Piling Works along with Performing Its Lateral and Vertical test pertaining to the Construction of first Phase (B+G+IV) of Administrative Building of New Town Kolkata Development Authority at Plot No. DG/13, Premises No. 04 – 3333, Action Area – 1D, New Town Kolkata.

VOLUME – IIA

ADDITIONAL CONDITIONS OF CONTRACT

CLIENT DOCUMENTS
ADDITIONAL CONDITIONS OF CONTRACT (ACC)

1.0 The following Additional Conditions of Contract shall be read in conjunction with General Conditions of Contract. If there are any provisions in these Additional Conditions of Contract, which are at variance with the provisions of General Conditions of Contract, the provisions in these Additional Conditions of Contract shall take precedence.

2.0 INTRODUCTION

New Town Kolkata Development Authority, intends to undertake the construction of Administrative Building, at Plot No. DG/13, AA-1D Premises No.04-3333, Action Area – 1D, New Town Kolkata.

New Town Kolkata Development Authority (NKDA) is keen to develop their own office in the heart of this township which is eventually become a multiple/corporation office. The Authority has a dream that this multifunctional city will get a unique landmark building as its office with good aesthetics, which will enhance urbanscape.

In addition to providing of office facilities along with Auditorium, Conference room & Cafeteria, the building will also have landscaping features like foundation, water bodies, terrace garden etc. Internal roads & pathway area lighting will be of standard with good architectural views. Within the project area there will also be security & management staff room.

3.0 Description of the Project and scope of work:

The project site is located at Premises no: 04-3333, DG-13, Action area-1D, New Town, Kolkata
The area of the plot is approximately 7001.888 Sqm.
Total Built up Area is 14009.016 Sqm The first phase built up area is 9619.269 Sqm.
Proposed FAR to be consumed is 2.001. The first phase FAR will be 1.37
Proposed Ground Coverage is 19.71%.

Scope of Work:

The brief scope of work as mentioned below included in this tender shall include (but not limited to) RCC cast in Situ bored Piling works along with performing its lateral and vertical test pertaining to the Construction of Administrative Building, at Plot No. DG/13, Premises No.04-3333, Action Area – 1D, New Town Kolkata.

Apart from above, any other services not covered above but required as per direction of EPI are deemed to be included in the scope of work. The work is to be carried out on item rate basis as per bill of quantities and tender conditions.
4.0 QUALIFICATION OF TENDERERS

To be eligible for this tender the bidders should fulfill the requirements for eligibility as mentioned in the Notice Inviting Tender (NIT) and should submit detailed data and credentials set out in Cl 19.0 of ITT (Vol-I) of the Tender. The Tenderers are required to fulfill all the eligibility criteria as stipulated in NIT and elsewhere in the Tender documents. The price bid of tenderers who fulfill the eligibility criteria as per evaluation of EPI shall only be opened. The decision of EPI in this regard shall be final & binding on the tenderers.

5.0 DISQUALIFICATION

The tenderers may note that they are liable to be disqualified and not considered for the opening of Price Bid if;

a) Representation in the forms, statements and attachments submitted in the pre-qualification document are proved to be incorrect, false and misleading.

b) They have record of poor performance during the past 10 (ten) years such as abandoning the work, rescinding of contract for which the reasons are attributable to the non-performance of the contractor, inordinate delay in completion, consistent history of litigation / arbitration awarded against the contractor or any of its constituents or financial failures due to bankruptcy etc. in their ongoing / past projects.

c) They have submitted incompletely filled in formats without attaching certified supporting documents and credentials to establish their eligibility to participate in the Tender.

d) If the tenderers attempt to influence any member of the selection committee.

EPI reserves its right to take appropriate action including disqualification of tenderer(s) as may be deemed fit and proper by EPI at any time without giving any notice to the contractor in this regard. The decision of EPI in the matter of disqualification shall be final and binding on the Tenderers.

6.0 (a) The set of tender documents shall contain one set of hard copy of tender drawings. The original hard copy of tender drawings shall be returned along with the tender documents duly signed and stamped by the tenderer and shall form part of agreement.

(b) The tenderer who have downloaded the tender documents and drawings from EPI’s website shall also submit one set of hard copy of tender documents along with set of tender drawings duly signed and stamped by the tenderer and shall form part of agreement.

7.0 SPECIFICATIONS

i) All works are to be carried out in accordance with the General Conditions and Specifications including mode of measurement of State P.W.D Schedules in force at the time of acceptance of the tender.

ii) The specification for work not covered by the specifications laid down in the PWD (WB)
Schedules, DSR or Schedule of MES, CPWD shall be followed.

iii) Items of Works not covered in the above schedules should be governed by I.S.I code of Practice, National Building Code, technical specifications as laid in this tender document, and as per best practice according to the Engineer-in-Charge and the Consultant.

iv) In addition to the above, the Technical specifications as mentioned in the Tender documents shall be applicable.

iv) This contract shall be governed by the Indian Laws for the time being in force. The contract is confidential and must be strictly confined to the purposes of the contract.

v) The contractor shall provide everything necessary for the proper execution of the works according to the intent and meaning of the specifications and drawings taken together whether the same may or may not be particularly shown or described therein provided that the same can be reasonably be inferred there from and if the contractor finds any discrepancy in the specifications and drawings and between the drawings, he shall immediately and in writing refer the same to the employer who shall decide which is to be followed.

vi) The work order/LOI will be issued by EPI and handing over of the site and date of commencement of the contract shall be within 10 (ten) days of issue of such letter.

8.0 PRICE ESCALATION

No price escalation is payable.

9.0 MOBILIZATION ADVANCE – Clause no. 8.0 (8.1 – 8.6) of General Conditions of Contract (GCC) stands deleted.

10.0 RETENTION MONEY - Clause no. 10.0 of GCC shall be modified as under:-

The retention money shall be deducted from each running bill of the Contractor at 8% (eight percent only) of the gross value of the Running Account. The Earnest Money Deposited by the tenderer in the form of Demand Draft will be treated as part of the Retention Money. The Retention Money shall be refunded to the Contractor after expiry of defects liability period or on payment of the amount of the final bill whichever is later. If the amount of Retention Money deduction in cash is more than Rs.10,00,00,000.00 (Rupees Ten Lakh only), the excess amount can be refunded to Contractor against submission of Bank Guarantee of equivalent amount from a Nationalized Bank/ Scheduled Bank in the prescribed Proforma of Performance Guarantee of EPI.

11.0 TAXES AND DUTIES – Sub-clause no. 13.1 of Clause 13.0 of GCC shall be modified as under. Sub-clauses no. 13.2, 13.3, 13.4 & 13.5 of clause no.13.0 stand good.

“*The contractor shall be responsible for the payment, wherever payable, at his own cost of all taxes such as excise duty, custom duty, sales tax, including the purchase tax, consignment tax, work contract tax, service tax, VAT or any other similar tax in the state concerned, turnover tax, toll tax, Octroi charges, royalty, cess, labour cess, professional
taxes, levy and other tax (es) or duty (ies) which may be specified by Local / State / Central Government from time to time on all materials etc. and articles which may be used for this work. The rates quoted by him in the Tender in Bill of Quantities shall be inclusive of all such taxes, duties, etc. The imposition of any new and / or increase in the aforesaid taxes, duties, levies (including fresh imposition of work contract tax, turnover tax, sales tax on work contract, VAT or any other similar tax) etc. during the currency of the contract shall be borne by contractor and shall not be paid or reimbursed to the contractor by EPI. In the event of non-payment / default in payment of any octroi, royalty, cess, labour cess, professional taxes, turnover tax, sales tax, including the purchase tax, consignment tax, work contract tax, VAT, service tax or any other similar tax in the state concerned, customs, excise or any other levy / tax including labour dues etc. by contractor, EPI reserves the right to withhold the dues / payments of contractor and make payment to Local / State / Central Government authorities or to labourers as may be applicable. The contractor should submit along with the Tender Registration Certificates with Sales Tax on works contract authority etc. otherwise appropriate recovery shall be made from his bills”.

12.0 SECURED ADVANCE AGAINST NON-PERISHABLE MATERIALS – Clause no. 35.0 of GCC stands deleted.

13.0 EXTRA OR DEVIATION ITEMS

a. To be derived from PWD (WB) current schedule of rates or DSR or MES or item rate analysis. If not possible, derived as cost of materials+cost of labour+10% contractor’s profit+5%overhead+1% labour welfare cess.

b. Deviation/extra items shall be carried out with prior approval of client/EPI. On Approval & Receipt of payment of such items from client, 93 % payment shall be released after deducting 7 % EPI’s overhead and profit/margin.

14.0 COMPLETION AND TAKING OVER

As soon as the project is finally completed, the Contractor shall inform EPI and EPI shall in turn inform to NKDA. NKDA shall nominate a Board of Officers for checking/verification of completed work as per the scope of work for final taking over the project.

15.0 A final certificate of rectification of all defects pointed out by the handing over taking over board detailed by NKDA/EPI and / or during defect liability period shall be obtained from the nominated officer of NKDA/EPI prior to releasing of the Security deposit by EPI.

16.0 Clause No. 72.4.1 of GCC stands modified as under:

Within 10 (Ten) days of date of Letter of Intent, the contractor shall submit a Time and Progress Chart (CPM/PERT/Quantified Bar Chart) and get it approved by the Engineer-in-Charge. The Chart shall be prepared in direct relation to the time stated in the contract documents for completion of items / scope of the works. It shall indicate the forecast (milestones) of the dates of commencement and completion of various items trades, sections of the work and may be amended as necessary by agreement between the Engineer-in-
Charge and the Contractor within the limitations of time imposed in the contract documents, to ensure good progress during the execution of the work. The physical report including photographs shall be submitted by the contractor on the prescribed format & the intervals (not later than a month) as decided by the Engineer-in-Charge. The compensation for delay as per clause 72.1 (revised as per ACC) shall be leivable at intermediate stages also, in case the required progress is not achieved to meet the time deadlines of the completion period and / or milestones of time and progress chart provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the tendered value of work.

In case entire work is completed within the total time period of completion or extended period of completion allowed, the compensation for delay due to not achieving progress at intermediates stage, if any, shall be refunded without any interest charges.

17.0 ARBITRATION:

17.1 Clause no. 76.1 along with note of GCC

Deleted- There shall be no Arbitration Clause for this Contract except between Central Public Sector Undertakings inter se / Government of India Departments / Ministries as mentioned in the Clause No. 76.2 below:-

17.2 Clause no.76.2 of GCC - ARBITRATION BETWEEN CENTRAL PUBLIC SECTOR ENTERPRISES INTER SE / GOVERNMENT OF INDIA DEPARTMENTS / MINISTRIES

i) In the event of any dispute or difference relating to the interpretation and application of the provisions of the contracts, such dispute or difference shall be referred by either party for arbitration to the sole arbitrator in the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. The award of the Arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may take a further reference for setting aside of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law & Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary/ Additional Secretary, when so authorized by the Law Secretary, whose decision shall bind the Parties finally and conclusively. The parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.

ii) Subject to any amendment that may be carried out by the Government of India from time to time, the procedure to be followed in the arbitration shall be as is contained in O.M. No. 4(1)/2011-DPE (PMA) GL dated 12.06.2013. of Department of Public Enterprises, Ministry of Heavy Industries and Public Enterprises, Govt. of India or any modification issued in this regard.
17.3 Clause No.76.3 of GCC, stands modified as under:

**JURISDICTION:**

The courts in Kolkata alone will have jurisdiction to deal with matters arising from the contract, to the exclusion of all matters.

18.0 **COMPLETION SCHEDULE**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Period from the date of Start</th>
<th>Cumulative value as a percentage of total value of work to be completed.</th>
<th>Description of work to be completed during the period specified under column no. 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>From the date of start up to the end of 1st month</td>
<td>20%</td>
<td>Completion of 20% of the total piling work and subsequent testing</td>
</tr>
<tr>
<td>2</td>
<td>From the start of 2nd month up to the end of 3rd month</td>
<td>80%</td>
<td>Completion of 80% of piling the total work and subsequent testing</td>
</tr>
<tr>
<td>3</td>
<td>From the start of 3rd month up to the end of 4th month</td>
<td>100%</td>
<td>Completion of all Piling work along with subsequent testing</td>
</tr>
</tbody>
</table>

**Note:** In case of mismatch in financial and physical progress as at col. No. 3 & 4, above at any milestone stage, the financial progress shall be considered for levy of compensation of delay, if any. All infrastructural development works shall be completed within the stipulated time frame.

19.0 **PLANT & MACHINERY**

All plant & machinery required for execution of work shall have to be arranged by the contractor at his own cost. However, the Contractor has to deploy following minimum plant & machinery at site immediately after award of work:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Description</th>
<th>Minimum numbers required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Piling Rig &amp; accessories</td>
<td>Ten</td>
</tr>
<tr>
<td>2.</td>
<td>Batching Plant of 15cum or more per hour capacity</td>
<td>One</td>
</tr>
<tr>
<td>3.</td>
<td>Digital theodolite &amp; auto level</td>
<td>one</td>
</tr>
<tr>
<td>4.</td>
<td>Leveling Instruments</td>
<td>Two</td>
</tr>
</tbody>
</table>
Additional Conditions of Contract
Engineering Projects (India) Limited

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>Vibrators (Petrol / Electrical)</td>
</tr>
<tr>
<td>8.</td>
<td>Bar bending machine</td>
</tr>
<tr>
<td>9.</td>
<td>Loader cum excavator</td>
</tr>
<tr>
<td>10.</td>
<td>Tripper/Dumper</td>
</tr>
<tr>
<td>11.</td>
<td>Builder hoist</td>
</tr>
<tr>
<td>12.</td>
<td>DG Set (125 KVA)</td>
</tr>
<tr>
<td>13.</td>
<td>Welding Machine</td>
</tr>
</tbody>
</table>

Note:

a) Any other equipment for site test as outlined in CPWD/ BIS specification and as directed by the Engineer-in-Charge.

b) The quantities of equipments indicated are tentative and can be increased as per the requirement of work OR as per the direction of Engineer-in-Charge. The above equipment list is indicative and not complete. The contractor has to deploy all the required equipment to complete all the works within stipulated specifications & time period as per contract documents.

c) The contractor will not be allowed to take out equipments from the site without the written permission of Engineer-in-Charge.

