

TENDER NO: CW/04/2019

TENDER FOR PROPOSED CIVIL WORK OF OIL STORAGE TANKS, ADMIN BUILDING,
WEIGHBRIDGE & TANK LORRY FILING STATION AT JNPT, URAN, NAVI MUMBAI

FOR

LIBERTY OIL MILLS LIMITED.

- **RCC / Structural Consultants:**

M/s. ASSOCIATED CONSULTANTS,
207, Lodha Supremus - II, Road No.22,
Wagle Estate, Thane (W) – 400 604.
Phone – 022 2081 2084 /85

PREFACE

Liberty Oil Mills Limited, a Limited Company having its Corporate Office at Amerchand Mansion, “D” Wing, 16, Madame Cama Road, Colaba, Mumbai-400039 intends to construct the Oil Storage Tanks & Tanker loading facility at JNPT, Uran, Navi Mumbai. The recent tender is for construction of the Civil work of Oil Storage Tanks, Admin Building, Weighbridge & Tank lorry filling station at JNPT.

1. M/s Liberty Oil Mills Limited is the ultimate owner. The Owner / RCC Consultant shall provide overall supervision and inspection and check the measurement of the work done by the contractor, as per contract conditions.
2. M/s Associated Consultants are the RCC / Structural Consultants. They shall interpret the document and provide acceptance oriented inspection of the work.
3. All rights regarding ownership and use of drawings, specifications, reports, etc. prepared by the Consulting Engineers are reserved by them. Such drawings, specifications, reports etc. issued to the contractors shall be used only for the work specified herein and not to be used other than this purpose.

Owner

Contractors

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SECTION – 1

INVITATION TO TENDERER

Sealed **item rate un-conditional** tenders are invited from contractors of repute, having adequate resources, well established in the line and experienced in the execution of similar General works of comparable magnitude for the following work:

1. a. Name & Nature of Work : Liberty Oil Mills Limited,
Civil work of Oil Storage Tanks, Admin Building,
Weighbridge & Tank lorry filling station.

b. Location : Plot No 11, Next to Shell, JNPT, Uran, Navi-Mumbai.

c. Time of Completion : Six calendar months including monsoon
to be counted from date of issue of Letter of Intent.
2. Tender document will be available on the website of the company www.libertyoilmills.com from 6th April, 2019 to 12th April, 2019. The tender fee of Rs. 5000/- (inclusive of GST) is to be submitted at the time of submission of the tender, by way of Demand Draft/ Pay order in favour of Liberty Oil Mills Ltd.
3. Pre-bid meeting will be held in RCC Consultant office on 13th April, 2019 at 11.00 a.m. The contractors compulsorily need to attend the pre-bid meeting or otherwise they will be disqualified.
4. Sealed Tenders shall be received at the office of the RCC Consultants on the above mentioned address on or before 20th April, 2019 not later than 4.00p.m.
5. The Contractor shall also enclose Earnest Money Deposit in the form of Demand Draft/Pay Order from a Nationalized Bank in favor of 'Liberty Oil Mills Limited' payable at Mumbai amounting to **Rs. 5,00,000/- (Rupees Five lakhs only)**. This deposit shall be refunded to the unsuccessful contractors after the owner have awarded the work to one successful contractor, whose deposit shall be adjusted against security deposit.
6. Tenders shall be valid for acceptance for full period of completion of the project from the last date of submission.
7. The owner, Liberty Oil Mills Limited, reserves their right to reject any or all the tenders and accept the lowest or any other tender without assigning any reasons thereof.

Owner

Contractor

SECTION 2

INSTRUCTIONS FOR FILLING IN TENDER

1. The tender shall be submitted in accordance with these instructions and any tender not conforming thereto is liable to be rejected. These instructions shall form part of the Tender and the Contract.
2. The Tender documents comprises of instructions, Tender with Appendices, Conditions of Contract, Form of Agreement, Specifications, Bill of Quantities and Drawings.
3. The tender shall be filled in, signed with all particulars complete and submitted by one duly authorized official of the bidder to do so. The Tenderer shall satisfy the Owner that he is competent and authorized to submit the tender and/or to enter into a legally binding contract with the Owner by furnishing documentary evidence to that effect.
4. The Tender shall be complete with all the documents set out in Para 3 above and other documents set out in these instructions and elsewhere in the Tender documents.
5. **ELIGIBILITY CRITERIA:-**

The Tenderer should have carried out at least 3 similar jobs amounting to Rs. 5,00,00,000/- (Rupees Five Crores) or more in the last 3 years.

Form of Tender with Appendix.

- a. Bill of Quantities and its Abstract, each page duly signed.
 - b. List of Plant/Equipment and Personnel to be employed on the works with qualification & experience along with profile.
 - c. Details of other works tendered for and on hand on the date of submission of tender.
6. The Owner reserves the right to adjust arithmetical or other errors in the tender in accordance with the following general rules. In the event of discrepancy between words and figures quoted, the description in words shall prevail. Similarly in the event of an error in the amount column arising as a result of wrong extension, the unit of item rates shall be regarded as firm and extension amended accordingly.
 7. This is an item rate measurement contract based on priced Bill of Quantities. The item rates shall be valid for the entire duration of the contract and / or extension thereof. The Tenderer shall note that the prices and rates inserted in the Bill of Quantities, are to be the full inclusive value of works described under each item including all costs and expenses including Govt. levies, royalties, GST, taxes, duties & Octroi etc. current as also future as applicable which may be required in and for the construction of the works described whether specifically mentioned or not. However liabilities against all such levies shall be shown separately in Tender. The tender rates shall also include all general risks liabilities and obligations set forth

or implied in the documents on which the tender is based. The Owner will not be responsible for or pay for expenses or losses which may be incurred by any Tenderer in the preparation and submission of the Tender, or in any activity connected therewith. As soon as the successful tenderer is advised of the award of the contract to him all future expenses and all taxes etc. to be incurred by him shall be deemed to be covered by the prices quoted in his tender.

8. The tender shall remain valid for full period of completion of the project from the last date of submission unless otherwise stipulated in the Tender Notice. If the Contractor commits any breach in the performance of any of the terms and conditions of the Tender/contract, the Security Deposit will be forfeited.
9. Before tendering, the Tenderer shall visit the site of works and in any case shall be deemed to have done so in order to acquaint himself with the nature of the site and the conditions in which the works are to be executed.
10. The tender documents duly completed in all respects along with Tender drawings (if any) and all other accompanying documents shall be submitted and delivered as required in the Tender Notice in a plain sealed envelope superscribed "Tender for proposed Civil Work of Oil Storage Tank, Admin Building, Weighbridge & Tank Lorry Filing Station at JNPT, Uran, Navi Mumbai enumerated for "Liberty Oil Mills Limited".
11. The Owner has the right to increase or decrease the quantity that is mentioned in the tender for which no compensations will be paid to the tenderer.
12. The Bill of Quantities is inclusive of Civil Work. Bill of Quantities for Civil Work & Specification is the part of the agreement.

SECTION 3

LETTER OF SUBMISSION

Note: All blanks to be filled in by the Tenderer.

To,
Liberty Oil Mills Limited,
Amerchand Mansion, D Wing,
16, Madame Cama Road
Colaba, Mumbai-400 039.

Gentlemen,

TENDER FOR PROPOSED CIVIL WORK OF OIL STORAGE TANK, ADMIN
BUILDING, WEIGHBRIDGE & TANK LORRY FILLING STATION AT JNPT, URAN,
NAVI MUMBAI.

1. Having inspected the site and having examined the Drawings, Conditions of Contract, Specifications, Bill of Quantities for the above named work and having obtained required clarifications, we, the undersigned offer to carry out the entire work for the sum of Rs. _____ (Rupees _____ Only) or such other sum as may be ascertained in accordance with the said conditions, all in conformity with the said Drawings, Conditions of Contract, Specifications, Bill of Quantities hereto. (hereinafter referred to as Bid Value)
2. We undertake, if our Tender is accepted, to commence the works and complete and deliver the same within the time stipulated in the tender.
3. We agree to abide by this tender for full period of completion of the project from the date fixed for receiving the same and it shall remain binding on us and may be accepted at any time before the expiry of that period and or before the expiry of any further period extended by mutual consent in writing.
4. Until and Unless a formal Agreement is prepared and executed, this tender, together with your written acceptance thereof, shall constitute a binding contract between us together with all the conditions of contract, specifications, bill of quantities and price, drawings and instructions to tenderers.

We understand that you are not bound to accept the lowest or any other tender you may receive without giving any reason.

5. We enclose herewith a Demand Draft /Pay Order from a Nationalized Bank amounting to **Rs. 5,00,000/- (Rupees Five Lakhs only)** in favour of Liberty Oil Mills Limited, payable at Mumbai towards the Earnest Money Deposit.
6. We also enclose herewith a Demand Draft /Pay Order from a Nationalized Bank amounting to **Rs. 5,000/- (Rupees Five Thousand only) (inclusive of GST)** in favour of Liberty Oil Mills Limited, payable at Mumbai towards the Tender Fee.

Signature of Contractor

Date:

(Authorized Signatory)

Details of Demand Draft / Pay order

Name Of Bank	Demand Draft/Pay Order Number	Date of Demand Draft/Pay Order	Amount

SECTION 4:-
APPENDIX TO TENDER

1	Security Deposit	<p>5% of the Bid Value or Rs.25 lakhs, whichever is higher shall be paid by the successful bidder to the Owner within 14 days from the date of issuance of the formal Work Order by way of Demand Draft / Pay Order / Bank Guarantee from Nationalized Bank.</p> <p>This money will be refunded after the virtual completion of the job.</p>
2	Defect Liability Period	6 Months
3	Retention Money	5% amount will be deducted from each running bill duly certified by RCC Consultant, which will be distinct from initial security deposit.
4	Refund of Retention Money	2.5 % will be refunded after virtual completion and 2.5% will be refunded after the defect & liability period as stated above.
5	Time of Completion	6 Calendar Months including monsoon
6	Period of Mobilization	Seven Days from date of Letter of Intent
7	Amount of Damages	<p>The time is the essence of this contract and if the contractor fails to complete the work the owner will be entitled to recover Penalty from the contractor for the delay @ 0.5% of the total value of the contract per week subject to the maximum of 5% of the total value of the contract.</p> <p>The above is without prejudice to the owner's right to recover damages from the contract for breach of any of the conditions of the contract elsewhere provided.</p>
8	Interim payment	<p>Adhoc payment of 75% of the bill submitted by the Contractor on the basis of Joint measurement of the work done within 14 days after receipt of the bill and 25% within 10 days thereafter.</p> <p>Minimum bill amount should be Rs. 25,00,000/- or above.</p>

9.	Period of Submission of Final Measurements & Valuation	:	15 Days
10.	Period of Final Payment	:	30 days after period of submission of final measurements & valuation

SECTION 5

GENERAL INFORMATION & QUALIFICATION OF TENDERER

Form – II

Individuals/Company/Firms/Each Partner of joint venture submitting the tender must complete the information in this form

1.	Full name of the Firm/Company/Individual or Joint venture:	
2.	Head Office address:	
3.	Contact Person name at Head office:	
4.	Telephone number / s:	
5.	Fax number / s:	
6.	Branch Office address, if any:	
7.	Contact Person name at Branch office:	
8.	Telephone / Mob / Landline number / s:	
9.	Fax number / s:	
10.	Email Address:	
11	Place of Registration / Incorporation:	
12	Year of Registration /Incorporation	
13	Details of Mainlines of Business:	

For item 13 you may add supplement paper duly signed.

Note: If the Tender is of Partnership or Jt. Venture as per 1A, above, assurance letter from 1st Tenderer stating to complete the work in case of break- up of Partnership, change of name of firm etc,

Signature & Seal of the Tenderer _____ **Date:**

A) FINANCIAL DATA

Form – III

Tenderers, should provide financial information as detailed below to demonstrate that they meet the Qualifying requirements for shortlisting. Each Tenderer or partner of a Joint Venture must fill the information in this format only. If required, you may use separate sheets to provide complete financial information.

Support of Submitted information, copies of Audited ‘Balance Sheets’ and Profit & Loss Account’ statements for last three (3) years must be attached.

A: Banker’s Details:

Name of the Banker In Full	
<u>Address of the Banker</u>	Telephone No:
	Fax No:
	N.E.F.T.
	Contact Person name:

B: Summaries of actual assets and liabilities for the Last 03 Years.

Financial Information in	Previous Three Years		
	1	2	3
1.Total Assets			
2. Current Assets			
3. Total Liabilities			
4. Current Liabilities			
5. Turnover from Contracting			
6. Profit before Taxes			
7. Profit after Taxes			

Signature & Seal of the Tenderer _____ **Date:** _____

C: Specify sources of credit lines to meet the cash flow demands till overall completion of the order in below mentioned format

	Sources of credit lines	Amount

D: Income tax and GST details:

Permanent Income – Tax Account Number (PAN)	
GST registration number	

(Kindly enclose copies of supporting documents for above information)

E: The Tenderer or Partner of joint venture must submit following documents:

1. Copy of latest Income Tax clearance certificate or latest Income Tax return copy.
2. Copy of latest GST clearance certificate or latest GST return.
3. Solvency Certificate issued by the Banker and to be valid till the validity of the offer.
4. Any litigation pending in the courts of India or abroad.

Signature & Seal of the Tenderer _____ **Date:**

B) CURRENT COMMITMENTS IN HAND

The Tenderer should provide necessary information about their current commitments on all contracts that have been awarded, or for which a 'Letter of Intent' is placed or 'Letter of Acceptance' has been received or for contracts approaching towards completion and full completion certificate has yet to be issued. The information in this regards should be submitted in below mentioned format and separate sheets can be used to furnish necessary details.

In support of submitted information, it is very essential to submit copies of orders in hand or copies of 'Letter of Intent' as the case may be.

	Name & Address of Client	Order number / Reference number & Date	Order Value	Date of Completion as per the order	Estimated date of Completion

Signature & Seal of the Tenderer

Date:

C) DETAILS OF WORKS COMPLETED IN PAST

The Tenderer should provide necessary information about works completed during last 3 years for which completion certificate or performance certificate is already issued by the Client. The information in this regard should be submitted in below mentioned format and separate sheets can be used to furnish necessary details.

In support of submitted information, it is very essential to submit copies of orders executed in past along with satisfactory performance certificate issued clients.

	Name & Address of Client	Order number or Reference number & Date	Order Value	Date of Completion as per the Order	Actual date of Completion
1					

Signature & Seal of the Tenderer_____Date:

D) EXPERIENCE IN SIMILAR WORKS

Reference: - 1

The information about experience in similar works should be submitted in below mentioned format and separate sheets must be used for each reference.

You are advised to furnish details about similar works so as to meet minimum qualifying criteria as stipulated in the Tender. In support of submitted information, it is very essential to submit copies of order / s executed along with satisfactory performances certificate issued by Client / s during last 3 years.

1.	Client's Name:	
2.	Contract / Order number and Date	
3.	Name of the Contract:	
4.	Client's Address in Full:	
5.	Name of Client's Contact person:	
6.	Client's Telephone number / s	
7.	Client's fax number	
8.	Contract / Order value	
9.	Completion Period as per Contract / Order	
10.	Date of Actual completion of Contract / Order	
11.	Brief details of Contract / Order	

Signature & Seal of the Tenderer_____ Date:

Reference: - 2 (if any)

1.	Client's Name:	
2.	Contract / Order number and Date	
3.	Name of the Contract:	
4.	Client's Address in Full:	
5.	Name of Client's Contact person:	
6.	Client's Telephone number / s	
7.	Client's fax number	
8.	Contract / Order value	
9.	Completion Period as per Contract / Order	
10.	Date of Actual completion of Contract / Order	
11.	Brief details of Contract / Order	

Signature & Seal of the Tenderer

Date

E) DETAILS OF KEY PERSONS

Details of key personnel involved in administration and execution of the subject work till completion, are to be furnished. The information in this regard should be submitted in below mentioned format and separate sheets may be used to furnish necessary details, if required.

No.	Name in full	Designation	Qualification	Experience
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

Signature & Seal of the Tenderer

Date:

F). DETAILS OF PLANT AND MACHINERY

You are advised to furnish details regarding 'Plants & Machinery' owned by the Tenderer, which will be using for the subject work. The information in this regard should be submitted in below mentioned format and separate sheets may be used to furnish necessary details, if required.

No.	f Description & Specification of the Equipment	Qty	Year of Purchase	Purchase Value
1.				
2.				
3.				
4.				
5.				

Signature & Seal of the Tenderer

Date:

SECTION – 6

ARTICLES OF AGREEMENT

THIS ARTICLES OF AGREEMENT is made on this _____ day of _____, 2019 between M/s. Liberty Oil Mills Limited, a Company incorporated under the Companies Act, 1956 having its Corporate Office at Amerchand Mansion, D Wing, 16, Madame Cama Road, Colaba, Mumbai – 400 039. (hereinafter called “the Owner”) of the one part

And

M/s. _____ having its registered office at _____ (hereinafter called “the Contactor”) of the other part.

