EMBASSY OF INDIA

545-547, Merchant Street,
Kyauktada Township, Yangon, Myanmar
Tel:- 00-95-1-391219/243972/388412, Fax:- 00-95-1-254086/250164/388414
E mail: hoc.yangon@mea.gov.in, admn.yangon@mea.gov.in,
Web Site: - https://embassyofindiayangon.in

NOTICE INVITING TENDER (NIT)

Tender No.: LIC/YANGON/TENDER/01/2018

Tender / Bid in two cover systems: a) cover-I "Technical Bid" and b) cover – II "Price Bid" are invited from experienced and resourceful contractors / firms / company for project of "Renovation of LIC building, Yangon, Myanmar – Civil, Interior, and Restoration Work located at 654-666 Merchant Street Yangon, Myanmar".

Terms and conditions:

1. Tender document will be available for sale w.e.f. 03.05.2018 (1500 hrs) till 31.05.2018 (1000 hrs). The complete bids as per terms and conditions mentioned in the tender document should be submitted latest by 1300 hrs on 31.05.2018 and shall be opened on the same day at 1500 hrs.
2. The contract period will be 12 months from the date of Letter of Acceptance (LOA). The estimate cost of project is US Dollars 46,66,086.00/- (US Dollars Forty Six Lakhs and Sixty Six Thousand and Eighty Six Only).
3. Interested bidder may purchase tender document by paying US Dollars 30.00/- (US Dollar Thirty only) in cash at Embassy of India, Yangon for submitting the bids. If the tender downloaded online, the tenderer is not required to pay tender fee.
4. A pre-bid meeting shall be held on 17.05.2018 at 1100 hrs at Embassy of India, 545-547, Merchant Street, Yangon, Myanmar. (Tel: 00-95-1-391219 / 243972 / 388412, Fax: 00-95-1-254086 / 250164 / 388414 & Emails: hoc.yangon@mea.gov.in, admn.yangon@mea.gov.in,).

5. All pre-bid queries shall be sent only by email on or before 15.05.2018 till 1700 hrs. Pre-bid queries shall be sent on following emails: a) hoc.yangon@mea.gov.in and b) admn.yangon@mea.gov.in.
6. The hard copy of original instrument in respect of cost of tender document, Earnest Money Deposit (EMD) / Bid Bond, and other documents must be delivered to the office of Dy. Chief of Mission, Embassy of India, Yangon on or before bid closing date / time as mentioned in schedule with list of important dates.
7. Bids duly completed in all respect along with the Earnest Money Deposit (EMD) / Bid Bond of US Dollars 93,500.00/- (US Dollars Ninety Three Thousand Five Hundred Only) as per attached format (Form “I”) in tender shall be submitted before 1300 hrs on 31.05.2018 in the office of Dy. Chief of Mission, Embassy of India, 545-547, Merchant Street, Kyauktada Township, Yangon, Myanmar and shall be opened at 1500 hrs on same day in the presence of bidders, who choose to be present.
8. Embassy of India, Yangon reserved the right to accept or reject any or all bids without assigning any reason and no correspondence shall be entertained in this regards.
9. Other terms and conditions are as per tender document.

B. Shyam
Dy. Chief of Mission
Embassy of India,
Yangon, Myanmar

Tender Document

Name of Work: Renovation of LIC Building, Yangon, Myanmar – Civil, Interior, and Restoration Work



Tender No.: LIC/YANGON/TENDER/01/2018

Embassy of India, Yangon, Myanmar

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EMBASSY OF INDIA, YANGON
Tender Document

Name of Work: Renovation of LIC Building, Yangon, Myanmar – Civil, Interior, and Restoration Work

SCHEDULE WITH LIST OF IMPORTANT DATES

Tender No.	LIC/YANGON/TENDER/01/2018
Name of work	Renovation of LIC Building, Yangon, Myanmar – Civil, Interior, and Restoration Work. Project location: 654-666 Merchant Street Yangon, Myanmar
Brief scope of work	Renovation of LIC Building, Yangon, Myanmar – Civil, Interior, and Restoration Work
Estimated cost	US Dollar 46,66,086.00/- (US Dollars Forty Six Lakhs and Sixty Six Thousand and Eighty Six only)
Period of completion	12 Months from date of issue of Letter of Acceptance (LOA)
Earnest Money Deposit (EMD) / Bid Bond	US Dollars 93,500.00/- (US Dollars Ninety Three Thousand Five Hundred Only)
Non-refundable cost of tender document, if purchase in hard copy	US Dollars 30.00/- (US Dollars Thirty Only) in cash
Sell/download of tender document	From 3/5/2018 (1500 hrs) to 31/05/2018 (1000 hrs)
Date and venue pre-bid conference	17/05/2018 at 1100 hrs Embassy of India, 545-547 Merchant Street, Yangon, Myanmar Tel: 00-95-1-391219 /243972 / 388412
Last date and e-mail id for submission of pre-bid queries	15/05/2018 at 1700 hrs E-mail ids: hoc.yangon@mea.gov.in / admn.yangon@mea.gov.in
Last date, time and venue for submission of tender document	31/05/2018 at 1300 hrs Embassy of India, 545-547 Merchant Street, Yangon, Myanmar Tel: 00-95-1-391219 /243972 / 388412
Date, time and venue for opening of technical bid	31/05/2018 at 1500 hrs Embassy of India, 545-547 Merchant Street, Yangon, Myanmar Tel: 00-95-1-391219 /243972 / 388412
Validity of offer	180 days from the date of opening of price bid

The tender document can be downloaded from website “https://eprocure.gov.in” and “https://embassyofindiayangon.in”. Corrigendum, if any, would appear only on above websites and not in any newspaper.

CHECK LIST OF REQUIRED DOCUMENTS

S/N	DOCUMENT	CHECK
1	Cover Letter	☐
2	General Information of tenderer	☐
3	Financial Statement, Solvency Certificate, Years of Experience – Form "A"	☐
4	Certified Copies of Balance Sheet along with Form "A"	☐
5	Similar Works Completed – Form "B"	☐
6	Similar Works under Process – Form "C"	☐
7	Performance Report – Form "D"	☐
8	Structure of Organization – Form "E"	☐
9	Details of technical & administrative personnel – Form "F"	☐
10	Details of Construction Equipments – Form "G"	☐
11	Solvency Certificate – Form "H"	☐
12	Joint Venture Agreement	☐
13	Singing of all pages of tender document	☐
14	Earnest Money Deposit (EMD) / Bid Bond – Form "I"	☐
15	Tender Fee (If tender is purchase in hard copy)	☐
16	Experience of Similar Works	☐
17	Financial documents and Bill of Quantities	☐
18	Bar Chart of Work	☐

Section I:
Terms for Tender

TENDER WORKS: INSTRUCTION TO TENDERERS

- Tender form is not transferable.
- The tender documents duly filled in and signed, are to be submitted before due time & date of the submission of tender.
- Tenderer participating in tender opening, may visit Embassy of India, Yangon at the specified time and date of opening of the tender, if he desires so.
- The tenderer is requested to quote his lowest rates for the work specified as per scope of work and bills of quantities.
- Please attach all required documents for conformance as per tender.
- The work is to be carried out at location as specified in Tender.

1.0 SCOPE OF WORK:

The scope of work under this tender is as specified in Technical Specifications of Bills of Quantities (BOQ) or any other documents attached with the tender.

2.0 REQUIREMENTS FROM TENDERERS:

2.1. The tenderer shall provide satisfactory evidence concerning that:

a. The tenderer has proven experience of carrying out such work, which are in operation on the date of submission of the tender.

b. The tenderer does not anticipate change in the ownership during the proposed period of contract. If such a change is anticipated, the scope and effect thereof shall be defined.

c. The tenderer has adequate financial stability and status to meet the financial obligations pursuant to the scope of the contract. The tenderer should attach Solvency Certificate from a Nationalized Bank to the 40 percent of the value of the contract at the time of submission of the tender.

d. The tenderer has adequate organizational structure to provide the necessary management services required for successfully carrying out such work.

2.2. The above stated requirements are a minimum and the Embassy of India, Yangon reserves the right to request for any additional information / data and also reserve the right to reject the proposal of any tender, if in the opinion of the Embassy of India, Yangon, the qualification data is incomplete or the tenderer is found not qualified to satisfactory perform the contract.

2.3. Besides the above requirements, the tenderer shall also fulfil the Qualifying Requirements laid down in the special terms & conditions wherever specified. The tenderer who do not fulfil the above Qualifying Requirements including the qualifying conditions specified in the tender documents, the tender shall be summarily rejected.

3.0 PRICE:

3.1. The item wise prices to be quoted by the tenderer in his tender for the entire scope covered under these specifications and documents to the Embassy of India, Yangon's works site shall be treated as the contract price. The tenderer shall quote the price per unit covering entire scope as stated above.

3.2**.** The offers with conditional discount on any account viz. payment, quantity etc. shall be rejected.

3.3. The tenderer shall quote prices in US Dollars only. Value in US Cents shall be clearly mentioned in two decimals.

3.4. The tenderer should quote item wise price in the price bid as per the Bill of Quantities (BOQ) in section III of tender documents under the various heads indicated therein.

3.5 All the prices shall be inclusive of tax. No extra taxes or payment shall be made by Embassy of India, Yangon. In every invoice Contractor shall give break up of taxes as per the local laws.

4.0 QUOTATION:

Tenderer shall quote itemise rate as per Bill of Quantities (BOQ). Any variation in the rates etc. will not be allowed on any ground such as mistake, misunderstanding etc. after the date and time of submission of tender. Tenderer shall fill amount in figure and words in Bill of Quantities (BOQ): 1) Bill of Quantities without description and 2) Bill of Quantities with descriptions. All pages of these BOQ shall be signed and stamped by the tenderer.

5.0 CLARIFICATION OF TENDER DOCUMENTS:

5.1. The tenderer is expected to examine all instructions, forms, terms and specifications in the tender documents. Failure to furnish all information required under the tender documents or submission of tender not substantially responsive to the tender documents in every respect will be at the risk of the tenderer and may result in rejection of his tender.

5.2. The tenderer requiring a clarification of the tender documents may notify to the Embassy of India, Yangon as per date mentioned in schedule of this tender document.

5.3. Embassy of India, Yangon's response, if any, including an explanation of the enquiry, but without identifying the source of enquiry will be sent to the tenderers who have purchased the tender documents.

6.0 SITE CONDITIONS:

6.1. It shall be imperative on each tenderer to fully inform him of all site conditions and all other factors which may have any effect on the execution of the contract covered under these documents and specifications. The tenderer shall also make enquiry and satisfy him about the contingencies, risk and other circumstances, which may influence or affect the execution of the contract as specified in this tender specification. The Embassy of India, Yangon shall not entertain any request for clarification from the tenders regarding such local conditions.

6.2**.** It shall be presumed by the Embassy of India, Yangon that all such factors, site conditions etc. have been properly investigated and considered by the tenderer while submitting his tender. Neither any change in the time schedule of the contract nor any financial adjustments arising thereof shall be permitted by the Embassy of India, Yangon which are based on the lack of such clear information or its effect on the cost of the contract to the tenderer.

7.0 CONSTITUTION OF TENDERER:

The tenderer should indicate the details such as nature and constitution of its organization viz. whether Proprietary, Partnership, Public Ltd. or Private Ltd. Co.

8.0 SECURITY DEPOSIT:

8.1. The Contractor whose tender is accepted will have to intimate the acceptance of the Order and shall be required to pay within Seven days 5% of the contract value as Security Deposit in the form of Bank Guarantee (BG) issued by any Nationalised bank located in Yangon, Myanmar (as per Form "J"). The security deposit shall be released after 60 days from successful completion of work.

8.2. Contractor will have to pay additional Security Deposit for the Extension order if issued.

9.0 EARNEST MONEY DEPOSIT (EMD) / BID BOND:

9.1. The tenderer shall pay the Earnest Money Deposit / Bid Bond as set below along with the tender. The tender without the payment of Earnest Money Deposit / Bid Bond shall be summarily rejected. No interest shall be paid on the Earnest Money Deposit / Bid Bond.

9.2 Earnest Money Deposit / Bid Bond shall stand forfeited in the event if:

A. Tender is withdrawn after opening of the technical bid.

B. Tender is withdrawn during validity period.

C. Tender is withdrawn before the Tenderer receives formal intimation of decision taken in this regard to this tender.

D. Tenderer fails to pay Security Deposit against this order.

E. Tenderer fails to execute the Stamp Agreement after receipt of Order.

F. Tenderer fails to accept L.O.I. (Letter of Intent).

9.3. In such events Embassy of India, Yangon shall be entitled to recover the amount of EMD / Bid Bond deposited or by application of any other remedy available under the law.

9.4 The successful tenderer upon award of the contract fails to pay the security deposit of the order / contract then the Embassy of India, Yangon without prejudice to the right of the Embassy of India, Yangon to recover damages, if any.

9.5 The Earnest Money Deposit (EMD) / Bid Bond can be submitted in format (Form "I") as mentioned in tender.

9.6 The Earnest Money Deposit / Bid Bond is US Dollars 93,500.00/- (US Dollars Ninety Three Thousand Five Hundred).

10.0 EARNEST MONEY / BID BOND OF UNSUCCESSFUL TENDERER:

10.1. Earnest Money Deposited / Bid Bonds shall be returned to the unsuccessful tenderer as soon as possible after the tender has been decided and on submission of request letter to the office of the Embassy of India, Yangon.

10.2. Tenderers are requested to submit their applications for refund of E.M.D. / Bid Bond / S.D. / Retention Money within 6 month from the date of Payment; otherwise, it will be treated as forfeited.

11.0 SIGNING OF THE TENDER DOCUMENTS:

11.1. Offer shall be submitted along with the tender documents and duly filled in with all sections / Appendices / Schedules etc.

11.2. The offer shall be signed with valid authorised signature(s).

12.0 TIMELY SUBMISSION OF OFFER:

12.1. The tender is to be submitted on or before due date & time of submission to the Embassy of India, Yangon.

13.0 SUBMISSION / SUPER SCRIBING OF THE TENDER DOCUMENTS:

The offer is to be submitted as follows:

13.1. Technical Bid (Part I): This part shall contain all technical aspects of the bid and documents supporting the same except the price bid. Physical submission of documents shall contain documents like type cover letter, profile, experience, reports, drawings, bill of material, catalogues etc. demanded in tender in physical form (hard copy) & is to be submitted to Embassy of India, Yangon.

13.2. Price Bid (Part II): This part shall contain only the Price Bid; strictly in the prescribed format in Section III.

13.3. Method of submission of Bids and their opening: This envelope shall be individually sealed and shall be super scribed with the name and address of tenderer and the following information before posting or delivering the same:

a. Tender No.: LIC/YANGON/TENDER/01/2018
b. Last Date of Submission of Pre-bid queries 15/05/2018 at 1700 hrs
c. Pre-bid meeting date: 17/05/2018 1100 hrs
d. Due date and time of submission: 31/05/2018 at 1300 hrs
e. Due date and time of opening: 31/05/2018 at 1500 hrs

13.4. Envelope as above shall be opened on the scheduled date of opening of Bid.

13.5. In respect of tenderer whose technical bid is acceptable, their Price Bid shall be scheduled for opening.

14.0 QUANTITIES OFFERED:

The quantity offered should be filled in prescribed Columns of Price Bid, failing which offer will be treated as 'No Offer' and rejected. Owner can reduce or increase the quantities as per his requirements or suggestion of architect during the execution of project.

15.0 INFORMATION REQUIRED WITH TENDER:

15.1. The tenderer shall clearly indicate his organizational structure such as machinery, manpower, financial position etc. available for execution of contract. He shall also indicate the name of the subcontractor, if intended, along with the full details of the sub-contractors. Such information should be furnished in separate sheet to be attached to the offer.

15.2. The tenderer shall attach the relevant documents in order to fulfil Qualifying Requirements.

15.3. In case of any deviation as regards the specification, the tenderer shall clearly indicate in separate sheet of technical deviation schedule.

15.4. The tenderer shall give the full address along with Telephone No., FAX, E-mail etc. for the purpose of correspondence. The letters / notices served or left upon said address shall be deemed to have been served upon the tenderer or contractor. The tenderer shall immediately communicate the change in address, Telephone, Fax, E-mail etc., if any. Failure to intimate such change, any letter or notice served upon original address of the tenderer shall be deemed to be received by the tenderer / contractor.

15.5. Verbal statement or information furnished by the tenderer as regards the quality, quantity, arrangement of work or any other matter connected to the tender shall not be considered.

16.0 WORK COMPLETION PERIOD:

16.1. The work completion period will be reckoned as 12 months from the date of Letter of Acceptance (LOA). Tenderer is requested to quote work completion period clearly in a Bar

Chart format. Work completion period which directly or indirectly affects the Conditions of Tender & Work shall be liable for rejection.

16.2. Offer shall not be accepted if the work completion in Bar Chart format is not indicated.

17.0 FILLING IN OF PRICE BOQ:

Tenderer is requested to ensure that the comments against each and every item / clause of price schedule / section shall be clearly filled in and answered. Any item / clause shall not be left blank or unanswered. Price bid will be submitted in US Dollars. Currency exchange rate on date of submission of tender will be considered as final currency exchange rate. No extra payment will be made if currency exchange rate changes in later date.

18.0 MANDATORY REQUIREMENT OF SUBMISSION OF OFFER:

The offer shall be submitted duly filled in; attaching all the required documents, completed in all respects and should be signed.

19.0 LANGUAGE OF THE TENDER:

The tender filled in by the tenderer and all correspondence & documents relating to the tender exchanged between the tenderer and Embassy of India, Yangon shall be written in English language. Any document furnished along with the tender in a local vernacular language shall be accompanied with the English translation.

