

PREAMBLE

1. The Bill of Quantities shall be read in conjunction with Instructions to Bidders. Form of Tender with Appendices Conditions of Contract, Technical Specifications, drawings and other related documents.
2. In making this Tender and pricing the items in this Bill, the Contractor must cover himself and shall be deemed to have covered himself for
 - 2.1 All services and materials which according to the true intent and meaning of the Specifications, Drawings and Conditions may be inferred as necessary for the carrying out in a good and workman like manner of the works shown on the Drawings and described in the Specifications whether expressly mentioned therein or not, and
 - 2.2 All the duties, obligations liabilities and responsibilities which any of the Contract Documents places upon the Contractor in connection with or in relation to the Contract.
3. The Quantities given in the Bill of Quantities are estimates only and is not to be taken as sufficiently precise for ordering materials and the Contractor in placing orders should be guided by the actual requirements of the work and in pricing them the Contractor must allow for any increase in quantity and for any additional material and for the use of materials and plant which may be required in the actual construction of the works to meet the requirements of Specifications and Drawings.
4. The prices or rates and total amount are for everything set in place in the work and include the expenses of the plant, machinery, tools, sheet piling, timbering, dewatering and all other materials, things and labour necessary to be used during the execution of the work and for the proper and sound completion and maintenance thereof for the period of maintenance.
5. Where no price is inserted against any item in the Bill of Quantities, the cost shall be deemed to have been included and spread over all other priced items.
6. No measurement shall be made for the following, the cost of which shall be deemed to be included in the various rates:
 - 6.1 Supply of water for all construction works including concrete, mains or pipes, site offices for cleansing or other purposes, including arranging and paying for the supply of water, providing mains and fittings, carting, storing, etc. and including subsequent, disposal of surplus or used water.
 - 6.2 Providing, maintaining and keeping clean sanitary accommodation for staff office and residence if provided.

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- 6.3 Protecting works from weather including adopting appropriate procedures for concreting in cold or rainy weather.
- 6.4 Maintaining existing works in operation.
- 6.5 Taking any precautions necessary for the abatement of nuisance from noise, dust, etc.
- 6.6 Keeping public, private and access roads free from mud, dirt, debris and dust.
- 6.7 Complying with any requirements specified in the Contract.
- 6.8 Clearing and cleaning the whole of the works on completion including the removal of the surplus materials, plant, equipment, rubbish, etc., and leaving all in a clean and tidy state.
- 6.9 Providing and testing samples of materials before placing orders to ensure compliance with the specification.
- 6.10 Collecting from the Employers store any articles if provided as free-issue by the Employer including any inspection and testing deemed necessary by the Contractor to ensure issue items are un-damaged before he removes them from store.
- 6.11 Working in the vicinity of and coordinating and liaising with other Contractors including providing for any inconvenience, delay, lack of working space, changes in programming or methods of working and all other costs incurred due to the presence of other Contractors.
- 6.12 Construction of approach road for access for the labour materials, construction machinery and equipment to the site of construction where required in connection with execution of work under this Contract.
- 6.13 Dewatering encountered during excavation or foundations or in trenches for laying pipelines etc.
- 7. All items or groups of items, which are designated "Provisional" shall be used only at the direction of the Engineer, and if not used either wholly or in part, the amount not used shall be deducted from the Contract Price without any further adjustments to the Contract Price. Provisional sum has been provided in the Bill of Quantities for such items of work, which can not be assessed at the time of preparation of tender documents. In case the necessity of such items arises, the Contractor shall carry out such works only after the approval of the rates and quantities for such works has been issued by the competent authority.

8. **EARTHWORK**

- 8.1 The respective rates for excavations shall include removing and setting aside all or any surface materials and their subsequent replacement or disposal, immediate removal and disposal of any material not deemed by the Engineer

- suitable for subsequent refilling work in all types of soils of whatsoever nature including compacted fill except rock, working adjacent to the excavation or pipe-laying; working without machinery where deemed necessary by the Engineer; shoring and timbering in the trenches and excavations and driving steel sheeting or sheet piling; rectification and making good all slips, falls, adjoining subsidence, weakening or damaging of roads, structures and the like provision of temporary fencing, preparation of formations and foundations, provision of a concrete 1:4:8 bed or any other work that may be required if a suitable bottom to an excavation is needlessly, damaged by exposure or from other causes, provision and operation of any necessary pumping or dewatering plant including dealing with water arising from sub-soil, or rain water or water from any other source and its disposal; refilling excavations, reinstatement of all surfaces other than those in carriage ways and footways of public and private roads and public footpaths; maintenance and control of traffic; reinstating surfaces damaged due to lack of proper traffic control) moving plant and equipment or other operations of the Contractor, removal and return of excavated material where ordered working under, alongside, across or near existing services pipes, cables, nullahs, drains and refilled ground or similar difficult locations maintaining existing services.
- 8.2 The cost of the removal of surplus excavated material of any kind shall be included in the rates of the work, material or structures. All surplus shall be removed from the site or sites as it arises.
- 8.3 Under no circumstances shall a measurement for bulk excavation be made.
- 8.4 Any the limits shown in the drawings shall be treated as excess and shall not be paid for.**
- 8.5 The Contractor shall make allowance for the additional excavation required for excavation of sump well, chambers, Jointing of pipes etc. in the price tendered for trench excavation. These shall not be separately measured or paid.**
- 8.6 The quantities of excavation for all other work except pipe laying shall be measured as the product of the horizontal area of the bottom of the wall or other structure, shown on the drawings multiplied by the mean depth and the Contractor will be paid in accordance with the quantities thus ascertained, irrespective of the gross volume of excavation which the Contractor may carry out.

