

**Preambles**

**ATLAS 63002****Construction of Multi-purpose Sports Hall in Ramallah City****INDEX**

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## 1. SCOPE OF WORK

The proposed contract will cover all the works necessary for the construction of a multi-purpose indoor sports hall in Ramallah City, including testing and commissioning of equipment, if any, and maintaining the whole works during the maintenance period.

## 2. GENERAL

The description given against the items in the Bills of Quantities do not necessarily describe fully all the work to be performed. The Contractor shall refer to the Contract Documents and these Notes wherein the work to be executed and the materials supplied for each item in the Bills of Quantities is fully described. **In case of any contradictions in the descriptions of work item as described in the specifications and that described under the related items in the Bills of Quantities, the descriptions under the BOQ items shall prevail**, all in accordance with the engineer's instructions. The Rates of the BOQ item shall cover all costs as described under the related bill item, in addition to those costs described herein below in pricing the different work items:

## 3. MEASUREMENTS

- A. Unless otherwise stated, all work shall be measured net as executed or fixed in place with no allowance made for laps or waste.
- B. The dimensions given in the Bills of Quantities are generally in the sequence LENGTH - WIDTH - HEIGHT unless otherwise noted.

## 4. PRICING

- A. The Contractor shall familiarize himself as to the meaning of every item in the Bills of Quantities and the rates and prices inserted by the Contractor against the items shall be deemed to include for all his obligations under the Contract and for all other matters and things necessary for the proper construction, completion, and maintenance of the Works including, but not limited to, all temporary works including, but not limited to, all temporary shifting, altering and adapting the temporary work, plant and equipment as required during the progress of the Works and removing on completion including repairing and reinstatement of any work or surface disturbed; providing samples of materials and/or workmanship as detailed in the Specification; the provision of bonds and guarantees; all work in connection with the measurement of the Works and the preparation of the final account, profit, overheads and other costs of whatsoever nature. No claim will be considered in respect of any or all of these items.
- B. Prices for all items shall be deemed to include for all straight raking and circular cutting and consequent waste.
- C. The Contractor shall price all items that he considers to have a value. Items which are not priced by the Contractor will be deemed to be of no value and their price has been included in the price of other items.
- D. The Contractor shall produce a detailed analysis of his unit rates to UNDP within forty eight (48) hours of being requested to do so.
- E. The Contractor is requested to price identical items in the Bills of Quantities at the same rates.
- F. Any discount which the contractor may wish to allow should be allocated on the unit rates and should not be included as an item on the Summary.

## 5. QUANTITIES

- A. The quantities given in the Bills of Quantities have been calculated from the drawings listed in accordance with the method of measurements stated under the trade headings set out hereinafter.
- B. The quantities given in the Bills of quantities may be used as a basis for ordering materials but should be checked and verified by the contractor before any orders are placed.

- C. The quantities given for each item in the Bills of Quantities are the estimated quantities of the work to be executed. Re-measurement of the works shall be carried out and the measurements recorded in a measurement book to be agreed by the Contractor and the Engineer.
- D. The quantities for items stated to be provisional/ optional in the Bills of Quantities are indicative only where the exact nature of the works cannot be determined at the time of production of the contract documents, and these shall be re-measured in accordance with the instructions given hereunder.
- E. No claims for extra cost or time will be entertained should the quantities given in the Bills of Quantities prove to be inaccurate.

## 6. DEMOLITIONS AND ALTERNATIONS

- A. Unless otherwise stated, old materials are the property of the hospital and shall be cleared away by the contractor upon the request of the hospital directorate.
- B. The provision of temporary screens and coverings to project the existing structure shall be understood to be included in the demolition and alteration items.
- C. Shoring incidental to demolitions and alterations, together with clearing away and making good all work damaged, shall be understood to be included. Shoring, other than that incidental to demolitions and alterations, shall be given as an item stating damaged shall be understood to be included.
- D. Rates shall include for:
  - 1. Labor, materials and plant.
  - 2. Temporary propping or shoring incidental to the Works.
  - 3. Protection of adjacent buildings.
  - 4. Temporary screens and protection of remaining finishing and structures.
  - 5. Clearing all debris from site.
  - 6. Making good finishes and structures disturbed.
  - 7. Disposal of old materials by contractor unless otherwise stated in the description.
  - 8. Removal of old materials to owner's store where these are to be retained by the owner.

## 7. DRAWINGS

A list of Contract Drawing available at the date of tender is included on the front page of the Drawing Book and at the end of these Specifications

## 8. PROTECTION OF THE SITE

The Contractor shall take such measures and exercise such care to protect the Site as shown on the Site Plan during the course of the Works as directed by and to the entire satisfaction of the Engineer.

All temporary buildings and work areas such as Site Offices, Workshops Store Buildings and Yards, Living Accommodation, Messrooms, etc. shall be constructed in position approved by the Engineer.

The contractor shall confine his apparatus, the storage of materials and the operations of his workmen to limits indicated by law, ordinances, permits or directions of the Engineer. The Contractor shall erect suitable temporary fences as required by the Engineer.

The Contractor shall not load or permit any part of the structures to be loaded with a weight that will endanger its safety.

On commencement of the Contract, the Contractor shall clear the Site and adjacent area of all rubbish and debris to the satisfaction of the Engineer.

Upon completion of the Contract, the Site and any adjacent areas affected by the building operation shall be properly cleared of all temporary works, debris and other rubbish and all disturbed works and ground made good to the entire satisfaction of the Engineer.

**9. MATERIALS FOUND ON SITE**

Any sand, gravel or other building material found on the Site shall not be used in the execution of the Works without the prior written consent of the Engineer.

**10. TEMPORARY STORMWATER DRAINAGE**

The Contractor shall ensure that the whole of the Site, is kept free from the risk of stormwater flooding and shall provide such temporary ditches, gullies and the like as may be necessary and shall at completion of the Works backfill such excavation and make good all works disturbed.

**11. SHOP DRAWINGS**

If at any time before the commencement or during the progress of the work it appears to the Contractor that for the proper execution of specific part of the works, shop drawings are necessary, these drawings shall be prepared by the Contractor and submitted to the Engineer for approval. On the other hand, the Engineer shall have authority to order at any time and the Contractor agrees to provide any number of shop drawings which in the opinion of the Engineer are necessary for the proper execution of a specified work, the Contractor shall not proceed with the above mentioned work unless these shop drawings are approved by the Engineer.

Shop drawings shall be fully detailed and drawn to proper scale.

Unless otherwise specifically required in the drawings or Specifications, shop drawings shall be supplied in four copies with dark lines on a white background.

Shop drawings shall be approved or returned to the Contractor for alternation or amendment within four (4) weeks of their receipt by the Engineer. Shop Drawings returned for alternation or amendment shall be resubmitted for approval. Altered or amended shop drawings shall show the nature of the alternation or amendment in a revision block on the drawings with a revision number or letter and the date of the revision.

