



مجلس الخدمات المشترك  
لإدارة النفايات الصلبة  
لمحافظتي غزة والشمال  
JSC for Solid Waste Management  
Gaza and North Governorates



Constructing Medical Waste Treatment Facility  
and Transferring, Rehabilitating and Operating  
Two Incinerators at Juhur Al Deek Landfill  
(Alshifa'a Hospital Incinerator and Nasser  
Hospital Incinerator)

**BOQ (Bill of Quantities)**

**Electronic copy of the BOQ shall be submitted along with the signed  
hardcopy thereof. In case of any discrepancy between the soft and  
the hard copies, the hard copy shall prevail.**

ITEM No.	DESCRIPTION	UNIT	QTY.	RATE (\$)	AMOUNT (\$)
<b>BILL 01- GENERAL ITEMS (INCLUDED)</b>					
<p><b><u>The contractor must consider in his price to provide the following items at least:</u></b></p> <ul style="list-style-type: none"> <li>- Provide office facilities for the consultant staff on site as specified per general and special conditions including all provisions, furniture, equipment stationary consumables and maintenance. The office shall be provided within 1 week from the date of commencement until one month after the Taking over Certificate.</li> <li>- Provide Main Signboards as specified per general and special conditions installed within 1 week from the date of commencement at locations agreed with the Engineer, maintained until the end of the Defects Liability Period and then removed.</li> <li>- The Contractor shall submit to the Consultant Engineers after signing the contract (Maximum one week), three Hard Copies of all Design Drawings (Paper size is A2+A3 upon engineer satisfaction).</li> <li>- The Contractor shall submit to the Engineer or his Representative an approved one electronic set (AutoCAD Program) and 5 printed sets of As-Built Drawings including all drawings, exact levels of the executed works required according to General Conditions, Specifications, Drawings and Contract Documents. The As-built drawings shall include the actual coordinates of all structures and facilities (X, Y, Z) according to all requirement of the Municipality.</li> <li>- All Team Staff as described in General and specific condition.</li> <li>- Others as described in all tender documents (SEEN OR UNSEEN). If there is any discrepancy in tender documents, the contractor must consider it in his price which is completely his responsibility.</li> </ul>					
<b>BILL B1 (General Items)</b>					<b>INCLUDED</b>

ITEM No.	DESCRIPTION	UNIT	QTY.	RATE (\$)	AMOUNT (\$)
<b>BILL 02 - CONCRETE WORKS</b>					
-	<i>All concrete items shall be completed according to drawings, specifications, conditions and as directed by the Engineer or his representative. All the following items shall be included in the prices but not limited to:</i>				
-	<i>Prices of all concrete items shall include shuttering, formwork, scaffolding, labour, supports, tie rods, spacers, steel reinforcement with shaping and fixing, testing of reinforcement steel, cement and concrete, supply and placing of concrete, Mix Design, vibrating, curing, workmanship, trowelling, ducts, sleeves, opening areas, etc.</i>				
-	<i>The contractor has to submit shop drawings for engineer's approval before starting any works.</i>				
-	<i>The contractor shall provide, erect and maintain all safety measures requirements according to specifications, local laws and engineer's instructions.</i>				
-	<i>Any design faults and discrepancies must be reported to the engineer and any design corrections shall be incorporated in the prices.</i>				
<b>2.1</b>	<b>CONCRETE:</b>				
2.1.1	Excavation, backfilling and leveling (Footings, Column necks, Ground beam and Ground slab) from natural ground levels to the required depth as per design drawings and specifications in any kind of soil, including rocks, concrete or asphalt, etc., as per design drawings and specifications and to depth requested by supervisor. The backfilling materials should be approved by supervisor. The rate includes soil compaction test not less than <b>98%</b> , keeping excavation free of water, load, transport, unload and disposal of surplus material of excavation to authorized dump site. The Contractor is responsible for transfer to a dump site at his own expense.	L.S.	1		
2.1.2	Supply and cast B250 reinforced concrete for footings, ground beams. The price includes supplying of all the required materials (shuttering, steel reinforcement formwork, concrete, water stop, binding wire, nails, spacers, etc.) and workmanship (shuttering, steel shaping and fixing, casting the required concrete, finishing and curing and bitumen separation for all underground elements, nylon bedding, sampling, testing and any required admixtures) all according to the specifications, conditions of contract, drawings and engineer's approval.	m <sup>3</sup>	7		
2.1.3	Ditto but B300 reinforced concrete for columns and column necks.	m <sup>3</sup>	5		

2.1.4	Ditto but B250 for Lents and beam of sliding gate.	m <sup>3</sup>	2		
2.1.5	Supply and cast B250 reinforced concrete for slab on grade (t = 15 cm) as per drawings and specifications. The price including fixing and smoothing for surface and installing PVC 200-micron nylon sheets.	m <sup>3</sup>	17		
2.1.6	Supply and cast B250 reinforced concrete for slab on grade (t = 25 cm) as per drawings and specifications. The price including fixing and smoothing for surface and installing PVC 200-micron nylon sheets.	m <sup>3</sup>	7		
<b><u>TOTAL OF BILL 02 - CONCRETE WORKS</u></b>					
<b><u>MOVE TOTAL TO SUMMARY</u></b>					