20.0 The final bill will be submitted by the contractor within 90 days from the date of acceptance of completion of work accompanied by the following documents:

a) Completion certificate issued by the Engineer-in-Charge specifying the handing over of the work including list of inventories (fittings & fixtures).

b) Computerized stage wise payment schedule.

c) No claim certificate by the contactor.

d) No claim certificate from the sub-agencies / venders engaged by the contractor.

e) ‘As built’ drawings.

f) Periodical services and measurement books.

g) Drawings for layout of underground cables and details showing location of sluice valves, electric cable joints etc.

h) All operation and maintenance manuals.

i) All statutory approvals from various state / central govt. local bodies, if required for completion & handing over of the work as included in scope of Contractor.

j) Manufacture’s guarantee of various machines / equipments installed as part of works.

21.0 Clause no. 45.1 of GCC stands modified as under:

Cement shall be supplied by EPI at work site on recoverable basis. The recovery rate shall be on actuals. The cement shall be stored by the successful bidder in suitable covered and lockable stores, well protected from climate and atmospheric effect. The cement godown shall be constructed by the successful bidder as per CPWD specifications at his own cost. The cement will remain under double lock, one from EPI and other from the bidder. The cement in bags shall be stored in godown in easy countable position. Cement bags shall be used on first in first out basis. Cement stored for beyond 90 days will be required to be tested at bidder’s cost, before use in works.
22.0 Clause no. 45.2 of GCC stands modified as under:

Reinforcement steel shall be supplied by EPI at work site on recoverable basis. The recovery rate shall be on actuals. The steel shall be stored and stacked in such manner so as to facilitate easy identification, removal etc. The successful bidder shall take proper care to prevent direct contact between the steel and the ground/ water for which he shall provide necessary arrangement at his own cost including ensuring proper drainage of area to prevent water logging as per directions of the E-I-C. If required, the steel shall also be protected, by applying a coat of neat cement slurry over the bars for which no extra payment shall be made.

23.0 FACILITIES

The sub-clause 28.3 of the clause no. 28 of General Conditions of Contract (GCC) for Furnished Office Accommodation & Mobility and Communication to be Provided by Contractor to EPI shall be replaced and read as under:-

The contractor shall make his rates in Bill of Quantities sufficiently comprehensive to cover the cost of the facilities as per details shown below and the contractor shall not be entitled for any extra payment for the same.

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. OFFICE WITH FACILITIES – The contractor is to provide office with following facilities till defect liability period.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A) OFFICE ACCOMMODATION</td>
<td>Sq. ft.</td>
<td>700</td>
</tr>
<tr>
<td>Furnished Office/ Porta Cabin with furniture as per direction of EPI with basic amenities like toilets, drinking water arrangement, lights, fans etc. for exclusive use of EPI’s Engineers &amp; Staff. Maintenance of the same till Defect Liability Period shall be borne by the contractor. The Specifications and Design of accommodation shall be as approved by EPI.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B) OFFICE EQUIPMENT</td>
<td>Nos.</td>
<td>1</td>
</tr>
<tr>
<td>a) Computer (Pentium-IV, i7, i5 Core2 Duo) with minimum 250GB HDD along with UPS &amp; Operator (In case computer operator is not provided by the contractor, recovery of Rs. 8000/- per month shall be made from the Contractor’s bill in this regard) and latest Version of Software’s like MS Project, Windows, MS Office, AutoCAD etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Laser Printer or any other Printer of equivalent amount. All-in-one printer ( Fax, Print, Scan, Copy )</td>
<td>Nos.</td>
<td>1</td>
</tr>
<tr>
<td>d) Aqua Guard (Drinking water) or any other gadget of equivalent cost as decided by EPI</td>
<td>Nos.</td>
<td>1</td>
</tr>
<tr>
<td>e) Air Conditioner with Cooling &amp; Heating ( 1.5 Ton Capacity )</td>
<td>No.</td>
<td>1</td>
</tr>
<tr>
<td>f) Digital Camera</td>
<td>No.</td>
<td>1</td>
</tr>
<tr>
<td>Running &amp; maintenance of the equipments mentioned above are to be done by the contractor at his own cost.</td>
<td>As per actual</td>
<td></td>
</tr>
<tr>
<td>C) CONSUMABLES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All consumables like Stationary, Toner / ink etc. shall be provided by</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tenderer till end of defect liability period. (Stationary items are inclusive of visiting cards, rubber stamps, letter pads, photocopies papers & other items of daily office use). Amount shall be restricted to Rs. 5000/- per month

**D). CONVEYANCE AND OTHER FACILITIES**

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle (Brand New) Four wheel drive Scorpio DX vehicle or equivalent with Driver and accessories valuing Rs. 30,000/- each vehicle. Monthly running shall be restricted to 3000 Kms each. Office Boy Cum-Cook on full time basis for EPI</td>
<td>Nos. 1</td>
</tr>
</tbody>
</table>

The vehicle shall be brand new and shall be provided with driver on full time basis. Consumables like diesel/petrol/oil lubricants and spare parts etc. shall be provided by the Tenderer at their cost. The vehicles shall be maintained in good working condition. In case of breakdown, replacement of vehicle shall be provided by Tenderer. Registration, transportation etc. shall be borne by the Tenderer. In case a vehicle is not required by EPI, a recovery of Rs. 50,000/- (Rupees Fifty Thousand Only) per month per vehicle shall be made from the Tenderer for this purpose till the end of defect liability period.

In case Driver, POL, maintenance of any vehicle is not required by EPI, a recovery of Rs. 25,000.00 per month per vehicle shall be made from the Tenderer for this purpose till the end of defect liability period.

The above gadgets facilities should be brand new and of reputed make and all facilities shall be provided and maintained properly (including payment of water & electricity bills etc. for office accommodation only) by the Tenderer at Project site or at any other office related with execution of this project till completion of work in all respect at his own cost. The Tenderer shall also make stand-by arrangement for water & electricity to ensure uninterrupted supply.

The equipment/items shall be the property of Tenderer at the end of contract. The Tenderer shall be responsible for watch and ward of site office and other facilities etc. In case of theft/damage of any equipment/items, the Tenderer shall immediately replace the same within a maximum period of two days.

The Tenderer shall provide ‘Sign Board(s)’ as per design approved by EPI and/or Client.

In case the above facilities are not provided by the Tenderer within 10 (ten) days of award of work or replacement is not provided within the specified period, EPI shall arrange the same at the risk and cost of the PARTY and make the recoveries from the bills of the Tenderer for the same. The decision of EPI shall be final and binding on the Tenderer in this regard.

**24.0 SITE LABORATORY & OFFICE FOR EMPLOYER (NKDA)**

1. A waterproof and air-conditioned, lockable, office-accommodation for EMPLOYER (NKDA) consisting of two (2) rooms each of approx. 15 sq. meters shall be constructed
by the successful bidder. These offices shall be provided with all sanitary, water supply and electrical services and shall be kept in clean and tidy conditions. Necessary display boards, office furniture, almirahs and telephone facilities will be provided therein, all at bidder’s cost till completion of the work in all respect.

2. The Display Boards for the Project shall be supplied and erected as per given sizes, specifications and descriptions and at specified locations, as approved by EMPLOYER/EPI.

3. A field Laboratory will be established in a room of suitable size equipped with the following, with adequate labour and materials required for carrying out tests therein:

(i) Set of standard sieves for testing grading of sand and a 75 micron sieve for testing silt content.
(ii) Sieves with openings respectively of 5mm, 10mm, and 20mm for testing grading of aggregates.
(iii) Balance of capacity 10 Kg reading to 5 gm, with weights.
(iv) Primus stove and pans for drying of sand and aggregates.
(v) Glass measuring flasks of 1/2 and 1 litre capacity
(vi) Flask for determining moisture content of sand.
(vii) Slump cone for slump test.
(viii) Minimum 24 steel moulds for 150 x 150 mm test cubes. It may be necessary to provide more steel cube moulds depending upon concreting programmed.
(ix) Work benches, shelves, desks, sinks and any other furniture and lighting as required by the ENGINEER-IN-CHARGE.
(x) Cube testing machine.
(xi) Any other equipment not specifically mentioned above which can reasonably be held necessary for the completion of the contract works to the satisfaction of the ENGINEER-IN-CHARGE. NOTE: The requisite tests shall be conducted in field Laboratory as per P.W.D. Specifications and other related I.S. Codes. All such tests shall be conducted in presence of the ENGINEER-IN-CHARGE and the proper Test Records shall be maintained by CONTRACTOR with the attestations by the ENGINEER-IN-CHARGE. The CONTRACTOR shall bear all expenses for installing, running and maintenance of this Field Laboratory.

25.0 The Tenderers must understand that the items marked in schedule of work are actual items to be executed. Alteration, omission, deduction or addition from / to these items is at the discretion of the employer without effecting the terms of the contract.

26.0 ENVIRONMENTAL CONSIDERATIONS

The Contractor shall be concerned with the impact of his work upon the Environment. This applies to the effect upon the residential community, adjacent industrial facilities and upon the area outside the site boundary. Areas of concern will include but are not limited to:

a) Use of clean fuels to minimize air polluting emissions.
b) Control of other air pollutants.
c) Recovery and recycling of usable materials.
d) Control of vehicle noise.
e) Control of noise from power facilities.
f) Limitation of vibrations.
g) Preservation of natural land to the extent possible.
h) Preservation of archaeological features.

27.0 Financing/ Bank charges for guarantees furnished/to be furnished to NKDA by EPI shall be borne by the bidder for the proportionate value of the bidder.

28.0 Custody of Drawings

All the approved Drawings shall remain in the sole custody of the Engineer-in-Charge 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 Contract the Contractor shall return to the Engineer-in-Charge all drawings provided under the Contract.

One copy of the Drawings, furnished to the Contractor as aforesaid, shall be kept by him on the site and the same shall at all reasonable times be available for inspection and use by the Engineer-in-Charge and his Representatives and by any other person authorized by the Engineer-in-Charge.

29.0 Disruption of Progress

The Contractor shall give written notice to the Engineer-in-Charge on progress of the works 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-in-Charge 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 late.

30.0 Delays and Cost of Delay for Drawings

If, by reason of any failure or inability of the Engineer-in-Charge to issue within a time reasonable in all the circumstances any approval of drawing or order requested by the Contractor in accordance with clause (6) of this section, the work remains suspended or delayed then the Contractor shall be granted necessary extension of time only. But he shall have no claim to extra payment or compensation whatsoever on the grounds of above delay.

31.0 Delay in Getting Site of Work

If at any time after the issue of work order, the work, and/or any part thereof cannot be started or shall remain suspended due to public opposition, non-availability of site, delay in shifting public utilities or for any other reason whatsoever within the period of completion of work, the Contractor shall be granted necessary extension of time. But he shall have no claim to extra payment or compensation whatsoever on the grounds of above delay.

If, however, the above hindrances are not removed within the schedule time and the Contractor is not agreeable to execute further works in the extended time, the Contract may
be terminated and the Contractor shall have no claim to any payment on account of idle labour, establishment etc. or compensation whatsoever on account of any profit or advantage which he might have derived from the execution of the aforesaid work in full or in part.

32.0 Survey: Layout and Access

The Contractor shall satisfy himself regarding the correctness of the site Layouts, levels etc. as 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 Department. Discrepancies noticed between Departmental drawing and the joint survey shall be informed in writing to the Engineer-in-Charge and got corrected by the Engineer-in-Charge. Such deviations as may arise out of the joint survey shall not vitiate the provisions of contracts and shall not entitle the Contractor to any extra payment of claim in any way.

After the joint survey a survey plan shall be prepared by the Contractor at his cost and got approved by the Engineer-in-Charge. Reference line and points shall be established by the Contractor at his own cost so as to serve as reference and “Dimensional Checking” of works. He shall prepare and submit a plan in quadruplicate to the E.I.C. showing such reference points with their full description at his cost.

The Contractor shall provide for all arrangements labour, equipments and materials needed for carrying out survey, setting out, layout checking, inspections measurements, testing at his own cost for which no separate payment will be made.

The Contractor shall also provide proper approach and access to all the works and stores including clearance of sites at his own cost.

33.0 Arrangement of Land

If on account of restriction of space within the project site, the Contractor experiences difficulties (on installation of plant and machinery and also) in stacking construction materials within the project site, he may have to arrange for lands (Road side flank, private land etc.) adjacent to the project site on his own and at his cost. The Contractor will not be entitled to any payment or any other incidental charges caused due to such arrangement.

34.0 Fire Fighting Arrangement

The Contractor shall provide at his own cost suitable arrangement for firefighting. 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.

