



**North East Mega Food Park Ltd.  
Hotel Brahmaputra Ashok, M. G. Road,  
Guwahati - 781001, Assam**

**TENDER NOTICE**

**North East Mega Food Park Limited, (NEMFPL)** invites item rate bids for land development works, building & civil works, supply & erection of pre-fabricated structures at Primary Processing Center at Chaygaon, Dist. Kamrup in Assam, preferably registered with Government/ Semi-Government organizations, for the work mentioned below:-

<b>Sl. No.</b>	<b>Description</b>	<b>Remarks</b>
01	Name of work and location & completion period.	<b>Land development works, building &amp; civil works, supply &amp; erection of pre-fabricated structures at Primary Processing Center at Chaygaon, Kamrup in Assam with completion period of 12 weeks from the date of issue of LOI.</b>
02	Cost of tender document	Cost of each tender document is Rs. 5000/- payable by crossed Demand Draft/in cash, in favor of <b>North East Mega Food Park Ltd.</b> payable at Guwahati.
03	Address of the office from where the tender document can be purchased	North East Mega Food Park Ltd, Hotel Brahmaputra Ashok Complex, M.G. Road, Guwahati, Assam. Phone no - 0361 2736293
04	Earnest money to be deposited	<b>Rs. 1,40,000/- (Rupees One lac and forty thousand Only)</b> in the form of DD /Pay order/BG of Nationalized Bank
05	Date & time for (a) Issue of Tender Document (b) Submission of the tender documents (c) Opening of the tender documents	February 5, 2016 February 15, 2016 up to 3.30 PM February 15, 2016 up to 4.30 PM
06	Website particulars where complete details of tender document, eligibility criteria can be seen etc.	<a href="http://www.nefoodpark.com">www.nefoodpark.com</a> .

**Date: February 5, 2016  
Phone No. - 0361 2736293,**

**Chief Coordinating Officer  
North East Mega Food Park Ltd.**

**NORTH EAST MEGA FOOD PARK LTD.  
AT CHAYGAON, DIST. KAMRUP, ASSAM.**

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**TENDER FOR LAND DEVELOPMENT WORK & BUILDING AND CIVIL WORKS WITH  
PRE-FABRICATED STRUCTURE  
FOR THE PROPOSED PRIMARY PROCESSING CENTRE OF THE NORTH EAST MEGA  
FOOD PARK LTD.  
AT CHAYGAON, DIST KAMRUP, ASSAM.**

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CONTRACT NO. : TPK/15010

TECHNOPAK ADVISORS PVT. LTD.

ANB/GS

PAGES : 90

DATE : 05.02.2016

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**TENDER NOTICE**

North East Mega Food Park Limited, (NEMFPL) invites item rate bids for land development works, building & Civil works, supply, erection of pre-fabricated structures at Primary Processing Center at Chaygaon, Dist. Kamrup in Assam, preferably registered with Government/ Semi-Government organizations, for the work mentioned below:-

Sl.no	Description	Remarks
01	Name of work and location & completion period.	Land development works & Building & Civil works with supply, fabrication, erection and commissioning of pre-fabricated structure at Primary Processing Center at Chaygaon, Kamrup in Assam with completion period of 12 weeks from the date of issue of LOI.
02	Cost of tender document	Cost of each tender document is Rs. 5000/- payable by crossed Demand Draft/in cash, in favor of North East Mega Food Park Ltd. payable at Guwahati.
03	Address of the office from where the tender document can be purchased	North East Mega Food Park Ltd, Hotel Brahmaputra Ashok Complex, M.G. Road, Guwahati, Assam. Phone no -0361 2736293
04	Earnest money to be deposited	Rs. 1,40,000/- (Rupees One lac and forty thousand Only) in the form of DD /Pay order/ BG of Nationalized Bank
05	Date & time for (a) Issue of Tender Document (b) Submission of the tender documents (c) Opening of the tender documents	February 4, 2016  February 15, 2016 up to 3.30 PM  February 15, 2016 up to 4.30 PM
06	Website particulars where complete details of tender document, eligibility criteria can be seen etc.	<a href="http://www.nefoodpark.com">www.nefoodpark.com</a> .

**1. PREFACE**

**North East Mega Food Park Ltd.- NEMFPL** (Hereinafter referred to as the Employer/ Client) invites limited Tender from the selected contractors for the work mentioned in the scope of work, to be carried out at the Employer's Proposed Primary Processing Centre of Mega Food Park project at Chaygaon, District Kamrup, **Assam** (hereinafter referred to as Site).

**M/s. Technopak Advisors Pvt. Ltd., Gurgaon, NCR – TAPL** (hereinafter referred to as Consultants) have been retained by the Employer to act as their consultants for the project.

**The Scope of Work** comprises of the following Land Development, Building & civil works with pre-fabricated structures:

- All survey work with precision instruments to demarcate / delineate the work on ground.  
Land Development Works (Roadwork, Compound Wall, Storm Water Drain, Sewerage Network, Septic Tank)  
Building & civil works with pre-fabricated structures.

The tenderer should examine carefully the accompanying tender documents and obtain all information's including site inspection prior to submission of tender.

The tenderer shall quote rate considering all inclusive of work with materials, manpower and machinery as specified in the tender.

The tender shall remain valid for acceptance for a period of 60 (Sixty) days counted from the date of Letter of Intent.

The employer reserve the right to reject any or all the tenders without assigning any reason thereof.

This tender together with the Employer's written acceptance shall constitute a binding contract between the tenderer and the Employer.

The tenderer whose tender is accepted shall be called as the "Contractor".

**1A. Qualifying Criteria :**

The tender documents will be issued to only those who meet the following criteria:

- a) Must be reputed organization registered under the Company Act 1956 or registered Partnership firm.
- b) The Organization should have at least 5 years of experience Building and Civil works and Pre-fabricated structures.
- c) The organization should have handled at least 2 similar assignments during last 5 years with similar types of projects.
- d) Annual turnover of the organization should not be less than Rs. 100 lacs in the last three financial years and should be in profit for at least in the last three financial years .
- e) The organization should have sector specific experience and in house capabilities to manage the assignments to avoid outsourcing of the jobs. In case of outsourcing, the new agreement would not be allowed and should have done similar work jointly at least twice for similar volume of work.
- f) Subletting of the jobs assigned would not be allowed.
- g) There should not be any pending litigation against bidder with any central Govt./State Govt/statutory bodies..

**BID EVALUATION CRITERIA:**

Based on the NIT, the following procedure would be followed for opening of the BID:

**STEP – I**

After receiving the BID, on the same day the Tender documents will be opened the Envelope and check the receipt of the three separate covers inside the same duly mentioned with Cover – I, Cover – II and Cover –III as mentioned in the Tender.

First to open the Cover – I to check the EMD in the absence or default of which the Tender may be rejected.

**STEP – II**

On the date of opening of the tender, the Cover – II will be opened based on the cover – I as opened earlier on the same day.

The documents as submitted with Cover – II like Technical bid and overall credential will be kept for scrutiny and evaluation by the PMC.

After Technical evaluation as mentioned above, the PMC will submit the report to decide the date of opening of Cover – III, Commercial Bid based on the evaluation Report.

After opening of the Commercial Bid, the PMC will evaluate the same and submit the report to take the final decision on the same.

Cover II should contain:

- a) Company Profile, experience and resources of key personnel of the company dealing with expansion joint, balance sheet and working experience.
- b) Any other information that may be considered relevant.

The rates / prices quoted shall remain firm throughout the contract period.

The evaluation matrix have attached with the Tender as guide line to the Bidders as follows:

**EVALUATION MATRIX**

Sl. No.	Particular	Details	Max. Marks	Score	Remarks
<b>1</b>	<b>Commercial Criteria</b>				
a)	Annual turnover (Last three financial years)				
	2012-2013		10		
	2013-2014				
	2014-2015				
b)	Experience of the bidder in execution of work similar in nature and magnitude		10		
c)	Existing commitments and running Projects		5		
d)	Legal Status of the bidder		5		
e)	Evidence of access to Financial Resources (Cash Credit)		5		
f)	Company Status		10		
g)	Solvency Certificate		5		
h)	Audited Statement of Account		5		
<b>2</b>	<b>Technical Criteria</b>				
a)	Plant & Machinery, equipment and testing laboratory which the contractor intends to deploy.		15		
b)	Proposed key personnel, staff & their qualification		10		
c)	Proposed workers strength with details		5		
d)	Method of erection and commissioning safety at site and quality control		10		
e)	Detailed schedule based on completion period		5		
	<b>Total Marks</b>		100		

The assessment will be done on above basis. Hence Bidder must submit authenticated information as above.

**2. GENERAL CONDITIONS OF CONTRACT****2.1. Co-ordination with the Agencies**

The contractor shall carry out the work at site under instructions and to satisfactions of the Employer / consultants and in coordination with other Agencies at site if any.

The contractor shall not endanger/damage/remove/alter the work of other contractors without having with the knowledge and consent of the Employer /Consultants.

**2.2. Compliance with the safety and statutory regulations**

The contractor shall abide by and comply with the Safety rules, the statutory provisions, regulations etc. of the Govt. authorities applicable to this work, and shall obtain their approval as and when required as directed by the Consultants / Employer against the authorized demand notice.

**2.3. Contractors Superintendence**

The contractor shall provide all necessary superintendence during the execution of the work and the period of maintenance like valid labour license, insurance for CAR policy as well as third party insurance.

**2.4. Clearance of Site**

The contractor shall keep the site clean at all times.

**2.5. Commencement of work**

The date of receipt of the Employers written acceptance by the contractor shall be reckoned as the date of commencement of work unless stated otherwise.

**2.6. Completion period**

The work shall be completed within twelve weeks (**Three months**) from the date of commencement.

**2.7. Alteration, Additions and Omissions**

The quantities set out in the Bill of Quantities are the estimated quantities of the work and are not to be taken as the final quantities to be executed by the contractor. Payment shall be made as per the actual quantities executed by the contractor based on the unit rates as mentioned in the contract.

The Consultant / Employer reserve the right to increase / decrease any of the quantities or totally omit any item of work and the contractor shall not claim any extra or damages on these grounds as long as the Overall Contract Amount remains within +/- 25% of Tender Price.

Extra or additional work done by the order of the consultants shall be valued on the basis of the rates and prices set out in the contract, if in the opinion of the consultants, the same shall become applicable. If the contract does not contain any rates or prices applicable to such extra or additional work then suitable rate analysis based on the rates/prices set out in the contract shall be submitted by the contractor for the consultant's approval, prior to executing the work. The decision of the consultants in such matters shall be final and binding on the contractor.

**All extra work shall be carried out with prior approval from the clients / consultants.**

**2.8. Insurance**

Insurance, required for the work in order to fully indemnify



The Employer from all claims arising on account of the contractor's responsibility. Without limiting his obligations and responsibilities the Contractor shall insure in the joint names of the Employer and Contractor against all loss or damage from whatever cause arising, other than the excepted risks, for which he is responsible under the terms of the Contract and in such manner that the Employer and Contractor are covered for the contract period and are also covered during the Defects Liability Period and for any loss or damage occasioned by the Contractor in the course of any operations carried out by him for the purpose of complying with his obligations. It is as follows:

***Insurance of Works, etc.***

- a) The Works executed or being executed to the estimated contract value thereof plus 10% (to allow for any additional costs and professional fees resulting from the loss or damage) together with the materials for incorporation in the Works at their replacement value.
- b) The Constructional Plant and other things brought on to the Site by the Contractor to the replacement value of such constructional Plant and other things.

Such insurance shall be effected with an insurer and in terms approved by the Employer which approval shall not be unreasonably withheld, and the Contractor shall whenever required produce to the Engineer or any other authorized person, policy or policies of insurance and the receipts for payment of the current premiums.

The Contractor shall, except if and so far as the Contract provides otherwise, indemnify the Employer against all losses and claims in respect of injuries or damage to any person or material or physical damage to any property whatsoever which may arise out of or in consequence of the execution and 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 :-

***Damage to Persons and Property***

- a) The permanent use or occupation of land or the Works or any part thereof or by the Employer.
- b) The right of the Employer to execute the Works or any part thereof on, over, under or through any land.
- c) Injuries or damage to persons or property which are the unavoidable results of the execution or maintenance of the work in accordance with the Contract.
- d) Injuries or damage to persons or property resulting from any act or neglect of the Employer, his agents, servants or other contractors, not being employed by the Contractor, or for or in the respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or where the injury or damage was contributed to by the Contractor, his servants or agents, such part of the compensations 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 damage or injury.

The employer shall indemnify the Contractor against all claims, proceedings, damages, cost, charges & expenses in respect of the pertinent matters referred to in the provision mentioned above.

***Indemnity by Employer***

Before commencing the execution of the Works the Contractor, but without limiting his obligations and responsibilities as mentioned above, shall insure against his liability for any material or physical damage, loss or injury which may occur to any property, including that of the Employer, or to any person, including any employee of the Employer, by or arising out of the execution of the Works or in the carrying out of the Contract. The policy to be taken from the nationalized Insurance company for the contract value plus 10% of the same and submit within 10 ( ten)days of receipt of the work order/ LOI.

***Third Party Insurance***

Such insurance shall be effected with an insurer and in terms approved by the Employer, which approval shall not be unreasonably withheld, and for at least the amount stated. The Contractor shall, whenever required, produce to the Employer or the Engineer or the Engineer's Representative the policy or policies of insurance and the receipts for payment of the current premiums.

***Minimum Amount of Third Party Insurance***

The terms shall include a provision whereby, in the event of any claim in respect of which the Contractor would be entitled to receive and be indemnified under the policy being brought or made against the Employer, the insurer will indemnify the Employer against such claims and any cost, charges and expenses in respect thereof.

***Provisions to Indemnify Employer***

The Employer shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workman or other person in the employment of the Contractor, or any sub-contractor, save and except an accident or injury resulting from any act or default of the Employer his agents, or servants. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, save and except as aforesaid, and against all claims, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto. Contractors Third party insurance should cover all such type of things and policy to be taken as per the approval of the Insurance company as well as the clients considering the contract value.

***Accident or Injury to Workmen***

The Contractor shall insure against such liability of the nature with an insurer approved by the Employer, which approval shall not be unreasonably withheld, and shall continue such insurance during the whole of the time that any persons are employed by him on the Works and shall when required, produce to the Employer, or the Engineer or the Engineer's Representative such policy of insurance and the receipt for payment of the current premium. Provided always that, in respect of any persons employed by any sub-contractor, the Contractor's obligation to insure as aforesaid under this sub-clause shall be satisfied if the sub-contractor shall have issued against the liability in respect of such persons in such manner that the Employer is indemnified under the policy, but the Contractor shall require such sub-contractor to produce to

***Insurance against Accident, etc. to Workmen***

the Employer or the Engineer or the Engineer's Representative, when required, such policy of insurance and the receipt for the payment of the current premium.

If the Contractor shall fail to effect and keep in force the insurances referred here, or any other insurance with 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 premiums as may be necessary for that purpose and from time to time deduct the amount so paid and any other expenses incurred by the employer as aforesaid from any monies due or which may become due to the Contractor, or recover the same as a debt due from the Contractor. The Contractor shall however, be fully responsible for any consequence arising out of his failure to effect and keep in force the insurances irrespective of whether the Employer effects the insurance as above or not.

***Remedy on  
Contractor's Failure to  
Insure***

The Contractor shall give all notices and pay all fees required to be given or paid by any National or State Statute, ordinance, or other Law, or any regulation, or bye law or any local or other duly constituted authority in relation to the execution of the Works and by the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the Works.

***Giving of Notices and  
Payment of Fees***

The Contractor shall conform in all respects with the provisions of any such statute, ordinance or Law as aforesaid and the regulations or bye laws of any local or other duly constituted authority which may be applicable to the Works and with such rules and regulation of public bodies and companies as aforesaid and shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such Statute, Ordinance or Law, regulation or bye-law.

***Compliance with  
Statutory Regulation  
etc.***

2.9. Labour, Water & Power.

The contractor shall make his own arrangements for labour. He shall conform to all applicable statutory provisions, revised update of the concerned authorities and shall keep the Employer indemnified from all claims that may arise to the contractors operations.

The contractor shall arrange for Power for Construction and Land Development Works at his own Cost and nothing extra shall be payable on this account. Quoted rates are deemed to be included within the same.

Water for Construction and Land Development Works shall be arranged by the contractor at his own Cost and nothing extra shall be payable on this account. Quoted rates are deemed to be included within the same.

2.10. Prices

All rates and prices in the Bill of Quantities shall be deemed to include costs of materials, labour, taxes, duties, royalty, levies, freight loading/unloading, establishment, overhead charges and profit and shall be considered as the all-inclusive net prices at site.

Items which are not specially mentioned but which logically belong to the works shall be deemed to have included in the prices.

#### 2.11. Taxes & Duties

VAT & Service Tax, and other taxes applicable as on date of commencement shall be filled in the Bill of Quantities as per prevailing Govt. rates.

Any statutory variation in above by way of legislation or Government Ordinance that shall become applicable to this contract shall be reimbursed to the Contractor as per actual on submission of documentary proof of such variation. This however, shall not be applicable during the extended time required by contractor due to his defaults.

#### 2.12 Price Escalation

Subject to clause 2.11 above, the rates and prices set out in the contract shall remain firm and free of escalation during the currency of the contract, and no extra claim by the contractor in this respect shall be entertained.

#### 2.13 Terms of Payment

- 5 % of contract price as interest free advance against equivalent approved Bank Guarantee from Nationalized bank with the work order. The same will be recovered on prorata basis (@ of 30% of the mobilization advance and till full recovery) from the 1st RA bill. The B. G. can be released after full recovery of the Mobilization Advance.
- 95 % of contract price on Pro rata basis against Running Advance bills as per the progress of work and as approved by the engineer.
- 5 % will be paid on successful completion of the defect liability period of 12 (twelve) months from the date of handing over or submission of Final bill whichever is earlier. The same may be released on submission of bank guarantee (valid till defect liability period) of equivalent amount after certification of final bill.
- Income tax as per prevailing rules and regulations shall be deducted at source from the Contractor's R.A. Bills and a certificate to that effect shall be given to him, unless the Contractor produces a certificate from the concerned authorities against such deductions.
- RA bills to be submitted for Minimum Rs. 20.00 lac and the same to be submitted fortnightly. Payment to be made within 20 days of certification of the same bill by the PMC in charge. However 70% of the work done can be certified as adhoc (Against the certificate released by the engineer in-charge) within 15 days of submission of the complete bill as advance.

#### 2.14 Liquidated Damages

For non-completion of the work within the prescribed time, the contractor shall be liable to pay to the Employer, as liquidated damages and not as a penalty, a sum equivalent to and at the rate 1% (One percent) of the contract price per week of delay or part thereof subject to a maximum of 5% (Five percent) of the contract price.

For delays not owing to the contractor and under conditions of force majeure as determined by the consultants, the contractor shall merit appropriate extension in time.

#### 2.15. Settlement of Disputes and Arbitration

All disputes and difference arising out of or in connection with the contract whether during the progress of work or after completion, shall be referred to and settled by Arbitration, by two Arbitrators, one to be nominated by the Employer and the other by the contractor. In the event of the Arbitrators disagreeing, it shall be referred to an Umpire to be nominated by the two Arbitrators before processing with the Arbitration. The decision of the Umpire shall however be final and binding on both the parties. For the purpose of this clause the provisions of the Indian Arbitration Act 1996 with relevant amendments shall be acceptable. The jurisdiction of arbitration will be Guwahati, Assam.

**APPENDIX TO TENDER****APPENDIX – A TO TENDER HEREINAFTER REFERRED TO**

Sr. No.	Items	Remarks	Concurrence/ Variations to be indicated by Bidder
1.	Scope of work	(i) All survey work with precision instruments to demarcate / delineate the work on ground. (ii) Land Development Works (Roadwork, Compound Wall, Storm Water Drain, Sewerage Network, Septic Tank) (iii) Building & civil works with pre-fabricated structures.  Preparation of detailed working drawings and final As-Built drawings.  Approval from Statutory Authorities related to above, complete in all respects to be arranged by the contractor.  <b>The Bidders are requested to quote exactly as per the tendered technical specification and scheme. Makes/models of all components incorporated to be clearly mentioned in the offer.</b>	
2	Earnest Money	<b>(EMD) of Rupees One lacs forty thousand only</b> (in the form of the Bank Guarantee from any nationalized Bank as per prescribed format as enclosed with the tender document or Demand draft drawn in favor of NORTH EAST MEGA FOOD PARK LTD.” valid for 180 days.	
3	Minimum Amount of Third party Insurance	Up to Rs. 5.00 Lakh per occurrence. Cover for 5 occurrences in Contract Period, to be submitted within 10 days of receipt of work order / LOI whichever is earlier.	
4	Commencement of Works	7 days from the date of issue of Letter of Intent / Work Order whichever is earlier	
5	Time of Completion	Within Twelve (12) weeks from the date of issue of LOI.	
6	Liquidated Damage for Delay	1% of the contract price sum per week or part thereof subject to a limit of 5% of contract sum	
7	Bonus for early Completion	1% of the contract sum per week or part thereof subject to a limit of 5% of contract sum	
8	Periods of Defects Liability	365 days after date of certificate of completion of works	

9	Mobilisation Advance	5% of Contract Sum (interest free) against an irrevocable acceptable Bank Guarantee of like amount in an approved format and submission of Performance Bond	
10	Recovery of Mobilisation Advance	Mobilization advance will be recovered on prorata basis (@ of 30% of the mobilization advance and till full recovery) from the 1st RA bill. The B. G. can be released after full recovery of the Mobilization Advance.	
11	Payment of material / equipment at site (Secured advance)	70 % of the material/equipments cost on the value of the invoice of 75% of the quoted rate whichever is less, for non perishable items as per agreed schedule of procurement as directed by the Engineer in-charge.	
12	Retention Money	5% from each payment due to the contractor, until completion of the whole works. On completion of whole works, the retention money will be released on submission of irrevocable bank guarantee equivalent to 5% of the contract price. The validity of the BG shall be 365 days (defect liability period) from the date of handing over the work.	
13	Time within which Certificate is to be made by the Engineer after receipt of interim Bill of Contractor	Within 21 days after submission of Bills with all details and complete information plus vouchers etc to the satisfaction of the consultant However, 70% of the Bill value can be certified within 15 days of submission and after preliminary checking of the bill as an adhoc payment after necessary verification/certification of the bills of the PMC/consultant.	
14	Time within which payment to be made by the Employer after issue of Certificate by the Engineer	Within 7 days of issue of payment certificate by the Engineer to the Employer	
15	Period of final measurements and certifications by the Engineer by the date of receipt of final bill of contractor	Within 60 Days	

16	Period of final payment by the Employer certification by the Engineer	Within 30 days	
17	Performance Bond/ security Deposit	5% of Contract sum within a period of not more than 5 days from the date of signing of the contract agreement/ receipt of LOI/LOA, the successful tenderer shall submit a Performance bond for due performance of the contract for the above sum. The Performance Bond will be valid right through the contract and till the completion of DLP and to be submitted in the form of Irrevocable Bank Guarantee to be submitted from an approved scheduled bank/ nationalized bank in approved format.	
18	Construction Power and Water	Power and water for construction to be arranged by the contractor at his own cost	
19	Accommodation and other facilities for contractor staff and labours	The Contractor shall arrange accommodation and other facilities for his staff and labour by himself on the site at his own cost. On his vacating the site after work is over the contractor should in no way affect the nature and ecology of the site.	
20	Programme	Within 7 days of the award of contract, the Contractor shall submit to the engineer for approval of programme showing the order of procedure in which he proposes to carry out the works.	
21	Sanitation Facilities	Contractor has to arrange for Toilet facilities for his labour during daytime, while working. Proper arrangement for drainage/disposal to be done to maintain hygienic condition.	
20	Safety Rules	The Contractor is required to give an undertaking that all safety Rules & Regulations will be followed by him as per Tender.	
21	Clearance of site on Completion	Contractor will be required to clear the site within 1 weeks on completion of works.	