ITEM No.	DESCRIPTION	UNIT	QTY.	RATE (\$)	AMOUNT (\$)
<b>BILL 03 - BUILDING WORKS</b>					
<b>Section 1: Block, Plastering &amp; Tiling Works</b>					
-	<i>All the following items shall be completed according to drawings, specifications, conditions and as directed by the Engineer or his representative.</i>				
-	<i>Prices of block works shall include supply of hollow concrete blocks from good and approved factory in perfect dimension and build it in good manner, cement sand mortar (1:3), but the first 40 cm from the bottom of wall the cement to sand ratio is (1:1), concrete fillet (B250) between columns, post, sills, lintels, canopies, block walls (equal to block wide minimum, and height 20 cm minimum or otherwise noted in the drawing), compressive strength 35kg/cm<sup>2</sup>, works shall include all materials, testing, scaffolds, placing of approval blocks, workmanship, all ducts, sleeves, opening areas, fiber board, protection concrete (B-200) around sleeves and pipes (for electrical, sanitary &amp; mechanical), tools and anywhere else, needed, all according to drawings, specifications, conditions and directed instructions by the Engineer or his representative.</i>				
-	<i>Installing of block is not allowed before 28 days of manufacturing day, and the contractor should submit manufacturing day certificate.</i>				
-	<i>Prices of plastering works shall include supply of all materials, galvanized angles (for exposed edges), galvanized mesh (between block wall and concrete), mixing, scaffolds, curing, workmanship &amp; tools and anywhere else, needed, all according to drawings, specifications, conditions and directed instructions by the Engineer or his representative. Price to include fully filling the joints both horizontally and vertically with 1cm mortar</i>				
-	<i>Rendering layer with Tyrolean machine is required for all wall before starting plastering works, and after cleaning all walls from tying wires.</i>				
-	<i>Starting new layers of plaster is not allowed before getting permission from site engineer.</i>				
-	<i>Curing plaster layer 3 days minimum by water spray.</i>				
-	<i>All tiling works must be filled with approved material and mechanically chamfered &amp; polished. All ceramic tiles to be used should be Spanish or equivalent European made (Class A). All tiles &amp; colored (Ceramic) must be according to the engineer instructions. All tiling work must include supplying and installing skirting as the same type and color.</i>				
-	<i>The price of the tiles includes removing the external plaster of the south wall</i>				
-	<i>All amount of needed of paint drums and paint' material should be stored in the storage which must be prepared by contractor, and its keys will be with site engineer</i>				

ITEM No.	DESCRIPTION	UNIT	QTY.	RATE (\$)	AMOUNT (\$)
<b>3.1</b>	<b><u>BLOCK WORKS:</u></b>				
3.1.1	Supply and install Concrete hollow blocks for walls(40x20x20) cm with all required works, according to Eng. instructions and specifications.	M <sup>2</sup>	85		
<b>3.2</b>	<b><u>PLASTERING:</u></b>				
3.2.1	External Plastering of ECAS "Italic plastering" for external walls/elevations, the first layer is Banderol paint, the final layer is ECAS. according to Eng. instructions and specifications.	M <sup>2</sup>	90		
<b>3.3</b>	<b><u>Tiling:</u></b>				
3.3.1	Supply and install white glazed ceramic wall tiles, or any color approved by the engineer, size 25cm x 40cm x 6mm thick laid on mortar backing (Spanish or equivalent) for walls. The price includes remove the existing plaster layer, decoration works, aluminum angles at corners, also includes; surface preparation to receive tiles which shall include two coats of cement plaster (scratch and float coat) and approved adhesive materials, accessories and grouting.	M <sup>2</sup>	120		
<b><u>Sub-total of section 1: Block, Plastering &amp; Tiling Works</u></b>					
<b><u>Section 2: Metal Works</u></b>					
-	<i>All the following items shall be completed according to drawings, specifications, conditions and as directed by the Engineer or his representative.</i>				
-	<i>Price of Galvanized Steel works include supplying, workmanship, Hammer Finish Paint (Poly zinc Paint base coat &amp; min. 2 layers of Hammertron Finish Paint), fixation (all galvanized steel frames should be filled with the fine aggregate rich mortar concrete), hinges, handles and all necessary parts needed to complete the works.</i>				
-	<i>Price of doors or windows or other metal works (if needed), the works includes supplying, workmanship, fixation for lock type is Euro Sag or equivalent for steel door and Euro Sag or equivalent for wooden, complete and all necessary parts needed to complete the works.</i>				

ITEM No.	DESCRIPTION	UNIT	QTY.	RATE (\$)	AMOUNT (\$)
<b>3.2</b>	<b><u>STEEL WORKS:</u></b>				
3.2.1	Supply and install of <b>Galvanized steel Sliding Gate</b> size 460x530 cm, Sliding system with two leaves. of main G.S Profile 100x100x3 mm and secondary G.S Profile 100x50x3 mm, covered with 0.5 mm Galvanized steel corrugated sheets. The scope of works includes all needed accessories, frame, rails, castors, Rollers, spinners, switch, doorstops, handles, painting, all and anywhere else, needed, all works according to drawings, specifications, conditions and as directed by the Engineer or his representative.	NO	1		
3.2.2	Supply and fix flush galvanized steel door, Type (D02) with overall size (90×220cm) double sheets (2mm thick) complete with frame ironmongery, hardware (hinges, handles, locks ...etc.) and oil painting and the price include locked type Wally switch according to drawings and specifications. The price includes the demolition of the wall, and the preparation of it, and repair the wall after installation of the door.	NO	1		
3.2.3	Supply and install <b>Galvanized Steel Louver Window</b> size 400x106 cm, fixed on 60x40x2mmGS profile of shed with 2 mm GS louvers sheets. The scope of works includes joineries, accessories, frame, Painting, all and anywhere else, needed, all according to drawings, specifications, conditions and as directed by the Engineer or his representative.	NO	3		
<b><u>Sub-total of Section 2: Metal Works</u></b>					
<b><u>TOTAL OF BILL 03 - BUILDING WORKS</u></b>					
<b><u>MOVE TOTAL TO SUMMARY</u></b>					