20.0 AMENDMENT OF THE TENDER:

At any time prior to the date of opening of the tender, the Embassy of India, Yangon may for any reason, whether at its own initiative or in response to a clarification required by the tenderer, modify the tender documents by an amendment which may be notified by e-mail to all the prospective tenderers who have received the tender documents and will be binding on them. Embassy of India, Yangon may at its discretion extend the date of opening of the tender.

21.0 DISREGARD OF TENDER CONDITIONS:

21.1. The Embassy of India, Yangon reserves the right to reject any tender, which does not conform to any of the conditions / instructions etc.

21.2. Tender containing any deviations / additions / alterations / changes in the conditions of tender as stated in any sections /price schedule shall not be acceptable.

21.3. The tenderer having signed all the tender documents indicates any deviations / additions / alterations / changes in the covering letter, unrelated annexure, schedules of the offer or elsewhere, the same shall be ignored and the offer shall be treated as meeting with all specified tender conditions.

22.0 EXAMINATION OF TENDERS:

22.1. The tenderer shall furnish all the data, drawings and other information / documents as per schedules attached to this specification, duly signed with the seal of the company, as a token of acceptance.

22.2. The Embassy of India, Yangon reserves the right to reject any offer for lack of any data as called for in the schedules and particularly in the technical details.

22.3. After the opening, the Embassy of India, Yangon shall examine the tenders to determine whether they are complete, whether required confirmations have been furnished, whether the documents have been properly signed and whether the tenders are generally in order, whether the essential / special terms and conditions are agreed.

23.0 POLICY FOR TENDERS UNDER CONSIDERATION:

23.1. The tenders shall be deemed to be under consideration immediately after they are opened and until such time the official intimation of award / rejection is made by the Embassy of India, Yangon to the tenderers.

23.2. While the tenders are under consideration, the tenderers and / or their representatives or other interested parties are advised to refrain from contacting by any means, the Embassy of India, Yangon and / or his employees / representatives on matters related to the tender under consideration. The Embassy of India, Yangon, if necessary, shall obtain clarifications on the tender by requesting for such information from any or all the tenderers in writing by letter / e-mail, as may be necessary.

23.3. All unsolicited correspondence, discussions etc. by the tenderer after opening of the price bid shall be treated as post tender development / information and shall not be considered for tender evaluation purpose.

24.0 ACCEPTANCE OF TENDER:

24.1. The Embassy of India, Yangon does not bind itself to accept the lowest or any tender neither will any reasons be assigned for the rejection of any tender or part of tender. It is also not binding on the Embassy of India, Yangon to disclose any analysis report on tender / samples. The tenderer on the other hand binds him to carry out work on any item or items selected from his offer in part or whole at the option of the Embassy of India, Yangon.

24.2. The Embassy of India, Yangon shall reserve the right to place an order for any quantity in excess to the extent of 50% or any less quantity, of the quantities offered by the tenderer at the price approved in this tender.

25.0 AMBIGUITY IN QUOTATION OR DEVIATIONS:

The tenderer shall ensure that he should quote the tender in clear terms and only fill in the blanks wherever required. Any ambiguity in the terms and conditions may lead the rejection of tender. The tenderer should note that there shall be no deviation in respect of the following terms specified in tender documents and the deviation if any; the tender shall be liable for rejection.

a. Payment of Earnest Money Deposit / Bid Bond
b. Payment of Security Deposit
c. Terms of Payment
d. Guarantee
e. Period of validity of offer
f. Jurisdiction of Court
g. Default of contractor & termination thereof
h. Non-compliance of special Condition specified

26.0 WITHDRAWAL OF INVITATION OF TENDER:

The Embassy of India, Yangon reserves its right to withdraw the invitation of tender at any time before its acceptance is communicated to the successful tenderers.

27.0 NAME OF REPRESENTATIVE:

In case the tenderer authorises the agent or the representative to deal on behalf of the tenderer the name and address of such person should be informed to the Embassy of India, Yangon. The tenderer shall submit the Power of Attorney in favour of agents / representative duly executed before the Notary. In. the absence of the power of attorney, the Embassy of India, Yangon shall not deal with the agent / representative.

28.0 NOTIFICATION OF AWARD OF CONTRACT:

The notification of Award of contract will be communicated to the successful tenderer by Letter of Award (LOA) by registered post or hand delivery or Fax or e-mail as the Embassy of India, Yangon deems it fit which shall be followed by letter of confirmation by registered post. It shall be noted that the contract shall be concluded on notification of award of contract.

29.0 VALIDITY OF THE TENDER:

The tenderer will keep the offer valid for acceptance up to and including last date of calendar month, covering the date of completion of 180 days (One Hundred and Eighty days) from the date of opening of the tender and shall also agree to extend the period of validity required by the Embassy of India, Yangon. The tenderer shall not be allowed to modify or change the conditions of the tender while extending the period of validity.

30.0 PROCEDURE FOR SUBMISSION OF TENDER

30.1. The tenderer shall note that all Sections / Bids & price schedule etc. to be submitted along with the tender duly signed.

30.2. Failure to follow this procedure shall render the tender incomplete and shall be liable for rejection.

30.3. The offer of the tenderer shall be submitted with covering letter on letterhead of lead member of joint venture (JV).

31.0 EXPERIENCE OF CONTRACTOR

31.1 The contractor shall have following experiences:

- Contract must have experience in restoration/upgradation of civil works using the latest standards on heritage buildings.
- Contractor with recognition from the ASI, INTACH, and UNESCO/UNDP in restoration projects will be given preference.
- Contractor must have Contractor's license from authorities in city of Yangon. These include licence from electricity department, water and sanitation and others.
- Contract must have experience in working at a heritage site and aware of restorative modernization and adaptive reuse.
- Contractor shall have knowledge of current international HVAC Standards with norms laid down by ASHRAE and OSHA for mitigating building sickness.
- Contractor shall have good experience of civil and interior works.

31.2 Contractor shall have undertaken similar project with following values:

31.2.1 The applicant should have satisfactorily completed:

a) Three similar works each costing US Dollars 18,66,436.00/- (US Dollars Eighteen Lakhs Sixty Six Thousand Four Hundred and Thirty Six Only) (40% of estimated cost)

or

b) Completed two similar work each costing not less than US Dollars 27,99,870.00/- (US Dollars Twenty Seven Lakhs Ninety Nine Thousand Eight Hundred and Seventy Only) (60 % of estimated cost)

or

c) One similar work not costing less than US Dollars 37,32,870.00/- (US Dollars Thirty Seven Lakhs Thirty Two Thousand Eight Hundred and Seventy Only) (80% of estimated cost),

This cost is all including taxes during the last five years ending last day of the month previous to the one in which bids are invited.

Similar work: The similar work means undertaking project of renovation of old building which include adaptive reuse, restoration, and conservation. This work includes civil, interior and exterior work of historic building with electrical, plumbing, sanitation, HAVC etc.

If the work requires some imported components / services, tenderer shall arrange to import such material against his import license and cost. Embassy of India, Yangon shall not be responsible for obtaining Import License or furnishing essentiality certificate for import of such component of the custom duty payable on such material. The Embassy of India, Yangon shall not be liable to pay custom duty or variation thereof including the variation on account of foreign exchange rate. The offers requiring the Embassy of India, Yangon to obtain Import License or to make payment of custom duty or any variation referred to above shall be rejected.

32.0 FINANCIAL TURNOVER

The applicant should have an average Annual Financial Turnover of not less than US Dollars 23,33,045.00/- (50 % of estimated cost of US Dollars 46,66,086.00/-) on similar works in the last 03 consecutive year ending last day of the month previous to which bids are invited. This should be supported by audited balance sheets and profit and loss accounts duly certified by a Chartered Accountant.

33.0 JOINT VENTURE (JV)

The joint venture is permitted to maximum three JV partners in this tender. JV shall submit registered JV agreement along with this tender. Lead member of JV shall be responsible along with JV members to execute the project. In joint venture, financial strength and solvency of lead member will be given preference by Embassy of India, Yangon. Lead member shall have financial turnover as mentioned in point no. 32.0. JV shall have local office in Yangon.

34.0 MOBILIZATION ADVANCE

The contractor may be provided mobilisation advance equivalent to 10% of the contract value on specific request of the Contractor against an equivalent bank guarantee only. This bank guarantee will be released to Contractor after completing Stage II mentioned in section 35.0 of payment terms.

35.0 PAYMENT TERMS

The payment towards the execution of work will be paid in instalments as specified below.

S/N	Stages	Percentage Payment
1	**STAGE I:** After signing of agreement and official takeover of site.	Mobilisation advance payment of 10% against bank original Bank Guarantee (BG) from Nationalised bank.
2	**STAGE II:** After completing 30 % of work of contract price.	20% of the total contract price or project value.
3	**STAGE III:** After completing 50 % of work of contract price.	20% of the total contract price or project value.
4	**STAGE VI:** After completing 70 % of work of contract price.	20% of the total contract price or project value.
5	**STAGE V:** After completing 90 % of work of contract price.	20% of the total contract price or project value.
6	**STAGE VI:** After completing 100 % of work of contract price.	10% of the total contract price or project value.

The Embassy of India, with its authorised representative may issues part payment in any stage after approval from the competent authority. Payments to the Contractor shall be "on account" in Yangon through bank transfer. Contractor shall submit original invoice in three copies with completion certificate from architect or engineer incharge. The invoice shall include measurement sheets of all items. A main summary shall be attached along with the

measurement sheets. Also contractor shall submit summary of measurements of all stage and payments received in all stages along with the next stage of payment.

36.0 LIQUIDATED DAMAGES

In the event of failure of the Contractor to complete the assigned work within the stipulated time period and in case the work is delayed and the delay is attributed to the Contractor, the contractor will pay to the Mission/Employer the delay damage @ 0.5% of contract amount of work for delay per week, subject to maximum 10% of contract amount.

37.0 DEFECT LIABILITY PERIOD

The defect liability period is 365 days from the date of completion of work. Contractor shall be responsible to make good and remedy at his own expense within defect liability period in all respect.

38.0 RETENTION MONEY

The retention money @ 5% of the contract amount from the each bill for payment shall be deducted. 50% of retention money shall be released after 180 days of completion of work. The entire balance retention money shall be released at the end of defect liability period after satisfactory performance of work/workmanship of the work during defects liability period.

39.00 ARBITRATION

39.1 In the event of any dispute or difference arising at any time between the parties relating to the construction; meaning or effect of this tender or any other cause or any content of the rights and liabilities of the parties or other matters specified herein or with reference to anything arising out of or incidental to this tender or otherwise in relation to the terms; whether during the continuance of this tender or thereafter, such disputes or differences shall be endeavored to be solved by mutual negotiations.

39.2 It, however, such negotiations are infructuous, Arbitration shall be carried out as per provisions of UNCITRAL. The venue of arbitration shall be New Delhi.

39.3 Any reference to arbitration shall not relieve either party from the due performance of its obligations under this tender.

40.00 FORCE MAJEURE AND EOT CLAUSE

In the event of force majeure i.e. unforeseeable events such as was, floods, earthquake etc. beyond the reasonable control of the Parties to the contract which prevent either party from meeting their obligations under the contract the contractual obligations as far as affected by such event shall be suspended for as long as the force majeure continues provided that the other party is notified within two weeks after occurrence of the force majeure. Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder. In the event of force majeure either party shall be entitled to prolongation of this Contract equal to the delay caused by such force majeure.

Section II:
Annexures

GENERAL INFORMATION

1) **Name of Contractor: _____**

2) **Registered Address: _____**

3) **Telephone No.: _____**

4) **Fax. No.: _____**

5) **Email: _____**

6) **Contact No. of Sr. Representative/Directors/Partners_____**

   _____

   _____

7) **Nature of Company (Ltd., Pvt. Ltd., or others): _____**

8) **Name of Joint Venture: _____**

9) **Name of Lead member: _____**

10) **Name of other Joint Venture members: _____**

Form "A"

1. **Financial Statement:**

    a. Authorised Capital (Give Break Up) _____

    b. Issue and paid up capital _____

    c. Annual Turn Over for last Three years_____

    _____

    (Provide certified copies of Audited Balance Sheets)

    d. Applicant's financial arrangements for proposed work of Embassy of India

        i. Own Resources:

        ii. Bank Credits:

        iii. Other (Please specify)

2. **Solvency Certificate (As per proforma in Form "G')**

3. **No. of Years of Experience as contractors**

    a. In country of Origin _____

    b. International Countries _____

Note: The applicant should have an average Annual Financial Turnover of not less than US Dollars 23,33,043.00/- (50 % of estimated cost of US Dollars 46,66,086.00/-) on similar works in the last 03 consecutive year ending last day of the month previous to which bids are invited. This should be supported by audited balance sheets and profit and loss accounts duly certified by a Chartered Accountant.

The applicant should be profit making company/firm. They should not have incurred any loss in more than 02 years in the last 05 consecutive years.

The applicant should have Bank Solvency of US Dollars 18,66,434.00/- certified by Banker not older than 6 Months.

Form "B"

a) Similar Work completed during the last 7 years

S/N	Title Location & Brief Description of Work	Value of Work (US $)	Client	Consultant	Contract Period for Completion	Actual Period for Completion	Litigation/Arbitration Pending	Client Certificate on Page

(Authorized Signatory)
Name:
Designation:
(Seal of Company)

Form "C"

a) Similar Work under progress

S/N	Title Location & Brief Description of Work	Value of Work (US $)	Client	Consultant	Due Date of Completion	Up to date progress	Slow progress in any	Client Certificate on Page

(Authorized Signatory)
Name:
Designation:
(Seal of Company)

Form "D"

PERFOMANCE REPORT

1. Project Name and Location:
2. Client, Owner references name:
3. Project Architects:
4. Name of Contractors:
5. Total Cost of Project (Value in US Dollars) including VAT/GST
6. Date of Commencement, Date of Completion, Current Status
7. Amount of compensation levied for delayed completion if any
8. Amount of reduced rate items, if any
9. Size of Building in Square Meters
10. No. of Floors & No. of Basement
11. Type of building (Please also specify whether building meets similar work definition)
12. Performance Reports

    a. Quality of work Very Good Good Fair Poor

    b. Financial soundness Very Good Good Fair Poor

    c. Technical Proficiency Very Good Good Fair Poor

    d. Resourcefulness Very Good Good Fair Poor

    e. General behaviour Very Good Good Fair Poor

    Dated:

    Signed by:

    Project Manager or Equivalent

Form "E"

STRUCTURE OF ORGANIZATION

1. Name and address of applicant:
2. Telephone No.:

   Fax. No.:

   Email Address:
3. Legal Status of the applicant (attach copies of original document defining the legal status)
   a. An Individual
   b. A proprietary firm
   c. A firm in partnership
   d. A limited company or corporation
4. Particulars of registration with various Government bodies (attach attested photocopy)

S/N	Organization/Place of Registration
i.	
ii.	
5. Name and titles of Directors and officers with designation to be concerned with this work
6. Designation of individual authorised to etc for the organization
7. Was the applicant ever required to suspend construction for the period of more than six months continuously after commencing construction? If so, give name of project and reason for not completing the work.
8. Has the applicant, or any constituent partner in case of partnership firm, ever abandoned the awarded work before completion? If so, give name of project and reason for abandonment.
9. Has the applicant or any constituent partner in case of partnership firm, ever been debarred/backlisted for tendering in any organization at any time? If so give details
10. Any other information considered necessary but not included above.

Form "F"

DETAILS OF TECHNICAL AND ADMINISTRATIVE PERSONEL TO BE EMPLOYED FOR THE WORK

S/N	Name	Position	Educational Qualification General Experience	Relevant experience and details of work carried out	Project Responsibilities	Remarks

Signature of Applicant

Note: Attached CV, education qualification, professional license & experience document

Form "G"

DETAILS OF CONSTRUCITON EQUIPMENTS LIKELY TO BE USED IN CARRYING OUT THE WORK

S/N	Name of equipment	Model	Capacity	Age	Conditions	Ownership	Current Location	Remark

Note: Attach the ownership certificate or rental agreement from equipment rental company

Form "H"

PRO FORMA FOR SOLVENCY CERTIFICATE FROM A NATIONALISED BANK

(On letterhead of bank)

This is to certify that to the best of our knowledge an information that M/s _____ having marginally noted address, a costumer of our bank are /is responsible and can be treated as good for any engagement up to a limit of US Dollar (In figures) _____ /- (US Dollars (In Words) _____ only).

This certificate is issued without any guarantee or responsibility on the bank or amount the officers.

(Signature and Seal of Bank)

Form "I"

FORMAT OF EARNEST MONEY DEPOSIT / BID BOND

Date:

To,

Embassy of India,
545-547, Marchant Street,
Yangon, Myanmar

Bank Guarantee / Bid Bond no.:

We (name of bank) refer to the invitation for bid no. [ ] dated [ ] and the bid no. [ ] dated [ ] regarding tender for [description of the bid] (the "Bid") which [bidder, name and address] (the "Bidder") has submitted to you, and to the guarantee to be provided to secure that the Bidder adheres to its Bid.

We irrevocably undertake to pay to you on your first written demand the amount, not to exceed the total amount of [amount in figures] [amount in letters], you claim that we shall pay, provided that your claim is supported by a statement stating either that:

1. The Bidder has withdrawn its Bid during the period of bid validity; or

2. While, the Bidder was declared the successful bidder:

a, the Bidder did not sign the contract corresponding to its Bid; or

b, the Bidder failed to provide the guarantee(s) requested in the invitation for bid.

This guarantee is valid up to and including [ ] or such earlier day as the original of the guarantee is returned to us (the "Expiry date").

Claims, if any, under this guarantee, with one supporting statement as per above must be received by us, (name and address of the bank), in written form not later than the Expiry date to be valid against us. A bank shall confirm that the signatures thereon are legally binding upon you.