22	Variation in Quantities	The Contractor will not be eligible for any claim in any case of variation in the quantities as long as the total variation in the cost of work as executed remain within Plus minus 30% of contract sum.	
23	Variation exceeding plus minus 30%	Employer may negotiate only the sum by which such limit of plus minus 30% is exceeded.	
24	Employers' and Engineers Offices and other facilities	It will be built as per the requirement and will be paid as BOQ rates.	
25	VAT, Service Tax and other Taxes	The rates in BOQ shall be inclusive of all taxes, duties, royalties, etc. except VAT & Service Tax which shall be separately added below the line.	
26	As Built drawing	The contractor shall furnish four copies the as built and approved drawings within two weeks after successful commissioning and handing over.	
27	Indemnity Bond	The contractor to furnish indemnity bond, indemnifying the client against any liability.	
28	Codes/ Standard	Works to be carried out and materials used etc should be as per relevant IS codes/standards wherever possible	
29	Terms of payments	<ul style="list-style-type: none"> <li>- 5 % of contract price as interest free advance against equivalent approved Bank Guarantee from Nationalized bank with the work order. The same will be recovered on prorata basis (@ of 30% of the mobilization advance and till full recovery) from the 1st RA bill. The B. G. can be released after full recovery of the Mobilization Advance.</li> <li>- 95 % of contract price on Pro rata basis against Running Advance bills as per the progress of work and as approved by the engineer.</li> <li>- 5 % will be paid on successful completion of the defect liability period of 12 (twelve) months from the date of handing over or submission of Final bill whichever is earlier. The same may release on submission of bank guarantee (valid till defect liability period) of equivalent amount after certification of final bill.</li> </ul>	
30	Insurances	The Contractor shall take out following Policies: 1. Transit cum erection insurance for material / equipment. 2. Contractors all risk policy. 3. Third party liability (as mentioned above) and 4. Workmen's compensation policy	

1. In the Contract, as hereinafter defined, the following words and expressions shall have the meanings hereby assigned to them, except where the context otherwise requires :-

	Definitions
<p>1) <b>"Employer"</b> means M/s. North East Mega Food Park Ltd, Hotel Brahmputra Ashok, M.G. Road, Assam Guwahati-781 001 who will employ the Contractor and the legal successors entitled to the Employer, but not, accept with the consent of the contractor, any assignee of the Employer.</p> <p>2) <b>"Contractor"</b> means the persons, firm or company whose tender has been accepted by the Employer &amp; includes the Contractor's personal representative's successors and permitted assigns.</p> <p>3) <b>"Consultant"</b> means M/s. Technopak Advisors Private Limited, 4<sup>th</sup> floor, tower-A, Building no.8, DLF Cyber city, DLF Phase-II, Gurgaon 122 002 its permitted assigns or its successors who shall act as the Agents of the Employer for the Contract.</p> <p>4) <b>"Supply" includes</b> delivery at site with packing, freight, insurance, taxes, duties, unloading and safe storage till erection. All required material and accessories (whether specified or not)for carrying out the above specified jobs up to charging of installation and commissioning of entire system as per specification, Owner's requirements, safety standards and statutory requirement is also included in 'Supply'.</p> <p>5) <b>"Installation"</b> includes safe shifting of above material to erection-location placement and installing in position. All necessary tools, tackles, ladders, scaffolding, instruments, consumables etc. shall be arranged by Contractor at own cost. Minor civil works related to above work is also included.</p> <p>6) <b>"Testing"</b> includes inspection of material before dispatch, after receipt at site and before installation. Equipment shall be tested individually and the integrated system as a whole shall be tested for satisfactory performance as per relevant standards/ statutory requirements. Owner reserves the right to inspect the material at manufacturers' works before dispatch to site. Contractor shall inform Owner about readiness of material and make necessary arrangements for inspection /testing of the material at manufacturer's works/ sub-vendor's shop.</p> <p>7) <b>"Commissioning"</b> includes pre-commissioning checks/testing and putting the equipment and system into normal operationasperrequirements tothesatisfactionofOwnerafterreceiptofallnecessary sanctions / permissions/approvals.</p> <p>8) <b>"Price"</b> shall include design, supply, fabrication, installation, testing and commissioning, unless specified otherwise under respective item.</p> <p>9) <b>"Engineer"</b> means the Engineer designated as such in Part II, or other Engineer appointed from time to time by the Employer and notified in writing to the Contractor to act as Engineer for the purposes of the Contract in place of the Engineer so designated.</p> <p>10) <b>"Engineer's Representative"</b> means any resident engineer or assistant of the Engineer or any clerk of works appointed from time to time by the Employer to perform the duties set forth in Clause hereof, whose authority</p>	

shall be notified in writing to the Contractor by the Engineer.

- 11) The **'Work' or 'Works'** means the work described in the tender documents, Drawings and Specifications as may be issued from time to time to the contractor by the consultants or the Engineer, including all modifications, extra and additional works and obligation to be carried out either on site or at any factory, or workshop or any other place for subsequent incorporation, as required for performance of the Contract.
- 12) **"Contract"** means the General and Special Conditions of Contract, Specifications, Drawings, priced Bill of Quantities, Schedule of Rates and Prices, if any, Tender, pre-contract correspondence Letter of Intent / Acceptance, Work order the Contract Agreement, if completed.
- 13) **"Contract Sum"** means the sum named in the letter of Intent / Acceptance subject to such additions thereto or deductions there from as may be made under the provisions of the Contract.
- 14) **"Constructional Plant"** means all appliances or things of whatsoever nature required in or about the execution or maintenance of the Works but does not include materials or other things intended to form or forming part of the Works.
- 15) **"Specifications"** means the specification referred to in the Tender and any modification thereof or addition there to as may from time to time be furnished or approved in writing by the Engineer.
- 16) **"Drawings"** means the drawings referred to in the specification and any modification of such drawings approved in writing by the Engineer and such other drawings as may, from time to time, be furnished and approved in writing by the Engineer or the Consultant.
- 17) **"Site"** means the land and/or other places on, in, into, under or through which the Work is to be executed under the contract or any adjacent or any nearby land, path or street which may be allotted or used for the purpose of carrying out the Contract.
- 18) **"Approved"** means approved in writing, including subsequent written confirmation of previous verbal approval and "approval" means approval in writing, including as aforesaid.
- 19) "I.S." means "Indian Standards" issued by Indian Standards Institutions.
- 20) A **"Week"** means seven days without regard to the number of hours worked or not worked in any day in that week.
- 21) A **"Day"** means a day of 24 hours irrespective of number of hours worked or not worked in that day
- 22) **"Day work"** means the items of labour and/or materials which, in the

opinion of the Engineer are not capable of being evaluated by accepted method of measurement or assessment.	
2) Words importing the singular only also include the plural and vice versa where the context requires	<b>Singular and Plural</b>
3) The headings and marginal notes in these Conditions of Contract shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.	<b>Heading or Notes</b>
<p><b>ENGINEER AND ENGINEER'S REPRESENTATIVE</b></p> <p>1) The Engineer shall carry out such duties necessary for making decisions and issuing certificates and orders as are specified in the Contract. In the event of the Engineer being required in terms of his appointment by the Employer to obtain the specific approval of the Employer for the execution of any part of these duties, shall be set out in part II of these Conditions.</p> <p>2) The Engineer's Representative shall be responsible to the Engineer and his duties are to watch and supervise the Works and to test and examine any materials to be used or workmanship employed in connection with the Works. He shall have no authority to relieve the Contractor of any of his duties or obligations under the Contract nor, except as expressly provided hereunder or elsewhere in the Contract, to order any work involving delay or any extra payment by the Employer, nor to make any variation of or in the Works. The Engineer may from time to time in writing delegate to the Engineer's Representative any of the powers and authorities vested in the Engineer and shall furnish to the Contractor and to the Employer a copy of all such written delegations of powers and authorities. Any written instruction or approval given by the Engineer's Representative to delegation, but not otherwise, shall bind the Contractor and the Employer as though it had been given by the Engineer. Provided always as follows:</p> <p>a) Failure of the Engineer's Representative to disapprove any Work or materials shall not prejudice the power of the Engineer thereafter to disapprove such Work or materials and to order the pulling down, removal or breaking up thereof.</p> <p>b) If the Contractor shall be dissatisfied by reason of any decision of the Engineer's Representative he shall be entitled to refer the matter to the Engineer, who shall thereupon confirm, reverse or vary such decision.</p>	<b>Duties and Power of Engineer's Representative</b>
<p><b>ASSIGNMENT AND SUB-LETTING</b></p> <p>3. The Contractor shall not assign the Contract or any benefit or interest therein or there under, otherwise than by a charge in favour of the Contractor's bankers of any monies due or to become due under this Contract, without the prior written consent of the Employer.</p>	<b>Assignment</b>
4. The Contractor shall not sub-let the whole of the works. Except where otherwise provided by the contract, the contractor shall not sub-let any part of the Works without the prior written consent of the Engineer, which shall not be unreasonably withheld, and such consent, if given shall not relieve the Contractor from any liability or obligation under the contract and he shall be responsible for the acts, defaults and neglects of any sub-contractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the contractor, his agents, servants or workmen. Provided always that the provision of labour on a piecework basis shall not be deemed to be a subletting under this clause. The contractor shall co-ordinate and shall be responsible for all aspects of his sub-contractor(s), without being relieved of any of his obligation under the contract.	<b>Sub-Letting</b>
<p><b>CONTRACT DOCUMENTS</b></p> <p>5. 1) These shall be stated in Part II of the Conditions <b>Language's and Law</b></p>	<b>Language's and Law</b>

<p>2) The several documents forming the Contract are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies the same shall be explained and adjusted by the consultants who shall thereupon issue to the contractor instructions thereon through the Engineer. Provided always that if, in the opinion of the Engineer, compliance with any such instructions shall involve the Contractor in any cost, which by reason of any such ambiguity or discrepancy could not reasonably have been foreseen by the Contractor, the Engineer shall certify and the Employer shall pay such additional sum as may be reasonable to cover such costs.</p>	<p><b>Documents Mutually Explanatory</b></p>
<p>6. 1) The Drawings shall remain in the sole custody of the Engineer, but two copies thereof shall be furnished to the Contractor free of charge. The contractor shall provide and make at his own expense any further copies required by him. At the completion of the Contract, the Contractor shall return to the Engineer all Drawings provided under the Contract.</p>	<p><b>Custody of Drawings</b></p>
<p>2) One copy of the Drawings, furnished to the Contractor as aforesaid, shall be kept by the Contractor on the Site and the same shall at all reasonable times be available for inspection and use by the Engineer and the Engineer's Representative and by any other person authorised by the Engineer in writing.</p>	<p><b>One copy of Drawings to be kept on Site</b></p>
<p>3) The Contractor shall give written notice to the Engineer whenever planning or progress of the Works is likely to be delayed or disrupted unless any further drawing or order, including a direction, instruction or approval, is issued by the Engineer within a reasonable time. The notices shall include details of the drawing or order required and of why and by when it is required and of any delay or disruption likely to be suffered if it is late.</p>	<p><b>Disruption of Progress</b></p>
<p>7. The Engineer and the Consultants shall have full power and authority to supply to the Contractor from time to time during the progress of the Works, such further drawings and instructions as shall be necessary for the purpose of the proper and adequate execution and maintenance of the Works. The Contractor shall carry out and be bound by the same. Last major drawings may be provided as per schedule mutually agreed by the Engineer / Consultant and the Contractor prior to stipulated date of completion and the Contractor will have to gear up his resources accordingly so as to complete the works within stipulated time.</p>	<p><b>Further Drawings and instructions</b></p>
<p><b>GENERAL OBLIGATIONS</b> 8. 1) The Contractor shall, subject to the provisions of the Contract, and with due care and diligence, execute and maintain the Works and provide all labour, including the supervision thereof, materials, Constructional Plant and all other things, whether of a temporary or permanent nature, required in and for such execution, and maintenance, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract.</p>	<p><b>Contractor's General Responsibilities</b></p>
<p>2) The Contractor shall take full responsibility for the adequacy, stability and safety of all site operations and methods of construction &amp; commissioning of the machinery, provided that the Contractor shall not be responsible, except as may be expressly provided in the Contract, for the design or specification of the Permanent Works, or for the design or specification of any Temporary Works prepared by the Consultant/Engineer. 3) The contractor shall promptly inform the Engineer of any error, omission, fault and other defects in design, drawing or specifications for the Works which are discovered while reviewing the contract documents or in the process of execution of Works.</p>	
<p>9. The Contractor/supplier shall, when called upon to do so, enter into and execute a <b>Contract Agreement</b>, to be prepared and completed at the cost of the Employer, in the form annexed with such modification as may be necessary.</p>	<p><b>Contract Agreement</b></p>

<p>10. If, for the due performance of the Contract, the Tender shall contain an undertaking by the Contractor to obtain, when required, a bond or a guarantee of a scheduled and/or nationalised bank to be bound with the Contractor to the Employer in a sum not exceeding that stated in the Appendix to the Tender and agreed to as per the Letter of Acceptance or Letter of Intent /Work Order for such bond or guarantee, the said bank and the terms of the said bond or guarantee shall be such as shall be approved by the Employer. The obtaining of such bond or guarantee or the provision of such sureties and the cost of the bond or guarantee to be so entered into shall bear the expense in all respects of the Contractor. Performance Guarantee shall be valid up to the completion of Defects Liability Period and shall be kept alive till the issue of certificate of Final Completion.</p>	<p><b>Performance Bond / Security Deposit</b></p>
<p>11. The Contractor shall be deemed to have inspected and examined the Site and its surrounding and information available in connection therewith and to have satisfied himself, so far as is practicable, before submitting his Tender, as to the form and nature thereof, including the subsurface conditions, the hydrological and climatic conditions, the extent and nature of the Work and accommodation he may require and, in general, shall be deemed to have obtained all necessary information subject as above mentioned, as to risks, contingencies and all other circumstances which may influence or affect his Tender. The Contractor is further deemed to have taken particular notice of approaches and way leaves etc. connecting the site. The Employer does not undertake to improve the same any further &amp; the Contractor will have to improve the same or make new approaches and wayleaves, at his own cost, if the existing approaches &amp; way leaves are considered inadequate and unsuitable by the Contractor. Use of such new or improved approaches and wayleaves shall be afforded to the Employer, the Engineer, the Consultants and any other concerned person, without any restrictions or compensation.</p>	<p><b>Inspection of Site</b></p>
<p>12. The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his Tender for the Works and of the rates and prices stated in the priced Bill of Quantities and the Schedule of Rates and Prices, if any, which Tender rates and prices shall, exception so far as it is otherwise provided in the Contract, cover all his obligations under the Contract and all matters and things necessary for the proper execution and maintenance of the Works. No claim in this regard shall be entertained.</p> <p>13. Save in so far as legally or physically impossible, the Contractor shall execute and maintain the Works in strict accordance with the Contract, to the entire satisfaction of the consultant and the Engineer and shall comply with and adhere strictly to the Engineer's instructions and directions, or any matter whether mentioned in the contract or not, touching or concerning the works. Instructions and directions given by the consultant or the Engineer or the Employer, if any, will be acted upon <i>on</i> the same forwarded to the Contractor, in writing by the Engineer, or subject to the limitations referred to in Clause 2 hereof, <i>by</i> the Engineer's Representative.</p>	<p><b>Sufficiency of Tender</b></p> <p><b>Work to be to the satisfaction of the engineer and the consultant.</b></p>
<p>14. 1) Within 7 days of award of the Contract, Contractor shall, submit to the Engineer for his approval a programme showing the order of procedure in which he proposes to carry out the Works. The Contractor shall whenever required by the Engineer submit a revised programme showing the modifications to the approved programme necessary to ensure completion of the Works within the time for completion as defined in Clause 43 here of. The Contractor may have to revise the programme depending upon the requirements of the Employer. It must be clearly understood that the Contractor may have to induct additional resources contingent to the requirement of the Employer so as to enable the Employer to</p>	<p><b>Programme to be Furnished</b></p>

<p>meet his target of commissioning the project. Nothing extra shall be paid to the Contractor on account of such contingencies.</p> <p>2) If at any time it should appear to the Engineer that the actual progress of the works does not conform to the approved programme referred to in sub-clause (1) of this clause, the Contractor shall produce, at the request of the Engineer, a further revised programme showing modification to the approved programme necessary to ensure completion of the Works within the time for completion as defined in Clause 43 hereof.</p> <p>3) The submission to and approval by the Engineer or Engineer's Representative of such programmes or the furnishing of such particulars shall neither relieve the Contractor of any of his duties or responsibilities under the Contract, nor entitle the Contractor to any enhancement of the Contract Sum on this account.</p>	
<p>15. The Contractor shall give or provide all necessary superintendence during the execution of the Works and as long thereafter as the Engineer may consider necessary for the proper fulfilling of the Contractor's obligations under the Contract. The Contractor or a competent and authorised agent or representative approved of in writing by the Engineer, which approval may at any time be withdrawn, is to be constantly on the Works and shall give his whole time to the superintendence of the same. If such approval shall be withdrawn by the Engineer, the Contractor shall, as soon as is practicable, having regard to the requirement of replacing him as hereinafter mentioned, after receiving written notices of such withdrawal, remove the agent from the Works and shall not thereafter employ him again on the Works in any capacity and shall replace him by another agent approved by the Engineer. Such authorized agent or representative shall receive, on behalf of the Contractor, direction, and instructions from the Engineer or, subject to the limitations of Clause 2 hereof, the Engineer's Representative.</p>	<p><b>Contractor's Superintendence</b></p>
<p>16. 1) The Contractor shall provide and employ on the Site in connections with the execution and maintenance of the Works. a) Only such technical assistants as are skilled and experienced in their respective fields and such sub-agents, foremen and leading hands as are competent to give proper supervision to the work they are required to supervise, and b) Such skilled, semiskilled and unskilled labour as is necessary for the proper and timely execution and maintenance of the works.</p> <p>2) The Engineer shall be at liberty to object to and require the Contractor to remove forthwith from the Works any person employed by the Contractor in or about the execution or maintenance of the Works who, in the opinion of the Engineer, misconducts himself, or is incompetent or negligent in the proper performance of his duties, or whose employment is otherwise considered by the Engineer to be undesirable and such person shall not be again employed upon the Works without the written permission of the Engineer. Any person so removed from the Works shall be replaced as soon as possible by a competent substitute approved by the Engineer.</p>	<p><b>Contractor's Employees</b></p>
<p>17. The Contractor shall be responsible for the true and proper setting-out of the Works in relation to original points, lines and levels or reference given by the Engineer in writing and for the correctness, subject as above mentioned, of the position, levels, dimensions and alignment of all parts of works and for the provision of all necessary instruments, appliances and labour in connection therewith. If, at any time during the progress of the works, any error shall appear or arise in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required to do by the Engineer or the Engineer's Representative, shall at his own cost, rectify such error to the satisfaction of the Engineer or the Engineer's Representative. The checking of any setting out or of any line or level by the Engineer or the Engineer's Representative shall not in any</p>	<p><b>Setting-out</b></p>

<p>way relieve the Contractor of his responsibility for the correctness thereof and the Contractor shall carefully protect and preserve all bench marks, sight-rails, pegs and other things used in setting-out the Works. Any rectification works required to be done by the Contractor shall be at the Contractor's own cost.</p>	
<p>18. If, at any time during the execution of the Works, the Engineer shall require the Contractor to make boreholes or to carry out exploratory excavation, such requirement shall be ordered in writing and shall be deemed to be an addition ordered under the provisions of Clause 51 hereof unless a provisional sum in respect of such anticipated work shall have been included in the Bill of Quantities.</p>	<p><b>Boreholes and Exploratory Excavation</b></p>
<p>19. The Contractor shall in connection with the Works provide and maintain at his own cost all lights, guards, fencing and watching when and where necessary or required by the Engineer or the Employer, or by any duly constituted authority, for the execution and for the protection of the Works, and/or for the safety and convenience of the public or others.</p>	<p><b>Watching and Lighting</b></p>
<p>20. 1) From the commencement of the Works until the date stated in the Certificate of Completion for the whole of the Works pursuant to Clause 48 hereof the Contractor shall take full responsibility for the care thereof. Provided that if the Engineer shall issue a Certificate of Completion in respect of any part of the Works the Contractor shall cease to be liable for the care of that part of works from the date stated in the Certificate of Completion in respect of that part and the responsibility for the care of that part shall pass to the Employer. Provided further that the Contractor shall take full responsibility for the care of any outstanding work which he shall have undertaken to finish during the Defects Liability Period until such outstanding work is completed. In case any damage, loss or injury shall happen to the Works, or to any part thereof, from any cause whatsoever, save and except the excepted risks as defined in sub-clause (2) of this Clause, while the Contractor shall be responsible for the care thereof the Contractor shall, at his own cost, repair and make good the same, so that at completion, the Works shall be in good order and condition and in conformity in every respect with the requirements of the Contract and the Engineer's instructions. In the event of any such damage, loss or injury happening from any of the excepted risks, the Contractor shall, if and to the extent required by the Engineer and subject always to the provision of Clause 65 hereof repair and make good the same as aforesaid at the cost of the Employer. The Contractor shall also be liable for any damage to the Works occasioned by him in the course of any operations carried out by him for the purpose of completing any outstanding work or complying with his obligations under Clauses 49 or 50 hereof.</p> <p>2) The "excepted risks" are war, hostilities (whether war declared or not), invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, or unless solely restricted to the Contractor or of his sub-Contractors and arising from the conduct of the works, riot, commotion or disorder, or use or occupation by the Employer of any part of the Permanent works, or a cause solely due to the Engineer's design of the works. or ionising radiations or contamination by radio-activity from any or other hazardous properties of any explosive, nuclear fuel or from any nuclear waste from the combustion of nuclear fuel, radio active toxic explosive, nuclear assembly or nuclear component thereof, pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds, or any such operation of the forces of nature as an experienced contractor could not foresee, or reasonably make provision for or insure against all of which are herein collectively referred to as "the excepted risks".</p>	<p><b>Care of Works</b></p> <p><b>Excepted Risks</b></p>
<p>21. Without limiting his obligations and responsibilities under Clause 20 hereof, the</p>	<p><b>Insurance of</b></p>





<p>Representative the policy or policies of insurance and the receipts for payment of the current premiums.</p> <p>3) The terms shall include a provision whereby, in the event of any claim in respect of which the Contractor would be entitled to receive and be indemnified under the policy being brought or made against the Employer, the insurer will indemnify the Employer against such claims and any cost, charges and expenses in respect thereof.</p>	<p><b>Provisions to Indemnify Employer</b></p>
<p>24. 1) The Employer shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workman or other person in the employment of the Contractor, or any sub-contractor, save and except an accident or injury resulting from any act or default of the Employer his agents, or servants. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, save and except as aforesaid, and against all claims, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.</p>	<p><b>Accident or Injury to Workmen</b></p>
<p>2) The Contractor shall insure against such liability of the nature referred to in Clause 24.1 with an insurer approved by the Employer, which approval shall not be unreasonably withheld, and shall continue such insurance during the whole of the time that any persons are employed by him on the Works and shall when required, produce to the Employer, or the Engineer or the Engineer's Representative such policy of insurance and the receipt for payment of the current premium. Provided always that, in respect of any persons employed by any sub-contractor, the Contractor's obligation to insure as aforesaid under this subclause shall be satisfied if the sub-contractor shall have issued against the liability in respect of such persons in such manner that the Employer is indemnified under the policy, but the Contractor shall require such sub-contractor to produce to the Employer or the Engineer or the Engineer's Representative, when required, such policy of insurance and the receipt for the payment of the current premium.</p>	<p><b>Insurance against Accident, etc. to Workmen</b></p>
<p>25. If the Contractor shall fail to effect and keep in force the insurances referred to in Clause 21, 22, 23, and 24 hereof, or any other insurance with 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 premiums as may be necessary for that purpose and from time to time deduct the amount so paid and any other expenses incurred by the employer as aforesaid from any monies due or which may become due to the Contractor, or recover the same as a debt due from the Contractor. The Contractor shall however, be fully responsible for any consequence arising out of his failure to effect and keep in force the insurances irrespective of whether the Employer effects the insurance as above or not.</p>	<p><b>Remedy on Contractor's Failure to Insure</b></p>
<p>26. 1) The Contractor shall give all notices and pay all fees required to be given or paid by any National or State Statute, ordinance, or other Law, or any regulation, or bye law or any local or other duly constituted authority in relation to the execution of the Works and by the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the Works.</p>	<p><b>Giving of Notices and Payment of Fees</b></p>
<p>2) The Contractor shall conform in all respects with the provisions of any such statute, ordinance or Law as aforesaid and the regulations or bye laws of any local or other duly constituted authority which may be applicable to the Works and with such rules and regulation of public bodies and companies as aforesaid and shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such Statute, Ordinance or Law, regulation or bye-law.</p>	<p><b>Compliance with Statutes Regulation etc.</b></p>

