

## **PREAMBLE TO THE BILLS OF QUANTITIES**

### **GENERAL**

1. The Conditions of Contract, the Specifications and the Drawings shall be read in conjunction with the Bills of Quantities. The prices entered into the Bills of Quantities shall provide for full compliance with all the provisions of the above documents.
2. The rates and prices in the Bills of Quantities (comprehensively referred to as the Contract Rates) shall, except in so far as it is otherwise provided, be deemed to cover all the Contractor's obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the Works.
3. No payment shall be made in respect of anything described in the Contract for which apparently no corresponding item is given in the Bills of Quantities and the cost thereof shall be deemed to be included in and covered by the Contract Rates as aforesaid. Overhead, profit, insurance etc. shall all be deemed to have been included in the Contract Rates.
4. The rate and/or price is to be entered against each item in the Bills of Quantities whether quantities are stated or not. The cost of any item against which a Contract Rate has not been entered shall be deemed to be covered by other Contract Rates. No claim for payment in respect of unpriced items will be admitted.
5. The rates set down by the Tenderer against each item in Bills of Quantities, unless expressly provided to the contrary, shall be held to include for the supply of the necessary materials including cutting and waste, unloading, storage, packing, carriage and cartage, hoisting. Labour rates shall include collection of materials from Air Selangor's Store for materials to be supplied by Air Selangor, loading and unloading, storage, for fabricating, setting, fitting and fixing in position, use of plant, supervision, establishment charges, duty, profit and any other expense and everything so necessary for the due and proper completion of each item.
6. The description of the items is necessarily brief, and fuller description of them required is given in the Specifications, Schedule of Particulars and/or Drawings and the rates and prices entered against each item shall be deemed to cover the costs of complying with all requirements.

7. Payment against all Lump Sum items will be paid in proportion to the extent of which at the end of the period in question in the opinion of the CA the relevant services have been provided.
8. All quantities in the Bills of Quantities are provisional and shall be subject to remeasurement.
9. The quantities of the various items are approximate only and shall not be considered as limiting or extending the amount of work to be provided by the Contractor under the contract. The basis of payment shall be the actual quantities ordered and carried out as measured by the CA and valued at the rates or prices quoted in the Bills of Quantities where applicable or otherwise at such rates or prices which may be fixed within the terms of the Contract.
10. All items are to be priced in Ringgit Malaysia (RM) to two decimal places.
11. The rates inserted in the Day works Schedule shall be deemed to be the rates used by the Contractor in making up rates for works items in the Bills of Quantities.
12. Where items are referred to as "Extra-over" a previous item, then the rate to be inserted against the extra over is the additional cost of carrying out the work required by this item over and above the rate inserted against the previous item.
13.
  - i) The total given in the Form of Tender, subject to any agreed adjustment prior to award shall be the Contract Sum for the Works represented by the quantities and provisional sums at the time of Tender, subject to variation order or variations of quantities.
  - ii) Provisional Sum shall be expended only on specific instructions of the CA, who will certify in respect thereof accounts based on appropriate rates and prices in the Bills of Quantities, or where no appropriate rate or price exists, on agreed rates or day works rates.
14. Except where an item in the Bills of Quantities clearly indicates to the contrary, the measurement of the Works shall be as described in the Specifications.

15. The following abbreviations, where applicable, shall be employed in these Bills of Quantities: -

a)	Cubic Metre	M <sup>3</sup>
b)	Hectares	HA
c)	Square Metre	M <sup>2</sup>
d)	Linear Metre	M
e)	Metric Tonne	tonne
f)	Kilogram	KG
g)	Rate Only	R.O.
h)	Number of Lot	Each
i)	British Standard	B.S.
j)	Code of Practice	C.P.
k)	Horse Power	H.P.
l)	Percentage	%
m)	Lump Sum	L.S.
n)	Provisional Sum	L.S.
o)	Prime Cost Sum	P.C. Sum
p)	Diameter	dia.
q)	Degree	deg.
r)	Finished Internal Diameter	FID
s)	Outside Diameter	OD
t)	Nominal Diameter	ND
u)	Ringgit Malaysia	RM
v)	Month	MON
w)	Quantity Set	SET

## **EARTHWORKS**

### **1. CLEARING AND GRUBBING**

#### **Unit**

The unit of measurement for area to be cleared and grubbed shall be hectares.