This guarantee shall be governed by and construed in accordance with the laws of Myanmar and shall be subject to the jurisdiction of the courts in Yangon.

Name, signature and seal of the bank

Form "J"

FORMAT OF BANK GUARANTEE FOR SECURITY DEPOSIT

(To be executed by the Nationalized Bank on non-judicial stamp paper)

To Date:

Embassy of India,
545-547, Marchant Street,
Yangon, Myanmar

Dear Sir/Madam,

Sub: Your Contract No. _____dated_____
for _____

1. You have entered into a contract with reference number as given above with _____ (herein after referred to as the contractor) for the civil, interior and restoration works of _____ (herein after referred to as Owner) for the price and on the terms and conditions contained in the said contract.

2. In accordance with the terms of said contract the contractor has undertaken to produce a Bank Guarantee (BG) for US Dollars. _____ (US Dollars _____ only) being _____ % of the total value of the said contract, for the due fulfilment of its obligations to the _____ for due performance as per the contract during defect liability period.

3. In consideration thereof, we hereby expressly, irrevocably and unconditionally undertake and guarantee as principal obligors on behalf of the contractor that in the event that the _____ submits a written demand to us that the contractor has not performed according to the contractual obligations included in the said contract, we will pay you on written demand, without demur and without reference to the contractor any sum up to a maximum amount of US Dollars _____ (US Dollars _____ only).Your demand shall be conclusive evidence to us that such repayment is due under the terms of the said contract. Payment by us to you will be made within thirty (30) days from receipt of your written request making reference to this guarantee and on demand.

4. This guarantee shall not be revoked without your express consent and shall not be affected by your granting any indulgence to the contractor, which shall include but not be limited to postponement from time to time of the exercise of any powers vested in you or any right which you may have against the contractor and to exercise the same in any manner at any time and either to forbear or to enforce any covenant contained or implied in the said contract or any other course or remedy or security available to you, and our Bank shall not be released from its obligations under this guarantee by your exercising any of your rights with reference to matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on your part or any other

indulgence shown by you or by any other matter or thing whatsoever which under law would, but for this provision, have the effect of relieving our Bank from its obligation under this guarantee.

5. Notwithstanding anything herein contained, our liability under this guarantee is restricted to US Dollars _____(US Dollars _____ only) and the guarantee shall remain in force up to and including the_____ _____ day of being reported to us by you and returned to us duly discharged.

6. Unless a demand or claim under this guarantee is made on us in writing on or before the aforesaid expiry date as provided above or unless this guarantee is extended by us all your rights under this guarantee shall be proscribed and we shall be discharge from the liabilities hereunder.

7. This guarantee shall not be affected by any change in the constitution of our Bank or of the contractor or for any other reason whatsoever.

Date: Sd.....

Place: Bankers

Seal of the Bank

Witness:

1. .....

2. .....

Section III:
Financial Document & Bill of Quantities

(To be typed on company letter head)

To,

Embassy of India,
545-547, Marchant Street,
Post Box. No. 751, Yangon Myanmar

Subject: Price bid for the Tender no. LIC/YANGON/TENDER/01/2018

Dear Sir,

I will like to submit the price bid for the tender no. LIC/YANGON/TENDER/01/2018 along with the detail Bill of Quantities (BOQ). Following is the summary of the quote:

Sr. No.	Particular	Price in Figure	Price in Words
1.	Total Amount for Renovation of LIC Building, Yangon		

I agree to all the terms and conditions in the conditions in the tender document. I have duly filled all items in Bill of Quantities (BOQ).

The above price is inclusive of all taxes.

With Best Regards

Yours Faithfully,

(Authorized Signatory)
Name:
Designation:
(Seal of Company)

Attachment: Bill of Quantities (BOQ)

Bill of Quantities (BOQ)

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

GENERAL ABSTRACT

S/N	DISCRIPTION	AMOUNT (FIGURE)	AMOUNT (WORDS)
1	BASEMENT		
2	GROUND FLOOR		
3	FIRST FLOOR		
4	SECOND FLOOR		
5	THIRD FLOOR		
6	FOURTH FLOOR		
7	TRERRACE FLOOR		
8	ELECTRICAL FOR ALL FLOORS		
9	PLUMBING & SANITATION FOR ALL FLOORS		
10	MISCELLENIOUS WORKS		
11	CCTV SYSTEM		
12	HVAC SYSTEM		
13	TOTAL		

Total Amount in Words _____

_____

SIGNATURE AND SEAL OF CONTRCATOR

BILL OF QUANTITIES (BOQ) WITHOUT DESCRIPTIONS

BASEMENT FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORDS)
1	REMOVAL OF WATER FROM BASEMENT	1044.95	CuM			
2	REPAIRING OF EXISTING WATER SOURCES/WELL	1.00	LS			
3	FOUNDATION TEST THROUGH CORE SAMPLES	1.00	LS			
4	FOUNDATION STRENGTHENING	1.00	LS			
5	DISMANTLING AND CLEANING BROKEN DEBRIS	1063.45	SqM			
6	ANTI-TERMITE TREATMENT	1524.32	SqM			
7	REMOVING OLD PAINT AND MAKING SURFACE	479.37	SqM			
8	REPAIR & RESTORATION OF OLD WOODEN DOORS	6.00	No.s			
9	REPAIR & RESTORATION OF OLD METAL DOORS, WINDOWS AND VENTILATORS	4.00	No.s			
10	BRICK WORK IN CEMENT MORTAR	34.04	CuM			
11	INTERNAL PLASTER FOR REPAIR & RESTORATION OF SPALLING IN SLABS, BEAMS AND COLUMNS	750.00	SqM			
12	VITRIFIED TILES FLOORING	2618.88	SqM			
13	VITRIFIED TILES SKIRTING	423.87	Rmt			
14	WATER PROOF CEMENT PAINT	240.056	SqM			
15	DOORS (WITHOUT FRAMES)	16.800	SqM			
16	DOOR FRAMES	0.384	CuM			
17	EMULSION PAINT	1389.560	SqM			
18	FABRICATION OF STEEL WORK	1.00	LS			
19	SERVICE DUCT	6.00	LS			
				SUBTOTAL		

GROUND FLOOR & MEZZANINE (INCLUDING PASSANGER LIFTS)

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	DISMANTLING FALSE FLOOR	172.15	SqM			

2	DISMANTLING AND CLEANING BROKEN DEBRIS	1044.95	SqM			
3	DISMANTLING BRICK WALLS	25.90	CuM			
4	ANTI-TERMITE TREATMENT	1524.32	SqM			
5	REMOVING OLD PAINT AND MAKING SURFACE	479.37	SqM			
6	REPAIR & RESTORATION OF OLD WOODEN DOORS	9.00	No.s			
7	REPAIR & RESTORATION OF OLD METAL DOORS	8.00	No.s			
8	REPAIR & RESTORATION OF OLD METAL WINDOWS	20.00	No.s			
9	REPAIR & RESTORATION OF OLD METAL VENTILATORS	10.00	No.s			
10	BRICK WORK IN CEMENT MORTAR	69.38	CuM			
11	INTERNAL PLASTER FOR REPAIR & RESTORATION OF SPALLING IN SLABS, BEAMS AND COLUMNS	194.38	SqM			
12	MARBLE FLOORING	1620.95	SqM			
13	VITRIFIED TILES FLOORING					
a.	SIZE: 600 X 600 (Avg.)	64.17	SqM			
14	VITRIFIED TILES SKIRTING					
A	SIZE: 600 X 600 (Avg.)	379.98	SqM			
15	DIGITAL GLAZED VITRIFIED WALL TILES					
a.	SIZE: 600 X 600 (Avg.)	144.00	SqM			
b.	SIZE: 800 X 800 (Avg.)	218.94	SqM			
c.	SIZE: 600 X 1200 (Avg.)	129.09	SqM			
16	GLASS PARTITION	47.69	SqM			
17	GLASS DOOR	2.00	No.s			
18	WOODEN FLOORING FOR AUDITORIUM SEATING	135.78	SqM			

19	FOAM SEATS IN AUDITORIUM	194.00	No.s			
20	MS FABRICATION FOR MEZZANINE FLOOR	39.66	SqM			
21	DOORS (WITHOUT FRAMES)	46.20	SqM			
22	DOOR FRAMES	9.24	CuM			
23	EMULSION PAINT	1309.50	SqM			
24	LUSTRE PAINT	1900.69	SqM			
25	TEXTURE PAINT	875.00	SqM			
26	CEILING & WALL PANELLING BEHIND RECEPTION WALL: METAL PANEL SYSTEM	165.00	SqM			
27	AUDITORIUM CEILING: CURVE TORSION SPRING METAL CEILING SYSTEM	74.27	SqM			
28	METAL CEILING IN HORIZONTALLY CURVED BAFFLES	90.00	SqM			
29	METAL CLIP IN CEILING	170.21	SqM			
30	FALSE CEILING IN CORIAN SOLIDS IN LOBBY	42.49	SqM			
31	POP FALSE CEILING	360.82	SqM			
32	FALSE CEILING (600 X 600 BOARD)	238.30	SqM			
33	ACOUSTIC WALL PANELS IN AUDITORIUM WALLS	271.55	SqM			
34	PASSENGER LIFTS	2.00	No.s			
35	MODULAR TABLES	3.00	No.s			
36	RECEPTION TABLE IN CORIAN	1.00	LS			
37	WOODEN STAGE	1.00	LS			
38	STAGE BACK DROP PARTITION	1.00	LS			
39	PARTITION	70.00	SqM			
40	MODULAR KITCHEN PLATFORM FOR PANTRY AS PER DESIGN	1.00	No.s			

41	FRAMELESS GLASS PARTITION	48.30	SqM			
42	GLASS DOORS	2.00	No.s			
43	SITTING IN ENTRANCE LOBBY	6.00	No.s			
44	DISPLAY RACK IN ENTRANCE LOBBY	4.00	No.s			
45	ART WORK IN ENTRANCE LOBBY, EXHIBITION HALL AND MULTIPURPOSE HALL	5.00	No.s			
46	DECORATIVE TEAK WOOD DOORS	4.00	No.s			
47	DECORATIVE TEAK WOOD DOORS AUDITORIUM	2.00	No.s			
48	FLUSH DOORS	17.00	No.s			
49	POWDER COATED ALLUMINUM LOUVERED VENTILATORS IN TOILETS	2.00	No.s			
50	EXTERIOR PAVING IN GREY STONE SLABS	21.60	SqM			
51	EXTERIOR PAVING IN RECKLI TILES	181.78	SqM			
52	REPAIR & RESTORATION OF ENTRANCE PORTCH	1.00	LS			
53	PANTRY PLATFORM	1.00	LS			
54	CABINATE IN PANTRY	1.00	LS			
55	CURVE PARTITION WALL	100	SqM			
55	REPAIR & RESTORATION OF ROOFING ON PUBLIC TOILET	1.00	LS			
				TOTAL		

FIRST FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	DISMANTLING FALSE CEILING	450.00	SqM			
2	DISMANTLING AND CLEANING BROKEN	182.00	SqM			

	DEBRIS					
3	PRE-CONSTRUCTIONAL ANTI-TERMITE TREATMENT	182.00	SqM			
4	REMOVING OLD PAINT AND MAKING SURFACE	1830.00	SqM			
5	REPAIR & RESTORATION OF OLD WOODEN DOORS	15.00	No.s			
6	REPAIR & RESTORATION OF OLD METAL DOORS	17.00	No.s			
7	REPAIR & RESTORATION OF OLD METAL WINDOWS	9.00	No.s			
8	REPAIR & RESTORATION OF OLD METAL VENTILATORS	12.00	No.s			
9	REPAIR & RESTORATION OF OLD WOODEN VENTILATORS	15.00	No.s			
10	BRICK WORK IN CEMENT MORTAR	35.00	CuM			
11	INTERNAL PLASTER FOR REPAIR OF SPALLING IN SLABS, BEAMS AND COLUMNS	150.00	SqM			
12	MARBLE FLOORING	396.86	SqM			
13	VITRIFIED TILES FLOORING					
a.	SIZE: 600 X 600 (Avg.)	64.02	SqM			
14	VITRIFIED TILES SKIRTING	6.39	SqM			
15	DIGITAL GLAZED VITRIFIED WALL TILES					
a.	SIZE: 800 X 800 (Avg.)	120.72	SqM			
b.	SIZE: 600 X 1200 (Avg.)	40.50	SqM			
16	DOORS (WITHOUT FRAMES)	2.00	No.s			
17	DOOR FRAMES	1.04	CuM			
18	EMULSION PAINT	1920.00	SqM			
19	LUSTRE PAINT	1440.00	SqM			

20	TEXTURE PAINT	100.00	SqM			
21	POP FALSE CEILING	693.26	SqM			
22	ARMSTRONG FALSE CEILING	600.00	SqM			
23	CONFERENCE TABLE	1.00	No.s			
24	MEETING ROOM TABLE	1.00	No.s			
25	CLASS ROOM TABLE	1.00	No.s			
26	MODULAR OFFICE TABLES	1.00	No.s			
27	WALL PANEL	100.00	SqM			
28	PROVIDING AND SUPPLYING CHAIRS FOR MEETING ROOM, CONFERENCE ROOM & CLASS ROOMS					
a.	Conference Room Chairs	40.00	No.s			
b.	Meeting Room Chairs	10.00	No.s			
c.	Class Room Chairs	25.00	No.s			
29	MODULAR TABLES	1.00	No.s			
30	SOFA IN OFFICE	9.00	No.s			
31	MODULAR KITCHEN PLATFORM FOR PANTRY AS PER DESIGN	1.00	No.s			
32	CABINATES					
a.	Class Rm: 2.3 m (l) x 0.45 (w) x 3.0 (h).	1.00	No.s			
b.	Meeting Rm: 3.7 m (l) x 0.45 (w) x 3.0 (h).	1.00	No.s			
c.	Conf. Rm: 20.0 m (l) x 0.45 (w) x 3.0 (h).	1.00	No.s			
				TOTAL		

SECOND FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	DISMANTLING FALSE FLOOR	450.00	SqM			
2	DISMANTLING PARTITIONS	250.00	SqM			
3	DISMANTLING AND CLEANING BROKEN DEBRIS	480.00	SqM			
4	ANTI-TERMITE TREATMENT	182.00	SqM			
5	REMOVING OLD PAINT AND MAKING SURFACE	1830.00	SqM			
6	REPAIR & RESTORATION OF OLD WOODEN DOORS	12.00	No.s			
7	REPAIR & RESTORATION OF OLD METAL WINDOWS	25.00	No.s			
8	REPAIR & RESTORATION OF OLD METAL VENTILATORS	12.00	No.s			
9	REPAIR & RESTORATION OF OLD WOODEN VENTILATORS	16.00	No.s			
10	INTERNAL PLASTER FOR REPAIR OF SPALLING IN SLABS, BEAMS AND COLUMNS	200.00	SqM			
11	MARBLE FLOORING	396.86	SqM			
12	VITRIFIED TILES FLOORING	110.25	SqM			
13	VITRIFIED TILES SKIRTING	3.96	SqM			
14	DIGITAL GLAZED VITRIFIED WALL TILES					
a.	SIZE: 800 X 800 (Avg.)	120.72	SqM			
b.	SIZE: 600 X 1200 (Avg.)	40.50	SqM			
15	DOORS (WITHOUT FRAMES)	5.00	No.s			
16	DOOR FRAMES	1.60	CuM			
17	EMULSION PAINT	500.00	SqM			
18	LUSTRE PAINT	1920.00	SqM			

19	TEXTURE PAINT	150.00	SqM			
20	POP FALSE CEILING	300.00	SqM			
21	ARMSTRONG FALSE CEILING	600.00	SqM			
22	WALL PANEL	150.00	SqM			
23	MODULAR TABLES	2.00	LS			
24	PROVIDING AND SUPPLY CHAIRS FOR MEETING ROOM, CONFERENCE ROOM, & CLASS ROOM					
a.	Class Room Chairs	50.00	No.s			
25	RACKS IN LIBRARY	20.00	No.s			
26	CABINATE	1.00	No.s			
				TOTAL		

THIRD FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	DISMANTLING FALSE FLOOR	450.00	SqM			
2	DISMANTLING PARTITIONS	250.00	SqM			
3	DISMANTLING AND CLEANING BROKEN DEBRIS	480.00	SqM			
4	ANTI-TERMITE TREATMENT	182.00	SqM			
5	REMOVING OLD PAINT AND MAKING SURFACE	1830.00	SqM			
6	REPAIR AND RESTORATION OF OLD WOODEN DOORS	6.00	No.s			
7	REPAIR AND RESTORATION OF OLD METAL WINDOWS	25.00	No.s			
8	REPAIR AND RESTORATION OF OLD METAL VENTILATORS	12.00	No.s			
9	REPAIR AND RESTORAITON OF OLD WOODEN VENTILATORS	3.00	No.s			

10	INTERNAL PLASTER FOR REPAIR OF SPALLING IN SLABS, BEAMS AND COLUMNS	1583.82	SqM			
11	MARBLE FLOORING	463.06	SqM			
12	VITRIFIED TILES FLOORING	49.77	SqM			
13	VITRIFIED TILES SKIRTING	6.25	SqM			
14	DIGITAL GLAZED VITRIFIED WALL TILES					
a.	SIZE: 800 X 800 (Avg.)	120.72	SqM			
b.	SIZE: 600 X 1200 (Avg.)	40.50	SqM			
15	DOORS (WITHOUT FRAMES)	5.00	No.s			
16	DOOR FRAMES	1.60	CuM			
17	EMULSION PAINT	480.00	SqM			
18	LUSTRE PAINT	1440.00	SqM			
19	TEXTURE PAINT	150.00	SqM			
20	POP FALSE CEILING	150.00	SqM			
21	ARMSTRONG FALSE CEILING	150.00	SqM			
22	WALL PANEL	15.00	SqM			
23	RACKS IN EXHIBITION HALL					
a.	Showcase No. 1 (Long)	12.00	No.s			
b.	Showcase No. 2 (box)	4.00	No.s			
c.	Showcase No. 3 (short)	7.00	No.s			
				TOTAL		

