United Nation Development Programme

UXOs and Rubble Removal from Gaza Strip
PAL 10-00071488

Crushing of Concrete Debris

Bill of Quantity (BOQ)
PREAMBLE TO BILL OF QUANTITY (BOQ)

1. GENERAL
The nature of this contract is re-measured unit price contract and the Bill of Quantity (BOQ) shall reflect this fact.

BOQ shall be read and construed in conjunction with other Contract Documents.

General directions and description of work and material given in the Technical Specification are not necessarily repeated in the Bill of Quantity. The Technical Specification forms an integral part of the Bill of Quantity.

The Tenderer is obliged to check the number of the pages of the Bill of Quantity and should any be found missing or duplicated or the figures of writing indistinct, the Tenderer must notify the Employer/Engineer at once and have the matter rectified before the Tender is submitted. No liability whatsoever will be accepted in respect of any claim for errors in the Tenderer’s offer resulting from failure to comply with the fore-going.

The Tenderer is deemed to have visited the site/s and fully acquainted himself as to the location of each of the items and works to be carried out and to all conditions which may affect the performance of the works, including but not limited to:

♦ Access for the storing dump site and crushing site as well as access to required services
♦ Affected buildings’ conditions.
♦ Restrictions applicable to working in GAZA Strip area.
♦ All safety regulations and employer site safety procedures.
♦ All Palestinian regulations.

The Tenderer is also deemed to have surveyed the actual condition of the site and buildings and made his own assessment of the type and extent of the works prior to submitting his offer.

2. QUANTITIES
Although practical care was exercised in preparing the BOQ, all quantities given herein shall be deemed to be estimated quantities of the work to be done. They are not to be taken as actual and correct quantities of the work to be executed and they are not absolve the contractor of his obligations under the Contract. At any time, the actual quantities increase or decrease, hence, it is understood that the actual quantities increase or decrease is expected risk and no claim whatsoever will be taken into consideration for extra cost in that respect by employer. and any claim whatsoever submitted for cost or extra expenses incurred from such increase or decrease will not be accepted by Employer/Engineer except where else stipulated in the Contract.
3. MATERIALS
All materials used are to be of the best new available ones, subject to the Employer/Engineer approval, durable nature, guaranteed, not liable to any basic change and manufactured according to applicable BS, ASTM or DIN Standards. Execution also is subject to approval of Employer/Engineer and shall be in conformance with the best available common practice in engineering codes at the time of execution.

Items that contain materials or products of special make with names of manufacturers are to be taken as samples of what will be required. Subject to the Employer/Engineer approval, the Contractor may, at his discretion, offer similar products of other make if the equivalent quality of the specified materials is obtained. In this case, the Contractor shall submit a description and/or drawings showing all technical conditions, characteristics, make, type and address of Manufacturer, etc., of the materials offered as alternatives.

4. PRICES AND CURRENCY
The prices given, by the Contract, hereunder in the BOQ shall be in United States Dollars and shall not be exchangeable with other foreign currencies. Furthermore inflation and escalation or changes whatsoever shall not be subject of claim later on.

The Unit Prices entered against the various items in the following Bill of Quantities include all operation costs for execution, completion and maintenance of the various items of the works finished completely in every respect till the final acceptance as specified or described in the Tender Documents, with or without modifications, either by way of additions or deductions, or alterations as may be offered in writing during the progress of the works, and include, without being limited to, all what is deemed necessary particularly referred to in the Tender Documents.

The Unit Price shall cover all costs of every kind whatsoever including, without being limited to, all charges for additional site installations, relocation, supervision, labor, transportation and supply of materials; the provision, maintenance, use and efficient repair of all plant, equipment and appliance of every kind, the construction and maintenance of all temporary works, the performance of all services and the fulfillment of all obligations and responsibilities herein defined.

The Tenderer shall be deemed to have fully considered all the conditions, obligations, and requirements of the Tender Documents before entering the respective unit price against the various items of the Bill of Quantities.