Whereas the Owner is desirous of awarding the construction of Civil Work of Oil Storage Tanks & Admin Building, Tank Lorry Filling Station & Weighbridge (Hereinafter called “the Work”) at JNPT, Uran, NAVI MUMBAI – to the Contractor and has caused Drawings and Bills of Quantities showing and describing the work to be done to be prepared by or under the direction of RCC Consultants.

And whereas the Contractor has supplied to the Owner with a fully priced copy of the said Bills of Quantities (which copy is hereinafter referred to as “the Contract Bills”) and the Contract Bills and Contract Drawings have been signed by/and on behalf of the parties here to.

And whereas the Contractor has deposited the sum of Rs. _____/- (Rupees _____ Only) with the Owner towards the Security Deposit for the due performance of this Agreement.

NOW IT IS HEREBY AGREED AS FOLLOW:-

1. For the consideration hereinafter mentioned the Contractor will subject to the Conditions annexed carry out and complete the work shown upon the Contract Drawings and described by or referred to in the Contract Bills and in the said Conditions.
2. The Owner will pay the Contractor the sum of Rs. _____ (Rupees _____ Only.) (hereinafter referred to as “the **Contract Sum**”) or such other sum as shall become payable hereunder at the time and in the manner specified in the Conditions annexed.
3. The term “the RCC Consultant” in the said Conditions shall mean the said **M/s ASSOCIATED CONSULTANTS**. Or in the event of his ceasing to be the Consultant for

the purpose of this Contract, such other persons as the Owner shall nominate another one in his place instead, with notice to the contractor.

4. The Conditions annexed and Appendix thereto shall be read and construed as forming part of this contract Agreement, and the parties hereto shall respectively abide by, submit themselves to the conditions and perform the agreements on their parts respectively in such Conditions contained.

AS WITNESS our hands this day of 2019.

Signed by the Owner

In the presence of

Witness

Name:

Address:

Signed by the Contractor

In the presence of

Witness

Name:

Address:

(Signature of the Contractor)

(Signature of the Witness)

SECTION: 7

GENERAL CONDITIONS OF CONTRACT

Definitions

- 1.(1)** The contract document consists of Agreement, the General Conditions of the Contract Specifications and drawings including all modifications thereof incorporated in the document before the execution and the Contract Drawings prepared by the RCC Consultant from time to time. These form the contract.
- 1.(2)** Written notices shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an office of the corporation for whom it is intended or if delivered at or sent by registered mail to the last business address known to him who gives the notice or vide email on respective email ids.

2. Contract Document

The Contract Document is complementary. What is called in any one shall be as binding as if called for by all.

So soon as is possible after the execution of this contract, copies of the Specifications, descriptive schedule or other like document necessary for use in carrying the work shall without charge be supplied by the RCC Consultant to the Contractor.

After the award of the Contract, the Contractor shall without charge be supplied with all such further drawings and details as may be prepared by the RCC Consultant from time to time as the work proceeds as are reasonable necessary either or amplify the Contract Drawings or to enable the Contractor to carry out and complete the work in accordance with these conditions provided all such drawings shall be a reasonable development of the work described in the Contract Document.

The Contractor shall keep at site one copy of the Specifications, Description schedule or other like document referred to in this clause and one copy of the Contract Drawing and such other drawings and details supplied to him from time to time and referred to in clause and sub-clause upon the site so as to be available to the RCC Consultant or his representative at all reasonable times.

3. Type of Contract

The Contract shall be an item-rate contract. The Contractor shall be paid for the actual quantity of work done, as measured at site, at the rates quoted by him in the Contracts Bills and agreed to by the Owner.

3A. Schedule of Quantities

The Schedule of Quantities given in the Contract Agreement is provisional and is meant to indicate the intent of the work and to provide a uniform basis for tendering. The Owner

reserves the right to increase or decrease any of the quantities or to totally omit any item of work and the Contractor shall not claim any extras or damages on these grounds.

3B. We agree that, the quantities are for Civil Work of Oil Storage Tanks, Admin Building, Weighbridge & Tank Lorry Filing Station at JNPT, Uran, Navi Mumbai

Any error in description or in quantity or omission of items from the Contract Agreement shall not vitiate this Contract Agreement but shall be treated as a variation.

4. Contract Drawings

4(1) In general the Drawings shall indicate dimensions, position and type of construction, the specifications shall indicate the quantities and the methods. Any work indicated in the Drawings and not mentioned in the Specifications or vice versa shall be furnished as through fully set forth in both. Work not specifically detailed, called for, marked or specified shall be the same as similar parts that are details marked or specified.

4(2) The Contractor's work shall not deviate from the Drawings and the Specifications. The RCC Consultant interpretation of these documents shall be final and without appeal.

4(3) Errors or inconsistency discovered in the Drawings and Specifications shall be promptly brought to the attention of the RCC Consultants through Engineer-in-charge, for interpretation or correction. Local conditions which may affect the work shall likewise be brought to the RCC consultant's attention. If at any time, it is discovered that work is being done which is not in accordance with the contract drawings and specifications the contractor shall correct the work immediately. Corrections of defective work shall not be a basis for any claim for extension of time. The contractor shall not carry on the work except with the approval of the Engineer-in-charge.

4(4) All drawings, Bill of quantities and specifications and copies thereof furnished by the RCC Consultants are his property. They shall not be used on any other work and shall be returned to the Consultants at their request on completion of termination of the Contract.

5. Scope

5(1) Scope: The general character and the scope of the work is illustrated and defined by the Specifications herewith attached and by the signed Drawings. If the Contractor shall find any discrepancy in or divergence between the Contract Drawings and or the specifications he shall immediately give to the RCC Consultants a written intimation specifying the discrepancy or divergence and the Consultants shall issue instructions in regard thereto.

5(2) Extent: The Contractor shall carry out and complete the work in every respect in accordance with this contract and with the directions of and to the reasonable satisfactions of the RCC Consultants / Engineer – in –charge. The Consultants may in his absolute discretion and from time to time issue further drawings, details and / or written directions

and written explanations all of which are collectively referred to as RCC consultant's instructions. All such drawings and instructions shall be consistent with contract document, true developments thereof and reasonably inferable there from.

5(3) Intent: The intention of the Document is to include all labor and materials, equipment and transportation necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the contract document, true developments thereof and reasonably inferable there from. Material of work described in words which so applied have to be a well-known technical grade or trade mark, of standard quality.

6. Facilities and Co-operation

6(1) In the case of work indicated on the Drawings but not indicated in the contract, the Contractor shall provide necessary facilities and co-operation for any Sub-contractor or supplier who may be approved by the Owner. The Contractor shall do all cutting, filling or patching of his work that may be required to make it's several parts come together properly and fit it to receive or be received by work of other Contractors shown upon or reasonably implied by the Drawings and Specifications for the completed structure, and he shall make good after them, as the RCC Consultant / Engineer-in-charge may direct. Any cost caused by the defective or ill-timed work shall be borne by the party responsible therefore.

6(2) The Contractor shall not endanger any work by cutting, excavating or otherwise altering the work and shall not cut or alter the work of any other Contractor except with the consent of the Engineer-in-charge.

7. Site Visit:

Before tendering, the Contractor shall have a visit and examine the site and Satisfy himself as to the nature of the existing roads or other means of communication and the character of the soil and of the excavations, the correct dimensions of the work and the facilities for obtaining any special articles called for in the Contract Document and shall obtain generally his own information on all matters affecting the continuation and progress of the works.

No extra charge made in consequence of any misunderstanding or incorrect information on any of these points, or on the grounds of insufficient description, If the Contractor after visiting the site, find any discrepancies, omissions, ambiguities or conflicts in or among the Contract Documents, or to be in doubt as to their meaning, he shall bring the questions to the RCC Consultant / Owners attention, questions shall not be entertained after the pre-bid meeting.

LICENSE TO ENTER ON SITE FOR THE WORKS ONLY IS GIVEN TO THE SUCCESSFUL CONTRACTOR. :

The main Contractor should allow the other contractor who has been awarded the other work & co-ordinate for dumping the material, execution, allowing using the water & electricity etc. for successful completion of work by both the contractors.

The Contractor shall be allowed admittance to the site or given a license to enter on site on the 'Date of Commencement' stated in the appendix and he shall thereupon and forthwith begin the work and shall regularly proceed with and complete the same on or before the 'Date of Completion' stated in the appendix subject nevertheless to the extension of time hereinafter contained.

8. Progress Chart or Bar Chart

The Contractor shall prepare progress charts and submit the same for approval of the RCC Consultant / Engineer-in-charge and for his record within Fifteen days (15 days) of the Award of the Contract. The charts shall indicate the expected date of commencement and completion of each of the items of the work and shall be in a form approved by the Engineer-in-charge. The Chart shall also indicate the scheduling of samples, Shop Drawings and approvals.

9. Access for RCC Consultant to the Works

The RCC Consultant and his representative shall at all reasonable times have access to the Works and to the Workshops or other places of the Contractor where work is being prepared for the Contract and when work is to be so prepared in workshops or other place of a Sub-Contractor (whether or not a nominated Sub-contractor of these Conditions) the Contractor shall have a term in the Sub-Contract so as to secure a similar right of access to those workshops or places for the RCC Consultant and his representative and shall do all things reasonably necessary to make such right effective.

10. RCC Consultant Status and Decision

10(1) The RCC Consultant shall be the Owner's representative during the Construction period.

The RCC Consultant shall periodically visit the site to familiarize himself generally with the progress and the quality of the work and to determine in general if the work is proceeding in accordance with the Contract Document. He shall not be required to make exhaustive or continuous on site inspections to check the quality of the work and he shall not be responsible for the Contractor's failure to carry out the construction work in accordance with the working drawings, specifications & Contract Document. During such inspections and on the basis of his observations while at the site he shall keep the Owner informed of the progress of the work, shall endeavor to guard the Owner against defects and deficiencies in the work of the Contractor and he shall condemn to the Contract Document. He shall have authority to act on behalf of the Owner only to the extent expressly provided in the Contract Document or otherwise in writing which shall be shown to the Contractor. He shall have authority to stop the work whenever such stoppage may be necessary in his reasonable opinion to ensure the proper execution of the Contract.

10(2) Decision: The RCC Consultant shall within a reasonable time make decisions on all claims of the Owner or the Contractor and all other matters relating to the execution and progress of the work or the interpretation of the Contract Document.

The RCC Consultant may in his absolute discretion and from time to time issue further drawings, details and/or written instructions, written directions and written explanations in regard to:

- A. Variation or modifications of the design.
- B. The quality or quantity of works or the additions or omission or substitution of any work.
- C. Any discrepancy in or divergence between the Drawings and/or specifications.
- D. The removal and /or re-execution of any works executed by the Contractor.
- E. The dismissal from the works of any persons employed thereon.
- F. The opening up for inspection of any work covered up.
- G. The amending and making good of any defects under Defects Liability Period.
- H. The removal from the site of any materials brought thereon by the Contractor and the substitution of any other material therefore.
- J. Assignment and sub-letting.
- K. Delay and extension time.
- L. The postponement of any work to be executed under the provision of this contract.

10(3) Dismissal:

The Contractor shall on the request of the Owner / RCC Consultant / Engineer -in-charge immediately dismiss from the works any person employed thereon by him who may in the opinion of the RCC Consultant be incompetent or misconduct's himself and such person shall not be again employed on the work without the permission of Owner / RCC Consultant / Engineer-in-charge.

11. Engineer -in-charge

The term "Engineer-in-charge" shall mean the person appointed and paid by the Owner and acting under the orders of the Owner / RCC Consultant to inspect the works in the absence of the RCC Consultant; the Contractor shall afford the Engineer-in-charge every facility and assistance for inspecting the works and materials and for checking and measuring time and materials. Neither the Engineer -in-charge nor any representative of the RCC consultant shall have power to set out works or to revoke, alter, enlarge or relax any requirements of the Contractor or to sanction any day work, additions, alternations, deviations or omissions, or any extra work whatever except in so far as such authority may be specially conferred by a written order of the RCC Consultant.

The Engineer-in-charge or any representative of the RCC Consultant shall have to give notice to the Contractor or to his representative of non-approval of any work or materials and such work shall be suspended or the use of such materials shall be discontinued until the decision of the RCC Consultant, is obtained. The works will from time to time be examined by the RCC Consultant, the Engineer-in-charge or the RCC Consultant's representative but such examination shall not in any way exonerate the Contractor from the obligation to remedy any defects which may be found to exist at any stage of the works or after the same is completed. Subject to the limitation of this clause the Contractor shall take instructions only from the RCC Consultant.

12. Contractors filed organization and Equipment

12(1) Engineer -in-charge:

The Contractor shall constantly keep on his work during its progress one or more qualified and competent Engineer-in-Charge who will be responsible for the carrying out of the drawings, Specifications and Schedule of the Quantities, RCC Consultants instructions and directions to the satisfaction of the RCC Consultant / Engineer-in-charge. Any direction or instruction given to him by the RCC Consultant / Engineer-in-charge shall be deemed to have been issued to the Contractor. Attention is called to the importance of requesting instruction from the RCC Consultant before undertaking an work where RCC Consultant's direction or instructions are required. Any such work done in advance of such instructions will be liable to be removed.

12(2) Equipment:

The Contractor shall provide and install all necessary concrete misers, vibrators, hosts, Scaffolding, tools, tackles, plants, all transport for labor material and plant necessary for the proper carrying on execution and completion of the work to the satisfaction of the RCC Consultant.

12(3) Storage of Materials:

The Contractor shall provide erect and maintain proper sheds for the storage and protection of the materials including the owner's supplied materials.

12(4) Sanitary Conveniences:

The Contractor shall provide and erect all necessary sanitary convenience for the Site-staff and the workmen maintain in a clean orderly condition and clean and deodorize the ground after removal.

12(5) Scaffolding, Staging, Guard-rails:

The Contractor shall provide scaffolding, staging, guardrails, temporary stair which shall be required during construction. The support for the scaffolding, staging guard -rails and temporary stairs shall be strong, adequate for the particular situation. The temporary access to the various parts of the structure under construction shall be rigid and strong enough to avoid any chance of mishaps. The arrangement proposed shall be subject to the approval of the Engineer-in-charge.

13. Taxes

The Contractor shall include in the amount of his tender or tender rate the amount of VAT, Works Contract Tax, GST or any other tax duty/octroi or other duties or taxes legally payable as on date of tender & these Taxes are to be shown separately in the Tender. However it shall be assumed that his rates cover for all taxes and duties as applicable till the completion of work and no claim on this account will be entertained by the owner. All new taxes, levies, duties imposed after signing the contract shall be reimbursed by the Owner on production of documentary evidence and only if the contract is fulfilled within

the stipulated time period. If there is any delay on the part of the party, there will be no reimbursement.

14. Statutory obligations, notices, fees and charges

14(1) The Contractor shall comply with and give all notices required by any Government Authority and instrument, rule or order made under any Act of Parliament or any regulation or Bye-law of any local authority relating to the work or with system the same is or will be connected.

14(2) The Contractor shall pay and indemnify the Owner / RCC Consultant against liability in respect of any fees or charges (including any rates and taxes) legally demandable under any Act of Parliament, instrument, rule or order or any regulation or Bye-law or any local authority in respect of the work.

15. Royalties and patent rights

All royalties or other sums payable in respect of supply and use in carrying out the Work as desired by or referred to in the Contract Bills of any patented articles, process or inventions shall be deemed to have been included in the Contract sum, and the Contractor shall indemnify the Owner from and against all claims, proceedings, damages, costs and expenses which may be brought or made against the Owner to which he may be put by reason of the Contractor infringing or being held to have infringed any patent rights in relation to any such articles, processes and inventions.

16. Licenses and Permits for Materials under Government control

Licenses and Permits for all materials under Government control shall be obtained by the Contractor, the Contractor shall include in his tender all transport charges and other expenses likely to be incurred to bring the material to the Site.

17. Water for construction

Water for construction will be arranged by the Contractor at one point anywhere at site. The Contractor has to provide pumps. G.I. pipe line, hose pipes etc & maintain them at his cost.

18. Electricity

Electricity shall be arranged by the contractor. The Contractor has to arrange wires, main switches, switches and power meter etc. for distribution of power & maintain them at his cost. No loose wires switches are permitted. All cables, controls, light fittings, safety devices shall be as per local bodies approved norms.

19. Assignment or sub-letting

The Contractor shall not without the written consent of the Engineer-in-charge assign this Contract, and shall not without the written consent of the Engineer-in-charge (which consent shall not be unreasonably withheld to the prejudice of the Contractor) Sub-let any portion of the work.