35.0 Terms & Stages of Payment

The Contractor is entitled to prepare and submit the running account bill before EPI, when work done value is more than Rs 1.50 Crore (Rs One Crore and fifty lakh only).
36.0 Reduced Rates and Part Rates

36.1 Reduced rates as decided by the E.I.C. shall be allowed for the works, which in the opinion of the E.I.C. are not done in strict conformity with specification and schedule of works but are acceptable. The relevant item rates in such cases shall be reduced and approved by the Tender Accepting Authority, on the basis of analysis, which shall be binding to the contractor.

Works which are not in conformity with the specification and not acceptable in the opinion of E.I.C. will not be paid for and the cost of rectification or dismantling of such unacceptable work will have to be fully and solely borne by the Contractor.

36.2 Part payments for items, which are not fully complete as per specification of the contract, may be made by EPI/NKDA in cases when it is ensured that the items can be completed as per specification, in following days, by the contractor, when so allowed by the E-I-C. Application of this provision shall be very restricted and can only be exercised under specific case wise approval of the E-I-C strictly.

37.0 Supplementary and Substituted works:

(a) NKDA/EPI may require the contractor to do some additional work, newly or in substitution of items in the schedule of work, in the interest of the work under the contract. In such cases ‘Supplementary’ and / or ‘Substituted’ items may result. The specification and other details shall be governed and directed by the Tender Accepting Authority. The rate of such items shall be finalized and approved by competent authority of NKDA/EPI. The claim sheets, serially in triplicate, shall have to be furnished by the contractor, duly checked and forwarded, with item wise comments of approval by E-I-C. The claim sheet forms a part of the original contract and shall have all the relevant bearings of the contract. The limitations of such claims shall be governed by prevailing financial powers and provisions of NKDA.

These claims are usually termed as ‘extra claims’ and relates to extra works. Thus, no such extra works can be taken up by the contractor until their written appeal is allowed by the Tender Accepting Authority.

Notwithstanding to what has been stated elsewhere, any item of work which can be legitimately considered as not stipulated in the ‘Scope of work’ of the contract, but becomes necessary as a reasonably contingent during actual execution of the work, it will have to be done by the contractor as and when directed by the E-I-C.

The admissibility of any claim of supplementary / substituted item or the acceptance thereof including award of item wise rates and all other related matters will rest with the tender / quotation accepting authority and shall be binding to all concerned.
(b) Rates for Supplementary and Substituted item of works: The schedule of rates shall mean the schedule of rates of the Presidency circle, PWD, West Bengal, DSR, MES or any references made in similar other authorities, as been settled by NKDA/EPI, applicable during the tenure of this contract. Rates for any other item (or part thereof), which are not covered in the said schedule of rates, will be analyzed from various other references and market rates, in which usual profit and overhead (as per state PWD schedule) will be included.

38.0 Time of Completion

The entire work as per offer shall be completed within 4 (four) months from the date of issue of work order. The time of completion is firm and final and supersedes any other time mentioned elsewhere in any clause(s) of tender document.

The period of completion given includes the time required for mobilization and testing as well, rectifications, if any, re-testing and completion in all respects to the entire satisfaction of the Engineer-in-Charge including the monsoon season.

The Contractor shall scrupulously adhere to the targets/program as envisaged in his micro-plan of work program by deploying adequate personnel and construction tools and tackles and he shall also supply all materials of his scope of supply in time to achieve the targets set out.

The Contractor shall give every day a report on category-wise labour and equipment deployed along with the progress of work done on previous day. The progress of work shall be proportionate to completion time.

Time is the essence of this contract and the allotted work must be completed within the specified time. Extension of time may be granted in very exceptional circumstances if the work gets delayed due to the reasons beyond the control of the successful bidder. This clause of extension of time will have precedence over any other similar clauses if they are at variance with this clause. There will be penalty for non-completion of the work in time as indicated elsewhere.

39.0 A standard benchmark with reference to which the whole work is to be carried out shall be constructed by the CONTRACTOR. The level shown on the outline drawings are with reference to standard benchmark. The CONTRACTOR shall establish reference benchmark at suitable spots. The construction and maintenance of the bench marks shall be the responsibility of the CONTRACTOR. No payments shall be made for this work.

40.0 INFORMATION TO BE SUPPLIED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD.

A senior representative of the CONTRACTOR shall attend weekly meetings at the site and in addition, meetings as arranged by the EMPLOYER to discuss the progress of work and sort out problems if any and ensure that the work is completed in the stipulated time. The CONTRACTOR shall submit to the Engineer-in-Charge, every fortnightly:
a. Detailed industrial statistics regarding the labour employed by him daily.
b. A fortnightly progress report along with requisite photographs.
c. Special incident at site.
d. Whether the work is progressing according to schedule, or not. If not, what are the
   problems and the remedial measures to be taken to regain schedule.
e. Record of the approvals by EMPLOYER
f. Record of the discussions by EMPLOYER
g. Fortnightly Construction Schedule
h. Monthly Construction Schedule
i. Detailed Schedule indicating when the REPRESENTATIVE’S presence is required
   at site.

41.0 The Contractor shall comply with all the provisions of the following statutory acts or
any modifications thereto and the rules made there under from time to time.

- Indian Factories Act 1948
- Payment of Wages Act 1936
- Minimum Wages Act 1948
- Employers Liability Act 1938
- Apprentices Act 1961
- Workmen’s Compensation Act 1923
- Industrial Disputes Act 1947
- The Maternity Benefits Act 1961
- Contract Labour (Regulation and Abolition) Act 1970
- Employment of Children Act 1933
- Provident Funds and Miscellaneous Provisions Act 1952
- The Employee’s Pension Scheme 1995

42.0 Should a report be made by an Inspecting Officer, as defined in the Contract Labour
(Regulation and Abolition) Act 1970, the Developer shall have the right to deduct from
any money due to the Contractor any sum required, or estimated to be required, for
making good the loss(es) suffered by a worker or workers by the reason of non-
fulfillment of the Conditions of the Contract relating to the benefits of workers, non-
payment of wages or of deduction made from their wages which are not justified by the
terms of the Contract or non-observance.

43.0 The Contractor shall indemnify the employer against any payments to be made as
hereunder and for the observance of the provisions of the aforesaid Acts.

44.0 In the event of the Contractor committing a default or breach of any of the provisions
of the aforementioned Acts, as amended from time to time, of furnishing any information
or submitting or filling in any Form/Register/Slip under the provision of these Acts which
is materially incorrect, then on the report of the Inspecting officers, the Contractor shall,
without prejudice to any other liability, pay to the employer a sum not exceeding Rs.
1000.00 as Liquidated Damages. This shall be applied to each incident for every
default, breach or furnishing of, submitting, making and/or filling-in materially incorrect
statements, the exact amount shall be fixed by the Engg. in Charge.

In the event of the Contractor’s default continuing in this respect, the Liquidated
Damages may be increased to Rs 100.00 per day for each day that default occurs up to
a maximum of one percent (1%) of the Contract Amount.

45.0 Contractor shall be liable to pay liquidated damages equivalent to an amount equal to 1% (One percent) on the full tendered amount / contract sum for the whole work for every day that the due quantity of work remains incomplete or unfinished. Provided always that the entire amount of liquidated damages to be paid under the provisions of this clause shall not be exceeding 10 % (Ten percent ) on the accepted tender amount / Contract sum of the work as shown in the tender.

46.0 The Engg. in Charge shall deduct such amounts from the interim application for Payment or the Security Deposit of the Contractor and credit the same to the Welfare Fund constituted under these Acts. The decision of the Employer in this respect shall be final and binding.

47.0 The Conditions as laid hereunder to be strictly complied during construction and operation phase regarding environmental clearance as per provisions of Environmental Impact Assessment Notification, 1994 with subsequent amendments.

PART – A. SPECIFIC CONDITIONS

A. Construction Phase

All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.

1) During the construction phase average water requirement of about 185 cubic meters per day would be met from tankers. Water usage during construction should be optimized to avoid any wastage.

2) The Workers employed during the construction phase will have to be provided adequate drinking water and sanitary facilities. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.

3) All the topsoil excavated during construction activities should be stored for use in horticulture/ Landscape development within the project site.

4) Disposal of muck including excavated material during construction phase should not create any adverse effects on the neighboring communities and should be disposed off by taking necessary precautions for general safety and health aspects.

5) Use of diesel generator sets during construction phase should be of enclosed type and should conform to E (P) A Rules prescribed for air and noise emission standards.

6) Vehicles to be hired for bringing construction material at site should be in good condition and should conform to applicable air and noise emission standards and should be operated only during non-peeking hours.

7) Ambient noise levels should conform to residential standards both during day and night.
Incremental pollution loads on the ambient atmosphere and noise quality should be closely monitored during construction phase.

8) Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.

9) Regular supervision of the above and other measures should be in place all through the construction phase so as to avoid disturbance to the surroundings.

10) Use of energy efficient construction materials to achieve the desired thermal comfort should be incorporated.

B. Operation phase:

1) The project proponent shall obtain necessary permissions from the New Town Kolkata Development Authority before drawing the water from the sources for the purpose of the proposed construction activity.

2) Noise barriers will be provided at appropriate locations so as to ensure that the noise levels do not exceed the prescribed standards.

3) The solid waste generated should be properly collected, segregated before disposal to the City municipal facility.

4) Any hazardous waste including biomedical waste from the site should be disposed of as per applicable Rules & norms with necessary approvals of the West Bengal Pollution Control Committee.

5) Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored after commissioning of the project.

PART – B GENERAL CONDITIONS

1) Provision should be made for the supply of kerosene or cooking gas / pressure cooker to the laborers during construction phase.

2) All the laborers to be engaged for construction works should be screened for health and adequately treated before the issue of work permits.

3) Financial provision should be made by the project proponent in the total budget of the project for implementation of the suggested safeguard measures.

4) NKDA/EPI reserves the right to add additional safeguard measures subsequently, if found necessary and to take action including revoking of the environment clearance under the provisions of the environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time-bound and satisfactory manner.
1. Site Order Book
The Agency within 7(seven) days from the written order to commence work shall supply at his own cost, a site order book to be kept at the site of work under the custody of the Assistant Engineer or his authorized representative. The site order book shall have numbered pages in triplicate, which will be initialed by the Assistant Engineer-in-Charge. The directions or instructions from the Deptt. Officers to be issued to the Contractor will be entered (in triplicate) in the site order book (except when such direction given by separate letters). The Contractor or his authorized representative / agent shall regularly note the entries in the order book and also record thereon the action taken or being taken by him in compliance with such directions or instructions including any other relevant point relating to the work. The Contractor or his authorized representative/agent may take away the duplicate pages of the site order book for his own record. A duly authorized representatives/agent of the Contractor shall receive such instructions as above.

2. Site Godown
The Agency must provide at his own cost suitable godown for cement, MS/Tor/HYSD bars and other materials at/near the site of work as may be instructed by the Engineer-in-Charge. The Cement godown shall independent with adequate capacity and shall be constructed as per directions of Engineer-in-Charge or may be hired as per approval of Engineer-in-Charge. The godown should be readily accessible and open to inspection by any officer of NKDA. at any time during the pendency of the Contract.

3. Stock of Materials:
The Agency have to procure all the materials required for the works well in advance based on the programme of the work as submitted, and he shall have to maintain a stock book showing receipt, consumption and balance of major materials like cement, reinforcing steel, sand, stone chips, bricks etc. daily with such other information as may be directed by the Engineer-in-Charge. The Agency must satisfy Engineer-in-Charge regarding the stock of materials collaborating with the programme of the works. The cost carriage for transporting all materials shall be borne by the Contractor.

4. Watching and Lighting
The Agency shall in connection with the works provide and maintain at his own cost all light, guards, fencing and watching when and where necessary or as required by the Engineer-in-Charge, for the protection of the works, or for the safety and convenience of the existing plant, contractor’s employees, employers supervisors or for any other reason deemed fit by the Engineer-in-Charge.
5. Discrepancies

Should any discrepancy appear in any of the documents and drawings included in this contract or between different parts of the same documents or any ambiguity or insufficiency of information the Agency shall point out the same to the Engineer-in-Charge in writing and receive his instructions, explanations or decision in the matter. Decision of Engineer-in-Charge is final and binding on the Contractor.

6. Materials to be supplied by Agency

The Contractor shall supply all materials except cement & steel required for successful completion of the work. The quality of such materials as stated above shall conform to the requirements of the BIS (Bureau of Indian Standard), P.W.D. or any other approved standard specification. In all cases, the latest modification or revision of such specifications will be applicable for use. All sampling, testing and transportation of such materials shall take place under the direction of the Engineer-in-Charge at the testing laboratory as may be designated by the Department at the cost of the Contractor. Tests will be made in accordance with the standard methods of testing of the I.S. or other standard specifications. The Engineer-in-Charge have full power to reject or condemn any workmanship or materials that he may deem unsuitable. All materials not conforming to the requirements of these specifications shall be considered as defective and shall be rejected for use and shall be removed by the Agency from the site of the work within 24 hrs. at his own cost.

