion Paint</b>				
<b>A</b>	Synthetic plastic - Water proofing (emulsion) paint to cement plaster or gypsum board walls, in accordance with specifications and from an approved source equal to Tanbour product - Super Cyril 2000 (prepare surface, two putty coats one prime coat and two coat of water proof paint).	M <sup>2</sup>	1400		
<b>5-3</b>	<b>Oil Paint</b>				
	Supply and apply oil paint (Matt) to cement plaster on or gypsum walls in accordance with specifications and from an approved source equal to Tambour products (for corridors and where specified). Price includes surface preparation, one prime coat, two putty coats and two oil paint coats.	M <sup>2</sup>	50		
	<b>Total Carried to Summary</b>				

## Bill of Quantities

## Project: Augusta Victoria Hospital - Triage Department

## Section 6 - Carpentry and Ironmongery Works

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
	<b>General:</b>				
	<b>All wooden doors must be according to Israeli Hospitals specifications and civil defense codes.</b>				
	<b>The Contractor shall review Size, Finish, accessories, ironmongery, opening direction, Fire rate resistance and all other elements to be used for each door .Contractor is responsible to achieve all specifications that must be according to requirements of ministry of health and the civil defense.</b>				
6-1	Fabricate, Supply and fix in position the following standard wooden doors, flush faced on both sides with plywood face for both sides and decorative laminated plastic sheet cover 1mm thick (Trispa or equivalent) and hard wood edges (Beech - ZAN) for all sides , complete as located in plans and described in the door schedule, complete in accordance with specifications and as detailed in drawings.				
	Price includes all elements & accessories like (but not limited to) :- 3mm thick standard pressed Stainless steel door frame filled in all voids with appropriate foam ,softwood core, kick plates where mentioned U shape on both sides of stainless steel in height as per drawings, door stoppers, vision panels of fixed glass 6mm thick where located (and white where required), ironmongery, bolts, 3Hinges, door lock from approved European source (Wally or equal), paint with clear liquor paint (mat) to all visible wood edges and oil paint (mat) in three coats in addition to two primer coats to all steel frames as per engineers directions. colors to be determined by engineer.				
	Price Rates should include providing three keys at least for each lock including tagging. <b>A master key for all locks should be provided.</b> Also providing and fixing one wall mounted wooden keys cabinet in a proper place in each section, (80*40*20) cm. varnish finished with all ironmongery including cylindrical lock.				
	All door stops should be wall hanged type. No door stop is permissible on floor. Rates for all door includes suitable fixing system of door stop to gypsum board walls where located				

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 6 - Carpentry and Ironmongery Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
<b>A</b>	Single leaf wooden door type D-04, 95*282 with fix arch	No	1		
<b>B</b>	Single leaf fire door type D-09, 80x210cm	No	5		
<b>C</b>	Single leaf wooden door type D-06, 100x210cm	No	2		
<b>D</b>	Single leaf wooden Open both ways door type D-08, 90x210cm	No	3		
	<b>Total Carried to Summary</b>				
<b>6-2</b>	<b>Counters and Desks :</b>				
<b>A</b>	Manufacture and install a counter for nursing station as per detailed drawings. Counter of L shape of approximate size 200*205 cm. Counter body made of plywood boards 19 mm thick covered with painted natural Zain wood sheets from all sides and the top as well and 2x3 cm beech wood frame. Price includes cladding of around concrete elements with wooden panel (mdf boards 18 mm thick painted with epoxy paint as selected by engineer. Price includes hidden light strips (led strip lights) and t5 lamps under glass 6mm thick as per design. Price also includes 2 separate drawer units made of which shall be made of plywood boards 19 mm thick covered with painted natural Maple wood panel for all sides with laminate edges as well with locking mechanism and wall cabinet. Work should be complete with all accessories and ironmongery as per drawings and directed by engineer ( Detail FF03)	M.L.	4.5		

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 6 - Carpentry and Ironmongery Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
<b>B</b>	Manufacture and install a counter for main reception as per detailed drawings. Counter of S shape of approximate length 350cm. Counter body made of plywood boards 19 mm thick covered with painted natural Zain wood sheets from all sides and the top as well and 2x3 cm beech wood frame. Price includes cladding of around concrete elements with wooden panel (mdf boards 18 mm thick painted with epoxy paint as selected by engineer. Price includes hidden light strips (led strip lights) and t5 lamps under glass 6mm thick as per design. Price also includes 2 separate drawer units made of which shall be made of plywood boards 19 mm thick covered with painted natural Maple wood panel for all sides with laminate edges as well with locking mechanism. Work should be complete with all accessories and ironmongery as per drawings and directed by engineer ( Detail FF01)	M.L.	3.5		
<b>C</b>	Manufacture and install a counter for nursing station as per detailed drawings. Counter of L shape of approximate size 200*205 cm. Counter body made of plywood boards 19 mm thick covered with painted natural Zain wood sheets from all sides and the top as well and 2x3 cm beech wood frame. Price includes cladding of around concrete elements with wooden panel (mdf boards 18 mm thick painted with epoxy paint as selected by engineer. Price includes hidden light strips (led strip lights) and t5 lamps under glass 6mm thick as per design. Price also includes 2 separate drawer units made of which shall be made of plywood boards 19 mm thick covered with painted natural Maple wood panel for all sides with laminate edges as well with locking mechanism and wall cabinet. Work should be complete with all accessories and ironmongery as per drawings and directed by engineer ( Detail FF04)	M.L.	1.8		

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 6 - Carpentry and Ironmongery Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
<b>D</b>	Manufacture and install a employee desk as per detailed drawings. desk of approximate size 200*60 cm. desk body made of plywood boards 19 mm thick covered with painted natural Zain wood sheets from all sides and the top as well and 2x3 cm beech wood frame. Price includes. Price also includes 2 separate drawer units made of which shall be made of plywood boards 19 mm thick covered with painted natural Maple wood panel for all sides with laminate edges as well with locking mechanism and wall cabinet. Work should be complete with all accessories and ironmongery as per drawings and directed by engineer ( Detail FF02)	No.	4		
<b>E</b>	Supply and install wooden cabinets in the specified rooms according to details and specifications. Cabinets consist of closets, drawers and shelves, which shall be made of laminated plywood boards 19 mm thick for all sides with laminate edges as well (all drawers and leaves have integrated aluminimum handle)]. Color is to be decided by architect. Price shall include all accessories and parts necessary. No duplication of measurement at corners is permissible.	M.R.	6		
	<b>Total Carried to Summary</b>				



## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 7- Metal Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
<b>7-1</b>	<b>Aluminum Windows</b>				
	Supply and install aluminum windows equivalent to Kalil 4500 Belgi sections as per drawings, complete with fiber glass flyscreens. Aluminum section should be of 3 runs for horizontal and vertical partitions, with protective electrostatically applied polyester powder paint of 70-80 microns in color approved by the Engineer and according to manufacturer instructions. Price includes double glazing (6+9+6mm) of float clear glazing, wheels and fibers (Taken), all fittings and accessories should be according to manufacturer instructions to complete works as per drawing and specifications. CONTRACTOR MUST TAKE EXACT MEASUREMENTS BEFORE MANUFACTURING, AND OBTAIN ENGINEER'S APPROVAL				
<b>A</b>	Aluminum window with fix arch 1.2*0.55 with opening (Tilt and Tile) as shown in drawing W01	No.	6		
<b>B</b>	Aluminium Façade the corridor as per drawing W03 (a b c) fix without openings and with arch.	No.	3		
<b>C</b>	Aluminum window with fix arch 1.2*2.00 with opening (Tilt and Tile) as shown in drawing W02	No.	1		
<b>D</b>	Aluminum window with fix arch 0.95*2.00 with opening (Tilt and Tile) as shown in drawing W04	No.	1		
<b>E</b>	Aluminum window with fix arch 1.05*2.00 with opening (Tilt and Tile) as shown in drawing W05	No.	1		
<b>F</b>	Aluminum window with fix arch 1.10*2.00 with opening (Tilt and Tile) as shown in drawing W06	No.	8		
<b>G</b>	Aluminium Façade 235*240 CM with Single Leaf Door for the clinics as shown per drawings D07, price includes arches and returners.	No.	2		
<b>H</b>	sliding aluminium door with fix arch 1.00*2.88, the price includes italian sliding motor D01, D02 & D03	No.	7		

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 7- Metal Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
<b>7-2</b>	<b>Glass Works</b>				
	Tempered Glass (Securit) Doors				
	Supply and install the following Clear Tempered glass walls, 10 mm thick, complete in accordance with specifications and as detailed in drawings. Price to include fixing in u-shape frames, adjusting, All accessories (Dorma or equivalent) for door fixing machine and Stainless steel Handle and locks , complete with all required according to manufacturer Specifications and according to engineer's directions.				
	Price for doors includes applying of contact sheet “Sand Stickers” in size and shape as per drawings. Stickers are white or silver Color as determined by engineer				
<b>A</b>	Glass door, of approximate size 80*210 cm, with single leaf, as per drawings.	No.	2		
<b>B</b>	supply and install Glass Rail for the stairs with hight 110cm fixed to the stairs side with stainless steel screws, price includes stainless steel rail at 90 cm hight, with all the acsessores.	M.R.	30		
<b>7-3</b>	<b>Steel Rails</b>				
<b>A</b>	Fabricate, supply and install 110 cm heigh steel handrails with 2 handrails as shown in drawings and according to engineers approval . The rate includes all preparation works needed to install the handrails.	M.L	20		
	<b>Total Carried to Summary</b>				

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 8 - Gypsum Boards and Suspended Ceilings Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
	<b>General</b> <b>All Gypsum boards and Suspended Ceilings Works described below should be from approved source (TAKEN), and according to Israeli Hospitals specifications and civil defense codes.</b> Rates for all items includes Preparing of complete shop drawings, Engineer's approval is required before starting work all Gypsum boards and Suspended Ceilings Works described below should be from approved source (TAKEN), and according to Israeli Hospitals specifications and civil defense codes. (Fire Rated)				
<b>8-1</b>	<b>Aluminum Ceiling Tiles</b> Supply and install 60x60cm aluminum tiles false ceiling with thermal paint, European made from approved source(Taken) (Hygiene Clinic A or equivalent)), bacterial resistant, moisture resistant and according to Israeli Hospitals code as per details including appropriate suspension system as per detailed drawings and L+Z profiles, T=1.5cm, Wall and bulk head trim including all necessary fixing complete as specified and according to manufacturer instructions	M <sup>2</sup>	30		
<b>8-2</b>	<b>Metal Strip False Ceiling</b> Supply and install 30 cm wide, micro perforated(0.2) metal strip with thermal paint, Isolation layer, European made from approved source (Taken) and according to Israeli Hospitals code as per details . Similar to the type which is existing in the new hospital. Price includes appropriate suspension system as per detailed drawings and L+Z profiles, edge angles, openings for lighting and ventilation fixtures and etc., all necessary fixing complete as specified and according to manufacturer instructions	M <sup>2</sup>	60		

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 8 - Gypsum Boards and Suspended Ceilings Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
<b>8-3</b>	<b>Gypsum Board Suspended Ceiling</b>				
	Supply and install 12.50 mm thick single face gypsum board suspended ceiling from approved source (Taken) according to Israeli Hospitals code. Price includes all metallic profiles (5 cm, 0.6 mm) for suspending system, steel brackets and access panels, openings for lighting and ventilation fixtures etc. all complete and according to engineer's directions.	M <sup>2</sup>	100		
	<b>Measurement should be in square meter superficially for the plan area of Gypsum Ceiling. Edges will not be measured</b>				
<b>8-4</b>	<b>Gypsum Board Walls</b>				
	Supply and install 12.50 mm thick Double face (2 boards on each face) gypsum boards wall partitions from approved source (Taken). Price includes all needed structural vertical and horizontal metallic profiles (10 cm , 0.8 mm profiles at max 40 cm vertical and horizontal intervals as per detailed drawings) , screws, openings for electrical and fixtures etc. all complete and according to engineer's directions.  <b>Rates for Gypsum Board Walls includes metallic steel profiles (Stile fixed to floor and ceiling slab and cross rail as per details) for fixation of steel profiles of doors</b> Measurement shall be taken for area of only one visible side of partition.				
<b>A</b>	15 cm width Double face wall Double Board (2 boards on each side) 12.5mm Board with appropriate approved sound and thermal insulation ( 60 Kilo Rock wool Fiber glass board , 3 cm thick or equivalent)	M <sup>2</sup>	200		
	<b>Total Carried to Summary</b>				