**12. AS-BUILT DRAWINGS**

All prints of the Drawings, where required, shall be corrected by the Contractor and submitted to the Engineer for approval as the works proceed. Upon the completion of the Works, the Contractor shall prepare a completely new set of drawings for the project as executed and submit same in duplicate to the Engineer for approval.

When approved by the Engineer, the Contractor shall submit one transparency and six copies of all drawings duly marked "As-Built". The final payment shall not be made except for the actual works that have been completed in accordance with the Specifications and have been duly presented on the "As-Built Drawings".

The Contractor shall not be entitled to any extra payment or extension of time for the correction, preparation and supplying of the above mentioned drawings and transparencies.

**13. SCAFFOLDING**

The Contractor shall provide, erect, maintain, and dismantle any clear away at completion proper and adequate scaffolding including that required for Sub-Contractors and Specialists. Putlong holes shall be made good to match the adjacent surface as the scaffolding is dismantle. The Contractor shall be entirely responsible for all safety precautions in connection with the scaffolding and for its entire sufficiency for the work.

**14. PROTECTION OF WORKS**

In the pursuance of his obligations under the Conditions of Contract, the Contractor shall wherever required or directed by the Engineer cover up and protect the Works form the weather and from damage by him or other workmen performing subsequent operations. He shall provide all necessary dustsheets, barriers and guard rails and clear away same at completion.

The Contractor shall take all reasonable and proper steps for the protection of all places on or about the Works, which may be dangerous to his workmen or any other persons or to traffic. The Contractor shall provide and maintain warning signs, red warning lamps and barricades as necessary in all such places.

## 15. SEPARATE CONTRACTS

The Employer reserves the right to let other separate contracts in connection with the work under similar conditions. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and co-ordinate his work with theirs.

If any part of the Contractor's work depends for proper execution or results upon the work of any other contractor, the Contractor shall inspect and promptly report to the Engineer and defects in such work shall render it unsuitable for such proper execution and results.

His failure so to inspect and report shall constitute an acceptance of the other Contractor's Works as fit and proper for the reception of this work, except as to defects which may develop in the other Contractor's work after the execution of his work.

To ensure the proper execution of his subsequent work, the Contractor shall measure work already in place and shall at once report to the Engineer any discrepancy between executed work and the Drawings.

## 16. DEFINITIONS

"Approved", "directed", "selected" means the approval, direction or selection by the Engineer.

"Instructions" means the instructions in writing of the Engineer or Engineer's Representative unless specified otherwise.

"Manufacturer's Recommendation" means the Manufacturer's recommendations or instructions, printed or in writing and current at the date of tender.

"Or approved equal" means that materials of different manufacturer may be substituted if proper approval has been obtained. The rates or prices will be held to be based on the materials specified.

Where an item is denoted as N.I.C. on the Drawings it shall mean that item indicated is not included in the Contract.

Where the terms Architect or Engineer is used in this Contract they shall have the same meaning.

Where the terms Architect's Representative or Engineer's Representative are used they shall have the same meaning.

In the Contract reference is made to the Standards, Codes of practice and Specifications issued by the following organizations, hereinafter referred to by the following abbreviations:

AASHO Means the American Association of State Highway Officials.

ACI Means the American Concrete Institute.

AFNOR Means the Association Francaise de Normalisation.

AISC Means the American Institute of Steel Structure.

ASA Means the American Standards Association.

ASHRAE Means the American Society of Heating, Refrigerating and Air-Conditioning Engineers

ASTM Means the American Society for Testing and materials.

AWWA Means the American Water Works Association.

B S Means the British Standards Institution.

CMA Means the Cable Manufacturers Association.

DIN Means the Deutscher Normanusschuss.

NEMA Means the National Electrical Manufactures' Association.

NFPA Means the National Fire Protection Association.

VDE Means the Verban Deutscher Electrotechniker

These references shall in every case be deemed to include the latest edition or issue of such standards.

The Contractor upon receiving instructions shall supply the Engineer's Representative with single copies of all standards referred to on the Drawings or Specification and shall arrange for further copies for his own use.

All materials and manufactured goods are to be the best of their respective kinds and as described in the Specifications and the Contractor shall submit for the approval of the Engineer a list of names and addresses of the manufacturers, the trade marks and types of all materials and articles he proposes to employ together with all specifications and descriptions that may be required in this connection before any orders are placed. Samples are to be provided if requested by the Engineer. Where a particular proprietary product, supplier's catalogue is referred to in the Specifications or shown on the drawings the material specified may be obtained from another source provided it is similar, equal and approved by the Engineer.

If during the course of the Contract certain materials required for use in the Works should be unobtainable despite the best efforts of the Contractor, then the Contractor may offer for the approval of the Engineer substitute materials.

The use of these substitute materials shall be at the sole discretion of the Engineer. In the event of refusal of the substitute materials, the Contractor shall not be relieved of any of his obligations under the Contract and shall be solely liable for any delay or loss occasioned by his failure to provide materials as specified.

Where manufacturers recommendations have been entered into the contract documents, it is for the purpose of giving an indication to the contractor of the Engineer's intentions on the application and use of the material.

It is deemed that the successful Contractor will make direct contact with the manufacturer to ensure that he is carrying out the works in accordance with their recommendations.

#### **17. CONTRACTOR TO VERIFY SITE MEASUREMENTS**

The Contractor shall check and verify all site measurements wherever requested by other specialist contractors or by nominated or other sub-contractors to enable the to prepare their own shop drawings, and pass on the information with sufficient promptness as will not in any way delay the Works. A copy of all such information passed or shall be given to the Engineer.

#### **18. SAMPLES**

The Contractor shall furnish for approval, with reasonable promptness all samples of materials and workmanship required by the Engineer. The Engineer shall check and approve such samples with reasonable promptness for conformance with the design concept of the works and for compliance with the information given in the Contract Documents. The Work shall be in accordance with approved samples.

- a) All material samples shall be delivered to the Engineer's office with all charges in connection with therewith paid by the Contractor.
- b) Duplicate final approval samples, in addition to any required for the Contractor's use, shall be furnished to the Engineer.
- c) Samples shall be furnished so as to delay fabrication allowing the Engineer reasonable time for consideration of the sample submitted.
- d) Each sample shall be properly labeled with the name and quality of the material, manufacturer's name, name of project, the Contractor's name and the date of submission and the Specification number to which the sample refers.