20. Separate contracts

The Owner reserves the right to let other Contracts (i.e. waterproofing, electrical, air conditioning, firefighting, painting etc.) connected with his work under similar general conditions. The Contractors should cooperate with one another when their job completion depends on the jobs of one another. If any part of Contractors or Sub-Contractors work for proper execution or result depends upon the previous work of another Contractor, he shall inspect and promptly report to the Engineer-in-charge, if any defects in such work observed that render it unsuitable for his further execution. Failure of the Contractor to so inspect and inform before shall constitute as an acceptance of the other Contractors work as fit and proper. Any further defect arises, the contractor's failure in informing the initial defect in time will be taken as his failure for any rectifications accordingly. The main contractor has to work in coordination with other contractors in respect of work schedule, allowing the work to be done at site, etc.

21. Certificate and payment

21(1) The Contractor should maintain the measurement book in triplicate and all the work to be bill as per the measurements noted in the measurement book. The measurement book to be signed by the RCC Consultant / Engineer-in-Charge. These books are to be maintained till the completion of the work.

21(2) At the period of interim Certificates named in the appendix to these conditions the RCC Consultants / Engineer-in-charge shall issue a certificate stating the amount due to the Contractor from the Owner, and the Contractor be entitled to payment therefore within the period for honoring certificates named in the appendix to these conditions, interim valuations shall be made whenever the RCC Consultants / Engineer-in-charge considers them to be necessary for the purpose of ascertaining the amount to be stated as due in an interim Certificates.

21(3) The amount stated as due in an interim Certificates shall subjects to any agreement between the parties as to stage payments, be the total value of the work executed and of the materials and goods delivered to or adjacent to the work for use thereon up to and including a date not more than seven days before the date of the said Certificates less any amount which may be retained by the Owner (as provided in sub-clause of this condition) and less any installments previously paid under this Condition, provide that such certificates shall only include the value of the said materials and goods as and from such time as they are reasonably, properly and not prematurely brought to or placed adjacent to the work and then only if adequately protected weather or other causalities.

21(4) The Owner may retain the percentage of the work. Materials and goods referred to in Sub-Clause of this condition which is named in the appendix to this conditions as retention

percentage. Provide always that when sum of the amount retained equals the amount named in the said appendix as limit of retain fund or that amount as reduced in pursuance of clause of these conditions, as the case may be, no further amounts shall be retained by virtue of this Sub-Clause.

21(5) So soon as is practicable but before the expiration of the period the length of which is stated in the appendix to these Conditions from the end of the Defects Liability Period also stated in the said appendix or from completion of making good defects under clause of these conditions or from receipt by the RCC Consultant / Engineer-in-charge of the Documents whichever is the latest, the RCC Consultant / Engineer-in-charge shall issue the Final Certificate.

22. Claim for Extra

When any instruction or decision given at site involves an extra or whereby the Contractor may plan to claim an extra, it shall be the responsibility of the Contractor to inform the RCC Consultant /Engineer-in-charge of the extra amount and get written authorization from the Owner before proceeding with the work involved.

Any modification carried out for expending or simplifying work at the request of the Contractor or his representatives shall not be taken as the basis for claiming an extra. However if such modification shall also involve an extra, the rate for such modification shall be settled in advance and written authorization obtained by the Contractor from the RCC Consultant / Engineer-in charge before proceeding with work involved.

The rate of extra items to be worked out and produced as follows:

- a) Cost of actual material (landed at site) & Labor.
- b) 15% to cover all overheads; plant & equipment; supervision; profits, taxes etc.

23. Deduction for uncorrected work

If the Engineer-in-charge deems it inexpedient to correct work damaged or not done in accordance with the Contract, an equitable deduction from the Contract price shall be made therefore.

24. Fluctuations

The Contractor shall not claim any extras for fluctuation of price and the Contract Price shall not be subject to any rise or fall in prices.

25. Unfixed goods and materials

Unfixed materials and goods intended for, delivered to and placed on or adjacent to the work shall not be removed except for use upon the work unless the Engineer-in-charge has consented in writing to such removal which consent shall not be unreasonably withheld.

26. Materials and Workmanship

26(1) All materials and workmanship shall be as per the relevant code of I.S.I Specification and of approved type and the Contractor shall immediately remove from the works any material and / or workmanship which in the opinion of the Engineer-in-charge are defective or unsuitable and shall substitute proper materials and / or workmanship at his own cost. The term approval used in connection with this contract shall mean the approval of the Engineer-in-charge.

26(2) The Contractor shall, if required, submit satisfactory evidence as to the kind and quality of material.

26(3) Where special makes or brands are called for they are mentioned as a standard. Others of equal quality may be used provided approval is first obtained in writing from the Engineer-in-charge. Unless substitutions are requested no deviation from the Specifications will be permitted. Failure to propose the substitution of any article within 30 days after signing of the Contract will be deemed sufficient causes for denial of the request for substitution.

26(4) All materials shall be delivered so as to insure a speedy and uninterrupted progress of the work. Such material shall be stored so as to cause no obstruction and so as to prevent overloading of any portion of the structure, and the Contractor shall be entirely responsible for damage or loss by weather or other cause.

26(5) Within 10 days after signing the Contract, Contractor shall submit for approval of the RCC Consultant / Engineer-in-charge, a complete list of all material he and his Sub-Contractors propose to use in the work of definite brand or make which differ in any respect from those specified; also the particular brand of any article where more than one is specified as a standard. He shall also list items not specifically mentioned in the Specifications but which are reasonably inferred and necessary for the completion of the work.

27. Inspection

All materials and workmanship shall be subject to inspection, examination, and workmanship shall be subject to inspection, examination, and test by the Owner at any and all time during manufactures and / or construction. The Owner shall have the right to reject defective material and workmanship or require its correction. Rejected workmanship shall be satisfactorily replaced with proper material without additional charge therefore and the Contractor shall promptly and remove the rejected material from the works. If the Contractor fails to proceed at once with the replacement of rejected materials and or the correction of defective workmanship, Owner will replace the materials or corrective work for defective workmanship, and charge the cost thereof to the Contractor, or may terminate the right of the Contractor to proceed further with the work.

28. Defect

28(1) The Contractor shall promptly make good at his own cost and to the satisfaction of the Owner/ Engineer-in-charge, all defects, shrinkages or small faults, arising in the opinion of the RCC Consultant / Engineer-in-charge from work or materials not being in accordance with the Drawings or Specification or Schedule of Quantities or the Instruction

of the RCC Consultant, which may appear during construction period & “Defects Liability Period” referred to in the appendix.

28(2) Such defects, shrinkages shall upon direction in writing of the Engineer-in-charge, and within such reasonable time as shall be specified therein be amended and made good by the Contractor, at his own cost unless the Owner shall decide that he ought to be paid for such amending and making good and in case of default the Owner may employ and pay other Contractor to amend and make good such defects, shrinkage, settlement or other faults and all damages loss and expenses consequent thereto shall be made good and borne by the Contractor and such damage, loss or expenses shall be recoverable from him by the Owner or may be deducted by the Owner upon the RCC Consultant / Engineer-in charges certificates in writing from any amount due amount due or may become due to the Contractor or the Owner may, in lieu of such amending and making good by the Contractor deduct from any money's due to Contractor a sum to be determined by the Owner as equivalent to the cost of amending such work and in event of the Retention Amount being insufficient recover the balance from the Contractor, together with any expenses the Owner may have incurred in connection therewith.

29. Possession completion and postponement

29(1) On the date for commencement stated in the appendix to these conditions possession of the site shall be given to the Contractor by the Engineer-in-charge, who shall thereupon being the works and regularly and, diligently proceed with the same, and who shall complete the same on or before the date for Completion stated in the said appendix subject nevertheless to the provisions for extension of time contained of these conditions.

29(2) The Owner may issue instruction in regard to the postponement of any work to be executed under the provisions of this Contract.

29(3) The Contractor's license to enter on site will be automatically seized after completion of the work or after issuing a letter by the RCC Consultant to the contractor to vacate the site under circumstances.

30. If at any time or times before Virtual Completion of the work the Owner shall take possession of any part or part of the same for handing over to the finishing Contractor or other agency, then notwithstanding anything expressed or implied elsewhere in this

30(1) Such part or parts shall not be deemed to be Virtually Complete.

30(2) Virtual Completion of such part or parts would occur on the completion of the last part of the structure under this Contract.

30(3) The Contractor shall not claim that such part or parts are complete and request refund of payments in lieu thereof.

31. Extension:

Upon it becoming reasonably apparent that the progress of the Works is delayed, the Contractor shall forthwith give written notice of the cause of the delay to the Owner, and if in the opinion of the Owner, the completion of the Work is likely to be or has been delayed beyond that date for completion stated in the appendix to these conditions or beyond any extended time previously fixed under this clause.

- 31(1)** By force majeure. Or
- 31(2)** By reason of any exceptionally inclement weather. Or
- 31(3)** By reason of loss or damage occasioned by any one or more of the contingencies referred to in clause of these conditions Or.
- 31(4)** By reason of civil commotion, local combination of workmen strike or lockout affecting any of the trades employed upon the works or any of the trades engaged in the preparation, manufactures or transportation of any of the goods or material required for the work. Or
- 31(5)** By reason of RCC Consultant's / Engineer-in-charge's instruction issued under clauses of these Conditions. Or
- 31(6)** By reason of the Contractor not having received in due time necessary instructions, drawings, details or levels from the Engineer-in-charge for which he specially applied in writing on a date which having regard to the date for completion stated in the appendix to these conditions or to any extension of time then fixed under this clause was neither unreasonably distant from nor unreasonably close to the date which it was necessary for him to receive the same. Or
- 31(7)** By delay on the part of artists, tradesmen or others engaged by the Owner in executing work not forming part of this Contract. Or
- Then the RCC Consultant / Engineer-in-charge shall as soon as he is able to estimate the length of the delay beyond the date or time aforesaid make in writing a fair and reasonable Extension of Time for completion of the works, provided always that the Contractor shall use constantly his best Endeavor's to prevent delay and shall do all that may reasonably be required to the satisfaction of the RCC Consultant / Engineer-in-charge to proceed with the work.

32. Arbitration:

- 32(1)** If any dispute arises between the parties hereto, during the subsistence of the contract the parties hereto shall endeavor to settle such disputes amicably.
- 32(2)** In case the parties fail to settle such disputes within a period of 30 days from reference above the same shall be referred to a sole Arbitrator appointed by the owner.
- 32(3)** The Arbitration proceedings shall be conducted in Mumbai only and the jurisdiction of courts would be Bombay High Court and District Courts Mumbai the same shall be governed by the provisions of the Indian Arbitration & Conciliation Act, 1996 or any statutory modification as may be then in force. The arbitration shall be conducted in English. The order passed by the Arbitrator shall be final and binding upon the Parties.

33. Damages for non-completion

If the Contractor fails to complete the works by the date specified in these Conditions or within any extended time fixed under clause of these conditions and the RCC Consultant / Engineer-in charge's certifies in writing that in opinion the same ought reasonably so to have been completed, the Contractor shall pay or allow to the owner a sum calculated by the way of penalty @ 0.50% of the Contract Price per week of delay, subject to maximum of 5.00 % of the contract price. As agreed Liquidated Damages for the period during which the said work shall so remain or have remained incomplete the Owner may deduct such damages from any money otherwise payable to the Contractor under this Contract.

Virtual Completion and Defects Liability Period

33(1) When in the opinion of the RCC Consultant / Engineer-in-charge the Works are practically completed, he shall forthwith issue a certificate to that effect and Virtual Completion of the Works shall be deemed for all the purpose of this Contract to have taken place on the day named in such certificate. Date of defect liability period will start after 'Taking over' of site by Owner, as described on Page No.9.

33(2) Any defects shrinkage or other faults which shall appear within the "Defects Liability Period" stated in the appendix to these conditions and which are due to materials and workmanship not in accordance with this Contract shall be specified by the Engineer-in charge in a Schedule of Defects which he shall deliver to the Contractor not later than 14 days after the expiration of the said Defects Liability Period and within a reasonable time after receipt of such Schedule the Defects Shrinkage and other faults therein specified shall be made good by the Contractor and (unless the Owner shall otherwise instruct in which case the Contract Sum shall be adjusted accordingly) entirely at his own cost, risk & responsibility.

33(3) Notwithstanding sub-clause of this Condition the Engineer-in-charge / RCC Consultant may whenever he considers it necessary so to do, issue instructions requiring any defect, shrinkages or other fault which shall appear within the Defect Liability Period named in the appendix to these conditions and which is due to materials and workmanship not in accordance with this Contract to be made good and the Contractor shall within a reasonable time after receipt of such instructions comply with the same (and unless the RCC Consultant / Engineer-in-charge shall otherwise instruct in which case the Contract sum shall be adjust accordingly) entirely at his own cost, provided that no such instruction shall be issued after 14 days from the expiration of the said Defects Liability Period.

33(4) When in the opinion of the Owner / RCC Consultant any defects shrinkages or other defaults which he may have required to be made good under sub-clause of this Condition shall have been made good he shall issue a certificate to that effects shall be deemed for all the purpose of this Contract to have taken place on the day named in such certificates.

34. Payments withheld

The Owner may without or on account of subsequently discovered evidence nullify the whole or a part of any certificate to such extent as may be necessary in his reasonable opinion to protect the Owner from loss on account of:

34(1) Defective work not remedied.

34(2) Failure of the Contractor to make payments properly to Sub-Contractor or for materials or labour.

34(3) A reasonable doubt that the Contract can be completed for the balance then unpaid.

34(3) Damage to another Contractor or Sub-Contractor.

When the above grounds are removed payment shall be made for amount withheld because of them.

35. Injury to Persons and property Owner

35(1) The Contractor shall be liable for and shall indemnify the Owner against any liability, loss, claim or proceedings whatsoever arising under any statute or at common law in respect of personal injury to or the death of any person whomsoever arising out of or in the course of or in the course of or caused by the carrying out of the works.

35(2) Except for such loss or damages as is at the risk of the Owner under clause of these Conditions (If applicable) the Contractor shall be liable for and shall indemnify the Owner against any expense, liability, loss, claim, or proceedings in respect of any injury or damages whatsoever to any property real or personal in so far as such injury or damage arises out of or in the course of or by reason of the carrying out of the works, and provided always that the same is due to any negligence omission or default of the Contractor, his servant or agents or of any Sub-Contractor, his servant or agent.

36. Insurance against injury to Person and Property

36(1) Without Prejudice to his liability to indemnify the Owner under clause of these conditions, the Contractor shall maintain and shall cause any Sub-Contractor to maintain

36(2) Such insurance as are necessary to cover the liability of the Contractor or as the case may be of such Sub-Contractor, in respect of personal injuries or deaths arising out of or in the course of or caused by the carrying out of the work or incidental to work or stay at work site; and

36(3) Such insurances as may be specifically required by the Contractor Bills in respect of injury or damage to property real or personal arising out of or in the course of or by reason of the carrying out the work or incidental to work or stay at work site, and caused by any negligence, omission or default of the Contractor, his servants or agents or, as the case may be of such Sub-Contractor, his servants or agents.

The Contractor shall produce or cause any Sub-Contractor to produce for inspection the relevant policy or policies of insurance together with the receipt in respect of premiums paid under such policy or policies as and when required so to do by the Engineer-in-charge provided always that as and when may be reasonably required by the Engineer-in-charge, the production by either the Contractor or any Sub-Contractor of a current certificate of insurance from the company or firm which shall have issued the policy or policies aforesaid shall be a good discharge of the Contractor's obligation to produce or to cause the production of the policy or policies and the receipts in respect of premium paid.

36(4) The Contractor shall maintain in the joint names of the Owner and Contractor such insurances as may required in respect of any expenses, liability, loss, claim, or proceedings which the Owner may incur or sustain by reason of injury or damage to property real or personal arising out of or in the course of or by reason of the carrying out of the work, and caused otherwise than by the negligence, omission or default of the Contractor, his servant or agents or any Sub-Contractor, his servants or agents.

36(5) Any such insurance as is referred to in the immediately preceding paragraph shall be placed with insurers to be approved by the Engineer-in-charge and the Contractor shall have to deposit with him the policy or policies and the receipts in respect of premium paid.

37. Insurance of the works against fire etc.

37(1) The Contractor shall in the joint names of the Owner and Contractor, insure against loss or damages by fire, storm, tempest, lightning, flood, earthquake, aircraft or anything dropped there from, aerial objects, riot and civil commotion for the full value thereof all work executed and all unfixed materials and goods intended for, delivered to and placed on or adjacent to the work, labour camps and laborers and their material assets if located at sites but excluding temporary building plant, tools and equipment owned or hired by the Contractor or any Sub-Contractor and shall keep such work materials and goods so insured until Virtual Completion of the work. Such insurance shall be with insurers approved by the Owner and the Contractor shall deposit with the Owner the policy or policies and the receipts in respect of premiums paid; and should the Contractor make default in insuring or continuing to insure as aforesaid the Owner may himself insure against any risk with respect of which the default shall have occurred and deduct a sum equivalent to the amount paid by him in respect of premium from any monies due to or to become due to the Contractor.