FOURTH FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	DISMANTLING FALSE FLOOR	450.00	SqM			
2	DISMANTLING PARTITIONS	450.00	SqM			
3	DISMANTLING AND CLEANING BROKEN DEBRIS	480.00	SqM			
4	ANTI-TERMITE TREATMENT	182.00	SqM			
5	REMOVING OLD PAINT AND MAKING SURFACE	1830.00	SqM			
6	REPAIR OF OLD WOODEN DOORS	6.00	No.s			
7	REPAIR OF OLD METAL WINDOWS	25.00	No.s			
8	REPAIR OF OLD METAL VENTILATORS	12.00	No.s			
9	REPAIR OF OLD WOODEN VENTILATORS	3.00	No.s			
10	BRICK WORK	20.00	CuM			
11	INTERNAL PLASTER FOR REPAIR OF SPALLING IN SLABS, BEAMS AND COLUMNS	1583.82	SqM			
12	MARBLE FLOORING	499.37	SqM			
13	VITRIFIED TILES FLOORING	317.48	SqM			
14	VITRIFIED TILES SKIRTING	8.47	SqM			
15	DIGITAL GLAZED VITRIFIED WALL TILES					
a.	SIZE: 800 X 800 (Avg.)	120.72	SqM			
b.	SIZE: 600 X 1200 (Avg.)	40.50	SqM			
16	MS FABRICATION WORK	10.00	MT			
17	DOORS (WITHOUT FRAMES)	12.00	No.s			
18	DOOR FRAMES	38.40	CuM			

19	EMULSION PAINT	480.00	SqM			
20	LUSTRE PAINT	1440.00	SqM			
21	POP FALSE CEILING	550.00	SqM			
22	ARMSTRONG FALSE CEILING	150.00	SqM			
23	CHAIRS FOR HALL	70.00	No.s			
				TOTAL		

TERRACE FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	DISMANTLING AND CLEANING BROKEN DEBRIS	50.00	SqM			
2	ANTI-TERMITE TREATMENT	151.20	SqM			
3	REPAIR OF OLD WOODEN DOORS	10.00	No.s			
4	REPAIR OF OLD METAL WINDOWS	4.00	No.s			
5	REPAIR OF OLD METAL VENTILATORS	38.00	No.s			
6	BRICK WORK	15.00	CuM			
7	INTERNAL PLASTER FOR REPAIR OF SPALLING IN SLABS, BEAMS AND COLUMNS	175.00	SqM			
8	WATER PROOF CEMENT PAINT	150.00	SqM			
9	STEEL WORK FOR ROOFING	20.00	MT			
10	RAIN WATER GUTTER	150.00	Rmt			
11	UPVC PIPES AND BENDS	150.00	Rmt			
12	ROOF SHEETS	1584.30	SqM			
13	WATER PROOFING TO TERRACE	1607.03	SqM			
14	GROUTING TO VARIOUS PARTS	750.00	Kg			

15	WATER PROOFING TO TOILETS	353.09	CuM			
16	EMULSION PAINT	250.00	SqM			
				TOTAL		

ELECTRICAL WORK FOR ALL FLOORS

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	POINT WIRING FOR INDEPENDENT PLUG	234.00	No.s			
2	LIGHT POINT WITH SINGLE MODULER SWITCH	1777.00	No.s			
3	POINT WIRING FOR WALL MOUNTED FANS	125.00	No.s			
4	WALL MOUNTED FANS	20.00	No.s			
5	CONCELAED SQUARE LED LIGHT FIXTURE	151.00	No.s			
6	CONCEALED LED CIRCULER LIGHT FIXTURE	464.00	No.s			
7	CONCEALED SQUARE LED LIGHT PANEL	65.00	No.s			
8	CEILING SQUARE LIGHT PANEL	108.00	No.s			
9	STEPS AND RAMP LIGHTING	252.00	No.s			
10	PENDENT LIGHT IN AUDITOIRUM	24.00	No.s			
11	HANGING LIGHT FIXTURES FIXTURE					
a.	Large	15.00	No.s			
b.	Small	40.00	No.s			
12	CEILING LIGHT FIXTURES	30.00	No.s			
13	WALL MOUNTED FIXTURE	55.00	No.s			
14	LED TUBE WHITE IN BASEMENT AND TERRACE	74.00	No.s			

15	LED STRIP LIGHTS	840.00	Mtr			
16	EXTERIOR LED LIGHTS FOR BULDING	1.00	LS			
17	POINT WIRING FOR LAN POINTS	55.00	No.s			
18	CIRCUIT WIRING					
a.	2 x 1.0 SqM PVC Copper wire in 20 mm dia conduit for Emergency Stop Box Connection	450.00	Mtr			
b.	3 x 1.5 SqM PVC Copper wire with in 20 mm dia conduit (The rate includes the cost of complete wiring between individual switch boards)	350.00	Mtr			
c.	3 x 2.5 SqM PVC Copper wire with in 20 mm dia conduit (for lighting main circuit, 15A plug points & UPS point wiring & 1T AC)	275.00	Mtr			
d.	5 x 4 Sq.mm PVC Copper wire with in 20 mm dia conduit. (for 3-Ph circuits like 3-Ph AC / UPS)	350.00	Mtr			
e.	3 x 4 Sq.mm PVC Copper wire with in 20 mm dia conduit. (for 1.5/2Tonne AC and UPS I/P & O/P upto UPS O/P DB and for Sign Boards if there are multiple Name boards)	350.00	Mtr			
19	AC/HEATER METAL BOX	171.00	No.s			
20	TWO WAY CONNECTIONS	35.00	No.s			
21	UTP NETWORK CABLE CAT 6	250.00	Mtr			
22	M. S. CABLE TRAY	1.00	LS			
23	DISTRUBUTION BOARD	30.00	LS			
24	PVC CABLE	450.00	Mtr			
25	SUPPLY 16" EXHAUST FAN	40.00	No.s			
26	BELL POINTS	25.00	No.s			

27	TELEPHONE POINTS	45.00	No.s			
28	EARTHLING WITH G.I. EARTH PIPE	25.00	No.s			
29	MUSIC CUM PA SYSTEM OF PHILIPS MAKE	8.00	No.s			
30	MODULAR KITCHEN HOT PLATE	2.00	No.s			
31	MODULAR KITCHEN GRILL AND OVEN	2.00	No.s			
32	MODULAR KITCHEN FRIDGE	2.00	No.s			
33	WATER HEATER	2.00	No.s			
34	ELECTRICAL PANEL IN BASEMENT	1.00	LS			
35	RECESSED FLOOR LIGHTS	45.00	Nos.			
36	SPOT LIGHTS ON LOBBY COLUMNS	55.00	No.s			
37	SPOT LIGHTS CONCEALED IN CEILING	30.00	No.s			
38	TRACK LIGHTS WITH TRACKS	60.00	No.s			
39	WALL LIGHT IN AUDITORIUM	50.00	No.s			
40	STAGE LIGHTING SYSTEM PACKAGE	1.00	No.s			
41	SUSPENDED LIGHT	4.00	No.s			
42	RECESSED LED LINEAR LIGHT	30.00	Mtr.			
				Total		

PLUMBING AND SANITATION WORK FOR ALL FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	STAR WHITE COLOR WATER CLOSET	67.00	No.s			
2	WHITE COLOR WASH BASIN OVAL SHAPE	46.00	No.s			
3	WHITE COLOR URINAL	35.00	No.s			
4	STAINLESS STEEL SINK	2.00	No.s			

5	WALL MOUNTED SENSOR TAP	46.00	No.s			
6	STOP TAP FOR WATER CLOSET	67.00	No.s			
7	ANGLE VALVE FOR WATER CLOSET	67.00	No.s			
8	STOP COCK FOR URINAL BEFORE SENSOR	35.00	No.s			
9	BRASS MIXING FITTING FOR SINK	2.00	No.s			
10	AUTOMATIC SOAP DISPENSER	40.00	No.s			
11	CROMIUM PLATED TOWEL ROD 16 MM DIA	20.00	No.s			
12	PVC NAHANI TRAP	12.00	No.s			
13	MIRROR IN TOILET	20.00	No.s			
14	PIPE FOR DRAINAGE					
a.	25 MM Dia	3000.00	Rmt			
b.	40 MM Dia	2500.00	Rmt			
15	PIPE FOR RAINWATER COLLECTION					
	250 MM Dia	750.00	Rmt			
16	UPVC WASTE PIPE					
a.	50 mm Dia	150.00	Rmt			
b.	40 MM Dia	250.00	Rmt			
17	PVC PIPE					
a.	110 mm. dia. PVC pipe for soil stack	350.00	Rmt			
b.	75 mm. dia. PVC pipe for waste wear pipe	250.00	Rmt			
c.	50 mm. dia. PVC pipe for anti-symphonic pipe	55.00	Rmt			
18	RECTANGULER TISSUE PAPER HOLDER FOR LADIES AND GENT TOILET	21.00	No.s			
19	TOILET TISSUE PAPER HOLDER	64.00	No.s			

20	WATER TANK	75000.00	Ltrs			
				TOTAL		

MISCELLANEOUS WORKS

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	LARGE LETTERS	45.00	No.s			
2	SMALL LETTER SIGNAGES	500.00	No.s			
3	NATURAL PLANTS WITH CONCRETE POTS	15.00	No.s			
4	ARTIFICIAL PLANTS WITH CERAMIC POTS	150.00	No.s			
5	WALL PAINTINGS	30.00	No.s			
6	LOCKER IN TOILETS	15.00	No.s			
7	FIRE FIGHTING SYSTEM					
a.	Wet Sprinklers System	1.00	LS			
b.	Dry Sprinklers System (Exhibition Hall & Basement)	1.00	LS			
c.	Fire Hose Piping	1.00	LS			
d.	Fire Alarm System	1.00	LS			
e.	Fire Signage, Escape Routes etc.	1.00	LS			
8	FOAM EXTINGUISHER	44.00	No.s			
9	PERMANENT ELECTRIC CONNECTION	1.00	LS			
10	PERMANENT DIRINKING WATER CONNECTION	1.00	LS			
11	METAL DETECTORS	5.00	No.s			
12	BAGGAGE SCANNER	3.00	No.s			

13	CONTROLLED ACCESS TURNSTILE	4.00	No.s			
14	DIESEL GENERATOR SET					
a.	225 KVA	1.00	No.s			
b.	180 KVA	2.00	No.s			
15	METAL RATED FIRE DOORS	22.68	SqM			
16	AUDITORIUM / CONFERENCE ROOM PROJECTOR	2.00	No.s			
17	REPAIR OF STAIRCASE HANDRAIL AND GRILL	1.00	LS			
18	WOODEN ART WORK	25.00	No.s			
19	PARITION IN 18 MM PLY	57.75	SqM			
20	PARITION IN ACP PANEL	150.00	SqM			
21	VERTICAL BLINDS	171.00	SqM			
22	SOLAR SYSTEM	1.00	LS			
23	REPAIR OF CONCRETE	150.00	SqM			
24	STEEL SHUTTER IN GROUND FLOOR DOOR	24.00	SqM			
25	WATER PROOFING TO WALL SURFACE	267.70	SqM			
26	WATER PROOFING TO BASEMENT	1344.00	SqM			
27	PROTECTIVE LAYER TO BASEMENT WATER PROOFING	1344.00	SqM			
29	CORIAN SOLID WORKS	200.00	SqM			
30	RESTORATION WORK OF CONCRETE ITEMS LIKE COLUMNS, CORNICE, CEILING, ETC.	1.0	LS			
31	REPAIR & RESTORATION OF WOODEN PARITION AND SWING DOORS	1.0	LS			
32	FABRICATION & RESTORATION OF RAILING IN MEZZANINE	1.0	LS			
33	REPAIR AND RESTORATION OF EXTERIOR	1.0	LS			

34	EXTERIOR PAINTING OF BUILDING	1.0	LS			
35	INDIAN TERRACOTTA SCULPTURES	40.00	No.s			
36	INDIAN TRADITIONAL WALL PAINTINGS	10	No.s			
37	PORTABLE MOBILITY WHEELCHAIR & UTILITY RAMP	5.00	No.s			
38	CARPET IN AUDITORIUM	235	SqM			
39	WHITE BOARD IN CLASS ROOM	4.00	No.s			
40	DISMANTLING ASBESTOS SHEETS AND SHED, OLD DRAINAGE PIPES, SANITARY ITEMS, ELECTRICALS ETC.	1.00	LS			
				Total		

CCTV SYSTEM

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	DOME CAMERAS	50.00	No.s			
2	BULLET CAMERAS	6.00	No.s			
3	SONY PTZ CAMERAS	2.00	No.s			
4	CONNECTOR FOR CCTV CAMERAS	58.00	No.s			
5	NETWORK VIDEO RECORDER	1.00	No.s			
6	CAT 6 CABLE	780.00	Mtr			
7	JOYSTICKS FOR CCTV CAMERAS	1.00	No.s			
8	LED TV 65 INCH	1.00	No.s			
9	RACK	1.00	No.s			
10	Installation of various items and deviation items for complete work	1.00	LS			

11	**AMC** Annual Maintenance Comprehensive	3.00	Years			
				TOTAL		

HVAC SYSTEM

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
A	**HIGH SIDE WORKS**					
1	OUTDOOR AND INDOOR UNITS					
	Outdoor Units-Heat Pump Type					
a.	14 HP	9	No.s			
b.	18 HP	10	No.s			
c.	Multi Connecting Kits	6	No.s			
	Indoor Units with Air Filter		No.s			
a.	Ceiling Mounted Cassette (Round Flow) 1.0 TR	2	No.s			
b.	Ceiling Mounted Cassette (Round Flow) 1.5 TR	21	No.s			
c.	Ceiling Mounted Cassette (Round Flow) 2.0 TR	17	No.s			
d.	Concealed Ceiling Unit 700MM Wide Grill (HT:200MM) 1.0 TR	0	No.s			
e.	Concealed Ceiling Unit 700MM Wide Grill (HT:200MM) 1.5 TR	12	No.s			
f.	Concealed Ceiling Unit 700MM Wide Grill (HT:200MM) 2.0 TR	1	No.s			
g.	Slim Ceiling Mounted 900MM Wide Grill (HT:200MM) 1.0 TR	24	No.s			
h.	Slim Ceiling Mounted 900MM Wide Grill (HT:200MM) 1.5 TR	10	No.s			
i.	Slim Ceiling Mounted 900MM Wide Grill (HT:200MM) 2.0 TR	17	No.s			

j.	Ceiling Mounted Cassette (Double Flow) 1.0 TR	2	No.s			
k.	Ceiling Mounted Cassette (Double Flow) 1.5 TR	3	No.s			
l.	Ceiling Mounted Cassette (Double Flow) 2.0 TR	3	No.s			
m.	Duct Type Grill 1100MM Wide Grill (HT:240MM) 1.0 TR	16	No.s			
n.	Duct Type Grill 1100MM Wide Grill (HT:240MM) 1.0 TR	11	No.s			
o.	Duct Type Grill 1100MM Wide Grill (HT:240MM) 1.0 TR	16	No.s			
2	CORDLESS REMOTE CONTROLS FOR INDOOR UNITS					
a.	For Round Flow Cassette Type Unit Cordless Remote	64	No.s			
b.	For Ductable Type Unit Cordless Remote	13	No.s			
c.	For Ductable Type Unit Cordless Remote	73	No.s			
3	CENTRAL REMOTE CONTROLLER	4	No.s			
4	COMMUNICATION CABLE	2818	Rmt			
5	INSULATED REFRIGERANT PIPING	2589.5	Rmt			
6	Branch Distribution Joints	146	No.s			
B	**LOW SIDE WORKS**					
1	AIR DISTRUBUTION	50	SqM			
2	VOLUME CONTROL DAMPERS	50	SqM			
3	SUPPLY AIR GRILL	11	SqM			
4	RETURN AIR GRILL	17	SqM			
5	SUPPLY AIR DIFFUSSER	17	SqM			

6	FLEXIBLE DUCT					
a.	200 mm dia	460	Rmtr.			
b.	250 mm dia	1090	Rmtr.			
7	SPIGOT					
a.	200mm dia	145	No.s			
b.	250mm dia	145	No.s			
8	CANVAS	13	No.s			
9	LP PLENUM FOR SLOT DIFFUSER					
a.	1000mmx250mmx300mm	68	No.s			
10	DRAIN PIPING (CPVC)					
a.	40 mm dia	500	Rmt			
b.	32 mm dia	1000	Rmt			
c.	25 mm dia	1000	Rmt			
11	INSULATION					
a.	25 MM thick	1100	SqM			
12	THERMAL PROTECTION	1100	SqM			
13	DUCT ACOUSTIC LINING					
a.	10 mm thick	460	SqM			
14	SERVICE TRAP DOOR	25	No.s			
15	CABLE TRAY					
a.	300X100 GI Cable Tray	600	Rmt	s		
b.	400X100 GI Cable Tray	800	Rmt			