In case of non-compliance with such orders, the Engineer-in-Charge shall have the full authority to cause such removal at the cost and expense of the Agency and the Agency shall not be entitled to any loss or damage on that account. The Engineer-in-Charge will have full right to inspect the store of materials supplied by the Agency for the use of this contract work. All materials and workmanship shall be of the respective kinds described in the contract and in accordance with the Engineer-in-Charge’s instructions and shall be subjected from time to time to such tests as the Engineer-in-Charge 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 Agency 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 materials used and shall supply samples of materials before incorporation in the works for testing as may be selected and required by the Engineer-in-Charge, be it at site or at the manufacturer/Vendor’s premises. Agency will have to procure materials from manufacturers / vendors as may be approved by the E.I.C. No variation will be allowed. Agency will have to furnish original documentary evidence of procurement of the materials from the specified vendors if required by the EIC. Cost of samples – all samples of materials/articles to be tested as may be required by the Engineer-in-Charge shall be furnished by the Agency at his cost. If the rate for completed items of work are inclusive of supply of stone materials, the Agency shall arrange for procurement of such stone materials required for the work by his own resources and it shall be clearly understood that the Department shall not sponsor any traffic movement by wagon for stone materials.
7. Workmen's Compensation

In every case in which by virtue of the provisions of the Workmen’s Compensation Act, 1923, and any other relevant Acts and Rules, compensation to a workman employed by the Agency, is payable, then this should be done by the Contractor. If the Department is obliged to make any compensation under the said Rules and Acts, then the amount shall be recovered without prejudice, from the bills and dues of the Agency. The Department shall not be bound to contest any claim made against it in respect of workmen’s compensation under Section 12 sub section 1 of the said Act, except on the written request of the Agency and upon his giving to NKDA/EPI full security for all the costs for which NKDA/EPI might become liable in consequence of contesting such claims.

8. Contractor’s Employees

No labour below the age of eighteen years shall be employed on the work. Any Labour supplied by the Agency to be engaged on the work on day work basis either wholly or partly under the direct order or control of his representative shall be deemed to be a person employed by him. The Agency shall comply with the provision of all labour legislation including the requirement of the Payment of Wages Act and the rules framed there under and modifications thereof in respect of men employed by him in carrying out the contract. The Agency shall comply at his own cost with any order or requirement of any Health Officer of the State or any local authority and the Engineer-in-Charge regarding the maintenance of proper environmental sanitation of the area where the labourers are housed or accommodated, for the prevention of any communicable diseases. The Agency shall provide, maintain and keep good sanitary condition and provide facilities for potable water at all times for the use of men engaged on the work and shall remove and clear away the same on completion of the work. Adequate Precaution shall be taken by the Agency to prevent nuisance of any kind in the site of work. The Agency shall provide efficient medical attendant and care for his staff and for the workmen employed to the satisfaction of the Engineer-in-Charge or his representative. The Agency shall arrange to provide first aid and treatment facilities to the labourers engaged on the works and shall within 24-hours of the occurrence of any accident at or about the site in connection with the execution of the work, report each accident to the Engineer-in-Charge and also to the competent authority where such report is required by law.

9. Safety Measures and Public Convenience

The Agency shall in the course of execution of the work take all necessary precautions for the protection of all persons and property at his cost. The entire site of works shall be well illuminated from sunset to sunrise at his cost. The Agency shall take adequate measures to protect the work and prevent accidents during the Project work and prevent accidents during the construction. He shall provide and maintain 27 temporary side-walks access to construction site and where necessary, danger signals, Road closed sign, watchman and necessary appliances for properly safeguarding life and site of work for safety. The lamp must kept lit from sunset till at least one hour after sunrise.
He shall protect all excavations equipment and materials with barricades and danger signals so that no life may be endangered. The Agency shall so conduct his operation as to cause the least possible obstruction and inconvenience to the other users and contractors in adjacent site. He shall have under construction not more than such amount of work as he can handle properly with due regard to the right of others. **Loss and Damage** Neither the department nor the Engineer-in-Charge or his representative shall be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof or to any of the materials or other things used in the performing the work, or for injury to any person, either a workman or any member of the public, or for damage to any property for any cause which might have been provoked by the Agency. The Agency shall properly guard against all these injuries or damages to persons or property resulting from his operations under this contract at any time before issuance of the certificate of completion and maintenance. He shall indemnity and save harmless the Department from all suits or actions of every description brought for, or on account of, any injury or damage received or sustained by any person or persons by reason of the construction of the work, negligence in guarding the same, the use of improper materials or of any act of omission or deviation from the contract.

**10. Supervision of Work**

The Engineer-in-Charge shall have the power at any time and from time to time by notice to the Contractor to delay or suspend the progress of the work or any part of the work during unsuitable weather for any other adequate reasons and on receipt of such notice, the Agency shall forthwith suspend further progress of the work until further notice from the Engineer-in-Charge. The Agency shall recommence work immediately on receiving a notice to do so from the Engineer-in-Charge. The whole or any part of the time lost for such delay or suspension shall, if the Department in its absolute discretion thinks fit but not otherwise, be added to the time allowed for completion. The Agency shall have no claim to extra payment or compensation whatsoever on the grounds of above delay.

**11. Occupying Prior to Completion**

The Employer/Department expressly reserves the right to occupy at any time and for so long a time as the Engineer-in-Charge deems fit in issuing a notice to the Agency, require any portion or portions of the site of works, whether the works to be executed thereof be commenced or in progress or temporarily suspended or completed and to employ thereon agents and workmen other than the contractor or his men in the execution of matters not included in the contract. The Agency shall not obstruct such agents and workmen, and without extra charge and without relief from any liabilities or responsibility, or such allowance provide them free access to the work and to such facilities as in the judgment of the Engineer-in-Charge may be reasonably required.
12. Supplementary Specification

Whenever reference is made in these documents to certain special specifications, the reference shall be construed to include all subsequent amendments, changes or additions that are published and in effect at the date of signing of this contract. The department reserves the right to issue additional conditions, specification etc. if necessary which will be incorporated with tender documents already sold to tenderers for the purpose of this work.

13. Land for Contractor’s Establishment

For the purpose of constructing Agency’s Store yard, godown, site office and ancillaries, he may utilize portion of the land belonging to the Employer at such location as would not interfere with the execution of works. For all these, the Agency shall have to obtain the requisite permission of the Engineer-in-Charge. The Agency shall for this purpose submit to the Engineer-in-Charge for his approval a plan of the proposed layouts for the site facilities. The Engineer-in-Charge reserve the right to alter and modify the Agency’s proposals as he may deem fit. In case sufficient land is not available with the Employer, the Agency will have to arrange for private land of his cost to meet his requirements.

14. First-Aid Facilities

The Agency shall provide at his own cost for medical attention to be promptly available when necessary. He shall for this purpose provide a number of First-Aid stations at suitable location 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 Agency shall also provide for transport of serious case to the nearest hospital. All these arrangements shall be to the approval of the Engineer-in-Charge. The Contractor shall provide, to the satisfaction of Govt. or Local Authority concerned, adequate medical attendance for his employees and labour.

15. Construction Records

The Agency shall keep and supply to the Engineer-in-Charge 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 completion drawing by the Contractor at his own cost from these records.

16. Satisfactory completion of various items

The various items of the sub-work are to constitute the whole work complete in every respect as per satisfaction of the Engineer-in-Charge. Each sub-work will be considered as complete when it is completed as per drawing & specifications, as per standards, as a successful component part of the whole work.
17. Reports and Returns

The Agency 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-in-Charge and in the manner as directed by him.

18. Insurance of works, etc.

Without limiting his obligations and responsibilities, the Agency shall insure in the names of the Employer and the Agency against all loss or damage from whatever cause arising for which he is responsible under the terms of the contract and in such manner that the employer and Agency are covered for the period of execution as well as during the period of Maintenance for loss or damage arising from a cause, and for any loss or damage occasioned by the Agency in the course of any operations carried out by him for the purpose of complying with his obligations as follows:

(a) The entire contract value (including the Contract Price plus 10% of the Contract Price for the period of completion of the works which includes till the works are handed over to the owner).
(b) All equipments, plants etc. brought on to the site by the Agency and the replacement value of the same. These shall include materials belonging to the Employer but issued to or intended to be issued to the Agency for use in the work, if any.
(c) Damage insurance against loss or damage by fire or any other disaster to the works due to Civil commotion, riots, war, earth quake, terrorist attack and other disturbances during construction until its completion.

Such insurance as mentioned in para (a), (b) and (c) above shall be effected with an insurer and in terms approved by the Employer. The Agency shall bear the cost of all such insurance and whenever required, produce to the Engineer-in-Charge or his representative the policy or policies of Insurance and the receipts for payment of the current premiums.

19. Damage to Persons and Property

The Agency shall, except; if an 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 materials or physical damage to any property whatsoever which may arise out of or in consequence of the execution 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 or maintenance of the works in accordance with the contract.

(d) Injuries or damage to persons or property resulting from any act or neglect of the Agency, his agents, servants or other contractors, not being employed by the Agency 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 Agency, 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 servants or agents or other contractors for the damage or injury.

20. Accidents 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 Agency or any sub-contractor, have and except any accident or injury resulting from any act or default of the employer, his agents, or servants. The Agency 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.

21. Insurance against Accident etc. to Workmen:

The Agency at his cost shall insure against all liabilities as indicated in clause 19, 21 and 23 with an insurer, 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-in-Charge or his representative such policy of insurance and the receipts for payment of the current premium. Provided always that, in respect of any persons employed by any sub-contractor, the Agency’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 Agency shall require such sub-contractor to produce to the Engineer-in-Charge when required, such policy of insurance and the receipt for the payment of the current premium.

22. Notification to Insurer:

It shall be the duty of the Agency to notify the insurers under any of the insurances referred in any matter or count which by the terms of such insurances are required to be notified and the Agency 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 him in complying with the requirements of this sub-clause whether as a result of the avoidance of such insurance or otherwise.
23. All Insurance at Contractor’s Cost:

The insurances referred to in this Tender document shall be entirely at the cost and expense of the Agency.

24. Remedy on Contractor’s Failure to Insure:

If the Agency shall fail to effect and keep in force the insurances referred to Clauses hereto, 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 premium or premiums 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 money due or which may become due to the Contractor, or recover the same as a debt due from the Contractor.

25. Idle Labour

No claim for idle labour would be entertained under any circumstances.

26. Inspection Facilities

The Agency shall provide necessary facilities for inspection of work for quality control by the Engineer and for the purpose of carrying his instructions as may be recorded in writing in site Order Book.

27. Testing & Testing Equipment

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 Agency. Should the E.I.C. consider it necessary to satisfy himself as to quality of work, the Agency shall offer sample of work done as necessary, pull down reasonable part of the work required for such inspection and testing. The Agency shall bear the cost of pulling down and shall make good the same at his own cost and to the full satisfaction of the E.I.C. without any extra cost. The Agency shall provide at his own cost necessary equipments for such testing which by nature of work may have to be done at work site. These include sufficient number of slump cones, standard 150 mm metal cube moulds, Cube crushing test machine, set of I.S. sieves, weighing balances, graduated measuring cylinders, equipment for in-situ density test, holding detector, thermometers and any other miscellaneous equipment that may be required by the Engineer-in-Charge. The Agency shall also provide at his cost facilities for curing of concrete cubes for testing purpose and he shall afford at his own cost necessary facilities in providing requisite materials and assistance that may be required by EIC including transportation charges to laboratory.
28. Labour Act

The Agency should obtain the license under the provision of the Contract Labour (Regulation and Abolition) Act 1970 and the Contract Labour (Regulation and Abolition) General rules, 1971 including the provisions of amendments made there under of the same.

29. Local Employment

No labour should be imported from any district other than where work is to be executed without prior consent of the Executive Engineer. Imported labor can only be engaged with permission of the Executive Engineer when the exigency or progress of work so demands and sufficient local labours are not available. For importing special class of labor for any specialized work no extra cost will be paid to the agency.

30. Import License and Imported Equipments

Use of any imported equipment for the work is not envisaged. However, if it becomes absolutely necessary, requisite Foreign Exchange and import license shall have to be arranged for by the contracting agency independently and NKDA will not take any responsibility in this regard. A certificate stating the necessary of the particular materials for the work entrusted to the Agency may be issued at its discretion by NKDA on request. Delay in getting any materials will not be entertained for extension of time limit of contract.

31. Water Supply, Sanitation & Power

The Agency shall have to make his own arrangement for supply of electrical power and water at all stages of execution of work. Arrangement for obtaining water for the work as well as for the laborers and sanitation facilities for laborers shall have to be made by the Agency at his cost. The quality of water shall be conducive for construction works in terms of soluble, insoluble materials and chloride content. The cost of erection/installation for obtaining either electricity or water from W.B.S.E.B. or Municipality or any other agency shall have to borne by the Contractor for which no extra claim can be placed before NKDA/EPI. However, NKDA/EPI may provide power and water if the same is available at site. If the contractor draws power and water from NKDA's point then he is required to pay the prevailing charges for power and water connection and usage. But supply of power and water should not be considered as the responsibility of NKDA/EPI. Nevertheless electrical power from NKDA’s/EPI’s point may not be continuously available due to various reasons including load shedding. In that case water supply from NKDA's/EPI's point will also stop and the Agency will make his own arrangement for water and power through generator at his cost.
32. Storage and Safety of Equipments

The equipment at site shall have to be stored in waterproof shed with proper security arrangement made by the agency. The Agency shall insure at his cost all the equipment against pilferage and breakage at site during storage and erection under their custody till the work is completed and handed over to the Employer.

33. Language for Correspondences

All written materials and correspondence in connection with the contract shall be in English.

34. Agency’s Local Address

The Agency shall furnish the postal address of his site Office. Any notice or instruction to be given to the Agency under the terms of contract shall be deemed to have been served if it has been delivered to his authorized agent or representative of site or sent by registered letter to the site office or to the address.