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 9 -Waterproofing and Insulation Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
	<b>General</b> All finishes shall be measured superficially net unless other wise stated clearly				
<b>9-1</b>	<b>Fluid Applied Waterproofing</b>				
	Supply and apply waterproofing Fluid from approved source in two coats with one layer of fiberglass or equivalent for water proofing in accordance with manufacturer specifications. Layers should be applied horizontally over suspended concrete slabs for wet areas (bathrooms or kitchens ... etc.) and for external terraces. Flued should be applied for minimum 100 cm height for walls from inside wet areas. the measurment will be horizontally	M <sup>2</sup>	110		
	<b>Total Carried to Summary</b>				

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 10 - Miscellaneous Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
<b>11-1</b>	<b>Wall Guard Rail (Ramp)</b>				
<b>A</b>	Supply and install acrovyn high impact vinyl acrylic extrusion crash rails (wall guard) behind waiting chairs at corridors, offices and where required, including continuous flexible cashion, wide aluminum retainer clips, 50mm clear space from wall, tight joints, corners and seams, European made and from approved source, complete with all needed fixings and fitting according to manufacturer's specifications and as per specifications	RM	15		
<b>11-2</b>	<b>Corners Guard</b>				
	Supply and install acrovyn high impact vinyl acrylic extrusion corner guard, European made and from approved source, including continuous retainer, self drilling dry wall screws and all needed fixings and fitting complete as per drawings	RM	20		
<b>11-4</b>	<b>Plastic Signs</b>				
	Supply and fix Engraved wall mounted plastic signs, Laminated colored plastic, lettering engraved through face to expose core color , including individual graphics , permanent adhesive complete as per specifications. Text for each individual sign will be given by owner or engineer.				
<b>A</b>	Acrylic plastic signs ,30*12 cm (for each room and office)	No	20		
<b>B</b>	Acrylic plastic signs , 60*25 cm , for public waiting areas & reception	No	5		
<b>C</b>	Supply and fix 100*80 cm Acrylic high gloss plastic signs; letters sand blasted to dull sheen, acrylic plastic character adhered to base material including permanent adhesive (for main departments entrances and main entrance and where instructed)	No	2		

## Bill of Quantities

**Project: Augusta Victoria Hospital - Triage Department****Section 10 - Miscellaneous Works**

Item No.	Item Name and Description	Unit	Quantity	Rate	Amount
				US\$	US\$
<b>12-4</b>	<b>Toilet &amp; Bath Accessories</b>				
	Supply and install satin finish stainless steel toilet accessories approved Italian equivalent, including all necessary fixing complete as shown on drawings and details:				
<b>A</b>	Toilet paper holder	No	6		
<b>B</b>	Soap dish holder	No	6		
<b>C</b>	Paper towel holder	No	6		
<b>D</b>	Towel Bar.	No	6		
<b>E</b>	Fixed angle L Shape Handrail for Toilet Seats and showers	No	4		
<b>F</b>	Movable Handrail for toilet seats	No	2		
<b>G</b>	Fixed Handrail for toilets doors	No	2		
<b>12-5</b>	<b>Mirrors:</b>				
	6mm thick glass mirrors , plate hanger, adhesive material and all needed fixing and fittings complete, equivalent to mirrors in new maternity section				
<b>A</b>	Mirror size 40 x 60cm	No	6		
	<b>Total Carried to Summary</b>				

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
<b>1</b>		<b>General Provisions of Electrical Works</b>				
		<b><u>Preambles</u></b>				
		Rates of electrical installations shall includes for:-				
	1	Demolition of all existing electrical systems (Lighting, power, cables, outlets, trays, switches, electrical panel, fire alarm, general alarm & all related cabling trunking & conduits) , keeping in good condition delivery to owner with full in coordination with the engineer.				
	2	Electrical works including all required materials, accessories, labor, all as required according to drawings, specifications and bill of quantities.				
	3	Cutting, and pinning including all making good				
	4	Forming, or cutting haies, chases, channels etc.in reinforced concrete structure, block works or existing walls.				
	5	Plugging and screwing				
	6	Preparation of all required workshop drawings and as built drawings.				
	7	Testing electrical installations including providing written reports & certificates by authorized inspector /engineer approved by consultant . The report should indicate detailed measurements for electrical installations, electrical panels, cables, outlets, isolators, lighting,... etc., and if it is matching the Local electrical code, fire code & ministry of health requirements				
	8	Preparing working drawings by authorized Fire Alarm Engineer, testing the works during & after completion including providing and personal necessary for testing, providing written reports & certificates by authorized fire alarm inspector approved by consultant .				
	9	Protection of all electrical works				
	10	All outlets, switches, cables, wires should be labelled ( numbers & tags)				
	11	All conduits used should be fire retardant and color coded.				
	12	All works to implemented according to Ministry of health electrical requirements E-01				
	13	providing Operating and Maintenance Manual Mechanical and Electrical Services including as made drawings hard & electronic copy				



**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
2		<b>Raceways</b>				-
		<b><u>Cable Trays, and Ladders</u></b>				-
		Supply, install, test and commission cable trays, cable ladders, cable trunking and sleeves as per drawings and specifications complete with supports, fixing devices, separators, clamps, end caps, draw wires, elbows, joints, branches, reducers, offsets,...etc. with all accessories needed to complete the work as shown on drawing, as per the preamble, the specifications and supervision engineer's requirements.				
	1	30 cm wiremesh cable tray	MR	20		
		<b>Total Raceways</b>				