#### **19. CUTTING AND PATCHING**

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

**20. SITE OFFICES, LATRINES, ETC.**

The Contractor shall provide and maintain on the Site for the duration of the Contract the following: -

- a) A temporary office for the accommodation of his Agent/Engineer and Staff, including all necessary sanitary facilities, such offices shall be open at all reasonable hours to receive instructions, notices or other communications. Telephone and Electric installations shall also be provided.
- b) A suitable and adequate temporary office shall be provided and furnished by the Contractor for the sole use of the Engineer and his staff. The office shall be furnished with 3 office tables and 3 office chairs, a minimum of 5 guest chairs, metal file cabinet with secure lock, cabinet for material samples, desktop computer (Pentium 4), Telephone and telephone line, internet connection and subscription, fax machine, copy machine, A3 printer, scanner, electric heater, fan, office stationary, etc. Such office shall be approval by the Engineer.
- c) Meeting room with adequate size meeting table and 10 chairs
- d) Adequate firefighting equipment to the approval of the Local Fire Authority and the Engineer.
- e) An approved project signboard (120x160cm) written in Arabic and English. The logos and the wording wordings on the sign shall be as directed by the Engineer.

**21. ATTENDANCE ON THE ENGINEER**

The Contractor shall for the duration of the Contract supply sufficient attendance for the Engineer's supervisory staff and shall maintain and pay all water, electricity, and telephone charges and shall keep the site office and supervision cabins in a clean and sound condition at all times.

The Contractor shall be responsible for the security of the Site Office and its contents at all times and shall employ watchman for this purpose

**22. TESTING**

The Contractor shall allow in his rates and prices for the cost of carrying our tests necessary for compliance with the Specification in independent laboratories outside the Site.

**23. TEMPORARY BUILDINGS**

The Contractor shall provide and maintain on the Site sheds, offices, messrooms, sanitary accommodation and other temporary works of any kind whatsoever for the Contractor's supervisory staff and work people and for Sub-Contractor's staff employed upon the works.

The Contractor's site office shall be open during working hours to receive instructions notices or other communications.

Sheds shall be suitable to store all materials equipment and furniture which in the opinion of the Engineer needs protecting from the weather.

The Contractor shall provide and maintain in approved positions on the Site Adequate sanitary accommodation for his staff workmen and sub-Contractors. This sanitary accommodation shall be kept in a clean and orderly condition to the approval of the Public Health Authority and the Engineer to ensure that no nuisance is caused.

**24. TEMPORARY WORKS AND REINSTATEMENT**

The Contractor shall provide and maintain all temporary roads and tracks necessary for movement of plant and materials, and clear same away at completion and make good all works damaged or disturbed.

The Contractor shall submit drawings and full particulars of all Temporary Works to the Engineer before commencing same. The Engineer may require modifications to be made if he considers them to be insufficient and the Contractor shall give effect to such modifications but shall not be relieved of his responsibilities for the sufficiency thereof.

The Contractor shall divert as required, at his cost and to the approval of the Engineer, all public utilities encountered during the progress of the Works, except those specially indicated on the drawings as being included in the Contract.

Where diversions of services are not required in connection with the permanent Works, the Contractor shall uphold, maintain and keep the same in working order in existing locations.

The Contractor shall make good, at his own expense, all damage to telephone, telegraph and electric cable or wires, sewers, water, or other pipes except where the Public Authority or Private Party responsible for the same elects to make good the damage. The cost incurred in so doing shall be paid by the Contractor to the Public Authority or Private Party in demand.

All injury to the surface of the land, to the beds of water courses, projecting banks, etc. where disturbed by the Works (other than where specifically ordered by the Engineer) shall be repaired by the Contractor or the authorities concerned, at the Contractor's expense. All such making good shall be to the approval of the Engineer.

All requirements detailed above shall be provided and maintained at the expense of the Contractor.

The Employer shall not be liable for loss or injury to and Temporary Works.

## **25. WATER FOR THE WORKS**

The Contractor shall make all necessary arrangements and provide all water for the proper execution of the Works, together with all transport temporary plumbing, storage and distribution, pay all charges and alter adapt and maintain temporary work as necessary and remove and make good at completion.

## **26. ELECTRICITY FOR THE WORKS**

The Contractor shall make all necessary arrangements and provide all artificial lighting and power for the proper execution and security of the Works and its protection.

With all meters temporary wiring and fittings, pay all charges and alter, adapt and maintain the temporary works as necessary and remove and make good at completion

## **27. PROVISION OF PLANT AND TOOLS**

The Contractor shall provide and install all necessary hoists, ladders, scaffolding. Staging, tackles, tarpaulins, tools, vehicles, and other plant (mechanical and otherwise) and allow for altering adapting and maintaining them in good condition as necessary and eventually removing from site and making good.

## **28. TEMPORARY BARRIERS, FENCING, ETC.**

The Contractor is to provide all temporary barriers, fencing, hoarding, guard rails, gates, and the like as may be necessary to protect the public and others, for proper execution of the Works and shall remove and clear away at completion of the Works and make good all work disturbed.

## **29. INCONSISTENCY IN CONTRACT DOCUMENTS**

The Contractor shall execute the Works according to the provisions of the Contract Documents. Any work indicated in one of the documents but omitted and/or stated in one or more of the other documents shall be treated as though it were included in all of them.

If any two documents of the Contract conflict as to the quality of the work to be carried out, the discrepancy shall be brought to the notice of the Engineer, who shall instruct the Contractor which of the two conflicting documents to regard as correct.

If the Contractor should discover that any work has been omitted and/or not indicated entirely or partially from all the documents, but that such work is essential to the safety or proper functioning of the works, he shall report the facts immediately to the Engineer. If the work is something which in the opinion of the

Engineer could not have been foreseen by an experienced Contractor, the Engineer should issue to the Contractor a variation order stipulating the details of the work to be done.

Save as aforesaid in the above paragraph, no additional payment shall be made in respect of work carried out in connection with discrepancies between the various Contract Documents.

### **30. ERRORS IN COMPUTING CONTRACT DOCUMENTS**

The Contractor shall be responsible for any error which he makes in computing any quantities of material and labour required or costs involved or through any lack of knowledge of the Site or misunderstanding of anything shown or implied on the Drawings or in the Specifications and/or the Bills of Quantities.

The Contractor must refer any discrepancy in the Drawings, BOQ, and the Specifications to the Engineer before proceeding in any of the Works. Otherwise the decision of the Engineer as to the interpretation of the discrepancy will be final. Any item or items of work not specifically shown on the Drawings or referred to in the BOQ and Specifications but would be necessary for the proper construction of the works in accordance with the best practice is implied and must be included for as incidental to the Contract Sum. Any item for which the Contractor has not inserted a price in the Bills of Quantities shall be deemed to be covered by other prices or rates therein.