Provide always that if the Contractor shall independently of his obligations under this contract maintain a policy of insurance which covers (inter alia) the said work, materials and goods against the aforesaid contingencies to the full value thereof then the maintenance by the Contractor of such policy shall if the Owners interest is endorsed thereon, be a discharge of the Contractor's obligation to insure in the joint names of the Owner and Contractor and the production by the Contractor as and when may reasonably required by the Owner, of a current certificate of insurance from the company or firm which shall have issued the said policy shall be a discharge of the Contractors obligation to deposit with the Owner a policy or policies and the receipts in respect of premiums paid.

37(2) Upon settlement of any claim under the insurances aforesaid the Contractor with due diligence shall restore work damaged, replace or repair unfixed materials or goods which have been destroyed or injured, remove or dispose of any debris and proceed with the carrying out and completion of the work. All money received from such insurances shall be paid to the Contractor by installments under certificates of the Engineer-in-charge issued at the period of interim certificates named in the appendix to these conditions. The Contractor shall not be entitled to payment in respect of the restoration of work damaged, the replacement and repair of any unfixed materials or goods and the removal and disposal of debris other than the monies received under the said insurances.

37(3) The Contractor is insured for the labour working at site and copy of the insurance letter has to be submitted to the owner.

37(4) The Contractor has to take all the safety precautions for the workers working at site including fire safety.

38. Determination by the Owner

- 38(1)** Default: If the Contractor shall make default in any one or more of the following respect, that is to say:
- 38(1)** If he without reasonable cause wholly suspended the carrying out of the works before completion thereof, or
- 38(2)** If he fails to process regularly with the works, or
- 38(3)** If he refuse or persistently neglects to comply with a written notice from the Owner / RCC Consultant requiring him to remove defective work or improper material or goods and by such refusal or neglect the work is materially affected or.
- 38(4)** If he fails to comply with the provision, then the Owner / RCC Consultant may give him the notice by registered post or recorded delivery specifying the default and if the Contractor either shall continue such a default for 14 days after receipt of such a notice and shall at any time thereafter repeat such a default (whether previously repeated or not). Then the Owner without prejudice to any other rights or remedies may within 10 days after such continuance or repetition of notice by Speed post A D Register post, email or recorded delivery forth with, can terminate the contract without giving any further reasons.
- 38(5)** **Bankruptcy of Contractor:** In the event of the Contractor becoming bankrupt or making a composition or arrangement with his creditors or being a company having a winding up order made or (except for purpose of reconstruction) a resolution for voluntary winding up passed or received by the manager of his business or undertaking duly appointed or possession taken by or on behalf of the holders of any debentures secured by a floating charge, of any property comprised in or subject to the floating charges, the employment of the Contract under this Contract shall be forthwith automatically determined but the said employment may be reinstated and continued if the Owner and the Contractor, his trustee in bankruptcy, liquidator, receiver or manager as the case may be shall so agree.
- 38(6)** The Owner shall be entitled to determine the employment of the Contractor under this Contract, if the Contractor shall have offered or given or agreed to give to any person any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forbore to do any action in relation to the obtaining or execution of this Contract with the Contractor or any other Contract with the Owner, or if the like acts shall have been done by any person employed by the Contract or acting on his behalf (whether with or without the knowledge of the Contractor), or if in relation to this Contract or any other Contract with the Owner the Contractor or any person employed by him or acting on his behalf shall have committed any offence under the prevention of corruption act. Or shall have given any fee or reward of which is an offence under the Local Government Act. In the event of the employment of the

Contractor being determined as aforesaid and so long as it has not been reinstated and continued the following shall be the respective rights and duties of the Owner and Contractor.

- 38(7)** The Owner may employ and pay other persons to carry out and complete the works and he or they may enter upon the Works and use all temporary buildings, plant, machinery, appliances, goods and materials intended for, delivered to and placed on or adjacent to the works and may purchase all materials and goods necessary for the carrying out and completion of the Works.
- 38(8)** The Contractor shall if so required by the Owner or RCC Consultant within 14 days of the date of determination, assign to the Owner without payment the benefit of any Agreement for the supply of materials or goods and / or for the execution of any works for the execution of any works for the purpose of this Contracts but on the terms that a supplier or Sub-Contractor shall be entitled to make any reasonable objection to any further assignment thereof by the Owner. In any case the Owner may pay any supplier or Sub-Contractor for any materials or goods delivered or works executed for the purpose of the Contract (whether before or after the date of determination) in so far as the price thereof has not already been paid by the Contractor. The Owners right under this paragraph is in addition to his rights to pay nominated Sub-Contractors as provided in clause and payments made under this paragraph may be deducted from any sum due or to become due to the Contractor.
- 38(9)** The Contractor shall as and when required in writing by the Engineer-in-charge remove from the works any temporary building, plant, tool, equipments, goods and materials belonging to or hired by him. if within a reasonable time after any such requirements has been made to the contractor, has not complied therewith, then the owner may (but without being responsible for any loss or damage) remove and sell any such property of the contractor, holding the proceeds less all costs incurred to the credit of the contractor.
- 38(10)** The contractor shall allow or pay to the owner in the manner hereinafter appearing the amount of any direct loss and/or damage caused to the owner by the determination. Until after completion of the works under paragraph (a) of this sub-clause the Owner shall not be bound by any provisions of this Contract to make any further payment to the Contractor, but upon such completion and the verification within a reasonable time of the accounts therefore the Engineer – in – charge shall certify the amount of expense properly incurred by the owner and the amount of any direct loss and/or damage caused to the Owner by the determination and if such amounts when added to the monies paid to the Contractor before the date of determination exceed the total amount which would have been payable to the Owner by the Contractor, and if the said amounts, when added to the said money be less than said total amounts the difference shall be a debt payable by the Owner to the contractor.

39. Determination by the Contractor

39(1) Without prejudice to any other rights and remedies which the Contractor may possess, if:

The carrying out of the whole or the whole of the substantially uncompleted works (other than the execution of work required under clause of these conditions) is suspended for a continuous period of the length by reason of:

- Force majeure, Or
- Loss or damage occasioned by any one or more of the contingencies referred to in clause of the conditions (if applicable). Or
- Civil commotion, Or
- Owner/ RCC Consultants instructions issued under clause of these conditions, Or

Then Contractor may thereupon notice by registered post or recorded delivery to the Owner or RCC Consultant forthwith to determine the employment of the Contractor under this Contract; provided to such notice shall not be given unreasonably or vexatious.

39(2) Upon such determination, then without prejudice to the accrued or remedies of either party or to any liability of the classes mentioned in clause of these conditions which may accrue either before the Contractors or any Sub-Contractors shall have removed his or their temporary buildings, plant, machinery, appliances, goods or materials or by reason of his or their so removing the same, the respective rights and liabilities of the Contractor and the Owner shall be as follows that is to say:

39(3) The Contractor shall with all, reasonable dispatch and in such manner and with such precautions as will-prevent injury, death or damage of the classes in respect for which before the date of determination he was liable to indemnify the Owner under clause of these Conditions remove from site all his temporary buildings, plant, machinery, appliance, goods and materials and shall give facilities for his Sub-Contractors to do the same.

39(4) After taking into account amounts previously paid under this Contract the Contractor shall be paid by the Owner.

39(5) The total value of the work completed at the date of determination.

39(6) The total value of the work begun and executed but not completed at the date of determination the value being ascertained mutatis in accordance with clause of these Conditions.

39(7) The cost of materials and goods properly ordered for the works for which the Contractor shall have paid or of which the Contractor is legally bound to pay, and on such payment by the Owner materials or goods so paid for shall become the property of the Owner. Provided that in addition to all other remedies the Contractor upon such determination may take possession of and shall have lien upon all unfixed materials which may have before the property of the Owner under clause until payment of all monies due to the Contractor from the Owner.

40. Co-ordination of work

At the commencement of work, and from time to time, the Contractor shall confer with the Sub-Contractors, persons, engaged on separate contracts in connection with the work, and with the RCC Consultant for the purpose of the Co-ordination and execution of various phases of the work.

41. Labour

The Contractor shall not employ any child labour 14 years of age on the work. If female labour is engaged the Contractor shall make necessary provision for safeguarding small children and keeping them clear of the site of Operations. No labour shall reside within the compound except the authorized guards. 'Crèche' facility shall be provided by the Contractor.

42. Guarantee

42 (1) Besides guarantees received elsewhere, the Contractor shall guarantee the work in general for one year as noted under clause of the conditions.

42(2) All required guarantees shall be submitted to the Owner by the Contractor when requesting certification for accounts for payment by the Owner.

43. Protection and Cleaning

43 (1) The Contractor shall protect and preserve the work from all damage or providing any temporary roof, window and door coverings, boxing or other construction as required by the Engineer-in-charge. This protection shall be provided for all property adjacent to the site as well as on the site.

43 (2) The Contractor shall properly clean the work as it progresses and shall remove all rubbish and debris from the site from time to time as is necessary and as directed. On completion the contractor shall ensure that the premises and/or site are cleaned surplus materials debris, sheds etc. removed, areas under floors cleared of rubbish gutters and drains cleared, doors and sashes eased, locks and fastenings oiled, keys clearly labeled and handed to the Engineer-in-Charge so that the whole is left fit for immediate occupation or use and to the satisfaction of the Owner.

44. Tolerance

The Contractor shall exercise every care to ensure that all structural members are sufficiently plumb and true to dimensions called for on the drawings to receive prefabricated finishing elements, such as doors, windows, cabinet work, ceramic work, concrete, tiles etc. Any variations may require rectification in the structural members or may involve remaking or replacing the finishing elements, fabricated to fit into the openings or spaces, as called for on the Drawings, the cost of which will be borne by the contractor.

In all cases, the Contractor whose work does not conform to dimensions called for, shall be liable for all the expenses which may have to be incurred for rectification or replacement as may be required by the RCC Consultant for the purpose of installation of the finishing elements. The RCC Consultant's decision in this respect shall be final and binding on the parties concerned.

45. EMD AMOUNT

EMD amount should be in shape of Demand Draft from any Nationalized Bank in favour of “LIBERTY OIL MILLS LTD’ If any bidder backs out after opening of Bid, their EMD shall be forfeited, with right of management or any other disciplinary action against the party. The EMD of the successful bidder may be adjusted against the Security Deposit.

Earnest Money of unsuccessful bidders shall be refunded not later than 21 days after the expiry of the bid validity.

Bids without appropriate EMD shall be treated as un-responsive & no further evaluation of such Bids shall be made.

SECTION 8

SAFETY SPECIFICATION & INSTRUCTION

INTRODUCTION

This specification provides amplification of certain aspects of safety procedures and requirements covered within the General conditions of contract.

1 SCOPE

The requirements of this specifications shall apply equally to Contractors and Sub-Contractors. Where the word "Contractor" is used this shall be taken to include "Sub-Contractors". Contractors shall be responsible for ensuring that their Sub-Contractors are notified of and comply with these requirements.

2 REQUIREMENTS

Throughout the course of the Contract the Contractor shall assure and demonstrate to the Engineers Representative on site that he has suitable and sufficient knowledge, experience, procedures and resources to carry out the works safely. The contractor shall demonstrate that his employees are suitably trained in the above procedures and are aware of potential hazards.

2.1 Personal Protective Equipment

The Contractor shall ensure that the following items of personal protective equipment are available to all his employees :

- a Safety helmets (to BS 5240)
- b Safety footwear (to BS 1870) (+over protection where required).
- c Overalls (Either disposable or with suitable laundry arrangements)
- d Light eye protection (to BS 2092 "General Purpose")
- e Safety goggles (to BS 2092 "Grade 1")
- f Hearing Protectors (to BS 6344)
- g Appropriate Protective Gloves.
- h Safety Belts

The Contractor shall ensure that safety helmets, safety footwear, Safety Belts overalls and light eye protection are worn by all his employees at all times whilst on the site.

Deviation from the above requirements shall only be permitted with the prior written agreement of the Construction site Manager responsible for the site in question.

The Contractor shall further ensure that safety goggles, hearing protectors and protective gloves are worn in areas where such protection is a statutory requirement, a plant requirement or where it is judged that the risk of injury during the execution of a construction task would be reduced. The Contractor shall list in A.1 of this specification any other personal protective clothing that he shall provide which is a trade requirement and any specialized personal protective equipment he deems necessary to execute the work safely.

3 **CONTROL OF HAZARDS TO OTHERS**

Where the work activities of the Contractor produce risk to others, the Contractors shall take all reasonably practicable, steps to remove the hazard. Where this is not possible, the Contractor shall list in A.2 of this specification those arrangements he shall make to minimize the risks arising from such hazard, for example, erection of protective screens and barriers or location of the area.

4 **CONTRACT SAFETY PLAN**

The Contractor shall provide in A.3 of this specification a safety plan for the Contract which is based on his Company's safety policy. If the contractor is registered with the construction Groups Safety Award Scheme, his safety plan may be related to his safety action plan.

5 **CLEANLINESS OF THE SITE AND CONTRACTOR ESTABLISHMENT:**

Environment pollution should be taken care of knowing the work content and the consequent debris produced.

The contractor shall unless otherwise instructed by the Engineers Representative on site:

- a) Establish, at strategic points, suitable rubbish bags and/or bins, ensure their correct use and arrange for the removal and disposal of the same.
- b) State the frequency and method of site and Contractors establishment cleaning in A.4 of this specification.
- c) Provide for the safe stacking and storage of materials, fuel and consumables.

SAFETY INSTRUCTION

A. Contractor's Barricades :

The Contractor shall erect and maintain barricades required in connection with his operation to guard or protect.

- (a) Excavations and blasting work (if permitted by the Owner) (necessary permission for blasting to be taken by contractor from local authorities)
- (b) Hoisting areas.
- (c) Areas adjudged hazardous by Contractor or Owner's inspectors
- (d) Owner's existing property subject to damage by Contractor's operations.
- (e) Road unloading spots if provided.

Contractor's employees and those of its sub-contractors shall become acquainted with barricading practice and shall respect the provisions thereof.

Barricades and hazardous areas adjacent to, but not located, in normal routes of travel shall be marked by red flasher lanterns at nights.

B. Excavation and Trenching: All trenches 1.2 metres or more in depth, shall at all times be supplied with at least one ladder for each 50 metres length or fraction thereof. Ladder shall

be extended from bottom of the trench to at least 1 meter above the surface of the ground. The sides of the trenches which are 1.5 metres in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides to collapse. The excavated materials shall not be placed within 1.5 metres of the edge of the trench or half of the trench width whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or under cutting shall be done.

C. Demolition :

Before any demolition work is commenced and also during the progress of the work

- (a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- (b) No electric cable or apparatus which is liable to be a source of danger shall remain electrically charged.
- (c) All practical steps shall be taken to prevent danger to persons employed from risks of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

D. All necessary personal safety equipment as considered adequate by the RCC Consultant, should be kept available for the use of persons employed on the site and maintained in condition suitable for immediate use, and the Contractor shall take adequate steps to ensure proper use of equipment by those concerned.

- (a) Workers employed on mixing asphaltic material, cement and lime mortars shall be provided with protective footwear and protective gloves.
- (b) Those engaged in white washing and mixing or stacking of cement bags or any materials which are injurious to the eyes shall be provided with protective goggles.
- (c) Those engaged in welding and cutting works shall be provided with protective face and eye-shields, hand gloves etc.
- (d) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- (e) When workers are employed in sewers and manholes, which are in use, the contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or board to prevent accident to the public.
- (f) The Contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead in any form. Wherever men above the age of 18 years are employed on the work of lead painting, the following precautions should be taken :-
 - (1) No paint containing lead or lead product shall be used except in the form of paste or readymade paint.
 - (2) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.
 - (3) Overalls shall be supplied by the Contractor to the workmen and adequate

facilities shall be provided to enable the working painters to wash them during and on cessation of work.

- E.** Use of hoisting machines and tackles including their attachments, anchorage and supports shall conform to the following standard or conditions :
- (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defect and shall be kept in good working order.
 - (b) Every rope used in hoisting or lowering materials or as means of suspension shall be of durable quality and adequate strength and free from patent defects.
 - (c) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including scaffolding winch or give signals to the operator.
 - (d) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or lowering or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gears referred to above shall be plainly marked with the safe working load of the conditions under which it is applicable which shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
- F.** In case of departmental machine, the safe working load shall be notified by the RCC Consultant. As regards Contractor's machines, the Contractor shall notify the safe working load of the machine to the RCC Consultant when ever he brings any machinery to site of work and get it verified by the Engineer concerned.
- G.** Motors, gearing transmission, electric wiring, electrical gadgets and other dangerous parts of hoisting appliances should be provided with efficient safety-guards. Hoisting appliances should be provided with such means as to reduce to the minimum the accidental descent of the load, adequate precautions should be taken to reduce to the minimum the risk of any part or any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves, and boots as may be necessary should be provided. The workers shall not wear any rings, watches and carry keys or other materials which are good conductors of electricity.
- H.** All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe conditions and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
- I.** These safety provisions should be brought to the notice of all concerned by displaying on notice boards at a prominent places at the work site. The person responsible for compliance of the safety code shall be named therein by the Contractor.
- J.** To ensure effective enforcement of the rules and regulations relating to the safety precautions. the arrangements made by the Contractor shall be open to inspection by the Owner or RCC Consultant or their representatives.
- K.** There shall be maintained in a readily accessible place first aid appliance including adequate supply of sterilized dressings and cotton wool.