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
<b>3</b>		<b>Cables and Wires</b> Supply, install, test and commission 600/1000 volts N2XY copper cables with all required accessories for proper installation and operation conduits, cable lugs, ties... etc. as shown on drawing, as per the preamble, the specifications and supervision engineer's requirements.				
	1	(3X70+35+35mm <sup>2</sup> ) ,N2XY For Essential & Non Essential Power supply from SMDB	Mr	260		
	2	(5X10 mm <sup>2</sup> ) ,N2XY For UPS Power supply from USMDB	Mr	120		
	3	(5X16 mm <sup>2</sup> ) ,N2XY For VRF outdoor unit including 2" conduits & excavation up to unit	Mr	50		
	4	1h. Fire Rate Cable orange 5x10 mm <sup>2</sup> for smoke fans	Mr	150		
	5	(3X50+25+25mm <sup>2</sup> ) ,For Xray	Mr	30		
		<b>Total Cables and Wires</b>				

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
<b>4</b>		<b>Electrical Distribution Panels</b> Supply, install, connect, test and commission complete Type Test approved factory made sub-main distribution boards including digital instruments, signal lamps, (MCCB) circuit breakers bus bars, space for cables, cable clamps/terminals, cable shoes, current transformers, protection equipment, as per drawings, specifications and local electric authority requirements.				-
	1	DB-Triage	NO	1		
	2	DB-IT	NO	1		
	3	DB-Electromechanical	NO	1		
		<b>Total Electrical Distribution Panels</b>				

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
5		<b><u>Supporting Devices</u></b>				
		<b><u>Power sockets</u></b>				
		Supply, install, test and commission the following power sockets/points as shown on drawing, as per the preamble, rate includes conduits, N2XY cables (individual wires not allowed) up to related panels,... the specifications and supervision engineer's requirements.				
		Gewiss, Schneider, Nisko or approved equal				
	1	16A power socket outlet normal or ( N2XY 3x2.5 mm2)	NO	30		
	2	16A power socket outlet water proof ( N2XY 3x2.5 mm2)	NO	15		
	3	Office set including 6 sockets 16 A ,2 data RJ45 cat 6 including all related cables	NO	15		
	4	Preparation For Bed head units (2 power circuit, 1 light circuit, 2 Cat6 cable to data cabinet, 16 mm2 isolated grounding cable from DB inside 10x10 wall box(must be according to the BHU design requirements and according to the local standard requirements.) Each BHU consists of 5 indicated electrical sockets, 2 Data sockets, 2 grounding socket, 2 lighting switch & 1 LED type reading / inspection light & preparation for Nurse call.	NO	8		
	5	Satellite socket outlet RG6 cable, 3/4" fire retardant conduit terminated to SAT SW inside data room	NO	4		
		<b><u>Total Supporting Devices</u></b>				

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
<b>6</b>		<b><u>Electromechanical works</u></b>				
	1	Ceiling/Wall mounted 16 A single phase socket including cabling to related panel board for fan coil units including preparation of 16 mm conduit and pull wire for thermostat units	NO	15		
	2	Double pole switch with indication lamp for Fan operation .	NO	5		
	3	Ceiling/Wall mounted 16 A single phase socket + indicated 2 pole switch, cabling to related panel board for 1 phase fans.	NO	5		
	4	4 Pole,16A isolator in WP enclosure for 3 phase fans including N2XY 5x2.5 Cables and flexible thermal conduits	NO	2		
	5	4 Pole,63A isolator in WP enclosure for VRF outdoor unit ( N2XY 5x16 Cables and flexible thermal conduits for outdoor use will be measured separately)	NO	2		
		<b>Total Electromechanical works</b>				

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
7		<b>Lighting</b> <b>Lighting points</b>  Supply, install, connect, test and commission a complete lighting point including conductors, fire retardant PVC conduits, N2XY cables (individual wires not allowed) ,(3*1.5mm2)/ (5x2.5mm2), switches & push buttons, boxes, ceiling rose, fire retardant silicon flexible connection cables and all other accessories terminated to electrical panel. as per drawings specifications and related standards.				
	1	Lighting point ( N2XY 3x1.5 mm2 ) <b>Lighting Fixtures</b> Supply, install, connect, test and commission complete lighting fixture, including all supports, suspensions, clamps, power supplies, drivers, internal conductors and/or cables, and all other accessories necessary as per drawings, specifications and related standards.	NO	110		-
	2	60x60 cm LED panel as per Philips LED panel 4200K	No	2		-
	3	3W LED Non-Maintained Emergency Down light in Cool White, LED Down light, min. 3 hours, electrozen or Eq.	No	20		-
	4	3W LED Non-Maintained Emergency EXIT with self test function, min. 3 hours, electrozen or Eq. surface or recessed	No	6		-
	5	Suspended Continuous LED lighting profile 10watt/meter opal cover body aluminium body cool white 4200K complete with power supply & Led driver.	Mr.	20		-
	6	7 watt LED downlight aluminium body complete with driver, ceiling recessed	No	10		-
	7	16 watt LED downlight aluminium body complete with driver, ceiling recessed	No	15		-
	8	40 watt led 120cm IP65 ceiling recessed opal cover Philips or approved equal	No	2		-
	9	Rectangular, up down light Led 50 watt wall mount , aluminium complete with driver and reflector, IP54- Philips or approved equal	No	40		-
		<b>Total Lighting System</b>				

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
<b>8</b>		<b><u>Grounding</u></b>				
		Supply, install, connect, test and commission a complete earthing system for the project including all conductors, termination to PEC ,19 mm dia steel copper rods, cables, clamps, conduits, hand holes with heavy duty cast iron cover, fixing, etc., as per specification, drawings, local electric authority regulations, engineers approval and related codes.				
	1	10 mm2 flex. earthing of all metal parts that includes cable trays, water pipes, cable ladder,ac units, distribution boards bodies	JOB	1		
	2	10 mm2 earthing of false ceiling	NO	10		
	3	PA grounding Bus ( 40/4 Copper L=20 cm ) inside box	No	2		
	4	16 mm2 grounding cable from Electrical Panel to each BHU.	No	7		
		<b>Total Grounding System</b>				

