

# **TENDER DOCUMENT**

Replacement of existing 150 mm dia ESR rising main by D.I [K-9] pipe having same dia from N.C Pal Pool to BISCO more of Jhorehat G.P under Sankrail Zone-II (N C Pal) FAWS scheme.

**e – NIT NO: 03/EE/O&M-IA/W&S/KMDA OF 2025-2026,  
Dated – 08.04.2025**

**CODE NO : O&M -131**

## **VOLUME-I& II**

**KOLKATA METROPOLITAN DEVELOPMENT AUTHORITY  
OFFICE OF THE EXECUTIVE ENGINEER  
DIVISION-O&M-IA, W&S SECTOR, KMDA  
HOWRAH:**



## SECTION - A

### 1.0 GENERAL

The work involves “Replacement of existing 150 mm dia ESR rising main by D.I [K-9] pipe having same dia from N.C Pal Pool to BISCO more of Jhorehat G.P under Sankrail Zone-II (N C Pal) FAWS scheme.”

### 2.0 LOCATION

O&M-IA FAWS Scheme Area

### 3.0 WORK UNDER THIS TENDER

The work shall comprise off,

- a. Replacement of 150 mm dia ESR rising main by 150mm dia D.I (K-9) pipeline.
- b. Supply of all labour, tools & tackles, instruments, equipment, accessories, pump etc as & when required to complete the job in such a manner as specified to the entire satisfaction of the E.I.C.

#### Works to be carried out with followings items: ---

Cutting & picking up existing metallised black top portion of road surface to an average depth of 300 mm by using Jack hammer with all necessary tool and plant including reining the serviceable materials & stacking within a lead of 75 mtr. all complete as per direction of the Engineer-in- Charge.

Hire and labour charges for 75mm dia. Bamboo railing on Jhou / Eucalyptus or other approved timber/ bamboo posts 1.4m above G.L. and 0.6m below G.L. including tying strongly with coir ropes & boring holes for posts in any soils / concrete surface / Bituminous surface packing the sides etc. including cost of carriage of all materials and labour complete including cost of restoration to the damages of the ground to its original condition as per direction of the E.I.C. after removing the barricade. (Cost of restoration would be paid separately)

- a) 75mm dia bamboo railing and 100mm dia bamboo posts @1.40m apart.
- (i) Railing with 3rows.
- 150 mm dia Pipe

Earthwork in excavation of foundation trenches or drains,in all sorts of soil (including mixed soil but excluding laterite or sandstone) including removing, spreading or stacking the spoils within a lead of 75m as directed. The item includes necessary trimming the sides of trenches, leveling, dressing and ramming the bottom, bailing out water as required complete.

- (a) Depth of excavation not exceeding 1500 mm.

Cutting of C.I./D.I. pipes for fitting with pipes and/or specials of similar or dissimilar materials at the time of laying without damaging any part of the required length including taking out of the broken pieces from the trench and restacking the same at the specified location as per direction of the Engineer-in-Charge.

Taking out CI/DI pipes with specials and valves including stacking the same within a lead of 30m as per instruction of Engineer in charge.(Excavation, dewatering earth filling etc will be paid seperately)

- a) Pipe upto 150 mm dia and depth of trench upto 2.0m

c) Pipe above 150 mm diameter and up to 250 diameter Depth of trench up to 2 Metre
All types of Ductile Iron (D.I) Specials (viz. Bend. Tee. Taper. Tail piece etc), size conforming to I.S. Specification No. 9523/2000 with cement mortar lining (inside) and bituminous coating (outside). (25% of payment will be held up till successful hydraulic testing) (i) Flanged Tee (80 mm to 300 mm)
(ii) Double Flanged Bend (80 mm to 300 mm)
Lowering any type of Ductile Iron (DI) pipes & specials and laying along trench at any depth as per specification and direction of the Engineer-in-charge, (laying over ground. the rates shall be, reduced by 10% and the rates so reduced shall be inclusive of cost of all sorts of holding arrangements]
Supply of Single/Double bit SBR gasket suitable for jointing CI/DI pressure pipes, conforming to IS : 5382 : 1985 (i) 150 mm
Rubber gasket joints to C.I./D.I. pipes and specials all complete to makes the joint water tight as required hydraulic pressure as per specification and direction of the Engineer-in-Charge. i) 150 mm
Supplying, fitting and fixing of C.I. Mechanical Compression flexible Collar Couplings suitable for C.I. Spun Pipes (as per IS: 1536) and D. I. Pipes (as per IS: 8329) complete with Sealing Rubber Gasket of EPDM quality (IS:5382/1985 Type - 4), Cast Iron Follower Glands and Mild Steel Nut Bolts (Zinc Coated). The whole assembly should be mechanically and hydraulically tested to the provisions as laid down in IS: 1538. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.
Filling the trenches with silver sand in layers not exceeding 150mm as directed and consolidating the same by through with water ramming complete including cost of supply of sand.
Earth Work in filling in foundation trenches or plinth with good earth in layers not exceeding 150 mm including watering and ramming etc. layer by layer complete (payment to be made on measurement of finished quantity of work) (a) with earth obtained from excavation of foundation.
Brick soling with picked jhama bricks including preparation of bed as necessary with brick joints properly filled in and packed with powdered earth and including necessary cushion of similar material below the soling (and in between layers when more than one layer is used) completes as per direction. c) Soling or dry pavement with one brick-on-edge on a layer of brick flat (thickness 125 mm. plus 75 mm.)
Hire charges for engaging Air Compressor machine with minimum pressure capacity of 5.0 Kg/sq.cm arrangement including all necessary equipments and operating staff, carriage, fuel, Tools and plants all complete for cutting Road / hard crust cutting with pneumatic hammer at desired point in water supply works as per direction of EIC . a) With Pneumatic hammers for minimum engagement of 8 hrs. in a day.
Removal of rubbish, earth etc.from the working site and disposal of the same beyond the compound, in conformity with the municipal corporation rules for such disposal, loading into truck and cleaning the site in all respect as per direction of EIC.
Dewatering by pumps including all leads lifts & making arrangements of disposal where continuous flow of water from a source other than natural or ground water encountered in case of emergency maintenance work related to leakage as breakage and making wet connection.
Hire charges of lighting generator of capacity 5KVA including fuel, mobil,operator, carriage etc. including all complete for water supply works. For minimum engagement of 8 hrs. in a day.
Supply and delivery of CIDF sluice valve(Special type)PW-1.00 of different dia make with CI double flanged non rusting spindle sluice valves conforming to IS14846-2000 with latest emended having body dome/bonnet and cover of C.I.Gr-F.G210mtr. spindle of IS-6603 G.R 12/Gr-13 non-magnetic,nuts seat rings are of Gunonetal as per IS:318LTB-2 flanges and drilled to IS:1538 Part IV &VI valves are suitable for max. working pressure of 10kg/cm2 (seat test) and body tested to 15kg/cm2. (i) 150 mm dia.
Construction of different dia Sluice valve /Air valve /Washout chamber in different sizes for village road where light traffic run and for main road where heavy traffic run as depts.approved drawing with 25cm

thick brick work (1:6) over cement concrete (4:2:1) over a single B/F soling over 150mm. thick sand filling in foundation including earth work in excavation and disposal of excess earth from work site with RCC (1:1.5:3) cover slab 100mm / 150mm thick slab on top of chamber with 1% reinforcement in RCC cover slab with necessary opening for operation of valve all complete including cost of labour & materials as per Departmental Dwg. [Reinforcement type:- Other manufacturers not specified]

Supply and delivery (at site) of DI pipes conforming to IS 8329: 2000.

- A) Class K-9
- (i) 150 mm dia

**Executive Engineer (Division-O&M-IA)  
W&S Sector / KMDA.**

#### **4.0 SCOPE OF WORK-**

1. The Tenderer is advised to go through the documents meticulously and prepare tender on the basis of the data made available. In case of any doubt about any data the Tenderer may contact the **Executive Engineer (Division-O&M-IA), W&S Sector / KMDA** before submission of the tender.

All working personnel engaged by the contractor shall have required qualifications and experiences. All personnel so deployed by the contractor for the job shall be under the direct control and pay roll of the contractor and shall be considered as their own men for the specific period of contract. The contractor, under any circumstances, shall not try to evade any of the regulatory responsibilities of their working personnel. In case of failure to fulfil any regulatory obligations of their working personnel on the part of the contractor, the department will be at liberty to take actions as EIC will consider it necessary.

The contractor shall pay to his working personnel for the contract suitably, but not less than the rates of the daily minimum wages rate, as computed there-of, declared by the Labour Department, Govt. of West Bengal from time to time, for such schedule of categories of working personnel.

The contractor shall pay to his working eligible personnel the yearly Bonus also.

All such records / documents shall be maintained by him properly as per prevalent rules and shall be produced against call from the department. Failure to produce any document against call from the department shall be construed as a breach of contract and automatically make himself liable for imposition of legal clauses as per the contract.

The successful bidder has to further furnish one letter of Indemnification at the time of execution of contract in the following line "In case KMDA suffer any loss or damage or obliged to pay such outstanding payment, in that event the successful bidder shall make good loss to KMDA arising out of such non payment of statutory payments in time". The stated indemnification shall be furnished in stamp paper of Rs. 100/- only.

**Executive Engineer (Division-O&M-IA)  
W&S Sector / KMDA.**

## SECTION - B

### General Conditions of Contract

#### 1. DEFINITIONS AND INTERPRETATION

- (1) In the Contract, as hereinafter defined, the following words and expressions shall have to be meanings hereby assigned to them, except where the context otherwise requires:
- (a) **"Approved"** means approved in writing, including subsequent written confirmation of previous verbal approval and "approval" means approval in writing, including as aforesaid.
  - (b) **"Authority"** means the Kolkata Metropolitan Development Authority.
  - (c) **"Bank"** means the "State Bank of India" or any other Scheduled Bank.
  - (d) **"Calendar day"** means a period of twenty four hours extending from midnight to midnight.
  - (e) **"Cash"** includes cheque, bank drafts and any other payment voucher authorising payment from any bank or treasury;
  - (f) **"Contractor"** means the person or persons, firm or corporation who have entered into the contract for the performance of the work;
  - (g) **"Contract price"** means the sum as stated in the tender submitted by the contractor subject to such additions thereto or deductions therefore as may be made under the provisions of the contract documents and accepted by the Employer.
  - (h) **"Constructional Plant"** means all appliances or a thing of whatsoever nature required in or about the execution or maintenance of the works but does not include materials or other things intended to form or forming part of the permanent works.
  - (i) **"District"** or "Kolkata Metropolitan District" means the area described as such in Schedule-I of The Act;
  - (j) **"Drawings"** means the drawings referred to in the tender documents and any modification of such drawings approved in writing by the Superintending Engineer and such other drawings as may from time to time be furnished or approved in writing by the Superintending Engineer.
  - (k) **"Employer"** means the Calcutta Metropolitan Development Authority (or KMDA in abbreviation) acting through the Superintending Engineer who enters into contract with the Contractor.
  - (l) **"Engineer"** or "Engineer Officer" means the Chief Engineer and includes a Superintending Engineer or an Executive Engineer or any other officer to whom the "Engineer" or the "Engineer Officer" may delegate his Authority in waiting.
  - (m) **"Engineer's Representatives"** means any resident Engineer or Assistant of the Engineer or any Clerk of works appointed from time to time by the Employer or the Engineer to perform the duties set forth in Clause 2 hereof, whose authority shall be notified in writing to the Contractor by the Engineer;
  - (n) **"Ground Level"** means the level of the referred point of the exposed surface of the ground, road or pavement free from extraneous materials;

- (o) **"Holidays"** means a public holiday for the purpose of Section 25 of the Negotiable Instruments Act, 1881 or such other day on which the office of the Authority remains closed for the day;
  - (p) **"Local Authority"** not only means a Municipal Corporation or Municipality or other authority legally entitled to the control or manage local funds but also includes the Calcutta Port Trust and Calcutta Electric Supply Corporation;
  - (q) **"Month"** means English calendar month;
  - (r) **"Permanent Works"** means the permanent works including equipment to be supplied, executed, erected and maintained in accordance with the Contract;
  - (s) **"Road"** shall include a street, avenue, lane, by-lane or any other access routes over which a person authorised by a Local Authority has a right of way;
  - (t) **"Rupees"** (or Rs. in abbreviation) shall mean Rupees in Indian Currency.
  - (u) **"Site"** means the land and other placed on, under in or through which the permanent. Works or Temporary Works are to be executed and any other lands and places provided or arranged by the employer for working space or any other purpose as may be specifically designated in the Contract as forming part of the Site.
  - (v) **"Specification"** means the specification referred to in the Tender and any modification thereof or addition thereto as may from time to time be furnished or approved in writing by the Engineer.
  - (w) **"Store"** means such storage areas including depot, go-down, stockyard, dumping yard etc. maintained by the Authority or where supply of any material for the construction or any work has been undertaken by any authorised agent, by such agent within the District.
  - (x) **"Temporary Works"** means all temporary works of every kind required in or about the execution or maintenance of the Permanent Works.
  - (y) **"Tender Date"** means the closing date fixed for receipt of tenders as per Notice Inviting E-Tenders or as extended by subsequent notification(s).
  - (z) **"Tenderer"** means the person, or persons, firm or corporation submitting a tender for the work contemplated either directly or through a duly authorised representative;
  - (z-i) **"The Act"** means the Kolkata Metropolitan Development Authority Act.
  - (z-ii) **"Time"** expressed by hours of the clock shall be according to the Indian Standard Time.
  - (z-iii) **"Water main"** means any pipe or conduit of cast iron, steel or of any other material intended to convey or distribute water;
  - (z-iv) **"Works"** shall include both Permanent Works and Temporary Works.
  - (z-v) **"Work"** means all of the work of the project called for or shown in the tender documents including preparation, construction, improvement and clean up.
- (2) **Singular and Plural** – Works importing the singular only also include the plural and vice versa where the context demands.

- (3) **Headings or Notes** – The headings and marginal notes in these Conditions of Contract shall be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.
- (4) **Cost** – The work "cost" shall be deemed to include overhead costs whether on or off the Site.
- (5) **Period of completion** – The period of completion shall be **21 days** from the date of work order.

## **2. ENGINEER AND ENGINEER'S REPRESENTATIVE**

- (1) **Duties and Powers of Engineer and Engineer's Representative** – The Engineer shall carry out such duties in issuing decisions, certificates and orders as are specified in the Contract. Fixation and acceptance of rates for altered or substituted items of work or for additional items of work or their deletion shall however always rest with the same authority (by designation) as had accepted the original Tender.
- (2) **The Engineer's Representative** shall be responsible to the Engineer and his duties are to watch and supervise the Works and to test and examine any materials to be used or workmanship employed in connection with the works. He shall have no authority to relieve the Contractor of any of his duties or obligations under the Contract, not, except as expressly provided hereunder or elsewhere in the Contract, to order any work involving delay or any extra payment by the Employer, nor to make any variation of or in the Works.

The Engineer may from time to time in writing delegate to the Engineer's Representative any of the power and authorities vested in the engineer and shall furnish to the Contractor and to the Employer a copy of all such written delegations of Power and authorities. Any Written instructions or approval given by Engineer's representative to the contractor within the terms of such delegation, but not otherwise, shall bind the Contractor and the Employer as though it had been given by the Engineer. Provided always as follows:

- (a) Failure of the Engineer's Representative to disapprove any work of materials shall not prejudice the power of the Engineer thereafter to disapprove such work or materials and to order the pulling down, removal of breaking up thereof.
- (b) If the Contractor shall be dissatisfied by reason of any decision of the Engineer's Representative he shall be entitled to refer the matter to the Engineer, who shall thereupon confirm, reverse or vary such decision.

## **ASSIGNMENT AND SUB LETTING**

### **3. ASSIGNMENT**

The Contractor shall not assign the Contract or any part thereof, or any benefit or interest therein or there Sunder, otherwise than a change in the Contractor's bankers of any money due or to become due under this contract, without the prior written consent of the Employer.