#### **Measurement**

Dimension for the purpose of measurement shall be based on the plan area to be cleared within the right-of-way. No deduction shall be made for buildings, structures or carriageways.

#### **Item coverage**

The item for areas to be cleared and grubbed shall include;

- a) Demobilization, breaking-up and removal of all walls, fences and superficial obstructions effected by the Works down to existing ground level except as otherwise stated in the Contract;
- b) Felling of trees;
- c) Leaving the top soil and root systems of grasses and other surface vegetation undamaged;
- d) Grubbing up and blasting stumps and roots;
- e) Filling stump and root holes with suitable materials from any source and compaction;
- f) Uprooting of bushes, small trees and hedges;
- g) Credit value of material which becomes the property of the Contractor;
- h) Disposal of surplus and unsuitable material;
- i) Disconnecting and sealing services;
- j) Making good severed ends of existing fences and walls.

The payment shall be full compensation for furnishing all labour, materials, tools, equipment and incidentals necessary to do the work.

## **2. DEMOLITION AND REMOVAL OF EXISTING STRUCTURES**

### **Unit**

The unit of measurement for demolition and removal of existing structures shall be lump sum.

### **Measurement**

The measurement of the demolition and removal of existing timber, brick, concrete buildings, culverts shall be complete removal irrespective of the sites.

### **Item coverage**

The items for demolition of individual or groups of buildings, fencings or existing structures shall include;

- a) Demolitions of the buildings, existing structures, fencing or posts located wholly or partially within the site, including blasting if necessary down to existing ground level includes the removal of any ground, slab or overside concrete;
- b) Credit value of material which becomes the property of the Contractor;
- c) Loading in to transport and disposal of surplus materials to contractor own tip;
- d) Disconnecting and sealing services;
- e) Backfill with suitable materials and compacted in accordance with specification holes left by the removal of structures;
- f) Multiple handing of demolished material;
- g) Keeping the holes left by the removal of structure free from water.

## **3. STRIPPING TOP SOIL**

### **Unit**

The unit of measurement for stripping and stockpiling of topsoil shall be square metres.

### **Measurement**

The measurement of stripping and stockpiling topsoil shall be made of the plan area of topsoil stripped to the deep specified in the Bills of Quantities.

### **Item Coverage**

The item for the stripping and stockpiling of topsoil and turf for reuse shall include:

- a) Loading into transport;
- b) Haulage and deposition in temporary stockpiles including the provision of sites for stockpiles;
- c) Where surplus to requirements, haulage and deposition in tips off Site provided by the Contractor;
- d) Multiple handling of excavated material;
- e) Keeping the stripped area free of water;

### **PIPE LAYING WORKS**

1. Notwithstanding any provision made in the Specifications or Bills of Quantities, no separate measurement and payment shall be made for forming holes and/or building in pipes, conduits etc. of sizes 200mm dia./square and less, the cost of which shall be deemed to be included in the Contract Rates.
2. The Contractor shall remove all abandoned exposed pipe works and valves from site. Cutting, excavation, backfilling, hauling, transporting, disposal off site complete as directed by CA. Abandoned chambers shall be backfilled with sand and topping with concrete or premix, as directed, at their own cost.
3. The rates for working beyond normal working hours shall be fully complying with the Local Authorities requirements. The rates shall be deemed to include for overtime cost working at night, Sunday or Public Holiday.
4. For materials to be supplied by AIR Selangor, the Contractor shall be responsible to take over and collect from AIR Selangor and to allow at his own cost any transport and machinery for the loading of materials, to provide its own storage and security arrangement whether within or outside the project area. All costs incurred shall be borne by the Contractor.