35. Recoveries

Any recovery from the Agency advised by the Employer/Government shall be recovered from any bill or money retained from this contract.

36. Reduced Rates and Part Rates

a) Reduced rates as decided by the E.I.C. shall be allowed for the works, which in the opinion of the E.I.C. are not done in strict conformity with specification and schedule of works but are acceptable. The relevant item rates in such cases shall be reduced and approved by the Tender Accepting Authority, on the basis of analysis, which shall be binding to the contractor. Works which are not in conformity with the specification and not acceptable in the opinion of E.I.C. will not be paid for and the cost of rectification or dismantling of such unacceptable work will have to be fully and solely borne by the Agency.

b) Part payments for items, which are not fully complete as par specification of the contract, may be made by NKDA in cases when it is ensured that the items can be completed as per specification, in following days, by the contractor, when so allowed by the E-I-C. Application of this provision shall be very restricted and can only be exercised under specific case wise approval of the E-I-C strictly.

37. Supplementary and Substituted works:

(a) NKDA/EPI may require the contractor to do some additional work, newly or in substitution of items in the schedule of work, in the interest of the work under the contract. In such cases ‘Supplementary’ and / or ‘Substituted’ items may result. The specification and other details shall be governed and directed by the Tender Accepting Authority. The rate of such items shall be finalized and approved by competent authority of NKDA. The claim sheets, serially in triplicate, shall have to be furnished by the contractor, duly checked and forwarded, with item wise comments of approval by E-I-C. The claim sheet forms a part of the original contract and shall have all the relevant bearings of the contract. The limitations of such claims shall be governed by prevailing
financial powers and provisions of NKDA. These claims are usually termed as 'extra claims' and relates to extra works. Thus, no such extra works can be taken up by the contractor until their written appeal is allowed by the Tender Accepting Authority. Notwithstanding to what has been stated elsewhere, any item of work which can be legitimately considered as not stipulated in the ‘Scope of work’ of the contract, but becomes necessary as a reasonably contingent during actual execution of the work, it will have to be done by the contractor as and when directed by the E-I-C or the Assistant Engineer (AE). The admissibility of any claim of supplementary / substituted item or the acceptance thereof including award of item wise rates and all other related matters will rest with the tender / quotation accepting authority and shall be binding to all concerned.

(b) Rates for Supplementary and Substituted item of works: The schedule of rates shall mean the schedule of rates of the Presidency circle, PWD, West Bengal, DSR, MES or any references made in similar other authorities, as been settled by NKDA, applicable during the tenure of this contract. Rates for any other item (or part thereof), which are not covered in the said schedule of rates, will be analyzed from various other references and market rates, in which usual profit and overhead (as per state PWD schedule) will be included.

38. Site Clearance before final acceptance of the work.

Before final acceptance, all items of work shall be completed, ready to operate and in a cleaned condition. All debris, unused material and temporary structures shall be removed form the site of work. Tools and construction machinery (except which is needed for repair and adjustment of the work consequent to operational tests) shall not remain on the site.

39. Minimum Wage Act

The Agency is required to follow the provisions of Minimum Wage Act.

40. Precedence of Contract Documents

If any stipulation indicated in any component of contract documents are at variance in any respect with those in the other, the decision of the Executive Engineer will stand final and binding.

41. Action for Non-Compliance

Failure to comply with above conditions and specifications will result in the department taking action at the risk and cost of the agency. Execution of agreement binds the Contractor for complying with requirements of the above conditions and specifications without any extra payment on any account.
42. Deduction of Tax

Deduction of VAT, Income Tax and any other taxes payable as per prevailing tax Laws at the prescribed rate at the time of making payment to the Contractor.

43. Typographical Error

Typographical errors detected or pointed out are subject to corrections by E-I-C. Any party on account of such error can derive no benefit. Any Typographical error shall immediately be brought to the notice of the authority for rectification. NKDA/EPI reserves the right to rectify mistake / omissions if detected, at any point of time even during execution of work.

44. Completion of Work and Guarantee

The work shall be deemed to be completed when all works itemized in the Schedule of work and the entire work as per drawing or otherwise undertaken have been completed in all respect including successful testing. The Contractor shall guarantee for successful operation of the project for 12 months from the date of successful completion of the project and shall within the operation and maintenance period remove/rectify/make good any such deficiency forthwith at his own cost. During the guarantee period after the trial run period the firms 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 project. The successful tenderer shall also give the following guarantee in respect of the equipment supplied by him.

1. All equipments shall be free from any defects due to faulty design of the components, material, and / or workmanship and shall operate satisfactorily with highest performance efficiency.
2. 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 have 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 of the same the material thereof fails in respect of meeting the specification guarantee or otherwise, the Contractor shall replace all the accessories etc. in such a condition which will meet the guarantee performance and shall be up to the specification, in both material and workmanship. The contractor will provide back to back guarantee to NKDA for all kind of supplied equipments for electrical, HVAC, fire fighting, electromechanical works etc. The Final Bill for the work shall be processed by EIC on completion of work in all respect including submission of all test certificates by the Contractor in quadruplicate.

45. Operational Maintenance

Contractor shall provide operational maintenance for 12 months from the date of successful completion of the project and shall within the operation & maintenance period train the NKDA officials regarding operation and maintenance work.
46. Defect Liability Period

a) Defects Liability Period shall be twelve calendar months after actual completion of the works. Any defects in material of workmanship observed in the entire work during execution or work or within defect liability period shall be notified in writing by the Employer to the Contractor and shall be rectified by him at his own cost within time as specified by Employer.

b) To facilitate prompt attention to the defects the contractor shall employ a team of tradesmen like Masons, Plasterers, Carpenters, Plumbers, Fitters and Labors covering all trades along with necessary materials and spares. A supervisor will also be available along with the maintenance team to take instructions from Employer. The maintenance team will be available throughout the defects liability period. The composition of the tradesmen will vary according to the nature of recurring defects noticed in the buildings. In case of default the Employer may employ any other person to rectify or make good such defects. All expense consequent thereon or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the Employer and shall deduct from RA bills or Security deposit as the case may be.

c) Should any defective works have been done or material supplied by any sub contractor employed, the contractor shall be liable to make good in the same manner as if such work or material has been done or supplied by the contractor. The contractor shall remain liable under the provisions of this clause notwithstanding the signing by engineer in charge of any certificate or passing any account.

47. Safety Requirements:

Agency shall use safety belts, whenever his workmen will have to work at a high altitude to avoid risk of any accident or fall Hard Top Hats to be used by the Agency’s workmen at the places wherever required. Necessary Fire Protection arrangements by installing portable fire extinguishers on suitable locations at work site and material storage area. The Agency shall also use Safety devices like Welder’s apron, hand gloves, goggles, helmets etc. and other accident preventive arrangement at work site as per prevailing safety code.


The Contractor is required to comply with the I.E. Act and Rules framed the under. He will have to produce to the EIC evidence of possession of Electrical Contractor’s license with current validity and also copy of Electrical Supervisor’s Certificate with qualification, registration no. etc. in respect of employees involved in electrical works.
49. Foreclosing of Work

If at any time after the acceptance of the tender the Employer shall for any reason whatsoever not require the whole or any part of the works, to be carried out, the Employer shall give notice in writing of the fact to the contractor, who shall have no claim to any payment of compensation or otherwise, whatsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of the foreclosing of whole or part of the work.

50. Measurements:

i) The contractor along with representative of E-I-C shall measure the work done according to PWD mode of practice and enter into their measurement book, sign and submit it in triplicate to the engineer in charge for verification and certification. The measurement so taken shall be checked by the concerned Assistant Engineer in charge of the work.

ii) If any alterations or additions (other than those authorized) have been covered up by the Contractor without his having given notice of his intention to do so, the engineer-in-charge shall be entitled to appraise the value thereof and in the event of any dispute the decision of the Employer thereon shall be final and binding.

iii) Payments for Works: On account payment will be made till completion of the work. Rate quoted shall be inclusive of all taxes, Octroi, toll, sales tax, professional tax, works contract tax, Service taxes, royalties, VAT or any other new taxes or levies etc. and shall be payable by the contractor. The employer will not entertain any claim whatsoever in this respect. Income tax will be deducted from the RA Bills/Final Bill.

51. Progress Photographs

The Contractor shall at his own cost and expenses, arrange to take periodic still digital photographs to show the progress of work or interesting features thereof. The time and the position wherefrom a photograph is to be taken would be as per direction of the Engineer-in-Charge or his Representative. Coloured prints of each of these still Photographs to an enlarged size of about 25 cm x 15 cm shall be supplied to the Engineer-in-Charge in albums by the Contractor at his cost 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. The Contractor in C.D shall submit soft copy of photographs showing monthly progress, stages of work with dates to EIC. Any circulation of these photographs to any other source other than NKDA, shall be treated as breach of security and shall make them liable for prosecution and consequences. Restrictions to photography or security restrictions that may be applicable to any particular area must be carefully and rigidly observed. The number of hard photographs (each consisting of two prints) for the complete works is not expected to exceed 25 (twenty-five).
52. Supervision of work by Civil and Electrical/ Mechanical Engineering Wing of NKDA

As the entire work as envisaged in this tender consists of both Civil and Electromechanical works, the related works will be supervised by the respective engineering wings of NKDA/EPI. For the works related to Fire, HVAC, Electrical etc. Executive Engineer (Electrical/ Mechanical) will be the E.I.C.

SUPPLEMENTARY CONDITIONS OF THE CONTRACT

These Special Conditions or Contract shall be read in conjunction with the General Conditions of Contract and other parts/sections of the Tender Documents.

1. A standard benchmark with reference to which the whole work is to be carried out shall be constructed by the CONTRACTOR. The level shown on the outline drawings are with reference to standard benchmark. The CONTRACTOR shall establish reference benchmark at suitable spots. The construction and maintenance of the benchmark shall be the responsibility of the CONTRACTOR. No payments shall be made for this work.

2. A waterproof and air-conditioned, lockable, office-accommodation for EMPLOYER consisting of two (2) rooms each of approx. 15 sq. meters. These offices shall be provided with all sanitary, water supply and electrical services and shall be kept in clean and tidy conditions. Necessary display boards, office furniture, almirahs and telephone facilities will be provided therein, all at CONTRACTOR’S cost.

3. The Display Boards for the Project shall be supplied and erected as per given sizes, specifications and descriptions and at specified locations, as approved by EMPLOYER.

4. A field Laboratory will be established in a room of suitable size equipped with the following, with adequate labour and materials required for carrying out tests therein:

   (i) Set of standard sieves for testing grading of sand and a 75 micron sieve for testing silt content.
   (ii) Sieves with openings respectively of 5mm, 10mm, and 20mm for testing grading of aggregates.
   (iii) Balance of capacity 10 Kg reading to 5 gm, with weights.
   (iv) Primus stove and pans for drying of sand and aggregates.
   (v) Glass measuring flasks of 1/2 and 1 litre capacity
   (vi) Flask for determining moisture content of sand.
   (vii) Slump cone for slump test.
   (viii) Minimum 24 steel moulds for 150 x 150 mm test cubes. It may be necessary to provide more steel cube moulds depending upon concreting programmed.
(ix) Work benches, shelves, desks, sinks and any other furniture and lighting as required by the ENGINEER-IN-CHARGE.

(x) Cube testing machine.

(xi) Any other equipment not specifically mentioned above which can reasonably be held necessary for the completion of the contract works to the satisfaction of the ENGINEER-IN-CHARGE.

NOTE: The requisite tests shall be conducted in field Laboratory as per P.W.D. Specifications and other related I.S. Codes. All such tests shall be conducted in presence of the ENGINEER-IN-CHARGE and the proper Test Records shall be maintained by CONTRACTOR with the attestations by the ENGINEER-IN-CHARGE. The CONTRACTOR shall bear all expenses for installing, running and maintenance of this Field Laboratory.

5. INFORMATION TO BE SUPPLIED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD

A senior representative of the CONTRACTOR shall attend weekly meetings at the site and in addition, meetings as arranged by the EMPLOYER to discuss the progress of work and sort out problems if any and ensure that the work is completed in the stipulated time. The CONTRACTOR shall submit to the Engineer-in-Charge, every fortnightly:

a. Detailed industrial statistics regarding the labour employed by him daily.

b. A fortnightly progress report along with requisite photographs.

c. Special incident at site.

d. Whether the work is progressing according to schedule, or not. If not, what are the problems and the remedial measures to be taken to regain schedule.

e. Record of the approvals by EMPLOYER

f. Record of the discussions by EMPLOYER

g. Fortnightly Construction Schedule

h. Monthly Construction Schedule

i. Detailed Schedule indicating when the REPRESENTATIVE’S presence is required at site.

6. All materials which are stored on site such as bricks, metals, sand etc., shall be stacked in such a manner as to facilitate rapid and easy checking of quantities of such materials. The safety and security of all materials brought to the site shall be the sole responsibility of the CONTRACTOR. The material, against which an advance has been paid by the EMPLOYER, shall be carefully stored and protected at site by the
CONTRACTOR. No material shall be removed from the site without the written permission of the EMPLOYER and all materials brought to site shall be used in the contract work only.