### **4. SUB-LETTING**

The Contractor shall not sub-let the whole of the Works. Except where otherwise provided by the Contract, the Contractor shall not sublet any part of the Works without the prior written consent of the Engineer, which shall not be unreasonably withhold and such consent, if given, shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of the said sub-contractor including his agents, servants or

workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents, servants or workmen, provided always that the provision of labour on a piece-work basis shall not be deemed to be a subletting under this clause.

**5. CONTRACT DOCUMENTS**

- (1) (a) **Language** – The Contract documents shall be drawn up in the English language. All correspondence, orders, notices etc. shall also be in English.
- (b) **Law** – The law of India and of the State of West Bengal shall apply to the Contract and the Contract is to be construed accordingly.

- (2) **Documents Mutually Explanatory** – The several documents forming the Contract are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies the same shall be explained and adjusted by the Employer, in terms of the provisions in Clause B-30 in Page B9 of the Conditions and Requirements for Tendering, who shall thereafter issue to the Contractor instructions thereon. Provided always that if, in the opinion of the Engineer, compliance with any such instructions shall involve the Contractor in any cost, which by reason of such ambiguity or discrepancy could not reasonably have been foreseen by the Contractor, the Engineer shall certify and the Employer shall pay such additional sum as may be reasonable to cover such costs.

- 6. (1) **Custody of drawing** – All the approved Drawings shall remain in the sole custody of the Engineer, but two copies thereof shall be furnished to the Contractor free of charge. The Contractor shall provide and make at his own expenses any further copies required by him. At the Completion of the Contract, the Contractor shall return to the Engineer all drawings as provided under the Contract.
- (2) **One copy of drawings to be kept at site** – One copy of the Drawings furnished to the Contractor as aforesaid, shall be kept by the Contractor on the site and the same shall at all reasonable times be available for inspection and use by the Engineer and the Engineer's Representative and by any other persons authorised by the Engineer in writing.
- (3) **Disruption of progress** – The Contractor shall give written notice to the Engineer whenever planning or progress of the works is likely to be delayed or disrupted unless any further approval of drawing or order, including a direction instruction or approval, is issued by the Engineer within a reasonable time. The notice shall include details of the drawing or order required, and of why and by whom it is required and of any delay or disruption likely to be suffered if it is further delayed.

**7. FURTHER DRAWINGS**

The Engineer shall have full power and authority to supply to or demand from the Contractor, from time to time, during the progress of the Works, such further drawings as shall be necessary for the purpose of the proper and adequate execution and maintenance of the Works. The Contractor shall carry out and be bound by the same. Adequacy as determined by the Employer shall be final and binding on the Contractor.

**8. GENERAL OBLIGATION**

- (1) **Contractor's General Responsibilities** – The Contractor shall, subject to the provision of the Contract, and with due care and diligence, execute and maintain the Works and supply all labour, including the supervision thereof, materials, equipment, Constructional Plant and machinery, tools and all other



things whether of a temporary or permanent nature, required for such execution and maintenance, so far as the necessary for providing the same is specified in or is reasonably to be inferred from the Contract.

The Contractor shall take full responsibility for the adequacy, stability and safety of all site operations and methods of construction, erection etc. provided that the Contractor shall not be responsible, except as may be expressly provided in the Contract, for the design or specification of the Permanent Works, or for the design or specification of any Temporary Works prepared by the Engineer.

## **9. CONTRACT AGREEMENT**

The Contractor shall, when called upon to do so, enter into and execute a Contract Agreement, to be prepared and completed in the form annexed with such modification as may be necessary.

## **10. GUARANTEE**

The contractor shall stand guarantee **for 12 months after completion of the work** and shall within the O&M period, remove/rectify/make good any such deficiency forthwith at his own cost. During the guarantee period the firm's representative shall visit the site once in a month and advise in writing the Engineer-in-Charge about the condition, state of health, operation and maintenance procedure of the equipment.

The successful Tenderer shall also give the following guarantee in respect of the equipment supplied by him.

- i) All equipment shall be free from any defects due to faulty design of the components, materials and/or workmanship
- ii) The equipment shall operate satisfactory. The performance and efficiency shall not be less than guaranteed values.
- iii) Formal acceptance of the work or equipment covered under the contract will not be made by the Engineer until all the work done by the contractor has satisfactorily passed all tests required and run for a reasonable period to his satisfaction.

If during testing of work, including equipment prior of formal acceptance, the same or the material thereof should fail in respect of meeting the specification guaranteed or otherwise the Contractor shall replace all such equipment etc. in a condition which will meet the guaranteed performance and be upto the specification, in both material and workmanship.

Any such work shall be carried out by the contractor at his own expense, if such work shall, in the opinion of the Engineer-in-Charge, be necessary due to the use of materials or workmanship not in accordance with the contract and/or to the neglect or failure on the part of the contractor to comply with any obligation expressed or implied on the contractor's part under the contract. If the contractor shall fail to do any such work as per aforesaid requirement of the Engineer-in-Charge, the Employer shall be entitled to have such work carried out by its own workman, or by others hired for the purpose, and if such work is in the opinion of the Engineer-in-Charge in which the contractor should have carried out at the contractor's own cost, the department shall be entitled to recover from the contractor the cost deemed fit together with the cost increased for the purpose and may deduct the same from any money due to or that may become due to the Contractor.

**11. INSPECTION OF SITE**

The Employer shall have made available to the Contractor with the Tender documents such data on different levels, its location, distance from fixed point including the layout drawing and location of the primary grid point, the source of filling the reservoir and the Tender shall be deemed to have been based on such data. But the Tenderer shall be responsible for his own interpretation thereof. The Tenderer may also undertake investigations at his own cost on such levels or any other levels prior to submission of his offer.

The Tenderer shall also be deemed to have inspected and examined the site and its surroundings and information available in connection therewith and to have satisfied himself, so far as is practicable, before submitting his Tender, as to the form and nature thereof, including the sub-surface conditions, the hydrological and climatic conditions, the extent and nature of work and materials necessary for the completion of the Works, the means of access to the Site and the accommodation he may require and, in general shall be deemed to have obtained all necessary information, subject as above mentioned, as to risks, contingencies and all other circumstances which may influence or affect his Tender.

**12. SUFFICIENCY OF TENDER AND ADVERSE PHYSICAL CONDITIONS, ARTIFICIAL OBSTRUCTIONS**

The Tenderer shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his Tender for the Works and of the rates and prices quoted in the Schedule of prices, which Tender rates and prices shall, except in so far as it is otherwise provided in the Contract, cover all his obligations under the Contract and all matters and things necessary for the proper execution and maintenance of the Works. If, however, during the execution of its Works the Contractor shall encounter physical conditions, other than Climatic conditions on the Site, or artificial obstructions, which conditions or obstructions could, in his opinion, not have been reasonably foreseen by an experienced contractor, the Contractor shall forthwith give written notice thereof to the Engineer and if, in the opinion of the Engineer, such conditions or artificial obstructions could not have been reasonably foreseen by an experienced contractor, then the Engineer shall certify and the Employer shall pay the additional cost to which the Contractor shall have been put by reason of such conditions, including the proper and reasonable cost.

- a) Of complying with any instruction which the Engineer may issue to the Contractor in connection therewith, and
- b) Of any proper and reasonable measures approved by the Engineer which the Contractor may take in the absence of specific instructions from the Engineer, as a result of such conditions or obstructions encountered.

**13. WORK TO BE THE SATISFACTION OF ENGINEER**

Save in so far as it is not legally or physically impossible, the Contractor shall execute and maintain the Works in strict accordance with the Contract to the satisfaction of the Engineer and shall comply with and adhere strictly to the Engineer's instructions and directions on any matter whether mentioned in the Contract or not touching or concerning the Works. The Contractor shall take instructions and directions only from the Engineer or, subject to the limitations referred in Clause 2 hereof, from the Engineer's Representative.

- 14. (1) **Programme to be furnished** – Within ten(10) calendar days, the Contractor shall, after the acceptance of his Tender, submit to the Engineer for his approval a programme showing the order of procedure in which he proposes to carry out the Works. The Contractor shall, whenever required by the Engineer

or Engineer's Representative, also provide in writing for his information; general description of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works.

- (2) If at any time it should appear to the Engineer that the actual progress of the Works does not conform to the approved programme referred in sub-clause (1) of this Clause, the Contractor shall produce, at the request of the Engineer, a revised programme showing the modifications to the approved programme necessary to ensure completion of the Works within the time for completion as defined in Clause 42 hereof.
- (3) The submission to and approval by the Engineer of such programmes or the furnishing of such particulars shall not relieve the Contractor of any of his duties or responsibilities under the Contract.

## **15. CONTRACTOR'S SUPERINTENDENCE**

The Contractor shall give or provide all necessary superintendence during the execution of the Works and as long thereafter as the Engineer may consider necessary for the proper fulfilling of the Contractor's obligations under the Contract. The Contractor or a competent and authorised agent or representative approved of in writing by the Engineer, which approval may at any time be withdrawn, is to be constantly on the Works and shall give his whole time to the Superintendence of the same. If such approval be withdrawn by the Engineer, the Contractor shall, as soon as is practicable, having regard to the requirement of replacing him as hereinafter mentioned, after receiving written notice of such withdraw, remove the agent from the works and shall not thereafter employ him again on the Works in any capacity and shall replace him by another agent approved by the Engineer. Such authorised agent or representative shall receive, on behalf of the Contractor, direction and instruction from the Engineer or, subject to the limitations of Clause 2 hereof, the Engineer's Representative. The agent or representative of the Contractor must be able to speak and communicate in English/Bengali. In the absence of the Contractor's designated agent or representative for a particular operation on any site of the works the Contractor's supervisory staff or sub-agent or leading hands shall be instructed to receive and carry out any instruction or direction issued or given by the Engineer or the Engineer's Representative.

16. (1) **Contractor's Employees** – The Contractor shall provide and employ on the Site in connection with the execution and maintenance of the Works.
  - a) Such technical assistants as are skilled and experienced in their respective calling and such sub-agents, foreman and leading hands as are competent to give proper supervision to the work they are required to supervise, and
  - b) Such skilled, semi-skilled and unskilled labour as is necessary for the proper and timely execution and maintenance of the Works.
  - c) Employees covered under (a) and (b) may have to be provided with identity cards as specified by the engineer.
  - d) Contractor shall provide sufficient qualified technical personnel (to be employed under the firm for at least 2 consecutive years) with sound knowledge and experience in execution of similar nature of works
- (2) The Engineer shall be at liberty to object to and require the Contractor to remove forthwith from the Work any person employed by the Contractor in or about the execution or maintenance of the Works who, in the opinion of the Engineer, misconducts himself, or is incompetent or negligent in the proper

performance of his duties, or whose employment is otherwise considered by the Engineer to be undesirable and such person shall not be again employed upon the Works without the written permission of the Engineer. Any person so removed from the Works shall be replaced as soon as possible by a competent substitute approved by the Engineer.

## **17. SETTING-OUT**

The Contractor shall be responsible for the true and proper setting-out of the Works in relation to original points, lines and levels of reference given by the Engineer in writing and for the correctness, subject as above mentioned, of the position levels, dimensions and alignment of all parts of the Works and for the provision of all necessary instruments, appliances/and labour in connection therewith. If, at any time during the progress of the Works, any error shall appear or arise in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required to do so by the Engineer or the Engineer's Representative, shall at his own cost, rectify such error to the satisfaction of the Engineer or the Engineer's Representative, unless such error is based on incorrect data supplied in writing by the Engineer, in which case the expense of rectifying the same shall be borne by the Employer. The checking of any setting-out or of any line or level by the Engineer or the Engineer's Representative shall not in any way relieve the Contractor of his responsibility for the correctness thereof and the Contractor shall carefully protect and reserve all bench-marks, sight trails pegs and other things used in setting out the Works.

## **18. WATCHING AND LIGHTING**

*The contractor shall in connection with the works provide and maintain at his own cost all light, guards, fencing, as and when/where necessary or as required by the Engineer or the Engineer's Representative, for the protection of the works, or for the safety and convenience of the existing plant, contractor's employees, employees supervisor or for any other reason deemed fit by the Engineer.*

19. (1) **Care of works** – From the commencement of the Works until the date stated in the Certificate of Completion for the whole of the Works, pursuant to Clause 47 hereof, the Contractor shall take full responsibility for the care thereof. Provided that if the Engineer shall issue a Certificate of Completion in respect of any part of the Permanent Works, the Contractor shall cease to be liable for the care of that part of the Permanent Works (O&M not counted) from the date stated in the Certificate of Completion in respect of that part and the responsibility for the care of that part shall pass to the Employer. The Contractor shall take full responsibility for the care of any outstanding work which he shall have undertaken to finish during the period to Maintenance. Certificate of completion will not be provided until such outstanding work is completed. In case any damage, loss or injury shall happen to the Works, or to any part thereof, from any cause whatsoever, save and except the excepted risks as defined in sub-clause (2) of this Clause, while the Contractor shall be responsible for the care thereof the Contractor shall, at his own cost, repair and make good the same, so that at completion the permanent Works shall be in good order and condition and in conformity in every respect with the requirements of the Contract and the Engineer's instructions. In the event of any such damage, loss or injury happening from any of the excepted risks, the Contractor shall, if and to the extent required by the Engineer and subject always to the provisions of Clause 62 hereof, repair and make good the same as aforesaid at the cost of the Employer. The Contractor shall also be liable for any damage to the Works occasioned by him in the course of any operations carried out by him for the purpose of completing any outstanding works or complying with his obligations under Clause 48 or 49 hereof.

- (2) **Expected Risks** – The 'excepted risks' are war, hostilities, invasion, act of foreign enemies, rebellion, revolution insurrection or military or usurped power, civil war or unless solely restricted to employees of the Contractor or of his sub-contractors and arising from the conduct of his workers, riot commotion or use or occupation by the Employer of any part of the Permanent Works, or a cause solely due to the Engineer's design of the Works, or ionising radiations or contamination by radio-activity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel, radio-active toxic explosive, or other hazardous properties of any explosive, nuclear assembly or nuclear component thereof, pressure waves cause by aircraft or other aerial devices travelling at sonic or supersonic speeds, or any such operation of the force of nature as an experienced contractor could not foresee, or reasonably make provision for or insure against all of which are herein collectively referred to as "the excepted risks."

## **20. INSURANCE OF WORKS, ETC.**

Without limiting his obligations and responsibilities under Clause 19 hereof the Contractor shall insure in the names of the Employer and the Contractor against all loss or damage from whatever cause arising, other than the excepted risks, for which he is responsible under the terms of the Contract and in such manner that the Employer and Contractor are covered for the period stipulated in Clause 19(1) hereof and are also covered during the Period of Guarantee for loss or damage arising from a cause, occurring prior to the commencement of the Period of Guarantee, and for any loss or damage occasioned by the Contractor in the course of any operations carried out by him for the purpose of complying with his obligations under Clause 48 or 49 hereof.

- a) The Works for the time being executed to the estimated current contract value thereof together with the materials for incorporation in the Works at the replacement value.
- b) The Constructional Plant and other things brought on the Site by the Contractor to the replacement value of such Constructional Plant and other things. These shall include materials belonging to the employer but issued to or intended to be issued to the Contractor for use in the Works. Such insurance shall be effected with an insurer and in terms approved by the Employer, which approval shall not be unreasonably withheld, and the Contractor shall, whenever required, produce to the Engineer or the Engineer's Representative the policy or policies of insurance and the receipts for payment of the current premiums.

21. (1) **Damage to persons and property** – The Contractor shall, except if and so far as the Contract provides otherwise, indemnify the Employer against all losses and claims in respect of injuries or damage to any person or material or physical damage to any property whatsoever which may arise out of or in consequence of the execution, operation and maintenance of the Works and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto except any compensation or damages for or with respect to :

- a) The permanent use or occupation of land by the Works or any part thereof.
- b) The right of the Employer to execute the Works or any part thereof on over under, in or through any land.
- c) Injuries or damage to persons or property which are the unavoidable result of the execution, operation or maintenance of the Works in accordance with the Contract.