### **31. SITE MEETINGS**

During the course of the Works, site progress meetings shall be held at regular intervals at least once every two weeks in the presence of the Engineer for the purpose of coordinating the Contractor's work and to insure that full compliance with the various sequences of the contract are maintained. Minutes of such Site meetings will be recorded, copies will be distributed to all persons concerned and full effect shall be given to all instructions contained therein

Prior to such meetings the Contractor shall give to the Engineer's representative details in writing of that portion of the Works he proposes to construct during the coming two weeks with details of the plant and methods he proposes to employ. These proposals shall be discussed at the meeting and no work based on such proposals shall proceed without the approval of the Engineer's Representative

The Contractor shall have no claim against the Employer for costs incurred by him in changing the method of working or in the provision and use of other additional plant.

### **32. DAILY REPORTS**

The Contractor shall prepare and deliver to the Engineer's Representative a daily report on the work activities including the number of workers employed on the Works in each Trade, equipment on the site, and copies of delivery notes of all materials and goods to the Site during the day.

### **33. ACCESS FOR THE ENGINEER**

The Contractor shall provide at all times during the execution of the Works and the Maintenance Period proper means of access with ladders, gangways etc., and the necessary attendance to move and adapt same as directed for the inspection or measurement of the Works by the Engineer or the Engineer's Representative.

### **34. SETTING OUT AND LEVELLING**

Prior to commencement of any site work the Contractor shall arrange to record on an approved grid existing site ground levels and agree with the Engineer's Representative the accuracy thereof by preparing a record drawing signed by the Contractor's Agent and the Engineer's Representative. The Contractor shall set out and level the Works and obtain the approval of the Engineer's Representative before commencing construction.

### **35. WORK PROGRAMME**

Within two weeks after signing the contract, the Contractor shall prepare and submit to the Engineer a programme for the Works, including the work of subcontractors and other work concurrent with the Contract, using the critical path network method. Submission of the work programme will not relieve the

Contractor of his obligations to apply in writing for instructions as required by the Conditions of Contract. Receipt of programmes by the Engineer shall neither affect the Contract completion date nor relieve the Contractor of his responsibility to complete the Works by this date. The Contractor shall review the programme once each month to take account of any circumstances which arise affecting the progress of the Works, and shall produce a revised programme and submit copies to the Engineer.

### **36. CANCELLATION DUE TO SLOW PROGRESS**

If, in the Engineer's opinion, with regards to the state of the Works at any time, the Contractor is unable to complete any section of the Works by the time specified or by such extension thereof as he may be entitled to under the Contract and the Contractor has failed to carry out steps and to expedite the work in accordance with the Conditions of Contract or if, in the Engineer's opinion, such steps are inadequate, the Engineer may, by written order omit the whole or any part of the uncompleted work included in that section and the Employer shall be at liberty to execute such omitted work by his own workman or by other Contractors. If the cost of such omitted or uncompleted work shall exceed the sum which would have been payable to the Contractor on the completion of the said work, then the Contractor shall, upon demand, pay to the Employer the amount of such excess and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly.

### **37. DELAYS**

The Contractor will be deemed to have allowed for all delays caused by difficulty in obtaining labour and materials or by suspension of part or the whole of the Works due to adverse and inclement weather conditions.

### **38. NON-PRODUCTIVE TIME**

The Contractor shall allow for all costs incurred by non-productive time and all other expenses in connection with overtime.

### **39. SAFETY, HEALTH AND WELFARE**

The Contractor shall comply with enactments regulations and working rules relating to safety, health, and welfare of all workers on the project site.

### **40. CONTRACTOR'S SITE REPRESENTATIVE**

The Contractor's Representative in charge of the Works shall be a duly graduated Civil Engineer having at least Ten (10) years of experience in the implementation of similar works and shall be required to have a proper command of the Arabic and English languages.

### **41. ATTENDANCE**

The Contractor shall allow for and be responsible for the general attendance of one trade upon another.

### **42. OFFICIAL VISITORS**

The Contractor shall at all times when authorized by the Engineer give free undisputed access and all facilities to any authorized employee of the Employer, any representative of the UNDP or any person authorized by the UNDP wishing to view or inspect any part of the Works or the materials to be incorporated therein.

### **43. CARE OF THE WORKS, ETC.**

The Contractor shall keep all persons (including those employed by Sub-Contractors) under control and within the boundaries of the Site. He will be held responsible for the care of the existing premises and of the works generally until their completion, including all work executed and materials, good and plant (including those Sub-Contractors and Suppliers) deposited on the Site; together with all risks arising from the weather, carelessness of workers, damage or loss by theft or any other cause; and he shall make good at his own expense of such damage and lose.

**44. WORK AT COMPLETION**

The Contractor shall clean the Works thoroughly inside and out removing all splashes, deposits, rubbish and surplus material. The Contractor shall remove all temporary markings, coverings and protective rapping unless otherwise instructed.

The Contractor shall touch up minor faults in painted surfaces carefully matching color and brushing out edges. He shall repaint badly marked areas back to suitable breaks and junctions.

The Contractor shall adjust, ease and lubricate all doors, windows, drawers' hardware, equipment, appliances controls and other moving parts as necessary to ensure easy and efficient operations.

The Contractor shall leave the Works secure with all access locked. He shall account for all keys and shall hand over to the Employer with itemized schedule signed by the Engineer and the Employer as receipt.

**45. SITE WORKING HOURS**

The normal working hours at the project site will be 8:00 am – 4 pm Saturday through Thursday. Any works by the Contractor or any of his sub-contractors outside of the specified working hours shall be coordinated and approved in writing by the Engineer in advance. The Contractor is fully responsible for any works completed outside of the specified working hours without advance written approval by the Engineer, and the Engineer shall have a full right to reject such works.

**Ramallah Municipality & UNDP  
Ramallah Municipality Centennial Project**

**Construction of Multi-purpose Sports Hall in Ramallah City**

**PRICING PREAMBLES**

**1. Introduction:**

The contractor is required to visit the project site to familiarize himself with scope of work and the existing site conditions before pricing the bill of quantities.

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.

**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 method of measurement for the Contract is thus established by the measured items and units of the measurement in the Bills of Quantities. No other measurement method shall be used to measure the executed works.

**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 apparatus providing all construction Plants, equipment, tools, sampling, testing, profits, overheads, charges, provision of guarantees, performing all necessary labour 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 and levies.

**4. Quantities:**

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

1. as a basis for estimating the probable cost of the Work and
2. 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 performed and the estimated amount.

## **5. Items in Bills of Quantities**

Such items are the subject of re-measurement of completion in accordance with Clause 51 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 which are at the boundaries of measured areas are always the subject of deduction irrespective of size.

## **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:

1. Labor.
2. Materials, including all costs in connection herewith (e.g. conveyance, delivery, unloading, storing, handling, lowering into position and the like).
3. Customs and import duties as applicable, insurance, levies and the like.
4. All shop treatment of materials (e.g. Preservation of timbers, galvanizing, priming, chrome plating, stove enameling, anodizing and the like, pipe wrapping, coatings, etc.).
5. Fitting and fixing materials in position including all necessary fixing devices and materials.
6. Commissioning & use of plant.
7. Disposal of waste of material.
8. Square, raking or curved cutting.
9. Work in volumes, areas and length of any size, no separate items being measured for isolated work or work in small quantities, short lengths, narrow widths, etc.
  