7. a) No compensation shall be payable to the CONTRACTOR for any damage caused by rains, lightning, wind, storm, floods, tornado, earthquake or other natural calamity during the execution of work. He shall make good all such damages at his own cost; and no claim on this account will be entertained.
   b) The CONTRACTOR shall remain fully responsible for safety, soundness workmanship and water tightness of the works wherever water proofing treatment are done and shall execute a Guarantee Bond on Rs.10/- Stamp paper for any leakage/seepage/failure of water proofing systems for period of 10 years Minimum).
   c) The CONTRACTOR shall obtain the virtual completion certificate from the EMPLOYER as soon as the works are completed as per contract and to the entire satisfaction of the EMPLOYER. The 12 (Twelve) months defects liability period and release of Security Deposit installments shall be reckoned from the date of virtual completion.
   d) No interest shall be payable on account of delay in payments of bills, release of Earnest Money deposits and/or release of Security Deposits. No interest shall accrue on Earnest Money Deposit / Security Deposits.

8. Coordination of Work:

   (a) The CONTRACTOR shall consult all appropriate Drawings and Specifications in order to carry out all aspects and phases of the installation(s) without interference to other portions of the work, and shall verify all dimensions, details, locations, etc. with the Drawings and/or Specifications of all other Divisions where appropriate.
   (b) Minor changes in the routing of piping conduit and/or in the location of equipment to avoid conflict with other Divisions / executing agencies may be required without additional cost to the EMPLOYER. If such changes do not constitute a modification in the intent of the system or installation(s), conflicts of this nature shall be resolved in the field. In all cases, however, interpretation of what constitutes a modification in the intent of the system or installation(s) shall be made by the engineer-in-charge.
   
   (c) Major alternations, deletions, additions and/or questions of intent shall be referred in advance, and in writing, to the Employer for a decision.

9. Cutting and Repairing Openings:

   (a) The CONTRACTOR shall cooperate with work to be done under other sections and Divisions by providing full information in advance as to openings required in walls, slabs and footings for all piping, duct, conduit and equipment, including information on the proper positioning of sleeves required.
   (b) Any drilling or cutting required to carry out work under this contract shall be the responsibility of the CONTRACTOR, and the cost thereof shall be borne by him.
(c) For any holes in concrete, the CONTRACTOR shall provide, accurately position and install sleeves in the form(s) before the pouring of the concrete. The CONTRACTOR shall pay any additional costs that may be required for cutting any holes as a result of the incorrect positioning of sleeves. All holes through existing concrete shall be core drilled or saw cut. The CONTRACTOR shall seek and obtain the prior written approval of the Employer and consultant before drilling or cutting any holes in existing concrete.

(d) It shall be the responsibility of the CONTRACTOR to ascertain that all chases and openings are properly located.

10. Cleaning and Protection:

(a) The CONTRACTOR shall keep the work clean and free of waste. All materials delivered to the job site shall be promptly stored in an approved area to minimize congestion or interference with other trades or with the orderly progress of the work.

(b) Debris of any kinds shall be removed from the exterior and interior of all equipment, piping, conduit, junction boxes, ductwork, accessories and appurtenances upon completion of the work, and prior to the operation of any system and/or final inspection or testing.

(c) The CONTRACTOR shall provide for the safety and good condition of any and all equipment and/or materials until final acceptance by the Employer.

(d) The CONTRACTOR shall protect all materials and equipment from damage, provide adequate and proper storage facilities during the progress of the work, and take special care to provide proper protection for bearings, open connections, etc.

(e) All mode shall be of quiet operating type, guaranteed to fulfill the specific requirements without producing any sound audible outside machine rooms. All belt-connected motors shall have adjustable bases and set screws to maintain proper belt tension. Proper belt guards shall be installed for all motors where appropriate.

11. Shop Drawings

The Contractor shall have to prepare detailed shop drawings and obtain necessary approval from Engineer-in-charge, before execution of items of work such as Aluminum Works, Stainless Steel Works etc.

12. As Built Drawings

The CONTRACTOR shall submit 6 sets of As Built Drawings and the soft copies for all trades of work to the ENGINEER-IN-CHARGE for his approval along with the Final Bill.
13. Secrecy

1. The details, information, drawings, specification of material etc. being provided therein are the absolute and exclusive property of the employer.

2. The Contractor is required to keep all the information / details / drawings / materials specifications confidential and to maintain secrecy.

3. No information relating to the works shall be copied or otherwise reproduced in any way or conveyed to any third party except as may be essential for proper execution of the works or with the prior written consent of Employer.

4. All contract documents and any other further information deemed relevant by the engineer-in-charge together with all copies of the same made by Contractor, his sub-contractors and suppliers, other concerned with the Works and authorized third parties shall be returned by Contractor to the employer upon completion termination, abandonment of the Contract.

5. Neither the Contractor nor his sub-contractors, suppliers or any third party shall display any signboards or other form of advertisement at or near the site, until and unless approved by Employer.

6. Neither the Contractor nor his Sub-contractors, suppliers or any third party shall use or permit to be used any details of the works in any form of publicity or advertisement in any part of the world.

7. Photographic equipment shall not be taken on or near the site and the taking of photographs at or near the site is strictly forbidden (except for Employer & Consultant) until and unless permitted by Employer in the interest of the project.

8. The Contractor shall incorporate into any Sub-contract or Supply Agreements in connection with the works a clause imposing upon the Sub-contractor or supplier the same obligations as are imposed upon the Contractor by this clause.

14. Logistics Health Plan

14.1. The Contractor shall not pay the laborers engaged by it on the Project less than what is provided for under the applicable laws. Whether for time or piece work, based on the applicable rates of wages as fixed under law at the time. The Contractor shall ensure that the provisions in the minimum Wages Act and the Provident Fund Act, as amended from time to time, are fully complied with. The Contractor shall maintain the necessary registers and records for payment of wages, overtime, Provident Fund etc, made to its workmen / Regional Provident Fund Commissioner as required by the Conciliation Officer(Central) Minister of Labour, Government of India, Provident Fund Department or such authorized person appointed by the Central and/or State Government. The Contractor shall ensure this is complied by this contractor engaged on the Project, including any labour contractor employed by him.
14.2. The Contractor, at his own expense, shall comply with all the current applicable labour laws and keep the employer indemnified thereof.

14.3. The Contractor shall pay equal wages to both men and women in accordance with the applicable Labour Laws.

14.4. The Contractor is covered under the Contractor Labour (Regulation and Abolition) Act and he shall obtain a license from the licensing authority (i.e. Office of the Labour Commissioner) by payment of the necessary prescribed fee and deposit. Such fees and deposits shall be borne by the Contractors and should be included in their quote.

14.5. The Contractor shall furnish to the Engg. In charge the labour returns of the number and description, by trades, of the people employed on the Project every Saturday. This shall be for the preceding week.

14.6. The Contractor shall submit in the last working day of each month to the Engineer in charge an Accident Status Report. This shall show the accidents that occurred during that time period; the circumstances under which they occurred; and the extent of damage caused by them.

14.7. The Contractor shall submit on the last working day of each month to the Engg. in Charge a Maternity Benefits Statement. This shall identify the number of female workers who have been allowed Maternity Benefit as provided under the Maternity Benefit Act 1961, or the Rules made there under, and the amounts paid to them.

14.8. The Contractor shall comply with all the provisions of the following statutory acts or any modifications thereto and the rules made there under from time to time.

- Indian Factories Act 1948
- Payment of Wages Act 1936
- Minimum Wages Act 1948
- Employers Liability Act 1938
- Apprentices Act 1961
- Workmen’s Compensation Act 1923
- Industrial Disputes Act 1947
- The Maternity Benefits Act 1961
- Contract Labour (Regulation and Abolition) Act 1970
- Employment of Children Act 1933
- Provident Funds and Miscellaneous Provisions Act 1952
- The Employee’s Pension Scheme 1995

14.9. Should a report be made by an Inspecting Officer, as defined in the Contract Labour (Regulation and Abolition) Act 1970, the Developer shall have the right to deduct from any money due to the Contractor any sum required, or estimated to be required, for making good the loss(es) suffered by a worker or workers by the reason of non-fulfillment of the Conditions of the Contract relating to the benefits of workers, non-
payment of wages or of deduction made from their wages which are not justified by the terms of the Contract or non-observance.

14.10 The Contractor shall indemnify the employer against any payments to be made as hereunder and for the observance of the provisions of the aforesaid Acts.

14.10.1 In the event of the Contractor committing a default or breach of any of the provisions of the aforementioned Acts, as amended from time to time, of furnishing any information or submitting or filling in any Form/Register/Slip under the provision of these Acts which is materially incorrect, then on the report of the Inspecting officers, the Contractor shall, without prejudice to any other liability, pay to the employer a sum not exceeding Rs. 1000.00 as Liquidated Damages. This shall be applied to each incident for every default, breach or furnishing of, submitting, making and/or filling-in materially incorrect statements, the exact amount shall be fixed by the Engg. in Charge.

14.10.2 In the event of the Contractor’s default continuing in this respect, the Liquidated Damages may be increased to Rs 100.00 per day for each day that default occurs upto a maximum of one percent (1%) of the Contract Amount.

14.10.3 The Engg. in Charge shall deduct such amounts from the interim application for Payment or the Security Deposit of the Contractor and credit the same to the Welfare Fund constituted under these Acts. The decision of the Employer in this respect shall be final and binding.

14.11 Health and Sanitary Arrangements for Workers Employed by the Contractor

14.11.1 These rules shall apply to all the building and construction contracts.

14.11.2 In respect of all labour directly or indirectly employed on the Project for the execution of the works which is for the performance of the Contractor’s part of this Agreement, the Contractor shall comply with, or cause to be complied with, all the rules and regulations of the local sanitary and other Authorities or as required by the Engg in Charge from time to time for the provision of the adequate Health and Sanitary arrangements for all workers.

14.11.3 The Contractor shall provide off site, if required, its own separate labour camp complete with all amenities such as electricity, water and other health and sanitary arrangements. The Contractor shall also provide all the necessary surface transportation to the project site and back to the labour camp for all their labour personnel accommodated in the labour camp.

14.12 First Aid

The Contractor shall provide and maintain at the Project site, in an easily accessible place, first aid supplies including an adequate supply of sterilized dressings and
sterilized cotton wool. These supplies shall be kept in good order and a member of the Contractors staff trained to carry out this mule shall be nominated to be in charge of the same and shall be readily available during working hours.

The Contractor shall maintain on site at all times a car, it required shall be available to take any injured person or persons to the nearest hospital.

14.13 Drinking Water

The Contractor shall provide and maintain at one central location, easily accessible to labour, a sufficient supply of safe drinking water. The water supply storage container shall be no closer than 20 meters from any latrine, drain or other source of pollutions. Where water is obtained from an existing well, which is within the proximity of latrines, drains or other sources of pollutions, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be closed securely and be provided with a trap door that shall be dust proof and seal the opening. A reliable pump shall be fitted to each covered well. The trap door shall be kept locked and shall be opened only for cleaning and inspection, which shall be done at least once a calendar month.

14.14 Washing and Bathing Place

The Contractor shall provide adequate washing and bathing places separately for men and women. Such places shall be maintained in a clear and dry state.

14.15 Latrines and Urinals

14.15.1 The Contractor shall provide on the Project site, within accessible location, latrines and urinals.

14.15.2 The calculation of the number of units which shall be provided, separately for men and women, is based on the following criteria:

<table>
<thead>
<tr>
<th>No of seats</th>
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<tbody>
<tr>
<td>(1) Where the number of persons Does not exceed 50</td>
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<tr>
<td>(2) Where the number of persons Exceeds 50, but does not exceed 100</td>
</tr>
<tr>
<td>(3) Extra for every additional 100 persons</td>
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14.15.3 If women are employed on the Project site, separate latrines, screened from those provided for men, shall be provided. They shall be clearly marked “For Women Only” in local language. A poster/symbol showing the figure of women shall be exhibited at the entrance of the latrines. These shall be an adequate water supply close to the latrines.
14.15.4 The latrines and urinals for men shall be separate and screened from the women’s. They shall be clearly marked “For Men Only” in local language. A poster/symbol showing the figure of a man shall be exhibited at the entrance of the latrines. These shall be an adequate water supply close to the latrines.

14.15.5 The latrines shall be:
   (i) If water borne sewage system is available, be water-flushed latrines.
       Or
   (ii) With septic Tank

14.15.6 The latrine structure shall be constructed of masonry or some suitable heat resistant nonabsorbent material. It shall be cement plastered inside and outside at least once a calendar year. The latrine shall have thatched roofs.

**14.16 Disposal of Excreta**

The Contractor shall make arrangements for proper disposal of excreta by incineration by means of a suitable incinerator approved by the Municipal Medical Office of Health in whose jurisdiction the project site is located.

**14.17 Provision of Shelter**

At the project site, the Contractor shall provide, free of cost, two suitable sheds for meals, one each for men and women, to be used by the labour force. The sheds shall be roofed with thatch, as a minimum, and need flooring will be provided with a dwarf wall of 2 ½ feet. The sheds shall be kept clean.

**14.18 Crèches**

The Contractor shall provide, where there are women workers employed, two huts for the use of children under the age of 6 years, who belong to these women. One hut shall be used for the infant’s games and where they can play. The other hut shall be used as bedroom.

The huts shall not be constructed to a lower level of construction than:

   (i) Thatched roof
   (ii) Mud floor and dwarf walls
   (iii) Planks spread over the mud floor and covered with matting.
The huts shall be provided with suitable and sufficient openings for light and ventilation.

There shall be an adequate supply of sweeper to keep the place clean. There shall be 2 days always in attendance.

The sanitary utensils shall be provided to the satisfaction of the Health officers in whose locality the project site is located.