<p>3) The Employer will repay or allow to the Contractor all such sums as the Engineer shall certify to have been properly payable and paid by the Contractor in respect of such fees other than the fees which the Contract requires the contractor to pay, which fees shall be included in the Contract Sum and/or the rates and prices entered in the relevant contract documents.</p>	
<p>27. All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site of the works shall as between the Employer and the Contractor be deemed to be the absolute property of the Employer. The Contractor shall not take any such article or thing and shall immediately upon discovery thereof and, before removal, acquaint the Engineer's Representative of such discovery and carry out, the Engineer's Representative's order as to the disposal of the same. Whole of the excavated materials shall be the property of the Owner and shall be used or disposed off only as directed by the Engineer or the Engineer's Representative or in accordance with the related provisions in the Contract.</p>	<b>Fossils etc.</b>
<p>28. The Contractor shall save harmless and indemnify the Employer from and keep the Employer indemnified against all claims and proceedings for or account of infringement or any patent rights, design trademark or name or other protected rights in respect of any Constructional Plant, machine, work, or material used for or in connection with the Works or any of them and from and against all claims, proceedings, damages, cost charges and expenses whatsoever in respect thereof or in relation thereto Except where otherwise specified, the Contractor shall pay all tonnage and other royalties, rent and other payments or compensation, if any, for getting stone, sand, gravel, clay or other materials required for the Works or any of them.</p>	<b>Patent Rights and Royalties</b>
<p>29. All operations necessary for the execution of the Works shall, so far as compliance with the requirements of the Contract permits, be carried on so as not to interfere unnecessarily or improperly with the public Convenience, or the access to use and occupation of public or private roads and foot paths or to or of properties whether in the possession of the Employer or of any other person. The Contractor shall save harmless and indemnify the Employer in respect of all claims, proceedings damages, cost, charges and expenses whatsoever arising out of, or in relation to any such matter in so far as the Contractor is responsible there for.</p>	<b>Interference with Traffic and Adjoining Properties</b>
<p>30. 1) The Contractor shall use every reasonable means to prevent any of the highways or bridges communicating with or on the routes to the Site from being damaged or injured by any traffic of the Contractor or any of his sub-contractors and in particular, shall select routes, choose and use any such extraordinary traffic as will inevitably arise from moving of plant and material from and to the Site shall be limited, as far as reasonably possible, and so that no unnecessary damage or injury may be occasioned to such highways and bridges.</p>	<b>Extraordinary Traffic</b>
<p>2) Should it be found necessary for the Contractor to move one or more loads or Constructional Plant, machinery or pre-constructed units or parts of unit of work over part of a highway or bridge, the moving whereof is likely to damage any highway or bridge unless special protection or strengthening is carried out, then the Contractor shall before moving the load on to such highway or bridge give notice to Engineer or Engineer's Representative of the weight and other particulars of the loads unless within fourteen days of the receipt of such notice the Engineer shall by counter notice direct that such protection or strengthening is unnecessary, then the Contractor will carry out such proposals or any modification thereof that</p>	<b>Special Loads</b>

the Engineer shall require and, unless there is an item or are items in the Bill of Quantities for pricing by the Contractor of the necessary works for the protection or strengthening aforesaid the costs thereof shall be paid by the Employer to the Contractor.	
3) If during the execution of the Works or at any time thereafter the contractor shall receive any claim arising out of the execution of the Works in respect of damage or injury to highways or bridges he shall immediately report the same to the Engineer and thereafter the Employer shall negotiate the settlement of and pay all sum due in respect of such claim, and shall indemnify the Contractor in respect thereof and in respect of all claims, proceedings, damages, cost charges and expenses in relation thereto. Provided always that if and so far as any such claims or part thereof shall in the opinion of the Engineer be due to any failure on the part of the Contractor to observe and perform his obligations under sub-clause (1) and (2) of this Clause, then the amount certified by the Engineer to be due to such failure shall be paid by the Contractor to the Employer.	<b>Settlement of Extraordinary Traffic Claims</b>
4) <i>Where the nature of the Works is such as to require the use by the Contractor of waterborne transport the foregoing provisions of this clause shall be construed as though "highway" included a lock, dock, sea wall or other structure related to a water way and "vehicle" included craft ferry or any transport related to water borne traffic and shall have effect accordingly.</i>	<b>Water borne Traffic</b>
31. The Contractor shall, in accordance with the requirements of the Engineer, afford all responsible opportunities for carrying out their work to any other contractors employed by the Employer and their workmen and to the workmen of the Employer and of any other duly constituted authorities who may be employed in the execution on or near the Site of any work not included in the Contract or of any contract which the Employer may enter into in connection with or ancillary to the Works. The Contractor will not be paid any compensation on this account.	<b>Opportunities for other Contractors</b>
32. During the progress of the Works the Contractor shall keep the Site reasonably free from unnecessary keep the site store or dispose of any Constructional Plant and surplus material and clear away and remove from the Site any wreckage, rubbish or Temporary Works no longer required.	<b>Contractor to keep site clear</b>
33. On the completion of the works the Contractor shall clear away and remove from the Site all constructional plant, surplus materials, rubbish and Temporary Works of every kind, and leave the whole of the Site and Works clean and in a workmanlike condition to the satisfaction of the Engineer. However during execution, the plant and equipment brought by the Contractor cannot be removed from the site without the express permission of the Engineer.	<b>Clearance of Site on Completion</b>
<b>LABOUR</b> 34. 1) The Contractor shall make his own arrangements for the engagement of all labour and workmen local or otherwise, and save, insofar as the Contract otherwise provides, for the transport, housing feeding and payment thereof. The Contractor shall strictly comply with all the labour laws, regulations, etc. in force and applicable to the labour employed by him or his sub-contractors including those working on labour-rate basis on the Works.	<b>Engagement of Labour and Workmen</b>
2) The Contractor shall provide water for the use of the Contractor's staff and workpeople.	<b>Supply of Water</b>
3) The Contractor shall not, otherwise an in accordance with the Statutes, Ordinances and Government Regulations or Orders for the time being in force,	<b>Alcoholic Liquor or</b>

consume, import, sell, give, barter or dispose any alcoholic liquor or drugs by himself or his sub-contractors, agents or employees of the Contractor and his sub-contractor.	<b>Drugs</b>
4) The Contractor shall not give, barter or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid.	<b>Arms and Ammunitions</b>
5) The Contractor shall in all dealings with labour and workmen in his employment, have due regard to all recognized festivals, day of rest and religious or other customs.	<b>Festivals and Religious Customs</b>
6) In the event of any outbreak of illness of an epidemic nature the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government, or the Local medical or sanitary authorities for the purpose of dealing with and overcoming the same at his own cost.	<b>Epidemics</b>
7) The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or against his employees and for the preservation of peace and protection of persons and property in the neighborhood of the Works against the same.	<b>Disorderly Conduct, etc.</b>
8) The Contractor shall be responsible for observance by his sub-contractors of the foregoing provisions.	<b>Observance by Sub-Contractors</b>
35. The Contractor shall, if required by the Engineer's Representative or at his office, furnish a return in detail in such form and at such intervals as the Engineer may prescribe showing the supervisory staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such information regarding Constructional Plant that the Engineer's Representative may require.	<b>Returns of Labour, etc.</b>
<b>MATERIALS AND WORKMANSHIP</b> 36. 1) All materials and workmanship shall be of the respective kinds described in the contract and in accordance with the Engineer's instructions and shall be subjected from time to time to such tests as the Engineer may direct at the place of manufacture or fabrication or on the Site or at such other places or places as maybe specified in the Contract, or at all or any of such places. The Contractor shall provide such assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used and shall supply samples of materials before incorporation in the Works for testing as maybe selected and required by the Engineer. The Contractor shall utilize local materials to the extent possible and practicable.	<b>Quality of Materials and Workmanship and Tests</b>
2) All samples shall be supplied by the Contractor at his own cost if the supply thereof is clearly intended by or provided for in the Contract, but if not, then at the cost of the Employer.	<b>Cost of Samples</b>
3) The cost of making any test shall be borne by the Contractor if such test is clearly intended by or provided for in the Contractor is necessary for ascertaining the quality of materials intended to be used by the Contractor in the Works and in the cases only of a test under load or of a test to ascertain whether the design of any finished or partially finished work is appropriate for the purposes which it was intended to fulfill, is particularized in the Contract.	<b>Cost of Tests</b>
4) If any test is ordered by the Engineer which is either a) not so intended by or provided for, or b) (in the cases above mentioned) is not so particularised or c)	<b>Cost of Tests</b> Technopak Advisors

<p>though so intended or provided for is ordered by the Engineer to be carried out by an independent person at anyplace other than the Site or the place of manufacture or fabrication of the materials tested then the cost of such test shall be borne by the Contractor, if the test shows the workmanship or materials not to be in accordance with the provisions of the Contract or the Engineer's instructions but otherwise by the Employer.</p>	<p>Pvt. Limited. I/16 General Conditions Of Contract <b>not provided for, etc.</b></p>
<p>37. The Engineer, the Employer and any person authorised by them shall at all times have access to the Works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the Works and the Contractor shall afford every facility for and every assistance in or in obtaining the right to such access.</p>	<p><b>Inspection of Operations</b></p>
<p>38. 1) No Works shall be covered up or put out of view without the approval of the Engineer or the Engineer's Representative and the Contractor shall afford full opportunity for the Engineer or the Engineer's Representative to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. The Contractor shall give due notice to the Engineer's Representative whenever any such work or foundations is or ready or about to be ready for examination and the Engineer's Representative shall, without unreasonable delay, unless he considers it unnecessary and advises the Contractor accordingly, attend for purpose of examining and measuring such work or of examining such foundations.</p>	<p><b>Examination of work before covering up</b></p>
<p>2) The Contractor shall uncover any part or parts of the Works or make openings in or through the same as the Engineer may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the Engineer. If any such part or parts have been covered up or put of view after compliance with the requirements of sub-clause (1) of this Clause and are found to be executed in accordance with the Contract, the expenses of uncovering, making, openings in or through, reinstating and making good the same shall be borne by the Employer but in any other case all costs shall be borne by the Contractor.</p>	<p><b>Uncovering and Making Openings</b></p>
<p>39. 1) The Engineer shall during the progress of the Works have power to order in writing from time to time :</p> <p>a) the removal from the Site, within such time or times as may be specified in the order, of any materials which, in the opinion of the Engineer, are not in accordance with the Contract.</p> <p>b) the substitution of proper and suitable materials and :</p> <p>c) the removal and proper re-execution, notwithstanding any previous test thereof or interim payment there for, of any work which in respect of materials or workmanship is not, in the opinion of the Engineer, in accordance with the Contract.</p>	<p><b>Removal of Improper Work and Materials</b></p>
<p>2) In case of default on the part of the contractor in carrying out such order, the Employer shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be recoverable from the contractor by the Employer or may be deducted by the Employer from any monies due or which may become due to the Contractor.</p>	<p><b>Defaults of Contractor in Compliance</b></p>
<p>40. 1) The Contractor shall, on the written order of upon being so required by the Employer and the Engineer, suspend the progress of the Works or any part thereof for such time or times and in such manner as the Engineer Employer may consider necessary and shall during such suspension properly protect and secure</p>	<p><b>Suspension of Works</b></p>

<p>the work, so far as is necessary in the opinion of the Engineer. The extra cost incurred by the Contractor in giving effect to the above Engineer Employer's instructions under this Clause shall be borne by the Employer unless such suspension is:</p> <p>a) otherwise provided for in the Contract, or  b) necessary by reason of some default on the part of the Contractor, or  c) necessary by reason of climatic conditions on the Site, or  d) necessary for the proper execution of the Works or for the safety of the Works or any part thereof in so far as such necessity does not arise from any act or default by the Engineer or the Employer or from any of the excepted risks defined in Clause 20 hereof. Provided that the Contractor shall not be entitled to recover any such extra cost unless he gives written notice of his intention to claim to the Engineer within twenty-eight days of the Engineer's order. The Engineer shall <i>in consultation with the Employer</i> settle and determine such extra payment and/or extension of time under Clause 44 hereof to be made to the Contractor in respect of such claim as shall, in the opinion of the Engineer, be fair and reasonable, and <i>provided</i> the Contractor has taken all steps to mitigate the losses.</p>	
<p>2) If the progress of the Works or any part thereof is suspended on the written order of the Engineer being so required by the Employer and Engineer and if permission to resume work is not given by the Employer and Engineer within a period of ninety days from the date of suspension then, unless such suspension is within paragraph (a), (b), (c) or (d) of sub-clause (1) of this Clause, the Contractor may serve a written notice on the Employer and Engineer requiring permission within twenty-eight days from the receipt thereof to proceed with the Works or that part thereof in regard to which progress is suspended and, if such permission is not granted within that time, the Contractor by a further written notice so served may, but is not bound to, elect or treat the suspension whereof it affects part only of the Works as an omission of such part under Clause 51 hereof, or, where it affects the whole Works, as an abandonment of the Contract by the Employer.</p>	<p><b>Suspension Lasting more than 90 days</b></p>
<p><b>COMMENCEMENT TIME AND DELAYS</b></p> <p>41. The Contractor shall commence the Works on Site within the period named in the Appendix to the Tender after the receipt by him of a written order to this effect from the Engineer and shall proceed with the same with due expedition and without delay. The Contractor will complete the construction of temporary offices, stores, labour huts etc. and mobilise substantially during the period stated in Appendix to the Tender.</p>	<p><b>Commencement of Works</b></p>
<p>42. 1) Save in so far as the Contract may prescribe, the extent of portions of the Site of which the Contractor is to be given permission from time to time and the order in which such portions shall be made available to him and subject to any requirement in the Contract as to the order in which the Works shall be executed, the Employer will, with the Engineer's written order to commence the Works, give to the Contractor possession of so much of the Site as may be required to enable the Contractor to commence and proceed with the execution of the Works in accordance with the programme or revised programme referred to in Clause 14 hereof, if any, and otherwise in accordance with such reasonable proposals of the Contractor as he shall, by written notice to the Engineer, make and will, from time to time as the Works proceed, give to the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with the execution of the Works with due dispatch in accordance with the said programme or proposals, as the case may be. If the Contractor suffers delay or incurs cost from failure on the part of the Employer to give possession in accordance with the terms of this Clause, the Engineer shall grant an extension of</p>	<p><b>Possession of Site</b></p>

time for the completion of the Works and certify such sum as, in his opinion, shall be fair to cover the cost incurred, which sum shall be paid by the Employer.	
2) The Contractor shall bear all costs and charges for special or temporary wayleaves required by him in connection with access to the Site. The Contractor shall also provide at his own cost any additional accommodation outside the Site required by him for the purposes of the Works.	<b>Wayleaves etc.</b>
43. Subject to any requirement in the Contract as to completion of any section of the Works before completion of the whole, the whole of the Works shall be completed, in accordance with the provisions of Clause 48 hereof. within the time stated in the Contract calculated from the last day of the period named in the Appendix to the Tender as that within which the works are to be commenced or such extended time as may be allowed under Clause 44 hereof. Time is the Essence of the Contract.	<b>Time for Completion</b>
44. Should the amount of extra or additional work of any kind or any cause of delay referred to in these Conditions or exceptional adverse climatic conditions or other special circumstances of any kind whatsoever which may occur, other than through a default of the Contractor. Be such as fairly to entitle the Contractor to an extension of time for the completion of the Works, the Engineer shall determine the amount of such extension and shall notify the Employer and the Contractor accordingly. Provided that the Engineer is not bound to take into account any extra or additional work or other special circumstances unless the Contractor has within twenty-eight days after such work has been commenced or such circumstances have arisen or an soon thereafter as is practicable, submitted to the Engineer's Representative full and detailed particulars of any extension of time to which he may consider himself entitled in order that such submission may be investigated at the time. The Contractor, in his application for grant of time shall clearly bring out the financial effect of extension of time requested by him. In case no financial effect is stated in the request for grant of extension of time, the same shall be taken as zero and it shall be presumed that the Contractor has mitigated whole of the losses due to the delays of all kinds.	<b>Extension of Time for Completion</b>
45. Subject to any provision to the contrary contained in the Contract, none of the Permanent Works shall, save as hereinafter provided, be carried on during the night or on Sundays, if locally recognized as days of rest or their locally recognized equivalent without the permission in writing of the Engineer's Representative except when the work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer's Representative. Provided always that the provisions of this Clause shall not be applicable in the case of any work which it is customary to carry out by rotary or double shifts.	<b>No Night or Sunday Work</b>
46. If for any reason, which does not entitle the Contractor to an extension of time, the rate of progress of the Works or any section is at anytime, in the opinion of the Engineer, too slow to ensure completion by the prescribed time or extended time for completion, the Engineer shall so notify the Contractor in writing and the Contractor shall thereupon take such steps as are necessary and the Engineer may approve to expedite progress so as to complete the Works or such section by the prescribed time or extended time. The Contractor shall not be entitled to any additional payment for taking such steps. If, as a result of any notice given by the Engineer under this Clause, the Contractor shall seek the Engineer's permission to do any work at night or on Sundays, if locally recognised as days of rest or their locally recognised equivalent, such permission shall not be unreasonably refused.	<b>Rate of Progress</b>
47. 1) If the Contractor shall fail to achieve completion of the Works within the time	<b>Liquidated Damages</b>



<p>prescribed by Clause 43 hereof. then the Contractor shall pay to the Employer the sum stated in the Contract as liquidated damages for such default and not as a penalty for every day or part of a day which shall elapse between the time prescribed by Clause 43 hereof and the date of certified completion of the Works. The Employer may, without prejudice to any other method of recovery, deduct the amount of such damages from any monies in his hands, due or which may become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works or from any other of his obligations and liabilities under the Contract.</p>	<b>for Delay</b>
<p>2) If, before the completion of the whole of the Works any part or sections of the Works has been certified by the Engineer as completed, pursuant to Clause 48 hereof, and occupied or used by the Employer, the liquidated damages for delay shall, for any period of delay after such certificate and in the absence of alternative provisions in the Contract be reduced in the proportion which the value of the part or section so certified bears to the value of the whole of the Works.</p>	<b>Reduction of Liquidated Damages</b>
<p>3) If it is desired to provide in the Contract for the payment of a bonus in relation to completion of the Works or of any part or section thereof, this shall be set out in Part-II in the Special Conditions of Contract.</p>	<b>Bonus for Completion</b>
<p>48. 1) When the whole of the Works have been substantially completed and have satisfactorily passed any final test that maybe prescribed by the Contract, the Contractor may give a notice to that effect to the, Engineer or to the Engineer's Representative accompanied by an undertaking to finish any outstanding work during the Defects Liability Period. Such notice and undertaking shall be in writing and shall be deemed to be a request by the Contractor for the Engineer to issue a Certificate of Completion in respect of the works. The Engineer shall, within twenty-one days of the date of delivery of such notice either issue to the Contractor, with a copy to the Employer, a Certificate of Completion stating the date on which, in his opinion, the Works were substantially completed in accordance with the Contract or give instructions in writing to the Contractor specifying all the work which, in the Engineer's opinion, requires to be done by the Contractor before the issue of such Certificate. The Engineer shall also notify the Contractor of any defects in the works affecting substantial completion that may appear after such instructions and before completion of the Works specified therein. The Contractor shall be entitled to receive such Certificate of Completion within twenty-one days of completion to the satisfaction of the Engineer of the Works so specified and making good any defects so notified. The Contractor shall nevertheless, remain liable for rectification of further defects, if any, noticed during the Defects Liability Period stated in Clause 49 hereof.</p>	<b>Certification of Completion of Works</b>
<p>2) Similarly, in accordance with the procedure set out in Sub-clause (1) of this Clause, the Contractor may request and the Engineer shall issue a Certificate of Completion in respect of:</p> <p>a) Any section of the Works in respect of which a separate time for completion is provided in the Contract: and</p> <p>b) Any substantial part of the Works which has been both completed to the satisfaction of the Engineer and occupied or used by the Employer.</p> <p>3) Provided always that a Certificate of Completion given in respect of any section or part of the Works before completion of the whole shall not be deemed to certify completion of any ground or surfaces requiring reinstatement, unless such Certificate shall expressly so state.</p>	<b>Certification of Completion by Stages</b>
<b>DEFECTS AFTER COMPLETION</b>	<b>Definition of Defects</b>

<p>49. 1) In these Conditions the expression "Defects Liability Period" shall mean the period of three hundred sixty five days calculated from the date of completion of the Works, certified by the Engineer in accordance with Clause 48 hereof, or in the event of more than one certificate having been issued by the Engineer under the said Clause, from the respective dates so certified and in relation to the Defects Liability Period the expression "the Works" shall be construed accordingly.</p>	<p><b>Liability Period</b></p>
<p>2) Any defects, shrinkage, settlement or other faults which may appear or be noticed within the Defect Liability Period, and arising in the opinion of the Engineer from materials or workmanship not having in accordance with the Contract, shall upon the direction in writing of the Engineer and within such reasonable time as shall be specified therein, be amended and made good by the contractor at his own cost.</p>	<p><b>Execution of Work of Repair etc.</b></p>
<p>3) All such work shall be carried out by the Contractor at his own expense if the necessity thereof shall, in the opinion of the Engineer, be due to the use of materials or workmanship not in accordance with the Contract, or to neglect or failure on the part of the Contractor to comply with any obligation, expressed or implied, on the Contractor's part under the Contract. If in the opinion of the Engineer, such necessity shall be due to any other cause, the value of such work shall be ascertained and paid for as if it were additional work.</p>	<p><b>Cost of Execution of Work of Repair, etc.</b></p>
<p>4) If the Contractor shall fail to do any such work as aforesaid required by the Engineer, the Employer shall be entitled to employ and pay other persons to carry out the same and if such work is work which, in the opinion of the Engineer, the Contractor was liable to do at his own expense under the Contract, then all expenses consequent thereon or incidental thereto shall be recoverable from the Contractor by the Employer or may be deducted by the Employer from any monies due or which may become due to the Contractor.</p>	<p><b>Remedy on Contractor's failure to carry out work required</b></p>
<p>50. The Contractor shall if required by the Engineer in writing, search under the directions of the Engineer for the cause of any defect, imperfection or fault appearing during the progress of the Works or during the Defects Liability Period. Unless such defect, imperfection or fault shall be one for which the Contractor is liable under the Contract, the cost of the work carried out by the Contractor in searching as aforesaid shall be borne by the Employer. If such defect, imperfection or fault shall be one for which the Contractor is liable as aforesaid, the cost of the work carried out in searching as aforesaid shall be borne by the Contractor and he shall in such case repair, rectify and make good such defect, imperfection or fault at his own expense in accordance with the provisions of Clause 49 hereof.</p>	<p><b>Contractor to Search</b></p>
<p><b>ALTERATIONS, ADDITIONS AND OMISSIONS</b>  51. 1) The Engineer shall make any variation of the form, quality or quantity of the Works or any part thereof that may, in his opinion, be necessary and for that purpose or if for any other reason it shall, in his opinion be desirable, he shall have power to order the Contractor to do and the Contractor shall do any of the following:-  a) increase or decrease the quantity of any work included in the Contract,  b) omit any such work,  c) change the character or quality or kind of any such work,  d) change the levels, lines, positions and dimensions of any part of the Works, and  e) execute additional work of any kind necessary for the completion of the Works.  and no such variation shall in any way vitiate or invalidate the Contract, but the price, if any, of all such variations shall be taken into account in ascertaining the amount of the Contract Sum. The Contractor shall not be entitled to any compensation on account of omission or decrease in Work under this clause.</p>	<p><b>Variations</b></p>

<p>2) No such variations shall be made by the Contractor without an order in writing by the Engineer. Provided that no order in writing shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an order given under this Clause, but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities. Provided also that if for any reason the Engineer shall consider it desirable to give any such order verbally, the Contractor shall comply with such order and any confirmation in writing of such verbal order given by the Engineer, whether before or after the carrying out of the order, shall be deemed to be an order in writing within the meaning of this Clause. Provided further that if the Contractor shall within seven days confirm in writing to the Engineer and such confirmation shall not be contradicted in writing within fourteen days by the Engineer, it shall be deemed to be an order in writing by the Engineer.</p>	<p><b>Orders for variations to be in writing</b></p>
<p>52. 1) All extra or additional work done or Work omitted by order of the Engineer shall be priced at the rates and prices set out in Part-II of Special Conditions of Contract.</p>	<p><b>Valuation of Variations</b></p>
<p>2) Provided that if the nature or amount of any omission or addition relative to the nature or amount of the whole of the Works or to any part thereof shall be such that, in the opinion of the Engineer, the rate or price contained in the Contract for any item of the Works is, by reason of such omission or addition, rendered unreasonable or in applicable, then a suitable rate or price shall be agreed upon between the Engineer and the Contractor. In the event of disagreement, the Engineer shall fix such other rate or price as shall, in his opinion be reasonable &amp; proper having regard to the circumstances. Provided also that no increase or decrease under Sub-clause (1) of this Clause or variation of rate or price under Sub-clause(2) of this Clause shall be made unless, as soon after the date of the order as is practicable and, in the case of extra or additional work, before the commencement of the work or as soon thereafter as is practicable, notice shall have been given in writing:-</p> <p>a) by the Contractor to the Engineer of his intention to claim extra payment or a varied rate or price, or</p> <p>b) by the Engineer to the Contractor of his intention to vary a rate or price.</p>	<p><b>Power of Engineer to Fix Rates</b></p>
<p>3) The Engineer may, in his opinion if it is necessary or desirable, order in writing that any additional or substituted Work shall be executed on a day work basis. The Contractor shall then be paid for such Work under the conditions set out in the Day work Schedule included in the Contract and at the rates and prices affixed thereto by him in his Tender. The Contractor shall furnish to the Engineer such receipts or other vouchers as may be necessary to prove the amounts paid and, before ordering materials, shall submit to the Engineer quotations for the same for his approval. In respect of all work executed on a day work basis, the Contractor shall, during the continuance of such work, deliver each day to the Engineer's Representative an exact list in duplicate of the names, occupation and time of all workmen employed on such work and a statement, also in duplicate, showing the description and quantity of all materials and plant used thereon or there for (other than plant which is included in the percentage addition in accordance with the Schedule herein before referred to). One copy of each list and statement will, if correct, or when agreed, be signed by the Engineer's Representative and returned to the Contractor. At the end of each month, the Contractor shall deliver to the Engineer's Representative a priced statement of the labour, material and plant except as aforesaid, used and the Contractor shall not be entitled to any payment unless such lists and statements have been fully and punctually rendered. Provided always that if the Engineer shall consider that for any reason the sending</p>	<p><b>Day work</b></p>