16	REFRIGERANT GAS	260	Kg			
17	ELECTRICAL INSTALLATIONS	1	No.s			
a.	6 AMPS MCB For Indoor Units					
b.	25 AMPS MCB For Indoor Units					
c.	40 AMPS MCB For Indoor Units					
d.	100MLAMPS ELCB IDU VRV System					
e.	300MLAMPS ELCB FOR ODU					
18	POWER CABLES FOR OUTDOOR UNITS					
a.	4 Corex 10 Sq.mm	120	Rmt			
19	MS STANDS	19	No.s			
20	INDOOR UNITS HANGERS	145	No.s			
22	DEVICATION & ADDITIONAL FEATURES		LS			
21	ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT					
.a.	For 1st year (0-12 Months) after expiring of 1 year (12 Months) defect liability period.	12	Mth			
b.	For 2nd year (12-24 Months) after expiring of 1 year (12 Months) defect liability period.	12	Mth			
c.	For 2nd year (24-36 Months) after expiring of 1 year (12 Months) defect liability period.	12	Mth			
	TOTAL					

SIGNATURE AND SEAL OF CONTRACTOR

BILL OF QUANTITIES (BOQ) WITH DESCRIPTIONS

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

BOQ FOR BASEMENT FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	**REMOVAL OF WATER FROM BASEMENT** Removal of water from basement floor through mechanical pumping and discharge water as per rules of local authorities or by use of YCDC owner tanker or as per requirements of local authorities etc. complete. This include securing permission for from local authority before start of work and all additional task necessary for removal of water like stopping of any additional water source, repair of water source, necessary drainage arrangement, drying basement by mechanical means, inspecting, testing water seepage etc. complete	1044.95	CuM			
2	**REPAIRING OF EXISTING WATER SOURCES/WELL** Repairing existing water source well in the basement for the future use of building by concreting, repairing aquifer or any other measures necessary, metal concrete covers, submersible pump complete installation etc. complete.	1.00	LS			
3	**FOUNDATION TEST THROUGH CORE SAMPLES** Making foundation test for building by taking core samples of foundations at suitable locations as suggested by Engineer incharge to check comprehensive strength, carbonation, etc. of the foundation. Test sample shall be check in approved laboratory like Myanmar Engineering Society (MES) or equivalent with a comprehensive report on the stability of foundation and its life. All the core shall be refilled and reinstate to original with latest water proofing material etc. complete.	1.00	LS			

4	**FOUNDATION STRENGTHENING** Repairing and strengthening existing foundation with concrete masonry or stone masonry as per the instruction of Structural engineer or architect including water proofing, fabrication work, etc. complete.	1.00	LS			
5	**DISMANTLING AND CLEANING BROKEN DEBRIS** Dismantling flooring, plastering etc. and cleaning all necessary debris include transportation to necessary location as per local rules. It includes any necessary permission from local authority, cleaning/housekeeping etc. complete	1063.45	SqM			
6	**ANTI-TERMITE TREATMENT** Providing Pre-constructional anti-termite treatment conforming to IS-6313 (part II) using Chloropyrifos EC 20 Emulsion or equivalent of 1% concentration by weight for creating barrier under and all around basement excavation, backfill in immediate contact with foundation and treating the top surface along the external perimeter of building, expansion joints, surrounding of pipes, water conduits and at places suggested and as directed by Engineer-In-Charge covering 10 years guaranty.	1524.32	SqM			
7	**REMOVING OLD PAINT AND MAKING SURFACE** Removing paint by scrapping and sand papering, and preparing the surface smooth including necessary repairs to scratches etc. complete	479.37	CuM			
8	**REPAIR AND RESTORATION OF OLD WOODEN DOORS** Repair of old wooden doors and frames by replacement of broken wooden members, polishing and painting, remaking new panels etc. complete	6.00	No.s			

9	**REPAIR AND RESTORATION OF OLD METAL DOORS, WINDOWS AND VENTILATORS** Repair and restoration of old metal doors, windows and ventilators by repainting old surfaces, replacement of glass, oil paint in minimum three coat including putty. This also including repair of metal grill, removing, scrapping of old paint & repainting of in two coats etc. complete Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more thick glass of Saint Gobain SGG PLANITHERM TOTAL+ or equivalent.	4.00	No.s			
10	**BRICK WORK IN CEMENT MORTAR** Providing approved class Burnt Brick masonry with conventional. type bricks in cement mortar 1:6 in building of inner walls or external walls including bailing out water, striking joints on unexposed faces, racking out joints on exposed faces and watering complete.	34.04	CuM			
11	**INTERNAL PLASTER FOR REPAIR OF SPALLING IN SLABS, BEAMS AND COLUMNS** Providing and applying 12 or necessary mm thick internal plaster in cement mortar 1:3 with at all heights and locations in one coat for masonry (except stone masonry) and concrete surfaces including racking out joints, hacking of concrete surface, watering, finishing, curing, scaffolding, coating reinforcement, chicken mesh etc. complete.	750.00	SqM			
12	**VITRIFIED TILES FLOORING** Providing and laying Vitrified tiles in different sizes of double charge (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments, fixing of					

	Stainless Steel edge trim for tiles & outside corner etc. complete.					
	Size: 600 mm x 600 mm	1044.95	SqM			
13	**VITRIFIED TILES SKIRTING** Providing and laying Vitrified tiles skirting of approved sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.	423.87	SqM			
14	**WATER PROOF CEMENT PAINT** Providing and applying two coats of waterproof cement paint of an approved make and colour as per manufacturers specifications to smooth sand faced or other surfaces, upto 10m height from ground level and at all locations as directed including preparing surfaces for painting by any approved means, watering, scaffolding, cleaning and curing etc. complete as directed by Engineer-in-charge.	240.06	SqM			
15	**DOORS (WITHOUT FRAMES)** Providing and fixing country teak wood single leaf, 2nd class fully/partly panelled door as per drawings including iron oxidised fixtures and fastenings and finishing the wood work with one coat of primer etc.(excluding door frame) complete.	16.80	SqM			
16	**DOOR FRAMES** Providing and fixing first quality wood door frame of sizes 125x 62mm , 75 x 50 mm or any other size with 12 mm rebate for door shutter including superior grade melamine polishing etc. The base & side touching the floor/partition to be applied with anti termite treatment. The rate shall be inclusive of fixing necessary hardware for fixing the frame to partition etc. complete	0.38	CuM			

17	**EMULSION PAINT** Providing and applying plastic emulsion paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	1389.56	SqM			
18	**FABRICATION OF STEEL WORK** Fabrication of steel work for structural support to auditorium floor as per drawings no.: LIC-AUDI-88 and specification etc. complete	1.00	LS			
19	**SERVICE DUCT** Making concrete duct as per drawing in all floors by breaking existing slab, concreting in M 25 grade concrete with making doors at all floors, including, ladders, electrifications, lights etc. complete.	6.00	LS			
				TOTAL		

SIGNATURE AND SEAL OF CONTRACTOR

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

BOQ FOR GROUND FLOOR & MEZZANINE (INCLUDING PASSANGER LIFTS)

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	**DISMANTLING FALSE FLOOR** Dismantling false floor and taking away dismantled materials to necessary location as approved by owner. This include housekeeping for keeping area clean etc. complete	172.15	SqM			
2	**DISMANTLING AND CLEANING BROKEN DEBRIS** Dismantling and cleaning all necessary debris including transportation to necessary location as local rules. This include housekeeping for keeping area clean etc. complete	1044.95	SqM			
3	**DISMANTLING BRICK WALLS** Dismantling brick work and taking away debris at necessary location. This include housekeeping for keeping area clean etc. complete	25.90	SqM			
4	**ANTI-TERMITE TREATMENT** Providing Pre-constructional anti-termite treatment conforming to IS-6313 (part II) using chloropyrifos EC 20 Emulsion or equivalent of 1% concentration by weight for creating barrier under and all around basement excavation, backfill in immediate contact with foundation and treating the top surface along the external perimeter of building, expansion joints, surrounding of pipes, water conduits and at places suggested and as directed by Engineer-In-Charge covering 10 years guaranty.	1524.32	SqM			

5	**REMOVING OLD PAINT AND MAKING SURFACE** Removing paint by scrapping and sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete	479.37	CuM			
6	**REPAIR AND RENOVATION OF OLD WOODEN DOORS** Repair of old wooden doors and frames by replacement of broken wooden members, replacing glass polishing and painting complete	9.00	No.s			
7	**REPAIR AND RENOVATION OF OLD METAL DOORS** Repair of old metal doors by repainting old surfaces, replacement of glass, beading, oil paint, polishing, remaking new panels etc. complete	8.00	No.s			
8	**REPAIR AND RENOVATION OF OLD METAL WINDOWS** Repair of old metal windows by repainting old surfaces, replacement of glass, oil paint etc. This also including repair of metal grill, removing, scrapping of old paint & repainting of in two coats etc. etc. complete Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more glass of Saint Gobain SGG PLANITHERM TOTAL+ or equivalent Color: White opaque or as suggested by engineer incharge.	20.00	No.s			
9	**REPAIR OF OLD METAL VENTILATORS** Repair of old metal ventilators by repainting old surfaces, replacement of glass oil paint etc. This also including repair of metal grill, removing, scrapping of old paint & repainting of in two coats etc. complete Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more glass of Saint Gobain SGG PLANITHERM TOTAL+ or equivalent.	10.00	No.s			
10	**BRICK WORK IN CEMENT MORTAR** Providing approved class Burnt Brick masonry with conventional. type bricks in cement mortar 1:6 in building of inner walls or external walls including bailing out water,	69.38	CuM			

	striking joints on unexposed faces, racking out joints on exposed faces and watering complete.					
11	**INTERNAL PLASTER FOR REPAIR OF SPALLING IN SLABS, BEAMS AND COLUMNS** Providing and applying 12 or necessary mm thick internal plaster in cement mortar 1:3 with at all heights and locations in one coat for masonry (except stone masonry) and concrete surfaces including racking out joints, hacking of concrete surface, watering, finishing, curing, scaffolding, coating reinforcement, chicken mesh etc. complete.	194.38	SqM			
12	**MARBLE FLOORING** Marble stone flooring with 18 mm thick Italian marble stone, as per sample of marble approved by Engineer-in-charge, over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry, including rubbing and polishing and making floral pattern medallion and border, skirting, in flooring, staircase, including making patta, rounds edges, polishing edges as per design including mirror polishing, cleaning etc. complete	1620.95	SqM			
13	**VITRIFIED TILES FLOORING** Providing and laying Vitrified tiles in different sizes of double charge (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in flooring, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.					
	SIZE: 600 X 600 (Avg.)	64.17	SqM			

14	**VITRIFIED TILES SKIRTING** Providing and laying Vitrified tiles in skirting of required sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.					
	SIZE: 600 X 600 (Avg.)	379.98	SqM			
15	**DIGITAL GLAZED VITRIFIED WALL TILES** Providing and laying Digital Glazed Vitrified tiles in wall of required sizes (Matt/Glossy/Metallic) (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.					
a.	SIZE: 600 X 600 (Avg.)	144.00	SqM			
b.	SIZE: 800 X 800 (Avg.)	218.94	SqM			
c.	SIZE: 600 X 1200 (Avg.)	129.09	SqM			
16	**GLASS PARTITION** Providing and fixing glass partition in mezzanine floor in 12 MM toughen glass as per drawing with patch fitting of Enox or equivalent or grove in floor or SS member in top or bottom with edging, polishing, holes for accessories, frosted film of approved micron etc. complete	47.69	SqM			
17	**GLASS DOOR** Providing and fixing glass door of 12 mm thick toughen glass with making edges in the lobby including auto door closer with locking, SS mat finish handle of 1'-1.5' long from both sides. With Eonox or equivalent patch fittings between floors and glass to glass etc. complete	2.00	No.s			

18	**WOODEN FLOORING FOR AUDITORIUM SEATING** Providing and fixing wooden flooring in auditorium with approved quality teak wood with wooden framing as per drawing including polishing etc. complete (Drawing No. : LIC-AUDI-96)	135.78	SqM			
19	**FOAM SEATS IN AUDITORIUM** Providing and fixing seats in auditorium with auto closing and push back mechanism of size as per drawings etc. complete (Drawing No.: LIC-AUDI-96)	204.00	No.s			
20	**MS FABRICATION FOR MEZZANINE FLOOR** Providing and fixing MS fabrication work for mezzanine as per drawings including epoxy treatment, P.C.C, railing etc. complete. (Drawing No.: LIC-AUDI-97)	39.66	SqM			
21	**DOORS (WITHOUT FRAMES)** Providing and fixing country teak wood single leaf, 2nd class fully/partly panelled door as per drawings including iron oxidised fixtures and fastenings and finishing the wood work with one coat of primer etc.(excluding door frame) complete.	46.20	SqM			
22	**DOOR FRAMES** Providing and fixing first quality wood door frame of sizes 125x 62mm , 75 x 50 mm or any other size with 12 mm rebate for door shutter including superior grade melamine polishing etc. The base & side touching the floor/partition to be applied with ant termite treatment. The rate shall be inclusive of fixing necessary hardware for fixing the frame to partition etc. complete	9.24	CuM			
23	**EMULSION PAINT** Providing and applying plastic emulsion paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	1309.50	SqM			

24	**LUSTRE PAINT** Providing and applying lustre paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	1900.69	SqM			
25	**TEXTURE PAINT** Providing and applying texture paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	875.00	SqM			
26	**CEILING & WALL PANELLING BEHIND RECEPTION WALL: METAL PANEL SYSTEM** Providing and fixing metal ceiling or panelling system Woodworks walls consist of 2' x 4', 2' x 8', 2' x 9' or 2' x 10' perforated and unperforated panels (size & design as suggested by engineer incharge) of Millworker quality with ceiling suspenders/mounting system, aluminium spline system and all necessary support of same brand of available or custom colors, ground strip base moulding, trips, decorative corners, as per manufacturers specifications etc. complete. (Make: Armstrong WoodWorks 5814W1X)	165.00	SqM			
27	**AUDITORIUM CEILING: CURVE TORSION SPRING METAL CEILING SYSTEM** Providing and fixing curved torsion spring metal ceiling system 42" and 96" long in custom color as per drawing or engineer incharge or as per sample approved by client with laminated (film) wood finish or as suggested by engineer with suspenders etc. complete. It also include making POP ceiling for provision of AC and lights between the panels. (Make: Hunter Douglas/Armstrong or Equivalent) (Drawing No. LIC-CEILING-76)	74.27	SqM			

28	**METAL CEILING IN HORIZONTALLY CURVED BAFFLES** Providing and fixing metal ceiling in horizontally curved baffles in front of auditorium with 1-1/2" x 6-3/8" profile of baffles with baffle end capping, spice installation, etc. of appropriate color as approved by the engineer/architect etc. complete (Make: Hunter Douglas/Armstrong or equivalent)	90.00	SqM			
29	**METAL CLIP IN CEILING** Providing and fixing Gl Clip in Metal Ceiling System of 600x600 mm module which includes providing and fixing 'C' wall angle of size 20x30x20 mm made of 0.5 mm thick pre painted steel along the perimeter of the room with help of nylon sleeves and wooden screws at 300 mm center to centre, suspending the main C carrier of size 10x38x10 mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37x27x25x1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1000 mm c/c. Inverted triangle shaped Spring Tee having height of 24 mm and width of 34 mm made of Gl steel 0.45 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 600 mm centers with help of suspension brackets. Wherever the main C carrier and spring T have to join, C carrier and spring T connectors have to be used. All sections to be galvanized @ 120 gms/SqM (both side inclusive), fixing with clip in tiles into spring T with :	170.21	SqM			

	GI Metal Ceiling Clip in plain Bevelled edge global white color tiles or color as approved by engineer of size 600x600 and 0.5 mm thick with 25 mm height, made of G I sheet having galvanizing of 100 gms/ SqM (both sides inclusive) and electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted etc. complete (Make: Armstrong/Hunter Douglas or equivalent) (Drawing No. LIC-CEILING-76)					
30	**FALSE CEILING IN CORIAN SOLIDS IN LOBBY** Providing and fixing false ceiling on ground floor ceiling in periphery of the baffle system with aluminium pipe supports and marine ply base for taking two 6 mm double Corian Solid sheet with proper anchored, connecting, positing, polishing etc. complete (Drawing No. LIC-CEILING-76)	42.49	SqM			
31	**POP FALSE CEILING** Providing and fixing false ceiling in Mezzanine and other areas of 12 mm thick of fibrous plaster of Paris which includes G.I. Perimeter channel (MF6) of size 0.40 mm thick (having one flange of 20 mm and another flange of 30 mm and web of 27 mm) along with perimeter of ceiling, screw fixed to brick wall , concrete surface, partition with the help of nylon sleeves and screws at 610 mm centres. Thereafter suspending G.I. intermediate channel (MF 7) 600 mm. C/C of size 45mm (0.9 mm thick with two flanges of 15 mm each) from the soffit at 450 mm centre with connecting angle (ie ceiling angle) of width 25mm x 10mm x 0.40mm thick fixed to soffit with G.I.cleat and steel expansion fasteners. Celling sections (MF 5) of 0.55 mm thickness having knurled web of 51.5 mm and two flanges of 26 mm each with lips of 10.5 mm are then fixed to the intermediate channel with the help of connecting clip and in direction perpendicular to the intermediate channel at 450 mm centres.					