10. Establishment charges, on-costs, overhead charges profits and taxes excluding **Value Added Tax (VAT)**.

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

Certain items are referred 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
M.S.	Square meter
M.C	Cubic Meter
L.S.	Lump Sum
No.	Number
Kg.	Kilogram
Ref.	Reference

## 9. Definitions

The terms "include " , " is included " , " including " , and similar, are used herein to indicate that the items 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 requirements 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 cost of work already measured.

## 10. Protection.

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

## 11. Shop Drawings / coordinated drawings.

All rates shall include where required for producing shop drawings & coordinated drawings and supporting calculations as requested by the Engineer.

## 12. As Built Drawings.

All rates shall include for producing one transparency and four (4) copies of all as-built drawings and supporting calculations to the approval of the Engineer.

## 13. Soil Studies

The Contractor shall recheck the accuracy of the soil investigation report prepared by the designer through conducting a borehole at a depth similar to max. borehole depth in the report and conducting the related tests ,and shall, at the completion of the foundation excavation call upon the soil investigation laboratory to check the compliance of the foundation strata with the outcomes of his soil testing.

Examination and photographing of soil and work before covering up are obligatory and should be approved by the supervisor.

#### **14. 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.

1. 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.
2. Rates and Prices shall be clearly recorded in the provided BOQ in excel format.
3. No item is to be measured twice under separate headings.

#### **15. Excavation:**

##### **(A) Measurements:**

1. Excavation for foundation, trenches, etc. shall be for the actual dimensions shown on Drawings, and to be measured from Natural Ground level or Reduced Level (which is lower), i.e.
  - a) From Reduced Level when R.L. is lower than N.G.L.
  - b) From N.G.L. when N.G.L. is lower than the Reduced Level.
2. Allowance for working space is not applicable; unless it is clearly specified in the Special Conditions.
3. Excavation for foundation of retaining walls is to be measured from Lower Reduced level, or from lower Natural Ground level (as stated in Item 1.)
4. Trench excavation and back filling for drain and water pipes and electricity cables and excavating for manholes and percolation pits is included in the items of pipe work, cabling, manholes and percolation pits and will not be measured separately.
5. Price to include removal of site obstacles, rocks, trees ...etc. and removal of all debris from site. Price also to include maintaining all trees that are not obstructing the buildings, boundary walls, courts and roads.
6. Each layer of back filling should be tested separately at the contractor's expense then the next layer can be applied.
7. Co- ordination with all local authorities to facilitate the works, removal of obstacles or for diversion of roads, services, etc. ....is the contractor's responsibility and is included in his rate.
8. Excavation shall be measured by cubic volume. The volume shall be calculated by taking the area of the slab, footing, base and the like and multiplying by the vertical depth. No allowance will be made for increase in bulk after excavation. No allowance will be made for working space.
9. Hard-core beds shall be measured superficially, over consolidated depth including finishing, to a maximum depth of 15cm or as stated clearly in the Bills of Quantities. Filling required below this 15cm. depth is intended to be of suitable materials from the excavations and no extra will be paid for hard-core used in lieu thereof.

##### **(B) Rates:**

1. Rates for excavation shall include for:
  - a. Removal of all site obstacles and clearing the site of all rubbish, debris, shrubs, trees, bushes, plants, fence and the like including grubbing up roots and foundations prior to the commencement of the Works.
  - b. Excavation to any depth.
  - c. Excavation in any material whatsoever found, including rock.
  - d. Excavating circular on plan.
  - e. Allowance for working space.
  - f. Excavating below water-table level.
  - g. Keeping excavations clear of water.
  - h. Leveling, ramming, trimming and grading bottoms of excavations in rock.
  - i. Planking and strutting.

- j. Selecting Suitable material from the excavations and returning, filling watering and ramming in layers around foundations and to underside of hard-core beds including all multiple handling and transport about the site.
2. Rates for hard-core beds shall include for:
    - a. Trimming and leveling ground under.
    - b. Watering, ramming and consolidation.
    - c. Loss of bulk in consolidation.
    - d. Finishing top surface to receive concrete, paving and the like.

## **16. Concrete Work**

### **(A) Measurements:**

1. Concrete works shall be measured net as per Drawings or as specified by the Engineer.
2. Each item of concrete works shall be measured in the unit described in the Bills of Quantities.
3. All recesses, openings or any other space not actually filled with concrete shall be deducted in calculating the volume or the area for payment.
4. Any extra concrete which was cast due to the Contractor's negligence and is not marked specifically on the Drawings shall not be measured for payment.
5. Suspended concrete slabs shall be measured superficially.
6. Drop beams are included in the measurement of the slab.
7. The height of columns shall be measured excluding the depth of beams, slabs and the like.
8. Prices for reinforced concrete elements shall include reinforcement.
9. Prices for ribbed slabs shall include reinforcement and hollow blocks and no separate item for blocks will be provided.

### **(B) Rates:**

Rates for concrete work shall include for:

1. Labour
2. Supply and storage of cement,
3. Supply and storage of aggregates and water,
4. Mixing and placing in position,
5. Packing and tamping around reinforcement,
6. Vibrating, compacting of concrete, additives and curing,
7. Grading, tamping and trowelling,
8. Installing of formwork, shutters and supports and dismantling the same.
9. Supplying reinforcement and storing on site including cutting, bending and fixing in position and providing all tying wire, spacers, shop drawings and testing,
10. Finish to exposed faces,
11. Work of any cross-sectional area,
12. Work at any height,
13. Curved work,
14. Forming mortices and grouting in,
15. Forming grooves, throats, holes, chases, rebates, chamfers, splayed angles, mouldings and the like,
16. Casting in or cutting and pinning plugs, holdfasts, brackets, and the like.
17. Hoisting to any height and bedding, jointing and pointing,
18. Wall ties.
19. Hollow blocks for ribbed slabs including supply, storage, laying and arranging.
20. Protective coating of hot bitumen in not less than two coats and not less than 2 mm in thickness to surfaces of reinforced concrete occurring under the ground level including necessary undercoating.
21. Taking samples, performing any laboratory tests that may be required by the Engineer and providing certificates of test results.

## 17. Blockwork

### (A) Measurements:

1. Block work shall be measured net in squared meters. No deductions will be made for voids or openings of less than 0.5 square meters in area.
2. Thickness given refer to the thickness shown on the drawings and no allowance will be made for any additional thickness due to uneven or bad workmanship.
3. For the main building, prices of the reinforced concrete lintels, sills and beams over the length of the block walls are included in the rates of the block works
4. For toilet block, prices of the reinforced concrete lintels, sills and beams over the length of the block walls are included in the rates of the block works.