<p>of such lists or statements by the Contractor, in accordance with the foregoing provision, was impracticable he shall nevertheless be entitled to authorise payment for such work, either as day work on being satisfied as to the time employed and plant and materials used on such work or at such value therefore as shall, in his opinion, be fair and reasonable.</p>	
<p>4) The Contractor shall send to the Engineer's Representative once in every month an account giving particulars, as full and detailed as possible, of all claims for any additional payment to which the Contractor may consider himself entitled and of all extra or additional work ordered by the Engineer which he has executed during the preceding month.</p> <p>No final or interim claim for payment for any such work or expense will be considered which has not been included in such particulars. Provided always that the Engineer shall be entitled to authorise payment to be made for any such work or expense, notwithstanding the Contractor's failure to comply with this condition if the Contractor has, at the earliest practicable opportunity, notified the Engineer in writing that he intends to make a claim for such work.</p>	<b>Claims</b>
<p><b>PLANT, TEMPORARY WORKS AND MATERIALS</b></p> <p>53. 1) All Constructional Plant, Temporary Works and materials provided by the Contractor shall, when brought on to the Site, be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof except for the purpose of moving it from one part of the Site to another, without the consent, in writing of the Engineer, which shall not be unreasonably withheld. Upon receiving the consent of the Engineer, the Contractor shall apply for issue of Gate Pass etc. to the Employer so as to observe the administrative and security procedures, if any, set by the Employer.</p>	<b>Plant, etc. Exclusive use for the Works</b>
<p>2) Upon completion of the Works, the Contractor shall remove from the Site all the said Constructional Plant and Temporary Works remaining thereon and any unused materials provided by the Contractor.</p>	<b>Removal of Plant, etc.</b>
<p>3) The Employer shall not at any time be liable for the loss or damage to any of the said Constructional Plant and temporary works or materials save as mentioned in Clauses 20 and 65 hereof.</p>	<b>Employer not liable for damage to Plant, etc.</b>
<p>54. The operation of Clause 53 hereof shall not be deemed to imply any approval by the Engineer of the materials or other matters referred to therein nor shall it prevent the rejection of any such materials at any time by the Engineer.</p>	<b>Approval of Materials etc. not implied</b>
<p><b>MEASUREMENT</b></p> <p>55. The quantities set out in the bill of Quantities are the estimated quantities of the Work but they are not to be taken as the actual and correct quantities of the Works to be executed by the Contractor in fulfilment of his obligations under the Contract.</p>	<b>Quantities</b>
<p>56. The Engineer shall, except as otherwise stated, ascertain and determine by measurement the value in terms of the Contract of work done in accordance with the Contract. He shall, when he requires any part or parts of the Works to be measured, give notice to the Contractor's authorised agent or representative, who shall forthwith attend or send a qualified agent to assist the Engineer or the Engineer's Representative in making such measurement and shall furnish all particulars required by either of them. Should the Contractor not attend or neglect or omit to send such agent, then the measurement made by the Engineer or approved by him shall be taken to be the correct measurement of the work. For the purpose of measuring such permanent work as is to be measured by records and drawings, the Engineer's Representative shall prepare records and drawings month by month of such work and the Contractor, as and when called upon to do so in writing shall, within fourteen days, attend to examine and agree such records</p>	<b>Works to be Measured</b>

<p>and drawings with the Engineer's Representative and shall sign the same when so agreed. If the Contractor does not so attend to examine and agree such records and drawings, they shall be taken to be correct. If, after examinations of such records and drawings, the Contractor does not agree the same or does not sign the same as agreed, they shall nevertheless be taken to be correct, unless the Contractor shall, within fourteen days of such examination, lodge with the Engineer's Representative, for decision by the Engineer, notice in writing of the respects in which such records and drawings are claimed by him to be incorrect.</p>	
<p>57. The Works shall be measured net, notwithstanding any general or local custom except where otherwise specifically described or prescribed in the Contract.</p>	<p><b>Method of Measurement</b></p>
<p><b>PROVISIONAL SUMS</b> 58. 1) "Provisional Sum" means a sum included in the Contract and so designated in the Bill of Quantities for the execution of work or the supply of goods, materials or services or for contingencies, which sum may be used, in whole or in part, or not at all, at the direction and discretion of the Engineer. The Contract sum shall include only such amounts in respect of the work, supply or services to which such Provisional Sums relate as the Engineer shall approve or determine in accordance with this Clause.</p>	<p><b>Definition of "Provisional Sums"</b></p>
<p>2) In respect of every Provisional Sum the Engineer shall have power to order:- a) Work to be executed including goods, materials or services to be supplied by the Contractor. The Contract Sum shall include the price of such work executed or such goods, materials or services supplied, determined in accordance with Clause 52 thereof. b) Work to be executed or goods, materials or services to be supplied by a nominated Sub-Contractor as hereinafter defined. The sum to be paid to the Contractor therefor shall be determined and paid in accordance with Clause 59(4) hereof. c) Goods and materials to be purchased by the Contractor. The sum to be paid to the Contractor therefor shall be determined and paid in accordance with Clause 59(4) hereof.</p>	<p><b>Use of Provisional Sums</b></p>
<p>3) The Contractor shall, when required by the Engineer, produce all quotations, invoices, vouchers and accounts or receipts or estimates in connection with expenditure in respect of Provisional Sums, prior to executing the work for which such Provisional Sum(s) have been allocated and shall commence such works only after exact expenditure is agreed &amp; the work properly ordered on the Contractor by the Engineer.</p>	<p><b>Production of Vouchers, etc.</b></p>
<p><b>NOMINATED SUB-CONTRACTORS</b> 59. 1) All specialists, and others executing any work or supplying any goods, materials or services of specialised nature which are included in the Contract, who may have been or be nominated or selected or approved by the Employer or the Engineer, for the execution of such work or the supply of such goods, materials or services, be deemed to be sub-contractors employed by the Contractor on nomination by the Employer and are referred to in this Contract as "Nominated Sub-Contractors".</p>	<p><b>Definition of "Nominated Sub-Contractor"</b></p>
<p>2) The Contractor shall not be required by the Employer or the Engineer or be deemed to be under any obligation to employ any nominated Sub-Contractor against whom the Contractor may raise reasonable objection, or who shall decline to enter into a sub-contract with the Contractor containing provisions:- a) that in respect of the work, goods, materials or services the subject of the sub-contract, the nominated sub-contractor will undertake towards the Contractor the</p>	<p><b>Nominated Subcontractors Objections to Nomination</b></p>

<p>like obligations and liabilities as are imposed on the Contractor towards the Employer by the terms of the Contract and will save harmless and indemnify the Contractor from and against the same and from all claims, proceedings, damages, costs, charges and expenses whatsoever arising out of or in connection therewith or arising out of or in connection with any failure to perform such obligations or to fulfill such liabilities and b) that the nominated Sub-Contractor will save harmless and indemnify the Contractor from and against any negligence by the nominated Sub-Contractor, his agents, workmen and servants and from and against and misuse by him or them of any Constructional Plant or the Works provided by the Contractor for the purposes of the Contract and from all claims as aforesaid.</p>	
<p>3) If in connection with any Provisional Sum the services to be provided include any matter of design or specification of any part of the Works or of any equipment or plant to be incorporated therein, such requirement shall be expressly stated in the contract and shall be included in any Nominated Sub-Contract. The Nominated Sub-Contract shall specify that the Nominated Sub-Contractor providing such services will save harmless and indemnify the Contractor from and against the same and from all claims, proceedings, damages, costs, charges and expenses whatsoever arising out of or in connection with any failure so perform such obligations or to fulfill such liabilities.</p>	<p><b>Design Requirement to be Expressly Stated</b></p>
<p>4) For all Work executed or goods, materials or services supplied by any nominated Sub-Contractor, there shall be included in the Contract Sum:-  a) the actual price paid or due to be paid by the Contractor, on the direction of the Engineer, and in accordance with the Sub-Contract;  b) the sum, if any, entered in the Bill of Quantities for labour supplied by the Contractor in connection herewith, or If ordered by the Engineer pursuant to Clause 58 (2)  (b) hereof, as may be determined in accordance with Clause 52 hereof.  c) in respect of all other charges and profit, a sum being a percentage rate of the actual price paid or due to be paid calculated, where provision has been made in the Bill of Quantities for a rate to be set against the relevant Provisional Sum, at the rate inserted by the Contractor against that item or, where no such provision has been made, at the rate inserted by the Contractor in the Appendix to the Tender and repeated where provision for such is made in a special item provided in the Bill of Quantities for such purpose.</p>	<p><b>Payments to Nominated Subcontractors</b></p>
<p>5) Before issuing, under Clause 60 hereof, any certificate, which includes any payment in respect of work done or goods, materials or service supplied by any Nominated Sub-Contractor, the Engineer shall be entitled to demand from the Contractor reasonable proof that all payments, less retention, included in previous certificates in respect of the work or goods, materials or services of such Nominated Sub-Contractor have been paid or discharged by the Contractor, in default whereof unless the Contractor shall  a) inform the Engineer in writing that has reasonable cause for withholding or refusing to make such payments and  b) produce to the Engineer reasonable proof that he has so informed such Nominated Sub-Contractor in writing. The Employer shall be entitled to pay to such Nominated Sub-Contractor direct, upon the certificate of the Engineer, all payments, less retention, provided for in the Sub-Contract, which the contractor has failed to make to such Nominated Sub-Contractor and to deduct by way of set-off, the amount so paid by the Employer from any sums due or which may become due from the Employer to the Contractor. Provided always that, where the Engineer has certified and the Employer has paid direct as aforesaid, the Engineer shall in issuing any further certificate in favour of the Contractor deduct from the amount thereof the amount so paid, direct as aforesaid, but shall not withhold or</p>	<p><b>Certification of Payments to Nominated Sub-Contractors</b></p>

delay the issue of the certificate itself when due to be issued under the terms of Contract.	
6) In the event of a Nominated Sub-Contractor, as herein before defined, having undertaken towards the Contractor in respect of the work executed, or the goods, materials or services supplied by such Nominated Sub-Contractor, any continuing obligation extending for a period exceeding that of the Defects Liability Period under the Contract, the Contractor shall at any time, after the expiration of the Defects Liability Period, assign to the Employer, at the Employer's request and cost, the benefit of such obligation for the unexpired duration thereof.	<b>Assignment of Nominated Sub-Contractors Obligations</b>
<b>CERTIFICATES AND PAYMENT</b> 60. 1) Unless otherwise provided, payments shall be made at monthly intervals in accordance with the conditions set out in Part-II in the Special Conditions of Contract. 2) Where advances are to be made by the Client to the Contractor in respect of Construction Plant and Materials, the conditions of payment and repayment shall be as set out in Part-II in the Special Conditions of Contract.	<b>Certificates and Payment</b>  <b>Advances on Construction Plant and Materials</b>
61. No certificate other than the Certificate of Final Completion referred to in Clause 62 hereof shall be deemed to constitute approval of the works.	<b>Approval only by Certificate of Final Completion</b>
62. 1) The Contract shall not be considered as completed until a Certificate of Final Completion shall have been signed by the Engineer and delivered to the Employer stating that the Works have been completed and maintained to his satisfaction. The Certificate for Final Completion shall be given by the Engineer within twenty-eight days after the expiration of the Defects Liability Period, or, if different Defect Liability Periods shall become applicable to different sections or parts of the Works, the expiration of the latest such period, or as soon thereafter as any works ordered during such period pursuant to Clauses 49 and 50 hereof, shall have been completed to the satisfaction of the Engineer and full effect shall be given to this Clause notwithstanding any previous entry on the Works or the taking possession, working or using thereof or any part thereof by the Employer. Provided always that the issue of the Certificate of Final Completion shall not be a condition precedent to payment to the Contractor of the second portion of the retention money in accordance with the conditions set out in Part II of Special Conditions of Contract.	<b>Certificate of Final Completion</b>
2) The Employer shall not be liable to the Contractor for any matter or thing arising out of or in connection with the Contract or the execution of the works, unless the Contractor shall have made a claim in writing in respect thereof as per Clause 52 (4) hereof, before the giving of Certificate of Final Completion.	<b>Cessation of the Employer's Liability</b>
3) Notwithstanding the issue of the Certificate of Final Completion the Contractor and, subject to sub-clause (2) of this clause, the Employer shall remain liable for the fulfillment of any obligation incurred under the provisions of the Contract prior to the issue of the Certificate of Final Completion which remains unperformed at the time such certificate is issued and for the purposes of determining the nature and extent of any such obligation, the Contract shall be deemed to remain in force between the parties hereto.	<b>Unfulfilled Obligations</b>
<b>REMEDIES AND POWERS</b> 63. 1) If the Contractor shall become bankrupt or have a receiving order made against him, or shall present his petition in bankruptcy, or shall make an arrangement with or assignment in favour of his creditors, or shall agree to carry out the contract under a committee of inspection of his creditors or, being a corporation, shall go into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or if the Contractor shall assign the Contract, without the consent in writing of the Employer first obtained, or shall have an execution levied on his goods, or if the Engineer shall certify in writing to	<b>Default of Contractor</b>

<p>the Employer that in his opinion the Contractor:-</p> <ul style="list-style-type: none"> <li>a) has abandoned the Contract, or</li> <li>b) without reasonable excuse has failed to commence the Works or has suspended the progress of the Works for twenty-eight days after receiving from the Engineer written notice to proceed, or</li> <li>c) has failed to remove materials from the site or to pull down and replace work for twenty eight days after receiving from the Engineer written notice that the said materials or work had been condemned and rejected by the Engineer under these conditions, or</li> <li>d) despite previous warnings by the Engineer, in writing, is not executing the Works in accordance with the Contract, or is persistently or flagrantly neglecting to carry out his obligations under the Contract, or</li> <li>e) has, to the detriment of good workmanship, or in defiance of the Engineer's instructions to the contrary, sublet any part of the Contract</li> </ul> <p>then the Employer may, after giving fourteen days notice in writing to the Contractor, enter upon the site and the Works and expel the Contractor there from without there by avoiding the Contract, or releasing the Contractor from any of his obligations or liabilities under the Contract, or affecting the rights and powers conferred on the Employer or the Engineer by the Contract, and may himself complete the Works or may employ any other agency to complete the Works. The Employer or such other agency may use for such completion so much of the Constructional Plant, amenities and materials, which have been deemed to be reserved exclusively for the execution of the Works, under the provisions of the Contract, as he or they may think proper. The Employer, at his option, may sell or choose to return to the Contractor, without prejudice to any of his rights under the Contract, the said Constructional Plant, amenities and unused materials. In case of sale the sale proceeds shall be applied towards the satisfaction of any sums due or which may become due from the Contractor under the Contract. The return of the Constructional Plants, amenities and unused materials to the Contractor by the Employer, shall be without prejudice to the right of the Employer to recover his dues from the Contractor by any other means available to the Employer.</p>	
<p>2) The Engineer shall, as soon as may be practicable after any such entry and expulsion by the Employer, fix and determine ex party, or by or after reference to the parties, or after such investigation or inquiries as he may think fit to make or institute and shall certify what amount, if any, had at the time of such entry and expulsion been reasonably earned by or would reasonably accrue to the Contractor in respect of work then actually done by him under the Contract and the value of any of the said unused or partially used materials, any Constructional Plant and any amenities brought into existence exclusively for execution of the Works.</p>	<p><b>Valuation on Date of Forfeiture</b></p>
<p>3) If the Employer shall enter and expel the Contractor under this Clause, he shall not be liable to pay to the Contractor any money on account of the Contract, until the expiration of the Defects Liability Period and thereafter until the costs of execution, damages for delay in completion, if any, and all other expenses incurred by the Employer have been ascertained and the amount thereof certified by the Engineer. The Contractor shall then be entitled to receive only such sum or sums, if any, as the Engineer may certify would have been payable to him upon due completion by him after deducting the said amount. If such amount shall exceed the sum which would have been payable to the Contractor on due completion by him, then the Contractor shall, upon demand, pay to the Employer the amount of such excess and it shall be deemed a "debt due" by the Contractor to the Employer and shall be recoverable accordingly.</p>	<p><b>Payment after Forfeiture</b></p>
<p>64. If, by reason of any accident, or failure, or other event occurring to or in connection with the Works, or any part thereof, either during the execution of the</p>	<p><b>Urgent Repairs</b></p>



<p>works, or during period of Defects Liability any remedial or other work or repair, shall, in the opinion of the Engineer or the Engineer's Representative, be urgently necessary for the safety of the Works and the Contractor is unable or unwilling at once to do such work or repair, the Employer may employ and pay other persons to carry out such work or repair as the Engineer or the Engineer's Representative may consider necessary. If the work or repair so done by the Employer is the work which, in the opinion of the Engineer the Contractor was liable to do at his own expense under the Contract, all expenses properly incurred by the Employer in so doing shall be recoverable from the Contractor by the Employer, or may be deducted by the Employer from any monies due or which may become due to the Contractor. Provided always that the Engineer or the Engineer's Representative, as the case may be, shall, as soon after the occurrence of any such emergency as may be reasonably practicable, notify the Contractor thereof in writing.</p>	
<p><b>SPECIAL RISKS</b> 65. Notwithstanding anything in the Contract contained 1) The Contractor shall be under no liability whatsoever whether by way of indemnity or otherwise, for or in respect of destruction of or damage to the Works, save to work condemned under the provisions of Clause 39 hereof prior to the occurrence of any special risk hereinafter mentioned, or to property whether of the Employer or third parties, or for or in respect of injury or loss of life which is the consequence of any special risk as hereinafter defined. The Employer shall indemnify and save harmless the contractor against and from the same and against and from all claims, proceedings, damages, costs, charges and expenses whatsoever arising there out or in connection therewith.</p>	<p><b>No Liability for War, etc. Risks</b></p>
<p>2) If the works or any materials on or near or in transit to the Site or any other property of the Contractor used or intended to be used for the purpose of the Works, shall sustain destruction or damage by reason of any of the said special risks the Contractor shall be entitled to payment for:- a) any part of the Work and for any materials so destroyed or damaged, and so far as may be required by the Engineer, or as may be necessary for the completion of the Works, on the basis of cost plus such percentage as stated in Part II of the Special conditions of Contract with reference to Clause 52 hereof. b) replacing or making good any such destruction or damage to the Works; c) Replacing or making good such materials or other property of the contractor used or intended to be used for the purposes of the Works.</p>	<p><b>Damage to Works, etc. by Special Risks</b></p>
<p>3) Destruction damage, injury or loss of life caused by the explosion or impact whenever and wherever occurring of any mine, bombshell, grenade, or other projectile, missile, ammunition or explosive of war, shall be deemed to be a consequence of the said special risks.</p>	<p><b>Projectile, Missile etc.</b></p>
<p>4) The Employer shall repay to the Contractor any increased cost of or incidental to the execution of the Works other than such as maybe attributable to the cost of reconstructing work condemned under the provisions of Clause 39 hereof, prior to the occurrence of any special risk, which is howsoever attributable to or consequent on or the result of or in any way whatsoever connected with the said special risk, subject however to the provisions in this Clause hereinafter contained in regard to outbreak of war, but the Contractor shall as soon as any such increase of cost shall come to his knowledge within seven days of such increase coming to his knowledge, notify the Engineer thereof in writing.</p>	<p><b>Increased Costs arising from Special Risks</b></p>
<p>5) The special risks are war, hostilities (whether war be declared or not), invasion act of foreign enemies, the nuclear and pressure waves, risk described in Clause 20(2) hereof, or insofar as it relates to the country in which the Works are being or are to be executed or maintained, rebellion, revolution, insurrection, military or usurped power and civil war.</p>	<p><b>Special Risks</b></p>

<p>6) If, during the currency of the Contract, there shall be an outbreak of war, whether war is declared or not, in any part of the world which, whether financially or otherwise, materially affects the execution of the works, the contractor shall, unless and until the contract is terminated under the provisions of this clause, continue to use his best endeavors to complete the execution of the Works. Provided always that the Employer shall be entitled at any time after such outbreak of war to terminate the Contract by giving written notice to the Contractor and, upon such notice being given this contract shall except as to the rights of the parties under this Clause and to the operation of Clause 67 hereof, terminate, but without prejudice to the rights of either party in respect of any antecedent breach thereof.</p>	<p><b>Outbreak of War</b></p>
<p>7) If the Contract shall be terminated under the provisions of the last preceding sub-clause, the Contractor shall, with all reasonable dispatch, remove from the Site all constructional Plant and shall give similar facilities to his sub-contractors to do so.</p>	<p><b>Removal of Plant on Termination</b></p>
<p>8) If the Contract shall be terminated as aforesaid, the Contractor shall be paid by the Employer, insofar as such amounts or items shall not have already been covered by payments on account made to the Contractor, for all work executed prior to the date of termination at the rates and prices provided in the Contract and in addition:-</p> <p>a) The amounts payable in respect of any preliminary items, so far as the work or service comprised therein has been carried out or performed, and a proper proportion as certified by the Engineer of any such items, the Work or service comprised in which has been partially carried out or performed.</p> <p>b) The cost of materials or goods reasonably ordered for the Works which shall have been delivered to the Contractor or of which the Contractor is legally liable to accept delivery, such materials or goods becoming the property of the Employer upon such payments being made by him.</p> <p>c) A sum to be certified by the Engineer, being the amount of any expenditure reasonably incurred by the Contractor in the expectation of completing the whole of the Works in so far as such expenditure shall not have been covered by the payments in this sub-clause before mentioned.</p> <p>d) Any additional sum payable under the provisions of sub-clauses (1), (2) and (4) of this Clause.</p> <p>e) The reasonable cost of removal of Constructional Plant under sub-clause (7) of this Clause and, if required by the Contractor, return thereof to the Contractor's main plant yard in his country of registration or to other destination, at no greater cost.</p> <p>f) The reasonable cost of repatriation of all the Contractor's staff and workmen employed on or in connection with the Works at the time of such termination. Provided always that against any payments due from the Employer under this sub-clause, the Employer shall be entitled to be credited with any outstanding balances due from the Contractor for advances in respect of Constructional Plant and materials and any other sums which at the date of termination were recoverable by the Employer from the Contractor under the terms of the contract. The Employer shall also return all Bank Guarantees and retention after proper accounts have been settled between Contractor and the Employer.</p>	<p><b>Payment of Contract Termination</b></p>
<p><b>FRUSTRATION</b></p> <p>66. If a war, or other circumstances outside the control of both parties, arises after the contract is made so that either party is prevented from fulfilling his contractual obligations, or under the law governing the Contract, the parties are released from further performance, then the sum payable by the Employer to the Contractor in respect of the work executed shall be the same as that which would have been</p>	<p><b>Payment in Event of Frustration</b></p>

payable under Clause 65 hereof, as if the Contract had been terminated under the provisions of Clause 65 hereof. Performance of obligations becoming more onerous shall not be considered as a cause for 'Frustration'.	
<p><b>SETTLEMENT OF DISPUTES</b></p> <p>67. 1) Wherever, in any of the documents forming part of the Contract, the Engineer has been vested with the final powers, his decision, opinion, certificate or any other discretion shall be final conclusive and binding on the parties and shall be without appeal. All other matters shall be subject to the right of arbitration.</p>	<b>Excepted Matters</b>
<p>2) Except for matters stated in sub-clause (1) above all other disputes and difference arising out of or in connection with the contract, whether during the progress of work or after completion, shall be referred to and settled by Arbitration by two Arbitrators, one to be nominated by the Contractor and one to be nominated by the Employer, which arbitrators shall, before taking upon themselves, the burden of reference, appoint an Umpire. In the event of the Arbitrators disagreeing, the decision of the Umpire shall, however, be final and binding on both the parties. For the purpose of this clause, the provisions of the Indian Arbitration Act, 1996, with the relevant amendments shall be applicable. None of the clauses of this contract will survive after issue of the Certificate of Final Completion or payment of Final Bill, whichever is later.</p>	<b>Settlement of Disputes and Arbitration</b>
<p><b>NOTICES</b></p> <p>68. 1) All certificates, notices or written orders to be given by the Employer or by the Engineer to the Contractor under the terms of the Contract shall be served by sending by registered post or by Courier or delivering the same to the Contractor's principal place of business, or such other address as the Contractor shall nominate for this purpose.</p>	<b>Service of Notices on Contractor</b>
<p>2) All notices to be given to the Employer or to the Engineer under the terms of the Contract shall be served by sending by registered post or by Courier or delivering the same to the respective addresses nominated for that purpose in Part II of these conditions.</p>	<b>Services of Notices on the Employer of the Engineer</b>
<p><b>DEFAULT OF EMPLOYER</b></p> <p>69. 1) In the event of the Employer :-</p> <p>a) failing to pay to the Contractor the amount due under any certificate of the Engineer within thirty days after the same shall have become due under the terms of the Contract, subject to any deduction that the Employer is entitled to make under the Contract, or</p> <p>b) interfering with or obstructing or refusing any acquired approval to the issue of any such certificate, or</p> <p>c) becoming bankrupt or, being a company, going into liquidation, other than for the purpose of a scheme of reconstruction or amalgamation, or</p> <p>d) giving formal notice to the Contractor that for unforeseen reasons, due to economic dislocation it is impossible for him to continue to meet his contractual obligations. the Contractor shall be entitled to terminate his employment under the Contract after giving fourteen days' prior written notice to the Employer, with a copy to the Engineer.</p> <p>2) Upon the expiry of the 14 days' notice referred to in sub-clause (1) of this Clause, the Contractor shall, notwithstanding the provisions of Clause 53 (1) hereof, with all reasonable dispatch, remove from the Site all Constructional Plant brought by him thereon.</p> <p>3) In the event of such termination the Employer shall be under the same obligations to the Contractor in regard to payment as if the Contract had been terminated under the provisions of Clause 63 hereof, but, in addition to the payments specified in Clause 65 (8) hereof, the Employer shall pay to the Contractor the amount of any loss or damage to the Contractor arising out of or in</p>	<b>Default of Employer</b>

connection with or by consequence of such termination.	
<b>CHANGES IN COSTS AND LEGISLATION</b> 70. Statutory variations if any in Value Added Tax ( VAT ) and Service Tax ( ST ) on Contract price shall be to the Employer's account.	