	12.5 mm tapered edge is then screw fixed to celling section with dry wall SqM 612.00 248.00 screws at 230 mm centres. Screw fixing is to be done mechanically with suitable attachment. The boards are to be joined and finished so as to have flush look which includes filling and finishing the tapered & square edges of the boards with jointing compound, joint paper tape and appropriate suitable primer and three coats of oil bound distemper. The item includes for light fitting, grill diffusers and cut out etc. have to be made with frame of perimeter channels of size 20mm x 30mm x 0.55mm.thick supported suitable and angle bead is to be used at steps to get straight line finish etc. complete. This also include making wooden/ ply decoration as per drawing by using CNC cutting with LED background light with glass etc. complete as directed by Engineer- in-charge	360.82	SqM			
32	**FALSE CEILING (600 X 600 BOARD)** Providing and fixing false ceiling of 15 mm thickness Acoustic tabular Armstrong / Everest / AMS / Aerolite or equivalent (0.6x0.6m) boards of approved make, with shapes and sizes as per drawings including powder coated G.I .wall angle of 20mmx20mm size ,G.I. grid runners of size 15mmx 38mm at 600mmcenter to centre both ways and suspended using G.I. wire 3mm wire including fixing using butter fly clips and fasteners including transporting , scaffolding, all necessary labour and machinery , finishing etc complete. (as directed by Engineer In Charge).sample to be got approved from Engineer Incharge before execution of work	238.30	SqM			

33	**ACOUSTIC WALL PANELS IN AUDITORIUM WALLS** Acoustic wall panels made in combination with cement tiles and perforated acoustic tile of required size. Cement tiles will be made of Reckli formliner of Polyutherine material. Tiles will be fixed with MS quire tube framing of 2" x 2" pipe at 2.0 interval. Framing shall be sufficient to take load of the tiles. This include making joint, finishing, painting the tiles, etc. complete.	271.55	SqM			
34	**PASSENGER LIFTS** Supply, installation, testing, commissioning and handing over of one passenger lift of 13-passenger capacity as per the specification including AMC for 3 years (Makes: Kone/ FujiTech/Otis/ Mitsubishi/ Hitachi/ Omega/ Schindler/ ThyssenKrupp or Equivalent. (As per detail technical speciation)	2.00	No.s			
35	**MODULAR TABLES** Providing and fixing modular tables of 18 mm moisture resistant with 1 mm laminate finish. The table top edge shall be post formed. Tops are supported on partition with the help of steel cantilevers. All work tops fixed at the standard anthropometric working height of 750mm from the ground level & finished with well filleted edges, thus making those users friendly. One circular hole for computer cables to be provided with Stainless Steel mat finish polish cable cap. Pedestal shall have castors at the base. Tables will have powder coated CPU trolley, articulated keyboard tray with pull out mouse tray. Including movable multi use pedestal/cabinet with drawer and file cabinet of size (400x700) mm will be provided with laminate finish. Color of laminate, texture and finish shall be approved by Engineer incharge of Embassy. All the accessories shall be as per detail drawing and design including fixture and fastening with polishing and finishing etc. complete.	3.00	No.s			

36	**RECEPTION TABLE IN CORIAN** Providing and fixing reception table as per design and drawing with 6 mm double Corian Solids in pure white color with necessary CNC cutting of design as per drawing and making necessary framing in moisture resistant ply sheet including drawers, lighting, etc. complete. All locks, channels, magnets, stoppers etc. shall be Hettich or Equivalent. (Drawing No. LIC-RECEPTIONTABLE-113)	1.00	LS			
37	**WOODEN STAGE** Providing and fixing wooden stage with approved quality teak wood sections and planks as per drawings and instruction of engineer incharge. (Drawing No. LIC-AUDI-96)	1.00	LS			
38	**STAGE BACK DROP PARTITION** Providing and fixing panelled wooden partition with polishing or coloring etc complete as per drawing, including rolling and revolving tracks wheels, tracks etc. complete. (Drawing No. LIC-AUDI-96)	1.00	LS			
39	**PARTITION** Providing, supplying and fixing in position aluminium partitions in toilets, back stage area etc. with both sides laminated panels having frame made out of aluminium extruded tubular section of size 40 mm x 65 mm with 12 mm thick three layered flat pressed teak wood particle board bonded with BWP type exterior grade phenol formaldehyde synthetic resin conforming to I.S.12823-1990, laminated on both sides, Novateak or equivalent fixed with aluminium glazing clips of size 12mm x 12 mm as per approved drawing etc. complete.(Sample to be got approved from Engineer Incharge before use)	70.00	SqM			

40	**MODULAR KITCHEN PLATFORM FOR PANTRY AS PER DESIGN** Providing and fixing Modular kitchen as per drawings with polished Stainless Steel platform with large size Stainless Steel wash basin with S trap and cleaning net. Modular kitchen will be made form 18 mm thick marine ply with glazed finished laminates of white and black colors with Hettich fittings of auto swing/close type. Internal wet and dry arrangement shall be made with use of Stainless Steel trays with all system for crockery, utensils, spoons, knifes etc. complete. Framing of the modular kitchen shall be in MS pipes with pure polyester coating from inside and outside. Powered coating shall be provided above pure polyester coat of approved quality, color, micron etc. complete. Kota stone base shall be provided to the SS platform. Proper slope for drain in Platform and floor shall be provided with Nahani trap. Electrical points at suitable locations shall be provided at suitable locations.	1.00	No.s			
	Additional glass cookery cabinet on wall above platform of approved quality and as per design shall be provided. electronic exhaust chimney of approved make shall be provided by the contractor. Any additional requirements shall be clarified before quoting for this item. (DRAWING NO.: LIC-PANTRY-138)					
41	**FRAMELESS GLASS PARTITION** Providing and fixing glass frameless partition with 12 mm thick toughen glass with SS pure polyester and powder coated section as per drawings, design, frosting, Eonox or equivalent fittings, computer based edge polishing, silicon filling, glass film or approved make etc. complete	48.30	No.s			

42	**GLASS DOORS** Providing and fixing glass doors in 12 mm thick toughen glass with bottom door closer and lock of Hettich or Equivalent, SS Handle 30 Cm in square pattern in mat finish, Eonox or equivalent fitting with glass film of approved make and micron etc. complete. (Glass Brand Saint-Gobain/Modigaurd/Equivalent)	2.00	No.s			
43	**SITTING IN ENTRANCE LOBBY** Providing and supplying three seater sitting stool with approved make and model by Engineer Incharge	6.00	No.s			
44	**DISPLAY RACK IN ENTRANCE LOBBY** Providing and fixing wall mounted display rack as per design in entrance lobby in 18 mm marine ply (Greenply/Kitply/Or equivalent brand) with ISO certification with 12 mm toughen glass with lighting system for illumining objects form inside with all necessary accessories etc. complete.	4.00	No.s			
45	**ART WORK IN ENTRANCE LOBBY, EXHIBITION HALL AND MULTIPURPOSE HALL** Providing and supplying art work in entrance lobby, auditorium and mezzanine. This includes appointment of art consultant and preparing three art design options. Approvals from owner and architect etc. All consultant fees, travel, mock up, models etc. complete. Art work will be on brick wall of high quality design and materials as per architect, owners, & site engineer suggestions etc. complete.	5.00	No.s			
46	**DECORATIVE TEAK WOOD DOORS** Decorative teak wood doors as per for ground floor for all entries with silver metal finish, polishing, coloring, glass fitting, handle, bottom door closer, including removing old door, removing and refaxing existing metal doors, shutter etc. complete (DRAWING. No.: LIC-DOOR-96)	4.00	No.s			

47	**DECORATIVE TEAK WOOD DOORS AUDITORIUM** Decorative teak wood doors as per for auditorium having 2 hrs fire rating with silver metal finish, polishing, coloring, decorative double panels in teak wood, handle, bottom door closer, including removing old door, removing and refaxing existing metal doors, shutter etc. complete (DRAWING. No.: LIC-DOOR-97)	2.00	No.s			
48	**FLUSH DOORS** Providing and fixing flush door of size 1.0 m x 2.1 m 18mm thick in toilets, back side entrance, instrument room and server room with approved laminate on both side with all fittings (top door closer, SS handle Mat finish, mortice lock etc.) of Hettich/Godrej or equivalent etc. complete. As directed and approved by Engineer in-charge	17.00	No.s			
49	**POWDER COATED ALLUMINUM LOUVERED VENTILATORS IN TOILETS** Providing and fixing in position powder coated aluminium louvered ventilators of various sizes as per detailed drawings and specifications including aluminium frames 80 x 38 mm box type 5 mm thick sheet glass louvers, clips / rubber plain P.V.C. gaskets of approved quality etc. Complete. Note: Contractor shall approve sample from Engineer in-charge	2.00	No.s			
50	**EXTERIOR PAVING IN GREY STONE SLABS** Providing and fixing exterior paving in grey stone slab on the existing foot path by keeping openings for drainage, making ramp, step, planter, plants etc. complete. (DRAWING NO.: LIC-GROUND-59)	21.60	SqM			

51	**EXTERIOR PAVING IN RECKLI TILES** Providing, manufacturing and fixing Reckli tiles for exterior paving by use of Polyutherine model of Reckli - Germany insitu casting in M20 concrete as per the instruction of Engineer etc. complete (DRAWING NO.: LIC-GROUND-59)	181.78	SqM			
52	**REPAIR OF ENTRANCE PORTCH** Repair of entrance porch by water proofing in bitumen with tile finish on top surface (as per water proofing specifications), replacement of old drainage with new drainage system, including painting, re concreting the floor etc. complete	1.00	LS			
53	**PANTRY PLATFORM** Providing and fixing pantry platform in traditional Indian design in front of auditorium entry as approved by architect or engineer in Corian and MR 18mm play with internal lighting, glass work etc. complete	1.00	LS			
54	**CABINATE IN PANTRY** Providing and fixing 3.2 m (l) x 0.45 (w) x 3.0 (h) cabinate in 18 mm MR ply, partly as show case and partly as cabinate with 1 mm thick internal & external laminate (texture or Glassy or Plain) with 8 mm glass including all fittings, doors, handle, hinges all Hettich or equivalent as approved by architect including internal lighting etc. complete	1.00	LS			
55	**CURVE WALL PARTITION** Providing and fixing in position 12 mm thick MR grade flexi plywood (both sides- Duroflex, Greenply or equivalent) over aluminium framework of size 50x50 mm sections as per manufacturer's specifications with spacing of 16" - 24" c/c horizontally and vertically both ways .The 12mm thick plywood surface to be finished with 15 mm POP sheets as per design and drawings., include providing Skirting in bottom, bottom member to seal any gap along the floor, include making openings for glass panels and doors by providing	100	SqM			

	concealed frames on all sides, framework above false ceiling and any other provisions required. to facilitate the same, all hardware etc. all complete.					
56	**REPAIR OF ROOFING ON PUBLIC TOILET** Providing, fixing and repairing roofing on the public toilet by replacement of metal sheets, strengthening of existing MS members etc. complete.	1.00	LS			
				TOTAL		

SIGNATURE AND SEAL OF CONTRACTOR

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

BOQ OF FIRST FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	**DISMANTLING FALSE CEILING** Dismantling false ceiling including AC ducting and taking away dismantled materials to necessary location as approved by owner etc. complete	450.00	SqM			
2	**DISMANTLING AND CLEANING BROKEN DEBRIS** Dismantling and cleaning all necessary debris including transportation to necessary location as per local rules etc. complete	182.00	SqM			
3	**PRE-CONSTRUCTIONAL ANTI-TERMITE TREATMENT** Providing Pre-constructional anti-termite treatment conforming to IS-6313 (part II) using chloropyrifos EC 20 Emulsion or equivalent of 1% concentration by weight for creating barrier under and all around basement excavation, backfill in immediate contact with foundation and treating the top surface along the external perimeter of building, expansion joints, surrounding of pipes, water conduits and at places suggested and as directed by Engineer-In-Charge covering 10 years guaranty.	182.00	SqM			
4	**REMOVING OLD PAINT AND MAKING SURFACE** Removing paint by scrapping and sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete	1830.00	CuM			
5	**REPAIR & RESTORATION OF OLD WOODEN DOORS** Repair of old wooden doors and frames by replacement of broken wooden members, polishing and painting complete	15.00	No.s			

6	**REPAIR & RESTORATION OF OLD METAL DOORS** Repair of old metal doors by repainting old surfaces, replacement of glass oil paint etc. complete	17.00	No.s			
7	**REPAIR & RESTORATION OF OLD METAL WINDOWS** Repair of old metal windows by repainting old surfaces, replacement of glass, oil paint etc. This also including repair of metal grill, removing, scrapping of old paint & repainting of in two coats etc. complete Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more glass of Saint Gobain SGG PLANITHERM TOTAL+ or equivalent.	9.00	No.s			
8	**REPAIR & RESTORATION OF OLD METAL VENTILATORS** Repair of old metal ventilators by repainting old surfaces, replacement of glass oil paint etc. complete Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more glass of Saint Gobain SGG PLANITHERM TOTAL+ or equivalent.	12.00	No.s			
9	**REPAIR & RESTORATION OF OLD WOODEN VENTILATORS** Repair of old ventilators on side of doors by repainting old surfaces, oil paint, polishing etc. complete	15.00	No.s			
10	**BRICK WORK IN CEMENT MORTAR** Providing approved class Burnt Brick masonry with conventional. type bricks in cement mortar 1:6 in building of inner walls or external walls including bailing out water, striking joints on unexposed faces, racking out joints on exposed faces and watering complete.	35.00	CuM			

11	**INTERNAL PLASTER FOR REPAIR OF SPALLING IN SLABS, BEAMS AND COLUMNS** Providing and applying 12 or necessary mm thick internal plaster in cement mortar 1:3 with at all heights and locations in one coat for masonry (except stone masonry) and concrete surfaces including racking out joints, hacking of concrete surface, watering, finishing, curing, scaffolding, coating reinforcement, chicken mesh etc. complete.	150.00	SqM			
12	**MARBLE FLOORING** Marble stone flooring with 18 mm thick Italian marble stone, as per sample of marble approved by Engineer-in-charge, over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry, including rubbing and mirror polishing and border as per design including mirror polishing, cleaning etc. complete	396.86	SqM			
13	**VITRIFIED TILES FLOORING** Providing and laying Vitrified tiles in different sizes double charged (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.					
	SIZE: 600 X 600 (Avg.)	64.02	SqM			

14	**VITRIFIED TILES SKIRTING** Providing and laying Vitrified tiles in skirting of required sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.	6.39	SqM			
15	**DIGITAL GLAZED VITRIFIED WALL TILES** Providing and laying Digital Glazed Vitrified tiles in wall of required sizes (Matt/Glossy/Metallic) (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.					
a.	SIZE: 800 X 800 (Avg.)	120.72	SqM			
b.	SIZE: 600 X 1200 (Avg.)	40.50	SqM			
16	**DOORS (WITHOUT FRAMES)** Providing and fixing country teak wood single leaf, 2nd class partly panelled door as per drawings including iron oxidised fixtures and fastenings and finishing the wood work with one coat of primer etc.(excluding door frame) complete.	2.00	No.s			

17	**DOOR FRAMES** Providing and fixing first quality wood door frame of sizes 125x 62mm , 75 x 50 mm or any other size with 12 mm rebate for door shutter including superior grade melamine polishing etc. The base & side touching the floor/partition to be applied with ant termite treatment. The rate shall be inclusive of fixing necessary hardware for fixing the frame to partition etc. complete	1.04	CuM			
18	**EMULSION PAINT** Providing and applying plastic emulsion paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	1920.00	SqM			
19	**LUSTRE PAINT** Providing and applying lustre paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	1440.00	SqM			
20	**TEXTURE PAINT** Providing and applying texture paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	100.00	SqM			

21	**POP FALSE CEILING** Providing and fixing false ceiling of 12 mm thick of fibrous plaster of Paris which includes G.I. Perimeter channel (MF6) of size 0.40 mm thick (having one flange of 20 mm and another flange of 30 mm and web of 27 mm) along with perimeter of ceiling, screw fixed to brick wall , concrete surface, partition with the help of nylon sleeves and screws at 610 mm centres. Thereafter suspending G.I. intermediate channel (MF 7) 600 mm. C/C of size 45mm (0.9 mm thick with two flanges of 15 mm each) from the soffit at 450 mm centre with connecting angle (ie ceiling angle) of width 25mm x 10mm x 0.40mm thick fixed to soffit with G.I.cleat and steel expansion fasteners. Celling sections (MF 5) of 0.55 mm thickness having knurled web of 51.5 mm and two flanges of 26 mm each with lips of 10.5 mm are then fixed to the intermediate channel with the help of connecting clip and in direction perpendicular to the intermediate channel at 450 mm centres.	693.26	SqM			
	12.5 mm tapered edge is then screw fixed to celling section with dry wall SqM 612.00 248.00 screws at 230 mm centres. Screw fixing is to be done mechanically with suitable attachment. The boards are to be joined and finished so as to have flush look which includes filling and finishing the tapered & square edges of the boards with jointing compound, joint paper tape and appropriate suitable primer and three coats of oil bound distemper. The item includes for light fitting, grill diffusers and cut out etc. have to be made with frame of perimeter channels of size 20mm x 30mm x 0.55mm.thick supported suitable and angle bead is to be used at steps to get straight line finish etc. complete. As directed by Engineer-in-charge					

22	**ARMSTRONG FALSE CEILING** Providing and fixing false ceiling of 15 mm thickness Acoustic tabular Armstrong / Everest / AMS / Aerolite or equivalent (0.6x0.6m) boards of approved make, with shapes and sizes as per drawings including powder coated G.I .wall angle of 20mmx20mm size ,G.I. grid runners of size 15mmx 38mm at 600mmcenter to centre both ways and suspended using G.I. wire 3mm wire including fixing using butter fly clips and fasteners including transporting , scaffolding, all necessary labour and machinery , finishing etc complete. (as directed by Engineer In Charge).sample to be got approved from Engineer Incharge before execution of work	600.00	SqM			
23	**CONFERENCE TABLE** Providing and fixing conference table with base made up of solid teak wood frame fitted with 18 mm water proof marine ply. Ply will have teak veneer 3.5 mm thick of century or equivalent. This include polishing, base coat and finishing table top. Table top will have electric points in SS 304 Matt finish doors as per drawings, All the edges will be smooth. This item also include electrical fitting of push type for conference table including cable holes in cables. Also making a concealed connection through floor with sufficient points for laptop etc. complete.	1.00	No.s			