The use of the hut shall be restricted to the infants, their attendants and the mothers of their children.

Where the number of women workers is more than 25 and less than 50, the Contractor will provide at least one hut and 1 dais to look after the children of women workers.

The size of the crèches will vary with the number of women workers.

The crèche or crèches shall be properly maintained and necessary equipment, including toys, shall be provided.

14.19 The Specific and General Conditions as laid hereunder to be strictly complied during construction and operation phase regarding environmental clearance as per provisions of Environmental Impact Assessment Notification,1994 with subsequent amendments.

PART –A. SPECIFIC CONDITIONS

A. Construction Phase

All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.

1) During the construction phase average water requirement of about 185 cubic meters per day would be met from tankers. Water usage during construction should be optimized to avoid any wastage.

2) The Workers employed during the construction phase will have to be provided adequate drinking water and sanitary facilities. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.

3) All the topsoil excavated during construction activities should be stored for use in horticulture/ Landscape development within the project site.

4) Disposal of muck including excavated material during construction phase should not create any adverse effects on the neighboring communities and should be disposed off by taking necessary precautions for general safety and health aspects.

5) Use of diesel generator sets during construction phase should be of enclosed type and should conform to E (P) A Rules prescribed for air and noise emission standards.
6) Vehicles to be hired for bringing construction material at site should be in good condition and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
7) Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient atmosphere and noise quality should be closely monitored during construction phase.
8) Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
9) Regular supervision of the above and other measures should be in place throughout the construction phase so as to avoid disturbance to the surroundings.
10) Use of energy efficient construction materials to achieve the desired thermal comfort should be incorporated.

B. Operation phase:

1) The project proponent shall obtain necessary permissions from the New Town Kolkata Development Authority before drawing the water from the sources for the purpose of the proposed construction activity.
2) Noise barriers will be provided at appropriate locations so as to ensure that the noise levels do not exceed the prescribed standards.
3) The solid waste generated should be properly collected, segregated before disposal to the City municipal facility.
4) Any hazardous waste including biomedical waste from the site should be disposed of as per applicable Rules & norms with necessary approvals of the West Bengal Pollution Control Committee.
5) Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored after commissioning of the project.

PART –B GENERAL CONDITIONS

1) Provision should be made for the supply of kerosene or cooking gas / pressure cooker to the laborers during construction phase.
2) All the laborers to be engaged for construction works should be screened for health and adequately treated before the issue of work permits.
3) Financial provision should be made by the project proponent in the total budget of the project for implementation of the suggested safeguard measures.
4) New Town Kolkata Development Authority reserves the right to add additional safeguard measures subsequently, if found necessary and to take action including revoking of the environment clearance under the provisions of the environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time-bound and satisfactory manner.
15. Safety Procedures

Introduction
The policy is to clearly define responsibilities and then to obtain the commitment of all Contractors to maintain a high safety standard compatible with this policy. Safe methods of working shall be a main consideration in all operations. Contractors will provide Project Manager with details of their methods of work, highlighting the safety aspects and they will update this information as necessary. It is the responsibility of all persons employed on this project to act responsibly to prevent accidents to themselves and others. Notwithstanding the provisions contained herein the Contractor is not exempted from the operation of any Act or Rule in force.

Contractor is responsible for the safety of his work by:
1. Providing safe plant, equipment and working conditions.
2. Ensuring the establishment of safe working procedures.
3. Providing suitable protective equipment and clothing eg. Gloves, ear muffs and Goggles.
4. Providing adequate job training.
5. Providing fire extinguishers and first aid box.
6. Reporting all accidents and dangerous occurrences, with copies to employer.
7. Ensuring that hazardous materials, if necessary on site, will be stored and used in a safe manner.

Duty of all persons employed on site:
1. To report defects in any plant or equipment to his supervisor and to cease using that equipment if it is in a unsafe condition.
2. To comply with all safety procedures necessary at his place of work as defined by legislation.
3. To wear the personal protective equipment required for his own safety.
4. To co-operate with management in creating and maintaining a high standard of safety, health and welfare.
5. To familiarize themselves and comply with the agreed methods and systems for working.
6. To assist management by taking all possible steps to avoid accidents.

Persons responsible for safety:

It remains the responsibility of the Contractor to name his Site Manager, who will be responsible for the safety of his works, and also his company safety officer and the place at which he can be contacted.
SITE SAFETY POLICY

This section covers safety objectives. Detailed procedures are given in the Site Safety Manual

15.1 Safety Plan:
The Safety Plan is to be prepared by the Site Safety Officer and is to cover all of the following:

**Damage Avoidance:** Planning and co-coordinating all work to avoid bodily injury, property damage and loss of productive time.

**Detection & Correction:** Establishing and maintaining a system for prompt detection and correction of unsafe practices and conditions.

**Protective Equipment:** Assuring the availability and use of personal protective equipment.

**Inspection & Maintenance:** Establishing and maintaining an effective and comprehensive inspection and maintenance system and record.

**Training:** Establishing and supporting an educational and job skill training programme designed to ensure a safe working environment.

**Investigations:** Investigating accidents to determine cause and take the necessary corrective action.

**Control / Protection:** Providing visitor control and hazard protection.

**Site Security:** Providing project site security.

**Material Storage:** Controlling the placement of materials received consistent with the traffic control pattern established.

**Fire Protection:** Providing fire protection in co-ordination with local authorities.

The Contractor shall provide and maintain adequate fire protection in the form of barrels of water with buckets tanks, fire extinguishers, or other effective means of extinguishing fire, ready for instant use. The Contractor shall follow the instructions and specifications of the concerned local authorities.

**Compliance to Regulations:** Ensuring compliance with the laws, ordinances, rules and regulations issued or promulgated by state, local authorities and government agencies from time to time during execution period.
15.2 Responsibilities

Sr. Manager-Projects

To appoint a Site Safety Officer responsible for:
The health and safety of all Site personnel.
Implementing Site Safety Policy and Procedures.

Site Safety Officer Responsibilities include:

Preparing the Site Safety Plan.
Obtaining a Safety plan from all Sub-Contractors describing hazards particular to that trade.
Ensuring daily job site safety inspections are conducted and then forwarding a written report to project Manager.
Developing a fire evacuation plan.

Safety Supervisor
Before commencement of work, the contractor is to appoint a Safety Supervisor and to submit a detailed site safety plan for hazards particular to that trade. Responsibilities include:

Providing and enforcing the use of personnel protective equipment and ensuring attendance of all employees at the regular “Tool Box”
Taking immediate action to correct unsafe practices or conditions.
Ensuring availability of adequate first aid supplies and presence of qualified personnel at site to administer first aid.
To ensure that Safety Rules and Emergency Telephone numbers are posted in a prominent place.
To ensure all accidents are reported in a timely manner.

15.3 Accident / Incident Reports:

Timely reporting
Any injury or fatal injury of accident to be reported immediately to the Project Manager who, in turn, notify the Employer as required.

Injuries
Any accident involving injury is to be reported to Project Manager.

Timely reporting
Each incident on site should be reported as soon as possible, and not later than 24 hours after the incident.

Note:

An incident can include lost property, damaged property, injury, fire, crime etc.
15.4 Public Relations:
Reporting
All inquiries regarding an incident or accident received by any Contractor are reported immediately to the senior on-site Project Manager’s Representative for appropriate action. The Client will be informed immediately by the concerning Project Manager’s personnel. Site personnel shall not discuss accidents / Incidents with the media.

16. SITE SAFETY MANUAL

INTRODUCTION

This manual shall be read by all supervisory staff within one week of starting on site.

This manual has been divided into well-defined sections; these sections provide supporting information to the checklist.

Tool Box Meetings

These are to be held at the project start up and continued on a regular basis; in addition, if an accident has occurred on site, a meeting should be held once the cause has been established.

A specific topic should be covered at these meetings. Each section with this manual would form a suitable topic.

A record of the meetings is to be filed.

16.1 General Safety Practices:

16.1.1 Foremen and supervisors shall insist on employees observing and obeying every rule, regulation and order as necessary for the safe conduct of work.

16.1.2 Know how to do your job, determine what the hazards might be. Do not take chances or use unsafe methods, tools or equipment. If you do not know how to do the job safely, ask your supervisor.

16.1.3 Take interest in your co-workers. Explain or show them the safe methods of doing the work and caution them about dangerous or unsafe acts.

16.1.4 Anyone known to be under the influence of any intoxicating substance shall not be allowed on the job. Drugs, pills, tranquilizers etc are not to be taken on the job unless written permission is obtained from a doctor.
16.1.5 No one shall knowingly be permitted or required to work while his ability or alertness is so impaired by fatigue, illness or other causes that might, unnecessarily, expose him or others to injury.

16.1.6 Fighting, quarrelling, being abusive etc. are forbidden on the job.

16.1.7 Firearms and ammunition are not to be brought to the job site at any time. Power hammers or other similar equipment are exempted.

16.1.8 Never throw material or equipment off scaffolding. Someone may be walking or working below.

16.1.9 "Tool Box" safety meetings shall be conducted by foremen on a regular basis. All workers on site shall be instructed on accident prevention.

16.1.10 No one is to operate equipment or use tools which have been tagged "DO NOT OPERATE" or "OUT OF ORDER" until required repairs have been made and said tag has been removed by an authorized person.

16.1.11 Notify the Safety Officer regarding use and storage of chemicals.

16.1.12 Adequate precaution shall be taken by the Contractor to ensure that no materials shall be so stacked or placed, so as to cause danger or inconvenience to any person or the Public. The Contractor shall provide all necessary fencing and lights to protect public from accidents. He / They shall be bound to bear expenses of defense of every suit, action, other proceedings of law that may be brought by any person for injury sustained owing to neglect of the above precautions. The Contractor shall be liable to pay any damages and costs which may be awarded in any such suit action or proceedings to any such person or which may with the consent of the contractor be paid compromising such claim with the person victimized.

16.2 Personal Protective Equipment:

Whenever there is a possibility of exposure to hazardous material or operations, personal protective equipment or devices shall be worn or used. These include (but are not limited to) hard hats, safety shoes, safety glasses and goggles, gloves, protective suits, hoods, respiratory equipment and proper hearing protection. The Contractors at all levels will be held responsible to watch that workers wear proper protective equipment and that it is kept in proper maintenance.

16.2.1 Hard Hats:

All personnel working in areas where there is a possible danger of head injury from impact, or from falling objects, shall be protected by protective helmets.
This will be interpreted at all areas within the site boundary except inside permanent or temporary structures not under construction.

Helmets shall meet the specifications contained in the National Standards

Employees of Contractors who are represented on the construction site and who apply for entry to the project but are not in possession of an approved hard hat, will be asked to remain at the security gate until arrangements can be made by their supervisor / foremen to obtain an approved hard hat.

16.2.2 **Eye Protection:**

Required when doing work otherwise may cause possible injury to eyes from flying particles, grinding, splashes, welding or cutting operations.

16.2.3 **Safety Shoes:**

To be put on by all workers

16.2.4 **Clothing:**

To be suitable for the type of work for which engaged.

16.2.5 **Hearing protection:**

Shall be worn in any posted area and when operating pneumatic equipment.

16.2.6 **Respirators:**

Whenever and wherever necessary to protect from dust, gases, hazardous chemical and vapors.

16.2.7 **Safety belts:**

Required when working at high places.

16.2.8 **Protective gloves:**

To be worn as work activity may require.

16.2.9 **Housekeeping:**

a) Place debris, rubbish and waste in proper containers.

b) Place and store material and equipment in designated storage areas.

c) Working areas, passageways, stairs and exits are to be kept free from all debris, equipment, tolls, nails and other sharp objects.

d) Avoid spilling liquids. Wipe off spills immediately.

e) Use safety cans to store flammable liquids.
f) Store oil/ paint soaked rags in approved containers and empty on a daily basis.
g) Nails or other sharp objects protruding from timber, panels etc are to be pulled or bent down.
h) Debris and combustible scrap shall be disposed off, on a regular basis and not to be allowed to accumulate. Special attention should be given to second floors and ones above to expedite removal of such materials.

16.3 Ladders:

16.3.1 Select the right ladders for the job. Do not use a too long or too short ladder. Do not splice two ladders together. Do not use lightweight or household ladders in a heavy construction job. Do not use metal ladders near electrical circuits, fixtures or power lines.
16.3.2 Check condition of ladder for cracked or split rails; for missing or broken steps, cleats, rungs, treads or U-shapes; for sharp edges or splinters; for general weakened condition. If any of the above conditions exist, withdraw the ladder from use and fix it at once if possible if it cannot be fixed, destroy it. Every ladder should have identification tags, records of maintenance and inspection must be maintained.
16.3.3 Use ladder safety. Place it with care; do not lean it against a movable object. Make sure it is not placed on a loose object or uneven footing. Do not place it too close to a wall. The horizontal distance from wall to the foot of the ladder should never be less than 1.4 times the length and it should extend at least 36 inches above the upper horizontal edge. Tie ladder with rope or wire. If wire is used, be careful to protect users from injury.
16.3.4 Only one person at a time shall be permitted to ride on a ladder.
16.3.5 Always face the ladder and grasp the side rails or rungs with both hands when ascending and descending.
16.3.6 Do not carry tools or material when going up or down ladders. Use a bucket or canvas bag on a rope to haul or lower then.
16.3.7 Be sure the soles of your shoes are free from dirt oil and mud before using ladder to prevent slipping out.
16.3.8 Never work above the second rung from the top of the ladder.
16.3.9 Stepladders should not be over 10feet long. Do not use a stepladder as a straight ladder.