ITEM No.	DESCRIPTION	UNIT	QTY.	RATE (\$)	AMOUNT (\$)
<b>BILL 04 - SHED WORKS</b>					
-	All SHED items shall be completed according to drawings, specifications, conditions and as directed by the Engineer or his representative. All the following items shall be included in the prices but not limited to:				
-	All steel items shall be completed according to drawings, specifications, conditions and as directed by the Engineer or his representative.				
-	The contractor has to submit shop drawings for engineer's approval before starting any works.				
-	The contractor shall provide, erect and maintain all safety measures requirements according to specifications, local laws and engineer's instructions.				
-	Any design faults and discrepancies must be reported to the engineer and any design corrections shall be incorporated in the prices.				
<b>4.1</b>	<b><u>SHED WORKS:</u></b>				
4.1.1	<p>Supply, install and paint steel shed consisted of black steel trusses including and not limited to:</p> <ul style="list-style-type: none"> <li>-steel columns 200x200x5mm, beams purlins, bracing, welding, Galvanized bolts, anchors, plates, drainage pipes.</li> <li>- 0.55mm thick galvanized corrugated roof and sides sheeting (painted with 25 microns of Silicon Polyester paint from both sides)</li> <li>-Gusset, stiffener and base plates of thickness as shown on drawings</li> <li>-Polycarbonate skylight sheets thick 0.88mm, painting (primer + 2 coats of hummer finish) for all steel elements and any other requirements to complete the work.</li> <li>- Extra for side cladding, as detailed in the drawings, angles, plate, Galvanized bolts and any other materials needed to complete the works, including cutting, fixing, Galvanized bolting, welding connections and any other materials needed to complete the works.</li> <li>- Gutters, bracing, rainwater channel and pipes, bent plate and plates and any other materials needed to complete the works.</li> <li>-Fuel tanks stand as per drawings, including supply, install and paint fixed stair for the surface of fuel tanks consists of pipes 1"(horizontal) and 2"(Vertical), the steps is 30 cm height and 60 cm width The price includes welding, fixing and all required plates according to engineer instructions.</li> <li>-All items are galvanized as per drawings and instructions of engineer.</li> <li>-The area will be measured on the horizontal outer dimensions of the shed column.</li> </ul>	m2	145		



ITEM No.	DESCRIPTION	UNIT	QTY.	RATE (\$)	AMOUNT (\$)
4.1.2	Ditto, But Steel column 60x40x2mm, the side cladding using 2mm galvanized square wire mesh (40x40mm).	M2	10		
<b><u>TOTAL OF BILL 04 - SHED WORKS</u></b>					
<b><u>MOVE TOTAL TO SUMMARY</u></b>					

ITEM No.	DESCRIPTION	UNIT	QTY.	RATE (\$)	AMOUNT (\$)
<b>BILL 05 - MECHANICAL WORKS</b>					
*	<b>Notes:</b>				
	- The Contractor shall when pricing this Bill take into consideration, include and allow for costs or expenses of all requirements stipulated in the section entitled "Preambles" preceding this Bill.				
	- The exact lengths of the required pipes, the exact number of the required valves and the exact quantities of concrete will be determined during the implementation of the Works.				
	- Price should include all excavation, backfilling, supporting of trenches and all associated works.				
	- Price should include all required fittings and accessories to complete the works to the engineer's satisfaction				
	- The contractor shall provide all required manufacturing certificates and dates of manufacturing before supply of any material for the approval of the engineer				

ITEM No.	DESCRIPTION	UNIT	QTY.	RATE (\$)	AMOUNT (\$)
	Approve, supply, lift to position, install and test; hidden in walls, berried in concrete, berried in soil, under tile, exposed, suspended or in shafts, Siksik or Kholyot UPVC pipes, complete with all required and necessary Kholyot or European made (Tees, Elbows, Y type Tees, Vent Caps, Clean Outs, Mesh for rain pipes ...), price shall include all related works (Cutting of concrete or asphalt, excavating, drilling in manholes, filling with fine sand, covering with concrete layer or bitumen asphalt and reinstatement work to original condition ...) as per specifications, drawings, international standards, local regulations and engineer satisfaction.				
5.1	Supply, install and test, Diam. 4" SN8 UPVC pipes.	LM	20		
5.2	Supply, install and test, Rectangular 30X30 cm PVC gully trap with meshed Stainless steel 30X30mm cover complete with all needed concrete encasement 10 cm. Price shall include connections to the nearest pipe drain or manhole and required works as per specifications, drawings, international standards, local regulations and engineer satisfaction.	No.	1		
5.3	Supply, install precast circular reinforced concrete Sewage manholes B300 with cast iron manhole cover, (25 ton capacity), The price including two external bitumen coating, excavation in any ground as per drawings, shoring, safety measures, formwork,	No.	1		

	excavation in any type of soil , backfilling with selected material in layers 20cm thick each and compaction 98% MDD , removing the surplus soil to the tip ..etc. the price include also supply and install 10cm concrete B200 under the bottom of the manhole and B300 plain concrete for benching . All are as per drawings, specifications and the engineer instructions. Diameter 60cm				
5.4	Supply and install wherever shown on drawings the following fire extinguishers.				
5.4. 1	Supply, install, 5kg type CO2 fire Extinguisher, complete with supports as per specifications, drawings, international standards, local regulations and engineer satisfaction.	No.	1		
5.4. 2	Supply, install, 6kg type Powder fire Extinguisher, complete with supports as per specifications, drawings, international standards, local regulations and engineer satisfaction.	No.	1		
5.4. 3	12kg, type Powder ceiling mounted automatic fire extinguishers with all sensors and accessories.	No.	3		
<b><u>TOTAL OF BILL 05 - MECHANICAL WORKS</u></b>					
<b><u>MOVE TOTAL TO SUMMARY</u></b>					