24	**MEETING ROOM TABLE** Providing and fixing table of 18 mm moisture resistant ply wood with 1 mm laminate finish. The table top shall be in 12 mm toughen glass with smooth edges. Tops are supported on partition with the help of steel cantilevers. All work tops fixed at the standard anthropometric working height of 750mm from the ground level & finished with well filleted edges, thus making those users friendly. All the accessories shall be as per detail drawing and design including fixture and fastening with polishing and finishing etc. complete.	1.00	No.s			
25	**CLASS ROOM TABLE** Providing and fixing table of 18 mm moisture resistant ply wood with 1 mm laminate finish. The table top edge shall be post formed. Tops are supported on partition with the help of steel cantilevers. All work tops fixed at the standard anthropometric working height of 750mm from the ground level & finished with well filleted edges, thus making those users friendly. All the accessories shall be as per detail drawing and design including fixture and fastening with polishing and finishing etc. complete.	1.00	No.s			

26	**MODULAR OFFICE TABLES** Providing and fixing modular tables of 25mm moisture resistant ply wood with 1 mm laminate finish. The table top edge shall be post formed. Tops are supported on partition with the help of steel cantilevers. All work tops fixed at the standard anthropometric working height of 750mm from the ground level & finished with well filleted edges, thus making those users friendly. One circular hole for computer cables to be provided with Stainless Steel mat finish polish cable cap. Pedestal shall have castors at the base. Tables will have powder coated CPU trolley, articulated keyboard tray with pull out mouse tray. Including movable multi use pedestal/cabinet with drawer and file cabinet of size (400x700)mm will be provided with laminate finish. Color of laminate, texture and finish shall be approved by Engineer incharge. All the accessories shall be as per detail drawing and design including fixture and fastening with polishing and finishing etc. complete.	1.00	No.s			
27	**WALL PANEL** Providing and supplying wooden wall panels on Teak Wood with patterns and design as per drawings in required thickness in 3.5 veneer or melamine polish etc. complete	100.00	SqM			
28	**PROVIDING AND SUPPLYING CHAIRS FOR MEETING ROOM, CONFERENCE ROOM, & CLASS ROOM** Providing and supplying rolling and revolving chairs in meeting room, conference room, class room or Herman Miller or equivalent as approved by engineer incharge.					
a.	Conference Room Chairs	40.00	No.s			
b.	Meeting Room Chairs	10.00	No.s			
c.	Class Room Chairs	25.00	No.s			

29	**MODULAR TABLES** Providing and fixing modular tables of 18 mm moisture resistant with 1 mm laminate finish. The table top edge shall be post formed. Tops are supported on partition with the help of steel cantilevers. All work tops fixed at the standard anthropometric working height of 750mm from the ground level & finished with well filleted edges, thus making those users friendly. One circular hole for computer cables to be provided with Stainless Steel mat finish polish cable cap. Pedestal shall have castors at the base. Tables will have powder coated CPU trolley, articulated keyboard tray with pull out mouse tray. Including movable multi use pedestal/cabinet with drawer and file cabinet of size(400x700)mm will be provided with laminate finish. Color of laminate, texture and finish shall be approved by Engineer incharge of Embassy. All the accessories shall be as per detail drawing and design including fixture and fastening with polishing and finishing etc. complete.	1.00	No.s			

30	**SOFA IN OFFICE** Providing and fixing in position sofa in Indo Myanmar Chamber of Commerce Office. Sofa frame to comprise of hollockwood frame structure, of adequate & appropriate size with seat of 100mm thk rubber covered with 25mm foam, 32 density and finished in fabric of approved shade. Item includes flat springs for cushioning to be placed at placing not more than 75mm c/c; quality markings all around the seat, back and sides as required. All necessary hardware, stitching, provisions for contours, slopes etc complete. Treated wood with termite proofing coating, back rest, sides or arm rest to be adequately cushioned, upholstery shall be fabric of approved thickness and color. The item to be complete in all respect. to the satisfaction of Engineer incharge. The sofa shall be covered from all sides by Fabric [rear, front ,sides backrest, side table, seats-fully etc. complete (Drawing No.: LIC-FURNITURE-127)	9.00	No.s			

31	**MODULAR KITCHEN PLATFORM FOR PANTRY AS PER DESIGN** Providing and fixing Modular kitchen as per drawings with polished Stainless Steel platform with large size Stainless Steel wash basin with S trap and cleaning net. Modular kitchen will be made form 18 mm thick marine ply with glazed finished laminates of white and black colors with Hettich fittings of auto swing/close type. Internal wet and dry arrangement shall be made with use of Stainless Steel trays with all system for crockery, utensils, spoons, knifes etc. complete. Framing of the modular kitchen shall be in MS pipes with pure polyester coating from inside and outside. Powered coating shall be provided above pure polyester coat of approved quality, color, micron etc. complete. Kota stone base shall be provided to the SS platform. Proper slope for drain in Platform and floor shall be provided with Nahani trap. Electrical points at suitable locations shall be provided at suitable locations. Additional glass cookery cabinet on	1.00	No.s			
	wall above platform of approved quality and as per design shall be provided. Electronic exhaust chimney of approved make shall be provided by the contractor. Any additional requirements shall be clarified before quoting for this item.					
32	**CABINATES** Providing and fixing cabinate in 18 mm MR ply, partly as show case and partly as cabinate with 1 mm thick internal & external laminate (texture or Glassy or Plain) with 8 mm glass including all fittings, doors, handle, hinges all Hettich or equivalent as approved by architect including internal lighting etc. complete					
a.	Class Rm: 2.3 m (l) x0.45 (w) x3.0 (h).	1.00	No.s			
b.	Meeting Rm: 3.7 m (l) x 0.45 (w) x 3.0 (h).	1.00	No.s			
c.	Conf. Rm: 20.0 m (l) x 0.45 (w) x 3.0 (h).	1.00	No.s			
				TOTAL		

SIGNATURE AND SEAL OF CONTRACTOR

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

BOQ OF SECOND FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	**DISMANTLING FALSE CEILING** Dismantling false ceiling including AC ducting and taking away dismantled materials to necessary location as approved by owner. This include housekeeping for keeping area clean etc. complete	450.00	SqM			
2	**DISMANTLING PARTITIONS** Dismantling brick work and taking away debris at necessary location etc. complete	250.00	SqM			
3	**DISMANTLING AND CLEANING BROKEN DEBRIS** Dismantling and cleaning all necessary debris including transportation to necessary location as local rules. This include housekeeping for keeping area clean etc. complete	480.00	SqM			
4	**ANTI-TERMITE TREATMENT** Providing Pre-constructional anti-termite treatment conforming to IS-6313 (part II) using chloropyrifos EC 20 Emulsion or equivalent of 1% concentration by weight for creating barrier under and all around basement excavation, backfill in immediate contact with foundation and treating the top surface along the external perimeter of building, expansion joints, surrounding of pipes, water conduits and at places suggested and as directed by Engineer-In-Charge covering 10 years guaranty.	182.00	SqM			

5	**REMOVING OLD PAINT AND MAKING SURFACE** Removing paint by scrapping and sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete	1830.00	CuM			
6	**REPAIR & RESTORATION OF OLD WOODEN DOORS** Repair of old wooden doors and frames by replacement of broken wooden members, polishing and painting complete	12.00	No.s			
7	**REPAIR & RESTORATION OF OLD METAL WINDOWS** Repair of old metal windows by repainting old surfaces, replacement of glass, oil paint etc. This also including repair of metal grill, removing, scrapping of old paint & repainting of in two coats etc. complete. Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more glass of Saint Gobain SGG PLANITHERM TOTAL+ or equivalent.	21.00	No.s			
8	**REPAIR & RESTORATION OF OLD METAL VENTILATORS** Repair of old metal ventilators by repainting old surfaces, replacement of glass oil paint etc. complete Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more glass of Saint Gobain SGG PLANITHERM TOTAL+ or equivalent.	12.00	No.s			
9	**REPAIR & RESTORATION OF OLD WOODEN VENTILATORS** Repair of old ventilators on side of doors by repainting old surfaces, oil paint, polishing etc. complete	16.00	No.s			

10	**INTERNAL PLASTER FOR REPAIR OF SPALLING IN SLABS, BEAMS AND COLUMNS** Providing and applying 12 or necessary mm thick internal plaster in cement mortar 1:3 with at all heights and locations in one coat for masonry (except stone masonry) and concrete surfaces including racking out joints, hacking of concrete surface, watering, finishing, curing, scaffolding, coating reinforcement, chicken mesh etc. complete.	200.00	SqM			
11	**MARBLE FLOORING** Marble stone flooring with 18 mm thick Italian marble stone, as per sample of marble approved by Engineer-in-charge, over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry, including rubbing and mirror polishing and border as per design including mirror polishing, cleaning etc. complete	396.86	SqM			
12	**VITRIFIED TILES FLOORING** Providing and laying Vitrified tiles in different sizes double charged (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.	110.25	SqM			

13	**VITRIFIED TILES SKIRTING** Providing and laying Vitrified tiles in skirting of required sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.	3.96	SqM			
14	**DIGITAL GLAZED VITRIFIED WALL TILES** Providing and laying Digital Glazed Vitrified tiles in wall of required sizes (Matt/Glossy/Metallic) (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.					
a.	SIZE: 800 X 800 (Avg.)	120.72	SqM			
b.	SIZE: 600 X 1200 (Avg.)	40.50	SqM			
15	**DOORS (WITHOUT FRAMES)** Providing and fixing country teak wood single leaf, 2nd class partly panelled door as per drawings including iron oxidised fixtures and fastenings and finishing the wood work with one coat of primer etc.(excluding door frame) complete.	5.00	No.s			

16	**DOOR FRAMES** Providing and fixing first quality wood door frame of sizes 125x 62mm, 75 x 50 mm or any other size with 12 mm rebate for door shutter including superior grade melamine polishing etc. The base & side touching the floor/partition to be applied with ant termite treatment. The rate shall be inclusive of fixing necessary hardware for fixing the frame to partition etc. complete	1.60	CuM			
17	**EMULSION PAINT** Providing and applying plastic emulsion paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	500.00	SqM			
18	**LUSTRE PAINT** Providing and applying lustre paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	1920.00	SqM			
19	**TEXTURE PAINT** Providing and applying texture paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	150.00	SqM			

20	**POP FALSE CEILING** Providing and fixing false ceiling of 12 mm thick of fibrous plaster of Paris which includes G.I. Perimeter channel (MF6) of size 0.40 mm thick (having one flange of 20 mm and another flange of 30 mm and web of 27 mm) along with perimeter of ceiling, screw fixed to brick wall, concrete surface, partition with the help of nylon sleeves and screws at 610 mm centres. Thereafter suspending G.I. intermediate channel (MF 7) 600 mm. C/C of size 45mm (0.9 mm thick with two flanges of 15 mm each) from the soffit at 450 mm centre with connecting angle (ie ceiling angle) of width 25mm x 10mm x 0.40mm thick fixed to soffit with G.I.cleat and steel expansion fasteners. Celling sections (MF 5) of 0.55 mm thickness having knurled web of 51.5 mm and two flanges of 26 mm each with lips of 10.5 mm are then fixed to the intermediate channel with the help of connecting clip and in direction perpendicular to the intermediate channel at 450 mm centres.	300.00	SqM			
	12.5 mm tapered edge is then screw fixed to celling section with dry wall SqM 612.00 248.00 screws at 230 mm centres. Screw fixing is to be done mechanically with suitable attachment. The boards are to be joined and finished so as to have flush look which includes filling and finishing the tapered & square edges of the boards with jointing compound, joint paper tape and appropriate suitable primer and three coats of oil bound distemper. The item includes for light fitting, grill diffusers and cut out etc. have to be made with frame of perimeter channels of size 20mm x 30mm x 0.55mm.thick supported suitable and angle bead is to be used at steps to get straight line finish etc. complete. As directed by					

	Engineer- in-charge					
21	**ARMSTRONG FALSE CEILING** Providing and fixing false ceiling of 15 mm thickness Acoustic tabular Armstrong / Everest / AMS / Aerolite or equivalent (0.6x0.6m) boards of approved make, with shapes and sizes as per drawings including powder coated G.I .wall angle of 20mmx20mm size ,G.I. grid runners of size 15mmx 38mm at 600mmcenter to centre both ways and suspended using G.I. wire 3mm wire including fixing using butter fly clips and fasteners including transporting, scaffolding, all necessary labour and machinery , finishing etc complete. (as directed by Engineer In Charge).sample to be got approved from Engineer Incharge before execution of work	600.00	SqM			
22	**WALL PANEL** Providing and supplying wooden wall panels on Teak Wood with patterns and design as per drawings in required thickness in 3.5 veneer or melamine polish etc. complete	150.00	SqM			

23	**MODULAR TABLES** Providing and fixing modular tables of 18 mm moisture resistant with 1 mm laminate finish. The table top edge shall be post formed. Tops are supported on partition with the help of steel cantilevers. All work tops fixed at the standard anthropometric working height of 750mm from the ground level & finished with well filleted edges, thus making those users friendly. One circular hole for computer cables to be provided with Stainless Steel mat finish polish cable cap. Pedestal shall have castors at the base. Tables will have powder coated CPU trolley, articulated keyboard tray with pull out mouse tray. Including movable multi use pedestal/cabinet with drawer and file cabinet of size(400x700)mm will be provided with laminate finish. Color of laminate, texture and finish shall be approved by Engineer incharge of Embassy. All the accessories shall be as per detail drawing and design including fixture and fastening with polishing and finishing etc. complete.	2.00	LS			
24	**PROVIDING AND SUPPLY CHAIRS FOR CLASS ROOM** Providing and supplying rolling and revolving chairs in class room of Herman Miller or equivalent as approved by the engineer Incharge.					
a.	Class Room Chairs	50.00	No.s			
25	**RACKS IN LIBRARY** Providing and supply metallic library storage system in Glass from of Godrej or Equivalent for of approved color and thickness etc. complete	20.00	No.s			

26	**CABINATES** Providing and fixing cabinate in 18 mm MR ply, partly as show case and partly as cabinate with 1 mm thick internal & external laminate (texture or Glassy or Plain) with 8 mm glass including all fittings, doors, handle, hinges all Hettich or equivalent as approved by architect including internal lighting etc. complete					
				TOTAL		

SIGNATURE AND SEAL OF CONTRACTOR

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

BOQ OF THIRD FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	**DISMANTLING FALSE CEILING** Dismantling false ceiling including AC ducting and taking away dismantled materials to necessary location as approved by owner. This include housekeeping for keeping area clean etc. complete	450.00	SqM			
2	**DISMANTLING PARTITIONS** Dismantling brick work and taking away debris at necessary location etc. complete	250.00	SqM			
3	**DISMANTLING AND CLEANING BROKEN DEBRIS** Dismantling and cleaning all necessary debris including transportation to necessary location as local rules. This include housekeeping for keeping area clean etc. complete	480.00	SqM			
4	**ANTI-TERMITE TREATMENT** Providing Pre-constructional anti-termite treatment conforming to IS-6313 (part II) using chloropyrifos EC 20 Emulsion or equivalent of 1% concentration by weight for creating barrier under and all around basement excavation, backfill in immediate contact with foundation and treating the top surface along the external perimeter of building, expansion joints, surrounding of pipes, water conduits and at places suggested and as directed by Engineer-In-Charge covering 10 years guaranty.	182.00	SqM			

5	**REMOVING OLD PAINT AND MAKING SURFACE** Removing paint by scrapping and sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete	1830.00	CuM			
6	**REPAIR & RESTORATION OF OLD WOODEN DOORS** Repair of old wooden doors and frames by replacement of broken wooden members, polishing and painting complete	6.00	No.s			
7	**REPAIR & RESTORATION OF OLD METAL WINDOWS** Repair of old metal windows by repainting old surfaces, replacement of glass, oil paint etc. This also including repair of metal grill, removing, scrapping of old paint & repainting of in two coats etc. complete. Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more glass of Saint Gobain SGG PLANITHERM TOTAL+ or equivalent.	27.00	No.s			
8	**REPAIR & RESTORATION OF OLD METAL VENTILATORS** Repair of old metal ventilators by repainting old surfaces, replacement of glass oil paint etc. complete Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more glass of Saint Gobain SGG PLANITHERM TOTAL+ or equivalent.	12.00	No.s			
9	**REPAIR AND RESTORAITON OF OLD WOODEN VENTILATORS** Repair of old wooden ventilators on side and above window, in corridor by repainting old surfaces, replacement of glass, painting, polishing etc. complete	3.00	No.s			
10	**INTERNAL PLASTER FOR REPAIR OF SPALLING IN SLABS, BEAMS AND COLUMNS**	1583.82	SqM			

	Providing and applying 12 or necessary mm thick internal plaster in cement mortar 1:3 with at all heights and locations in one coat for masonry (except stone masonry) and concrete surfaces including racking out joints, hacking of concrete surface, watering, finishing, curing, scaffolding, coating reinforcement, chicken mesh etc. complete.					
11	**MARBLE FLOORING** Marble stone flooring with 18 mm thick Italian marble stone, as per sample of marble approved by Engineer-in-charge, over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry, including rubbing and mirror polishing and border as per design including mirror polishing, cleaning etc. complete	463.06	SqM			
12	**VITRIFIED TILES FLOORING** Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.	49.77	SqM			

13	**VITRIFIED TILES SKIRTING** Providing and laying Vitrified tiles in skirting of required sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.	6.25	SqM			
14	**DIGITAL GLAZED VITRIFIED WALL TILES** Providing and laying Digital Glazed Vitrified tiles in wall of required sizes (Matt/Glossy/Metallic) (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.					
a.	SIZE: 800 X 800 (Avg.)	120.72	SqM			
b.	SIZE: 600 X 1200 (Avg.)	40.50	SqM			
15	**DOORS (WITHOUT FRAMES)** Providing and fixing country teak wood single leaf, 2nd class partly panelled door as per drawings including iron oxidised fixtures and fastenings and finishing the wood work with one coat of primer etc.(excluding door frame) complete.	5.00	No.s			

16	**DOOR FRAMES** Providing and fixing first quality wood door frame of sizes 125x 62mm , 75 x 50 mm or any other size with 12 mm rebate for door shutter including superior grade melamine polishing etc. The base & side touching the floor/partition to be applied with ant termite treatment. The rate shall be inclusive of fixing necessary hardware for fixing the frame to partition etc. complete	1.60	CuM			
17	**EMULSION PAINT** Providing and applying plastic emulsion paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	480.00	SqM			
18	**LUSTRE PAINT** Providing and applying lustre paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	1440.00	SqM			
19	**TEXTURE PAINT** Providing and applying texture paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	150.00	SqM			

20	**POP FALSE CEILING** Providing and fixing false ceiling of 12 mm thick of fibrous plaster of Paris which includes G.I. Perimeter channel (MF6) of size 0.40 mm thick (having one flange of 20 mm and another flange of 30 mm and web of 27 mm) along with perimeter of ceiling, screw fixed to brick wall , concrete surface, partition with the help of nylon sleeves and screws at 610 mm centres. Thereafter suspending G.I. intermediate channel (MF 7) 600 mm. C/C of size 45mm (0.9 mm thick with two flanges of 15 mm each) from the soffit at 450 mm centre with connecting angle (ie ceiling angle) of width 25mm x 10mm x 0.40mm thick fixed to soffit with G.I.cleat and steel expansion fasteners. Celling sections (MF 5) of 0.55 mm thickness having knurled web of 51.5 mm and two flanges of 26 mm each with lips of 10.5 mm are then fixed to the intermediate channel with the help of connecting clip and in direction perpendicular to the intermediate channel at 450 mm centres.					