- d) Injuries or damages to persons or property resulting from any act or neglect of the Employer, his agents, servants or other contractors, not being employed by the Contractor, or for or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or where the injury or damage was contributed to by the Contractor, his servants or agents such part of the compensation as may be just and equitable having regard to the extent of the responsibility of the Employer, his servant or agents or other contractors for the damage or injury.
- (2) **Indemnity or Employer** – The Contractor shall indemnify the Employer against all claims, proceedings, damages, costs charges and expenses in respect of the matters referred to in the provision to sub-clause (1) of this Clause.
22. (1) **Third Party Insurance** – Before commencing the execution of the Works the Contractor, but without limiting his obligations and responsibilities under Clause 21 hereof, shall insure against his liability for any material or physical damage, loss or injury which may occur to any property, including that of the Employer, or to any person, including any employee of the Employer, by or arising out to the execution of the Works or in the carrying out of the Contract, otherwise than due to the matters referred to in the proviso to Clause 21 (1) hereof.
- (2) **Minimum Amount of third party insurance** – Such insurance shall be affected with an insurer and in terms approved by the Employer, which approval shall not be unreasonably withheld, and for an least the amount started in the Appendix to the Tender. The Contractor shall, whenever required, produce to the Engineer or the Engineer's Representative the policy or policies or insurance and the receipts for payment of the current premium. However, the Tenderer should insure for an amount commensurate with the risk involved subject to the minimum amount prescribed elsewhere in the Tender.
- (3) **Provision to indemnify Employer** – The terms shall include a provision whereby, in the event of any claim in respect of which the Contractor would be entitled to receive indemnity under the policy being brought or made against the Employer, the insurer will indemnify the Employer against such claims and any costs, charges and expenses in respect thereof.
23. (1) **Accident or injury to Workmen** – The Employer shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workman or other person in the employment of the Contractor or any sub-contractor, save and except an accident or injury resulting from any act or default of the Employer, his agents, or servants. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, save and except as aforesaid, and against all claims, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.
- (2) **Insurance Against Accident, etc., to workmen** – The Contractor shall insure against such liability with an insurer approved by the Employer, which approval shall not be unreasonably withheld, and shall continue such insurance during the whole of the time that any person is employed by him on the works and shall, when required, produce to the Engineer or the Engineer's Representative such policy of insurance and the receipts for payment of the current premium. Provided always that, in respect of any person employed by any sub-contractor, the Contractor's obligation to insure as aforesaid under this sub-clause shall be satisfied if the sub-contractor shall have insured

against the liability in respect of such persons in such manner that the Employer is indemnified under the policy, but the Contractor shall require such sub-contractor to produce to the Engineer when required, such policy of insurance and the receipt for the payment of the current premium.

- (3) **Notification to insurer** – It shall be the duty of the Contractor to notify the insurers under any of the insurance referred to in Clause 20, 22 and 23 hereof any matter or count which by the terms of such insurance are required to be notified and the Contractor shall indemnify and keep indemnified the Employer against all losses, claims, demands, proceedings, costs, charges and expenses whatsoever arising out of or resulting from any default by the Contractor in complying with the requirements of this sub-clause whether as a result of the avoidance of such insurance or otherwise.
- (4) **All Insurances at Contractor's cost** – The insurances referred to in Clause 21, 22 & 23 hereof shall be entirely at the cost and expenses of the Contractor and be included within his rates.

#### **24. REMEDY ON CONTRACTOR'S FAILURE TO INSURE**

If the Contractor shall fail to effect and keep in force the insurance referred to in Clause 20, 22 and 23 hereof, or any other insurance which he may be required to effect under the terms of the Contract, then and in any such case the Employer may effect and keep in force any such insurance and pay such premium or premiums including fines as may be necessary for that purpose and from time to time and deduct double the amount so paid by the employer as aforesaid from any moneys due or which may become due to the Contractor or recover the same as a debt due from the Contractor.

- 25. (1) **Giving of Notices and Payment of Fees** – The Contractor shall give all notices and pay all fees required to be given or paid by any National or State Statute, ordinance, or other law, or any rules regulation, or bye-law of any local or other duly constituted authority in relation to the execution of the Works and by the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the Works.
- (2) **Compliance with Statutes, Regulations, etc.** – The Contractor shall conform in all respects with the provisions of any such Statute, Ordinance or Law as aforesaid and the Rules, regulations or bye-laws or any local or other duly constituted authority which may be applicable to the Works and with such rules and regulations of public bodies and companies as aforesaid and shall keep the Employer indemnified against all penalties, fines and liability of every kind for breach of any such Statute, ordinance of Law, regulation of bye law.

#### **26. FOSSILS, ETC.**

All fossils, coins articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site of the Works shall as between the Employer and the Contractor be deemed to be the absolute property of the Employer.

#### **27. PATENT RIGHTS AND ROYALTIES**

The Contractor shall save harmless and indemnify the Employer from and against all claims and proceedings for or on account of infringement of any patent, rights, design Trade mark or name or other protected right in respect of any Constructional Plant, machine works, or material used for or in connection with the Works or any of them and from and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof in relation thereto. Except where otherwise specified, the Contractor shall pay all tonnage and other

royalties, rent and other payments or compensations, if any, for getting stone, sand, gravel, clay or other materials or equipment required for the works or any of them.

**28. INTERFERENCE WITH TRAFFIC AND ADJOINING PROPERTIES**

All operations necessary for the execution of the Works shall, so far as compliance with the requirements of the Contract permits, be carried on so as not to interfere unnecessarily or improperly with the convenience of the existing plant workers, member of the public, or the access to use and occupation of public or private roads, railways and footpaths to or of properties whether in the possession of the Employer or of any other person or local authority.

29. (1) **Extraordinary Traffic** – The Contractor shall use every reasonable means to prevent any of the highways, railways or bridges communicating with or on the routes to the Site from being damaged or injured by any traffic of the Contractor or any of this sub-contractors and, shall select routes, choose and use vehicles and restrict and distribute loads so that any such extraordinary traffic as will inevitably arise from the moving of plant and material from and to the Site shall be limited, as far as reasonably possible, and so that no unnecessary damage or injury may be occasioned to such highways, railways and bridges.
- (2) **Special Loads** – Should it be found necessary for the Contractor to move one or more loads of Constructional plant, machinery or pre-constructed units or parts of units of work over part of a highway, railway or bridge, the moving whereof is likely to damage any highway, railway or bridge unless special protection or strengthening is carried out, then the Contractor shall before moving the load on to such highway, railway or bridge give notice to the Engineer or Engineer's Representative or the local authority of the weight and other particulars of the load to be moved and his proposals for protecting or strengthening the said highway, railway or bridge. Such proposals, including any modifications thereto that the Engineer or the local authority may require, shall be carried out by the Contractor at his own cost and expenses.
- (3) **Settlement of Extraordinary Traffic Claims** – If during the Carrying out of the Works damage or injury to railways, railway or bridge occurs due to moving of one or more loads of Constructional Plant machinery or pre-constructed units or parts of units of work, the Employer shall conduct the necessary investigation for the purpose of determining the Contractor's liability. If the damage is due to failure on the part of the Contractor to observe and perform his obligations under sub-clause (1) and (2) of this Clause then the restoration/repair of the damaged portion of road or structure certified by the Engineer or local authority to be due to such failure shall be undertaken by or be chargeable against the Contractor.
- (4) **Water-borne Traffic** – Where the nature of the Works is such as to require the use by the Contractor of water-borne transport the foregoing provisions of this Clause shall be construed as though "highway" included a lock, dock, sea wall or other structure related to a waterway and "vehicle" included craft, and shall have effect accordingly.
30. (a) **Restriction of Movements** - The work shall have to be executed within the protected area of existing water works. The existing rules and regulation related to ingress and egress of labour and material shall have to be followed strictly in consultation with and as per direction of the Engineer or the local authority as the case may be. No labour, Supervisor or Engineer of the contractor shall enter in-side the treatment plant pump house or any other existing installations without prior permission of concerned officers.



- (b) **Opportunities for other contractors** - The Contractor shall in accordance with the requirements of the Engineer, afford all reasonable opportunities for carrying out their work to any other contractors employed by the Employer and their workmen and to the workmen of the employer and of any other duly constituted authorities who may be employed in the execution on or near the Site of any work not included in the Contract or of any contract which the Employer may enter into in connection with or ancillary to the Works. If, however, the Contractor shall, on the written request of the Engineer or the Engineer's Representative, make available to any such other contractor, or to the Employer or any such authority, any roads or ways for the maintenance of which the Contractor is responsible, or permit the use by any such of the Contractor's scaffolding or other plant on the Site, or provide any other service of whatsoever nature, the Employer shall pay to the Contractor in respect of such use or service such sum or sums if at all as shall, in the opinion of the Engineer, be reasonable.

### **31. CONTRACTOR TO KEEP SITE CLEAR AND FREE OF WATER**

During the progress of the Works the Contractor shall keep the site reasonable free from all necessary obstruction and shall store or dispose of any Constructional Plant and surplus materials and clear away and remove from the Site any wreckage, rubbish or Temporary Works no longer required. No extra payment is made for pumping out of water from any nature of source, heavy rains or leakage of any nearby water mains at site.

### **32. CLEARANCE OF SITE ON COMPLETION**

On the completion of the Works the Contractor shall clear away and remove from the Site all Constructional Plant, surplus materials, rubbish and Temporary Works of every kind, and leave the whole of the Site and Works clean and in a workmanlike condition to the satisfaction of the Engineer.

### **33. LABOUR**

- (1) **Engagement of labour** – The Contractor shall make his own arrangements for the engagement of all labour, local or otherwise, and save in so far as the Contract otherwise provides, for the transport, housing, feeding and payment thereof.
- (2) **Supply of Water** – The Contractor shall, so far as is reasonably practicable having regard to local conditions, provide on the site, to the satisfaction of the Engineer's Representative, an adequate supply of drinking and other water for the use of the Contractor's staff and work people.
- (3) **Alcoholic Liquor or Drugs** – The Contractor or his workmen shall not consume or sale or gift or be under the influence of any drug/narcotics or Alcoholic liquor within the vicinity of the Construction site.
- (4) **Arms and Ammunition** – The Contractor shall not give, barter or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid.
- (5) **Festivals and Religious Customs** – The Contractor shall in all dealing with labour in his employment have due regard to all recognised festivals days of rest and religious or other customs.
- (6) **Epidemic** – In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities for the purpose of dealing with and overcoming the same.

- (7) **Disorderly Conduct etc.** – The contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst his employees or workers and for the preservation of peace and protection of persons and property in the neighbourhood of the Works against the same.
- (8) **Compliance with Laws, regulation etc. Relating to labour** – In respect of the engagement, employment, transport, payment, feeding, housing and working conditions of labour and all matters connected there with the Contractor shall at all times during the continuance of the Contract, comply in all respects with and carry out all obligations imposed on him by the provisions and requirements of the following statutes.
- (a) The Apprentices Act 1961 (Act 52 of 1961) and Rules and Regulations issued thereunder from time to time.
  - (b) The Contract Labour (Regulation and abolition) And 1970 (Act 37 of 1970) and Rules made thereunder (West Bengal Contract Labour Regulation and Abolition Rules 1972) from time to time.
  - (c) The Payment of Wages Act 1936, the Minimum Wages Act 1948, the Employees Liability Act 1938, the Industrial Disputes Act 1947, the Maternity Benefits Act 1961, the Employees State Insurance Act 1948 including modifications thereto the Rules and Regulations framed thereunder from time to time.
  - (d) Other existing National or State Statute, Ordinance or other Law or any Regulation or Bye-law of any local or other duly constituted authority which may be applicable, including any such Law, Regulation or Order that may be passed or ordered from time to time and come into force during the tenure of the Contract.
- (9) **Employees Provident Fund** – The Contractor shall comply with the provisions of the relevant Employees Provident Fund Act or Rules in force in the State along with the provisions of all rules and Regulations made thereunder from time to time, and shall in particular be responsible for the payment of all contributions as laid down under the Act/Rules.
- (10) **Trade union rights** – The Contractor shall recognise the freedom of all workmen employed by him in and for performance of the Contract to be members of registered Trade Unions and shall not in any manner prevent or discourage any such workman from becoming a member of a registered Trade Union or discriminate against any workmen who is a member of a registered Trade Union.
- (11) **Local Labour** – As far as possible local labour shall be engaged as unskilled labour.
- (12) **Fair Wages** – The Contractor shall in respect of all workmen employed by him in and for the performance of the Contract pay rates of wages and observe the conditions of employment not less favourable than those provided under the relevant labour law as applicable to the State.
- (13) **Medical Attendance** – The Contractor shall provide, to the satisfaction of the Government or Local Authorities Concerned, adequate medical attendance for his employees and labour.
- (14) **Report or Accident** – The Contractor shall, within twenty four (24) hours of the occurrence of any accident at or about the site or in connection with the execution of the Work, report such an accident to the Engineer. The

Contractor shall also report such accident to the competent authority whenever such a report is required by law.

- (15) **Report required by Labour Commissioner** – The Contractor shall submit, at the request of the Labour Commissioner or of the Assistant Commissioner of the State such returns as may be called for from time to time in respect of labour employed by the Contractor and by his subcontractors in the execution of the Contract. If so required, the names and address of all subcontractors shall be furnished by the Contractor to the Labour Commissioner. Statutory provisions in this regards are to be also complied with.
- (16) The Contractor shall be responsible for observance by his subcontractor of all the foregoing provision of sub-clause (1) to (15) of this Clause 33.

#### **34. RETURNS OF LABOUR ETC.**

The Contractor shall, if required by the Engineer, deliver to the Engineer's Representative, or at his office a return in detail in such form and at such intervals as the Engineer may prescribe showing the supervisory staff and the number of the several classes of labour from time to time employed by the Contractor on the Site and such information respecting Constructional Plant as the Engineer's Representative may require.

#### **35. MATERIALS AND WORKMANSHIP**

- (1) All materials and workmanship shall be of the respective kinds described in the Contract and in accordance with the Engineer's instructions and shall be subjected from time to time to such tests as the Engineer may direct at the place of manufacture or fabrication, or on the Site or at such other place or places as may be specified in the Contract, or at all or any of such places. The Contractor shall provide such assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used and shall supply samples or materials before incorporation in the Works for testing as may be selected and required by the Engineer, be it at site or at the manufacturer/Vendors premises or elsewhere.
- (2) **Cost of samples** – All samples of materials as may be required by the Engineer shall be furnished by the Contractor at the cost and expense of the Contractor.
- (3) **Cost of Tests** – The cost of making any test shall be borne by the Contractor if such test is clearly intended by or provided for in the Contract and in the cases only of a test under load or of a test to ascertain whether the design of any furnished or partially finished work in appropriate for the purpose which it was intended to fulfil, is particularised in the Contract in sufficient detail to enable to Contractor to price or allow for the same in his Tender.
- (4) **Cost of Tests not provided for, etc.** – If any test is ordered by the Engineer which is either.
- a) Not so intended by or provided for, or
  - b) In the cases above mentioned) is not so particularised, or
  - c) Though so intended or provided for is ordered by the Engineer to be carried out by an independent person or organisation at any place other than the Site or the place of manufacture or fabrication of the materials tested, then the cost of such test shall be borne by the Contractor, if the tests shows the workmanship or materials not to be in accordance with the provisions of the Contract or the Engineer's instructions, but otherwise the cost shall be borne by the Employer.

### 36. INSPECTION OF OPERATIONS

The Engineer and any person authorised by him shall at all times have access to the Works and to all workshops stores and places where work is being prepared or from where material, manufactured articles or machinery are being obtained for the Works and the Contractor shall afford every facility for and every assistance in or in obtaining the right to such access.