ITEM No.	DESCRIPTION	UNIT	QTY.	RATE (\$)	AMOUNT (\$)
BILL 6 - ELECTRICAL WORKS					
*	Notes:				
-	Supplying, installing, testing and commission of the electrical works as per drawings, specifications, and engineer's instructions. The prices of the following items include all necessary junction boxes, wires, conduits, clamps, bolts, connectors and connecting all cables to switch boards. The price includes all required Reinforced concrete works B250 to all items in this Bill.				
-	All installation shall be in accordance with:				
-	The drawings, specifications and instructions and demands of the engineer.				
-	The electricity law and electrical code requirements of the BRITISH standards.				
-	The contractor should refer to the drawings, specifications and other Contract Documents.				
-	The prices will be deemed to include for the full cost as described in all Documents.				
Section 1: Electrical Wiring					
A.	Supply, install and commissioning switches including switch box, colored rigid Fire resistant pvc conduits, 3x 1.5mm2 n2xy cables, s.s terminal boxes and all connection between the appropriate lighting point to the terminal point as detailed on drawings. The price shall include all other required accessories, material and/or works that may be needed to make the system functional according to drawings, general specifications and all other relevant prevailing engineering standards for the successful completion of the work to the satisfaction of the engineer. All works and materials shall be approved by the engineer prior to placing orders.				
*	The following type of switches shall be included:				
6.1.1	Two gang - one-way 10A, 250V Waterproof IP65 white color switch. Type GIWISS CHORUS Made in Italy.	No.	2		
B.	Supply, install and commissioning socket outlets including all boxes, Colored rigid Fire resistant pvc conduits/ trucking, cables 3x2.5mm2 n2xy, s.s terminal boxes and all connection between the appropriate distribution board to the terminal point as detailed on drawings. The price shall include all other required accessories, material and/or works that may be needed to make the system functional acc. to drawings, general specifications and all other relevant prevailing engineering standards for the successful completion of the work to the satisfaction of the engineer. All works and materials shall be approved by the engineer prior to placing orders.				
*	The following type of sockets shall be included:				
6.1.2	Single socket outlet with water proof cover 3pin with safety shutters, 250V, 10/16A. Type GIWISSCHORUS Made in Italy.	No.	5		
	Sub-total of section 1: Electrical Wiring				

ITEM No.	DESCRIPTION	UNIT	QTY.	RATE (\$)	AMOUNT (\$)
<b>Section2: Cables</b>					
*	Supply, install and testing the following power cables as per standards and drawings including rigid pvc pipes or PE double wall corrugated cable protection pipe, connecting cable from sources to destinations, labeling, fixing of the cables in the trenches, cable lugs, cable glands, brackets, fitting clamps, shoes, and all other relevant materials and accessories. The price shall include the cables with required accessories, material and/or works that may be needed to make the system functional acc. To drawings, general specifications and all other relevant prevailing engineering standards for the successful completion of the work to the satisfaction of the engineer. Type synergy or approved equivalent type.				-
*	The following type of cable sizes shall be included:				
6.2.1	XLPE cable (5x10) mm2 from MDB in the Microwave building to the distribution board in the incinerator building. Price includes supply and install (3x40A) Main Circuit Breaker mounted in the main distribution board in Microwave building, clamps, steel wire, connection, covering the cable with pvc cable tray and all needed works to connect the cable.	LM	80		
6.2.2	Ditto, but 3x4mm2 CU. Price includes underground 2-inch PE double wall corrugated cable protection pipe, and all installation works from MDB in incinerator building to distribution board of each incinerator as per drawings and engineering instructions.	L.M	20		
	<b>Sub-total of section 2: Cables</b>				
<b>Section 3: Distribution Boards</b>					
*	Supply, install & commissioning panel board wired and tested in accordance with international British Standards, including 2mm hot galvanized steel frame IP55, with anti-static paint (similar to EATON TYPE TESTED Boards or approved equivalent type) painted with anti-rust insulating paint, factory assembled, wired & tested in accordance to approved international testing The panel shall be equipped with 3 phases, N, E bus bars made of annealed copper of adequate sizes and short circuit capacity. - The price shall also include MCB'S , MCCB'S, ELCB'S , indication lamps, earthing terminal, step rotary switches, emergency stop, pushbuttons , signal lamps, flexible wires, conduits, terminals, fuses , and handing over clean, tested and in operating conditions, ammeters, voltmeters, switches , DMMs,				

	<p>termination of cables, Numbering, Labelling, steel pocket on door for as built drawings and testing, handing over in operable conditions and any other materials to have complete job according to the drawings, specifications and engineer instructions.</p> <p>-The size shall accommodate all the internal fittings plus 30% space for future use and not less than 60x40x20cm.</p> <p>- Detailed shop drawings showing the internal arrangements of the panel board should be submitted to the engineer to secure prior approval.</p> <p>-All according to drawings and engineer's instructions.</p>				
6.3.1	Sub Distribution Board Sub-MDB, as per drawings. The works include but not limited to metering system, all works to be done according to engineer requirements, specifications, and instructions.	Ls.	1		
<b><u>Sub-total of section 3: Distribution Boards</u></b>					
<b><u>Section 4: Lighting System</u></b>					
*	Supply, install and test lighting outlets and lighting fixtures as per drawings, the Lighting outlets includes colored rigid Fire resistant pvc conduits 20mm dia., pull box, cables 3x1.5mm <sup>2</sup> , switch boxes, fixing screws, ceiling rose from appropriate distribution board to lighting point internal and/or external as specified and detailed on drawings. All pvc conduits, trucking should be inflammable type. and Lighting fixture includes lamps, starters, supports, connection, clamps, conduits, wires and/or cables of not less than 3x1.5mm <sup>2</sup> , and all accessories to complete systems. The price shall also include all required other accessories, material and/or works that may be needed to make the system functional acc. to the drawings, general specs and all other relevant prevailing engineering standards for the successful completion of work to the satisfaction of the engineer. All works and materials shall be approved by the engineer prior to placing orders.				
*	The Lighting fixture types shall include the followings:				
6.4.1	Surface LED lighting fixture waterproof min. IP44, 120cm with LED lamp 32W,220VAC. Type Matix or equivalent.	No.	7		
<b><u>Sub-total of section 4: Lighting System</u></b>					