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
9		<b><u>Fire Alarm System</u></b> <b><u>Fire Alarm Main Controller</u></b> <b>Rate includes in this section:</b> <ol style="list-style-type: none"> <li>1 Fire Alarm System shall be UL-FM listed</li> <li>2 All works should be according specification of fire alarm system attached to this section</li> <li>3 All required materials, accessories, labor, all as required according to drawings, specifications and bill of quantities.</li> <li>4 Cutting, and pinning including all making good Forming, or cutting haies, chases, channels etc.in reinforced concrete structure, block works or existing walls.</li> <li>5 Plugging and screwing</li> <li>6 Protection of all materials</li> <li>7 Labelling</li> <li>8 All conduits used should be fire retardant and color coded.</li> <li>9 Providing all maintenance &amp; operation manuals, training and warranties</li> <li>10 Preparing working drawings by authorized Fire Alarm Engineer, testing the works during &amp; after completion including providing and personal necessary for testing, providing written reports &amp; certificates by authorized fire alarm inspector approved by consultant .</li> </ol>				



**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
9-1		Supply, install, connect, test and commission analog addressable fire-alarm system as existing , including all accessories as per drawings, specifications and related codes , specifications engineers approval and related codes , connecting to existing system testing and operation in addition of providing testing certificates as specified :				-
9-2	1	Fire alarm system point rate should include fire retardant conduits, 4*0.8mm fire resistance cables and boxes (850c) and all accessories as per drawings " conduits, boxes & wires for smoke, heat detectors, break glass, siren, horn/strobe, control module.)	NO	35		
	2	Analog Addressable photo smoke detector	NO	29		
	3	Analog Addressable manual call point (break glass) TPB-800ASR - analog addressable call point	NO	3		
	4	Addressable Alarm Notification Sounder indoor	NO	3		
	5	Fire Alarm Repeater	NO	1		
	6	CM 1x823 Control module	NO	2		
		<b>Total Fire Alarm System</b>				

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
10		<b><u>Public Address/Voice Evacuation System</u></b>				
		<b><u>Speakers</u></b>				
		Supply , Install , connect and testing public address/ voice alarm system speakers including fire retardant conduits, 2x1.5mm2 audio cables and all related cabling to data room , 850C connection boxes as described in specification & shown on drawing.				
	1	Ceiling recessed speaker as Toa PC-580RVU with fire dome.	NO	5		
	2	As 1 but Wall Mount Speaker	NO	10		
	3	Amplifier 200 watt	NO	1		
	4	Lan interface	NO	1		
	5	Local Microphone with 6 select zones table mount including related cabling to PA system	NO	2		
		<b><u>Total Public Address/Voice Evacuation System</u></b>				

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
<b>11</b>		<b>Data system</b> Supply, install, connect, test, label and commission complete data point including boxes, RJ-45 (3M, DATWYLER or R&M ) socket outlet with 8 pins being crimped and also earth pin for (Cat 6A) FTP data cables as per drawings, specification and related codes.				-
	1	Data socket point including CAT6A cable, fire retardant conduit including boxes,.. To be used as data or telephone or Camera or intercom or monitor	NO	30		-
	2	Data rack communication cabinet as per APC or equal 24U/60cm depth including fans set	NO	1		
	3	24 port patch panel including nickel RJ45 OUTLETS CAT6A WITH cover and fully terminated, labelled..	NO	3		
	4	Surge Power strip	NO	1		
	5	Access switch 24 port with PoE 370W 1Gig + 4x1G SFP ports as Catalyst 2960 with SFP transceiver.	NO	3		
	6	1/2U, Air patch panel, brush	NO	10		
	7	Patch cord 3M/0.5m length	NO	50		
		<b>Total Data system</b>				-

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
12		<b><u>Nurse Call System</u></b> Supply , Install , connect and operate the following UL Listed (UL 1069) Nurse Call System Type Aiphone or approved equal as shown on drawings rate should include al wiring, boxes & conduits required.				
	1	Master station type Aiphone NHX-50M	No	1		
	2	Duty Station type NHR-SP	No	1		
	3	Server type NHX-80X CCU	No	1		
	4	Bathroom Pull cord NHR-7A	No	7		
	5	Warning Lamp NHR-4A	No	7		
	6	Substation type NHR-3TS	No	7		
	7	NHR-8A Bedside Call Cord	No	7		
		<b><u>Total Nurse Call System</u></b>				

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
13		<b><u>CCTV SYSTEM/ IP CAMS</u></b> <b><u>Indoor Cameras ( IP Network)</u></b> 1 Supply, install & connect the following specs Cameras Rete includes connecting to existing hospital CCTV system. <ul style="list-style-type: none"> <li>• 1/2.5" progressive scan CMOS</li> <li>• 5 megapixel resolution</li> <li>• H.264 / MPEG4 / MJPEG video compression</li> <li>• Full HD 1080P real time video</li> <li>• True day / night(-I model)</li> <li>• Up to 20m IR range(-I model)</li> <li>• Motorized VF lens(-Z model)</li> <li>• Two-way audio</li> <li>• Vandal proof</li> <li>• PoE</li> <li>• 1/2.5" progressive scan CMOS</li> </ul>	No	8		
		<b><u>Total CCTV SYSTEM/ IP CAMS</u></b>				

**A V H****AVH / Triage Unit Electrical Works  
Electrical Works***Note: Contractor shall provide samples and shop drawings for all items for approval prior to the execution of these item.*

Item No.	No.	Description	Unit	Quantity	Unit price	Total
				Total	US\$	US\$
		<b>Electrical Summary</b>				
2		Total Raceways				
3		Total Cables and Wires				
4		Total Electrical Distribution Panels				
5		Total Supporting Devices				
6		Total Electromechanical works				
7		Total Lighting System				
8		Total Grounding System				
9		Total Fire Alarm System				
10		Total Public Address/Voice Evacuation System				
11		Total Data system				
12		Total Nurse Call System				
13		Total CCTV SYSTEM/ IP CAMS				
		<b>Total Electrical Works (US\$)</b>				

<b>Project: Augusta Victoria Hospital - Triage Department</b>
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**MECHANICAL INSTALLATIONS**

The Bills of Quantities, Specifications, Schedule of Equipment and Drawings and all other Contract documents are complementary to each other.