37. (1) **Examination of work before covering up** – No work shall be covered up or put out of view without the approval of the Engineer or the Engineer's Representative and the Contractor shall afford full opportunity for the Engineer or the Engineer's Representative to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. The Contractor shall give due notice to the Engineer's Representative where any such work or foundations is or are ready or about to be ready for examinations and the Engineer's Representative shall, without unreasonable delay, unless he considers it unnecessary and advises the Contractor accordingly, attend for the purpose of examining and measuring such work or of examine such foundations.
- (2) **Uncovering and making openings** – The Contractor shall uncover any part or parts of the Works or make opening in or through the same as the Engineer may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the Engineer. If any such part or parts have been recovered up or put out of view after compliance with the requirement of sub-clause (1) of this Clause and are found to be executed in accordance with the Contract, the expenses of uncovering, making openings in or through, reinstating and making good the same shall be borne by the Employer, but in any other case all costs shall be borne by the Contractor.
38. (1) **Removal of improper work and materials** – The Engineer shall during the progress of the works have power to order in writing from time to time.
- a) the removal from the Site, within such time or time as may be specified in the order, of any materials, which in the opinion of the Engineer, are not in accordance with the Contract.
  - b) the substitution of improper, substandard and unsuitable materials, and
  - c) the removal and proper re-execution, notwithstanding any previous test thereof or interim payment therefore, of any work which in respect of materials or workmanship is not, in the opinion of the Engineer, in accordance with the Contract.
- (2) **Default of Contractor in Compliance** – In case of default on the part of the Contractor in carrying out such order, the Employer shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be recoverable from the Contractor by the Employer, or may be deducted by the Employer from any sum due or which may become due to the Contractor.
39. (1) **Suspension of work** – The Contractor shall, on the written order of the Engineer, suspend the progress of the works or any part thereof for such time or times and in such manner as the Engineer may consider necessary and shall during such suspension properly protect and secure the work, so far as is necessary in the opinion of the Engineer. The extra cost incurred by the Contractor in giving effect to the Engineer's instruction under this Clause shall be borne and paid by the Employer unless such suspension is
- a) Otherwise provided for in the Contract, or

- b) Necessary by reason of some default on the part of the Contractor, or
- c) Necessary by reason of climatic conditions on the Site, or
- d) Necessary for the proper execution of the work or for the safety of workmen or Works of any part thereof in so far as such necessity does not arise from any act or default by the Engineer or the Employer or from any of the excepted risks defined in Clause 19 hereof.

Provided that the Contractor shall not be entitled to recover any such extra cost unless he gives, written notice of his intention to claim to the Employer within twenty eight days of the Engineer's order. The Engineer shall settle and determine such extra payment and/or extension of time under Clause 43 hereof to be made to the Contractor in respect of such claim as shall in the opinion of the Employer, be fair and reasonable.

- (2) **Suspension lasting more than 90 days** – If the progress of the Works or any part thereof is suspended on the written order of the Engineer and if permission to resume Work is not given by the Engineer within a period of ninety days from the date of suspension then, unless such suspension is within paragraph (a), (b), (c) or (d) of sub-clause (1) of this Clause, the Contractor may serve a written notice on the Employer requiring permission within twenty eight days from the receipt thereof to proceed with the Works, or that part thereof in regard in which progress is suspended and, if such permission is not granted within that time, the Contractor by a further written notice so served may, but is not bound to, elect or treat the suspension where it affects part only of the Works as an omission of such part under Clause 50 hereof, or where it affects the whole Works, as an abandonment of the Contract by the Employer.

#### **40. COMMENCEMENT TIME AND DELAYS**

**Commencement of works** – The Contractor shall commence the Works on Site within the period named in the Appendix to the Tender after the receipt by him of a written order to this effect from the Engineer and shall proceed with the same with due expedition and without delay, except as may be expressly sanctioned or ordered by the Engineer, or be wholly beyond the Contractors' Control.

The successful contractor shall within four weeks from the date of issue of Letter of Intent furnish one or more drawing stating and showing the following:

- 1. Dimensioned area requirement of the pipe laying works showing the details of:
    - 1.1 General arrangement of layout of pipe line.
  - 2. Any other reasonable data that may be asked for.
41. (1) **Possession of site** – Save in so far as the contract may prescribe, the extent of portions of the Site of which the Contractor is to be given possession from time to time and the order in which such portions shall be made available to him and subject to any requirement in the Contract as to the order in which the Works shall be executed, the Employer will, with the Engineer's written order to commence the Works, give to the Contractor possession of so much of the Site as may be required to enable the Contractor to commence and proceed with the execution of the Works in accordance with the programme referred to in Clause 14 hereof, if any, and otherwise in accordance with such reasonable proposals, of the Contractor as he shall, by written notice to the Engineer, make and will, from time to time as the Works proceed, give to the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with the execution of the Works with due despatch in accordance with the said programme or proposals, as the case may be. If

the Contractor suffers delays or incurs cost for failure on the part of the Employer to give possession in accordance with the terms of this Clause, the Employer shall grant an extension of time for the completion of the Works and certify such sum as, in his opinion, shall be fair to cover the cost incurred, which sum shall be paid by the Employer.

- (2) **Way leaves etc.** – The Contractor shall bear all costs and charges for special or temporary way leaves required by him in connection with access to the Site. The Contractor shall also provide at his own cost any additional accommodation outside the site required by him for the purpose of the Works.
42. (1) **Time of Completion and progress of Works** – The progress of the work shall conform to the approved Work Programme in terms of Clauses 14 hereof, and subject to any requirement in the contract as the completion of any section of the Works before completion of the whole, the whole of the Works shall be completed, in accordance with the provisions of Clause 47 hereof, within the time stated in the Contract calculated from last days of the period named in the Appendix to the Tender as that within which the Works are to be commenced, or such extended time as may be allowed under Clause 43 hereof.
- (2) **Failure in keeping to stages of work programme** – if the Contractor does not keep to the approved programmed and continues at any stage to fail behind his schedule by as much as twenty percent (20%) of the said approved work programme, within thirty (30) days from receipt by him of a written notice from the Engineer, or if in the opinion of the Engineer the delay will substantially affect operation activities or execution of a major work item and it is ascertained by the Engineer that the Contractor cannot remedy the occasion within the stipulated time, the Engineer shall have full authority to undertake measures to recover from such adverse condition in terms of the provisions of Clause 62 thereof.

#### **43. EXTENSION OF TIME FOR COMPLETION**

Should the amount of extra or additional work of any kind or any cause of delay referred to in these Conditions, or other special circumstances of any kind whatsoever which may occur, other than through a default of the Contractor, be such as fairly to entitle the Contractor to an extension of time for the completion of the works, the Engineer shall determine the period of such extension and shall notify the Employer and the Contractor accordingly. Provided that the Engineer is not bound to take into account any extra or additional work or other special circumstances unless the Contractor has within twentyeight days after such work has been commenced, or such circumstances have arisen or as soon then after as is practicable, submitted to the Engineer's Representative full and detailed particulars of any extension of time to which he may consider himself entitled in order that such submission may be investigated at the time.

#### **44. NO NIGHT OR SUNDAY WORK**

Subject to any provision to the contrary contained in the Contract, none of the Permanent Works shall, save as hereinafter provided, be carried on during the night or on Sundays, if locally recognised as days of rest, or other locally recognised equivalent without the permission in writing of the Engineer's Representative, except when the works is unavoidable or absolutely necessary for the saving of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer's Representative, provided always that the provisions of the Clause shall not be applicable in the case of any work which it is customary to carry out by rotary of shifts.

#### **45. RATE OF PROGRESS AND NIGHT WORK WHEN PERMITTED**

If for any reason, which does not entitle the Contractor to an extension of time, the rate of progress of the Works or any section is at any time, in the opinion of the Engineer, too slow to ensure completion by the prescribed time or extended time for completion, the Engineer shall so notify the Contractor in writing and the Contractor shall thereupon take such steps as are necessary and the Engineer may approve to expedite progress as to complete the Works or such section by the prescribed time or extended time. The Contractor shall not be entitled to any additional payment for taking such steps. If as a result of any notice given by the Engineer under this Clause, the Contractor shall seek the Engineer's permission to do any work at night or on Sundays, if locally recognised as days of rest, or their locally recognised equivalent, such permission shall not be unreasonable refused. When work at night has to be carried out, the Contractor shall, at his own cost and expense, make adequate arrangements for lighting and provide necessary facilities for safety etc. and comply with all stipulations as may have been imposed by the Engineer in granting permission for night work.

46. (1) **Liquidated Damages for Delay** – If the Contractor shall fail to achieve completion of the Works within the time prescribed by Clause 42 hereof, then the Contractor shall pay to the Employer the sum stated in the Contract as liquidated damages for such default and not as a penalty for every day of part of a day which shall elapse between the time prescribed by Clause 42 hereof and the date of certified completion of the Works. The Employer may without prejudice to any other method of recovery, deduct the amount of such damages from any money in his hands, due or which may become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the Contract.
- (2) **Reduction of liquidated Damages** – If, before the completion of the whole of the Works any part or section of the Works has been certified by the Engineer as completed, pursuant to Clause 47 hereof, and occupied or used by the Employer, the liquidated damages for delay shall, for any period of delay after such certificate and in the absence of alternative provision in the contract be reduced in the proportion which the value of the part or section so certified bears to the value of the whole of the Works.
- (3) **Extent of Liquidated Damages** – The liquidated damages referred to in sub-clause (1) for delay of each day or part thereof, shall be at the rate of one percent (1%) or such smaller amount as the Employer may decide, or the total value of the Contract Price excluding the value of such part or section of the works as may have been covered by certificate of completion in terms of the provisions of sub-clause (2) above, Provided however that in no case shall be total amount of liquidated damages exceed ten percent (10%) of the total Contract Price for whole Works.
- (4) **Liquidated Damage as Reasonable Compensation** – The 'Liquidated damage' referred to in sub-clause (1) to (3) above, shall be considered as reasonable compensation to be applied to the use of the Employer without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.
- (5) **No bonus for early completion** – The Contractor shall not be entitled to payment of any bonus for early completion of the Works.

**47. CERTIFICATION OF COMPLETION OF WORK**

- (1) **Erection** – Erection of Mechanical and electrical equipment shall be construed to have been completed where equipment in question is placed in position undergoes all necessary tests such as those for alignment, verticality, leak

proofness, insulation etc. as may be specified elsewhere in the tender documents and put to operation.

- (2) **Completion** – Completion is a stage when the equipment and the structure as a whole is certified to be completed by the Employer. The date shall only be indicative for the purpose of reckoning the period of Maintenance Period and shall not be co-related with the release of any payment provided that non-continuous or sporadic functioning shall not be deemed as commissioning and also provided that non-commissioning of minor works, the decision on determination of major or minor works resting with the employer, shall not mollify the act of completion for the aforesaid purpose.

An item shall be considered as minor work where its non-completion may not in the opinion of the employer, stand in the way of commencement of plant operation.

48. (1) **Maintenance Period** – Maintenance period shall be for a **period of 12 months after completion of the work.**

- (2) **Cost of Execution of work of repair, etc.** – The repair work shall be carried out by the Contractor at his own expense if the necessity thereof shall, in the opinion of the Engineer, be due to the use of materials or workmanship not in accordance with the Contract, or to neglect or failure on the part of the Contractor to comply with any obligation, expressed or implied, on the Contractor's part under the Contract. If, in the opinion of the Engineer, such necessity shall be due to any other cause, the value of such work shall be ascertained and paid for as if it was an additional work.

- (3) **Remedy on contractor's failure to carry out work required** – If the Contractor shall fail to do any such work as aforesaid requirement by the Engineer, the Employer shall be entitled to employ and pay other persons to carry out the same, which in the opinion of the Employer, the Contractor was liable to do at his own expense under the Contract. In the said event, all expenses consequent thereon or incidental thereto shall be recoverable from the Contractor by the Employer, or may be deducted by the Employer from any sum due or which may become due to the Contractor.

#### **49. CONTRACTOR TO SEARCH**

The Contractor shall, if required by the Engineer in writing, search under the directions of the Engineer, for the cause of any defect, imperfection or fault appearing during the progress of the Works or in the period of Maintenance. Unless such defect, imperfection or fault shall be one for which the contractor is liable under the contract, the cost of the work carried out by the contractor in searching as aforesaid shall be borne by the Employer. If such defect, imperfection or fault shall be one for which the contractor is liable as aforesaid, the cost of the work carried out in searching as aforesaid shall be borne by the contractor and he shall in such case repair, rectify and make good such defect, imperfection or fault at his own expense in accordance with the provisions of Clause 48 hereof to the satisfaction of the Engineer.

#### **50. ALTERATIONS, ADDITIONS AND OMISSIONS**

- (1) **Variations** – The Employer may make any variation of the form, quality or quantity of the Works or any part thereof that may, in his opinion, be necessary and for that purpose, or if for any other reason it shall, in his opinion, be desirable, he shall have power to order the Contractor to do and the Contractor shall do any of the following:
- a) Increase or decrease the quantity of any work included in the contract.



- b) Omit any such work.
- c) Change the character or quality or kind of any such work.
- d) Change the levels, lines position and dimensions of any part of the Works and
- e) Execute additional work of any kind necessary for the satisfactory completion of the works or for deriving satisfaction of the Employer. It is expressly provided that no such variation shall, in any way vitiate or invalidate the Contract, but the value, if any, of all such variations shall be taken into account in ascertaining the amount of the Contract Price.

- (2) **Orders for variations to be in writing** – No such variations shall be made by the Contractor without an order in writing from the Employer. Provided that no order in writing shall be required for insignificant increase or decrease in the quantity of any work where such increase or decrease is not the result of an order given under this Clause, but is the result of the quantities exceeding or being less than those stated in the Schedule of prices. Provided also that if for any reason the Employer shall consider it desirable to give any such order verbally, the Contractor shall comply with such order and any confirmation in writing of such verbal order given by the Employer whether before or after the carrying out of the order, shall be deemed to be an order in writing within the meaning of this Clause. Provided further that in the event of non-receipt of written confirmation from the Employer, the Contractor shall, within seven days, confirm the same from his end in writing to the Employer, and if such confirmation is not contradicted in writing within fourteen days by the employer, it shall be deemed to be an order in writing by the Employer.

51. (1) **Valuation of variations** – All extra or additional work done or work omitted or substituted by order of the Employer shall be valued at the rates and prices set out in the Contract if, in the opinion of the Employer, the same shall be applicable as it is or with addition to or subtraction from an accepted item. If the Contract does not contain any rates or prices applicable to the extra or additional work, then the rates or prices shall be obtained from the Presidency Circle, Public Works Department, KMDA, PHE, IRRIGATION of GOWB schedule of rates as was in vogue on the date of submission of the tender. The same being escalated to an extent determined by comparing the cost of a similar item appearing in the Schedule of Prices with those in PCPWD/KMDA/PHE/IRRIGATION Deptt of GoWB.. Where such rates are not available in above captioned schedule of rates, the market analysed rate as approved by the Employer shall be final and binding. Incase of such analysed rates, 10% profit including over headconsultant's fees, GST, ST, Turnover Tax etc. shall be allowed. No other overhead, or other expenses shall be taken into account shall be considered to be inclusive of contractors profit.

- (2) **Variation Exceeding 20 Percent** – If, on certified completion of the whole of the Works, it shall be found that a reduction or increase greater than twenty percent (20%) of the sum named in the Letter of Acceptance, excluding all fixed sums, provisional sums if any, results from :
- a) The aggregate effect of all Variation Orders, and
  - b) all adjustments upon measurement of the estimated quantities set out in the Schedule of Prices excluding all provisional sums, and adjustments of price made under Clause 66 (1) hereof but not from any other clause, of the Contract Price shall be adjusted by such sum as may be agreed between the Contractor and the Employer or, failing agreement, fixed by the Employer having regard to all material and relevant factors, including the Contractor's site and general overhead costs.

- (3) **Claims** – The Contractor shall send to the Engineer's Representative once in every month an account giving particulars, as full and detailed as possible, of all claims for any additional payment to which the Contractor may consider himself entitled and of all extra or additional work ordered by the Employer which he has executed during the preceding month. No final or interim claim for payment for any such work or expense will be considered which has not been included in such particulars. Provided always that the Employer shall at his discretion be entitled to authorise payment to be made for any such working expense, notwithstanding the Contractor's failure to comply with this condition, that the Contractor has, at the earlier practicable opportunity, notified the Employer in writing that he intends to make a claim for such work, provided always that a release of payment shall be preceded by the claim and valuation of variation, in that order.