**CONDITIONS OF CONTRACT**  
**PART – II – SPECIAL CONDITIONS OF CONTRACT**

SP.1	SPECIAL CONDITIONS OF CONTRACT of this PART-II shall be read in conjunction with GENERALCONDITIONS OF CONTRACT in PART-I and both form an integral part of Contract. Where the two parts are at variance, the conditions stipulated in this PART II as Special Conditions shall supersede relevant provisions in General Conditions in PART-I.	<b>GENERAL</b>
	<b>ENGINEER</b>	
SP. 2	The Engineer and shall be:  <b>Technopak Advisors Pvt. Limited.</b> <b>4<sup>th</sup> Floor, Tower A, Building no.08,</b> <b>DLF Cybercity, DLF Phase II,</b> <b>Gurgaon, NCR, New Delhi</b> Website : www.technopak.com or duly appointed Authorised Representative of Employer	<b>(Ref. Clause 1)</b> <b>DEFINITIONS</b>
SP.3	The Engineer has been appointed by and duly authorised by the Employer to supervise, test, examine any materials and/or works, to order, cancel, alter, modify, any of the materials, items or works within the framework of the Contract. To approve/reject requests for modifications in works or schedule whether or not such orders, approvals, rejections, etc. involve increase or decrease in the costs or time.  The Engineer is further authorised to administer the Contract, check, correct, modify and certify or reject any bill or requests for payment for the materials, items or works.	<b>(Ref. Clause 2)</b> <b>POWERS AND</b> <b>DUTIES OF</b> <b>ENGINEERS</b>
SP.4	The Ruling language for the Contract and related aspects shall be ENGLISH.  The Contract shall be governed by and construed in accordance with Laws of India, for time being in force.  The Contractor shall on his own and at his own expense obtain all necessary permits and permissions to execute the job, including required registrations, agents etc. and shall indemnify the Employer in all related matters.	<b>Ref. Clause 5)</b> <b>LANGUAGE AND</b> <b>LAW</b>
SP.5	<b><u>(Ref. Clause 8) CONTRACTORS RESPONSIBILITY</u></b>	
SP.5.1	The Contractor shall furnish to the Engineer full particulars, drawings, etc. of all temporary works necessary for the execution of the works and shall allow sufficient time for Engineer to consider the same. The Engineer reserves the right to comment on the Contractor's proposals if	<b>Temporary Works</b> <b>and Arrangements</b>



<p>SP 5.4</p>	<p>agencies &amp; shall leave such necessary holes, openings, etc. for laying/burying in the work pipes, cables, conduits, clamps, boxes, and hooks for fan clamps etc. as may be required for the electric and sanitary works etc. and nothing extra shall be paid for the same.</p> <p>The Contractor's attention is also drawn to the fact that all holes chases, etc. shall be left in the building work as it proceeds and not cut-out subsequently except in so far as may be necessary due to subsequent authorised instructions. The Contractor shall therefore obtain necessary builders work details in such order and in such time as to enable them to be checked and approved by the Engineer not less than two weeks before the actual construction is planned to take place.</p> <p>The contractor shall generally employ local personnel and as far as possible make purchases from local suppliers.</p>	<p><b>General</b></p>
<p>SP 5.5</p> <p>SP 6.</p>	<p>Within 15 days of the Award of Contract, the contractor shall submit to the Engineer for approval a programme showing the order of procedure in which he proposes to carry out the works.</p> <p>The programme shall be prepared taking into account the activities of various other agencies involved in the project and shall be to the Approval of the Engineer. The programme shall be reviewed by the Engineer from time to time and revisions if necessary shall be made for well co-ordinated and expedient implementation of the project. A separate programme shall be prepared for each building/structure.</p> <p>The Employer will have the right to indicate priorities for execution of various buildings/structures included in the Works. The Contractor will mobilise or re-mobilise or adjust his resources according to the priorities set by the Employer at no extra cost to the Employer. Even though overall period of the Contract shall be as stated in the Appendix to this tender; the Consultant or the Employer or the Engineer may have to fix different periods of completion for individual buildings/structures keeping in view the targeted date for commissioning.</p> <p>The Contractor shall abide by such different dates of completion, which shall be within the overall stipulated period of completion and will provide the contractor with a shorter duration within which the Contractor will have to complete such building /structure. The Contractor will not be entitled any extra payment on this account.</p>	<p><b>PROGRAMME</b></p>
<p>SP.7</p>	<p>All the Insurance shall be arranged by Contractor from First Class</p>	<p><b>(Ref. Clause</b></p>

	<p>Insurance Company having a Branch near the Site who can deal with all matters pertaining to the subject.</p> <p>The following policies shall be maintained for the duration of the contract, or the extended period if required.</p> <p>Contractor's All-risk Insurance Policy covering loss, damage, theft, burglary etc. of all materials and equipment, temporary works and the Works shall be insured for a total sum equal to the value of all such items plus ten percent of such value</p> <p>The Contractor shall make available the insurance cover note before the commencement of work, and shall notify any change in the nature or extent of the works and also make available Additional Insurance of works if required in Special Circumstances.</p> <p>Third Party Insurance shall be for a minimum amount and happenings as stipulated in Appendix to the Tender.</p> <p>Contractor shall provide for adequate cover to his employees as per provisions of Workmen's Compensation Act.</p> <p>Contractor shall indemnify the Engineer and Employer from all claims that may arise on account of Contractor's operations at Site.</p>	<p><b>21,22,23 &amp; 24)</b> <b>INSURANCE</b></p> <p><b>Insurance of Works</b></p> <p><b>Third Party Insurance</b></p> <p><b>Workmen's Compensation Insurance for Injury, Accident, etc.</b></p> <p><b>Indemnity</b></p>
SP 8	<p>The Contractor shall comply with all rules, regulations and laws including but not limited to CLB, ESI, P.F., Medical and safety of workmen for labour directly or indirectly engaged by the Contractor, his representative and sub-contractors. The Contractor at their own cost shall register themselves wherever and whomsoever required in this connection at local and state level</p>	<p><b>(Ref. Clause 34)</b> <b>LABOUR</b></p>
SP 9	<p>The Contractors shall at their cost provide samples for the approval of an Engineer and shall provide alternative sample until an approval has been obtained.</p> <p>The Contractor shall at his cost provide one set of approved standards and codes to which the Proposed materials, items and works to be executed shall conform. Such a set shall be handed over to Engineer's representative for ready reference. All materials, items and works, when submitted for approval shall have reference of Tender Specifications and drawings and of clauses of relevant standard codes for acceptance criteria.</p> <p>The Contractor shall, at his own cost, provide normal testing facilities at site as directed by the Engineer.</p>	<p><b>(Ref. Clause 36- 2)</b> <b>COST OF SAMPLES</b></p>
SP 10	<p>The whole of the Works shall be completed within the period as stipulated in Appendix to the tender from the stipulated date of commencement. The Employer, through the Engineer may fix shorter periods for certain buildings/structures and the Contractor will have to</p>	<p><b>(Ref. Clause 43)</b> <b>TIME FOR COMPLETION</b></p>

	complete such buildings/structures in the desired shorter duration at no extra cost to the Employer.	
SP 11	The Contractor shall pay to the Employer such sum as stipulated in Appendix to the tender as liquidated damages which shall lapse between the time prescribed by Clause 43 and SP 10 hereof and the date of certificate of completion of the works. Such liquidated damages shall be subject to a maximum limit as stipulated in Appendix to the tender.	<b>(Ref. Clause 47 (1)) LIQUIDATED DAMAGES FOR DELAY</b>
SP 12	If it is desired by the Employer to pay to the Contractor such sum as stipulated in Appendix to the tender as Bonus which shall have to lapse between the date of certificate of completion of the works and the scheduled date of completion arrived at from the time prescribed by Clause 43 and SP 10 hereof. Such Bonus shall be subject to a maximum limit as stipulated in Appendix to the tender	<b>(Ref. Clause 47 (3)) BONUS FOR EARLY COMPLETION</b>
SP 13	The Engineer shall issue Certificate of Completion of Works upon request from the Contractor vide clause 48, only if in the opinion of the Engineer the work be substantially completed is in such a condition so as to be put to its proper commercial use and/or occupied without any short comings and no major or minor items of works are remaining which in the opinion of <i>and</i> the Engineer will cause undue difficulties in satisfactory use/occupation of the Works. The opinion of the Engineer shall be final and binding.	<b>(Ref. Clause 48) CERTIFICATION OF COMPLETION OF WORKS</b>
SP 14	The Defects Liability Period shall be as stipulated in Appendix to the tender or 365 days calculated from the date of completion of the Works.	<b>(Ref. Clause 49) DEFECTS LIABILITY PERIOD</b>
SP 15	The Works shall be measured as given in the technical specifications or Bill of Quantities. If for a particular item of work, the mode of measurement is not given in the technical specifications or in the bill of quantities, then such work shall be measured as per the latest edition of Indian Standards IS:1200.	<b>(Ref. Clause 57) METHOD OF MEASUREMENT</b>
SP 16	Agencies/Companies/Parties, to whom any part of the work is sublet or assigned by the Contractor at his own discretion, shall not deem to be Nominated Sub Contractors vide clause 59, although their appointment is approved by the Engineer vide Clause 3 & 4.	<b>(Ref. Clause 59) NOMINATED SUB CONTRACTORS</b>
SP 17	<b><u>(Ref. Clause 60) CERTIFICATES &amp; PAYMENTS</u></b>	
SP 17.1	<p>The Contractor shall submit monthly running bills in approved format for materials and works along with required details and measurements as directed by the Engineer. The Contractor shall submit Monthly Progress Report in triplicate in approved format and containing required number of indexed coloured progress photographs. Failure to submit reports may result in holding up of Payment Certificate.</p> <p>The bills shall be checked/verified and certified by the Engineer for Interim Payments for amounts which in the opinion of the Engineer are due to the Contractor, based on actual executed quantities. Only the quantities of work executed which correspond to the full description stated in the Bill of Quantities, shall be considered for payment. No part-rated items of work will be considered for payment in the bills.</p>	<b>Billing and Certificates</b>



	<p>All interim payments made to the Contractor during the progress of the works and thereafter against various running bills shall deem to be on account payments to be adjusted in the Pre-final Payment Certificate issued after the issue of Completion Certificate and Handing Over of the Works to the Employer and further adjusted, if necessary in the Final Payments Certified at final account stage after the completion of Defects Liability Period and issue of Certificate of Final Completion by the Engineer. Pre-final Bill shall be submitted within one month of issue of the Completion Certificate vide clause 48.</p> <p>Pre-final Certificate of Payment shall be issued within one month of receipt of all clarifications and details of the Pre-final Bill to the satisfaction of the Engineer.</p> <p><b><u>Terms of Payment</u></b></p> <p>Advance as stipulated in the appendix to the Tender excluding sums of contingencies shall be payable to the Contractor against an irrevocable Bank Guarantee of like amount in the same currency, from a scheduled and/or Nationalised Bank.</p>	
SP 17.2 SP 17.2.1	<p>The mobilization advance will be recovered on prorata basis (@ of 30% of the mobilization advance and till full recovery) from the 1st RA bill. The B. G. can be released after full recovery of the Mobilization Advance.</p>	<p><b>Advance</b></p> <p><b>Payment for Materials/ Equipment's at Site (Secured Advance)</b></p>
SP 17.2.2	<p>Payment as stipulated in the Appendix to the tender for the value of the materials/ equipment delivered at site for incorporation in the Works shall be included in Running Bills after due certificate of the Engineer. Engineer's assessment of the value shall be taken as final. Material advance shall be recovered from next immediate running bill. Procurement of materials by Contractor shall be with prior concurrence of the Engineer/the Employer regarding utilities requirement of procured materials at an early date.</p>	<p><b>Payment for Works</b></p>
SP 17.2.3	<p>The Contractor shall be paid monthly on the certificate of the Engineer, such sum or the price of the Works executed up to the end of the previous month after adjusting payments made in earlier bills and recovery of advance as stipulated in the Appendix to the tender. Minimum amount of Interim Certificates for Running Bills shall be as stipulated in the appendix to the tender.</p> <p>Pre-final bill will be certified after verification by the Engineer of all the required details, 'as-built' drawings and duly checked final measurements.</p>	<p><b>Retention Money</b></p> <p><b>Time for Payment</b></p>
	<p>Retention Money shall be as stipulated in the Appendix to the tender :</p> <p>Retention Money shall be released in the Pre-final Certificate of Payment provided that Performance Bond is valid or has been revalidated for the entire duration of the Defects Liability Period.</p> <p>The Employer shall make payments within such time, as stipulated in</p>	

<p>SP 17.2.4</p> <p>SP 17.2.5</p>	<p>the Appendix to the tender, of the issue of certificates of payments by the Engineer.</p>	
<p>SP 18</p> <p>SP 18.1</p> <p>SP 18.2</p>	<p><b><u>(Ref. Clause 13 &amp; 61) APPROVAL AND ACCEPTANCE</u></b></p> <p>The work shall deem to have been provisionally accepted after fulfillment of all of the following by the Contractor.</p> <ol style="list-style-type: none"> <li>1. Obtaining approvals from local Authorities as required for occupation and use of the Works and handing over such certificates to the Engineer.</li> <li>2. Submitting As-Built Drawings, Catalogues, Brochures, Data Sheets, manuals as directed by the Engineer.</li> <li>3. Obtaining Certificate of Completion vide Clause 48 from the Engineer.</li> <li>4. Handing over of the Works to the Employer as directed by the Engineer.</li> </ol> <p>The works shall deem to have been approved and accepted only on issue of Certificate of Final Completion by the Engineer without prejudice to the Employer's rights under the Contract particularly under Clause 62(3).</p>	<p><b>Provisional Acceptance</b></p> <p><b>Approval and Acceptance</b></p>
<p>SP 19</p>	<p>Value Added Tax (VAT) and Service Tax (ST) on Contract price shall be paid by the Employer. All other taxes excluding VAT &amp; service tax, excise duty, other duties, shall be included in BOQ rates and borne by the tenderer. Royalty on quarried materials like stones, stone ballast, gravel, Murom, silica and other materials shall also be included in BOQ rates and borne by the tenderer. Royalty on excavated earth, stone, bolder, at site shall be included in rates for relevant excavation items. BOQ item rates shall remain firm throughout the performance of contract.</p>	<p><b>TENDER RATES AND PRICES ALL INCLUSIVE</b></p>
<p>SP 20</p>	<p>The Contractor shall provide at all times for the duration of the contract all chairman, staff men, workmen and survey instruments for the exclusive use of the Engineer as directed by the Engineer for carrying out of his duties in connection with the contract.</p> <p>Such instruments, which must be approved by the Engineer shall include but not be limited to the following:</p> <ol style="list-style-type: none"> <li>1. One theodolite and tripod capable of reading to 20 seconds.</li> <li>2. One level with horizontal circle and tripod. 3. Two metric levelling staffs not less than 3.5 metres high.</li> <li>3. One 100 metre rust less steel band, one 30 metre rust less steel tape and two 30 metre linen tapes.</li> </ol>	<p><b>ENGINEER'S FACILITIES</b></p>

	<p>4. An adequate number of ranging rods, drop arrows, wooden setting-out pegs, etc.</p> <p>The contractor shall be solely responsible for all such instruments and equipment and shall ensure that they are at all times in good repair and adjustment.</p>	
SP 21	<p>The Contractor shall provide accommodation for his staff and labour within site only on very specific permission in writing from Engineer and not otherwise. Under normal circumstances, no permission will be granted for such purposes on the site. The provisions should in no way affect the natural ecology of the site. The location shall be approved by Engineer. The type of temporary structures shall also be to the approval of the Engineer.</p> <p>Coal/Fire wood shall not be used for any purpose. All cooking shall be in centralized locations and by kerosene or gas.</p>	<p><b>ACCOMODATION AND OTHER FACILITIES FOR CONTRACTOR'S STAFF AND LABOUR IF PERMITTED</b></p>
SP 22	<p>All staff and labor shall be given identity badges of approved design and these shall be worn whenever the person is moving on the Site.</p>	<p><b>IDENTITY BADGES</b></p>
SP 23	<p><b><u>CONSTRUCTION POWER AND WATER FOR CONSTRUCTION</u></b></p> <p>The Contractor shall arrange for power for construction and temporary buildings / works at his own cost and nothing extra shall be payable on this account.</p> <p>The Contractor shall also install at his own cost a set of mobile Diesel Generator for construction, temporary buildings and temporary lighting in order to take care of power failure and in adequate / fluctuating supply of power. These shall be provided from the date of mobilization up to the commissioning.</p> <p>The contractor shall provide all accessories and cabling as required along with the sets. The contractor shall provide the installation and shall maintain the same in good order for entire duration.</p> <p>The contractor shall then remove and take away all the equipment and accessories and the likes.</p> <p>Water for construction shall be arranged by the Contractor at his own cost and the same is deemed to be included in the quoted rates.</p>	<p><b>CONSTRUCTION POWER</b></p> <p><b>WATER FOR CONSTRUCTION</b></p>
SP 24	<p>The Contractor shall provide sanitation and drainage facilities on the Site as stated subsequently, at his own cost.</p> <p>The Contractor shall strictly control the labour so that the Site is not polluted, made dirty or littered with debris, wastes or the likes</p> <p>Any person found creating mess or litter or pollution shall be removed from the Site immediately at Contractor's cost.</p> <p>The Contractor shall provide sanitation facilities at convenient locations on Site to preserve the cleanliness of the Site. The effluent shall be directed as follows:</p> <p>1. Waste Water: Collection and pumping out and disposal off the Site in</p>	<p><b>SANITATION AND DRAINAGE DURING CONSTRUCTION</b></p>

	<p>approved manner.</p> <p>2. Sewage : Septic Tank Provision – sludge to be collected and disposed off at intervals as directed.</p> <p>The locations of the above provisions shall be as marked on the Site Mobilisation Scheme drawing to be submitted by the Contractor for approval by the Engineer.</p>	
SP 25	<p>The Contractor shall take note of the Site conditions and shall obtain any further details about ambient conditions on his own and take into account while pricing his tender.</p> <p>All items and equipment quoted shall be suitable for satisfactory working under the ambient conditions.</p>	<b>AMBIENT CONDITIONS</b>
SP 26	<p>The Contractor shall provide at his own cost, two Site sign Boards, at directed location of overall size 2 metres wide and 4 metres height and of approved design. The names of the Project, Employer, Consultants, Engineer, Contractor etc. shall be exhibited as directed.</p>	<b>SIGN BOARDS</b>
SP 27	<p><b><u>DRAWINGS AND DOCUMENTS</u></b></p>	<b>General</b>
SP 27.1	<p>The drawings and documents prepared for the project shall be treated as confidential documents and must not be copied or loaned to any other party without the express permission of the Engineer.</p>	<b>Tender Drawings</b>
SP 27.2	<p>The tender drawings furnished by the Consultant are for Tender Purpose only and are intended as a guide to the Contractor and give general layout of buildings and structures and general positions of utilities and services only and in measuring from these drawings and preparing tender quotes the contractor must make due and proper allowance for all necessary diversions from the straight line, rises or falls as may be required for the proper execution of the works.</p> <p>Detail drawings in all cases shall be worked to in preference to those of a more general nature and figured dimensions where indicated shall be followed in preference to scaled dimensions.</p> <p>Should any item of equipment, materials or labour which would reasonably and obviously be inferred as necessary for the complete, safe and satisfactory usage of the Works or part thereof, not be expressly specified, the contractor shall provide and execute such work as a part of the contract at no extra cost to the Employer.</p>	<b>Contract Drawings</b>
SP 27.3	<p>Engineer shall issue from time to time free of charge two sets of Contract Drawings, Approved for Construction, to the Contractor and one copy thereof to the Employer. Additional copies as and when required shall be supplied by the Engineer and costs shall be reimbursed by the Contractor. In case the issue of drawings does not conform to the programme as planned and approved, the contractor shall immediately submit a revised programme so that; by deployment of adequate resources, the Work is completed within the stipulated time period</p> <p>The Engineer may from time to time during the course of contract issue the Contractor with revised contract drawings and the Contractor shall</p>	



<p>SP 27.6</p> <p>SP 27.7</p>	<p>on his request as the Works proceed. 4 sets of "As-Built" drawings shall be submitted by the Contractor. One shall be transparency and others shall be prints.</p> <p>At the discretion of the Engineer and subject only to his express agreement certain working drawings may be modified and submitted to the Engineer as the "As Built" drawings.</p> <p>The Contractor shall also provide the Engineer with two copies in a durable plastic case of the operating and Maintenance Instruction Manuals. The arrangement of these manuals shall be as follows:</p> <p>SECTION A : Index</p> <p>SECTION B : Full set of Indexed Photographs showing all salient features of the Project.</p> <p>SECTION C : Description and details of materials, items and fittings and fixtures used for the project along with Catalogues &amp; Addresses of the Suppliers.</p> <p>SECTION D : Planned maintenance instruction and dates for order replacements.</p> <p>SECTION E : List of recommended Spare parts of consumables.</p> <p>SECTION F : List of "As-Built" Drawings</p> <p>Until the Record Drawings, prints, transparencies and manuals referred to above have been received and approved by the Engineer, the Contract shall not be considered as complete and payment of monies will be withheld until such drawings, etc. have been submitted to and approved by the Engineer and the cost of providing such records including proper submission thereof is deemed to be included in the Contract Sum quoted by the Contractor.</p>	
<p>SP 28</p>	<p>The required Notices shall be at the following nominated addresses:</p> <p><b>EMPLOYERS ADDRESS:</b>  <b>M/s. North East Mega Food Ltd.</b>  Hotel Brahmputra Ashok,  M.G.Road,  Guwahati-781 001</p> <p><b>Project Management Consultant' ADDRESS:</b>  M/S.  <b>Technopak Advisors Pvt. Limited.</b>  <b>4<sup>th</sup> Floor, Tower A, Building no.08,</b>  <b>DLF Cybercity, DLF Phase II,</b>  <b>Gurgaon, NCR, New Delhi</b></p> <p>Website : <a href="http://www.technopak.com">www.technopak.com</a></p>	<p><b>(Ref. Clause 68)  NOTICES</b></p>
<p>SP 29</p>	<p>The Contract shall be firm price contract and the rates and prices quoted shall remain firm throughout the tenure of contract.</p>	<p><b>(Ref. Clause 70  (1)) INCREASE OR  DECREASE OF</b></p>

		<b>COSTS</b>
SP 30	The Contractor shall be responsible to pay all taxes relating to execution and delivery of the Works as also personal and Company taxes of his Staff and his Organization wherever applicable.	<b>TAXATION</b>
SP 31	<ol style="list-style-type: none"> <li>1. The Contractor shall maintain daily weather record. Daily maximum and minimum temperature and corresponding, humidity shall be recorded and charted. Rainy days shall be recorded when the rain lasting more than one hour hampers the work. Any other inclemency in weather shall be recorded. The records shall be regularly shown to the Engineer and his signature obtained.</li> <li>2. The Contractor shall file daily category-wise labour return. The report shall indicate scheduled requirement against actual strength.</li> <li>3. The Contractor shall prepare Weekly Reports of planned and actual progress of work and subsequent week's scheduled work. These will also include material procurement status. These report shall be submitted to Engineer and shall be reviewed in Weekly Co-ordination Meeting.</li> <li>4. The Contractor shall submit Monthly Report along with monthly bills.</li> <li>5. Further Progress Charts and Schedules shall be prepared by the Contractor as directed by the Engineer.</li> </ol>	<b>REPORTS BY CONTRACTOR</b>
SP 32	<p>The rates of extra or additional items of work shall be derived from the rates of items of similar nature in the contract, and in the absence of any such items of similar nature in the contract, the rates for such extra or additional items of work shall be derived by rate analysis of such items based on the actual cost of materials and/or labour for items plus the following percentage to cover the cost of plant and machinery, supervision, overheads and profits etc.</p> <p>a. Items requiring supply of materials, } Cost of labour labour and machinery } plus materials } plus 10%</p> <p>b. Items requiring supply of materials } Cost of material only } plus 15%</p> <p>c. Items requiring labour &amp; supervision } Cost of labour only } plus 10%</p> <p>For such extra items as stated above, the Contractor shall obtain necessary prior approval from the Engineer / Consultants prior to the commencement of such work in writing the Engineer's / Consultants decision in matters of such extra items shall be final and binding on the contractor.</p>	<b>(Ref. Clause 52) VALUE OF VARIATIONS</b>
SP 33	<p><b><u>MISCELLANEOUS</u></b></p> <p>The Contractor shall arrange at his own cost to maintain a progress record of the works by taking postcard size colour photographs minimum 6 Nos. Or more per month or fortnight as directed by the Engineer during the construction stages and after completion and shall supply one set to the Employer and one set to the Consultants at no</p>	