It is the responsibility of the Contractor to check the locations and quantities of the materials and equipment to be executed in accordance with the contract drawings.

The unit rate of the materials and equipment shall be based on the Specification, all components as required and specified under each item concerned in the Specifications, Technical Data and Notes on the Schedules of Equipment Sheet, Contract Drawings, and all other Contract documents.

All materials and equipment specified in this Volume shall be of a quality equivalent to/or better than furnished or manufactured by the following:

**Equipment & Trade Mark**

**Fans**

- Vortice
- S&P
- Rosenberg

**Sanitary fixtures**

- Ideal standard
- Creavit
- Villeroy&Boch
- Vitra

**Sanitary fixtures fittings (wash basin mixer & kitchen mixer)**

- Grohe

**Hangers ,Anchors & Supports for pipes & ducts**

- Hilti

**Steel pipes (Galvanized Steel )**

- Nippon Steel
- Sumitomo
- US Steel Co.

**Valves & Strainers**

- Hakohav
- Raphael

**PVC drain pipe & fittings**

- Holiot
- Redi

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**HDPE drain pipe & fittings**

- Wavin
- Geberit

### **PPR Pipes and fittings**

- Aquatherm

### **Air grills & diffusers, volume & fire dampers**

- Metal press
- Cooling industries company

### **Pipe insulation**

Vidoflex

### **VRV System**

- Daiken
- Mitsubishi
- Panasonic

### **Medical Gases**

- BeaconMedaes
- Atlas Copco
- Penlon
- Greggersen
- Tech West Inc.

In addition to the above mentioned requirements, the Unit Rate shall include the following:  
(The following requirements are complementary to the mentioned items in the B.O.Q.).

#### **A. General**

1. Supply of materials and equipment. (unless mentioned to be supplied by the owner)
2. Off loading and handling from trucks on site to place of installation.
3. Installation of materials and equipment.
4. All civil work required and connected with the mechanical installations, such as: equipment concrete bases and supports, cutting through walls and slabs for passage of pipes and conduits and ducts, pipe sleeves, repatching, fixing of pipe and duct hangers and supports to structure, wooden frames for air outlets and louvers and wall mounted fans, excavation and backfilling, riggings, hoisting, water proofing, cleaning, protection and painting.
5. All testing, balancing, adjusting, commissioning and handling to client complete operational systems.
6. Allowance for cleaning and for proper protection of all equipment plants, electrical installations and structures during insulation and paintings.
7. Disinfection, flushing and water treatment.
8. All labor, materials, tools, instruments, electric power supply fuel and water required for installation, testing, balancing, adjusting, disinfection, flushing, operation and commissioning.
9. Thermal insulation for all equipment, valves, trimming and accessories.
10. System identifications, tags, labels, nameplates, and charts.
11. Shop-drawings and record drawings.



12. Spare parts and components for ideal running of all services and equipment.
13. Spare parts information and tools, as recommended by the manufacturer
14. Operation and maintenance manuals.
15. Training of nominated staff
16. Samples as required by the Engineer.
17. Inspection, testing , rejection , adjusting, balancing, commissioning, and handling to client of all materials, equipment and workmanship.
18. Maintenance of all items supplied by contractor as per Contract Conditions
19. Electrical wiring between equipment and power panel
20. For pipe works: Steel, PPR, HDPE, UPVC for all services.

The unit price shall include all pipe fittings and joints such as elbows, bends, tees, reducers, unions, expansion joints, flanges, anchoring, sleeves, floor plates, flanges, sockets and all joining materials, pipe hangers and supports, expansion bellows loops and joints, fire retardant and protection sealants for all pipes crossing fire rated structures, adapters and dielectric unions for connecting dissimilar materials, excavation and back-filling, chasing in walls, painting, pipe protection against corrosion, pipe coating, as required per specifications and drawings.

Pipe work shall be measured in meter run (MR).

<b>Project: Augusta Victoria Hospital - Triage Department</b> <b>Plumbing System</b>					
Item	Description	Unit	Qty.	Rate (\$)	Amount (\$)
<b>1)</b>	<b><u>Plumbing Works</u></b>				
<b>1.1</b>	<b><u>Water Piping :</u></b>				
	<b><u>PPR Pipes:</u></b>				
<b>1.1.1</b>	PPR pipes (PN16) SDR11 for domestic water system.  Price includes: all necessary fittings like elbow, t, vent.....etc.,for complete installation Hanging Excavations through walls and slabs. 6mm for cold pipes inside block and concrete walls.				
1.1.1.1	40mm outside diameter	Mr	10		
1.1.1.2	32mm outside diameter	Mr	30		
1.1.1.3	20mm outside diameter	Mr	80		
1.1.1.4	25mm outside diameter  Price includes: All Required Fittings For Complete Job. <b>Ditto</b> , but with 13mm insulation for hot water and hot return pipes,with the following diameter:	Mr	10		
1.1.1.5	20mm outside diameter	Mr	190		
<b>1.1.2</b>	<b><u>Ball Shut-off brass Valves</u></b>  Ball Shut-off valves from brass where required diameter as follows:				
1.1.2.1	32mm diameter	No.	2		
1.1.2.2	20mm diameter	No.	6		
<b>1.1.3</b>	<b><u>Regulating Valves</u></b>  regulating globe valves where required diameter as follows:				
1.1.3.1	20mm diameter	No.	4		
<b>1.2</b>	<b><u>Sweage and storm water system :</u></b>				
<b>1.2.1</b>	<b><u>Wash Basin</u></b>				
1.2.1.1	Oval shape wash basin with electronically operated self-closing faucet including a mixer to adjust the water tempreature.Powered by electrical connection with 9V transformer.  Price includes: Drain Pipe up to nearest floor collector with all fittings and accessories for complete job.	No.	8		
1.2.1.2	Ditto,but for handicapped. .	NO.	3		