## **52. PLANT TEMPORARY WORKS AND MATERIALS**

1. **Plant, etc. exclusive use for the works** – All Constructional Plant, Temporary Works and materials provided by the Contractor shall, when brought on the Site be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the Site to another, without the consent, in writing, of the Engineer which shall not be unreasonably withheld.
2. **Removal of plant, etc.** – Upon completion of the Works the Contractor shall remove from the Site all the said Constructional Plant and Temporary Works remaining thereon and any unused material provided by the Contractor to the satisfaction in the Engineer.
3. **Employer not liable for damage to plant, etc.** – The employer shall not at any time be liable for the loss of or damage to any of or damage to any of the said Constructional Plant, Temporary Works or materials same as mentioned in Clause 19 and 62 hereof.
4. **GST, Octroi, Cess and other imposts.** – The Contractor shall pay GST/Octroi/Sales Tax, Cess, Work Contract Tax and all other taxes, duties and charges as may be applicable from time to time in respect of materials purchased by him or plants and equipment brought to Site. No separate payment shall be made for all these and they shall be deemed to have been covered within the Contractor's rates for the finished items of work.
5. **Temporary Works** – At least fourteen (14) days in advance of taking up any temporary works, the contractor shall submit to the Engineer for approval complete drawings of all temporary works he may require for the execution of the Works. He shall, so required by the Engineer, submit his calculations relating to the strength of the temporary works proposed. Modifications that the Engineer may require shall be made by the Contractor at the latter's cost and expenses. At the discretion of the Engineer, a higher stress up-to a maximum of twenty five percent (25%) in excess of the stress normally allowed for permanent structures may be permitted in the design of temporary works.

Notwithstanding the approval by the Engineer of any of the temporary works, the contractor shall remain wholly responsible for their adequacy, safety, proper maintenance and of all obligations in regard to such works specified or implied in the Contract, until the removal of such works.

**53. APPROVAL OF MATERIAL, ETC. NOT IMPLIED**

The operation of Clause 52 hereof shall not be deemed to imply any approval by the Engineer of the materials or other matters referred to therein not shall in interfere with rejection of any such materials at any time by the Engineer.

**54. MEASUREMENT**

**Quantities** – The quantities set out in the Schedule of Prices are the estimated quantities of the work, but they are not to be taken as the actual and correct quantities of the Works to be executed by the Contractor in fulfilment of his obligation under the Contract.

**55. WORKS TO BE MEASURED**

The engineer shall, except as otherwise stated, ascertain and determine by measurement the value in terms of the Contract of work done in accordance with the Contract. He shall, when he requires any part or parts of the works to be measured, give notice to the Contractor's authorised agent or representative, who shall forthwith attend or send a qualified agent to assist the Engineer or the Engineer's Representative in making such measurement, and shall furnish all particulars required by either of them. Should the Contractor not attend, or neglect or omit to send his agent on two consecutive occasions, then in the third occasion the measurement shall be made unilaterally by the Engineer which shall be taken to be the correct measurement of the work. For the purpose of measurement such permanent work as is to be measured by records and drawings at suitable intervals of such work and the Contractor, as and when called upon to do so in writing shall, within fourteen days, attend to examine and agree upon such records and drawings, with the Engineer's Representative and shall sign the same when so agreed. If the Contractor does not so attend to examine and agree upon such records and drawings on two consecutive occasions they shall be taken to be correct. If, after examination of such records and drawings, the Contractor does not agree with the same or does not sign the same as agreed, they shall nevertheless be taken to be correct, unless the Contractor shall, within fourteen days of such examination, lodge with the Engineer's Representative, for decision by the Engineer, a notice in writing giving details of the respects in which such records and drawings are claimed by him to be incorrect together with reasons thereof.

**56. METHOD OF MEASUREMENT**

The Works shall be measured net, notwithstanding any general or local custom, except where otherwise specifically described or prescribed in the Contract.

57. 1) a) **Periodic Payment** – Payments to the Contractor from works done and measured in terms of the provisions of Clause 55, shall normally be made at monthly intervals provided the value of works done since the previous payment is not less than five percent (5%) of the Contract Price.
- b) The valuation of the Engineer for the purpose of making periodic payments to the contractor through on account bills shall be considered as estimates only and the Engineer reserves the authority to make amendments or modifications thereto through any subsequent bill/bills.
- 2) a) Earnest Money, Security Deposit and other retention money

Description	Amount payable / pledged to the Authority	State where amount payable / pledged to the Authority	Refund / Release
(i) Earnest money	Columns no 4 of N.I.T (Balance amount of 2% of contract value if more than Rs.	To be deposited at the time of E-Submission of Tender as mentioned in Section-B, vide Clause No: 22, in page-B8.	To the unsuccessful Tenderer after award of contract without any interest. Earnest money of the successful

**GENERAL CONDITIONS OF THE CONTRACT**

	Columns no 4 of NIT will be submitted on line at the time of accepting L.O.I. or as directed by the E.I.C.)		Tenderer shall be converted in to the Retention money. Refund will be as after 12 months from the successful completion of the work.
(ii) Security Deposit	10%(Ten Percent).	8% will be deducted Either from Running Account Bills in Cash or in the form BG & another 2% will come from EMD. 2% EMD will be converted to part of Security Deposit or as per prevailing existing financial rules.	After <b>6 Months</b> from the successful completion of the work.
(iii) Cess for labour welfare	1% of Construction cost	To be deducted from the Running Bills in Cash	To be deducted and send to The Labour Commissioner, W.B.New Secretariat Bld. Kolkata -700 001

- b) All payments to the Contractor shall be subject to deduction of GST, Work Contract Tax, Income Tax and any other Tax as may be prevalent at the time of payment. For each such deduction the Contractor will be furnished a Certificate to enable him to make requisite adjustment in his Returns related to GST/Income Tax/Sale Tax/Works Contract Tax or any other Tax as may be deducted. Contractors, while quoting, are to take into account all taxes, duties etc. prevalent on the date of opening. If any other taxes or duties of statutory nature are imposed during the post-tendering period, the said amount maybe reimbursed on production of documentary proof of payment according to notification published by finance wing, Govt. of West Bengal. Similarly for reduction or withdrawal, a corresponding deduction may be reimbursed on production of documentary proof of payment according to notification published by finance wing, Govt. of West Bengal. **In both cases, the decision of the Employer/Authority decision shall be final as to the extent thereof.**
- c) All payments to the Contractor shall be subject to all accounting and auditing provisions, procedures, rules, regulation, decrees, law etc. legislated, enacted or in force in India and as applicable to the State of West Bengal during the period of the Contract. No interest will be made for any delayed payment.
5. **Final Claims** – Not later than ninety calendar days after the issue of the Completion Certificate, the Contractor shall submit to the Engineer a Statement of final account with supporting documents showing in details the value of the work done in accordance with the Contract together with all further sums which the Contractor considers to be due to him under the Contract. Within thirty calendar days after receipt of the final account and of all information reasonably required for its verifications, the Engineer shall issue Final Certificate.
6. **Certificate of final acceptance** – The Contractor's obligations and responsibilities under the contract will be considered satisfied and the completed permanent. Works accepted when the Engineer has issued the Certificate of Final Acceptance to the Contractor.

**58. APPROVAL ONLY BY MAINTENANCE CERTIFICATE**

No Certificate other than the Maintenance Certificate referred to in Clause 59 hereof shall be deemed to constitute final approval of the Works.

59. (1) **Maintenance certificate** – The Maintenance Certificate stating that the Works have been completed and maintained to the satisfaction of the Engineer, shall be issued by him within twenty eight days after the expiration of the period of Maintenance, or if different periods of maintenance shall become applicable to different sections or parts of the Works, the expiration of the latest such period, or as soon thereafter as any works ordered during such period, pursuant to Clauses 47 and 48 hereof, shall have been completed to the Satisfaction of the Engineer.

With regard to defects that may arise during the Period of Maintenance, the Contractor shall be responsible to carry out restoration/rectification of damages as are attributable to defects in works carried out under this Contract. The decision of the Employer in the regard shall be final and binding on the contractors.

- 2) **Cessation of Employer's liability** – The Employer shall not be liable to the Contractor for any matters or thing arising out of or in connection with the Contractor for any matters or thing arising out of or in connection with the Contract or the execution of the Works, unless the Contractor shall have made a claim in writing in respect thereof before the delivery of the Maintenance Certificate under this Clause.
- 3) **Unfulfilled obligations** – Notwithstanding the issue of the Maintenance Certificate the Contractor and, subject to the sub-clause (2) of the Clause, the Contractor shall remain liable for the fulfilment of any obligation incurred under the provisions of the Contract prior to the issue of the Maintenance Certificate which remains imperforated at the time such Certificate is issued and for the purpose of determine the nature and extent of any such obligation, the Contract shall be deemed to remain in force between the parties hereto.

## **60. REMEDIES AND POWERS**

- 1) **Default of contractor** – If the Contractor shall become bankrupt, or have a receiving order made against him, or shall present his petition in bankruptcy, or shall made an arrangement with or assignment in favour of his creditors, or shall age to carry out the Contract under a committee of inspection of his creditors or, being a corporation, shall go into liquidation (other than a voluntary liquidation for the purpose of amalgamation or reconstruction), or if the Contractor shall assign the Contract, without the consent in writing of the Employer first obtained, or shall have an execution levied on his goods, or if the Engineer shall certify in goods, or if the Engineer shall certify in writing to the Employer hat in his opinion the Contractor :
- a) Has abandoned the Contract, or
  - b) without reasonable excuse has failed to commence the Works or has suspended the progress of the Works for twenty-eight days after receiving from the Engineer written notice to proceed, or
  - c) has failed to remove materials from the Site or to pull down and replace work for twenty-eight days after receiving from the Engineer written notice that the said materials or work had been condemned and/or rejected by the Engineer under these conditions, or
  - d) despite previous warnings by the Engineer, in writing, is not executing the Works in accordance with the Contract, or is persistently or flagrantly neglecting to carry out his obligation under the Contract, or

- e) has, to the detriment of good workmanship, or in defiance of the Engineer's instructions to the contrary, sublet any part of the Contract.

Then the Employer may, after giving fourteen day's notice in writing to the Contractor, enter upon the Site and the Works and expel the Contractor therefore without thereby avoiding the Contract, or releasing the Contractor from any of his obligations or liabilities under the Contract, or affecting the rights and powers conferred on the Employer or the Engineer by the Contract, and may himself complete the Works or may employ any other contractor or agency to complete the Works. The Employer or such other contractor may use for such completion so much of the Constructional Plant, Temporary Works and materials, which have been deemed to be reserved exclusively for the execution of the Works, under the provisions of the Contract, as he or they may think proper and the Employer may, at any time, sell any of the said Constructional Plant, Temporary Works used and unused materials and apply the proceeds of sale in or towards the satisfaction of any sums due or which may become due to him from the Contractor under the Contract.

- 2) **Valuation at date of forfeiture** – The Engineer shall, as soon as may be practicable after any such entry and expulsion by the Employer, fix and determine expert, or by or after reference to the parties, or after such investigation or enquiries as he may think fit to make or institute and shall certify what amount, if any, had at the time of such entry and expulsion been reasonably earned by or would reasonably accrue to the Contractor in respect of work then actually done by him under the Contract and the value of any of the said unused or partially used materials, and Constructional Plant and any Temporary Works.
- 3) **Payment after forfeiture** – If the Employer shall enter and expel the Contractor any money on account of the Contract until the expiration of the Period of Maintenance and thereafter until the costs of execution and maintenance, damages for delay in completion, if any and all other expenses incurred by the Employer have been ascertained and the amount thereof certified by the Engineer. The Contractor shall then be entitled to receive only such sums or sums, if any, as the Engineer may certify would have been payable to him upon due completion by him after deducting the said amount. If such amount shall exceed the sum which would have been payable to the Contractor on due completion by him, 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.

## **61. URGENT REPAIRS**

If, by reason of any accident, or failure, or other event occurring to in or in connection with the Works, or any part thereof, either during the execution of the Works, or during the period of Maintenance, any remedial or other work or repair shall, in the opinion of the Engineer or the Engineer's Representative, be urgently necessary for the safety of the Works and the Contractor is unable or unwilling at once to do such work or repair, the Employer may employ and pay other persons to carry out such work or repair as the Engineer or the Engineer's Representative may consider necessary. If the work or repair so done by the Employer is work which in the opinion of the Engineer, the Contractor was liable to do at his own expense under the Contract, all expenses properly incurred by the Employer in so doing shall be recoverable from the Contractor by the Employer, or may be deducted by the Employer from any sums due or which may become due to the Contractor. Provided always that the Engineer or the Engineer's Representative, as the case

may be, shall, as soon after the occurrence of any such emergency as may be reasonably practicable, notify the Contractor thereof in writing.

## **62. SPECIAL RISKS**

Notwithstanding anything in the Contract contained:

- 1) **No liability for war, etc., Risks** – The Contractor shall be under no liability whatsoever whether by way of identity or otherwise for or in respect of destruction of or damage to the Works, same to work condemned under the provision of Clause 38 hereof prior to the occurrence of any special risk hereinafter mentioned, or to property whether of the Employer or third parties, or for or in respect of injury or loss of life which is the consequence of any special risk as hereinafter defined. The employer shall indemnify and save harmless to Contractor against and from the same and against and from the same and against and from all claims, proceedings, damages, costs, charges and expenses whatsoever arising thereout or in connection therewith.
- 2) **Damage to works, etc., by special risks** – If the Works or any materials on or near or in transit to the Site, or any other property of the Contractor used or intended to be used for the purposes of the Works, shall sustain destruction of damage by reason or any of the said special risks the Contractor shall be entitled to payment for :
  - a) Any permanent work and for any materials so destroyed or damaged and so far as may be required by the Engineer, or as may be necessary for the completion of the Works, or the basis of cost plus such profit as the Engineer may certify to be reasonable;
  - b) Replacing or making good any such destruction or damage to the Works;
  - c) Replacing or making good such materials or other property of the Contractor used or intended to be used for the purposes of the Works.
- 3) **Projectile missile etc.** – Destruction, damage, injury or loss of life caused by the explosion or impact whenever and wherever occurring of any mine, bomb, shell, grenade, or other projectile, missile, ammunition, or explosive of war, shall be deemed to be a consequence of the said special risks.
- 4) **Increase cost arising from special risks** – The Employer shall repay to the Contractor any increased cost of or incidental to the execution of the Works, other than such as may be attributable to the cost of reconstructing work condemned under the provisions of Clause 38 hereof, prior to the occurrence of any special risk, which is howsoever attributable to or consequent on or the result of or in any way whatsoever connected with the said special risks, subject however to the provisions in this Clause hereinafter contained in regard to outbreak of war, but the Contractor shall as soon as any such increase of cost shall come to his knowledge forthwith notify the Engineer thereof in writing.
- 5) **Special Risks** – The special risks are war, (whether war be declared or not), invasion, act of foreign enemies, the nuclear and pressure waves risk described in Clause 19(2) hereof, or in so far as it relates to the country in which the works are being or are to be executed or maintained, rebellion, revolution, insurrection, military or usurp power, civil war, or unless solely restricted to the employees of the Contractor or of his Sub-Contractor and arising from the conduct of the Works, riot, commotion or disorder.
- 6) **Outbreak of War** – If, during the currency of the Contract, there shall be an outbreak of war, whether war is declared or not, in any part of the world which, whether financially or otherwise, materially affects the execution of the

works, the Contractor shall, unless and until the Contract is terminated under the provisions of this Clause, continue to use his best endeavours to complete the execution of the Works. Provided always that the Employer shall be entitled at any time after such outbreak of war to terminate the Contract by giving written notice to the Contractor and upon such notice being given, this Contract shall, except as to the rights of the parties under this Clause and to the operation of Clause 64 hereof, terminate but without prejudice to the rights of either party in respect of any antecedent breach thereof.

- 7) **Removal of plant of termination** – If the Contract shall be terminated under the provisions of the last proceeding sub-clause, the Contractor shall, with all reasonable despatch, remove from the Site all constructional Plant and shall give similar facilities to his Sub-Contractors to do so.
- 8) **Payment if Contract terminated** – If the Contract shall be terminated as aforesaid, the Contractor shall be paid by the Employer, in so far as such amounts or items shall not have already been covered by payments on account made to the Contractor, for all work executed prior to the date of termination at the rates and prices provided in the Contract and in addition:
  - a) The amounts payable in respect of any preliminary items, so far as the work carried out or performed, and a proper proportion as certified by the Engineer of any such items, the work or service comprised in which has been partially carried out or performed.
  - b) The cost of materials or goods reasonably ordered for the Works which shall have been delivered to the Contractor or of which the Contractor is legally liable to accept delivery such materials or goods becoming the property of the Employer upon such payments being made by him.
  - c) A sum to be certified by the Engineer, being the amount of any expenditure reasonably incurred by the Contractor in the expectation of completing the whole of the Works in so far as such expenditure shall not have been covered by the payments in this sub-clause before mentioned.
  - d) Any additional sum payable under the provisions of sub-clause (1), (2) and (4) of this Clause.