<p>extra cost. These photographs shall also be submitted as part of the contractors R.A Bills.</p>	
<p>The same shall be furnished as per requirement of Chapter 10 of Monthly Progress report in i. e; Progress Charts – Photographs.</p>	<p><b>Monthly Progress Report</b></p>
<p>1) The Contractor will be required to submit periodic reports on the progress of his work as per the format attached herewith as Part –IV – Monthly Progress Report</p>	<p><b>Safety Regulations</b></p>
<p>2) The Contractor shall be fully responsible for the safety of his Employees / Contract Labours / Sub-Contractors Labours. The Contractor shall provide first-aid box readily available at site. The Contractor shall provide all safety measures during supervision/inspection of his work by Engineer.</p>	<p><b>Labour Laws</b></p>
<p>3) The Contractor shall strictly adhere to all labour laws prevailing in that region. The contractor shall make timely payment of wages of their labours and the wages paid to the labours shall be equal to or more than the per minimum wage prevailing at the time of payment. The Contractor shall comply with all applicable labour legislation.</p>	<p><b>Clarification / Discrepancy</b></p>
<p>4) Any clarification/discrepancy in the tender shall be sorted out with the Engineer, before execution of Works. The Engineer's decision in this regard shall be final and binding on the Contractor.</p>	<p><b>Income Tax Deduction at Source</b></p>
<p>5) As per the statutory rules, Income Tax shall be deducted at source by the Employer from Contractors bills and the certificate to that will be given by the Employer. If there is a statutory requirement for deduction of Works Contract Tax or any other tax at source, then such requirement shall be followed and the tax deducted at source (TDS) will be deposited with the authority and certificate to this will be issued to contractor in an approved format.</p>	<p><b>Cement Storage</b></p> <p><b>Loan of Labour</b></p>
<p>6) Contractor shall make covered and water tight storage shed of adequate storage capacity for the necessary quantity of the cement that would be required for the project and needed to be stored from time to time to facilitate the work.</p>	
<p>7) The Employer may, if required, request the assistance of Contractor's labour for purposes other than those forming part of this contract. The Contractor will not unreasonably deny such assistance and the Engineers decision in this regard shall be binding on the Contractor. The Contractor will then be paid on the basis of rates quoted by him in the Day Work Schedule included in the Bill of Quantities and all provisions made in Sub Clause (3) of Clause58 of the General Conditions shall be applicable in this case as well.</p>	<p><b>Power of Attorney</b></p> <p><b>By-Laws of statutory Authorities</b></p> <p><b>Bank Guarantee</b></p>
<p>8) The person signing the tender/contract shall have Power of Attorney to sign on behalf of the Company.</p>	<p><b>Safety Rules</b></p>



	<p>9) The Contractor and his labour shall not violate municipal/sanitation/health or another bye-laws.</p> <p>10) Wherever a Bank Guarantee is required to be submitted by the Contractor, it shall be as per draft enclosed/ available with the Employer to his satisfaction.</p> <p>11) The Contractor shall take all safety precautions / measures and ensure safety for the works, he has been contracted to execute. He shall follow all relevant safety codes of CPWD and IS codes and safety manuals. The Contractor shall indemnify to the Employer from any consequences arising due to Contractor's failure in respect of safety measures.</p>	
SP 34	<p>Quantities in the Schedule of Quantities for various items are approximate. Technopak do not accept any responsibility for the correctness or completeness of the schedule in respect of items and quantities and is liable to alteration by omission, deductions, and substitution or additional at the discretion of Technopak without affecting the terms of contract.</p> <p>The Contractor will not be eligible for any claim in any case of variation in the quantities, as long as total variation in the cost of work as executed remains within 25% of the contract sum.</p>	<b>VARIATION IN QUANTITIES</b>
SP 35	<p>If during the execution of whole of works, it is found that the ultimate value of works as being executed will vary from the contract sum by more than <math>\pm 25\%</math> of the contract sum, the Employer may consider to re-negotiate only the sum by which such limit of <math>\pm 25\%</math> is exceeded, subject to such limit not being exceeded due to termination of contract, in which case the matter shall be dealt in accordance with Clause No.63, 65 and 69.</p> <p>Technopak with the prior approval of the Employer, shall settle this claim with the Contractor. Failing an agreement with the Contractor, Technopak will determine the percentage increase in rates and consider the same in his certification of payments.</p>	<b>VARIATION EXCEEDING</b>
SP 36	<p>The Contractor shall provide arrangements for firefighting at his own cost. For this purpose, he shall provide requisite number of fire extinguishers and adequate number of buckets, some of which are to be always kept filled with sand and some with water. This equipment shall be provided at suitable prominent and easily accessible places and shall be properly maintained.</p> <p>These fire prevention inspections shall include but not limited to the following :</p> <ol style="list-style-type: none"> <li>a) Proper handling, storage and disposal of combustible materials, liquids and wastes.</li> <li>b) Work operations which can create fire hazards.</li> </ol>	<b>Arrangements for fire fighting</b>

	<ul style="list-style-type: none"> <li>c) Access for firefighting equipment.</li> <li>d) Type, size, number and location of fire extinguishers or other firefighting equipment.</li> <li>e) Inspection and maintenance records for extinguishers.</li> <li>f) Type, number and location of containers for the removal of surplus materials and rubbish.</li> <li>g) General housekeeping.</li> </ul>	
<b>SP 37</b>	<p>The contractor should arrange his own <b>medical facilities</b> at project site and should depute a trained first aid supervisor at site for immediate medical assistance. The first aid box should contain all necessary medicines / appliances. Contractor must also arrange for stretcher and provision for ambulance for unexpected emergency.</p> <p>The contractor should arrange for all <b>safety devices</b> including but not limited to the following :</p> <p>Safety Helmet (Ratchet type with plastic cage) and steel toe safety shoe shall be mandatory. Full body safety harness (1.8Mtr double lanyards &amp; scaffold hook ) and fall arrestor with carabiner along vertical and horizontal lifeline shall be mandatory</p>	<b>Medical Facilities &amp; Safety Devices</b>
<b>SP 38</b>	<p>The Contractor shall indemnify and keep indemnified the employer and furnish the indemnity Bond signed by the contractor as per the format provided by the employer along with the terms and conditions.</p>	<b>Indemnification</b>

**NOTES:**

- The rates in the Bill of Quantities shall be filled up in figures as well as in words. All the filled up rates in BOQ shall be inclusive of all taxes, duties, royalties, etc. except VAT & Service tax which shall be separately added below the line.
- Any arithmetic mistakes found after opening the bid, the corrected bid would be accepted. However, any upward revision in the bid would not be accepted and the final price will be conclusive.
- The contractor shall arrange at his own cost for necessary Painting and protection with anticorrosive paint wherever required and final painting of plant and equipment as per approved shade as directed.
- All the tools, tackles, scaffolding materials required for the successful completion of the work shall be arranged by the contractor at his own cost.

**TERMS & CONDITIONS****3. TECHNICAL SPECIFICATIONS.**

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**Scope of Work**

The work contemplated under this contract includes Construction for the aforesaid project, all as detailed in the Bill of Quantities, Specifications and Drawings including supply and execution of work. Quoted Rates deemed to be considered for the same. The cement will be of ACC /Ultra tech / Konark or other approved brand and the steel to be considered for SAIL/TATA/ RINL make or any other approved brand only. For all other materials, ISI approved brand /make to be get approved before using the same.

The work to be executed as per the tender, drawings, and specifications and as approved by the engineering in charge. The measurement for any item to be considered as per IS 1200 unless otherwise it not specified in the tender.

**The Contractor for this work shall be required to work in co-operation and co-ordination with other agencies on site and give them all reasonable assistance and help for the execution of the work in an efficient manner as directed. The words "approved" or "as directed" shall be deemed to convey approval or the discretions of Consultant / client.**

**3.1 EARTH WORK AND EXCAVATION****3.1.1 Excavation**

Excavation for trenches over areas and for pits, etc. shall be done to widths, lines and levels as shown in drawings or to such lesser or greater widths, lines and levels as directed. The bottom and sides of excavation shall be trimmed to required levels, profile, etc. watered and thoroughly rammed. Should any excavation be taken below the specified levels, the contractor shall at his own cost fill up such excavation with cement concrete (M-10) to required levels. Filling in such excavation with excavated material unless specifically approved is prohibited. No extra beyond the PCC size or drawing size of the element will be paid as allowance for excavation. Contractor has to consider the same during submission of tender.

**3.1.2 Dewatering**

All water which may get accumulated in the excavations during the progress of work from whatever cause or source shall be bailed or pumped out as necessary. The rates for excavation shall be deemed to include for the same, if not otherwise specified.

**3.1.3 Timbering to excavation (shoring)**

Where the soil is soft and sides of excavation needs supporting, suitably designed planking and strutting shall be provided and the rates for excavation shall be deemed to include for all planking and strutting as necessary.

#### 3.1.4 Refilling around Foundations

Refilling around foundations shall be done with approved excavated material. Refilling shall be done in layer not exceeding 30cms. Thick, watered adequately and consolidated. The finished surface of filling shall be slightly proud as directed. The rates for refilling around foundations shall be deemed to include for this.

#### 3.1.5 Soil / Rock classification

All materials to be excavated shall be classified by Engineer, into one of the following classes and shall be paid for at the rate tendered for that particular class of material. No distinction shall be made whether the material is dry, moist or wet. The decision of Engineer regarding classification of the material shall be final and binding on contractor and not be a subject matter of any appeal or arbitration. Any earthwork will be classified under any of the following categories :-

#### 3.1.6 Ordinary and Hard Soils

These shall include all kinds of soils containing kankar, sand, silt, Murom and/or shingle, gravel, clay, loam, peat, ash, shale etc. which can generally be excavated by spade, pick-axes and shovel and which is not classified under "soft and decomposed rock" and "hard rock" defined below. This shall also include embedded rock boulders not longer than 1 metre in any direction and not more than 200 mm in any one of the other two directions.

#### 3.1.7 Hard Rock

This shall include all rock occurring in large continuous masses which cannot be removed except by blasting for loosening it. Hardener varieties of rock with or without veins and secondary minerals which, in the opinion of Engineer require blasting shall be considered as hard rock. Concrete work both reinforced and un-reinforced to be dismantled will be measured under this item unless a separate provision is made in the Schedule of Quantities.

#### 3.1.8 Soft and Decomposed Rock

This shall include rock, boulders, slag, chalk, slate, hard mica schist, laterite and all other materials which in the opinion of Engineer is rock but does not need blasting and could be removed with picks, hammer, crow bars, wedges and pneumatic breaking equipment. The mere fact that contractor resorts to blasting for reasons of his own, shall not qualify for classification under "hard rock".

### **3.2 CONTROLLED CONCRETE, PLAIN & REINFORCED CONCRETE**

#### 3.2.1. General

Concrete and reinforced concrete work shall be carried out generally in conformity with the latest Indian Standards IS: 456 except for provisions indicated herein below. All work is to be carried out with utmost precision and up to date scientific know-how and the contractor shall employ thoroughly competent staff to achieve the highest standards.

#### 3.2.2. Cement

Cement for the work shall be ordinary Portland Cement conforming to the latest Indian Standards IS:269 and of the best normal setting quality unless a quick setting quality is expressly instructed in the specifications or otherwise during the course of the work by Consultant. The contractor shall always purchase Portland cement as fresh as possible after manufacture and where there is reason to believe the cement has been long stored, the consultant may demand a Laboratory Test Certificate regarding the character of cement and the contractor shall furnish the same at no extra cost. The Consultant shall reject any cement which in its opinion does not meet the required standards.

All bags and containers in which cement is packed shall be stored in a dry, weather-tight, properly ventilated structure with adequate provision for prevention and absorption of moisture. The contractor shall at all times maintain for the inspection of Consultant a log book indicating the receipt of cement brand and agent from whom obtained and the age of cement. Cement which has caked or perished by being wet or otherwise shall on no account be used on the work.

Cement shall be consumed on the works in the same sequence as that of their receipt at site. Cement reclaimed from cleaning of bags or from spillage from containers or otherwise shall on no account be used.

### 3.2.3. Sand

Sand (fine aggregated) shall generally conform to latest Indian Standards (IS: 383). Sand shall be natural sand, crushed gravel sand or crushed stone sand at the discretion of the Contractor. Use of sea sand is prohibited. It shall be composed of hard siliceous material and shall be clean and of sharp angular grit type. Sand shall be properly graded minimising voids. Allowance for bulkage of sand shall be made.

### 3.2.4. Coarse Aggregate

Coarse aggregate shall be approved hard aggregate generally conforming to latest Indian Standards.

### 3.2.5. Aggregate, Gradation, Storage, etc.

Aggregates shall be stock piled properly and separately on the basis of gradation indicated herein low.

Fine	...	0 to 3 mm (1/8" and down)
Medium	...	3 to 7 mm (1/8" to 5/16")
Course	...	7 to 30 mm (5/16" to 1.1/4")

Aggregates shall be clean and shall not contain any foreign matter, silt, loose or destructive substances, harmful chemicals, etc.

Aggregates shall be stored in proper bins which shall have good drainage to preclude inclusion of foreign matter and preserve the gradation. Sufficient live storage shall be maintained to permit segregation of successive shipment, placing of concrete at the required rate and such procedures as inspection and testing.

If directed, the aggregates shall be washed before use. The grading of aggregates for use in works shall be as per The Indian Standards. Proper sieve analysis shall be carried out to determine the best gradation obtainable from the available aggregates. The sieve analysis shall be performed as per standard practice and as laid out in the relevant Indian Standards.

A complete set of standard sieves shall be provided by the contractor at the construction site at all times. The graphs in connection with the sieve analysis and the standards of approval for the aggregates shall be as per the Indian Standards.

I.S. Sieve Designation	Percentage passing for single sized aggregate of nominal size					Percentage passing for Grading aggregate of nominal size			
	40 mm	20 mm	16 mm	12.5 mm	10 mm	40 mm	20 mm	16 mm	12.5 mm
63 mm	100	-	-	-	-	100	-	-	-

40 mm	85	100	-	-	-	95	100	-	-
20 mm	0 – 20	85 – 100	100	-	-	30 – 70	95 – 100	100	-
16 mm	-	-	85 – 100	100	-	-	-	90 – 100	-
12.5 mm	-	-	-	85 – 100	100	-	-	-	90 – 100
110 mm	0 – 5	0 – 20	0 – 30	0 – 45	85 – 100	10 – 35	25 – 55	30 – 70	40 – 85
4.75 mm	-	0 – 5	0 – 5	0 – 10	0 – 20	0 – 5	0 – 10	0 – 10	0 – 10
2.36 mm	-	-	-	-	0 – 5	-	-	-	-

### 3.2.6. Types of concrete, strengths, etc.

The Bill of Quantities specifies various types of concrete. The strengths corresponding to these types is as per table below.

#### TYPES OF CONCRETE

Sr. No.	Type of Concrete	Compression Strength at 28 days	
		Metric Kg/cm <sup>2</sup>	British Lb/in <sup>2</sup>
1.	M 10	100	1420
2.	M 15	150	2150
3.	M 20	200	2840

Even though the Bill of Quantities specifies various types of concrete, it is possible that the type may be altered to suit the site conditions. The compressive strength indicated above pertains to pressure test on works test cubes 15 cm x 15 cm x 15 cm. after normal Curing for 28 days.

The strength of preliminary test cubes shall be as per IS: 456. The type of concrete for any particular situation or work shall be as per instructions given to the Contractor by the Consultant notwithstanding anything contained in the foregoing clauses.

### 3.2.7. Water

Water for all concrete work shall be clean, free from deleterious matter such as oils, acids, alkalies, sugar and vegetable matter. Every attempt shall be made to use water which is fit for drinking purposes. Water storage facilities provided by the contractor shall be maintained properly to preclude contamination of water by any of the harmful substances. The quantity of water to be added to concrete for mixing, shall be such as to afford workability consistent with strength.

### 3.2.8. Tests of determination of strength of concrete

As will be apparent from the Bill of Quantities, the strength of concrete specified is the criterion and the contractor shall make every effort to obtain the specified strengths by good quality control. In case of concrete which does not obtain the specified strength at 28 days, such work shall be demolished and reconstructed to obtain the requisite strengths as directed by the consultant. To determine whether

concrete in any particular part of the work is of the requisite strength or not, test cubes (works test cubes) shall be made from samples collected from the concrete being poured for the particular part and determined as per acceptance criteria detailed hereinafter. The salient features for the collection of samples is as indicated below:

### 3.2.9. Testing of Concrete Cubes for determining Compression Strength

- i. Quality  
As specified
- ii. Compression Strength  
The Compression strength shall be as specified for the particular type of Concrete.
- iii. **Criteria for acceptance of work**  
Part or element of concrete work shall be deemed to be acceptable, provided the three cubes tested for 28 days strength conform to the following:
  - a) Average of the three cubes strengths shall not be less than the specified strength.
  - b) No individual cube strength shall be less than 90% of the specified strength.
  - c) If any individual cube strength exhibits more than 133% of the specified strength, such cube shall be classified as freak and the criteria in (a) and (b) above, shall be applied for the remaining two cubes only and the acceptability determined.
- iv. Quantum of cubes and testing  
A set of 6 cubes shall be cast per every 50 M3 of concrete.
 

OR

A set of 6 cubes on every day of concreting.

OR

A set of 6 cubes on every important element as decided by the consultant.

The decision of the consultant in this regard shall be final and binding.

### 3.2.10. Minimum compressive strength of 15 m, cubes at 7 and 28 days after mixing, conducted in accordance with IS: 516

Class	Preliminary test kg/cm <sup>2</sup>		Works Test kg/cm <sup>2</sup>		Maximum size of Aggregate mm
	at 7 days	At 28 days	at 7 days	At 28 days	
M 200	175	260	135	200	40 or 20
M 150	135	200	100	150	40 or 20

### 3.2.11. Batching and making of concrete

- i. All batching of aggregates and cement shall be by volume. All the necessary equipment such as measuring boxes, devices for determination of moisture and bulk in sand, slump cone etc. shall be provided by the contractor. Concrete shall be machine mixed until there is a uniform distributing of

materials and uniform colour and consistency is achieved and under no circumstances for less than two minutes.

- ii. A wooden board approximately 30 cms x 40 cms. shall be put up at the concrete mixer on which shall have been legibly written in English and the local language, the quality of concrete that is being mixed, the proportions and other relevant data.
- iii. Cubes  
The size of cubes to be prepared and tested shall be 15 x 15 x 15cm. (6" x 6" x 6").

The number of cubes to be collected from each sample as detailed below shall be six. Three cubes each are intended for testing at 7 and 28 days respectively for determining the strength.

Cubes tested at 7 days should give strength of not less than 70% of the corresponding strength at 28 days. It shall however be expressly understood that the test results at 28 days only shall govern and the 7 days tests are intended to obtain a fair idea only.

- iv. Number of tests

The number of cube tests in a work shall be entirely at the discretion and as directed by the Resident Engineer. Cubes shall generally be collected for various structural members and also for works at various levels. It shall also be collected whenever the usual quality for a particular strength is suspect.

- v. Preparation and Testing of Cubes

Casting of cubes, preparation of moulds for the same, processing and curing the cubes and pressure testing the same shall be as per detailed instructions which will be issued to the contractor from "Client" from time to time or as per relevant Indian Standards as amended up to date and as directed.

- vi. Equipment moulds, testing etc.

It is the entire responsibility of the contractor to prepare and get the cubes tested and provide for all material, labour, moulds, equipment, facility and charges for testing etc. The contractor's rate for concrete work shall be deemed to include for these and no extra whatsoever is admissible on this account.

- vii. Slump

If in the opinion of the consultant, slump cone tests are required to be performed to establish workability the same shall be carried out free of cost. Slump tests are however, to serve as guide only.

### 3.2.12. Admixtures

If found necessary admixtures may be used in concrete subject to approval by Technopak. All admixtures will conform to IS:9103. Admixtures will be procured from reputed manufacturers. Contractor shall submit manufacturer's technical datasheets and test certificates for admixtures to Technopak before the same are used in actual work.

Admixtures shall be melamine polymer base material and free from any chloride compound.



**3.2.13. Formwork**

Generally, all the concrete surfaces are intended to be plastered, unless otherwise specified.

All formwork shall be removed as per latest IS: 456. Formwork shall be removed without shock or vibration. Edges of beams and columns if required to have chamfers shall be obtained by suitably fixing tri-angular edge beads 50 mm x 50 mm. or directed to the forms. (No extra is admissible to the contractor on account of these incidental and minor works for sizes up to and including 50 mm x 50 mm. or as directed. Likewise, where drip notches are necessary, they should be formed by suitably shaped fillets nailed in forms. Formwork for all beams and other horizontal construction members shall be built to an upward camber of 1/300" of the span (in the centre) to nullify the effects of optical illusion. This camber shall be in addition to such camber as may be required and shown in the Static Calculations.

**3.2.14. Transporting and pouring of concrete**

No mixing of concrete shall be started unless the situations where they are to be poured are prepared and kept ready. Concrete shall be poured immediately on preparation. Transportation of concrete shall be done as speedily as possible and also in a manner to prevent segregation of aggregates. No retempered concrete shall be allowed to be used on the works. Concrete, in foundations, cellars or such other situations involving depth, shall not be dumped from a height. It shall be lowered and placed in position by proper arrangements.

Before fresh concrete is placed against an already cast and hardened section, such surfaces shall be roughened, swept clean, moistened with water and treated with cement slurry. Fresh concrete shall then be poured as required. Under no circumstances, will concrete where initial set has commenced be allowed to be used. Dewatering of excavation for concreting where necessary shall be carried out by the contractor as directed and the rates quoted by the contractor are deemed to be inclusive of such dewatering.

**3.2.15. Finish to concrete surfaces**

Finish to concrete surfaces at various situations shall be as per directions of the consultant. Where form finish is specified, the final surface shall be smooth and even and no undulations, ridges, spots etc. shall be permitted. They shall also be laid to pattern as directed. In case surfaces intended and directed for form finish, exhibit any of the defects above mentioned, the surfaces shall be rubbed with carborundum or plastered and finished as directed at the risk and cost of the contractor. The decision as to the acceptability or otherwise of a surface will be notified by the consultant and the contractor will implement the instructions accordingly.

**3.2.16. Concrete cover for reinforcement**

Where not specifically indicated in the drawings, concrete cover for reinforcement shall be as per the latest Indian Standards and as per directions at site from time to time. Proper concrete cover blocks to suit various covers as required shall be provided in adequate numbers sufficiently ahead of the work.

**3.2.17. Curing**

It is very important that all cement concrete work shall be cured properly. All concrete work shall be covered with a layer of sacking, canvas, Hessian or similar absorbent material and kept wet continuously for not less than a fortnight or as directed. Water used for curing shall also be free from any deleterious substances and shall generally be fit for drinking. The work shall be adequately protected from drying, winds and directed sun rays.

**3.2.18. Expansion Joints**

The Expansion joints shall be kept as per the drawings. Thermo Cole / shalitek board / SilFil material, to be used for the expansion joint or as specified by the consultant.

**3.2.19. Mild Steel and Torsteel Reinforcement**

All M.S. reinforcement for concrete work shall conform strictly to the latest Indian Standards (IS: 432 - Part I & II). They shall be of tested quality with a permissible stress value of 1400 kg/cm<sup>2</sup>. Height yield strength Ribbed Torsteel of cold twisted steel for reinforcement shall be of tested quality and shall conform to the relevant Indian Standards (IS: 1786). Reinforcement shall be fabricated to shapes and dimensions shown on the drawing and shall be placed where indicated on the drawings or required to carry out the intent of drawing and specifications or as directed by the consultant. Before placing, reinforcement shall be thoroughly cleaned of loose rust, coating etc. which would result in reducing or destroying the bond. Oiling the bars to clean them is strictly prohibited. Bending, straightening, cutting etc. operations shall be carried out in a manner not injurious to the material.

### 3.2.20. Measurements

All measurements for any item shall be as given below or where not given, as per latest IS: 1200. Concrete will be compensated for according to its actual volume on M3 and according to unit prices. The computation will be based upon the construction plans only and no site measurements shall be taken for this purpose. All incidental work stated in the Technical Specification and also dewatering at the time of concreting are deemed to have been included for in the unit prices quoted by the contractor. Openings with an area larger than 0.1 sq. mm shall be deducted from concrete quantity and where openings are smaller, these shall not be deducted.

Formwork will be measured and paid for according to their contact area. The unit price of the formwork incorporates all scaffolds, nails, clamps and all incidental work. Openings with an area larger than 0.1 m<sup>2</sup> shall be deducted from formwork quantities, the formwork required for sides of such openings shall be paid for. Openings of less than 0.1 m<sup>2</sup> area shall not be deducted from formwork quantities and no allowance for formwork for sides of such openings shall be made.