<b>Project: Augusta Victoria Hospital - Triage Department</b> <b>Plumbing System</b>					
Item	Description	Unit	Qty.	Rate (\$)	Amount (\$)
1.2.2	<b><u>European Toilet</u></b> Wall hung White Vitreous China European type Toilet, with flush tank. Price includes: 4" Drain pipe up to nearest horizontal drain pipe with all Fittings and accessories for complete job. Ditto, but for handicapped with flush tank.	No.	3		
1.2.4	<b><u>Floor Trap</u></b>				
1.2.4.1	Floor drain with trap and 15cmx15cm grating stainless steel cover.	No.	10		
1.2.4.2	Ditto, but Floor collector	No.	10		
1.2.5	<b><u>Clean Out</u></b> 4" HDPE Clean out, with 15/15 cm stainless steel cover.	No.	7		
1.2.6	<b><u>HDPE Pipes</u></b> Drainage HDPE (High Density Poly Ethylene) drainage pipes and fittings for drainage and vent pipes. Price Includes: Couplings Hanging for vertical pipes or where required Digging and excavation where required All Accessories needed for complete installation.				
1.2.6.1	4" diameter	Mr.	35		
1.2.6.3	Ditto, but 2" PVC PN6 ac drain pipes	Mr.	75		
<b>Total of Plumbing Works (\$)</b>					

Project: Augusta Victoria Hospital - Triage Department					
HVAC Works					
Item	Description	Unit	Qty.	Rate (\$)	Amount (\$)
2)	<b><u>HVAC System</u></b> <b><u>VRF SYSTEM</u></b> <b>Variable refrigerant flow system, as required in the schedule of equipment</b>  Heat pump VRF (variable refrigerant volume) system.Refrigerant R410a.Complete with the outdoor and indoor units,piping network,control system(thermostat) and all necessary parts needed according to drawings and specifications.				
2.1	<b><u>Outdoor Units</u></b>  variable refrigerant flow outdoor unit, DC brushless motor type and scroll compressor with DC inverter drive, refrigerant R 410 A, including lifting to roof with crane - if needed-, concrete base, vibration absorber and electric connection to panel including cabling, copper piping connection and all fittings as recommended by manufacturer.  Capacity selection should be corrected to 23 C indoor temperature,35C summer outdoor temperature,2C winter outdoor temperature, actual equivalent refrigerant piping length				
2.1.1	<b>Cooling capacity =51kw,heating capacity =41.8kw,20hp.Ref.(ODU-01)</b>	No.	1		
2.2	<b><u>Indoor Units</u></b> Wall Mounted VRF indoor units with filter. According to the following capacities :  Selection to be based on high speed, external air pressure 50-140 Pa. Price include thermostat for indoor units including on-off, real time clock, schedule timer, fan control, temperature limit operation, and temperature set and display. Price includes drainage connection to main drain pipe, copper pipe connection, hanging and electric connection to the indoor units.  For indoors Total Cooling capacity up to4.5KW, Air Flow=530cfm.  For indoors Total Cooling capacity up to1.5KW, Air Flow=247cfm.  For indoors Total Cooling capacity up to 2.3 KW, Air Flow=283cfm. For indoors Total Cooling capacity up to1.6KW, Air Flow=265cfm.  Ditto ,but floor standing indoor unit with the following capacities: For indoors Total Cooling capacity up to6.0 KW, Air Flow=565cfm.	No. No. No. No. No.	4 3 2 1 4		

Project: Augusta Victoria Hospital - Triage Department					
HVAC Works					
Item	Description	Unit	Qty.	Rate (\$)	Amount (\$)
<b>2.3</b>	<b><u>Control &amp; Wiring</u></b> All wiring between indoor and outdoor units inside electrical conduits according to the following system capacity:				
2.3.1	For system with outdoor units size up to 20 HP	L.S.	1		
<b>2.4</b>	<b><u>Piping Network</u></b> Insulated copper pipes for refrigerant 410 between indoor units and outdoor unit according to manufacturer instructions and calculations. Price includes all required fittings, hanging, 20mm thick isolation and digging. According to the followings:				
2.4.1	For system with outdoor units size up to 20HP	L.S.	1		
2.4.2			8		
<b>2.5</b>	<b><u>Centralized controller</u></b> Centralised controller for VRF system to control all outdoor units, indoor units set points, programmed on off operation, and alarms view including required cabling.	No.	1		
			3		
<b>2.6</b>	<b><u>Extract Fan</u></b>				
	Ducted Extract Fans Price includes: Vibration isolators resilient mountings, skids and hangers. Flexible connections on fan inlet and outlet insect screen back draft dampers or automatic shutter one set of spare belt drives per each fan With the following capacities: <b>Ref.FAF-01</b> Inline Axial Fresh air fan Capacity of145cfm. <b>Ref.FAF-02</b> Inline Axial Fresh air fan Capacity of755cfm. <b>Ref.EXF-01</b> Inline Axial Extract air fan Capacity of70cfm. <b>Ref.EXF-02</b> Centrifugal Extract air fan Capacity of420cfm.		3		
			3		
		No.	1		
		No.	1		
		No.	1		
		No.	1		
<b>2.7</b>	<b><u>Air Ducts</u></b> Galvanized air ducts in various thickness as required by Smacna. Price Includes: Hanging , supports and brackets where required. Reinforcing Angels Vanes Volume Split Damper All Required Fittings and accessories.	M <sup>2</sup>	60		