Provided always that against any payments due from the Employer under this sub-clause, the Employer shall be entitled to be credited with any outstanding balances due from the contractor for advances in respect of Constructional Plant and materials and any other sums which at the date of termination were recoverable by the Employer from the Contractor under the terms of the Contract and provided that if the termination be made in exercise of Clause C-60(1), no payment shall be released under Clause C-62(8) (a) to (d).

### **63. FRUSTRATION**

**Payment in event of Frustration** – If, a war, or other circumstances outside the control of both parties, arises after the Contract is made so that either party is prevented from fulfilling his contractual obligations, or under the law governing the Contract, the parties are released from further performance, then the sum payable by the Employer to the Contractor in respect of the work executed shall be the same as would have been payable under Clause 62 hereof if the Contract had been terminated under the provisions of Clause 62 thereof.

### **64. SETTLEMENT OF DISPUTES**

- (1) **Settlement of Disputes** – If any dispute or difference of any kind whatsoever shall arise between the Employer and the Contractor or the Engineer and the



Contractor in connection with, or arising out of the Contract, of the execution of the Works, whether during the progress of the Works or after their completion and whether before or after the termination, abandonment or breach of the Contract, it shall be settled in the court of law having jurisdiction, provided that such a recourse shall not be resorted to without exhausting all other reasonable avenues of redressed.

## **65. NOTICES**

- (1) **Contractor's local office and service of notices to contractor** – The Contractor shall have a local office at or near the Site of Work. Full address thereof shall be intimated by the Contractor or his authorised Agent to the Employer as well as to the Engineer. All Certificates notice or written orders to be given by the Employer or by the Engineer to the Contractor under the terms of the Contract, shall be deemed to have been served by sending by post to or delivering the same to the Contractor's local office.
- (2) **Service of notice to employer** – All Notice to be given to the employer under the terms of the Contract, shall be served by sending by Registered post or delivering the same to the address given below:

**Executive Engineer (Division-O&M-IA)  
W&S Sector / KMDA.**

- (3) **Change in Address** – The Employer, the Engineer or the Contractor may change a nominated address to another address by prior written notice to the other two and in that event shall resume receiving of communication 28 days after delivery of such notice.

## **66. PRICE ADJUSTMENT& PRICE ESCALATION**

- (1) *The prices to be paid to the contractor for the whole work shall remain firm during the stipulated contract period or extension thereof and no price adjustment shall be allowed.*
- (2) *No price escalation will be considered during the stipulated contract period or extension.*

## **67. MISCELLANEOUS**

**Dangerous materials** : Explosive, chemicals, combustible articles and items and similar materials intended for the Works shall be conveyed, stored and used by the Contractor and his sub-contractors in accordance with all laws, decrees, instruments, orders and regulations imposed by the Government or any of its instrumentalists. Observance of all safety provisions shall be the obligation of the Contractor and nothing herein shall release him from full responsibility for damage or injury to persons or properties resulting from his use of these dangerous materials.

## **68. CONTRACT CONFIDENTIAL**

Except with the prior written approval of the Employer and to subject the such conditions as may be prescribed, the Contractor and/or any member of his organisation shall not in any case communicate to any person or entity and information connected with the performance of the Services or in carrying out the Works not make public any information for the purpose of publication or advertisement. All matters related to the Contract shall be treated by the Contractor as private and confidential.

## **69. CONTRACTOR TO PROVIDE FACILITIES**

The Contractor shall provide such labour, materials and other facilities that the Engineer or his Representative may require to assist them in carrying out normal tests and checks on materials and workmanship and in measurement of works.

**70. INTERFERENCE WITH EXISTING FACILITIES**

The Contractor shall carry out the works in such a way as to the minimum extent of interference to the use of existing facilities of any kind.

**71. ACTS OF INFLUENCE**

Neither the Contractor nor any of his Agents, Representatives, Employees or members of his organisation shall commit any act which may influence the judgement or decision of the Employer or the Engineer or any their agents, representatives, employees or members of their respective organisation. Any breach of this provision shall constitute a breach of Contract on the part of the Contractor and apart from penal measures against the Contractor according to the law the land, the Employer shall have the Authority to take action for the Contractors' default in terms of the provisions of Clause 60 hereof.

**72. INDIVIDUALS NOT PERSONALLY RESPONSIBLE**

No personal liability shall be imposed on the members or the Employer or on the Engineer or their duly authorised representatives, agents or employees for acts performed or discharged in the exercise of their authorised duties or responsibilities or in carrying out their obligations by virtue of the provisions or scope of work contained in the Contract, if being understood that they are acting solely as agents and representatives of the Employer in good faith.

**73. CONTRACT EMBODIES WHOLE ARRANGEMENT**

The Contract becomes effective immediately on issue of the letter of acceptance to the successful Tenderer. The Contract (with annexure if any) as subsequently executed embodies the whole arrangement between the parties entering into the Contract. All previous correspondence, negotiations, representation, explanations statements, promises or guarantees (whether oral or written) as are not included in the Contract as executed, shall normally be excluded in the interpretation of the Contract.

**74. COMPLETION DRAWING**

Completion drawing including detailed construction drawing shall have to be submitted in original with 6 (six) copies of prints of each. The original drawings shall be drawn on thick polyester film approved by the Engineer-in-Charge. Scale and size of drawings shall also be as specified by the Engineer-in-Charge. Soft copy of drawing copied in CD/DVD should be submitted in addition. No extra payment will be made for it.

The Completion drawings are to be got approved by the Employer and shall have to be submitted before the issue of certificate of final acceptance as in Clause C-57(6).

**Executive Engineer (Division-O&M-IA)  
W&S Sector / KMDA.**

## **SECTION - C**

### **SPECIAL PROVISIONS**

#### **1. GENERAL**

##### **1.1 Extended scope of the contract**

The contract comprises the planning, designing, drawing, supplying materials and equipment, construction, testing of the plant, reservoir and pump house and maintenance for a period of 60 months after completion of the work and except in so far as the contract otherwise provides, the provision of all labour, materials, constructional plant, temporary works and everything (whether or a temporary or permanent nature) required red in and for such planning, design, construction, completion and maintenance so far as the necessity for providing the same in specified in or reasonably to be inferred from the contract.

##### **1.2 Item wise details of the lump sum prices and interim payment schedule**

The successful contractor will, against each of the job items quoted in the schedule of prices on lump sum basis, submit a detailed break up of lump sum prices for the approval of the Superintending Engineer for the purpose of preparing interim payment schedule and calculating the consumption of materials to be issued by the Authority. The break ups will be such as to fairly agree with the lump sum price quoted. The Superintending Engineer shall have the authority to modify the breakup of prices keeping, however, the total of the prices fairly equal to the lump sum amount quoted. Lump sum prices quoted in the schedule of prices shall remain fixed irrespective of the variations in items and quantities during actual execution compared with those provided in the break-ups.

Such break-ups for Civil Works shall include for the Pipe laying work in the following broad items of works:

- i) General Layout,
- ii) Cement Concrete for valve chambers and thrust block,
- iii) Reinforcement for valve chambers and thrust block,
- iv) Brick Work for valve chamber,
- v) Testing of the pipe lines,
- VI) Temporary Road Restoration Work,
- vii) Pipe Lines, valves, appurtenant structures, puddle collars etc necessary for the construction work.
- viii) Finishing works and other miscellaneous works (to be specified by the Contractor)
- ix) Area development.

The above mentioned details should be submitted by the contractor as early as possible after receipt of the Letter of Intent in order to enable him to start any sub-items of work and to receive interim payments. Where a component includes civil works, the break ups should invariably be submitted.

**1.3 Store Shed**

The Contractor shall provide at his own cost a store shed of adequate capacity for storing materials issued by the KMDA or materials to be utilised for the project. The shed should be of such construction that it must protect the materials against deterioration. A raised platform well above the highest flood level shall be made for stacking cement in such a way that the cement received earlier can be consumed first so as to avoid deterioration due to prolonged stacking. If any modifications to the store shed is suggested by the Engineer for better storing of materials that should be carried out by the Contractor at his own cost.

**1.4. Land for Contractor's Establishment**

For the purpose of constructing Contractor's Store yard, godowns, site office and ancillaries, he may utilise portion of the land belonging to the Employer at such location as would not interfere to execute other co works. For all these, the Contractor shall have to obtain the requisite permission of the Engineer. The Contractor shall for this purpose submit to the Engineer for his approval a plan of the proposed layouts for the site facilities. The Engineer reserves the right to alter and modify the Contractor's proposals as the Engineer may deem fit.

**1.5 Water and Electricity for Construction**

**1.5.1** The Contractor shall have to make his own arrangement for supply of water and for electrical power that may be required for or in connection with the works. No payment on this account will be entertained. However, KMDA may assist in getting power.

**1.5.2** The Contractor will have to make arrangement for supply of drinking water and water required for constructions works by sinking tubewells or other suitable alternatives. The Tenderers shall investigate this matter during site inspection before submission of tenders. No payment will be entertained on this account.

**1.5.3** Nevertheless electrical power from usual supply agencies may not be continuously available due to various reasons including load shedding. In case of non-availability of electrical power the contractor will have to make his own arrangements for electrical power through generators. Contractor should include such aspects while quote his rate. No payment will be entertained on this account. When drawing power from the KMDA's power point the contractor shall have to bear the cost of electrical charges at a rate fixed by this Authority. The route of conveyance shall be subject to approval by the Engineer-in-Charge and will be in accordance with I.E. Rules.

**1.5.4** Electrical power from usual supply agencies if not be available, the Contractor will make his own arrangements for electrical power through generators, for which nothing is payable extra.

**1.6 First-Aid Facilities**

The Contractor shall arrange for medical attentions to be promptly available when necessary. He shall for this purpose provide a number of First-Aid stations at suitable locations within easy reach of the workmen and other staff engaged in the Works. Each First-Aid station shall be

properly equipped and will remain in charge of a suitably qualified person. The Contractor shall also provide for transport of serious cases to the nearest hospital. All these arrangements shall be to the approval of the Engineer.

#### **1.7 Fire Fighting Arrangement**

The Contractor shall provide suitable arrangement for fire fighting. For this purpose he shall provide requisite number of Fire-Extinguishers and adequate number of buckets, some of which are to be always filled with sand and some with water. These equipments shall be provided at suitable prominent and easily accessible places and shall be properly maintained.

#### **1.8 Safety Measures**

The Contractor shall be responsible for the safety of all workmen and other persons entering or in the works and shall at his own expense and to the approval of the Engineer, take all measures necessary to ensure their safety.

Such measures shall include the provisions of helmets (Especially where work at a height is involved), provision of gum-boots to workers engaged in cement concrete or other works. Scaffolding or other measures required for working at a height shall be strong and rigid and have to be provided with suitable and convenient access. Shoring required for deep excavation must be adequate and rigidly braced and strutted. Other safety measure that the Engineer may direct, depending on the exigencies of the location and nature of work and other relevant factors shall be provided by the Contractor.

#### **1.9 Supervisory Staff**

The Contractor shall engage an experienced and qualified Site Manager to be in day to day charge of the work and he should be authorised to receive instructions from the Engineer. He shall receive orders given by the Engineer from time to time and shall act on them promptly. The Contractor shall, during working hours, maintain engineer and supervisors of sufficient training and experience to supervise the various items and operations of the work. Orders and directions given to such engineers and supervisors or other staff of the Contractor shall be deemed to have been given to the Contractor. The Chief Engineer of the Contractor responsible for this work, by whatever designation he may be known, but who will be specified on award of the Contract shall at least once in a fortnight inspect the works and shall discuss with the Engineer the conduct and progress of the work.

#### **1.10 Joint Survey**

The Contractor shall satisfy himself regarding the correctness of the layouts, levels etc. as are shown in the drawings or given in the specifications. Before starting the work he shall also carry out at his own cost, survey of the whole work site jointly with the representative(s) of the Authority. Discrepancies noticed between drawings and the joint survey shall be informed in writing to the Engineer and got set right before execution of works. Such deviations as may arise out of the joint survey shall not violate the provisions of contract or entitle the Contractor to any extras in any way.

**1.11 Layout and Checking**

The contractor shall provide all labour, skilled and unskilled and all materials needed for carrying out, as directed, survey, laying out, setting out, checking of works, taking measurements, testing hydraulic and other structures, without any extra payment.

The Contractor shall also provide approach road and access to all the works and stores without any extra cost.

**1.12 Reference Points**

After the joint survey has been plotted and approved by the Engineer, permanent base lines, cross line and bench marks shall be established by the Contractor so as to serve as reference points and "Dimensional Control Basis" of works. He shall prepare and submit a plan showing such reference points with their full description.

**1.13 Co-operation with other Contractors**

Some works in plant site have been already done/are being done/will be done through other contractors. In the event of any such work the contractor shall have to work in full co-operation and in close co-ordination with other contractor/contractors. Any difficulty that may arise in this connection will have to be amicably settled by the contractors amongst themselves. If that be not possible, the matter shall be referred to the Engineer whose decision shall be final and binding on all the parties.

However, the site allocated to the contractor may be fenced at the Contractor's cost provided any necessary access to others as it required is given. The contractor will be permitted to use only the access to the site as indicated on the site plan of Tender Drawing.

**1.14 Approval of Materials and Equipment to be used**

Samples in large enough quantity of materials and descriptive data there for requiring prior approval shall be furnished by the contractor to the engineer in good time before the collection of such materials and equipment so as to permit inspection and testing. The samples shall be properly marked to show the name of the materials, name of the manufacturer, and place of origin and item for which it is to be used. Only upon approval, the materials of approved quality shall be brought to site. Samples approved shall be on exhibition at all times, properly stores and prevented from deterioration for the purpose of comparison with the materials brought to site of work from time to time for use in work.

**1.15 Testing & Testing Equipment**

**1.15.1** Testing of materials to be used in the permanent work or of the quality of finished items shall have to be done from approved laboratory at the expense of the contractor.

The contractor shall afford at his own cost necessary facilities in providing the requisite materials and other assistance that may be required by the Engineer including transport of the test specimens to the laboratory referred to above.

- 1.15.2** The Contractor shall provide at his own cost necessary equipment for such testing which by the nature of work may have to be done at site or for taking samples for testing in laboratories. These include sufficient number of slump cones, standard 150 mm metal cube moulds, sets of I.S. sieves, weighing balances, graduated measuring cylinders, complete set of equipment for in-site density test, thermometers and any other miscellaneous equipment that may be required by the Engineer or his Representative. The Contractor shall also provide necessary arrangement for curing of concrete cube specimens, as instructed by the Engineer.

The contractor shall provide all the testing equipments needed to test the cement, concrete, coarse and fine aggregates, bricks, water etc. prior to supply loose materials at site. It is the contractor's responsibility to keep all those testing equipments in a workable condition all the time as he may be instructed to test the samples of concrete (slump or cube), and other materials supplied by him, by the EIC or his representatives.

- 1.15.3** The Engineer-in-Charge reserves the right to instruct the contractor to take representative samples from any batch/stack of concrete, coarse & fine aggregates, bricks and other materials supplied by the contractor and test the same. The contractor is bound to remove the batch/ stack of materials from the site immediately and supply/prepare a new fresh stack/batch as per the instruction of the EIC or his representatives if the test results found unsatisfactory.

#### **1.16 Construction Records**

The Contractor shall keep and supply to the Engineer the up-to-date records of the dimensions and positions of all permanent works (showing therein any approved deviation between the drawing and the work as actually executed). The information available from the records must be adequate and complete to enable preparation of "as-made" drawing by the Contractor from these records. A weekly report is mandatory for the Contractor describing the detail status of the progress of work in a format as prescribed by the Engineer.