16.4 Scaffolding:
16.4.1 Scaffold should be tubular and designed for the loads it will carry. Bamboo shall not be used as scaffold. Inspect the scaffold before use.
16.4.2 Scaffold planks must be tested, carefully erected and made secure to prevent slipping by using cleats or tying.
16.4.3 Scaffold to be braced/tied to the permanent structure at suitable intervals to prevent overturning.
16.4.5 All scaffolds shall have handrails and toe boards (minimum 4 inches height).
16.4.6 There is no such thing as a temporary scaffold.
16.4.7 Ladders should be attached for ascent and descent on scaffolds.
16.4.8 Any defects, loose knots or cracks in a scaffold plank will make that plank useless.
16.4.9 Guard rails shall be 50mm by 100mm or the equivalent, approximately 1050mm high, with a mid-rail. Supports shall be at intervals not to exceed 2400mm.

16.4.10 Any scaffold, including accessories such as braces, brackets, trusses, screw legs, ladders etc weakened from any cause shall be immediately repaired or replaced.

16.5 Machinery and Vehicles:

a) Equipment is built for safe, economical and long-life operation but is only as safe as the operator or mechanic who is handling or manipulating.

b) Only experienced and authorized persons shall operate power equipment. Before being allowed to operate a particular piece of equipment, the employee must prove by actual demonstration to the supervisor that he understands the operation.

c) Operators shall make careful inspection of their equipment at the start of each shift, before operating, required repairs shall be completed.

d) Cleaning, oiling, fueling or repairing is not to be done on equipment while it is in operation.

e) The operator is to take only standard industry hand signals from only one designated person.

f) Cranes or other equipment shall not lift loads in excess of the manufacture’s maximum load limit displayed on the equipment. Lifting equipment must be tested by a competent authority and records of the same maintained.

g) Air hoses should not be disconnected at compressors until air pressure in the hose line has been released.

h) Electrical installations must confirm to IE (Indian Electricity Rules) and BIS (Bureau of Indian Standards).

i) Do not operate equipment within 300mm of high voltage lines. For lines over 50000 volts, increase operating clearance 1mm for each additional 1000 volts.

j) Where it is difficult for the operator to see overhead high voltage lines or obstacles, a person shall be designated to observe and give him warning required to maintain safe clearance.

k) Do not work under vehicles supported by jacks or chain hoists without protective blocking that will prevent injury if jacks or hoists fail.

l) Examine pit before backfilling to ensure that no one is in the pit.

m) Before operating excavating equipment near tops of cuts, banks and cliffs, be sure no one is below.
n) Tractors, bulldozers and carryalls should be operated with care where there is possibility of overturning on dangerous area, such as edges of deep fills, cut banks and steep slopes.

o) No passengers are allowed to ride on or in equipment that does not have a designated seat for such rider.

p) Vehicular and pedestrian path and parking spaces should be clear of overhead operating equipment.

16.6 Material Handling of Overhead Operating Equipment:

a) Maximum load carrying capacity of cranes, blocks or chains must be displayed along with the last date tested and the next due date for testing.

b) Do not overload cranes, ropes, blocks or chains. If any such equipment has been damaged or is found to be defective, inform your supervisor.

c) No one shall ride loads, concrete buckets or hooks.

d) Use a guide of “tag line” on loads.

e) Stand clear of taut cables or hoists

f) Keep hands and fingers away from blocks, sheaves or winches.

g) Do not stand under overhead loads.

h) Stack materials neatly and safely as per established guidelines.

i) Keep all material 5500mm away from sprinkler heads.

j) All material handling equipment must be periodically checked by a competent authority and maintained properly. Records of the same must also be maintained.

16.7 Excavation and Shoring:

a) All trenches of excavation of 1.5 meters or more in depth shall be effectively guarded against the hazard of moving ground by sloping sides to the angle of the material encountered or by the installation of a shoring system.

b) When sides are sloped, it shall be not steeper than ¾ horizontal to 1 vertical. Slopes must be made less steep if material encountered is not stable.

Trenches less than 1500mm deep shall also be guarded when examination indicates hazardous ground movement.
When a shoring system is used, it shall conform to the approved design and the requirements of the appropriate local agencies.

Beware of disturbed ground. Ground that has been filled or disturbed will require additional sheeting and bracing, as well as hard compact ground if there is filled ground is filled ground nearby. (A trench wall that is near another recently filled trench, for example, is unstable even though it appears to be compact material).

Take special precautions where moisture is present. Provide extra sheeting where there is water or seepage. Keep excavation dry at all times and avoid any accumulation of water, day or night, until work is done.

Install upper trench jacks or supports first. When trench jacks are used to hold up rights in place against trench walls, the top jack shall be installed before anyone enters the trench to place the lower jack. Shoring does not serve its purpose if men expose themselves to hazards while installing it. Installation work should be done from outside of the trench or by working progressively from top to the bottom of the trench with men always in an area which has already been shored.

Adequate shields or cages shall be used when needed for safety installation of shoring. Prior to starting any excavation work, the foreman shall make a thorough survey of the conditions on the Site to determine, so far as is practical, the predictable hazards to employees and the kind and extent of safeguards necessary to accomplish the work in a safe manner. Hazards shall be documented together with action required.

Special attention shall be given to locating and protecting underground utilities and to the precautions that must be taken to protect employees from the hazards of working near such utilities.

No part of any shoring system of any excavation shall be removed until proper steps have been taken to avoid hazards to men from moving ground. All excavated areas must be properly barricaded to prevent people from falling into the pits.

Proper access for workers must be proved to and from excavation pits.

Work permits where required must be issued to authorized persons undertaking any excavation.

Flagmen shall be required at all locations on a construction site where barricades and warning signs cannot control moving traffic. They shall be placed so as to give adequate warning, approximately 100 feet ahead of impact point. They shall be provided with red flags and hand signs or red lights.

° A warning sign shall be posted ahead of flagmen reading “Flagmen Ahead”.

° The flagmen shall be provided with a red or orange warning garment for flagging. At night, reflective garment shall be used.
Flagmen shall be instructed in the proper fundamentals of flagging moving traffic before they perform this work.

**DESIGN OF DEWATERING SYSTEM**

The Contractor shall arrange to shave the entire dewatering system designed in detail, installed, maintained and operated by qualified and experienced personnel throughout the course of the work.

If the Contractor wishes to appoint some properly qualified dewatering sub-contractor, then his name, qualifications, record of previous jobs of similar nature personnel to be employed on the work, and other pertinent information shall be submitted to the employer for approval.

The weeks prior to commencement of installation of the dewatering system, Contractor shall submit to the employer for his technical approval, complete final plans, details and description of the dewatering system.

Approval of the de-watering system by the Consultant shall in no way relieve the Contractor from his responsibility of satisfying the entire de-watering requirements as specified herein.

**16.8 Electrical:**

a) Whenever possible, an electrical line should be de-energized before work is done on or near it, no matter how low the voltage. Only qualified persons should do such work. Use proper lockout tagging procedures.

b) Persons doing electrical work or working near energized circuits should wear the appropriate safety equipment.

c) All electrical equipment must be properly earthed.

d) Respect electricity. A little current can kill. If the contact is good, 220 volts can be just as hazardous as 10000 volts.

e) Do not overload circuits. Do not use any extension cables that may be damaged.

f) Do not leave electrical cables where vehicles will run over them. If electrical cables must cross a roadway, use protective cross over devices.

g) Only approved plugs and receptacles shall be used on all jobs.

h) All electrical work shall be according to local, state or National Electrical Codes.

i) Only licensed electricians are allowed to carry out electrical work.
j) Rubber gloves and rubber shoes/ boots of correct voltage grade shall be used.

k) Temporary supply shall be trapped from a source panel which is properly fabricated, permanently fixed and effectively earthed.

l) Live line testers and test lamp shall not be used. Usage conditions of a multi-meter with long probes are to be followed. Test lamps can be used temporarily if fitted with protective guard.

m) Makeshift connections are prohibited; ELCB’s to be used for Portable Electrical Equipment.

n) ELCB’s should be checked regularly and records maintained.

o) Work permit system must be used where required.

16.9 Hand tools:

a) Do not use defective tools. If found report them to your supervisor.

b) Keep faces of hammers in good condition to avoid flying nails, bruising fingers and chipping the hammer head.

c) Hold cold chisels in such a way that the knuckles will be protected if the hammer misses the head. Chisels struck by others should be held by tongs or other similar devices.

d) Do not use pipe wrenches as a substitute for other wrenches.

e) Wrenches should not be altered by the addition of handle extensions.

f) Files shall be equipped with handles.

g) Do not use a screwdriver as a chisel.

h) Keep handsaws and other tools sharp and in good condition.

i) Do not lift or lower portable electrical tools by their power cords. Use a rope.

j) Guards on power hand tools must be kept in proper operating condition at all times.

k) Keep electrical cables out of water, oil or chemical.

l) Only qualified persons shall be permitted to use power activated tools. Check the other side of walls, floors, ceiling, etc. before using.

m) Tools which have been tagged “out of order- Do not Use “shall not be used until tag has been removed by an authorized person.

n) Do not use aluminum handled full floats or aluminum ladders where there is a possibility they may come in contact with power lines.

o) Do not use electrical tools while standing in water.

p) All electric hand tools shall be double insulated.

q) Wire cutting tools and knives shall be provided with safe handles.

16.10 Welding and Burning:

a) Only experienced persons are allowed to do any electrical or acetylene welding or burning.

b) Do not weld or burn in hazardous area without written instructions.

c) Do not burn or weld where hot sparks, hot metal or severed sections could fall on
cylinders, hoses, machinery, legs or feet or on flammable materials or where they
could strike personnel working below.
d) Do not weld or burn barrels, enclosed tanks of other containers without making
sure that nothing flammable has been stored in them or until such tanks have been
made safe by filling with water or carbon dioxide under the supervision of a
foreman.
e) Never strike an arc on cylinders.
f) Never use matches to light torches. Use a spark lighter or stationary pilot flame.
g) Make sure there is plenty of fresh air when welding is done in closed or confined
places and never use oxygen for ventilation.
h) Do not overload welding cable operating with poor connection. Turn off cylinders
and machinery when not in use and roll up cable and hoses.
i) Wear proper head (hard hat), eye and face protection when welding, and protect
others from arc burns by using a shield, if possible, or by warning them to wear
adequate protection. Welders must see that those working with them have proper
head and eye protection.
j) Make welding machine ground connections directly to ground whenever possible.
k) Always refer to acetylene as “acetylene” not “gas”. Refer to oxygen “oxygen” not
“air”.
l) Use the cylinder for its intended purposes and nothing else.
m) Always consider a cylinder as full and handle it accordingly.
n) When cylinders are empty, turn off, remove the gauges, put the protective cap on
and mark them “MT or “Empty”.
o) Always transport, store and use acetylene cylinders in a vertical position to avoid
loss of acetone.
p) Protective caps shall be in place while transporting, moving and storing cylinders.
q) When cylinders are being hoisted, they shall be secured in a cradle.
r) In keeping “empties” and “full” separate, use a chain across the storage racks and
always tie the bottles.
s) Full cylinders of acetylene and oxygen should be stored at least 20 feet apart under
a shelter and not exposed to sunlight.
t) Welding sets shall be properly earthed through an insulated conduit to the nearest
earth.
u) Work permit system must be used for welding operators.

16.11 Work in confined Spaces:
When work is done in the interior of storm drains, sewers, vaults, utility pipelines,
manholes and any other structure which might permit the accumulation of dangerous
vapors or gases, the followings precautions shall be taken:

a) Employees shall be instructed regarding any potential hazard.

b) Tests for the presence of dangerous and combustible gases and adequate levels of
oxygen content shall be made prior to entering a confined work area and at intervals
frequent enough to insure safe working conditions during the time a workman is in such
structure. A record of such tests will be maintained at the job site.
c) Sources of ignition, including smoking, will not be allowed until proper tests have been made to insure safety.

d) When air is not suitable for breathing, approved respiratory equipment will be used. A safety line shall be attached to employee and standby employee shall be within call and sight ready to give assistance in case of emergency.

e) No work shall be done in the presence of explosive gases or air unsuitable for breathing.

f) Internal combustion engine-driven equipment shall not be operated inside buildings or confined spaces unless adequate steps have been taken to ensure protection from dangerous concentrations of gases or fumes. Some of the precautions that may provide adequate control are as follows:

- Piping exhaust gases to outside atmosphere.
- Ventilation which dilutes and removes gases.
- Use of catalyst-type exhaust scrubbers.

16.12 Work Permit System:
Work permit system must be used for the following
- Electrical work
- Working at Heights
- Excavation & Demolition
- Welding or hot work
- Working in confined spaces
- Any other hazardous operation.

16.13 ENVIRONMENTAL CONSIDERATIONS

The Contractor shall be concerned with the impact of his work upon the Environment. This applies to the effect upon the residential community, adjacent industrial facilities and upon the area outside the site boundary. Areas of concern will include but are not limited to:
- Use of clean fuels to minimize air polluting emissions.
- Control of other air pollutants.
- Recovery and recycling of usable materials.
- Control of vehicle noise
- Control of noise from power facilities.
- Limitation of vibrations.
- Preservation of natural land to the extent possible.
- Preservation of archaeological features.

16.14 Training:
Adequate training must be provided to all supervisors; workers; contractors etc on the safe systems of work.