Section 5: CCTV Camera					
*	Supply, install, test and commissioning the following systems including colored rigid Fire resistant pvc conduits, junction and pull boxes and all accessories in accordance to the drawing, technical specifications and code of practice. The price shall include the outlet (fitting) and all other required accessories, material and/or works that may be needed to make the system functional acc. To the drawings, general specifications and all other relevant prevailing engineering standards for the successful completion of the work to the satisfaction of the engineer. All works and materials shall be approved by the engineer prior to placing orders.	-			
*	Supply, install and commissioning new analog camera to the existing Closed-Circuit Television (CCTV) system as described in Specification below and shown on Drawings, including accessories, conduiting, cables, cable trays where necessary and the like from cameras to the existing NVR, fixing in position according to below: Note: The Cameras must be suitable with existing NVR.				
6.5.1	Supply, install, test and operate 6MP analog day and night camera -True day and night Infrared Cut Filter Removal IR Range: 40m (min.) -Weather proof: IP66 (min.) External Installation -Video Compression Resolution: HD (min) -Alarm Trigger: Motion detection, tampering alarm, Network disconnect, IP address conflict, Storage exception. -The works include a junction box – IP66 (min) - glands, connections, fixed near the camera in wall or steel pole and with ceiling/ wall mounting bracket included, price include video and power cables. -The price includes supply and install all cable connections from cameras to the existing NVR in the Microwave building. -All works according to engineer instructions and specifications. Type Provision, Hikvision or approved equivalent type.	No.	3		
<b><u>Sub-total of section 4: Lighting System</u></b>					
<b><u>TOTAL OF BILL 6 - ELECTRICAL WORKS</u></b>					
<b><u>MOVE TOTAL TO SUMMARY</u></b>					

ITEM No.	DESCRIPTION	UNIT	QTY.	RATE (\$)	AMOUNT (\$)
<b>BILL 07 – INCINERATORS MAINTENANCE WORKS AND SUPPLIES</b>					
-	<p><b>أعمال تفكيك وصيانة ونقل ودهان وتجميع وتشغيل محارق (مستشفى الشفاء ومستشفى ناصر)</b></p> <p>- يتم فحص جميع أجزاء المحارق ثم تفكيك المحارق ونقلهم من أماكنهم داخل مستشفى الشفاء و مستشفى ناصر إلى المكان المخصص والمجاور لوحدة معالجة النفايات الطبية في جحر الديك بجوار مكب النفايات ثم عمل الصيانة اللازمة ودهان جسم المحارق وإعادة تركيبهم وتشغيلهم حسب الأصول.</p> <p>- جميع الأعمال تتم بالتنسيق مع جهاز الإشراف وإدارة المجلس والعمل يشمل التوريدات والتصنيع والتثبيت والتركيب والتنظيف وجميع إجراءات السلامة والأمان على حساب المقاول.</p> <p>- تتم أعمال سنفرة للمحارق واستلامها من جهاز الإشراف قبل أعمال دهان.</p> <p>- تتم جميع الأعمال وفقاً للمخططات وتعليمات الإشراف وعلى المقاول توريد جميع المواد حسب البنود وجميع المواد اللازمة لإتمام العمل حسب المخططات.</p> <p>- يتم اعتماد العينات والمواد اللازمة للعمل من قبل جهاز الإشراف قبل التوريد والتصنيع.</p> <p>- يتم تسليم جميع القطع والمواد التي يتم فكها من المحارق للمهندس المشرف</p> <p><b>Dismantling, maintaining, transferring, painting, assembling and operating incinerators in Al-Shifa and Naser Hospitals</b></p> <ul style="list-style-type: none"> <li>— After checking all parts of the incinerators, the incinerators shall be dismantled and transferred from their places in Al-Shifa and Nasser Hospitals to a dedicated place close to the facility of Medical Waste Management in Juhur AlDeek, where the necessary maintenance works shall be carried out, the incinerators shall be painted, and they shall be properly re-installed and operated.</li> <li>— All works shall be carried out in coordination with the supervisor and JSC-GNG. Including supplies, manufacturing, fixation, installation, cleaning and all safety and security measures.</li> <li>— The incinerators shall be polished/sanded and received from the supervisor and JSC-GNG before the painting works start.</li> <li>— All works shall be carried out in accordance with the drawings and instructions of supervision, and the contractor shall supply all materials according to the items and materials necessary to complete the work properly.</li> <li>— Samples and materials needed for works shall be approved by the supervisor before supplying and manufacturing.</li> <li>— All replaced dismantled parts and materials shall be delivered to the supervisor.</li> </ul>				
<b>7.1</b>	<b>Section 1: <u>Maintenance Works</u></b>				
7.1.1	<p>تفكيك ونقل وصيانة وتركيب وتجميع وتثبيت وتشغيل المحارق بكل أجزائها (محرق مستشفى الشفاء ومحرق مستشفى ناصر) من مكانهم إلى المكان المخصص والمجاور لوحدة معالجة النفايات الطبية في جحر الديك، ويشمل البند عمل قواعد حديد بأبعاد 50*50 سم بسماكة 10 ملم لتثبيت قاعدة المحرقة بشكل جيد، ويشمل صيانة واستبدال المواسير الحديدية المهترئة (مواسير حديد 3 انش جدول 40) حسب متطلبات الإشراف وصيانة الأجزاء المهترئة في جسم المحارق، ويتكفل المقاول بصيانة واستبدال أي جزء يتضرر خلال النقل، حسب تعليمات المهندس المشرف. والسعر يشمل سنفرة جميع أجزاء المحارق وخزانات السولار وحواملها باستخدام فرد الرمل ودهان المحارق وخزانات السولار بدهان أساس ودهان حراري معتمد وحسب أصول الصناعة.</p> <p><b>Dismantling, transferring, maintaining, installing, assembling and operating</b></p>	L.S.	1		