Reinforcement steel will be compensated for according to the approved bending lists without allowance for cutting, rolling margin and waste, Binding wire, cover blocks etc. will not be measured or paid for separately. The Contractor shall prepare the Bar Bending Schedules and incorporate the same on the reinforcement drawings all as directed and submit it to the consultant for approval.

## **3.3 MASONRY, PLASTERING & PAINTING**

### **3.3.1. Materials**

#### **1. Bricks**

All bricks shall be table moulded, burnt bricks of first class quality. They shall be hard sound and well burnt with sharp edges and of uniform sizes and shapes. Bricks shall be neither under burnt nor over-burnt and shall be free from cracks, stone floats, nodules of lime or other such defects.

When immersed in water for 24 hours, bricks shall not absorb more water than 20% of its dry weight. Minimum compressive strength of the bricks shall not be less than 70 kg/cm<sup>2</sup>.

#### **2. Rubble**

Rubble used for masonry shall be of best locally available variety. They shall be roughly chisel dressed of uniform colour and fairly equal in size on the face. At least 50% of the stones when individually reckoned shall be greater than 0.015 m<sup>3</sup> in volume.

#### **3. Cement and Sand**

Cement and sand used for masonry and plastering work shall conform to the Specifications laid down under "Plain and Reinforced Concrete".

#### 4. Lime

Lime used for plaster work, where lime plaster is specified, shall be best quality eminently hydraulic lime. Lime used for neeru finish shall be good quality fat lime.

#### 5. Additives

Additives, like integral waterproofing compounds, shall be of the approved type from reputed manufacturers. These shall be used strictly in accordance with the manufacturer's instructions.

### 3.3.2 Samples

When demanded by client, the Contractor shall produce samples of materials or carry out tests of samples for Client/consultant's approval. All materials used as also works carried out shall conform to the quality of approved samples. Production of these samples shall be at Contractor's Cost.

### 3.3.3 Brick Masonry

All bricks shall be thoroughly soaked in water before using till the bubbles cease to come up. No half or quarter brick shall be used except as closers. Brick work shall be accurately raised to plumb.

Brick work shall be raised uniformly all round and no part shall be raised more than 1 metre above another at any time.

In case of 11.5 cm. thick brick walls, hoop iron reinforcement 25mm x 12 to 16 gauge shall be provided in every fourth course. The reinforcement shall be properly bedded in mortar, properly legged etc. all as directed.

The contractor will have to build in holdfasts and such other fittings in brick Work without extra cost.

Joints in brick work shall not be more than 10mm thick. Brick work shall not be raised more than 10 to 12 courses a day. The work shall be kept watered thrice a day for 10 days and afterwards twice a day for 1 week. All joints shall be thoroughly flushed with mortar at every course. Care shall be taken to see that bricks are properly bedded and all joints completely filled to the full depth. The joints of brick work shall be raked out to a depth not less than 10mm. as the work proceeds. The surface of brick work shall be cleaned down and watered properly before the mortar sets. The Contractor shall also make or leave holes recesses as required and fill in the same at a later date as directed, at no extra cost.

Weep holes with PVC / UPVC pipes of 6 kg / Cm<sup>2</sup> pressure to be provided as per the design and drawing for the compound walls which will be paid separately in relevant item.

### 3.3.4 Rubble Masonry

All stones shall be soaked in water for a minimum period of 2 hours before being laid in cement or any other mortar as specified.

Stones shall be carefully laid on their natural beds and shall be solidly laid in mortar. No hollow spaces shall be left out. Interspaces shall be filled with smaller stones (hearting stones) and solidly packed in mortar.

Face stones shall be dressed properly to ensure that projections do not exceed 20mm. Stone shall be closely fitted (if necessary with a little dressing) to ensure uniform and close jointed work. Joints in stone masonry shall not exceed 20mm. in thickness. Headers and/or through stones extending to the full thickness of the wall shall be provided one per every square metre of face area.

2" dia. or as approved wide weep holes shall be provided in the walls retaining earth, one for every 5 sq. metres area. The rate quoted for rubble masonry shall include for such works also.

Stones shall be arranged to break joints as much as possible and long vertical joint lines shall be strictly avoided. Quoins or corner stones shall be 25cms. high 45 cms. long and shall be laid header and stretcher alternately. Beds and joints of quoins shall be dressed and squared back to a depth of at least 10cms. The corner of quoins shall have a chisel drafted margin of 40mm on either side. Quoins shall be laid square on their beds.

Where the length of wall is large, expansion gaps shall be kept as instructed by the consultant or as shown in drawings.

All masonry shall be raised in plumb and shall be built in cement mortar 1:5 or as prescribed.

Joints of masonry shall be either raked out to a depth not less than 10 mm. or finished flush as directed.

Masonry shall be thoroughly kept wet for a minimum period of 10 days and cured properly.

### **3.3.5 Concrete Block Masonry**

#### **3.3.5.1. Material for Preparation of Precast Concrete Blocks:**

Unless otherwise specified, cement conforming to IS:269 specification for ordinary and low heat Portland cement shall be used.

Aggregate used in manufacture of blocks shall be free from deleterious matter & the requirements of IS: 383. The fineness modulus of the combined aggregate shall be between 3.6 and 4.

Water used shall be of the quality as mentioned in the specification of water for use in concrete works. Water shall be free from matter likely to cause efflorescence in the units.

If found necessary admixtures may be used in concrete subject to approval by Technopak. All admixtures will conform to IS:9103. Admixtures will be procured from reputed manufacturers. Contractor shall submit manufacturer's technical datasheets and test certificates for admixtures to Technopak before the same are used in actual work.

Admixtures shall be melamine polymer base material and free from any chloride compound.

The Contractor shall submit, for approval, the certificates of laboratory test data or manufacture's certificates for the following:

- i. Portland cement concrete mix
- ii. Aggregate gradations
- iii. Soundness of blocks
- iv. Compressive Strength of blocks

#### **3.3.5.2. Specification of Concrete Blocks**

The properties of concrete blocks shall conform to relevant IS: 2185 (Part 1).

- i. Sizes of Concrete Blocks

Unless otherwise specified, the nominal & actual dimensions of concrete blocks shall be as indicated below.

Nominal sizes in mm			Actual sizes in mm		
Length	Width	Height	Length	Width	Height
400	300	200	390	300	190
400	200	200	390	200	190
400	100	200	390	100	190

In addition, the blocks shall be manufactured in half lengths to correspond to full lengths.

- ii. Classification of Blocks  
Blocks shall be classified as grade A, B, C and D, as specified in clause 4 of IS: 2185 (Part 1).
- iii. Size Variations  
The maximum acceptable variation in sizes of blocks shall be as follows:
 

Variation in length	+ 5 mm
Variation in width & height	+ 3 mm
- iv. Making of Blocks  
Concrete shall be mixed in a mechanical mixer. Blocks shall be moulded, compacted and laid over platform. Unless specified otherwise by Technopak the blocks shall be made in approved type automatic / semiautomatic movable "egg laying" type concrete block making machines, in the sizes as specified or required. On removal from the machine or demoulding the blocks shall be protected until they are sufficiently hardened to permit handling without damage.
- v. Curing and Drying  
Blocks hardened in accordance with above requirements shall then be cured continuously for 14 days in the curing tank or yard with water fountains (as per CL. 6.4 of IS 2185 part I). Before being used in works, blocks shall be dried for a period of 4 weeks. The initial shrinkage shall be allowed to take place before they are used in the works.
- vi. Physical Requirements  
All blocks shall be sound and free of cracks or other defects. For exposed construction, face or faces shall be free of chips or other imperfections, and the overall dimensions of the blocks shall be in accordance with tolerances specified.
- vii. Strength  
Unless specified otherwise, the minimum average compressive strength of units & minimum compressive strength of each individual unit shall be as per Table 2 of IS 2185 (Part I) with latest revision, considering the entire base area of block for calculation of the strength.

**3.3.5.3. Tests**

The following tests are to be conducted as per the method detailed in Appendix A to F of IS 2185 (Part I).

- i. For Measurement of Dimension.
- ii. For determination of Block Density.
- iii. For determination of Comprehensive Strength.
- v. For determination of Absorption.
- vi. For determination of drying shrinkage.
- vii. For determination of Moisture Movement

The test will be conducted on samples of units selected according to the sampling procedure given here under, to ensure conformity with the physical requirements specified.

**3.3.5.4. Sampling**

- i. A sample of 20 block shall be taken from every consignment of 5000 block of part there for the same size and same batch of manufacture. From these samples, the block shall be taken at random for conducting the tests.
- ii. The blocks shall be taken at regular intervals during the course of work, preferably while being loaded or unloaded. In case samples are to be taken from the stacks, blocks shall be taken at random from across the top of the stacks, from the sides accessible and from the interior of the stacks.
- iii. The blocks shall be kept under cover and protected from extreme conditions of temperature, relative humidity and wind until they are required for test. The tests shall be made as soon as the samples have been taken.

**3.3.5.5. Number of Tests**

All the 20 blocks shall be checked for dimensions and inspected for visual defects. Out of the 20 blocks, 3 blocks shall be subjected to the test for block density, 8 blocks to the test for compressive strength, 3 blocks to the test for water absorption and 3 blocks to the test for drying shrinkage and later to the test for moisture movement. The remaining 3 blocks shall be reserved for retest for drying shrinkage and moisture movement if, the need arises.

**3.3.5.6. Approval**

Blocks shall be approved if requirements of the conditions of IS 2185 (Part I) are satisfied.

- i. The number of blocks among those inspected, with dimensions outside the tolerance limit and/or with visual defects, shall not be more than two.
- ii. For Block density and compressive strength, the mean values determined shall be greater than or equal to the minimum limits specified in Table 2 of IS 2185 (part I).
- iii. For drying shrinkage and moisture movement, all the test specimens shall satisfy the requirements of the test. If one or more specimens fail to satisfy the requirements, the remaining 3 blocks shall be subjected to these tests. All blocks shall satisfy the requirements. Drying shrinkage shall not exceed 0.1 percent.
- iv. For water absorption, the mean value determined shall not be more than 10 percent by mass.

### 3.3.5.7. Execution

i) General

All block masonry work shall be laid in cement mortar of required strength and mix. Blocks shall be protected from sun and rain and shall be kept constantly moist on all surfaces before use in the work.

ii) Mortar mix

Unless specified otherwise, the mortar mix for the laying of block masonry work shall be 1:4 (one part cement and four parts coarse sand).

iii) Joints

All joints in block masonry work shall be 10mm thick. The joints shall be properly raked to form an effective key with plaster.

a) Horizontal (Bedding) Joints

Mortar shall be spread over the entire top surface of the block, including front and rear faces as well as the webs, to a uniform layer of one centimetre thickness.

b) Vertical (Cross) Joints

1. For vertical joints, the mortar shall be applied on the vertical edges of the front and rear shells of the blocks. The mortar may be applied either to the unit already placed on the wall or to the next unit to be laid alongside of it. However, it will be more convenient to apply mortar on the edges of the succeeding unit when it is standing vertically and then placing it horizontally well-pressed against the previously laid unit. In any case, whatever the method used for applying mortar, care shall be taken to produce well-compacted vertical joints.

2. In the case of two cell blocks, there may be a slight depression on their vertical sides, which shall also be filled up with mortar to secure greater lateral rigidity.

3. Mortar shall not be spread too far ahead of the actual laying of the units, to ensure that the mortar does not tend to stiffen and lose its plasticity, thereby resulting in poor bond.

4. When the mortar has stiffened slightly, it shall be firmly compacted with a jointing tool. The mortar shall be pressed against the unit, with a jointing tool, after the mortar has stiffened, to effect intimate contact between the mortar and the masonry unit and obtain a weather-tight joint.

5. If necessary, mortar may be added, particularly to the vertical joints, to ensure that they are well-filled.

6. Mortar joints shall be moistened with a fine water spray for about 7 days or, alternatively, masonry shall be covered with polyethylene sheets to retain the moisture, all as approved by the Engineer.

iv) Laying of Blocks

For horizontal joints, all concrete blocks shall be laid with the thicker part of the shell face-up, for easy handling and laying.

Pieces of hollow blocks shall, in no case, be used anywhere. Machine-cut pieces of solid blocks, free of any cracking and chipping, may be used where they are absolutely necessary, subject to prior approval of the Engineer.

All block walls abutting concrete columns or walls shall be bonded to the same at every alternate course of block, with approved 6 mm dia 250 mm long galvanised M.S. dowels or approved G.I. butterfly ties installed in the concrete columns while casting.

Block work construction with hollow blocks shall conform to IS: 2572.

The first course of block masonry shall be laid with great care, making sure that it is properly aligned, levelled and plumbed. This will assist the mason, in laying succeeding courses, to obtain a straight and truly vertical wall. Before laying the first course, the alignment of the wall shall be marked on the foundation footings. The blocks for this course shall first be laid dry, that is without mortar over the footing, using a string tightly stretched between properly located corners of the wall to determine the correct position of the blocks, including those of the cross-walls joining it, and also to adjust their spacing. The two corner blocks shall then be removed, a full mortar bed shall be spread on the footing, and these blocks shall be laid back in place, truly level and plumb. The string shall then be stretched tightly along the faces of the two corner blocks, and the faces of the intermediate ones adjusted to coincide with the line. Thereafter, each block shall be removed and re-laid over a bed of mortar. After every three or four blocks have been laid, their correct alignment, level and verticality shall be carefully checked.

The construction of walls may be started either at the corners or started from one end, proceeding in the other direction. If the corners of the wall are built first, they shall be built four or five courses higher than the centre of the wall. As each course is laid at the corner, it shall be checked with a level or straight-edge to make certain that the faces of the blocks are all in the same plane. Each course, in building the corners, shall be stepped back by a half-block and the horizontal spacing of the block shall be checked by placing a mason's level diagonally across the corners of the block.

When filling in the wall between the corners, a mason's line shall be stretched from corner to corner for each course, and the top outside edge of each block shall be laid to this line.

As each block is laid, excess mortar extruding from the joints shall be cut off with the trowel and thrown back on the mortar board. Should there be any delay, long enough for the mortar to stiffen on the block, the mortar shall be removed to the mortar board and reworked.

Block work shall be constructed only upto a few centimetres below the structural members above, leaving a gap between the block and the structural member. These gaps shall be thoroughly and properly filled with 1:3:6 concrete from both sides, and curing for a few days before plastering or other finishing work is taken up.

In the case of cavity walls, both thickness shall be carried up together and, in no case, shall one thickness be carried up more than two courses in advance of the other.

For unsupported lengths of 100 mm thick walls exceeding 3.5 m, 100 x 200 mm wide R.C.C. mullions shall be provided, at 3.5 m centres and tied to the lintels at door height. Similarly,



continuous R.C.C. beams of size 100 x 150 mm, shall be provided at door height for 100 mm thick walls.

v) Closure Blocks

When installing closure blocks, all edges of the opening and vertical edges of the closure block shall be buttered with mortar. The closure block shall be carefully lowered into place. If any of the mortar falls out, leaving an open joint, the closure block shall be removed, fresh mortar applied and the operation repeated. Closure unit locations shall be staggered throughout the length of wall.

3.3.5.8 Precautionary Measures

The following measures shall be taken to prevent formation of cracks.

- While curing, the block masonry shall be lightly sprinkled with water and not made excessively wet.
  - Expansion joints shall be provided in walls exceeding 30 m in length.
  - Unless otherwise specified, reinforcement steel of 8 mm dia shall be provided in the bed joints in block work, one course above and one course below windows and above doors, in order to distribute the shrinkage/temperature stresses, occurring at the corners of openings, more uniformly throughout the walls, and the cost of such reinforcing steel shall be covered in the rates of relevant items.
  - In framed structures, erection of partition and panel walls shall be delayed to take care of deformations due to structural loads.
  - Partition walls shall be reinforced in alternative courses with two lengths of 8 mm dia steel to strengthen against excessive deflections of floor slabs, and such cost shall be covered in the rates of relevant items. Joints shall be filled with cement sand mortar (1:4).
- i. Height of Masonry Construction  
Block walls are to be constructed upto a maximum height of 1.4m in one lift.
- ii. Bearing Walls
- When two bearing walls meet or intersect and the courses are to be laid up at the same time, a true masonry bond between at least 50 percent of the units, at the intersection, shall be ensured a single reinforcement bar of 8 mm dia shall be provided at every such location within the hollow.
  - Hollows at the intersection of two walls are to be filled and compacted with M20 grade concrete, or as specified. However, concrete pouring shall be stopped 25mm below the top surface of the top course to provide a key for the next pour.
- iii. Rendering and Other Finishes  
Where plastering is required, all joints of block work shall be fully raked to a depth of at least 12 mm while carrying out the block work.

3.3.5.9. Measurement and Rates

All works shall be measured on the basis of finished dimensions and measured net, except where ever specified. Units of measurement shall be as described in items of work.

Rates shall include all materials, labour, scaffolding, preparing the surfaces, mortars, curing and finishing complete to the approval of Technopak. The measurement which is not mentioned in the tender, will be considered as per IS1200 as mentioned above.

### Measurements

#### Masonry

Measurement of masonry shall be taken on the basis of cubic metres or square metres as indicated in the Bill of Quantities. Quantities will be decided on the basis of pertinent plans. Openings & recesses which exceed 0.1 sq.m. will be deducted from quantities. Openings left initially on specific instructions or as required shall be closed at a later date, if so instructed by the consultant, at no extra cost. Similarly, all openings, recesses, grooves etc. shall be provided at no extra cost.

Lintels above door/window openings for openings up to 100cm clear width shall be treated as part of masonry and the cost therefore shall be settled in the same manner as for masonry, irrespective of what material these lintels are made of. For openings of larger than 100cm. clear width, however, lintels shall be paid for under relevant items and due deductions shall be made in masonry.

### **3.3.6 Plastering**

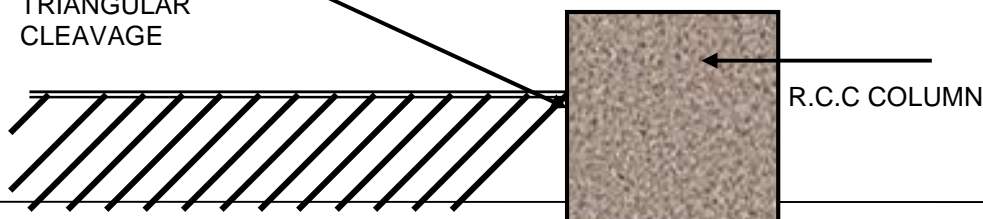
Plastering work in general shall proceed from top to bottom. An entire unobstructed area shall be plastered in one operation. The surface to be plastered shall be thoroughly cleaned, watered and roughened to provide key. Joints in brick work shall be raked out and cleaned. The surface shall be watered and well wetted for at least 24 hours before the commencement of work.

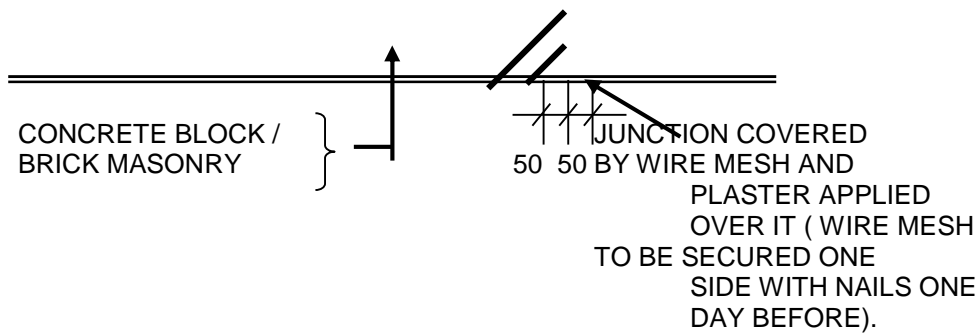
The surface to be plastered shall first be dubbed with cement mortar 1:5 to cover all irregularities on faces up to the proudest part. The dubbed surfaces shall then be scored to provide key. Cement plaster of the specified thickness shall be applied over this surface. Where neeru finish is required to be provided over plaster, the finish shall be applied before base plaster has set and be finished smooth. Neeru for this shall be prepared from best quality fat lime, slaked with fresh water and sifted in accordance with relevant Indian Standard Code of Practice. The lime so slaked and sifted shall be ground to a fine paste in a mortar mill (150 turns). Chopped Hessian or jute fibre may be added in required quantity to provide strength, if approved by the consultant. All the above operations shall be carried out at site and only such quantity as shall be used within the next 7-10days shall be prepared at one time.

The entire plastered work shall be truly vertical and to proper lines and levels. All exposed angles shall be carefully flushed to provide a neat and even surface. Any work that does not conform to approved samples or is not to the satisfaction of the consultant shall be rejected and the contractor shall be liable to redo the work at his own cost.

Where plastering is to be done over junction of two different materials (e.g.) concrete, masonry, lintels, sleeper beams etc., the junction shall be covered by a chicken mesh of 100 mm width with margins on either side and then the plaster shall be applied. Where only one of the materials is plastered over, the plaster at junction shall be struck to obtain a cleavage as shown below:

JUNCTION STRUCK TO OBTAIN  
TRIANGULAR  
CLEAVAGE





Where waterproofing compound is specified to be provided in mortar for plaster, approved integral waterproofing compounds shall be used. These shall be used and plastering work shall be carried out strictly as per manufacture's recommendations.

### 3.3.7 Damp proof Course (D.P.C.)

Damp proof course shall be provided over all walls as directed. Concrete for damp proof course shall be of M 15 grade, as defined under "Concrete" Sections and shall be 5 cm. thick and to the full width of the wall. An integral waterproofing compound shall be provided in the concrete in the proportion specified by manufacturer. The rate quoted for D.P.C. shall be inclusive of the integral waterproofing compound as also for shuttering required.

Alternately, layer of roof felt of appropriate width and conforming to IS: 1322 may be provided over a hot coat of bitumen.

### 3.3.8 White Wash & Colour Wash

#### Surface Preparation

The surface shall be thoroughly brushed free from mortar droppings and foreign matters. All plaster damages shall be made good by cement sand mortar and curing it sufficiently before the painting work is taken up.

#### Material

The white wash shall be prepared from fresh shall lime to which shall be admixed with sufficient quantity of whiting and gum. The lime and whiting shall be made into thin cream and screened through clean coarse cloth. 40 gms of gum dissolved in hot water shall be added to each 10 cu. Decimetre of the cream. Indigo upto 3 gms per kg. Of lime dissolved in water shall them be added to the composition. Water at the rate of about 5 litre per kg. Of lime shall be added to produce a milky solution.

#### Application

In case of colour washing approved mineral colours not affected by lime shall be added to the white wash in required quantities instead of Oindigo.

The wash shall be applied with approved brushes in minimum 3 coats. Each coat shall be allowed to dry before applying the next. Inc case the surface does not present a smooth and uniform finish throughout to the satisfaction of Engineer. More coats shall be added as required at no extra cost.

The finish dry surface shall not be powdery and shall not readily come off on the hand when rubbed.

**3.3.9 RCC Hume Pipes**

Where RCC Hume Pipes are required to be provided, it shall conform to the following specifications:-

- The RCC Hume Pipes should be spun type pipes with necessary reinforcement & be conforming to latest Indian Standard IS: 485. The accessories & fixing procedure to be as per the IS code.

### **3.4 ROAD WORK**

#### **3.4.1 Materials**

Stone for soling shall be approved hard variety stone and as specified for rubble packing hereinbefore.

Stone for metalling (water bound macadam) shall be approved hard variety (Besalt) stone graded from 50mm down to 15mm. Size shall be as defined in the relevant IRC or equivalent Standards.

Stone for premix macadam work shall be of hard quality suitably graded.

Binder required for the premix macadam work shall be cutback, shelspar B.S. Special Grade or other equivalent and of approved manufacture.

Kerb stones and water tables shall be approved variety hard blue trap stone or other type and of size indicated in the Bill of Quantities. The stones shall be dressed on all faces.

#### Collection and stacking of materials

The materials shall be collected and stacked in a systematic manner on either side of the road with a fairly wide margin. The road being divided to approximate divisions longitudinally material required for each such part length of the road shall be contained and stacked in that length only. Where grading is specified the material shall be stacked in distinct piles for different sizes.

Where average thickness exceeds the average thickness specified in the item, the extra depth shall not be paid for unless the same had been carried out under the orders of the Engineer-in-Charge. Where however such average thickness is found on measurements to fall short of the average thickness specified in the item the contractor rate will be reduced for the shortfall in thickness.

**3.4.2 Guarantee**

The stacking ground shall be fairly level to facilitate checking the quantity of materials collected and the quantity incorporated in the road subsequently.

Properly sealed bitumen containers (drums) shall be stored in a distinct place/store as directed.

**3.4.3 Preparation of Subgrade**

After excavation and/or filling is performed to the required levels, chambers, gradient etc the subgrade shall be trimmed properly. It shall then be rolled with 8 to 10 power roller adequately watering the subgrade as the rolling proceeds. Soft patches, pockets, etc. in the subgrade shall be excavated and these shall be filled in with approved variety hard Murom before rolling of the subgrade is commenced.