- L. An injured person shall be first taken to the nearest Medical Centre without loss of time and in cases where the injury necessitates hospitalization, patient should be taken to public hospital on advice from Medical Officer.
- M. Contractor shall provide safety Belts to all the workers, craftsmen, and Engineers who are engaged in working on any external face or openings above ground floor level. Similarly, helmets shall be provided to workers in areas where head injuries may be expected.
- N. Notwithstanding the above clauses there is nothing in these to exempt the Contractor from the operations of any other Act or rules in force in the Republic of India. The works throughout including any temporary works shall be carried out in such a manner as not to interfere in any way whatsoever with the traffic on any roads or footpaths at the site or in the vicinity thereto or any existing works whether the property of the Owner or of a third party.

O. Government Regulations

- (1) The Contractor shall comply and ensure strict compliance by his employees and subcontractor's employees, if approved, of all applicable Central and State laws and regulations and undertake to indemnify Liberty Oil Mills Ltd from and against all levies, damages, penalties and payments whatsoever as may be imposed by reasons of any breach or violation of any law, rules.
- (2) Before starting any job, please ensure that the Contractors fulfill all statutory requirements in consultation with our Personnel Department.
- (3) The Contractor proposing to employ 20 or more employees shall obtain Registration Number given by the Deputy Commissioner as a licensed contractor and submit a copy before starting the job.
- (4) All the workmen employed by the contractor, before entering the site, must be covered under the provisions of Employees State Insurance Act, Provident Fund Act. All entries to the site of persons/materials shall be through a system of gate passes.
- (5) The Contractor shall ensure to keep and maintain all the statutory registers, records as required under provisions of Contract Labour (R&A) Act 1970, Minimum Wages Act and the rule made there under, Employees Provident Fund Act, 1952 and keep the same available at the work site for inspection by Company's representatives and Government authorities.
- (6) The Contractor, will ensure that necessary contributions towards PF are deposited with the authorities concerned. Also all the records as per provisions of ESIS Act are maintained.
- (7) The Contractor shall be solely responsible for safety of workmen and to provide them required personal protective equipments (safety shoes, helmets, safety belt etc.) and shall ensure to have all his workmen properly covered under the insurance policy for liability under Workmen Compensation Act. The Owner M/s. Liberty Oil Mills Ltd will not be liable for any injury or loss of life of the contractor's personnel.
- (8) The Contractor shall strictly follow the rules relating to engaging female workers at site.

P. Safety Training of Contractor's Supervisor/PPE

Before starting the job, every supervisor of the Contractor shall undergo a safety training conducted by the Safety Officer. The availability and use of personal protective equipment

(safety shoes and helmet etc.) will be clearly emphasized in this training.

Q. Work Clearance Certificate

- (1) No job will be started without a proper clearance certificate, issued by competent authorities and accepted by construction engineer or his nominee.
- (2) A separate clearance certificate will be taken for digging/ excavation jobs, duly signed by electrical supervisor.
- (3) A separate clearance certificate will be taken for hot/ welding jobs in each area.
- (4) For working at height (3 M and above), the clearance certificate will have to be authorized by ENGINEER-IN-CHARGE before starting the job.
- (5) All the clearance certificates shall be renewed next day morning on revalidation sheet and kept available in construction office.

R. Inspection of Electrical Tools & Lifting Tackles

All the electrical tools, welding machines and cable etc. shall be offered to for checking before any use at site. All the lifting tackles and tools shall be brought with certificates and offered to ENGINEER-IN-CHARGE representative for checking before any use at site. The responsibility to ensure above shall lie with Contractor.

In addition to the above, the Contractor shall abide by the Safety Code provision as per Indian Standard Safety Code framed from time to time.

Contractor

RCC Consultant

SECTION 9
SPECIFICATION FOR RCC WORK

(I) MATERIALS:

- 1 Materials shall be of the best approved quality obtainable and they shall comply with the respective Indian Standard Specifications which are enforce during construction.
- 2 Samples of all materials shall be got approved before placing order and the approved sample shall be deposited with the Site In charge.
- 3 If directed, materials shall be tested in any approved testing laboratory and the test Certificate in original shall be submitted to the Structural Engineer and the entire charges for repeated tests, if ordered, will be borne by the Contractor.
- 4 It shall be obligatory for the Contractor to furnish certificate, if demanded by the Site In charge, from the Manufacturer or the material supplier that the work has been carried out by using their material and as per their recommendations.
- 5 Unless otherwise shown on the Drawings or mentioned in the Schedule of Quantities or Special Specifications, the quality of materials, workmanship, etc. shall be specified hereunder.
- 6 All equipment and facilities for carrying field tests on materials shall be provided by the Contractor without any extra cost.

A) CEMENT:

Cement shall comply in every respect with the requirements in the latest publication of IS: 269 and, unless otherwise specified, Portland blended cement shall be used. The weight of ordinary Portland cement shall be taken as 1440 kg per Cu.m Cement shall be measured by weight and in whole bags, and each undisturbed and sealed 50 kg bag being considered equivalent to 35 liters in volume. Care should be taken to see each bag contains full quantity of cement. When part bag is required, cement shall be taken by weight or measured in measuring boxes.

No other make of cement, but that approved by the Structural Engineer will be allowed on works and the source of supply shall not be changed without approval of the Structural Engineer in writing.

Test Certificate to show that cement is fully complying the specifications shall be submitted to the Structural Engineer and notwithstanding this, the Structural Engineer may at his discretion, order that the cement brought on site and which he may consider damaged or of doubtful quality for any reason whatsoever, shall be retested in an approved testing laboratory and fresh certificate of its soundness shall be produced. Cement ordered for re-testing shall not be used for any work, pending result of retest.

Cement shall be stored in waterproof shed with raised wooden flooring to prevent deterioration by dampness or intrusion of foreign matter. It shall be stored in such a way as allows removal and use of cement in chronological order of receipt i.e. first received being first used. Cement deteriorated and / or cladded shall not be used on work but shall be removed at once from the site. However allowing use of warehouse set cement shall be determined by the Structural Engineer.

Weekly record of cement received and consumed shall be maintained by the contractor in an approved form and submitted to the Structural Engineer.

B) FINE AGGREGATE:

Sand shall conform to IS 383 and relevant portion of IS 515. It shall pass through a IS sieve 4.75 mm (3/16 B.S.) test sieve, leaving a residue of not more than 5%. It shall be from natural source or crushed stone screenings (if allowed), chemically inert, clean sharp, hard, durable, well graded and free from impurities like dust, clay, shale, large pebbles, salt, organic matter, loam or other deleterious substances. The sum of % of such deleterious materials shall be within acceptable limits. Sand shall not contain any trace of salt and it shall be tested and sand containing any trace of salt shall be rejected.

The fine aggregate for concrete shall be graded within limits as specified in IS 383 and the fineness modules may range between 2.60 to 3.20.

The fine aggregate shall be stacked carefully on a clean hard dry surface so that it will not get mixed up with deleterious foreign materials. If such a surface is not available, a platform of planks or corrugated iron sheets or brick floor or a thin layer of lean concrete shall be prepared.

C) COARSE AGGREGATE:

Coarse aggregate shall consist of broken stone 95% of, which shall be retained on 4.75 mm IS test sieve. It shall be obtained from crushing Granite, Quartzite, Trap, Basalt or similar approved stone quarry and shall conform to IS: 383 and IS :515 Coarse aggregate shall be chemically inert when mixed with cement and shall be cubical in shape and free from soft, tribal, thin porous, laminated or flaky pieces. It shall be free from dust and any other foreign matter.

Gravel / Shingle of desired grading may be permitted as a substitute in part or full in plain cement concrete if the Structural Engineer is otherwise satisfied about the quality of the aggregate. For all RCC works the size of coarse aggregate shall be 20 mm and down gauge.

D) REINFORCEMENT:

Reinforcement shall be of or deformed bars conforming to IS: 1786 and IS: 1139 All finished bars shall be free from cracks, surface flaws, laminations, jagged and important edges.

E) WATER:

Water for mixing Cement/Lime/ Surkhi mortar or concrete shall not be salty or blackish and shall be clean, reasonably clear and free from objectionable quantities of silt and traces of oil, acid and injurious alkali, salt, organic matter and other deleterious material which will either weaken the mortar or concrete. Water shall be obtained from sources approved by the Structural Engineer. Potable water is generally considered satisfactory for mixing and curing concrete, mortar, masonry etc. Where water other than main source is used, this shall be tested in an approved testing laboratory to establish its suitability. All charges connected therewith shall be borne by the Contractor.

(II) CONCRETE PLAIN OR REINFORCED:

The materials, workmanship, inspection and testing of plain and reinforced concrete shall be in accordance with IS:456 – 2000 and additionally as described in following sections and as directed by the Structural Engineer from time to time.

(A) MIX, PROPORTION, PRODUCTION, CONTROL, TRANSPORT, PLACING AND CURING OF CONCRETE:

The mix proportions shall be selected to ensure that the workability of fresh concrete is suitable for the conditions of handling and placing, so that after compaction, it surrounds all reinforcement and completely fill the formwork and when the concrete is hardened, it shall have reached the required strength, durability and surface finish.

The determination of proportions of cement aggregates and water shall be made either with design mix concrete or nominal mix concrete which shall be approved by the Structural Engineer. Unless otherwise specified, the concrete shall be of M-30 grade and shall have minimum cement content as per HIL specs. Even if the strength of concrete is found to be more during the execution of work, minimum cement content criteria shall apply. The water cement ratio if required to be changed for the workability requirement, the same shall be got approved by the Structural Engineer. It shall be advisable to keep the same source of fine and coarse aggregates with constant grading of materials to keep proper control on mix proportioning.

All the concrete shall be machine mixed and mechanically vibrated. The water cement ratio, aggregate cement ratio, fine to coarse aggregate ratio shall be maintained as per instructions from the Structural Engineer throughout the process of concreting.

The machine mixing shall be carried out for 2 minutes so as to give uniform distribution of materials and mass in uniform in color and consistency. The fresh concrete shall be placed before 30 minutes from mixing of the same. No hand mixing of the concrete shall be permitted. All concrete shall be placed from maximum height of 1.2m to avoid segregation. The honey-combed concrete shall be completely removed and replaced at the cost of the Tenderer. The construction joints during construction shall be treated as per IS: 456-2000. The concrete shall be cured for the period specified in IS 456.

B) SAMPLING & TESTING OF CONCRETE:

The Contractor at his own cost shall bring on site a cub crushing strength machine, nine number of 150" x 150" cube moulds, set of sieves, and weighing machine to check the grading of fine and coarse aggregates, Samples from the fresh concrete being used shall be taken and cubes shall be casted and tested in the following manner;

- i) 3 cubes after 7 days
- ii) 3 cubes after 28 days

In all cases the result of 28 days compressive strength specified in IS: 456-2000 shall alone be the criteria for acceptance or rejection of the concrete. Frequency of the sampling test strength and acceptance criteria shall be as per IS: 456-2000.

No extra payment shall be made for sampling, testing and keeping records of the same as directed by the Structural Engineer.

C) REINFORCEMENT DETAILING & ASSEMBLY:

All the reinforcement shall be placed and maintained in position as per the structural drawing with the help of cover blocks of specified thickness. The detailing shall be carried out strictly as per schedules and details shown on Structural Drawings or as instructed by Structural Engineer. No lap shall be provided without approval of the Structural Engineer. The top holding bars shall be continuous over continuous supports. Chairs shall be provided in sufficient numbers to hold top bars in position. No concrete shall be placed into formwork unless the entire assembly of reinforcement detailing is completed and checked by the Structural Engineer.

SECTION 10

ANNEXURES

Annexure I

Contractor to Submit along with the Tender :

1. List of similar jobs executed in the last 3 years.
2. List of Manpower proposed to be deployed for the job.
3. List of Equipment/Machinery proposed to be deployed for the job
4. I.T Clearance certificate and /or IT Returns for the last 3 years.
5. Latest GST Returns
6. Partnership Deed/Memorandum of Association/Articles of Association
7. Power -of -Attorney, in favour of person signing the Bid/Contract
8. Business Turnover Details of organization for last 3 years.
9. List of Senior-Permanent Staff, in the employment of the organization.
10. Solvency Certificate from your bankers.
11. Current Order-Booking and Order-backing List of legal proceedings pending in Indian Courts as well as outside India against the establishments and its partners/ and or Directors in individual or in any capacity.

Annexure II

The Contractor to submit the following documents after receipt of Letter of -Intent, within 15 days.

1. Proposed construction Schedule (progress chart and CPM net work) for timely completion for acceptance by RCC Consultant.
2. Lay-out showing places for stacking construction materials, Location of cement-Godown, Stores, Site-Office, Labour-Hutments, Temporary water-tanks, laboratory, owners representatives office etc, so as not to foul with future permanent construction.
3. Manpower planning, month to month, of important, skilled category.
4. Site organization chart with Bio-data of site-in-charge.
5. A phased indication of requirement by you, of Owners' materials, if and as applicable, to be issued to you on free/ chargeable basis.
6. A rough Schedule, indicating the peak Months.
7. Following Insurance-Policies, to adequately cover, as advised by RCC Consultant.
 - (a) Men, Machineries, equipment of project
 - (b) Group Personal Accident Insurance
 - (c) Fire/Theft/All risk
 - (d) Third party
 - (e) Complete building in all stages of construction.
8. Planning of Excavation in phases for.

Annexure III

Apart from other factors mentioned elsewhere in the Tender, RATES SHALL INCLUDE, the following, unless specifically excluded from item-description,

1. All works at all height/depths, all floors and all leads within battery limit of project site.
2. Conducting tests of all construction materials, concrete, steel, aggregates, bricks etc.
3. Maintaining all records and preparing progress reports as advised.
4. Providing all necessary consumables, tools, tackles, machineries equipment, instruments, as the job quantum/quality/urgency may demand.
5. Compliance of all local, regional, state and central laws of land, as applicable in relation to place of work, of all authorities, having jurisdiction in the areas. which are in force and the one which will come into force by an Ordinance or by Parliamentary/Legislative acts during the period of contract and six months thereafter or any extended period as the case may be .
6. Compliance of standard safety-practices and fire-protection.
7. Premium for various insurance-policies.
8. Fetching water by tankers from approved sources, if situation so demands.
9. General house-keeping, cleanliness, hygienic work environment.
10. Construction of all enabling works(and dismantling after work completion and removal of debris) including access road, cement godown, site office, labour colonies, etc.
11. Employing only licensed workers for blasting, electrical, plumbing and similar other works.
12. All taxes, levies, royalties, duties, octroi, etc. as may applicable during the tenure of the Contract including sales tax. and six months thereafter.
13. Buying items from open market, for urgent works
14. Working in monsoons, Sundays, holidays, overt-time & extra shifts.
15. Barricading work areas for safety reasons and suitable displaying warning notices/signals.
16. Setting-out of works and maintaining Bench-marks
17. Satisfactory accounting of Materials issued by Owner either as Free issue or chargeable basis. Wastage allowable for cement = 2%. For steel 3%.
18. Making, providing Cover-blocks to match with main concrete-grade.
19. Supply & application of primer coats as specified by Manufactures/RCC Consultant as per specification.
20. Maintaining line level, slope, plumb and dimensions of all works as per Drawing/instructions.

46. Shifting away immediately from place to work, all rejected materials and ensure its non-use in permanent works.
 47. Guarantees/ Warranties
 48. Supply and fixing sleeves/conduits etc. in position and grouting as directed.
 49. Liaisoning with the Authorities for getting municipal connection for water, drainage, electricity.
25. All wastage-allowance, scrap allowance, cutting allowance, variation in Rolling-Margin, breakages etc. (Wastage of Materials, supplied by owner should be returned to owner).
 26. Compliance of
 - a) Minimum Wages Act
 - b) Equal Remuneration Act
 - c) Contract Labour
 - d) Workmen's Compensation Act
 - e) P.F
 - f) E S I S
 - g) Labour Inspector's Regulations and other relevant and applicable Acts of the land
 27. Preparation of As-Built Drawings for all Civil, Structural works.
 28. Bailing out water due to seepage/leakage/broken mains/Tidal action/water table/springs etc. & keeping work area dry at all times, till the works in contractors scope is completed
 29. Producing Test Certificates for steel & other materials as required. (The test fees shall be reimbursed to the contractor).
 30. Scaffolding, Re-scaffolding, Single-stage and double-stage.
 31. Construction of all enabling sheds like cement godown, stores, site office, Temporary water tanks etc. & dismantle the same, on work completion remove debris as directed and level the areas, to match with surroundings.
 32. Wet materials for excavation.
 33. Curing of concrete, masonry, plaster etc, including wetting the surface before plaster coats.
 34. Labour cost for reinforcement fixing in position, in half brick walls.
 35. Shifting & stacking of materials, dispatched by Owner/RCC Consultant to site, pertaining to the contractors scope of work.