The Unit Prices given hereunder and set with the BOQ shall also include erection, installation, fixing, and re-fixing of all elements. These prices shall also include taxes, visa for labor, gate passes, accommodations for the Contractor’s staff and labors, all required insurance and work permits, guarantees, bonds, traffic plan requirements, safety procedures, etc. and all requirements necessary to have the work maintained until its final handing over.
The Unit Prices given hereunder in the Bill of Quantity for this work shall also include overheads, risks, profit etc. and all other financial matters to have all these civil works completed.

The works, materials or activities listed in the following shall always be considered as supportive works to be included in the Unit Prices bid for any item in the Bill of Quantities:

- Any measurement for execution and payment of the works, including the provision of measuring instruments, gauges, setting out marks, marking paint and relevant tools, labor, etc., the maintenance and preservation of gauges and setting-out marks during the execution of the works.
- Provision of small tackle tools or any other equipment required for the execution of the works.
- Supply of consumable materials for the Contractor’s equipment.
- Removal of all contamination (refuse, debris, building rubbish and the like) arising from or in connection with the Contractor’s work to locations approved by the engineers.
- Protection of the executed works and of the items made available for execution of the works from damage, fire, inclement weather, vandalism and theft etc., until the time of final acceptance.
- Transportation of all materials and structural components from the storage places on site to the points of use and return transportation, if required.
- Submitting and transporting any samples required.
- Carrying out tests on materials and works, etc., that is required by the Engineer.
- Fuel and lubricants for operation of Contractor’s equipment.
- All safety precautions and measures for safeguarding labor as well as securing surrounding areas.
- Lighting of the work site.
- Maintenance, repair or reconstruct damaged infrastructure resulted by contractor’s activities.

5. RIGHTS OF EMPLOYER

The following rights are reserved to the Employer:

- To omit individual items mentioned in the Schedule of Prices if not required in the opinion of the Employer and/or to replace them should it be more advantageous to execute them in another way.
- To order execution of alternative or provisional items as if they were main items.
- To order execution of additional works as well as alternatives of works, always in conformity with the conditions outlined in the Contract.

Any order and/or delivery of material or equipment by the Contractor for performance of the works may only be based on instructions and/or approved execution drawings by the Employer/Engineer.
All equipment and materials for installation and finishing works to be incorporated in this contract shall prior to ordering and/or delivery by the Contractor, be approved by the Employer/Engineer both in respect of quality and type as well as of quantity.

6. SITE ACCESS AND STORAGE
The Tenderer shall visit all sites and ascertain the location of required access onto these sites and the location of allowance for complying with the requirements and for the reinstatement to original condition of all roads and areas used or disturbed by the Contractor to the satisfaction of the Engineer.

7. SITE INSTALLATION
All costs of labor, works, provisions, materials and equipment for Site Installations required by the Contractor and stipulated in the Tender Documents shall be included in the various unit prices of the Bill of Quantities. No extra payment will be allowed by the Employer for any of these activities.

8. DURATION
The total duration of the contract is six (6) calendar months including week ends, holidays and official holidays. The contractor will be allowed to use more than one crusher and may work in two shifts, but in this case he has to increase his staff for the two shifts.

9. OTHER REQUIREMENTS
The following items should be included in Unit Price:
- The contractor should conduct at least 2 workshops at different times when required.
- The contractor has to help researchers, universities, and interested bodies in studying the process of recycling of crushed debris.
- The crushed material should be tested periodically (three times at least) when required and according to the following standards:

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Standard</th>
<th>Test Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate Gradation Test (Sieve Analysis)</td>
<td>AASHTO T-27</td>
<td>Aggregate Gradation Test (Sieve Analysis)</td>
</tr>
<tr>
<td>Liquid Limit, Plastic Limit and Plasticity Index(Atterberge limit)</td>
<td>BS 1377</td>
<td>Liquid Limit, Plastic Limit and Plasticity Index(Atterberge limit)</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>ASTM-854</td>
<td>Specific Gravity</td>
</tr>
<tr>
<td>Absorption</td>
<td>ASTM-2216</td>
<td>Absorption</td>
</tr>
<tr>
<td>Flakiness and Elongation</td>
<td>BS 812</td>
<td>Flakiness and Elongation</td>
</tr>
<tr>
<td>Clay lumps and Friable particles</td>
<td>ASTM-142</td>
<td>Clay lumps and Friable particles</td>
</tr>
<tr>
<td>Light weight pieces</td>
<td>ASTM-123</td>
<td>Light weight pieces</td>
</tr>
<tr>
<td>Finer than #200sieve by washing</td>
<td>ASTM-1140</td>
<td>Finer than #200sieve by washing</td>
</tr>
<tr>
<td>Compaction Test</td>
<td>ASTM-1557</td>
<td>Compaction Test</td>
</tr>
<tr>
<td>Los Angeles(Abrasion Test)</td>
<td>ASTM-131</td>
<td>Los Angeles(Abrasion Test)</td>
</tr>
<tr>
<td>California Bearing Ratio Test (CBR)</td>
<td>ASTM-1883</td>
<td>California Bearing Ratio Test (CBR)</td>
</tr>
</tbody>
</table>
## Crushing of Concrete Debris

### Bill of Quantities

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Unit</th>
<th>Qty.</th>
<th>Unit Price (US$)</th>
<th>Total (US$)</th>
</tr>
</thead>
</table>

**Notes:**

- The contractor is responsible for the proper operation of the crushing plant. He is expected to make all actions in connection with the surrounding environment as well as his machines to keep up the crushing activities continuous.
- The contractor should satisfy all safety measures for both site and labors. Labors should wear safety clothes and equipment.
- The contractor has to prepare places for short term and long term storage of the crushed material inside the site and he is responsible for the transportation process of the crushed materials inside the workplace.
- All quantities are estimated according to the site measurements at the date of contract advertisement. In case of any changes in quantities (increase or decrease), same rates quoted will be utilized. Even if this increase or decrease exceeds 25% of total quantities.
- The output (crushed material) should be totally clean from all organic or other non-concrete materials.
- The unit price includes supply the site with electrical source (electrical temporary subscription and generator) on daily basis during all contract duration. The electrical source will serve site offices and two weighting balances. Payments for electrical fees and generator’s fuel and oil are responsibility of the contractor.
- The unit price should include stockpiling of crushed concrete rubble inside dumping and crushing site as well as directed by the engineer. This work includes preparation area for stockpiling, preparation of ramps and access roads for stockpiling and to streamline the traffic flow of the trucks. Stockpile height should not be less than 8 (eight) meters.
<table>
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<tr>
<th>Item No.</th>
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<th>Unit</th>
<th>Qty.</th>
<th>Unit Price (US$)</th>
<th>Total (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In Tons, Crushing concrete debris transported to the site into different sizes (from 0 to 10 cm). The price includes transportation of raw (basic) material from any location inside crushing or dumping site into the crushers, crushing concrete material to the required sizes, storing, mixing, and transporting the mixed crushed materials to places inside the site. All works should be executed as directions of supervisory engineer, special conditions, specifications and drawings. The price also includes sorting of non concrete materials such as steel, plastic or other materials and storing them in special places inside dumping site. The price includes spreading the entire site inclusive of dump and crushing sites with water on periodic basis to minimize the dust.</td>
<td>Ton</td>
<td>150,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td><strong>Provisional Item:</strong> Stockpiling of non-crushed concrete rubble inside dumping and crushing site. The works include preparation area for stockpiling, preparation of ramps and access roads for stockpiling and to streamline the traffic flow of the trucks. Stockpile height should be between 6-8 meters.</td>
<td>Working hour</td>
<td>300</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Crushing of Concrete Debris

Summary:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Total (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Total of Item # 1</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Total of Item #2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total (US$)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vat (0%)</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Grand Total (US$)</td>
<td></td>
</tr>
</tbody>
</table>

Grand Total (in letters):-----------------------------------------------

Contractor’s Name:--------------------------------------------------------

Signature and Stamp:------------------------------------------------------

Date:---------------------------------------------------------------------