**3.4.4. Soling**

Soling shall be prepared all as specified herein before under 'Rubble Soling' (Clause 2.9). The thickness of soling shall be as specified in the Bill of Quantities and soling shall be laid in one layer. It shall be laid to proper levels, gradients and cambers all as directed. It shall be rolled and consolidated by 8 to 10 T. power roller. The finished surface of soling shall present a neat hard surface.

**3.4.5 Metalling (Water bound Macadam)**

Metal shall be mixed in the following proportions:

75 mm size : 50%

38 mm size : 25%

19 mm size : 25%

Screenings required for blindage shall be from 12 mm. down to dust.

Metalling shall be spread in one layer to the required thickness (as specified in the Bill of Quantities). In spreading care shall be taken to take bigger pieces to the bottom and smaller to the top. Spreading shall be finished to proper camber etc. by means of suitable templates placed at intervals as directed. The rolling of water bound macadam surface shall be done with a 8 to 10 ton power roller.

Rolling shall always be from edges to centre.

Dry rolling (no water) shall first be carried out to an extent such that the roller makes no further impression. The surfaces shall then be adequately watered and screenings shall be spread over the surfaces to a thickness of 12mm. This shall again be rolled and consolidated properly to furnish a neat surface to proper camber, gradient, super elevation etc.

**3.4.6 Premix macadam**

Before premix work is started, it is essential that the road surface should be clean, free from dust and completely dry.

Premix macadam shall be 50mm thick (consolidated thickness) consisting of 38mm. thick base coat and 12mm thick seal coat (premix chippings). The metal for base coat shall be in 2 sizes mixed as indicated below:

50 mm premix macadam	Base Coat	Premix chipping Seal Coat
	38 mm thick	12 mm thick
	Metal Sizes	Chipping sizes
	25 mm – 75%	6 mm
	19 mm – 25%	

The quantity of binder both for base coat and seal coat shall be at the rate of 64 kgs. per cubic metre. The application temperature for the binder shall be strictly as per manufactures specifications.

The mixing of bitumen and aggregates shall be carried out in approved mechanical mixers to ensure uniformity and accuracy of mixing.

The road surface which is swept clean and completely dry shall be covered with premixed aggregates material to required thickness. The spreading shall be done with the help of templates to ensure correct camber, gradient etc. The base coat shall first be applied and rolled adequately with a 8 to 10 ton power roller from edges to centre. The base coat shall be finished to camber gradient etc. as directed.

Over the thus finished surface a premix chippings seal coat shall be applied and consolidated in the same manner as for the base coat. The pre-coat chippings shall be spread at the rate of 0.017 m<sup>3</sup> per every m<sup>2</sup> of surface. The final surface shall strictly conform to the required levels, camber, gradient etc.

#### 3.4.7 Kerb Stones

These shall be laid straight or to curves as directed. Kerb stones shall be founded on cement concrete foundations. They shall be laid jointed and pointed flush in cement mortar (1:4). The joints shall not exceed 12 mm. in thickness.

#### 3.4.8 General

The entire road work shall be carried out in an orderly manner and as per directions issued from time to time. The Contractor shall, if so directed leave side entrance holes in curbs for drainage purposes as directed without any extra cost. Generally the MOST (Ministry of Road and Surface Transport) specification to be followed wherever the same is not mentioned. Vibratory/Pneumatic roller to be used for compaction in road work to get better result as directed by the engineer in-charge.

#### 3.4.9 Specifications for Geogrid & Geotextile Fabric:

Structural Soil Reinforcement Geogrid – The geo grid shall be integrally formed and deployed as a single layer having the following characteristics (ALL VALUES ARE MINIMUM AVERAGE ROLL VALUES UNLESS A RANGE OR CHARACTERISTIC IS INDICATED):

Property	Test Method	Units	Type 2
Aperture Stability	Kinney - 01	cm-kg/deg	6.5
Modulus at 20 cm-kg	Observation	N/A	Rectangular
Rib Shape			

Rib Thickness	Calipered	in (mm)	or Square 0.05 (1.27)
Nominal Aperture Size	I.D. Calipered	in (mm)	1.0 to 1.5 (25 to 33)
Junction Efficiency	GRI-GG2-87	%	93
Flexural Rigidity	ASTM D1388-96	mg-cm	750,000
Minimum True Initial Modulus in Use	ASTM D6637-01		
-	MD	lb/ft (kN/m)	27,420 (410)
-	CMD	lb/ft (kN/m)	44,550 (620)

Geotextile fabric:

Furnish fabric conforming to the following physical properties:

	<b>TEST METHOD</b>	<b>VALUE[1]</b>
Minimum grab tensile strength	ASTM D 4632	170 lb. (750 N)
Minimum puncture strength	ASTM D 4833	70 lb. (300 N)
Maximum apparent opening size	ASTM D 4751 No.	70 (212 µm)
Minimum permittivity	ASTM D 4491	0.35 s-1



## 3.4.10

**MAJOR LIST OF IS CODES**

Sr. no.	Description of item	IS-code
<b>A</b>	<b>Earthwork</b>	
	1) Soil Testing(Grain size dist, triaxial test, box shear test,etc.)	IS-2720-1970-92(Part-1 to 42)
	2) Safety Earth work	IS-3764
	3) Pre-constructional anti-termite treatment	IS-6313(part-2-3)-1981
<b>B</b>	<b>Soiling</b>	
	1) Brickbat soiling	IS-5779:1986
<b>C</b>	<b>Pipes</b>	
	1) NP2 pipe including collars and caulking of joints	IS:458:1988
	2) H.D.P Pipes for water supply	IS:4984:1995
	3) Salt Glazed stone ware pipes	IS:651-1992
	4) Laying of concrete pipes	IS: 783
	5) P.V.C pipes for potable water	IS:4985: 2000
	6) P.V.C pipe fitting	IS:7834 (part-1to8)1987
	7) P.V.C fabricated fitting	IS:10124 (part-1to13) 1988
	8) Cast Iron pipes	IS:1536&1537
<b>D</b>	<b>Concrete work</b>	
	1) Providing and Laying of cement concrete	IS-456:2000,IS-1200(Part:2)1974
	2) Concrete structure for storage of liquid	IS-3370(part1&2)1965
	3) Read mix concrete	IS-4926:2000
	4) Admixtures	IS-9103:1999
	5) Cement	IS-269
	6) Sand	IS-383
	7) Aggregate	IS-2386
	8) Method of test for strength of concrete	IS-516
	9) Method of sampling and analysis of concrete	IS:1199
	10) Concrete Vibrators	IS:2505
	11) Code practice for laying in site cement	IS:4984
	12) Specification for plywood for concrete	IS:4990
	13) Water used for concrete	IS:3025
<b>E</b>	<b>Reinforced steel bars</b>	
	1) Mild steel bars	IS-432 part1&2
	2) High tensile deform bars	IS-1786:1985
	3) Specification for hard-drawn steel wire for concrete reinforcement	IS-1566:1982
<b>F</b>	<b>Flooring work</b>	
	1) IPS(Granolithic concrete flooring)	IS-5491:1969
	2) Terrazzo tiles	IS-2114:-1984

	3) Ceramic tiles	IS-13711,13712&13630
	4)Specification of Marble	IS-1130:1969
	5)Specification for structural Granite	IS-3316:1974
	6) Glazed earth ware tiles	IS-777
<b>G</b>	<b>Masonry work</b>	
	1) Brick masonry	IS-2212:1991,IS-1200(Part:3)1976
	2) Stone masonry	IS-1597, IS-1200(Part4):1976
	3) Mortar for masonry	IS-2250
	4)CC Block Masonry	IS-2185 part:1 1979
	5)Fly Ash Brick	IS-12894 :- 1990
	6)Steel Scaffolding	IS-2750
<b>H</b>	<b>Plastering work</b>	
	1)Plaster finish	IS-2394:-1984
	2)Sand for plaster	IS-1542:-1992
<b>I</b>	<b>Painting work</b>	
	1)Painting the Concrete, masonry and plaster surface	IS-2395:1994 part1&2
	2)Oil bound distemper	IS:427 & 428:-1968
	3)Acrylic emulsion paint	IS:5411:-1974
	4) Varnishing	IS:347:-1975
	5) Painting of nonferrous metals in building	IS-2524:1968 part1&2
<b>J</b>	<b>Doors &amp; Windows</b>	
	1) Aluminum windows, doors	IS-1948&1949:-1961
	2) Steel windows for industrial buildings	IS-1361:-1978
	3) Steel Door Frames	IS-4351
	4) Timber doors, windows and ventilators	IS-4021
	5) Wooden Flush doors	IS-4020 & IS-2202
	6)Metal rolling shutter and rolling grills	IS-6248:-1979
<b>K</b>	<b>Joints</b>	
	1) Polysuphide joint	IS-11433
	2)Expansion joints	IS-1838 1983
<b>L</b>	<b>Water proofing</b>	
	1)DPC using bitumen felts	IS-1609:-1991
	2)Water proofing lime based	IS-3036:1992
	3)Water proofing of roof with bitumen felt	IS-1346:1991
	4)Water proofing of roof with mastic	IS-4365:1967
	5)Silicon based water repellent	IS-12054:1987
	6)underground water reservoirs	IS-6494:1988
	7) Bituminous compounds for water proofing purpose	IS-1580
<b>M</b>	<b>Steel structures</b>	
	1) Structural Steel	IS-800:1984
	2)Bolts in steel structures	IS-4000:1992
	3)Tolerances for erection of steel structures	IS-12843:1989
	4) Rain water Gutter & down take pipe	IS:2527:1984
	5) Composite construction	IS:3935:1966

<b>N</b>	<b>Road Construction</b>	
	1) Construction & Maintenance of Road	IS:7740:1985
<b>O</b>	<b>Method of measurements</b>	
	1)Earthwork	IS:1200:1992 (Part-1)
	2) Concrete works	IS:1200:1974 (Part-2)
	3)Brick works	IS:1200:1976 (Part-3)
	4) Stone Masonry	IS:1200:1976 (Part-4)
	5)Form work	IS:1200:1982 (Part-5)
	6)Steel works	IS:1200:1993 (Part-8)
	7)Roof covering	IS:1200:1973 (Part-9)
	8)Ceiling and linings	IS:1200:1973 (Part-10)
	9)Paving, Floor finish, dado	IS:1200:1977 (Part-11)
	10)Plastering and pointing	IS:1200:1976 (Part-12)
	11)White washing, Colour washing, distemper	IS:1200:1994 (Part-13)
	12) Painting, polishing and varnishing	IS:1200:1987 (Part-15)
	13)Water and Sewer lines	IS:1200:1979 (Part-16)
	14) Road work	IS:1200:1985 (Part-17)
	15) Demolition	IS:1200:1974 (Part-18)
	16)Water supply and plumbing	IS:1200:1981 (Part-19)
	17)Wood works	IS:1200:1973 (Part-21)

## 4.0

**Bill of Quantities**

Sl. No.	Item Details	Unit	Quantity	RATE	AMOUNT
	<b>Earthwork in Excavation :</b>				
1	Earthwork in excavation for foundation, trenches of walls, underground reservoir, retaining walls, footings of columns, steps, septic tank etc. including dewatering if required, refilling the quantity as necessary after completion of work, breaking clods in return filling, dressing, watering, ramming etc. & removal of surplus earth with all lead & lifts as directed & specified in following classifications of soils including bailing out water where necessary as directed & specified. (by both manually / mechanically means)				
	(a) In ordinary soil upto a depth of 2.5m from existing ground level.	Cum	320		
2	Providing cushion below foundation, flooring base, septic tank, underground water tank, tie beams, etc. with stone soling well compacted and mixed with stone dust packed with stone aggregate of size 40mm to 60mm.				
		Cum	115		
3	Earth /river sand filling in plinth or wherever required in layer not more than 300mm thick including necessary watering, ramming (mechanical) etc. complete as directed and specified.				
	a) With approved earth to be brought from outside.	Cum	1600		
4	Consolidating the sub grade after profusely watering using 20 - 30T capacity pneumatic vibratory Roller including finishing to required levels, gradient, camber etc. This item shall be operated only wherever directed by the Engineer in Charge.	Sqm	415		
	<b>Plain Cement Concrete Works :</b>				
5	Plain cement concrete works with coarse aggregate of sizes 13mm to 32mm in foundation bed for footing steps, walls, brick works, string of lacing courses, anchor blocks, window sill, etc. including dewatering if necessary and curing complete (shuttering where necessary shall be measured & paid separately).				
	(a) In prop. 1 cement : 4 sand : 8 coarse aggregate by volume	Cum	30		
	(b) In prop. 1 cement : 3 sand : 6 coarse aggregate by volume	Cum	35		
	(c) In prop. 1 cement : 2 sand : 4 coarse aggregate by volume	Cum	55		
6	Damp Proof Course :				

	Laying 40mm thick damp proof course with cement concrete in prop. 1:1.5:3 with graded stone aggregate of 12mm down nominal size including approved damp proof admixture in proportion as recommended by the manufacturer including curing etc. complete as directed.	Sqmt	45		
7	<b>Reinforcement Cement Concrete :</b>				
	Laying reinforced cement concrete works in proportion 1:1.5:3 (1 cement: 1.5 coarse sand : 3 graded stone 20mm down) including dewatering if necessary, & curing complete.				
	i) In sub structure up to plinth level. (Foundation, footing, columns with base, tie / plinth beam, RCC wall and the like and other works up to plinth level).	Cum	70		
8	<b>Reinforcement Steel :</b>				
	Fitting and fixing in position reinforcement bars conforming to relevant I.S. Code for RCC work/RB wall including straightening, cleaning, cutting and bending to proper shapes and length with proper blocks, supports, chairs, spacers etc. complete as per details for all floors.				
	(a) ISI approved HYSD bar (Tor steel)	Kg.	10000		
9	<b>Shuttering :</b>				
	Form work of ordinary timber planking/shuttering ply /steel plates shuttering so as to give a rough finish including centering, shuttering, strutting and propping etc. and removal of the same for in-situ reinforced concrete and plain concrete work as specified in drawing & details.				
	(a) In sub-structure up to plinth level (Foundation, footing, base of column, tie beam, raft, walls of septic tank, inspection pit, RCC wall and the like up to plinth level.)	Sqmt	275		
	(b) In super structure from plinth level up to a height of 3.50m.	Sqmt	45		
10	Soling in foundation and under floor at all levels with stone/best quality picked jhama bricks, sand packed and laid to level and in panel after preparing the sub grade as directed by the Owner/ Consultant and if necessary dewatering, complete				
	(a) Brick on flat soling	Sqm	700		
11	<b>Brickwork :</b>				
	(a) 230mm thick Brick work in sub structure in proportion 1:6 with 1 <sup>st</sup> class bricks. (i) 230mm thick Brick work in proportion 1:6	Cum	85		

	(ii) In super structure above plinth with 1 <sup>st</sup> class bricks upto 4.00m level.	Cum	15		
	(b) 115mm thick brick work in super structure above plinth level				
	(i) upto 4.00m. level in proportion 1:4 with 1 <sup>st</sup> class bricks.	Sqmt	285		
	<b>Floor bases &amp; Flooring :</b>				
12	Providing sand shingle filling in floor base properly compacted in layers max. over compacted earth /sand work in filling in plinth complete as per drawing and specification or as directed.	Cum	25		
13	40 mm thick cement concrete floor consisting of 25 mm under layer of cement concrete in prop. 1:3:6 (1 cement : 3 coarse sand : 6 coarse aggregate of 12.5 mm and down) and 15 mm thick wearing layer in cement concrete in prop. 1:1:2 (1 cement :1 coarse sand : 2 coarse aggregate of size 10mm down) finished with a floating coat of neat cement finish using cement slurry for bond @ 2.75 kg. per square metre of floor area , wearing layer is to be laid in panels including curing etc. complete as directed.	Sqmt	85		
	<b>Plastering :</b>				
14	15mm thick cement plaster in single coat on fair side of brick/concrete walls for interior plastering up to 1 <sup>st</sup> floor level including rises, internal rounded angle chamfers and or rounded angles not exceeding 80mm in girth and finished even and smooth including curing complete as directed.				
	i) upto 4.00m level	Sqmt	280		
15	Fitting & fixing of angle iron frame for door including MS hinges (4nos per shutter) including necessary lugs as per details and direction including finishing the frames with one coat of red oxide primer and two coats of enamel paint. (Rate of fixing of angle iron frame)				
	(a) ISA 50 x 50 x 6	Kg.	45		
	(b) ISA 35 x 35 x 5	Kg.	QRO		
16	Providing & fixing factory made flush door shutters of approved make of face panels conforming to relevant IS code with necessary wood screws & finishing with 1 coat wood primer & 2 coats of enamel paint.				
	Factory made panel door shutter like Godrej etc. Door fitting & fixing of door shutters including fixing of hinges & all fitting.				
	a) Non-decorative type & block board core of approved brand 35mm thick	Sqm	10		

17	Providing, fitting and fixing PVC door frame of Duroplast make DPF-5060 make suitable for DPS-3720 made from extruded PVC multi chamber hollow section having dimensions of 50mm×60mm (Tolerance + 1mm). Horizontal and vertical sections shall be joined by steel screws after inserting M.S. tubular rectangular galvanized L-shaped brackets of size 100mm×100mm or plastic brackets of size 75mm×75mm with metered cut at the corners. Hinge side of the frame shall be reinforced with M.S. Tubular section of size 40mm×20mm. The frame will be fixed to the column/stiffener/wall with the help of 3nos 75mm long and 4mm dia steel screws and expandable fasteners on each side of the door frame complete in all respects as specified and directed at all levels.	RM	10		
18	Providing, fitting and fixing 24mm thick polymer reinforcement moulded PVC door shutters fixed to the chowkath with necessary hinges, screw, bolts etc. as specified and directed at all levels (including all fittings)				
	24mm thick	Sqm	3		
19	Supplying, fitting and fixing chain link fencing of 10 S.W.G, G.I. Wire 50mm x50mm mesh fitted to M.S angle iron post of 65x65x6mm at 2000mm apart of specification detailed below including supplying, fitting and fixing hooks, eye bolts with nuts, staples and bolts including three horizontal lines of G.I wire 10 S.W.G at top,middle and bottom and with one vertical line to each fencing post for keeping the fencing tight and erect complete, including one coat of primer & painting to M.S angle iron post with approved shade and grouting the base in P.C.C etc.	Sqm	600		
20	Providing surface drain with brick work in cement mortar in prop. 1:5 with 230mm thick side walls and 100mm thick CC (1:3:6) base over one brick bat soling including 15mm thick cement plaster in prop.1:3 finished with a floating coat of cement slurry as directed with necessary earth work in excavation of foundation trenches and refilling the sides after completion of work as per drawing specified.				
	i). 300mm wide and average depth 450mm with bed slope as per site condition with initial depth of 150mm.	Rm	100		

21	Structural steel work(fabrication & erection) in single/fabricated sections with base plates, gusset plates, cleats etc. including cutting, hoisting, welding and fixing in position with bolt & nut & applying 2 coats primer of red oxide zinc chromate coating & 2 coats of approved enamel paint as per drawing & as directed. Section made up of I-section, channel, angle & flats. (Electrodes to be used conforming to IS 6013/7018)	Kg.	3500		
22	Fabrication (fabrication & erection) of sloping roof trusses & supporting girders fabricated out of MS tubular sections with MS base plate, gusset plate, purlin fixing plate for purlins and fitting, hoisting & fixing of purlins for roof & cladding fabricated out of RHS sections including MS cleats, plates including cutting, erection, welding and fixing in position & applying 2 coats of red oxide zinc chromate coating & 2 coats of approved enamel paint of approved brand & manufacture to give an even shade complete as per detail & design. (Electrodes to be used conforming to IS 6013/7018)	Kg.	15000		
23	Providing Pre Painted Galvanized Iron Sheet Roofing (PPGI) at all levels including fitting and fixing with self-drilling, self-tapping screws complete. (Roof trusses, purlins etc. to be measured and paid separately.) TATA Blue scope/ Dyna roof / Durakolor /Wonder Roof or equivalent of 0.50 mm thick	Sqm	1200		
24	Providing Pre Painted Galvalume Sheet Roofing (PPGL) at all levels including fitting and fixing self drilling, self tapping screws complete (Roof trusses, purlins etc. to be measured and paid separately.) 0.50 mm thick	Sqm	300		
25	Providing Pre Painted Galvanized Iron Sheet (PPGI) accessories (Ridges / Valley / Gutter /Flashing) at all levels including fitting and fixing self drilling, self-tapping screws complete complete. Thickness of sheet 0.8mm	Rm	45		
26	Providing, fitting, fixing of 18 gauge aluminum sheet for gutters 4' width with required bolt & nuts on steel framing etc. complete.	Rm	90		
<b>Part-B : SANITARY &amp; WATER SUPPLY WORKS</b>					
1	Providing fitting & fixing vitreous water closet squatting pan (Indian type WC Orissa pattern) with all fittings and fixtures complete incl. cutting and making good to the walls and floors wherever required.(Flushing cistern to be paid separately).				
	Indian type WC Orissa pattern				
	a) White				
	Parry ware/Hind ware/Jaguar make		3		



		Each			
2	Providing, fitting & fixing vitreous china pedestal type water closet(European type WC pan 400mm high) with seat and lead,CP brass hinges and rubber buffers,CI/MS brackets,40 mm dia flush band with fittings incl. painting(Flushing cistern to be paid separately).	Each	2		
3	Supplying, fitting and fixing white PVC flushing cistern with all internal fittings with CI brackets including fitting and fixing standard size CP flush pipes, union clamps etc. complete as directed and specified. (Pipes will be measured separately)				
	I) Hindware make				
	White				
	(i). Sleek + PVC cistern	Each	2		
4	Wash Basin : Providing vitreous china wash basin of with CI/MS brackets, CP brass chain with plug, PVC water pipe including painting of fittings & brackets, cutting & making good the walls wherever required. (pillar cock, stop cocks, waste coupling are to be paid separately)				
	B) Hindware make				
	a). White	Each	2		
5	Providing fitting and fixing mirror with plastic frame of size 500 x 400mm complete as directed and specified.	Each	3		
6	Providing fitting and fixing recessed soap tray/soap dish complete as directed and specified.				
	A) Parryware make	Each	3		
7	Providing and fixing HCI floor trap with gratings 100mm inlet & outlet	Each	2		
8	Supplying, fitting and fixing PVC pipes of 6 kgf/cm <sup>2</sup> (Supreme/Prince) or other ISI approved including joining, fitting & fixing with clamps etc. as necessary complete at all levels including below GL as directed and specified.				
	a). in exposed surface or in trenches.				
	i. 160mm dia	RM	225		
	ii. 110mm dia	Rm	24		
	b.. Concealed by chiseling or breaking brick wall/CC/RCC & making good to the damages.				
	i. 110mm dia	Rm	10		
9	Supplying, fitting and fixing 87.5 degree PVC bend with door of (Supreme/Prince) or other ISI approved including joining, fitting & fixing etc. as necessary complete at all levels including below G.L. as directed and specified.				
	a) In exposed surfaces or in trenches				

	i) 110mm dia	Each	6		
10	Providing, fitting and fixing PVC cowel of ISI make complete as directed and specified.	Each			
	a) In exposed surfaces or in trenches				
	i)90mm dia PVC cowel of ISI make		2		
11	Supplying, Fitting and fixing Ajoy Flow guard CPVC (Chlorinated Polyvinyl Chloride ) pipes having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fitting including clams at 1.0 m spacing including joining of pipes & fitting with one step CPVC solvent cement and testing of joints complete at all level as directed and specified.				
	l) In internal wall - exposed on wall				
	a) 15 mm OD	Rm	27		
	b) 20 mm OD	Rm	18		
	c) 25 mm OD	Rm	145		
12	Supplying & laying 4mm dia wire mesh including over lapping	Sqmt	310		
13	Supply & Installation of 1 HP jet pump with necessary fittings and including necessary electrical cable etc. for its connection, Complete in all respects to the satisfaction of the client.	Set	1		
14	Supply & installation of 1000 Liter PVC Tank with necessary fittings	Nos	1		
15	Bore well of 150 dia. Up to the required dept. to obtain the sufficient yield / quantity of water and insurting the casing pipe and lowering the required pipes as per the requirement. up to the satisfaction of the client.	Nos	1		
<b>Total cost of the Civil work of the PPC</b>			<b>Rs.</b>		<b>-</b>

**5. OFFER:**

The tender is sent with one set of drawings. Please return the tender duly filled in with your quotation signed and accompanied with drawing to:

**NORTH EAST MEGA FOOD PARK LTD.**  
Hotel Brahmaputra Ashok  
M. G. Road,  
**Guwahati- 781 001, Assam**  
Phone : 0361-2736293

**So as to reach not later than 15/02/2016 3:30 PM.**

**Late tenders are liable to be rejected.**

Your Tender shall be submitted in a sealed envelope super subscribed as

**TENDER FOR LAND DEVELOPMENT WORKS, BUILDING & CIVIL WORKS WITH PRE-FABRICATED  
STRUCTURE  
FOR THE PROPOSED PRIMARY PROCESSING CENTRE OF THE NORTH EAST MEGA FOOD PARK  
PROJECT  
AT CHAYGAON, DIST KAMRUP, ASSAM.**

The tender shall be kept valid for acceptance for a period of One month (30 days) from the date of submission.

**PLACE:  
DATE :**

**BIDDER'S SEAL & SIGNATURE**