36. Scaffolding work for lift-erection is included in civil-Contractor's scope.
37. Providing Chicken wire mesh on inside and outside, at all junctions of masonry and concrete, as per specification.

Annexure IV

QUOTED RATES ONLY:

The Contractor may at his option, quote rates only, for all such items, which in his opinion are likely to be operative, but for which rates are not specifically invited.

Soon after award of work, the Contractor will however have to back-up all such rates, by a proper Rate-Analysis, for approval by RCC Consultant/owner and definitely before commencement of activity.

All extra-claims are liable to be summarily rejected, for which rates are not approved in writing, prior to work commencement.

S.NO	Probable Extra-item	Units	Rate in	Rate in words
	Brief Description			figures

ANNEXURE V

LIST OF MATERIALS OF APPROVED BRAND AND/OR MANUFACTURE

Regarding use of materials of approved brand/manufacture wherever specified in the contract, the order of preference for selection of materials of approved brand/ manufacture shall rest with the RCC Consultant. The contractor shall obtain in writing the approval of RCC Consultant regarding this before arranging/procuring the materials.

1. CEMENT :- 43 & 53 grade ordinary Portland cement ACC, Ultratech, Gujarat Ambuja Cement Birla Gold.
2. REINFORCEMENT :- TISCO/SAIL
3. WATERPROOF CEMENT :- Sandtex matt or any other brand CEMENT PAINTS PAINTS with ISI mark.
4. ANTITERMITE :- PCI, EXPRESS PESTICIDE, GODREJ
5. ANTITERMITE PAINT :- SOLIGNUM - BERGER PAINTS

ANNEXURE VI

FORMAT OF BANK GUARANTEE FOR BID SECURITY

(TO BE EXECUTED ON STAMP PAPER OF RS. 200, PURCHASED
IN BANK'S NAME FROM ANY NATIONALIZED BANK)

WHEREAS _____ (hereinafter called "Contractor") having its office at _____, has submitted its Tender dated _____ for Civil Work for setting up of Tank Farm for Liquid storage facilities at Jawaharlal Nehru Port Tender no. : _____ (hereinafter called "the Tender"). KNOW ALL MEN by these presents that we, _____, having our registered office at _____ (hereinafter called "the Bank") are bound to pay to LIBERTY OIL MILLS LIMITED having its Corporate Office at Amerchand Mansion, 16, D Wing, Madame Cama Road, Colaba, Mumbai - 400039 (hereinafter called "the Owner"), in the sum of Rs. _____/- (Rupees _____ only) for which payment well and truly to be made to the said Owner the Bank binds itself, its successors and assigns by these presents.

The conditions of this obligations are:

- a. If the contractor fails to mobilise and commence the work within the stipulated time after the formal agreement of civil/ piling works contract.
- b. If the contractor fails to complete the works within the stipulated time as per the tender, unless the owner has agreed or given an extension of time.
- c. If any breach made by the CONTRACTOR in the performance of any of the terms and conditions of the Tender/contract.

The bank also agrees that the Owner at its option shall be entitled to enforce this Guarantee against the bank as a principal debtor in the first instance without proceeding against the bidder and notwithstanding any security or other guarantee that the Owner may have in relation to the bidder's liabilities.

Notwithstanding anything contained herein above our liability under this guarantee is restricted to Rs. _____/- (Rupees _____ only). Our guarantee shall remain in force till _____ unless a claim under the guarantee is made on us within one year from the date of expiry of guarantee i.e. on or before _____ all the rights of the beneficiary under the guarantee shall be forfeited and the surety will be relived and discharged from all liabilities hereunder, irrespective of all whether or not the original guarantee returned to us.

IN WITNESS WHEREOF the undersigned for and on behalf of the Guarantor has signed this deed on this

_____ day of _____ Two Thousand and _____.

Name & Address of the Bank (with Seal)

Bank Authorized Signatory

Name & Address of the Witness (with Signature)

SECTION 11:-**BOQ****JNPT, LIBERTY OIL MILLS (OIL STORAGE TANKS)**

BOQ FOR PILING WORK

S. N O	I. CODE	DESCRIPTION OF ITEM	UNIT	QTY	RATE	AMOUNT
		RCC WORK				
	A	PILE CAP WORK				
1	A-1	Excavation for foundation in all types of soils, murrum, soft rock & boulders by any means including removing the excavated material anywhere within the plot, stacking and spreading as directed, dewatering, shoring, strutting preparing bed for foundation including labour manpower, machinery etc, necessary back filling with watering & compaction lifting/lowering boulders upto maximum size which could be handled by bucket of machine etc. (including royalty and other government permission charges & taxes.)	CUM	2350		
2	A-2	Breaking piles @ 0.9 mtr height piles top to bottom	CUM	94		
3	A-3	Providing & Casting insitu 100 mm thick 1:3:6 cement concrete with trap/granite/quartzite/gneiss broken stone aggregate of 20 mm maximum size below foundation of footings or beams and bedding including dewatering, formwork, compaction and curing complete. (Rate including material and labour)	CUM	266		
4	A-4	Providing cement concrete M-35 of trap granite/quartzite/gneiss metal for R.C.C Work in pile cap as per detailed designs and drawings. (Rate including material and labour)	CUM	1668		
5	A-5	Providing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe500 conforming to IS codes. (Rate including material and labour)	TON	148		
		TOTAL				

	B	ENTRANCE GATE ROAD				
6	B-1	Providing and laying in position 300 mm thick dry rubble soling for plinth with approved base preparation by dressing of excavated surface, mechanical compaction, using rubble and smaller pebbles for void filling, stone dust for binding as directed by the Engineer - In - Charge including watering, packing, compaction etc., with required tools and plants and all lead, lift, conveyance as required etc., complete. .(Rate including material and labour)	CUM	510		
7	B-2	Providing & Casting insitu 100mm thick 1:3:6 cement concrete with trap/granite/quartzite/gneiss broken stone aggregate of 20 mm maximum size below foundation of bedding including dewatering, formwork, compaction and curing complete. (Rate including material and labour)	CUM	170		
8	B-3	Providing & casting cement concrete M-35 & 300mm thick of trap granite/quartzite/gneiss metal for R.C.C Work for Road TRIMIX CONCRETE as per detailed designs and drawings. .(Rate including material and labour)	CUM	510		
9	B-4	Providing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe500 conforming to IS codes for Road TRIMIX CONCRETE (Rate including material and labour)	TON	30.6		
		TOTAL				
	C	PAVER BLOCK WORK				
10	C-1	Providing and laying in position 300 mm thick dry rubble soling for plinth with approved base preparation by dressing of excavated surface, mechanical compaction, using rubble and smaller pebbles for void filling, stone dust for binding as directed by the Engineer - In - Charge including watering, packing, compaction etc., with required tools and plants and all lead, lift,	CUM	249		

		conveyance as required etc., complete. (Rate including material and labour)				
11	C-2	Providing & Casting insitu 100mm thick 1:3:6 cement concrete with trap/granite/quartzite/gneiss broken stone aggregate of 20 mm maximum size below foundation of bedding including dewatering, formwork, compaction and curing complete. (Rate including material and labour)	CUM	83		
12	C-3	Providing & casting cement concrete M-35 & 150mm thick of trap granite/quartzite/gneiss metal for R.C.C Work as per detailed designs and drawings. (Rate including material and labour)	CUM	125		
13	C-4	Providing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe500 conforming to IS codes (Rate including material and labour)	TON	4.5		
14	C-5	Providing and fixing paver block with cement mortar 1:6 as per standard specification having thickness 50mm to 75mm & as per approved design by architect. Rate included labour and material.	SQM	870		
		TOTAL				
	D	OIL TANK AREA				
15	D-1	Providing and laying in position 300 mm thick dry rubble soling for plinth with approved base preparation by dressing of excavated surface, mechanical compaction, using rubble and smaller pebbles for void filling, stone dust for binding as directed by the Engineer - In - Charge including watering, packing, compaction etc., with required tools and plants and all lead, lift, conveyance as required etc., complete. (Rate including material and labour)	CUM	372		
16	D-2	Providing & Casting insitu 150mm thick 1:3:6 cement concrete with trap/granite/quartzite/gneiss broken stone aggregate of 20 mm maximum size below	CUM	186		

		foundation of bedding including dewatering, formwork, compaction and curing complete. .(Rate including material and labour)				
		TOTAL				
	E	COMPOUND WALL				
17	E-1	Providing and laying in position 300 mm thick dry rubble soling for WALL foundation with approved base preparation by dressing of excavated surface, mechanical compaction, using rubble and smaller pebbles for void filling, stone dust for binding as directed by the Engineer - In - Charge including watering, packing, compaction etc., with required tools and plants and all lead, lift, conveyance as required etc., complete. .(Rate including material and labour)	CUM	95.1		
18	E-2	Providing & Casting insitu 1:3:6 cement concrete with trap/granite/quartzite/gneiss broken stone aggregate of 20 mm maximum size below foundation of bedding including dewatering, formwork, compaction and curing complete. .(Rate including material and labour)	CUM	32		
19	E-3	Providing and Constructing 230 mm Thick Brick masonry (2.1 mtr height) for compound wall in cement mortar 1:5 in superstructure including 230 mm x 75 mm horizontal band (patli) in concrete mix 1:2:4 at every 1.0 m c/c reinforced with 2 Nos. 8 mm dia. TOR steel bars & 8 mm dia. Single Legged Stirrups (Chipiya) @ 200 mm c/c & using coarsed aggregates 12 mm & downside, all materials, labour, scaffolding, soaking of blocks before laying, preparation of mortar, racking of joints, curing and all tools and tackles etc. complete at all levels as per drawings & as directed by the Engineer - In - Charge.	CUM	154		

20	E-4	Providing & applying 20 mm thick external sand faced plaster in two coats having first coat of 12 mm thick in cement mortar 1:4 mixed with Accoproof or Impermo or Cico waterproofing compound and 6 mm long Recron Fibres from Reliance or equivalent at the required dosage of 125 g per 50 kg bag of cement preceded by a suitable bonding agent from Sunanda / Pidilite / Fosroc and a finishing coat of 8 mm thick in cement mortar 1:3 to concrete or brick surfaces including watering, placing of level dots, labour, scaffolding, curing and all tools and tackles etc. complete as per drawings & as directed by the Engineer - In - Charge. Rate shall include for providing G.I. / PVC chicken mesh at the junctions of masonry and concrete works to a width of 125 to 150 mm including tying in position with suitable clamps / screws, etc.	SQMT	1427		
21	E-5	Providing cement concrete M-25 of trap granite/quartzite/gneiss metal for R.C.C Work for FOOTING for compound wall column as per detailed designs and drawings. (Rate including material and labour)	CUM	12		
22	E-6	Providing & Binding Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe500 conforming to IS codes for compound wall column FOOTING (Rate including material and labour)	TON	0.6		
23	E-7	Providing cement concrete M-25 of trap granite/quartzite/gneiss metal for R.C.C Work for compound wall COLUMN as per detailed designs and drawings. (Rate including material and labour).	CUM	10		
24	E-8	Providing & Binding Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe500 conforming to IS codes for compound wall COLUMN (Rate including material and labour).	TON	1.3		

		TOTAL				
	F	DYKE WALL				
25	F-1	Providing & Pouring cement concrete M-25 150mm thick & 1mtr height of trap granite/quartzite/gneiss metal for R.C.C Work for DYKE WALL as per detailed designs and drawings. .(Rate including material and labour).	CUM	6.9		
26	F-2	Providing & Binding Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe500 conforming to IS codes for DYKE WALL (Rate including material and labour).	TON	0.3		
27	F-3	Providing and Constructing 230 mm Thick Brick mason (1 mtr height) for dyke wall in cement mortar 1:5 in superstructure including 230 mm x 75 mm horizontal band (patli) in concrete mix 1:2:4 at every 1.0 m c/c reinforced with 2 Nos. 8 mm dia. TOR steel bars & 8 mm dia. Single Legged Stirrups (Chipiya) @ 200 mm c/c & using coarsed aggregates 12 mm & downside, all materials, labour, scaffolding, soaking of blocks before laying, preparation of mortar, racking of joints, curing and all tools and tackles etc. complete at all levels as per drawings & as directed by the Engineer - In - Charge.	CUM	41		
28	F-4	Providing & applying 20 mm thick external sand faced plaster in two coats having first coat of 12 mm thick in cement mortar 1:4 mixed with Accoproof or Impermo or Cico waterproofing compound and 6 mm long Recron Fibres from Reliance or equivalent at the required dosage of 125 g per 50 kg bag of cement preceded by a suitable bonding agent from Sunanda / Pidilite / Fosroc and a finishing coat of 8 mm thick in cement mortar 1:3 to concrete or brick surfaces including watering, placing of level dots, labour, scaffolding, curing and all tools and tackles etc. complete as per drawings & as directed by the Engineer - In	SQMT	472		

		- Charge. Rate shall include for providing G.I. / PVC chicken mesh at the junctions of masonry and concrete works to a width of 125 to 150 mm including tying in position with suitable clamps / screws, etc.				
		TOTAL				
		GRAND TOTAL				

JNPT, LIBERTY OIL MILLS, (ADMIN OFFICE BUILDING)

**BOQ
FOR PILING WORK**

S. N O	I. CODE	DESCRIPTION OF ITEM	UNIT	QTY	RATE	AMOUNT
	A	RCC WORK				
	A	PILE CAP WORK				
1	A-1	Excavation for foundation in all types of soils, murrum, soft rock & boulders by any means including removing the excavated material anywhere within the plot, stacking and spreading as directed, dewatering, shoring, strutting preparing bed for foundation including labour manpower, machinery etc, necessary back filling with watering & compaction lifting/lowering boulders upto maximum size which could be handled by bucket of machine etc. (including royalty and other government permission charges & taxes.)	CUM	29		
2	A-2	Breaking piles @0.9 mtr height piles top to bottom	CUM	5.72		
3	A-3	Providing & Casting insitu 100mm thick 1:3:6 cement concrete with trap/granite/quartzite/gneiss broken stone aggregate of 20 mm maximum size below foundation of footings or beams and bedding including dewatering, formwork, compaction and curing complete.	CUM	3.6		
4	A-4	Providing and laying in position 300 mm thick dry rubble soling for plinth with approved base preparation by dressing of excavated surface, mechanical compaction, using rubble and smaller pebbles for void filling, stone dust for binding as directed by	CUM	6.8		

		the Engineer - In - Charge including watering, packing, compaction etc., with required tools and plants and all lead, lift, conveyance as required etc., complete.				
5	A-5	Providing cement concrete M-35 of trap granite/quartzite/gneiss metal for R.C.C Work in pile cap as per detailed designs and drawings.	CUM	9.07		
6	A-6	Providing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe500 conforming to IS codes.	TON	0.4		
		TOTAL				
	B	SUPERSTRUCTURE WORK				
7	B-1	Providing cement concrete M-25 of trap granite/quartzite/gneiss metal for R.C.C Work Base to Terrace COLUMNS as per detailed designs and drawings.	CUM	34.65		
8	B-2	Providing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe 500 conforming to IS codes for Base to Terrace COLUMNS .	TON	5.05		
9	B-3	Providing cement concrete M-25 of trap granite/quartzite/gneiss metal for R.C.C Work in Beam in Super structure at all levels as per detailed designs and drawings.	CUM	63.5		
10	B-4	Providing cement concrete M-25 of trap granite/quartzite/gneiss metal for R.C.C Work in Slab in Super structure at all levels as per detailed designs and drawings.	CUM	45		
11	B-5	Providing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe 500 conforming to IS codes for Beam in super structure at all levels as per detailed designs and drawings.	TON	7.5		
12	B-6	Providing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe 500 conforming to IS codes for Slab in super structure at all levels as per detailed designs and drawings.	TON	2.6		