### (B) Rates:

Rates for block work shall include for:

1. Labour
2. Supply and storage of cement,
3. Supply and storage of aggregates, water and other materials,
4. Manufacture, curing and supply of blocks,
5. Laying blocks including horizontal and vertical mortar joints,
6. Using closed ends blocks as required by the Engineer at all ends, openings, services locations etc.
7. Work of all classifications in any location,
8. Finishing fair and pointing to exposed faces,
9. Rough and fair cutting,
10. Cutting or leaving holes, chases, grooves, mortices, sinkings and the like and making good, -
11. Cutting and pinning or building in ends of lintels, steps, timbers, rails, brackets, steel sections and the like, and making good,
12. Concrete filling and reinforcing rods to cavities at quoins and door and window openings,
13. Cutting and bonding at angles, intersections and the like.
14. Reinforced concrete lintels of same thickness as block and 20 cm. high all over the length of the wall over openings or at the same height of inlets. Including scaffolding and reinforcement of 4 $\phi$  12 and stirrups of 1 $\phi$  8 every 20 cm.

## 18. Stonework

### (A) Measurements:

1. Stone works shall be measured net in squared meters.
2. Thickness given refers to the nominal thickness or the thickness shown on the Drawing.
3. Rubble stone walls shall be measured by volume.
4. Stone facing for drop beams of the suspended slabs will be measured same as the item of stone walls unless otherwise specified in the Bills of quantities.

### (B) Rates:

Rates for stonework shall include for:

1. Labour
2. Supply and storage of cement,
3. Supply and storage of aggregates, water and other materials,
4. Shaping of the apparent faces of stones as per Drawings and the Instructions of the Engineer.
5. All special pieces such as corners, jambs, pieces around windows and doors and the like.
6. Fabricated wire mesh, dowels, hangers and all tying and fixing tools for stone cladding works.
7. Laying stones including coursing, bonding, and all mortar joints.

8. Works of all classifications in any location.
9. Face or surface finishing including all openings, returns, reveals and the like.
10. Rough and fair cutting,
11. Tying to backing material.
12. Concrete and block backing where included with stonework item.
13. Cutting or leaving holes, chases, grooves, mortises, sinking and the like, and making good
14. Cutting and pinning or building in ends of lintels, steps, timbers, rails, brackets, steel sections and the like, and making good.
15. Pointing including cleaning of stones, scaffolding and dismantling the same and all incidentals.
16. Lintels and other reinforced concrete elements including reinforcement except those elements specified in separate items in the Bills of Quantities.

## **19. Plastering**

### **(A) Measurements:**

Plastering to all areas shall be measured net in squared meters including openings which are less than 0.25 squared meter in area.

### **(B) Rate:**

The price shall include for running rules:

1. Supply and storage of cement,
2. Supply and storage of aggregates and water,
3. Clearing of walls and other elements to be plastered and spraying with water,
4. Installation of scaffolding and dismantling the same,
5. Mixing and applying plastering to any surface, location, area, width and height,
6. Plastering to jambs and reveals of openings, side of columns, window sills,...etc.
7. 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,
8. Making good around steel sections, pipes, tubes, bars, brackets, outlets and the like,
9. Curing,
10. Expanded metal lath, corner mesh, angle beads at all corners and plaster stops at openings, edges, expansion joints, sills,...etc. and where ever needed and according to the instructions of the Engineer,
11. Labour and all incidentals required as specified and/or detailed in Specifications and Drawings.

## **20. Carpentry And Joinery Work**

### **(A) Measurements:**

1. Sizes of timber given in the Bills of Quantities are finished sizes and shall be as per Drawings,
2. Sizes of doors and other items mentioned in the Bills of Quantities shall allow for tolerance to suit the structural openings as per Drawings,
3. Wooden doors and pair of doors shall be measured in number or in squared meters for the structural opening or as mentioned otherwise in the Bills of Quantities,
4. Blackboards shall be measured in number or in squared meters as mentioned in the Bills of Quantities.
5. Wall protection wooden rails shall be measured in linear meter,
6. Cloth hangers and hanger wooden base shall be measured in number or in linear meter as stated in the Bills of Quantities.

### **(B) Rates:**

Rates for carpentry and joinery work shall include for:

1. Labour,
2. Shop drawings,
3. Any length of timber,
4. Joints in the running length of timber,

5. Raking, curved or circular work and labours,
6. Frames, architrave, chalk holders and other holders and kick plates,
7. Allowance for plastering and tiling and the like,
8. Forming holes, angles, ends, mitres, rebates, splayed edges, grooves, chamfers, scribed edges, rounded edges, rounded corners, notches, sinkings, fitted ends, far ends and the like,
9. Cutting and fitting around obstructions,
10. Forming mouldings,
11. Nosing, bed moulds, margins, and the like,
12. Facing and edging to blackboard,
13. Bedding and painting,
14. Grounds, blockings and backings,
15. Plugging concrete, block work, and stonework, and making good,
16. Ironmongery including cylindrical locks, handles, stoppers, screws, temporarily fixing, re-fixing, oiling and adjusting,
17. Providing two keys for each lock including tagging,
18. Providing 3 original master keys for all locks
19. Hardware including nails, screws, dowels, cramps and the like,
20. Steel legs, brackets, bearers and other supports including painting,
21. Glass and glazing including cutting to size and putty,
22. Fly screening including cutting to size,
23. Preparing surfaces to receive finishes,
24. Painting, varnishing, polishing, oiling, and the like, to any area or width in any location including work in multi colors and cutting in edges.

## **21. Metal ( Steel and Aluminum ) Works**

### **(A) Measurements:**

Metal works shall be measured in number or in squared meters as stated in the Bills of Quantities.

### **(B) Rates:**

Rates for metalwork shall include for:

1. Labour,
2. Preparing shop drawings,
3. Cutting,
4. Assembling,
5. Welding grinding and joining,
6. Drilling, countersinking, screwing, bolting and riveting,
7. Bedding and painting,
8. Frames, including galvanized steel frames for Aluminum windows and architrave,
9. Lugs, plugs, holdfasts and the like,
10. Gaskets, sashes, double weather strips and external and internal silicon filling around frames,
11. Ironmongery including locks, stoppers, handles, temporarily fixing, re-fixing, oiling and adjusting,
12. Providing two keys for each lock and padlock including tagging,
13. Providing 3 original master keys for all locks
14. Hardware including cramps, dowels and the like,
15. Glass and glazing including cutting to size, putty and rubber,
16. Preparing surfaces for and painting one coat of primer before fixing,
17. Sealing,
18. Painting to any area or width in any location including work in multi colors and cutting in edges.
19. All other accessories and incidentals required to execute the work.

## **22. Tilling, Flooring And Marble:**

### **(A) Measurements:**

1. All tiling works (terrazzo, ceramics, marble) shall be measured net in squared meters and the rate shall include skirting. Skirting will not be included in the measurements..