#### **1.17 Progress Photographs**

The Contractor shall, at his own cost and expenses arrange to take periodic photographs to show the progress of work or interesting features thereof. The time and the position where from a photograph is to be taken should be as per direction of the Engineer or his Representative. Three copies of each of these photographs to an enlarged size of about 25 cms x 20 cms together with the CD/DVD, shall be supplied to the Engineer and these shall become the property of the Employer. Each photograph shall be suitably captioned with the date of the photograph, location and other relevant particulars. Further prints and CD of the photograph, location and other relevant particulars shall not be kept by the Contractor or reproduced without written permission of the Employer. Digital Camera with 6.0 Mega pixel should be used for taking photos.

Restrictions to photography or security restrictions that may be applicable to any particular area must be carefully and rigidly observed.

The number of photographs (each consisting of three prints and the CD/DVD as aforesaid) for the complete works is not expected to exceed 100

(one hundred), No photograph of the plant and other installations shall be taken without prior approval of the concerned officers.

**1.18 Satisfactory completion of various items**

The sub-works included in the Schedule of Prices are job works on lump sum basis. The various items of the sub-work are to fit in perfectly in the whole plant in every respect so as to form effective working parts of the whole plant as per satisfaction of the Engineer. Each sub-work will be considered as complete when it is completed as per specifications and put into commission, as per standards, as a successful component part of the whole plant.

**1.19 Checking Quality of Work**

Should the Engineer consider it necessary to satisfy himself as to the quality of the work, the Contractor shall, at any time during continuance of the contract, offer sample of work done or if necessary pull down a reasonable part of the work enough for such inspection and testing as the Engineer may direct and the Contractor shall make good the same at his cost and to the satisfaction of the Engineer without any extra cost.

**1.20 Recording Measurements**

Though the offer is on lump sum basis, the Contractor shall give not less than five days notice, in writing to the Engineer, about the work which is proposed to be covered or placed beyond the reach of measurements so that measurements may be taken before the work is covered, bar bending schedule is to be provided five days before the casting date. If any work is covered without such written notice, the same shall be uncovered at the cost of the Contractor and in default hereof no payment or allowances shall be made for such work. These requirements apply for all the component items executed for the sub-work for which lump sum price is quoted.

**1.21 Reports and Returns**

The Contractor shall maintain at Site daily records of progress with regard to the works carried out, labour engaged and construction equipment deployed. These will form the basis of preparing periodic reports and returns as may be required by the Engineer and in the manner as directed by him.

These daily records shall be made accessible to the Engineer or his Representative as and when desired by him.

**1.22 Site Books**

- 1.22.1** For the purpose of quick communication between the Engineer or his Representative and the Contractor or his Agent or Representative, Site Books shall be maintained at site in the manner described below. Any communication relating to the works may be conveyed through records in the Site Books. Such a communication from one party to the other shall be deemed to have been adequately served in terms of sub-Clause (1) of Clause 66 of the General Conditions of Contract. Each Site Book shall have machine-numbered pages in triplicate and shall be carefully maintained and preserved.



**1.22.2** The Contractor shall keep Site Books at various places Site work is being carried out so as to be readily available to the Engineer or his Representative. Any instruction or order which the Engineer or his Representative may like to issue to the Contractor may be recorded by him in the Site Book and two copies thereof taken by him for his record. The Contractor or his Agent or Representative may similarly maintain separate Site Book for any communication he may like to send to the Engineer or his Representative. Two copies thereof when sent to the Engineer's Representative and receipt obtained thereof, will constitute adequate service of the communication to the Engineer.

**1.22.3** It is mandatory to the Contractor to submit a Weekly Report on each Monday morning describing the progress of work till the night of the day before. The Weekly Report shall include the volume of works done in all the categories like, earthwork, piling, concreting, reinforcement works and all other miscellaneous works. As this report shall be the basis of the Running Bills, the said bills may not be accepted by the Department in absence of such regular report.

## **2. EMPLOYER'S MATERIAL**

### **2.1 Preamble**

**Generally all the materials including cement and steel are to be procured by the contractor from KMDA enlisted Manufacturers/Suppliers. Cement Grade 44 or above and steel Fe 500 or above is to be procured by the Contractor at his own cost). Ready mix concrete with 25% fly-ash contents will also be allowed for large volume of concrete.**

Only in special cases if specified elsewhere in tender and to avoid delay in the smooth progress of the work, some materials (as listed here-in-after) are being procured by the Employer in advance. These will be issued to the Contractor for utilisation in the Works, under terms and conditions stipulated hereinafter.

Procurement of railway wagons for transport of large quantities of materials required to be moved by rail, is a time consuming process. Procurement of cement and steel materials require prior permission from appropriate authorities and involves considerable time-lag between the submission of requisite application and actual supply.

### **2.2 Materials to be supplied by the Employer**

**2.2.1** For reasons explained above, the Employer is making arrangement for advance procurement of the materials listed below for issue to the Contractor for use in the Works under terms and conditions and at rates fixed by the EIC, stipulated hereinafter for the respective items of material.

a) Cement required for the Work (vide Clause 2.4)

b) Steel materials as required for reinforcement and for other works (vide Clause 2.5)

**2.2.2** If, in the interest of the Works, any material other than those listed in clause 2.2.1 above be issued to the Contractor, the provisions of Clause 2 shall apply strictly and the issue rate thereof shall be as fixed by Engineer.

**2.3 General Condition of Issue of Material**

**2.3.1** Employer's materials shall be issued to the Contractor to the extent of requirements as assessed and in suitable instalments as decided by the Engineer. For this purpose the Contractor shall submit to the Engineer as advance programme showing his time phase requirements of Employer's materials, in the form and manner as may be directed by the Engineer.

**2.3.2** Intents for materials to be issued by the Employer shall be submitted by the Contractor to the Engineer or his Representative, well in advance. The Engineer shall have full discretion to specify the maximum and the minimum quantities for which an individual indent is to be placed.

While every attempt will be made to issue Employer's materials according to indent placed by the Contractor, the Employer or the Engineer cannot guarantee such timely issue and no compensation shall be payable to the Contractor for any delay under unavoidable circumstances. The Engineer may however grant reasonable extension in the Time of Completion if, in his opinion, such failure in timely issue of Employer's materials is responsible for slowing down of the progress of work.

Without waiting for indent from the Contractor, the Engineer may, if he finds it necessary, direct that cement be received by the Contractor immediately on arrival of a consignment. In that event the Contractor shall make necessary arrangements to receive the materials according to instructions.

**2.3.3** Employer's materials shall be issued to the Contractor against proper receipts as may be specified by the Engineer. The value of materials issued shall be recovered from progressive bills or other dues of the Contractor. At the discretion of the Engineer, the amount of recovery from a bill may be only for such quantities of the non perishable materials as have been till then consumed in the works. Cost of cement and other perishable goods will be recovered in full from the next payable bill.

**2.3.4** The Contractor shall be responsible to lift the material from the place of issue and for transport of the same to his own store or immediate work site as the case may be, the issue rates (i.e. rates at which subsequent recovery should be made from the contractor) as stipulated hereinafter, apply to the respective materials laying at the place of issue. All subsequent operations in handling, transport, proper storage and other incidentals will be the responsibility of the Contractor at his own cost and expense.

**2.3.5** Unless any specific place of issue is mentioned hereinafter in respect of any particular materials, Employer's materials shall be issued to the Contractor from any of the Employer's store within the Kolkata Metropolitan District.

While attempt would be made to issue materials from such available sources as would minimise transport and handling on the part of the Contractor, it must be clearly understood that the Employer does not bind himself to any commitment in this respect.

**2.3.6** Employer's materials issued to the Contractor are intended for proper utilization in the works. The Contractor shall take all measures necessary for proper storage and guarding and shall be responsible for any damage to or loss of these materials. No payment on account of storage & guarding will be entertained.

The Contractor shall have to satisfy the Engineer regarding proper utilization of Employer's materials issued to the Contractor. The value of any material which cannot be satisfactorily accounted for shall be recovered from bills or other dues of the Contractor at an enhanced rate of hundred percent (100%) in excess of the normal recovery rate stipulated hereinafter. Provision of note 16 & 17 below clause D-2.6 shall however apply in respect of cement.

The Contractor shall be required to maintain proper record of receipt and normal use of all materials issued to him and submit extracts hereof, then called for by the Engineer, in such manner and form as the latter may prescribe.

**2.4 Cement(if issued by the Department in special considerations).**

**2.4.1** The Cement shall be Ordinary Portland Cement complying with IS: 269. The unit weight of cement would be taken as 1440 kg/cubic meter in accordance with IS 875 Part-I-1987 and shall have precedence over the provisions of the P.C. Schedule vide note 16 below Clause D-2.6.

**2.4.2** The issue rate as given in clause 2.6 includes the cost of container bags. Cement shall be issued as standard weight bags i.e. each bag of 50 kg. The Contractor shall have to satisfy himself of its content both quantitatively and qualitatively at the point of lifting. Once accepted, the Contractor shall have to account for on the basis that each bag contained 50 kg. However cement shall be used in the work on the basis of weight.

**2.4.3** If at the time of issue, the Contractor is apprehensive that the quality of the cement does not comply with the relevant standards specified, he may ask for the cement to be tested. The Engineer shall then have representative sample of the particular consignment sent for test in the manner stipulated in Clause (1.15)

If the result of the test be found to be satisfactory the Contractor shall have to accept the said consignment and the responsibility of the Employer shall cease.

If the result of the test be unsatisfactory, the Contractor may refuse to accept the said consignment, in which case, the Engineer shall arrange issue of cement of requisite quality from other consignments. Never less, the Engineer may at his discretion still direct that the cement be used in unimportant items of work where the strength consideration is not very import. The Contractor shall in that case take delivery of such cement and store the same separately for use in such works as the Engineer or his Representative may direct. In respect of works done with such cement of sub-standard quality, the responsibility of the Contractor to produce finished products of the specified requirements shall cease.

**2.4.4** If, on the other hand, the Engineer or his Representative is apprehensive that the quality of cement (of specified standard) which had been issued to the Contractor, has since deteriorated due to long or defecting storage by the Contractor or for any reason whatsoever, he may similarly have the cement tested before the cement is used in the work. If the results of the test indicate that the cement does not longer comply with the specified standards, the cost of such test shall be borne by the Contractor and he

would have to abide by the directions of the Engineer in respect of the disposal or utilization of the cement thus damaged.

## **2.5 Steel (if issued by the Department in special considerations).**

### **2.5.1** Steel bars for use in reinforcement required for the permanent works shall be issued in lengths as available with the Employer. These may be either mild steel bars or cold-twisted deformed bars. The recovery shall be on the weight calculated on the basis of length issued and the standard sectional weight for the particular diameter.

In all cases, the Contractor is to utilize the steel materials in such a way as to minimise wastage on account of cut pieces. All wastage shall be to the Contractor's account. Any straightening, cleaning etc. of the steel materials received from the Employer, shall also be done by the Contractor at his own cost.

The tenderer should the rates with excess weight if any due to Rolling Tolerance of Steel Materials (M.S. cold Twisted Bars or TMT Steel bars). No additional payment in this regard will be entertained. Consumption of the Steel Bars will be based on approved drawings and Standard Chart. Consumption for Steel materials shall be computed in the table of the chart subject to a variation of plus/minus ten (10%) percent.

## **2.6 Issue rates of Employer's materials**

The materials that will be supplied by the KMDA for the work and the rates at which the materials will be charged to the Contractor shall be as below :

<b>Particulars</b>	<b>Recovery Rates</b>	<b>Place of Delivery</b>
TMT Steel Bars	Rs. 53,900/- per Tonne	store within Any KMDA
Cement	Rs. 8,100/- per Tonne	Kolkata Metropolitan District.

Cement will be issued in jute / paper bags as received from the supplier and each bag will be considered to weight 50 Kg. and no special weightment will be made.

1. Under this Schedule : The minimum quantity of mild steel, TMT Steel and cement that shall be issued to the Contractor shall be limited to the requirements worked out for various items of contracted work based on the current Presidency Circle, Public Works Department, Government of West Bengal, Schedule of Rates and approved drawings, Grills will not be supplied by the Authority.
2. TMT/M.S. Bars will be issued as may be available with Authority in lengths and diameters. Lengths cannot be guaranteed.
3. The materials shown in the schedule above, as may be required for the work, will be supplied by the KMDA at rates and at places indicated therein unless specifically indicated to the contrary in the Schedule or Prices in respect of any particular materials in which case, the supply of the same will have to be arranged for by the Contractor.

4. The Employers material stated above shall normally be issued against special security deposit for the same. However if in the opinion of the Engineer, the contractor has brought enough construction material and or equipment, or has executed sufficient volume of work for which no payment has been made, he may issue the above listed material without claiming additional security. Additional security deposited if any on this account shall be refunded immediately after the material has been consumed in the work as certified by the EIC.
5. The carrying of all materials to be supplied by the KMDA from the place of supply to the worksite, including handling, loading and unloading will be at the Contractor's expenses and is to be covered by his rates for the items involving these materials.
6. Where supplies will be made by the KMDA, these only are to be used and no other unless specifically permitted by the Superintending Engineer in writing.
7. If in the case of any of the materials referred to in the Schedule be under Government control and supply for them be not forthcoming from the Government or Government controlled manufacturers or dealers or a license or quota be not available from the control Authorities, the KMDA cannot be held responsible for the same or for any delay caused thereby in the execution of the work. The Contractors should arrange their work, labour and staff according to the supplies available and no claim will be entertained from them for any compensation due to this cause.
8. All materials supplied to the contractor shall remain the absolute property of the KMDA and shall not any account be removed from the site of the work and shall at all times be open to inspection by the Engineer or his subordinates in charge of the work.
9. All other materials excepting those mentioned n the Schedule shall be arranged for an supplied by the Contractor. Materials other than these mentioned in the Schedule if available in the KMDA store, may be supplied to the Contractor at the discretion of the Employer at issue rates fixed based on actual cost, transport etc. plus store overhead charges. All materials that area to be supplied by the Contractor shall be of approved quality and the Contractor shall get samples previously approved by the Engineer.
- 10.If the materials shown in the schedule are temporarily out of stock, these may be purchased by the Contractor for use in the work only if approved by the Superintending Engineerfor which no extra claim will be entertained.
- 11.Any material indented in excess of the actual requirement for the work will have to be returned to the KMDA store in good condition within a week of the completion of work at the cost of the Contractor. Any loss or damage through any cause whatsoever will be charged at double the normal recovery rates for materials and will be recovered from the Contractor's Final Bill or Security Deposit or any other money held by the KMDA. Cement after expiry of 6(six) months from the date of issue or which has formed cakes due to had storing shall not be taken back.

12. The Contractor should make arrangement for proper storing of the materials issued to him by the KMDA in a properly constructed store-shed as mentioned in Clause 1.3 above.
13. A regular issue and utilization account of the materials supplied by the Department shall be maintained by the Contractor and this should be made available on demand by the Engineer.
14. The Contractor shall give in writing quarterly phased requirements of cement, steel and other materials scheduled to be supplied by KMDA as mentioned hereinabove within fifteen days of issue of work order.
15. Steel piles, if necessary, shall be arranged by the Contractor at his own cost. No extra payment for steel piling work will be allowed by KMDA.
16. Consumption of different materials of construction in the corresponding contract items of work shall be computed on the basis of the quantities shown in the table of P.C. P.W.D. Schedule of rates as in vogue at the time of dropping the tender subject to a variation of ( $\pm$ ) 5% (plus / minus five percent) except cement vide Note 17. For cast – in – situ bored piles actual consumption of cement would be recorded jointly during casting and the consumption shall not be based on the theoretical cylindrical volume in this case. The aforesaid shall have no bearing on the price.
17. Recovery of cement will be made according to following Table

<b>Range of Theoretical Consumption</b>	<b>Rate of Recovery</b>
1. (-) 5% to 0	1. At recovery rate stated above
2. 0 to (+) 5%	2. $1\frac{1}{2}$ time the recovery rate stated above
3. Above (+) 5%	3. $2\frac{1}{2}$ times the recovery rate stated above
4. Below (-) 5%	4. Shall be deemed as sub-standard work. If considered acceptable by a certificate of EIC, payment of the finished work will be Made at reduced rate as decided by EIC.