13	B-7	Providing skilled & unskilled labour with shuttering for RCC work in all levels as per detailed design & drawings.	SQMT	336	3500	
		TOTAL SUPERSTRUCTURE WORKWORK				
	C	BRICKWORK				
14	C-1	Providing and Constructing 230 mm Thick Brick masonry in cement mortar 1:5 in superstructure including 150 mm x 75 mm horizontal band (patli) in concrete mix 1:2:4 at every 1.0 m c/c reinforced with 2 Nos. 8 mm dia. TOR steel bars & 8 mm dia. Single Legged Stirrups (Chipiya) @ 200 mm c/c & using coarsed aggregates 12 mm & downside, all materials, labour, scaffolding, soaking of blocks before laying, preparation of mortar, racking of joints, curing and all tools and tackles etc. complete at all levels as per drawings & as directed by the Engineer - In - Charge.	CUM	78	5500	
15	C-2	Providing and Constructing 150 mm Thick Brick masonry in cement mortar 1:5 in superstructure including 150 mm x 75 mm horizontal band (patli) in concrete mix 1:2:4 at every 1.0 m c/c reinforced with 2 Nos. 8 mm dia. TOR steel bars & 8 mm dia. Single Legged Stirrups (Chipiya) @ 200 mm c/c & using coarsed aggregates 12 mm & downside, all materials, labour, scaffolding, soaking of blocks before laying, preparation of mortar, racking of joints, curing and all tools and tackles etc. complete at all levels as per drawings & as directed by the Engineer - In - Charge.	CUM	68	5300	
		Providing and Constructing 150 mm Thick Brick masonry in cement mortar 1:5 in superstructure including 150 mm x 75 mm horizontal band (patli) in concrete mix 1:2:4 at every 1.0 m c/c reinforced with 2 Nos. 8 mm dia. TOR steel bars & 8 mm dia. Single Legged Stirrups (Chipiya) @ 200 mm c/c & using coarsed aggregates 12 mm & downside, all materials, labour, scaffolding, soaking of blocks before laying, preparation	CUM	3.1	5300	

		of mortar, racking of joints, curing and all tools and tackles etc. complete at all levels as per drawings & as directed by the Engineer - In - Charge.				
		TOTAL BRICK WORK				
	D	PLASTER WORK				
16	D-1	Providing & applying 12 mm thick plaster with neerufinish to walls & ceiling in cement mortar 1:3 including watering, placing of level dots, mixing of mortar & applying plaster with a neat floating coat of cement for smooth finish. Rate shall include for providing G.I. / PVC chicken mesh at the junctions of masonry and concrete works to a width of 125 to 150 mm including tying in position with suitable clamps / screws, necessary staging, scaffolding and curing at all levels and elevations etc. complete as per drawings & as directed by the Engineer - In - Charge.	SQMT	1705	550	
17	D-2	Providing & applying 20 mm thick external sand faced plaster in two coats having first coat of 12 mm thick in cement mortar 1:4 mixed with Accoproof or Impermo or Cico waterproofing compound and 6 mm long RecronFibres from Reliance or equivalent at the required dosage of 125 g per 50 kg bag of cement preceded by a suitable bonding agent from Sunanda / Pidilite / Fosroc and a finishing coat of 8 mm thick in cement mortar 1:3 to concrete or brick surfaces including watering, placing of level dots, labour, scaffolding, curing and all tools and tackles etc. complete as per drawings & as directed by the Engineer - In - Charge. Rate shall include for providing G.I. / PVC chicken mesh at the junctions of masonry and concrete works to a width of 125 to 150 mm including tying in position with suitable clamps / screws, etc.	SQMT	760	800	
		TOTAL PLASTER WORK				

	E	PAINTING WORK				
18	E-1	Providing & applying of Birla putty to internal walls & Ceilings including preparation of surface.	SQMT	409	130	
19	E-2	Providing and applying 3 coats of Oil Blond Distemper approved colour and shade to plastered including preparing the surface, scaffolding, if necessary, application of one coat of primer etc. complete. asian paint	SQMT	1705	210	
20	E-3	Providing and applying 1 coat primer & 2 coats of Water proof cement paint of approved manufacturer, colour and shade to plastered surfaces including preparing the surface, scaffolding, if necessary.	SQMT	760	250	
		TOTAL PAINTING WORK				
	F	DOORS, WINDOW				
21	F-1	Providing & fixing teakwood doorframe for rooms, toilet etc. with proper alignment while doing brickwork, black japan & holdfast should be provided with standard specification. Horns should be minimum 100mm.				
		ROOM size in mm -1000x 2400x150x75	NOS	06	5000	
		TOILET size in mm -900x 2400x150x75.	NOS	04	4000	
22	F-2	Providing and fixing superior quality 35MM thick Panelled doors . Solid core, hot pressed with veneer finish on both faces in single piece conforming to IS:2202-1991 (Part I & II) 35mm thick marine flush door with both side laminate & all hardware fixing including all mouldings, rebating, screwing complete as per specifications, drawings & as directed.	SQMT	25	3500	
23	F-3	Providing and Fixing fully glazed aluminum windows (Jindal 1" Series): sliding type windows with aluminum frames and shutter made up of heavy duty standard sections and of approved quality and make using 5.5mm thick glass with mastic, putty etc. and using aluminum fixtures and fastenings complete as per drawings.	SQMT	60	3700	
		TOTAL DOORS, WINDOW WORK				
		GRAND TOTAL				

JNPT, LIBERTY OIL MILLS (TANK LORRY FILLING STN)

BOQ FOR PILING WORK						
S. N O	I. CODE	DESCRIPTION OF ITEM	UNIT	QTY	RATE	AMOUNT
	A	RCC WORK				
	A	PILE CAP WORK				
1	A-1	Excavation for foundation in all types of soils, murrum, soft rock & boulders by any means including removing the excavated material anywhere within the plot, stacking and spreading as directed, dewatering, shoring, strutting preparing bed for foundation including labour manpower, machinery etc, necessary back filling with watering & compaction lifting/lowering boulders upto maximum size which could be handled by bucket of machine etc. .(including royalty and other government permission charges & taxes.)	CUM	38		
2	A-2	Breaking piles @0.9 mtr height piles top to bottom	CUM	16		
3	A-3	Providing & Casting insitu 100mm thick 1:3:6 cement concrete with trap/granite/quartzite/gneiss broken stone aggregate of 20 mm maximum size below foundation of footings or beams and bedding including dewatering, formwork, compaction and curing complete. .(Rate including material and labour)	CUM	4		
4	A-4	Providing and laying in position 300 mm thick dry rubble soling for plinth with approved base preparation by dressing of excavated surface, mechanical compaction, using rubble and smaller pebbles for void filling, stone dust for binding as directed by the Engineer - In - Charge including watering, packing, compaction etc., with required tools and plants and all lead, lift, conveyance as required etc., complete. .(Rate including material and labour)	CUM	6		

5	A-5	Providing cement concrete M-35 of trap granite/quartzite/gneiss metal for R.C.C Work in pile cap as per detailed designs and drawings.(Rate including material and labour)	CUM	8.2		
6	A-6	Providing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe500 conforming to IS codes. .(Rate including material and labour)	TON	0.4		
7	A-7	Providing cement concrete M-35 of trap granite/quartzite/gneiss metal for R.C.C Work in Columns as per detailed designs and drawings. .(Rate including material and labour	CUM	4.15		
8	A-8	Providing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe500 conforming to IS codes. (Rate including material and labour)	TON	0.7		
9	A-9	Structural steel work	TON	22		
		TOTAL RCC WORK				
	B	ROOFING & CLADDING WORK				
10	B-1	Providing and fixing corrugated galvanised iron sheets of 0.6mm thick for roofing with eave gutter and without wind tiles including fastening with galvanised iron screws & bolts, lead & bitumen washers as per drawing etc. complete.	SQM	225	900	
11	B-2	Providing and fixing corrugated galvanised iron sheets of 0.6mm thick for cladding without wind tiles including fastening with galvanised iron screws & bolts, lead & bitumen washers as per drawing etc. complete.	SQM	450	900	
	C	PAINTING WORK.				
12	C-1	Providing and applying 2 coats of Oil paint of approved colour and shade to C.C. sheet including preparing the surface, scaffolding, if necessary, application of one coat of primer etc. complete.	SQM	1350		
		TOTAL ROOFING & PAINTING WORK				
		GRAND TOTAL				

JNPT, LIBERTY OIL MIL (WEIGHBRIDGE)

**BOQ
FOR PILING WORK**

S. N O	I. CODE	DESCRIPTION OF ITEM	UNIT	QTY	RATE	AMOUNT
		RCC WORK				
		GIRDER BEAM & TRENCH WORK				
1	A-1	Excavation for foundation in all types of soils, murrum, soft rock & boulders by any means including removing the excavated material anywhere within the plot, stacking and spreading as directed, dewatering, shoring, strutting preparing bed for foundation including labour manpower, machinery etc, necessary back filling with watering & compaction lifting/lowering boulders upto maximum size which could be handled by bucket of machine etc. (including royalty and other government permission charges & taxes.)	CUM	215		
2	A-2	Breaking piles @1.35 mtr height piles top to bottom	CUM	3		
3	A-3	Providing & Casting insitu 100mm thick 1:3:6 cement concrete with trap/granite/quartzite/gneiss broken stone aggregate of 20 mm maximum size below foundation of footings or beams and bedding including dewatering, formwork, compaction and curing complete. .(Rate including material and labour)	CUM	6.5		
4	A-4	Providing and laying in position 300 mm thick dry rubble soling for raft with approved base preparation by dressing of excavated surface, mechanical compaction, using rubble and smaller pebbles for void filling, stone dust for binding as directed by the Engineer - In - Charge including watering, packing, compaction etc., with required tools and plants and all lead, lift, conveyance as required etc., complete. .(Rate including material and labour)	CUM	19		

5	A-5	Providing cement concrete M-25 of trap granite/quartzite/gneiss metal for R.C.C Work in BEAM as per detailed designs and drawings.(Rate including material and labour)	CUM	12		
6	A-6	Providing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe500 conforming to IS codes. .(Rate including material and labour)	TON	1.3		
7	A-7	Providing cement concrete M-25 of trap granite/quartzite/gneiss metal for R.C.C Work in SLAB & RCC PARDI as per detailed designs and drawings.(Rate including material and labour	CUM	40		
8	A-8	Providing Reinforcement Steel of High Yield Strength Deformed (HYSD) bars of various diameters of grade Fe500 conforming to IS codes. .(Rate including material and labour)	TON	3.2		
		TOTAL				
		GRAND TOTAL				

SECTION:-12

CHECKLIST FOR SUBMISSION

1. Signed Acceptance Letter in Company Letterhead
2. EMD
3. List of work done (in last three years) with certificates from the concern authorities.
4. Last three years IT returns and/or Tax Clearance Certificate
5. Latest GST Returns
6. Tender Document with completed BOQ, signed and stamped on every page
7. Tender Drawing set signed and stamped on every page
8. Tender Fees

All Documents should be placed in a sealed envelope and delivered to the address as Listed In
“Appendix A” on or before _____

2. CIVIL WORK TENDER

LIST OF DRAWINGS

A) ADMIN BUILDING

1. RCC DETAILS OF GROUND LEVEL
2. RCC DETAILS OF 1ST SLAB LEVEL
3. RCC DETAILS OF 2ND SLAB LEVEL
4. RCC DETAILS OF TERRACE SLAB LEVEL
5. RCC DETAILS OF UG TANK
6. RCC DETAILS OF OH TANK.
7. RCC DETAILS OF PILE & PILE CAP (Only Pile Cap Work)

B) TANK LORRY FILLING STATION

1. DETAILS OF STEEL ROOF.
2. DETAILS OF STEEL STAIRCASE.
3. RCC DETAILS OF PILE & PILE CAP (Only Pile Cap & Civil Work)

C) WIGHBRIDGE

1. RCC DETAILS OF WEIGH BRIDGE. (Only for pile Cap & Civil Work)

D) OIL TANK

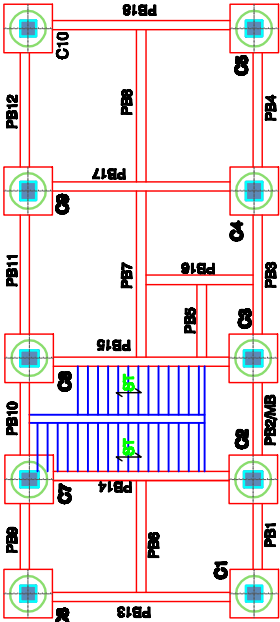
1. RCC DETAILS OF PILE & PILE CAP (Only for pile Cap Work)

SCHEDULE OF SLABS AT 1ST LEVEL

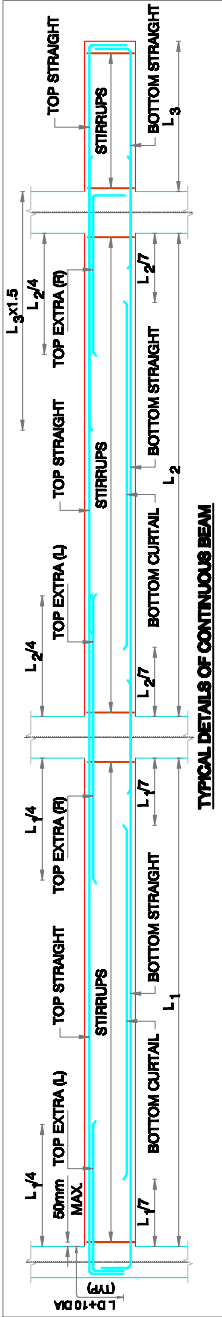
SLAB MARKED	THICK	TYPE	REINFORCEMENT		REMARKS
			SHORT BAR	LONG BAR	
ST	225	ONE WAY	T10 @150C/C (DIST.)	T12 @100C/C (A.T. BENT UP)	STAIRCASE SLAB

SCHEDULE OF BEAMS AT GROUND LEVEL

BEAM MARKED	SIZE (B x D)	REINFORCEMENT				SFR	REMARKS
		BOTTOM (STRAIGHT)	TOP (STRAIGHT)	TOP (EXTRA) LEFT	TOP (EXTRA) RIGHT		
PB1,9	200 x 600	2 - T16	2 - T12	3 - T12	2 - T12	---	TOP EXTRA OVER SUPPORT
PB2	230 x 600	2 - T16	2 - T12	2 - T12	3 - T12	---	TOP EXTRA OVER SUPPORT
PB3,4	230 x 600	2 - T16	2 - T12	3 - T12	3 - T12	---	TOP EXTRA OVER SUPPORT
PB5,6,16	230 x 600	2 - T12	---	---	---	---	---
PB7,8	230 x 600	2 - T12	1 - T12	2 - T12	---	---	---
PB10	230 x 600	2 - T16	---	3 - T12	---	---	LEAVE DOWELS FOR STAIRCASE
PB11	230 x 600	2 - T16	---	2 - T12	3 - T12	---	TOP EXTRA OVER SUPPORT
PB12	230 x 600	2 - T16	---	2 - T12	3 - T12	---	TOP EXTRA OVER SUPPORT
PB13,18	230 x 600	3 - T16	---	3 - T16	3 - T16	---	TOP EXTRA OVER SUPPORT
PB14	230 x 600	3 - T16	1 - T16	3 - T12	3 - T16	---	TOP EXTRA OVER SUPPORT
PB15	230 x 600	3 - T16	1 - T16	3 - T16	3 - T16	---	TOP EXTRA OVER SUPPORT
PB17	230 x 600	2 - T16	2 - T16	3 - T12	4 - T16	---	TOP EXTRA OVER SUPPORT
MB	230 x 600	2 - T16	---	2 - T16	---	---	MIDLING BEAM



STRUCTURAL LAYOUT @ GROUND LVL



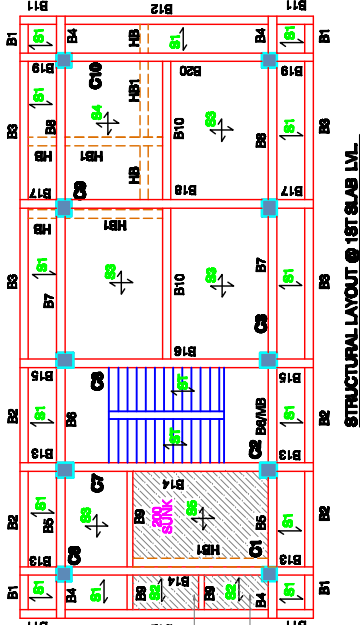
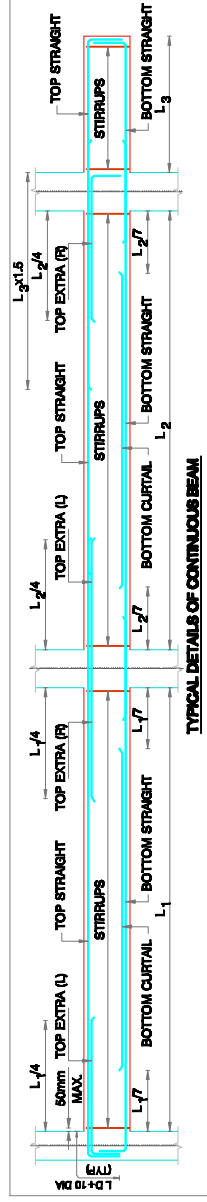
Beam Marked	Size (B x D)	Reinforcement				Stirrups	SFR	Remarks
		Bottom (mm)	Top (mm)	Left	Right			
B1	200 x 600	2-T12	-	2-T12	-	T8@200C	-	---
B2	200 x 600	2-T12	-	2-T12	1-T12	T8@200C	-	TOP EXTRA OVER SUPPORT
B3	200 x 600	2-T12	1-T12	2-T12	1-T12	T8@1750C	-	TOP EXTRA OVER SUPPORT
B4	200 x 600	2-T16	-	4-T16	-	T8@1000C	-	CANTILEVER
B5	200 x 600	2-T16	-	2-T16	2-T16	T8@1600C	-	TOP EXTRA OVER SUPPORT
B4,7	200 x 600	2-T16	-	2-T16	1-T16	T8@1750C	-	TOP EXTRA OVER SUPPORT
B6	200 x 600	2-T16	-	2-T16	1-T16	T8@1750C	-	TOP EXTRA OVER SUPPORT
B9	160 x 600	2-T12	-	2-T12	-	T8@1750C	-	---
B10	200 x 600	3-T12	-	2-T12	-	T8@1750C	-	---
B11	200 x 600	2-T16	-	2-T16	-	T8@1000C	-	CANTILEVER
B12	200 x 600	2-T16	1-T12	2-T12	2-T16	T8@1750C	-	TOP EXTRA OVER SUPPORT
B13,19	200 x 600	2-T16	-	3-T16	-	T8@1000C	-	CANTILEVER
B14	200 x 600	3-T16	1-T16	2-T16	4-T16	T8@1000C TOP 1/4 REST T8@1600C	-	TOP EXTRA OVER SUPPORT
B15,18	200 x 600	3-T16	1-T16	2-T16	4-T16 +1-T12	T8@1250C	-	TOP EXTRA OVER SUPPORT
B17	200 x 600	2-T16	-	2-T20 +2-T16	-	T8@1000C	-	CANTILEVER
B18	200 x 600	3-T16	2-T12	2-T16	3-T20 +1-T16	T8@1250C	-	TOP EXTRA OVER SUPPORT
B20	200 x 600	2-T16 +1-T12	1-T16	2-T16	3-T16	T8@1600C	-	TOP EXTRA OVER SUPPORT
M8	200 x 600	2-T16	-	2-T16	-	T8@1600C	-	MIDLANDING BEAM
M9	200 x 600	2-T16	-	2-T16	-	T8@1600C	-	HIDDEN BEAM
H01	200 x 600	3-T16	-	3-T16	-	T8@1600C	-	HIDDEN BEAM