Project: Augusta Victoria Hospital - Triage Department					
HVAC Works					
Item	Description	Unit	Qty.	Rate (\$)	Amount (\$)
<b>2.8</b>	<b><u>Ceiling Exhaust Grill</u></b>				
2.8.1	Ceiling mounted exhaust air grill , with register . Price includes flow rate calibration.				
2.8.2	150mmx 150mm (6"/6")	No.	7		
<b>2.9</b>	<b><u>side Mounted Diffuser</u></b>				
2.9.1	side grill 40x25 cm	N0.	1.0		
<b>2.10</b>	<b><u>Fresh air louvers :</u></b>				
2.10.1	fresh air louvers with gravity shutter of the following sizes :				
	35x10 cm	N0.	1		
	70x25 cm	N0.	1		
<b>2.11</b>	<b><u>Exhaust air louvers :</u></b>				
	Exhaust air louvers with gravity shutter of the following sizes :				
	15x10 cm	N0.	1.0		
<b>2.12</b>	<b><u>Volume Dampers</u></b>				
	Aluminum volume dampers where requested				
	Area up to 0.1 m <sup>2</sup>	No.	3		
Total of HVAC Works (\$)					

<b>Project: Augusta Victoria Hospital - Triage Department</b> <b>Medical Gases Works</b>					
Item	Description	Unit	Qty.	Rate (\$)	Amount (\$)
<b>4)</b>	<b>Medical Gases :</b>  All Medical gases works and equipments shall be according to Israeli Health Ministry Guide for medical gases network (G-01), technical Specifications, and mechanical Drawings. In case of any discrepancy between (G 01) standard requirements and any other tender documents, G(01) requirements will be the dominant.  Price shall include for supplying, installation, testing, and commissioning, unless otherwise specifically mentioned.				
<b>4.1</b>	<b>Copper Pipes</b>  Copper pipes to be connected to the served terminals, phosphorous de-oxidized non-arsenical copper pipes complete with, such as, but not limited to, fittings, valves, supports, brackets, etc., as shown on drawings, and the technical specifications.  Include all labeling, accessories for the completion of the works.  Copper pipes specifications shall confirm to the following standard: ASTM-B 819:- Standard Specification for Seamless Copper Tube For Medical Gas Systems  Copper fittings shall be with brazing solder joints and according to the following standard: ASTM-B 819:- Standard Specification for Seamless Copper Tube For Medical Gas Systems  Brazing shall confirm to the following standard: AWS B 2.2 Standard for Brazing Procedure and Performance Qualification  Pipe hanging, labeling and painting shall be according to latest version of Israeli health ministry guide for medical gases networks (G 01)  Inside diameter of pipes as follows:				
3.1.1	Diam. Ø 1/2"	Mr	75		
3.1.2	Diam. Ø 3/4"	Mr	50		
3.1.2	Diam. Ø 1"	Mr	30		

<b>Project: Augusta Victoria Hospital - Triage Department</b> <b>Medical Gases Works</b>					
Item	Description	Unit	Qty.	Rate (\$)	Amount (\$)
<b>4.2</b>	<b>Area Valve&amp; Service Units(AVSU)</b>  Area valve and service units (AVSU) in the hospital where shown on the drawings, and technical specifications with all necessary equipment, pipe work, fittings, boxes, accessories, connectors pressure gauges  3 Gas pipes Size 1/2"- 3/4"-1"	No.	1		
<b>4.3</b>	<b>Area Alarm Panel</b>  Area Alarm Panel for medical gases pressure indication and audio and visual alarms for low and high pressures including all sensors and electrical wiring.  3 gases	No.	1		
<b>4.4</b>	<b>Zone &amp; Service Valves</b>  All required isolation line valves for the medical gases and vacuum system, shown or not shown on the drawings, and technical specifications.  <b>Service Valves:</b> 4.4.1 Diam. 1/2" 4.4.2 Diam. 3/4" 4.4.3 Diam.1"	No. No. No.	7 4 1		
<b>4.5</b>	<b>Medical trunking system</b> Medical trunking system of modular aluminum extrusion section, supplied fully factory piped, wired and tested.  Trunking system shall consist of three modular extrusions joined together to form a profile according to detail: Medical trunking system manufacturing and installation shall satisfy the latest version of Israeli health ministry guide for medical gases networks (G 01) and shall comply with the following European code: EN 793: Particular requirements for safety of medical supply units.				



<b>Project: Augusta Victoria Hospital - Triage Department</b> <b>Medical Gases Works</b>					
Item	Description	Unit	Qty.	Rate (\$)	Amount (\$)
	Price includes all medical gases outlets as per drawings and all electrical sockets as per electrical drawings				
	Gas sockets installed inside the trunking system- shall satisfy the latest version of Israeli health ministry guide for medical gases networks (G 01) and shall comply with the following European codes: EN 737- 1: Terminal units for compressed medical gases and vacuum. EN 737- 4: Terminal units for anesthetic gas scavenging systems. EN 737- 6: Dimensions of probes for terminal units for compressed medical gases and vacuum Price shall include dual hanging rail for ICU. Single hanging rail to be included for other rooms. Bed Head Unit for one bed with 3gas outlets (Length of 2meter)	No.	7		
<b>Total Of Medical gases Bill (Us \$)</b>					

Bill of Quantities		
<b>Project: Augusta Victoria Hospital - Triage Department</b>		
<b>Summary of Mechanical Works</b>		
<b>Item No.</b>	<b>Section name and Description</b>	<b>Total Amount</b>
		<b>US\$</b>
<b>1</b>	<b>Plumbing Works</b>	
<b>2</b>	<b>HVAC System</b>	
<b>2</b>	<b>Medical Gases</b>	
	<b>Total of mechanical Works</b>	

## Bill of Quantities

## Project: Augusta Victoria Hospital - Triage Department

## Summary of works

Section No.	From Page	Section name and Description	Total Amount
			US\$
Section 1		Dismantling and Demolition Works	
Section 2		Masonry Works	
Section 3		Plaster Works	
Section 4		Flooring and Marble Works	
Section 5		Painting Works	
Section 6		Carpentry and Ironmongery Works	
Section 7		Glass and Steel Works	
Section 8		Gypsum Boards and Suspended Ceilings Works	
Section 9		Water Proofing and Insulation Works	
Section 10		Miscellaneous Works	
Section 15		Mechanical Works	
Section 16		Electrical Works	
		TOTAL AMOUNT	
		Vat ( 16 %)	
		Discount (    %)	
		GRAND TOTAL	

CONTRACTOR	
AUTHORIZED PERSON TO SIGN ON BEHALF OF	
DATE	