	incinerators in Al-Shifa and Nasser Hospitals). After checking all parts of the incinerators, they shall be transferred from their place to a dedicated place close to the facility of Medical Waste Management in Juhf AlDeek. The item includes establishing black steel sheet foundations with dimensions of 50 * 50 cm and a thickness of 10 mm to properly fix the base of the incinerator. It also includes maintaining and replacing the faulty and damaged steel pipes with (3-inch iron pipes- table 40) according to the supervision and maintenance requirements of damaged parts in the body of incinerator (chamber and chimney). The contractor shall undertake the maintenance and replacement of any part damaged during the relocation/ transfer process, according to the instructions of the supervisor. The price includes sanding all parts of incinerators, diesel tanks and their stands by using sandblasting gun as well as painting incinerators and diesel tanks with primer(undercoat) and approved (heat resistant paint) according to the principles of good work.				
	<p>صيانة غرف الإحتراق والمدخن: توريد وتركيب طوب حراري أسباني أو إيطالي يتحمل درجة حرارة 1700 درجة، بمقاس 23*11*7 سم، بخصوص المدخن يتم تركيب الطوب فيها لأول 5 متر باستخدام أسمنت حراري ألماني ورمل حراري (رمل سيليكات) ومادة سيليكات صوديوم (مياه زجاج)، بحيث يتم بناء الطوب بطريقة دائرية (طريقة بناء العقد)، حسب الأصول وتعليمات المهندس المشرف. والسعر يشمل فك الطوب الموجود والحفاظ عليه وتسليمه للمالك.</p> <p>Maintenance of combustion chambers and chimneys: Supply and installation of Spanish or Italian refractory bricks (23 * 11 * 7 cm) that endure a temperature of 1700 degrees. As regards chimneys, the bricks shall be installed for the first 5 meters using German refractory cement, refractory sand (silica sand) and sodium silicate (water Glass), so that the bricks are built in a circular manner properly (a building method as agreed in the contract), and according to the instructions of the supervisor. The price includes dismantling, preserving and delivering the existing bricks to the owner.</p>	No.	2000		
	<p>فحص وصيانة جميع الوصلات الهيدروليكية للمحارق بالكامل مع استبدال جميع الميكروسوتشات على الأبواب بالكامل (خزان الزيت والمضخة والسلكتورات والبساتن وجميع التوصيلات)، حسب الأصول وتعليمات المهندس المشرف.</p> <p>Inspection and maintenance of all hydraulic fittings for the whole incinerators with the</p>	L.S.	1		

	complete replacement of all micro switches on the doors (oil tank, pump, selectors, Pistons and all connections) properly and according to the instructions of the supervisor.				
	توريد وتركيب قتل حراري أسبست أو تفلون يتحمل درجات حرارة عالية أوروبي الصنع، مقطع دائري 25 ملم، أو مقطع مربع 20*20 ملم أوروبي الصنع، في باب المحرقة وبين أجزاء المدخنة حسب الأصول وتعليمات المهندس المشرف Supply and installation of a European thermal sealant that stands high temperature (asbestos or Teflon) a circular section of 25 mm, or a square section of 20 * 20 mm, in the door of the incinerator and between the parts of the chimney properly and according to the instructions of the supervisor.	L.M.	20		
	صيانة شبكة الكهرباء الممتدة لجميع أجزاء المحرقة وعزل الأسلاك باستخدام مواسير حديد بمقاس 0.5 انش بسمكة 0.5 ملم، ويشمل البند فحص وصيانة طبلونات الكهرباء واستبدال القطع التالفة واللازم تغييرها حسب طلب جهاز الاشراف والسعر يشمل سنفرة ودهان جسم الطباكين دهان حراري حسب تعليمات المهندس المشرف. Maintenance of the electricity network that extends to all parts of the incinerator and insulation of the wires using 0.5-inch steel pipes with a thickness of 0.5 mm. The item includes checking, maintaining the main electrical panels distribution boards and replacing the damaged parts upon the request of the supervisor. The price includes sanding and painting the body of the electrical panels distribution boards with heat resistant paint according to the instructions of the supervisor.	L.M.	5		
	صيانة خزانات السولار وتركيبهم في المكان المحدد في المخطط ووصلهم ببعض وتركيب محبس على الخط الواصل بينهم مع عمل التمديدات الارضية الخاصة بين الخزانات والمحارق بحيث يتم تمديد بربيش PEX 20 mm (جولاني) السكسك أو ما يعادله بين الخزان و مضارب النار (البيرنر) داخل سليف (شربول) صناعي يتم اعتماده من قبل المهندس المشرف) تحت الأرضية الخرسانية بمقاس 1.5 انش يتم تمديده بين خزانات السولار والمحارق حسب المخططات، على أن يتم توصيل البربيش بماسورة حديد 0.5 انش بطول 0.5 متر يتم تثبيتها في جسم المحرقة وتركيب الماسورة في البيرنر حسب كتالوج المحرقة وحسب المخططات، مع التثبيت الجيد وتركيب فلتر سولار محبس 8/3" أوروبي الصنع لكل بيرنر وعداد سولار أوروبي الصنع ومحبس مع قفل على خزان السولار يتم اعتماده من قبل المهندس المشرف. Maintaining, installing the diesel tanks in the place specified in the drawings, joining them together, and installing a isolation valve on the pipes linking them as well as making underground piping between the tanks and the incinerators using Pex Pipes20 mm(Siksik) or equivalent is extended	L.S.	1		