- 8.7 The Contractor shall include in his rates for excavation *for* carrying out excavation and handling of any materials,' including disposal of surplus, excavated earth, any additional excavation required either to accommodate steel sheeting or timbering or to provide *working* space for the construction of the work.
- 8.8 The rate for trial holes shall be inclusive of breaking open existing surfaces, excavation in all types of ground or other substances, other than rock, timber or other supports to the excavation, pumping, keeping open for the inspection of the Engineer, refilling, and reinstatement other than in paving of roads and footways.

9. **PIPE WORK**

- 9.1 The rates for pipe laying shall include for the provisions enumerated in the earthwork section as necessary, supplying all materials unloading and laying out pipes, protection of coating on pipes and penstocks valves and making good the coating if necessary, laying and Jointing pipes; the cost of trimming pipes where built in, and for handling and removing untested pipes inspection and testing of pipes and pipelines including replacing any defective pipes, valves, etc., laying under, alongside; across or near existing pipes, cables,-services, etc., or under hedges, fences, tree roots, nullahs drains, water courses, culverts or walls and their reinstatement; provision of temporary fencing; reinstatement and maintenance of trenches surfaces in fields, and Paths other than carriageways and footways of public roads and footpaths, both in short or long lengths and all as specified.
- 9.2 The rates for bedding material shall include for placing in position, compaction in one or more layers and for any excess material greater than that specified to fill the additional excavation due to fault of Contractor.

10. **CONCRETE WORK**

- 10.1 The rates for concreting shall include for preliminary samples and testing for establishing mix design and for storing cement and aggregate; providing and testing samples, screening or washing aggregates where ordered, provision and handling of materials, manufacture of test cubes and any expense incurred in proportioning or varying the concrete mixes or delay incurred due to awaiting test results, proportioning, gauging and mixing, site testing, forming construction Joints, placing in Position, proper compaction with vibrators or tampers as specified, screening, the surface to the line and level ordered by the Engineer, formwork where used, protecting concrete finishing surfaces, reconstructing faulty work and testing for ensuring water tightness. The rates for concrete shall include for formwork and curing with water for required period.

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- 10.2 The rate shall include for forming holes for concreting, grouting and making good, to pipes, fittings, and fixing bolts etc. to be supplied by the Contractor for a complete installation.
- 10.3 No payment will be made for costs incurred in alteration or cutting out of sub-standard concrete because of inaccuracies in any site testing or measuring equipment, or for any other reasons and no payment will be made for reconstructing the faulty work.
- 10.4 The rates for concrete shall cover all costs involved in making finished concrete of required specifications including curing work.
- 10.5 No deduction in the measurement of concrete is made for chamfers, boltholes, rails, joists or reinforcement for pipes and holes with an area of less than 2 sft. (0.186 Cu m) except for concrete surround to pipes.
- 10.6 The rates for pre-cast concrete items shall include the provision of samples for testing.
- 10.7 The concrete rates shall include for all materials and labor in erecting formwork and moulds for all necessary strutting, supports, props, cleats and bearings, cleaning holes and cleaning for easing, striking around pipes, steelwork and cleaning fittings; ends & intersections. Their proper design and the calculations shall be made available to the Engineer upon request.
- 10.8 The rates for steel reinforcement shall include for providing reinforcement fixed in place in accordance with the drawings including all reinforcing bars, wire or other material for binding or supporting the bending, hooking, wire brushing and all other work in providing, and fixing the reinforcement. The rates also include for displacing and cutting reinforcing bars at all openings for pipe work, providing block out in concrete walls for installation of pipes.
- 10.9 The weights of steel reinforcement given in the Bill of Quantities are net and no extra weight will be allowed for mill tolerance, which shall be allowed for by the Contractor in his prices.
- 10.10 The rates for concrete blinding shall be fully inclusive of screening the surface to the lines and levels ordered by the Engineer for providing all formwork etc.

11. CONSTRUCTION WORKS

- 11.1 The rates for masonry work shall include for building to the specified bond, building in wall ties, cutting, forming Joints as the work proceeds, scaffolding, protection and cleaning and forming openings and building in all pipes, fixtures and the like.
- 11.2 The Contractor in his price shall include for all necessary temporary wood and other screeds, stops. dressing around installation already completed etc., and making good cracks, blow holes or other defects.

12. SITE WORK AND BUNDS

The rate for construction of bunds and embankments shall include.

- 12.1 Transportation of earth from excavation / temporary dumps any where on the site of works and approved borrow areas.
- 12.2 Forming the embankment in layers to regular slopes or shops specified on the drawing up to required level.
- 12.3 Compaction of each layer including water, scarifying.
- 12.4 Control of moisture content including dewatering in borrow areas to achieve the required degree of compaction and rolling.
- 12.5 Pumping or dewatering the sub-soil or any other water met with during excavation or making embankment.

13. AS BUILT DRAWINGS

After completion of the Contract Works, the Contractor, at no extra cost, shall provide two copies of all drawings, correctly modified as final as-built drawings. These shall be submitted to the Engineer for approval before taking over of entire Contract Works and shall be a complete record of work, carried out by the Contractor. After approval the Contractor shall submit one complete set of drawings on tracing paper and five set of all record drawings along with a set of drawings on CD.

The rate of surface excavation shall include all works described in the Section-1 of specification under excavation including fully stripping and setting a side separately top soil.

No separate payment shall be made for construction of access approach if required for transport of earth or any other material.