5. The Contractor is responsible to estimate the required materials supplied by AIR Selangor and to control the wastage and surplus for all the pipe, fitting and valve materials supplied by AIR Selangor according to the limits append belows: -

<i><b>Item</b></i>	<i><b>Description</b></i>	<i><b>Maximum Wastage Allowed</b></i>	<i><b>Maximum Surplus Allowed</b></i>
1.	<i>All piping materials in full length</i>	<i>No Wastage Allowed</i>	<i>No Wastage Allowed</i>
2.	<i>All Fittings and Valves</i>	<i>No Wastage Allowed</i>	<i>No Wastage Allowed</i>

6. Notwithstanding the above, the Contractor is required to ensure minimum wastage at all times. The above set limit does not accord the right for Contractor on act of wastage or an entitlement to the saving on wastages below the set level stipulated above. The Contractor is still required to account for all wastages by returning all the cut and unused short pieces to AIR Selangor district store if so required by AIR Selangor. Any wastage cannot be accounted for shall be borne by the Contractor.
7. Any excessive wastage or surplus beyond minimum limits set above shall be charged to the Contractor.
8. At the end of the contract, all surplus materials that are within the maximum limits shall be reverted to AIR Selangor and those beyond maximum limit shall be reverted to the Contractor subject to Clause 8.

### **MECHANICAL WORKS**

1. Equipment systems shall be complete for the works specified including design, manufacture, supply, delivery, installation, inspection, testing and commissioning of works.
2. Rates for Mechanical Work shall include supply of all materials, equipment and labour, installation of equipment and drives, piping, valves, fittings, appurtenances, painting, supports, metalwork, brackets, hangers, platforms, anchor bolts, piping, manuals, testing certificates, unit control panels and all other work and equipment necessary to give a finished result as shown and as specified.

3. The Contractor shall provide all materials and equipment necessary for proper and complete field testing to be performed (including the provision of a generator set where required) and all costs arising from which shall be covered in the Contractor's rates in the Bill of Quantities.

### **ELECTRICAL WORKS**

1. Switches and Socket Outlets

The rates for lighting points shall include the cost of the switches. The rates for 13A SSO shall include the cost of the socket outlets.

2. Cable and Cable Accessories

Rates for cables shall be such that cables are in place, connected and ready for use on completion. The rate shall include for the supply and type of installation stated in the Specification. Rates shall include for jointing, fixing clamps, identification markers, cable trays, racking, supports, rag bolts, fixing devices and all cabling associated accessories. Where cables are to be terminated at switchboards, the rate shall also include for lugs and jointing. Rate for cable trays shall be for complete supply and installation and shall include for all welding, jointing, bends, tees, fixing screws, supports and painting.

3. LV Switch Boards

Rates for LV switch boards shall be for the complete supply and installation of each item ready for commercial service including all fuse switches, distribution gears, contactors, relay and control equipment, regulators, interconnecting cables, busbars, interlocks, MCCBs, enclosures, instruments, auto starters, tests, painting and marking. Rates shall include labelled and framed circuit diagrams, fixed to the inside of door panel for DB's and SSB's and for Main Switchboard hung on walls, and 600mm wide rubber mat of not less than 12mm thickness for the full length of every switchboard rated 300A or more.

4. Lighting Points

Rates for lighting points shall be inclusive of trunking, conduits, flexible conduits, saddles, painting, supports, hangers, identification marker, connection to light fittings, switches, IR test of final sub-circuit, connection and termination to switches and



DB. The rate shall include earth continuity cable of appropriate size for each final sub-circuit.

5. Power Points

Rates for power points shall be inclusive of trunking, surface conduits concealed conduits, painting, saddles, supports, hangers, identification markers, socket outlet, appropriate outlet boxes, IR test of final sub-circuit, connection and termination to socket outlet and DB. The rate shall include earth continuity cable of appropriate size for each final sub-circuit. The rate shall include separate trunking/conduit for final sub-circuit to normal and essential circuits.

6. Light Fittings

The rate shall be inclusive of the complete light fitting as described and as shown in the Employer's Drawings. The rate shall include Color 84 fluorescent tubes, incandescent bulb, 6W low loss ballast, starters, lamp holders, specified reflectors, specified diffusers, control gear and discharge lamps where stated. The rate shall include suspension rods, hangers for ceiling T-bar mounting, cutting of ceiling panels for recessed fitting and 12mm spacers for surface mounted fitting. The rate shall include submission of samples for the C.A.'s approval.