	between the tank and the burners inside underground 2-inch PE double wall corrugated cable protection pipe (a Tubing Protection Sleeve approved by the supervisor) under the concrete floor. The Pex Pipe also should be extended between the diesel tanks and the incinerators according to the drawings, provided that it should be joined to a 0.5-inch steel pipe with a length of 0.5 meters that shall be installed in the body of the incinerator and the pipe shall be installed in the burner according to the incinerator's catalog and the drawings, with a good installation. Additionally, <b>European fuel filter and 3/8" valves</b> for each burner, as well as a European made mechanical fuel Meter and Locking Handle Valve shall be installed on the diesel tank as approved by the supervisor.				
	تصنيع وتركيب بيل مركز لزوم البساتن حسب الحاجة على أن يتم اعتماد تصميمها من قبل المهندس المشرف قبل التصنيع والتركيب. Manufacture and installation of center bearings for Piston as needed, where its design shall be approved by the supervisor before manufacturing and installation.	No.	10		
	توريد وتركيب وتشغيل حساسات حرارة K-type أو S-type لقياس حتى 1600 درجة مئوية أوروبي الصنع، مادة الحساس أكسيد الألمنيوم (كوراندوم)، حسب تعليمات المهندس المشرف. Supply, installation and operation of European K-type or S-type heat sensors for measuring temperatures up to 1600 ° c. The material of the sensor is made of aluminum oxide (corundum), according to the instructions of the supervisor.	No.	8		
	توريد وتركيب مواسير حديد لزوم تطويل مداخن المحارق حسب المواصفات والاقطار الموجودة وسماكات الحديد لكل مدخنة ولحامها وتثبيتها حسب الأصول. Supplying and installing steel pipes for extending the incinerators' chimneys according to the existing specifications, diameters, and steel thicknesses for each chimney, including welding and installing them according to the supervision engineer's instructions.	L.M	6		
<b>Sub-total of Section 1: Maintenance Works</b>					
7.2	<b>Section 2: <u>Supplies</u></b>				
7.2.1	توريد مضرب نار (بيرنر) سفلي أوروبي الصنع نوع Baltur BTL 14 أو ما يعادله يناسب قدرة المحرقة مع جميع التوصيلات اللازمة على أن يتم اعتماده من قبل المهندس المشرف. Supply a European lower burner (Baltur BTL 14) or an equivalent appropriate for the	No.	1		

	capacity of the incinerator, with all the necessary connections. It should be approved by the supervisor.				
7.2.2	توريد مضرب نار (بيرنر) علوي أوروبي الصنع نوع Baltur BTL 26 أو ما يعادله يناسب قدرة المحرقة مع جميع التوصيلات اللازمة على أن يتم اعتماده من قبل المهندس المشرف. Supply a European top burner, (Baltur BTL 26) or an equivalent suitable for the capacity of the incinerator, with all the necessary connections. It should be approved by the supervisor.	No.	1		
7.2.3	توريد تنكة زيت هيدروليكي 68 أوروبي الصنع بسعة 10 لتر يتم اعتماده من قبل المهندس المشرف. Supply a European 68 hydraulic oil tank with a capacity of 10 liters. It should be approved by the supervisor.	No.	10		
7.2.4	توريد طوب حراري أسباني أو إيطالي بمقاس 7*11*23 سم يتحمل درجة حرارة 1700 لزوم الصيانة المستقبلية، يتم اعتماده من قبل المهندس المشرف. Supply Spanish or Italian refractory bricks with a size of 23 * 11 * 7 cm, to endure high temperatures of 1700 for future maintenance. It should be approved by the supervisor	No.	200		
7.2.5	توريد أسمنت حراري ألماني يتحمل درجة حرارة 1700 لزوم الصيانة المستقبلية، يتم اعتماده من قبل المهندس المشرف. Supply German thermal cement that stands a temperature of 1700 for future maintenance. It should be approved by the supervisor	Kg	20		
7.2.6	توريد حصمة حرارية لزوم الصيانة المستقبلية، يتم اعتماده من قبل المهندس المشرف. Supply thermal aggregate for future maintenance. It should be approved by the supervisor	Kg	20		
7.2.7	توريد مادة سيليكات صوديوم (مياه زجاج) لزوم الصيانة المستقبلية، يتم اعتماده من قبل المهندس المشرف. Supply sodium silicate (glass water) for future maintenance. It should be approved by the supervisor	Liter	10		

7.2.8	<p>تصنيع وتوريد عربة دفع (Trolley) بأبعاد 1.2*0.6 متر بارتفاع 45 سم، مصنعة من حديد بروفيل أسود 30*30*1 ملم للهيكل، وماسورة بقطر 25 ملم وسماكة 1 ملم للمقبض، وشبك حديد بسماكة 2 ملم (مربعات) لجوانب وأرضية العربة حسب المخطط، والسعر يشمل سنفرتها باستخدام فرد الرمل ودهانها بطبقة أساس وطبقة دهان، وتركيب عدد 4 عجلات بقطر 4 انش (swivel wheel) يتم اعتمادهم من قبل المهندس المشرف.</p> <p>Manufacture and supply a trolley with dimensions of 0.6 * 1.2 meters and a height of 45 cm. The trolley should be made of rectangular steel pipe body of 30 * 30 * 1 mm, a pipe with a diameter of 25 mm and a thickness of 1 mm for the handle, steel net with a thickness of 2 mm (squares) for the sides and the floor of the trolley according to the drawings. The price includes the sanding process using a sandblasting, the painting with a primer coat and a layer of paint, and the installation of 4 wheels with a diameter of 4 inches (swivel wheel) that are approved by the supervisor.</p>	No.	3		
7.2.9	<p>Supply Laptop hp or equ. As per specifications:</p> <ul style="list-style-type: none"> <li>-Processor: Intel® Core™ i7-1165G7 (up to 4.7 GHz, 12 MB L3 cache, 4 cores)</li> <li>-Memory: 16 GB DDR4</li> <li>-Internal drive: 512 GB PCIe® NVMe™ SSD</li> <li>-Display: 15.6" diagonal, FHD (1920 x 1080), IPS, anti-glare, 250 nits, 45% NTSC</li> <li>-Graphics: Nvidia Quadro T500 4G</li> <li>-Keyboard: HP Premium Quiet Keyboard – spill-resistant, full-size, backlit keyboard with programmable key</li> <li>-Webcam: 720p HD IR camera with integrated dual array microphones</li> <li>-Finger print reader: Fingerprint reader</li> <li>-OS: Free Dos</li> <li>-Warranty: 3 years</li> <li>-Wireless Mouse</li> <li>-15.6 Backpack</li> </ul>	No.	1		
<b>Sub-total of Section 2: Maintenance Works</b>					
<b>Section 3: Piles Works</b>					
	<p>أعمال حفر خازوق امتصاصي لزوم اعمال التخلص من مخلفات الولادة الطبية</p> <p>جميع الأعمال تتم بالتنسيق مع جهاز الإشراف وإدارة المجلس والعمل يشمل التوريدات والتصنيع والتثبيت والتركيب والتنظيف وجميع إجراءات السلامة والأمان على حساب المقاول.</p> <p>-يتم تخريم البراميل عدد 15 ثقب نصف إنش لكل برميل بواسطة المقذح.</p> <p>-يجب على المقاول التنسيق مع جهاز الإشراف عند التنفيذ وعمل</p>				