SLAB MARKED	THICK	TYPE	REINFORCEMENT		REMARKS
			SHORT BAR	LONG BAR	
S1	115	ONE WAY	T8 @ 500C (ALT. BENT UP)	T8 @ 200C (DST)	---
S2	115	ONE WAY	T8 @ 500C (ALT. BENT UP)	T8 @ 750C (DST)	200mm SLINK
S3	115	TWO WAY	T8 @ 750C (ALT. BENT UP)	T8 @ 750C (ALT. BENT UP)	---
S4	125	TWO WAY	T8 @ 500C (ALT. BENT UP)	T8 @ 150C (ALT. BENT UP)	---
S5	115	TWO WAY	T8 @ 500C (ALT. BENT UP)	T8 @ 150C (ALT. BENT UP)	200mm SLINK
S7	225	ONE WAY	T10 @ 150C (DST.)	T12 @ 100C (ALT. BENT UP)	STARCUBE SLAB

Figure 10 illustrates the typical details of a continuous slab across three spans, labeled L_1 , L_2 , and L_3 . The slab is supported by three beams, labeled BEAM (Bx/D). The reinforcement details are as follows:

- Span L_1 :** Top bars are labeled $L_1/10$ and $L_1/7$. Bottom bars are labeled $L_1/4$ and $L_1/5$.
- Span L_2 :** Top bars are labeled $L_2/4$ and $L_2/5$. Bottom bars are labeled $L_2/5$ and $L_2/6$.
- Span L_3 :** Top bars are labeled $L_3/4$ and $L_3/5$. Bottom bars are labeled $L_3/5$ and $L_3/6$.

The diagram also shows the location of 'ALT. BAR BENT UP OF MAIN STEEL' and 'LONG BAR' and 'SHORT BAR'.



[illegible]

1. Use of the *Journal of Health Politics, Policy and Law* to influence public perceptions of health care issues. For example, the *Journal* has published a series of articles on the impact of health care rationing on the poor, and the *Journal* has been cited in numerous congressional hearings on health care reform.
2. The *Journal* has been cited in numerous congressional hearings on health care reform, and the *Journal* has been cited in numerous congressional hearings on health care reform.
3. The *Journal* has been cited in numerous congressional hearings on health care reform, and the *Journal* has been cited in numerous congressional hearings on health care reform.
4. The *Journal* has been cited in numerous congressional hearings on health care reform, and the *Journal* has been cited in numerous congressional hearings on health care reform.
5. The *Journal* has been cited in numerous congressional hearings on health care reform, and the *Journal* has been cited in numerous congressional hearings on health care reform.
6. The *Journal* has been cited in numerous congressional hearings on health care reform, and the *Journal* has been cited in numerous congressional hearings on health care reform.
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8. The *Journal* has been cited in numerous congressional hearings on health care reform, and the *Journal* has been cited in numerous congressional hearings on health care reform.
9. The *Journal* has been cited in numerous congressional hearings on health care reform, and the *Journal* has been cited in numerous congressional hearings on health care reform.
10. The *Journal* has been cited in numerous congressional hearings on health care reform, and the *Journal* has been cited in numerous congressional hearings on health care reform.

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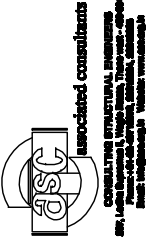
CONSULTING STRUCTURAL ENGINEERS
505, Leslie Street, Suite 1000, Toronto, Ontario
Phone: 416-461-7777, Fax: 416-461-7778
Email: info@cseng.ca Website: www.cseng.ca

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STRUCTURAL LAYOUT OF 2ND SLAB LVL.

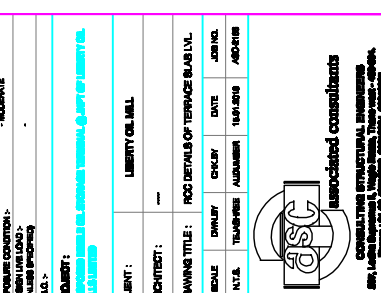
The diagram illustrates the structural layout of the 2nd slab level. It features a grid of columns labeled B1 through B19. Beams are shown as solid lines, and stairs are indicated by blue hatched areas. Dimensions are provided for various sections, and arrows indicate specific structural details or orientations.

SLAB MARKED	THICK	TYPE	REINFORCEMENT		REMARKS
			SHORT BAR	LONG BAR	
S1	115	ONE WAY	T8 @1500C (A.LT. BENT UP)	T8 @2000C (DIST)	---
S2	115	ONE WAY	T8 @1500C (MAN)	T8 @1750C (DIST)	---
S3	115	TWO WAY	T8 @1750C (A.LT. BENT UP)	T8 @1750C (A.LT. BENT UP)	---
S4	150	TWO WAY	T8 @1500C (A.LT. BENT UP)	T8 @1500C (A.LT. BENT UP)	---
S5	225	ONE WAY	T8 @1500C (DIST)	T12 @1000C (A.LT. BENT UP)	STAIRCASE SLAB



	E2	E2

SLAB MARKED	THICK	TYPE	REINFORCEMENT		REMARKS
			SHORT BAR	LONG BAR	
S1	115	ONE WAY	T8 @150CC (A.L.T. BENT UP)	T8 @200CC (D.B.T)	---
S2	115	ONE WAY	T8 @150CC (A.L.T. BENT UP)	T8 @175CC (D.B.T)	---
S3	115	TWO WAY	T8 @125CC (A.L.T. BENT UP)	T8 @150CC (A.L.T. BENT UP)	---
S4	150	TWO WAY	T8 @125CC (A.L.T. BENT UP)	T8 @150CC (A.L.T. BENT UP)	---
S5	225	ONE WAY	T10 @100CC (D.B.T)	T12 @100CC (A.L.T. BENT UP)	STAIRCASE SLAB

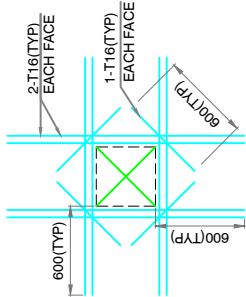
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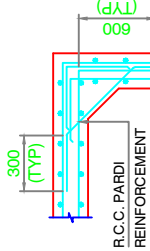
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20100 Lakeside Dr., Suite 2000, Irvine, CA 92618
Phone: 949/453-3333, Fax: 949/453-3334, Website: www.dsc-engineers.com

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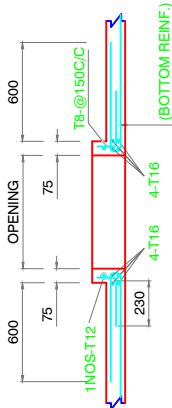
DRAWING NOS. -	ASC / 05
PROJECT STAGE :	
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<input checked="" type="checkbox"/> - ADVANCE	<input type="checkbox"/> - EXECUTION



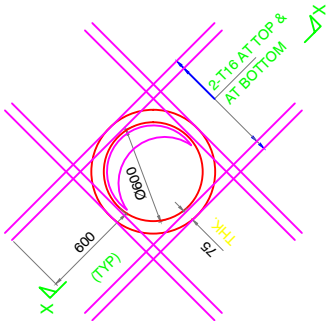
TYPICAL CUTOUT DETAILS IN WALL



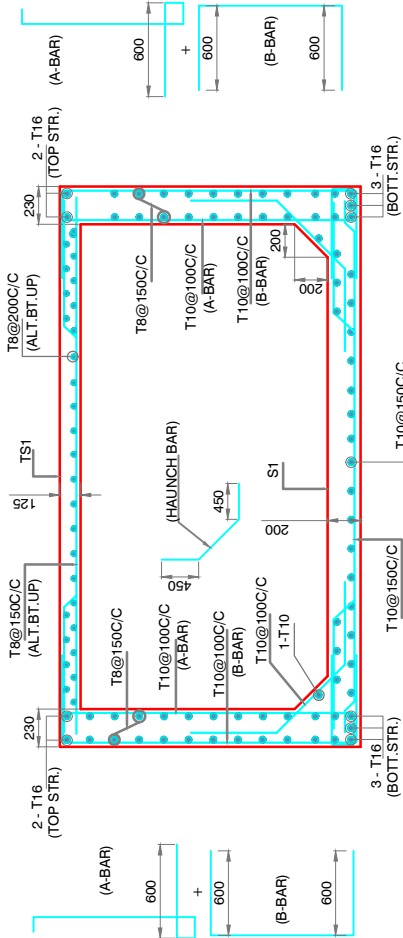
TYPICAL CORNER DETAILS OF WALL



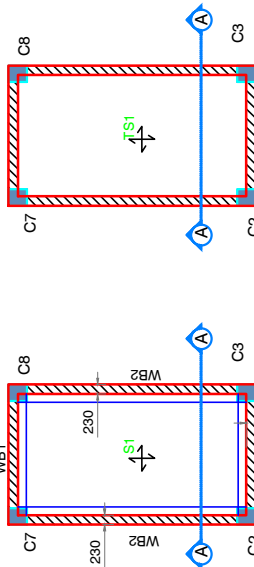
SECTION X - X



TYP. MANHOLE DETAIL



SECTION A-A



BOTT. LVL PLAN AT O.H. TANK

SCHEDULE OF SLABS

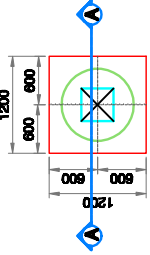
SLAB MARKED	THICK	TYPE	REINFORCEMENT		REMARKS
			SHORT BAR	LONG BAR	
S1	200	TWO WAY	T10 @150C/C (ALT. BENT UP)	T10 @150C/C (ALT. BENT UP)	---
TS1	125	TWO WAY	T8 @150C/C (ALT. BENT UP)	T8 @200C/C (ALT. BENT UP)	---

SCHEDULE OF BEAMS AT O.H. TANK

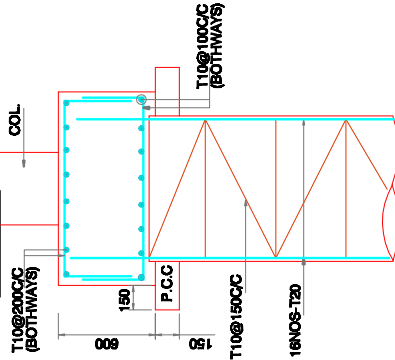
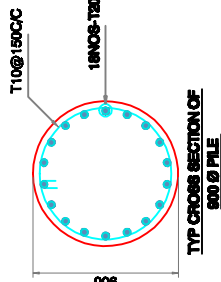
BEAM MARKED	SIZE (B x D)	REINFORCEMENT				REMARKS
		BOTTOM (STRAIGHT)	TOP (STRAIGHT)	TOP (EXTRA) LEFT	TOP (EXTRA) RIGHT	
WB1	230 x 1825	3 - T16	---	2 - T16	---	WALL BEAM
WB2	230 x 1825	3 - T16	---	2 - T16	---	WALL BEAM



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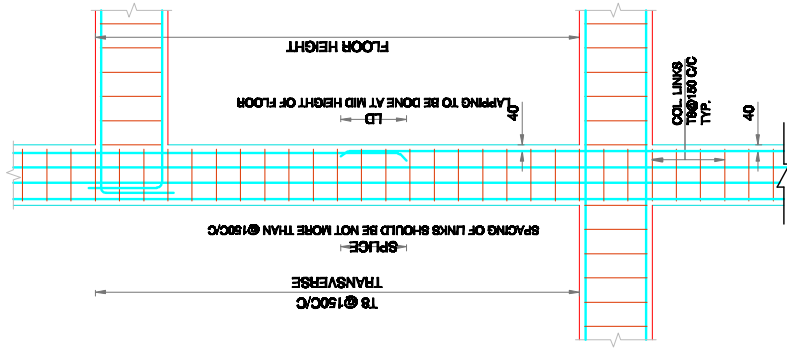
DETAIL OF 1 No. 9000 PILE
& OF 1 No. 9000 PILE &
PILECAP FOR
OLC1,2,3,4,5,6 FOR



SECTION A-A

PROVIDE T12 MASTER RING AT EVERY 1.0MT C/C
END BEARING OF ROCK IS CONSIDERED AS 400T/M2
SOCKET FRICTIONAL RESISTANCE 10T/M2
TOTAL LENGTH OF PILE IS ABOUT 30.0M

3RD	SIZE		400 x 400	400 x 400	
TO	STEEL		4-T16 + 4-T12	4-T16 + 4-T12	
4TH	LINKS		T8 @1500C	T8 @1500C	
3RD	SIZE	400 x 400	400 x 400	400 x 400	400 x 400
TO	STEEL	4-T16 + 4-T12	8-T16	4-T16 + 4-T12	4-T16 + 4-T12
4TH	LINKS	T8 @1500C	T8 @1500C	T8 @1500C	T8 @1500C
2ND	SIZE	400 x 400	400 x 400	400 x 400	400 x 400
TO	STEEL	8-T16	8-T16	8-T16	8-T16
3RD	LINKS	T8 @1500C	T8 @1500C	T8 @1500C	T8 @1500C
FIRST	SIZE	400 x 400	400 x 450	400 x 450	400 x 400
TO	STEEL	8-T16	10-T16	10-T16	8-T16
2ND	LINKS	T8 @1500C	T8 @1500C	T8 @1500C	T8 @1500C
PLINTH	SIZE	400 x 400	400 x 450	400 x 450	400 x 400
TO	STEEL	8-T16	10-T16	10-T16	8-T16
FIRST	LINKS	T8 @1500C	T8 @1500C	T8 @1500C	T8 @1500C
COLUMNS MARKED					
		C1, C8	C2, C7	C3, C6	C4, C5
					C5, C10

[illegible]

TYPICAL CONNECTION DETAIL OF BEAM & COLUMN

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DRAWING NO. -	ASG / 01
PROJECT STAGE :	
<input type="checkbox"/> - SUB	<input type="checkbox"/> - TENDER
<input checked="" type="checkbox"/> - ADVANCE	<input type="checkbox"/> - EXECUTION

10011

- [illegible]

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2. **Any** partner who is not a partner in the partnership is not entitled to participate in the management of the partnership.
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5. **Any** partner who is not a partner in the partnership is not entitled to participate in the management of the partnership.
6. **Any** partner who is not a partner in the partnership is not entitled to participate in the management of the partnership.
7. **Any** partner who is not a partner in the partnership is not entitled to participate in the management of the partnership.
8. **Any** partner who is not a partner in the partnership is not entitled to participate in the management of the partnership.
9. **Any** partner who is not a partner in the partnership is not entitled to participate in the management of the partnership.
10. **Any** partner who is not a partner in the partnership is not entitled to participate in the management of the partnership.

DATE	NO.	DESCRIPTION	DATE	INITIALS	APPRO.
		GRADE OF CONCRETE >	- 1400		
		GRADE OF STEEL >	- FIELD		
		ENVIRONMENTAL			
		EXPOSURE CONDITION >	- MODERATE		
		DESIGN LIVE LOAD >			
		WIND SPEED CATEGORY			
		SEISMIC >			

PROJECT:

CLIENT : LIBERTY OIL MILL

ARCHITECT:

DRAWING TITLE:

SCALE	DWLSBY	CHKBY	DATE	JOB NO.
N.T.R.	TEJASHREE	AUDNUMBER	15.01.2018	ASO-8168



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