Explanation for serial 3: for consumption above 5% over theoretical consumption, say 6%, the first 5% would be recovered at  $1\frac{1}{2}$  times the recovery rate and the remaining 1% shall be recovered at  $2\frac{1}{2}$  times the recovery rate.

#### **4. TERMS OF PAYMENT**

##### **A) Works**

- i. **90% value of works shall be payable against running account Bill as per the items of work of BOQ executed.**
- ii. **Balance 10% value of the civil works as security deposit shall be payable after completion of the work as per the stipulations in the contract.**

**Note : Money retained against individual works as mentioned in this clause shall be termed as Retention Money and is exclusive of Security Deposit of 10% as described elsewhere in the document.**

**B) Security Deposit**

Security Deposit will be returned after **06 months** after completion of the work and after submission of all documents specified in Clause-74, Section

**5. NO INTEREST ON DUES**

No interest will be payable by the Employer on the amount due to Contractor pending final settlement.

**6. DISPOSAL OF THE EXCAVATED MATERIALS**

All materials obtained from any excavation required to be carried out under this contract will be the property of the KMDA and the Contractor shall not have any claim on it. It will not be used for any purpose other than refilling the excavations as needed or levelling the compound or in construction of any embankment or in any manner as directed by the Engineer. After completion of work or earlier if so directed by the Employer the surplus excavated materials shall be disposed off by the contractor at any distance without any extra cost, but only after being so directed by the Employer.

**7. POSSESSION PRIOR TO COMPLETION**

The Authority shall have the right to take possession for use of any completed or partly completed part of the work. Such possession or use shall not be deemed to be an acceptance of any work not completed in accordance with the agreement.

**8. TENDER TO STRICTLY COMPLY WITH SPECIFIED CONDITIONS AND ALL OTHER SPECIFICATIONS**

It should be clearly noted that the tenderers have to strictly comply with the specifications and other terms and conditions laid down in this document and no variations are permissible. This is necessary for the purposes of comparison of tenders received.

The Contractor shall stand guarantee for producing potable water as per the standards laid down in the tender and for the works carried out under this contract.

**Executive Engineer (Division-O&M-IA)  
W&S Sector / KMDA.**

## SECTION - D

### SPECIAL TERMS AND CONDITONS OF THE CONTRACT

- 1.1** All the works under this tender shall be executed as per schedule, specification, relevant IS specification and direction of the EIC.
- 1.2** Required Ductile Iron pipes (K-9) will be supplied by the contractor and necessary papers like Test certificates, GST challan of pipes etc shall have to be submitted to the division before execution of the work.
- 1.3** The work shall comprise also,
- a. Supply, Loading, transport and handling of Mild Steel / Cast Iron pipes, specials, valves etc. Supply of rubber gaskets for tyton joints is under the scope of this work if not supplied by the department,
  - b. Lowering, placing and laying such pipes, specials, valves properly in trenches, jointing by proper rubber gasket (push on joint / tyton joint etc.).
  - c. Supplying of all labour, tools & tackles, plants, instruments, equipment, machinery, accessories, as are needed to complete the job, in a manner as specified to the entire satisfaction of the EIC.
  - d. Hydraulic Testing of entire pipeline including all arrangements, supply and dispose of water, supply of calibrated pressure gauge and pressure generating machine, power supply for testing, water flow testing through the entire network laid and through the connection made with adjacent network.
  - e. Connection of the laid pipe-network under this scope with the adjacent existing/newly-laid pipe network.
  - f. Construction of valve chambers, temporary and permanent road restoration, and all other ancillary works.
  - g. There should be several connections at the newly laid pipeline, connection with existing pipeline and connection with newly laid pipeline made by other contractors. The contractor shall have to make the connection along with providing proper C.I./D.I. valves and valve chamber with no extra cost.
  - h. At the connections valves shall be provided. The contractor shall have to provide wash-out including valve and valve chamber at the places as directed by E.I.C.
- 1.4** Intending Tenderers are requested to inspect the site to ascertain the problems they may have to encounter while executing the work by maintaining normal traffic flow. The contractor will have to take necessary appropriate steps and precautionary actions so that the traffic routes are not hampered. No claims will be entertained under any circumstances for cost related to such work.
- 1.5** During laying of pipe line the contractor shall at his own cost take adequate measures for the safety and convenience of the public including owners of building, factory / workshop, shop, culvert etc. as well as for the safety of the adjoining, structures, utility services, water main etc. If there is any necessity of dismantling of permanent structure of brick, concrete or RCC construction, that shall be done by contractor at his own cost unless it is done at the instruction of Department. The work shall be carried out with minimum inconvenience to the public. The back filling and road restoration work shall be taken up at earliest and shall be completed with minimum possible time and strictly as per specification.
- 1.6** The intending Tenderers are requested to inspect the site to ascertain the problems they have to encounter while executing the work. There are a number of utility



services (other than road) like drinking water pipeline, sewage pipeline, surface drain, high tension or low tension electric cable, optical fiber cable (OFC), telephone cable, oil pipeline, gas pipeline etc. running along the working site. For laying of D.I. main, the contractor will have to negotiate with the respective Authorities and take appropriate precautionary measure so that these services will not be damaged (or interrupted). In case of any damage (or interruption), contractor will have to negotiate with the respective Authority and repair the damage or pay the money for repairing the damage as per direction of the competent Authority.

- 1.7** No payment will be made for the materials supplied by the contractor as mentioned in the Schedule unless the specification, quality and the make of the materials is approved by the EIC prior to supply. Test certificates for the materials (as desired by the EIC) must be submitted to the EIC prior to supply of those at site. For the items of work as mentioned in schedule, where materials like nuts, bolts, welding rods, paints etc. or any type materials or accessories are to be supplied and used. Engineer-in-Charge must approve the specification, quality and make of those materials or accessories prior to supply. Otherwise no payment will be made for those items of works also.
- 1.8** In case of any ambiguity arises explaining any clauses or terms & condition or others, Authority's interpretation is final and binding for the contractor.
- 1.9** This may however be categorically noted that the scope of work written here have only outline the intent of the work and the contractor shall take sole responsibility for smooth, effective trouble free, uninterrupted execution of the job as per direction of EIC keeping close liaison with other contractors.
- 1.10** M.S. pipeline of suitable diameter shall have to be provided only at the places, (i) while crossing any small water course near culverts. Other than the crossing on water course, required diameter of pipe of at least 8 to 10 mm thickness shall have to be provided as decided by the Engineer-in-Charge. For this, no extra payment (above the quoted rate) shall be made under any circumstances. For any deviation from the above-mentioned specification, payment shall not be made for the portions where the contractor shall not adhere to the specifications.

The contractor will have to procure MS plates from open market as per tender specifications. And, he shall have to produce test certificate for the supplied material. In case of the absolute technical difficulty in fabricating the MS pipes from 8 to 10 mm thick MS plates, he may be allowed by the Chief Engineer to supply MS spun pipes or MS black pipes of requisite thickness. In that case, he shall have to produce test certificate for the supplied material.

- 1.11** As time is the essence of this contract, the contractor shall have to carry out the pipe laying work simultaneously at several sites. For the easy management of the total work, the entire length may be divided into three Sectors by the E.I.C., which shall have to be understood by the contractor. The contractor shall have to be carrying out his work at least at three sites simultaneously. He is at his liberty to carry out his work at more than three places but at least one site at each sector shall be adopted. At some road crossings and other sensitive sites, utmost care to lay the D.I./M.S. pipeline shall be taken. That work shall be carried out part by part and in night time only. As there are several utilities (also along the entire route) the contractor shall have to be very careful, and for any damage made by the contractor, the entire cost pertaining to the repair and/or replacement of the damage and all relevant penalties shall have to be paid by the contractor.

After the laying of entire pipeline at all the Sectors, the contractor shall have to ascertain the Department regarding proper connection of pipelines among the Sectors and with the existing pipeline. To ascertain the proper connections, the

contractor shall have to perform the continuity test within the entire pipeline at his own cost and as per direction of the E.I.C. The specification and methodology of the continuity test shall be as per instruction of the E.I.C. It is the absolute discretion of the E.I.C. to detain the running or final bill before the continuity test.

- 1.12** During the maintenance period of **six months**, if any problem shall arise anywhere on the pipeline, including valves and valve chambers, the contractor shall have to repair/replace the component immediately. If the contractor shall make any delay in repairing/replacing the component, the Authority shall hold the power to repair/replace the component by appointing any other contractor and the cost of that shall be deducted from the Security Deposit.
- 1.13** All the valve chambers shall be constructed as per instruction of the E.I.C. The size of the valve chamber shall be provided by the E.I.C. at the time of laying the pipeline. The base of the valve chamber shall be of RCC (1:2:4) of thickness not less than 150 mm. The top slab of the chamber shall be of RCC (1:1.5:3) with the thickness not less than 200 mm. The wall of the valve chamber is of masonry (1st class brick) of at least 375 mm thickness and with 1:4 cement mortar ratio. The valve chamber shall be including plastering, neat cement punning, pointing etc. all complete as per instruction of the E.I.C.
- 1.14** Adequate number of suitable flanged wash-outs (of adequate size) along with adequate diameter of sluice valves and valve chamber and wash out valves as required and by Engineer-in-Charge shall be provided at the places as indicated by the E.I.C. The wash-out shall be tightly closed by C.I./D.I. flange-cover with the help of rubber gaskets and nut & bolts. Size of the chambers shall be as instructed by the E.I.C. and specifications are as indicated above.
- 1.15** All thrust blocks and pipe supporting blocks shall be of RCC (1:1.5:3) with steel content of at least 90 kg/cu.m. In case of providing the blocks at a submerged area, RCC (1:1.5:3) shall be provided with extra cement as per the I.S. Specification.
- 1.16** **Valve and valve chamber:** The contractor is required to include in his quoted rate the cost of construction of valve chamber including the cost of valve for every 500 metres of laying for different diameter of pipes or as per instruction of E.I.C.

However, the actual number of valves will be decided by the existing site conditions and as per requirement of the E.I.C. Thus, the number of valves and valve chambers as per the calculation delineated above may vary with the actual execution / site condition. The Contractors are advised to visit and inspect the site and interact with EIC before quoting their rate.

**Temporary and Permanent Road restoration:** The nature of road surfaces in the site area are varying in nature. The tenderers are required to visit the site to ascertain the type of roads he shall encounter during the execution of his works before quoting their rate. The contractor is instructed to quote their rates by including the cost of temporary road restorations well as permanent road restoration by assuming the actual site condition whether it is of bituminous construction or concrete.

**Ferrule shifting:** The contractor has to carry out the ferrule shifting work wherever applicable as per the site condition and as per the decision of the E.I.C.

## **2.0 EXCAVATION AND BACKFILLING OF TRENCHES**

- 2.1** Excavation of earth includes excavation of trenches to a suitable depth and alignment so as to ensure proper clear distance both horizontally and vertically from the existing utility service main of working site or as directed by EIC.

**2.2** The excavation may have to be done through any material, soil with roots of trees, foundation of any type of structure, premixed road surface, water bound macadam road, concrete road etc. For proper maintenance of grade and level and contractor must fix up suitable site rails at site as per direction of EIC or his authorised representative.

**2.3** Cutting the pipes and specials to sizes where necessary, lowering them along the trenches including laying, fitting, fixing and jointing should be done in presence of EIC or his authorised representative.

**3.0 TECHNICAL SPECIFICATIN FOR LAYING OF DI PIPE**

**3.1** Pipe should be laid at the established line and grade. Trenches are dug to a specified level and grade. Trenches should be as narrow as possible, which provides room for pipe laying, backfilling, compacting and other operations. Trenches should be shored and braced properly. The bottom of the trench should form a continuous bed for the pipe.

**3.2** At the end of each day the end of the pipe should be plugged to prevent the entry of animals, foreign substances and water.

**3.3** Sufficient space must be provided for jointing the pipes. Pipe should be inspected prior to being placed in the trench and all foreign materials should be removed. The pipe never be allowed to drop into the trench. It should be lowered carefully into position; joints should not be deflected beyond the permissible limit. All joints should be installed carefully.

**3.4** The pipe spigot should be pushed into the socket with the use of a fork or a rack and lever machine. Prior to pushing, any sand, dirt, grease (other than specified lubricant) or debris should be removed and cleaned from the socket end and gasket. All tees, bends, caps, plugs, hydrants or other fittings that change the direction of flow or stop the flow should be restrained or blocked.

**3.5** Supplying DI (K-7) pipes conforming to IS 8329-2000 with latest revision & amendments if any with necessary D.I specials including labour charges for earth work in excavation in any kind of soil including mixed soil with boulder, road sub-grade and its flank but excluding moorum laterite or sand stone / hard rock cutting with chisel required including cutting road flank/ brick pavement etc. without damaging the existing telephone/electrical cable line etc.(in case of damage of any type of cable line by the agency at the time of execution necessary damage charge as applicable by the respective authority will have to be borne by the agency at his own cost.

**4.0 TESTING**

**4.1** Hydraulic test of entire pipelines along with all branches after laying are to be given by the contractor while the laying of pipe proceeds on the pipe joints along with valves and specials are to be tested in section of 500 meters or more as suitable under a water pressure of  $6 \text{ kg/cm}^2$  and the same to be tested in section of 500 meter or more as suitable under a water pressure of  $6 \text{ kg/cm}^2$  and shall withstand the above pressure for a continuous period of 1 hour without any leakage or fall of pressure in the pressure gauge. Only calibrated and sealed pressure gauges (calibrated from a authorized Govt. test house only shall be accepted) shall be allowed for pressure testing. Pressure gauges shall have to be installed at the points as directed by E.I.C. If the part/region of the pipe network under consideration for pressure testing has any branch/branches, pressure gauges must be installed at all dead ends of the branch lines. Without pressure testing at all dead ends of such

branch lines, such testing shall not be accepted unless certified by the E.I.C. If the Contractor are intending to perform hydraulic test for a part of the entire pipe-network under his scope for the purpose of submission of Running Bill, he will be allowed to do so, but unless the hydraulic test and flow-through test will be performed for the entire network and the connections, no Completion Certificate will be issued and no final bill will be paid. No payment will be allowed without satisfactory hydraulic test.

The contractor is free to perform the pressure test along the entire pipeline at a time.

- 4.2** For the purpose of hydraulic testing, the contractor shall have all necessary appliances tools & plants, pumps, pipes & specials (blank flanges) and also labour. The contractor shall have to arrange for procurement of clear water required for hydraulic testing and KMDA will not have any responsibility in this regard. This point shall be taken into consideration and the contractor shall find at his own way of supplying clear water for testing before quoting for this work. No extra claim whatsoever shall be entertained in this regard.
- 4.3** The contractor shall also make arrangements at his own cost for draining out the water in pipeline after satisfactory hydraulic testing. No extra claim whatsoever shall be entertained in this regard.
- 4.4.** If at the time of testing any pipe, special and valve are found defective or any joint have been found leaking or sweating or having any other defect the contractor will have to replace the pipe, special or valve by a good one and/or he will have the defective joints freshly done after which the line will be tested again under the same pressure till found satisfactory by the EIC. No extra payment will be made for such rectification work and the cost for this would be included in overall value quoted for the work by the contractor.

**EXECUTIVE ENGINEER,  
DIVISION-O&M-IA, W&S SECTOR, KMDA**

### **List of Special terms & Conditions of Contract for**

Replacement of existing 150 mm dia ESR rising main by D.I [K-9] pipe having same dia from N.C Pal Pool to BISCO more of Jhorehat G.P under Sankrail Zone-II (N C Pal) FAWS scheme.

1. It is mandatory that the perspective tenderers visit the site works and make themselves acquainted with the local conditions and take into consideration all possible eventualities while quoting their rates.
2. Rates to be quoted for Operation of all types valves at different points (Inside & Outside) of UGR O&M-IA FAWS Scheme area
3. Necessary execution protection should be taken for all the works to complete the cleaning works.
4. To avoid water logging in the areas adjacent to the ugr, adequate pumps arrangement shall be kept available at site.
5. Adequate safely arrangements by way of lighting during night hours etc. shall also be provided.

**Executive Engineer (Division-O&M-IA)  
W&S Sector / KMDA.**