<p>المخططات التنفيذية للمشروع. (SHOP DRAWING). -تتم جميع الاعمال وفقاً للمخططات وتعليمات الاشراف وعلى المقاول توريد جميع المواد حسب البنود وجميع المواد اللازمة لإتمام العمل حسب المخططات.</p> <p>Piles works (Absorption) for disposal of medical waste in obstetrics.</p> <p>All works shall be carried out in coordination with the supervisor and the management of the JSC-GNG.</p> <p>The works should be carried out at the expense of the contractor including supplies, manufacturing, installation, fixation, cleaning and all safety and security measures.</p> <p>The drums are punched by a drill, with 15 half-inch holes per barrel.</p> <p>- The contractor shall coordinate with the supervisor during the implementation of the project and the creation of SHOP DRAWING.</p> <p>- All works should be carried out in accordance with the drawings and instructions of the supervising body. The contractor shall supply all materials according to the items and materials necessary to complete the work properly.</p>	
<p>حفر قاذوح قطر 80 سم وبعمق لا يقل عن 20 متر وحسب تعليمات مهندس الاشراف ويتم قياس طول الحفر الذي سيتم صرف الدفعة المالية بناء عليه من مستوى الأرض الطبيعية وحتى نهاية عمق الحفر.</p> <p>السعر يشمل توريد براميل حديدية بقطر لا يقل عن 60 سم وارتفاع لا يقل عن 90 سم بحالة ممتازة ومعتمدة من جهاز الاشراف على أن يتم توصيلها ببعضها البعض بواسطة اللحام وتدعيمها بالعوارض الحديدية وعمل فتحات التخريم بواسطة المقدح وبقطر نصف إنش في البراميل للسماح بتسريب السوائل الراشحة ومن ثم تنزيلها في حفرة القاذوح من أسفل قاع القاذوح وبارتفاع لا يقل عن متر فوق سطح الأرض وإضافة طبقة حصمة حول البراميل بسمكة 10 سم، حسب المخططات المرفقة وتعليمات جهاز الاشراف.</p> <p>كما يشمل السعر تصنيع وتوريد وتثبيت ولحام الجزء العلوي للقاذوح والمكون من (غطاء حديدي وعنق بارتفاع واحد متر) والمصنوع من الحديد المجلفن بسمكة لا تقل عن 3 ملم والمخصص لإغلاق حفرة القاذوح حسب المواصفات والمخططات، إضافة الى توريد قفل حديدي نوع (MAGNUM, AWARE, RB) أو ما يعادلها لزوم اغلاق الغطاء.</p> <p>والسعر يشمل تنظيف وتسوية الموقع ونقل المخلفات إلى خارج الموقع ولأماكن التي يحددها جهاز الاشراف والعمل يتم حسب الأصول وتعليمات المهندس المشرف.</p> <p>Digging piles with a diameter of 80 cm and a depth of not less than 20 meters, according to the instructions of the supervisor. Payment will be disbursed based on the length of the excavation, which is starting from the natural ground level to the end of the excavation depth.</p> <p>The price includes the supply of steel drums with a diameter of not less than 60 cm and a</p>	<p>No. 4</p>

	<p>height of not less than 90 cm. The drums should be in excellent condition and approved by the supervisor. They shall be linked to each other by welding and support it by steel beams and holes with a diameter of 0.5-inch are made in the drums to allow the percolation of fluid and then these drums shall be taken down into the bottom of the pile, at a height of not less than one meter above the ground, and a layer of gravel shall be added around the barrels, with a thickness of 10 cm, according to the attached drawings and the instructions of the supervisor.</p> <p>The price also includes the manufacture, supply, installation and welding of the upper part of the pile, which consists of (steel cover and one meter neck made of galvanized steel with a thickness of not less than 3 mm dedicated to close the hole of the pile according to specifications and drawings.</p> <p>Additionally, the price includes the supply of a steel lock (MAGNUM, AWARE, RB) or equivalent to close the cover for each pile.</p> <p>The price includes cleaning and leveling the site as well as transferring waste outside the site to the places determined by the supervisor. The work is done properly and according to the instructions of the supervisor.</p>				
<b><u>Sub-total of Section 3: Piles Works</u></b>					
<b><u>TOTAL OF BILL 07 INCINERATORS MAINTENANCE WORKS AND SUPPLIES</u></b>					
<b><u>MOVE TOTAL TO SUMMARY</u></b>					

Constructing Medical Waste Treatment Facility  
and Transferring, Rehabilitating and Operating  
Two Incinerators at Juhr Al Deek Landfill  
(Alshifa'a Hospital Incinerator and Nasser  
Hospital Incinerator)

GRAND SUMMARY FOR BOQ FOR CONSTRUCTING		
BILL No.	DESCRIPTION	AMOUNT (USD)
BILL 01	GENERAL ITEMS	INCLUDED
BILL 02	CONCRETE WORKS	
BILL 03	BUILDING WORKS	
BILL 04	SHED WORKS	
BILL 05	MECHANICAL WORKS	
BILL 6	ELECTRICAL WORKS	
BILL 7	INCINERATORS MAINTENANCE WORKS AND SUPPLIES	
GRAND TOTAL		
GRAND TOTAL IN WORDS		

Contractor Name: \_\_\_\_\_

Signature with stamp: \_\_\_\_\_

Date: \_\_\_\_\_ / \_\_\_\_\_ /2022