2. Marble works for steps and treads of stairs shall be measured in linear meter. The tread and the riser shall be measured as a single unit,
3. Marble works for sills for windows and other openings shall be measured in linear meter or in squared meter as stated in the Bills of Quantities,
4. Marble works for urinals shall be measured in number,
5. Parapet copping shall be measured in linear meter,
6. Marble works for stair flight's skirting shall be included in (2) above.

**(B) Rates:**

- (1) Rates for finishes shall include for:
  1. Supply and storage of cement,
  2. Supply and storage of aggregates and water,
  3. Mixing,
  4. Hacking concrete, applying cement slurry or raking out joints of blockwork to form key,
  5. Application to any surface,
  6. Any width or area,
  7. Any location and any height,
  8. Beds, bedding and backing,
  9. Finish to surface,
  10. Finish to edges and arises,
  11. Grouting and pointing,
  12. Making good around steel sections, pipes, tubes, bars, brackets, outlets and the like,
  13. Finish to falls, cross falls and currents,
  14. Forming bays including joints,
  15. Treating surfaces with dust proofer, hardener and the like,
  16. Ends, intersections, angles, ramps, and the like on skirting,
  17. Forming rounded top edges and coves at bottom on skirting,
  18. Curing.
- (2) Rates for floor tiling: In addition to the related items stated above the rates for floor tiling shall also include:
  1. Supply, store and cure of tiles,
  2. Bedding and lining in cement and sand mortar
  3. Sand or concrete filling as required by the Specifications,
  4. Pointing and grouting with white cement,
  5. Forming holes,
  6. Forming grooves.
  7. On site mechanical grinding and polishing.
- (3) Rates for wall tiling: In addition to the related items stated above the rates for wall tiling shall also include:
  1. Supply, store and cure of tiles
  2. Plastering,
  3. Cutting and patching around the services and other openings,
  4. Mortar,
  5. Purpose made tiles including rounded edge tiles and bullnosed tiles.
  6. Grouting, grinding, and cleaning.

**23. Roof Finishes :**

**(A) Measurements:**

1. All finishes shall be measured superficially net unless otherwise stated clearly.
2. All finishes, except triangular shaped fillets and cement and sand lining to gutters, shall be measured superficially.

3. Rates for the triangular shaped fillets, cement and sand lining to gutters shall be included in the rate of the finished work.

**(B) Rates:**

- (1) Rates for cement and sand work shall include for :
  1. Supply and storage of cement.
  2. Supply and storage of aggregates and water,
  3. Mixing,
  4. Hacking concrete, applying cement slurry or raking out joints of block work to form key,
  5. Application to any surface,
  6. Any width or area,
  7. Finish to surface,
  8. Finish to falls, cross falls and currents,
  9. Forming bays including joints,
  10. Finish to edges and arises,
  11. Making good around steel sections, pipes, tubes, bars, brackets, outlets, and the like,
  12. Ends, intersections, ramps, and the like, on fillets,
- (2) Rates for waterproofing shall include for :
  1. Preparation of surface,
  2. Any area or width,
  3. Cutting in edges.
  4. Over laps, priming and treatment at the corners and floor drains.
  5. Dressing over parapets and stub columns including forming groove to receive edge of plasticised bitumen membrane and sealing with elastic sealer.
- (3) Rates for roof sheets shall include for :
  1. Side and end laps, Fittings including bolts, hook bolts, screws and washers,
  2. Sheets of any width or length.

**24. Plumbing Work :**

**(A) Measurements:**

1. All plumbing work, except rainwater pipes and water supply pipe work in water points, shall be measured by number.
2. Rainwater pipes shall be measured run over fittings.
3. Pipe work in frames to shading sheds shall be measured run over fittings.
4. Water supply pipe works, water distribution pipe works shall be measured each as lump sum.

**(B) Rates:**

- (1) Rates generally shall include for :
  1. Shop drawings,
  2. Cutting and forming all chases, recesses, holes, and the like,
  3. Pipe sleeves,
  4. Building of concrete and/or brick ducts in floors, walls ...etc.,
  5. Excavation, forming of trenches for services, concreting, bedding and back filling and ramming after laying,
  6. Fixing brackets, clips, holder bats, hangers, and the like,
  7. Temporary and final fixing,
  8. Nails, screws, bolts, nuts, washers, holes, plugs, sleeves and the like,
  9. Building in or cutting and pinning,
  10. Testing and drawings,
  11. Painting,
  12. All work of other trades in connection with plumbing work including all making good.

(2) Rates for building of manholes and pits shall include excavation, concrete, benching, plastering, backfilling and cover as per Drawings and Specifications,

(3) Rates for sanitary fittings, isolated taps and gullies shall also include for :

1. All pipe work in connection therewith and connections thereto including connection to the nearest manhole or gully and to the cold water storage tank.

(4) Rates for pipe work including pipe work in frames to shading sheds shall include for :

1. Joints in the running length,
2. Nipples, connections, sockets, ferrules, couplings, backnuts, unions, and the like,
3. Bends, elbows, tees, reducers, access doors, cleaning eyes, blank caps, stop valves, and the like,
4. Welded joints and connections including grinding,
5. Lagging and wrapping,
6. Excavation, bedding and backfilling.

## **25. Electrical Work:**

### **(A) Measurements:**

1. All electrical work shall be measured by number, unless other wise stated.

### **(B) Rates:**

(1) Rates generally shall include for :

1. Shop Drawings
2. Cutting or forming all chases, recesses, holes, and the like,
3. Conduit sleeves,
4. Fixing brackets, clips, holderbats, hangers and the like,
5. Temporary and final fixing,
6. Excavation for and lying of cable carrying pipes, bedding, concreting, backfilling and compacting,
7. Building of manholes, pits, etc.,
8. Building of concrete and/or brick ducts,
9. Nails, screws, bolts, nuts, washers, holes, plugs, and the like,
10. Building in or cutting and pinning,
11. Testing and drawings,
12. Painting,
13. Excavation, forming of trenches, bedding, backfilling and compacting,
14. All work of other trades in connection with electrical work including all making good.

(2) Rates for fittings, switches, and fuse boards shall include for :

1. Conduit and wiring to and between fittings, switches, and fuse boards (except connections to supply company's main) including all fittings, boxes, connectors and the like and making connections,
2. Lamps, bulbs, tubes and the like,
3. Plates and covers.

(3) The rate for the connection to the supply company's main shall include for:

1. All the supply company's charges for making the connection to the main,
2. Wiring or cabling between the supply company's main and the distribution board,
3. Underground conduit and junction boxes including excavation, bedding and backfilling,
4. Poles including insulators.

## **26. Glazing Work:**

### **(A) Measurements:**

1. Glass and glazing work is included within the items in which the glass is fixed and will not be measured separately.

### **(B) Rates:**

Rates for glass and glazing work shall include for:

1. Any size, shape and area,
2. Glazing to wood or metal,
3. Bedding edges,
4. Labours to edges,
5. Drilling holes and grinding

## **27. Paintings and Decorating:**

### **(A) Measurements:**

1. Painting and decorating to walls, ceilings and the like shall be measured net in squared meters,
2. Painting and decorating to all other surfaces, items and things are included in the items of surfaces, items and things, will not be measured separately.

### **(B) Rates:**

Rates for painting and decorating work shall include for:

1. Preparation of surface including puttying, sealing and priming,
2. Any area or width,
3. Any location,
4. Work in multi colors,
5. Cutting in edges,

## **28. Asphalt Works**

### **(A) Measurement:**

1. Base course works shall be measured net in squared meter or in tons as specified in the Bills of Quantities in case of base course works are not included in the asphalt works.
2. Asphalt works shall be measured net in squared meter.

### **(B) Rates:**

Rates for base course and asphalt works shall include for:

1. Labour,
2. Supply and storage of base course materials,
3. Spreading, leveling, watering and compacting the base course to receive asphalt,
4. Supply and apply asphalt concrete,
5. Spreading by using Finisher,
6. Compacting,
7. Trimming, cutting and making good around edges, openings, corners and trenches.

## **29. Curbstone Works**

### **(A) Measurements:**

Curbstone works shall be measured in linear meter.

### **(B) Rates:**

1. Labour.
2. Supply and storage of aggregates. Cement and water.
3. Supply and storage of curbstone.
4. Excavation in all kinds of soil including rocks, concrete and asphalt.
5. Supply and cast of blinding concrete as per Specifications.
6. Struts.
7. Laying curbstone including mortar.
8. Backfilling, leveling, watering and compacting.
9. Pointing and grouting.
10. Lowering curbs as entrance and ramps and where requested by the Engineer.

### **30. Demolition And Alterations:**

#### **(A) Measurements:**

1. Unless otherwise stated, old materials shall be understood to become the property of the contractor and shall be cleared away. Old materials required to remain the property of the Ramallah Municipality, shall be so described; setting aside and storing of such materials shall be given in the description.
2. Removing individual fittings, fixtures, engineering installations or the like from an existing structure shall be given as an item, stating the size, or enumerated.
3. Those required to be set aside for reaffixing shall be so described.
4. Removing finishings or coverings to existing structures shall be given as Items, indicating the quantity, or in square meters. Stating the nature of the finishing or coverings.
5. Demolishing individual structure, or part thereof, shall be given as an item, stating the dimensions. Alternatively, demolishing all structures on site may be given one item.
6. Cutting opening in existing structures and alterations to existing structures shall be given either as an item or a number. Stating the size of the opening and the type and thickness of the existing structure.
7. Making good all work damaged shall be understood to be included. The provision of new lintels shall be included in the description of such work. The provision of temporary screens and coverings to protect the existing structure shall be understood to be included in the demolition and alteration items.
8. Shoring incidental to demolitions and alterations, together with clearing away and making good all work damaged shall be understood to be included. Shoring, other than that incidental to demolitions and alterations shall be given as an item stating the location; clearing away and making good all work damaged shall be understood to be included.

#### **(B) Rates:**

Rates shall include for:

1. Labor, materials and plant.
2. Temporary propping or shoring incidental to the Work.
3. Protection of adjacent buildings.
4. Temporary screens and protection of remaining finishings and structures.
5. Clearing all debris from site.
6. Making good finishes and structures.
7. Disposal of old materials by Contractor unless otherwise stated in the description.
8. Removal of old materials to RAMALLAH MUNICIPALITY store where these are to be retained by the RAMALLAH MUNICIPALITY.

### **31. Steel Structure Work**

#### **(A) Measurements:**

1. The payment for the structural steel works shall be based upon the price per metric ton of prefabricated, delivered and erected structural steel sections. The quantities shall be determined by the calculation of gross weight of materials shown on the fabrication drawings by multiplying their weights per linear meter by their lengths shown on drawings.
2. The weights per linear meter of shapes, plates, bars, steel pipes and structural tubing are indicated for all sections as incorporated in the specified standards.

3. Elements whose weights may not be indicated in the above standards shall be calculated on the basis of their net volume employing their detailed dimensions and then multiplied by the unit weight of the steel employed to obtain their weights.
4. .When parts are cut from standard structural shapes leaving non standard sections to be employed for the project, the weight of each section is calculated from the cross sectional areas multiplied by its length to obtain its volume and subsequently its weight.
5. No deductions in weights shall be made for material removed from sections for notches, small cuts, clipping, drilling, punching holes, boring, slot milling, planning, or weld joint preparation.
6. The weights of shop or field bolts, nuts, washers, fixings, and also that of shop or field weld metal shall not be calculated for purposes of payment. Such items shall be deemed to be included in the contractor's over-all price per ton of the structural steel for the project.

**(B) Rates:**

Rates for steel work shall include for:

- 1-Design, fabrication, packaging , transportation to the job site, haulage, change, lifting, storage and erection, surveying, drawings, and dimensional accuracy are all considered to be included in the contractors price.
- 2-All connection materials, bolts, welds, shear connectors or hammer driven screws, washers, nuts spring locking washers, plates, cleats, shop welding, site welding, drilling of holes and such like are all considered to be supplied and installed by the contractor and included in the price.
- 3-All required materials that are related to the construction of the steel structure and the decking such as polycarbonate sheet, reinforcing bars, welded wire fabric, special details, accessories, adapters, fixings, sealants, connections, mountings, support and such like are considered an integral part of the framing system and are deemed to be the responsibility of the contractor for supply and installation subject to the approval of the engineer.
- 4-prices shall include also all the required welding, fixing bolts, plates , anchorage bolts , Stiffeners, any temporary formwork that might be required and Rain gutter.
- 5- The contractor shall design and detail all welded or bolted connections to the approval and satisfaction of the engineer.
- 6- Materials and fabrication procedures shall be subject to inspection and tests in the mill, shop, and field by an independent testing laboratory. Such inspection and tests will not relieve the contractor of responsibility for providing materials and fabrication procedures in compliance with specified requirements.

- 7- Inspection and testing for structural steel : Testing and inspection of structural steel will be performed by a testing laboratory for compliance with the specified materials.
8. Inspection and testing for bolt connections : Bolted connections will be inspected by a testing laboratory in accordance with AISC 314 .
9. Inspection and testing for welding: Welding will be inspected and tested by a testing laboratory during fabrication and erection of structural steel as follows. Certify all welders and make inspections and tests as required. Record types and locations of all defects found in the work, the measures required and performed to correct such defects.
10. All direct, indirect or independent testing and quality assurance expenses shall be included in the contractor's price for steel structure.