	12.5 mm tapered edge is then screw fixed to celling section with dry wall SqM 612.00 248.00 screws at 230 mm centres. Screw fixing is to be done mechanically with suitable attachment. The boards are to be joined and finished so as to have flush look which includes filling and finishing the tapered & square edges of the boards with jointing compound, joint paper tape and appropriate suitable primer and three coats of oil bound distemper. The item includes for light fitting, grill diffusers and cut out etc. have to be made with frame of perimeter channels of size 20mm x 30mm x 0.55mm.thick supported suitable and angle bead is to be used at steps to get straight line finish etc. complete. As directed by Engineer- in-charge	150.00	SqM			
21	**ARMSTRONG FALSE CEILING** Providing and fixing false ceiling of 15 mm thickness Acoustic tabular Armstrong / Everest / AMS / Aerolite or equivalent (0.6x0.6m) boards of approved make, with shapes and sizes as per drawings including powder coated G.I .wall angle of 20mmx20mm size ,G.I. grid runners of size 15mmx 38mm at 600mmcenter to centre both ways and suspended using G.I. wire 3mm wire including fixing using butter fly clips and fasteners including transporting , scaffolding, all necessary labour and machinery , finishing etc complete. (as directed by Engineer In Charge).sample to be got approved from Engineer Incharge before execution of work	150.00	SqM			

22	**WALL PANEL** Providing and supplying wooden wall panels on Teak Wood with patterns and design as per drawings in required thickness in 3.5 veneer or melamine polish etc. complete	15.00	SqM			
23	**RACKS IN EXHIBITION HALL** Providing and fixing racks in exhibition hall as per design and drawings with 18 mm Marine Ply with glass electrification etc. complete					
a.	Showcase No. 1 (Long)	12.00	No.s			
b.	Showcase No. 2(box)	4.00	No.s			
d.	Showcase No. 3 (short)	7.00	No.s			
				TOTAL		

SIGNATURE AND SEAL OF CONTRACTOR

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

BOQ OF FOURTH FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	**DISMANTLING FALSE CEILING** Dismantling false ceiling including AC ducting and taking away dismantled materials to necessary location as approved by owner. This include housekeeping for keeping area clean etc. complete	450.00	SqM			
2	**DISMANTLING PARTITIONS** Dismantling brick work and taking away debris at necessary location etc. complete	450.00	SqM			
3	**DISMANTLING AND CLEANING BROKEN DEBRIS** Dismantling and cleaning all necessary debris including transportation to necessary location as local rules. This include housekeeping for keeping area clean etc. complete	480.00	SqM			
4	**ANTI-TERMITE TREATMENT** Providing Pre-constructional anti-termite treatment conforming to IS-6313 (part II) using chloropyrifos EC 20 Emulsion or equivalent of 1% concentration by weight for creating barrier under and all around basement excavation, backfill in immediate contact with foundation and treating the top surface along the external perimeter of building, expansion joints, surrounding of pipes, water conduits and at places suggested and as directed by Engineer-In-Charge covering 10 years guaranty.	182.00	SqM			

5	**REMOVING OLD PAINT AND MAKING SURFACE** Removing paint by scrapping and sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete	1830.00	CuM			
6	**REPAIR & RESTORATION OF OLD WOODEN DOORS** Repair of old wooden doors and frames by replacement of broken wooden members, polishing and painting complete	6.00	No.s			
7	**REPAIR & RESTORATION OF OLD METAL WINDOWS** Repair of old metal windows by repainting old surfaces, replacement of glass, oil paint etc. This also including repair of metal grill, removing, scrapping of old paint & repainting of in two coats etc. complete. Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more glass of Saint Gobain SGG PLANITHERM TOTAL+ or equivalent.	27.00	No.s			
8	**REPAIR & RESTORATION OF OLD METAL VENTILATORS** Repair of old metal ventilators by repainting old surfaces, replacement of glass oil paint etc. complete Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more glass of Saint Gobain SGG PLANITHERM TOTAL+ or equivalent.	12.00	No.s			
9	**REPAIR & RESTORATION OF OLD WOODEN VENTILATORS** Repair of old wooden ventilators by repainting old surfaces, replacement of glass oil paint etc. complete	3.00	No.s			
10	**BRICK WORK** Brick work with common bricks of class designation 7.5 in Cement mortar 1:6 (1 cement : 6 coarse sand)	20.00	CuM			

11	**INTERNAL PLASTER FOR REPAIR OF SPALLING IN SLABS, BEAMS AND COLUMNS** Providing and applying 12 or necessary mm thick internal plaster in cement mortar 1:3 with at all heights and locations in one coat for masonry (except stone masonry) and concrete surfaces including racking out joints, hacking of concrete surface, watering, finishing, curing, scaffolding, coating reinforcement, chicken mesh etc. complete.	1583.82	SqM			
12	**MARBLE FLOORING** Marble stone flooring with 18 mm thick Italian marble stone, as per sample of marble approved by Engineer-in-charge, over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry, including rubbing and mirror polishing and border as per design including mirror polishing, cleaning etc. complete	499.37	SqM			
13	**VITRIFIED TILES FLOORING** Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.	317.48	SqM			

14	**VITRIFIED TILES SKIRTING** Providing and laying Vitrified tiles in skirting of required sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.	8.47	SqM			
15	**DIGITAL GLAZED VITRIFIED WALL TILES** Providing and laying Digital Glazed Vitrified tiles in wall of required sizes (Matt/Glossy/Metallic) (thickness to be specified by manufacturer), with water absorption less than 0.08 % and on forming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete.					
a.	SIZE: 600 X 600 (Avg.)	0.00	SqM			
b.	SIZE: 800 X 800 (Avg.)	120.72	SqM			
c.	SIZE: 600 X 1200 (Avg.)	40.50	SqM			
16	**MS FABRICATION WORK** Providing and fixing steel work for fabrication of floor slab as per the drawing to support span of slab etc. complete. (Drawing no. LIC-CEILING-39)	10000	KG			

17	**DOORS (WITHOUT FRAMES)** Providing and fixing country teak wood single leaf, 2nd class partly panelled door as per drawings including iron oxidised fixtures and fastenings and finishing the wood work with one coat of primer etc.(excluding door frame) complete.	12.00	No.s			
18	**DOOR FRAMES** Providing and fixing first quality wood door frame of sizes 125x 62mm, 75 x 50 mm or any other size with 12 mm rebate for door shutter including superior grade melamine polishing etc. The base & side touching the floor/partition to be applied with ant termite treatment. The rate shall be inclusive of fixing necessary hardware for fixing the frame to partition etc. complete	38.40	CuM			
19	**EMULSION PAINT** Providing and applying plastic emulsion paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	480.00	SqM			
20	**LUSTRE PAINT** Providing and applying lustre paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	1440.00	SqM			

21	**POP FALSE CEILING** Providing and fixing false ceiling of 12 mm thick of fibrous plaster of Paris which includes G.I. Perimeter channel (MF6) of size 0.40 mm thick (having one flange of 20 mm and another flange of 30 mm and web of 27 mm) along with perimeter of ceiling, screw fixed to brick wall , concrete surface, partition with the help of nylon sleeves and screws at 610 mm centres. Thereafter suspending G.I. intermediate channel (MF 7) 600 mm. C/C of size 45mm (0.9 mm thick with two flanges of 15 mm each) from the soffit at 450 mm centre with connecting angle (ie ceiling angle) of width 25mm x 10mm x 0.40mm thick fixed to soffit with G.I.cleat and steel expansion fasteners. Celling sections (MF 5) of 0.55 mm thickness having knurled web of 51.5 mm and two flanges of 26 mm each with lips of 10.5 mm are then fixed to the intermediate channel with the help of connecting clip and in direction perpendicular to the intermediate channel at 450 mm centres.					

	12.5 mm tapered edge is then screw fixed to celling section with dry wall SqM 612.00 248.00 screws at 230 mm centres. Screw fixing is to be done mechanically with suitable attachment. The boards are to be joined and finished so as to have flush look which includes filling and finishing the tapered & square edges of the boards with jointing compound, joint paper tape and appropriate suitable primer and three coats of oil bound distemper. The item includes for light fitting, grill diffusers and cut out etc. have to be made with frame of perimeter channels of size 20mm x 30mm x 0.55mm.thick supported suitable and angle bead is to be used at steps to get straight line finish etc. complete. As directed by Engineer- in-charge	550.00	SqM			
22	**ARMSTRONG FALSE CEILING** Providing and fixing false ceiling of 15 mm thickness Acoustic tabular Armstrong / Everest / AMS / Aerolite or equivalent (0.6x0.6m) boards of approved make, with shapes and sizes as per drawings including powder coated G.I .wall angle of 20mmx20mm size ,G.I. grid runners of size 15mmx 38mm at 600mmcenter to centre both ways and suspended using G.I. wire 3mm wire including fixing using butter fly clips and fasteners including transporting , scaffolding, all necessary labour and machinery , finishing etc complete. (as directed by Engineer In Charge).sample to be got approved from Engineer Incharge before execution of work	150.00	SqM			

23	**CHAIRS FOR HALL** Providing and supplying chairs for multi-purpose hall in PVC of approved make and model as per Engineer Incharge etc. complete	70.00	No.s			
	TOTAL					

SIGNATURE AND SEAL OF CONTRACTOR

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

BOQ FOR TERRACE FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	**DISMANTLING AND CLEANING BROKEN DEBRIS** Dismantling and cleaning all necessary debris including transportation to necessary location as local rules. This include housekeeping for keeping area clean etc. complete	50.00	SqM			
2	**ANTI-TERMITE TREATMENT** Providing Pre-constructional anti-termite treatment conforming to IS-6313 (part II) using chloropyrifos EC 20 Emulsion or equivalent of 1% concentration by weight for creating barrier under and all around basement excavation, backfill in immediate contact with foundation and treating the top surface along the external perimeter of building, expansion joints, surrounding of pipes, water conduits and at places suggested and as directed by Engineer-In-Charge covering 10 years guaranty.	151.20	SqM			
3	**REPAIR & RESTORATION OF OLD WOODEN DOORS** Repair of old wooden doors and frames by replacement of broken wooden members, polishing and painting complete	10.00	No.s			
4	**REPAIR & RESTORATION OF OLD METAL WINDOWS** Repair of old metal windows by repainting old surfaces, replacement of glass, oil paint etc. This also including repair of metal grill, removing, scrapping of old paint & repainting of in two coats etc. complete. Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more glass of Saint Gobain SGG	4.00	No.s			

	PLANITHERM TOTAL+ or equivalent.					
5	**REPAIR & RESTORATION OF OLD METAL VENTILATORS** Repair of old metal ventilators by repainting old surfaces, replacement of glass oil paint etc. complete Note: Glass of all the windows has to be replace by heat resistant glass 8 mm or more glass of Saint Gobain SGG PLANITHERM TOTAL+ or equivalent.	38.00	No.s			
6	**BRICK WORK** Brick work with common bricks of class designation 7.5 in Cement mortar 1:6 (1 cement : 6 coarse sand)	15.00	CuM			
7	**INTERNAL PLASTER FOR REPAIR OF SPALLING IN SLABS, BEAMS AND COLUMNS** Providing and applying 12 or necessary mm thick internal plaster in cement mortar 1:3 with at all heights and locations in one coat for masonry (except stone masonry) and concrete surfaces including racking out joints, hacking of concrete surface, watering, finishing, curing, scaffolding, coating reinforcement, chicken mesh etc. complete.	175.00	SqM			
8	**WATER PROOF CEMENT PAINT** Providing and applying two coats of waterproof cement paint of an approved make and colour as per manufacturers specifications to smooth sand faced or other surfaces, upto 10m height from ground level and at all locations as directed including preparing surfaces for painting by any approved means, watering, scaffolding, cleaning and curing etc. complete as directed by Engineer-in-charge.	150.00	SqM			

9	**STEEL WORK FOR ROOFING** Providing, detailing, composite fabricating members like Trusses, Girders, girders, bracings, supports, purlins, runners, and similar structural steel members fabricated using M.S. hollow tubular steel sections (circular & rectangular pipes), including transportation of the same to site, erection of structural steel members for all heights & at all levels, provision of necessary erection bolts, fixing bolts, nuts, washers, cleats, stiffeners, gussets, base plate, and all necessary operations like preheating as per specifications, straightening, bending, cutting, drilling, grinding, machining if specified, welding, grinding, removing the welding burr and preparing surface for painting with wire brush cleaning and applying two coats of epoxy red oxide zinc phosphate primer of 30 microns each and two coats of Epoxy Corrosion Resistant Enamel paint of 30 microns after fabrication including touching up with spray painting after erection etc complete as directed by Engineer In Charge.	20.00	MT			
10	Providing and fixing box type gutter of width 350 mm and depth 250 mm clear inside, made of 22 gauge G.I.sheets with socket type opening on top to receive ferrules from longitudinal truss gutters and ferrules at end, with all the fixtures and fastenings and three coats of synthetic enamel paint, gutters to be supported on M.S. flat hangers 750 MM C/C which are fixed on top as directed and laid to proper slope, as specified including making necessary connections with rain water pipes etc complete and as directed. (Rate includes cost of hangers, the fixing charges, 3 coats of synthetic enamel paint, and welding if required).	150.00	Rmt			

11	**UPVC PIPES AND BENDS** Providing and fixing UV resistant self-fit UPVC pipes of approved make for Rainwater down takes confirming to IS 13592:1992 Type A suitable for 4kg/sqcm pressure for following pipe diameters including rain water receiving recess with pvc plug bend necessary fittings such as offsets shoes, fixing the pipes on wall with clips filling the joints with solvent/cement and necessary scaffolding etc. complete as directed by Engineer In Charge. 150mm dia	150.00	Rmt			
12	**ROOF SHEETS** Providing and fixing single skin trapezoidal profiled sheeting 930 - 1020mm cover width 28-32 mm crests depth at 186-250 c/c (above 195 mm c/c crest distance there will be minimum 2 ribs at the centre for stiffening). The feed material shall be manufactured from AZ 150 (min. 150 gms/sq.mt total on both sides) Zincalume / Galvalume sheets of minimum yield strength of 550 MPa, 0.45 mm BMT, (0.5 mm TCT excluding paint coating thickness), metallic hot dip coated with Al-Zn alloy (55% Aluminium, 43.5% Zinc, 1.5% Si) as per AS 1397 / IS15961 & painted with Super Durable Polyester Colorbond steel XRW or equivalent quality paint system of approved color, suitable for exterior application conforming to AS/NZS 2728:2007 type-4 / IS15965:class3 of approved make. The sheet shall have a total coating thickness of 35 microns, super durable polyester paint system of 20 microns on exposed surface and 5 micron reverse polyester coat on back surface over 5 micron primer coat on both surfaces. The paint system shall have stable inorganic pigments for color durability. The product will be fastened using no.12-14x55 mm	1584.30	SqM			

	(or as per design requirement), mechanically coated with 25 micron Zn-Sn alloy or hot dipped zinc coated with min 40 micron hex self-drilling fasteners with EPDM washer of approved make confirms to AS3566:2002 class 3. The fastener shall be fixed on every crest of sheets for connecting with purlins. The contractor is to submit design and workshop drawings and take approval on the sheet profile, design and detail before installation of the sheets from the concerned authorities.(The measurement shall be based on per unit of finished/covered surface area.) Colour Coated Galvalume/zincalume Flashings and Cappings 600mm wide					
13	**WATER PROOFING TO TERRACE** Providing water proofing treatment of Old Terraces by removing existing treatment. Sealing of cracks by non-shrink cracks fill compound by applying first coat of polymer modified semi-viscous paste prepared by mixing polymer of approved make (such as Aquatek conchem/ Master Seal 550/brush bond / RoffSupercrete/ Webercrete/ Monobond / Perma shield / Hypercrate / Master Crete M 81/ MC-Bauchemie) and Cement in 1:2proportion (1 litre polymer : 2 Kg Cement) or Rohnex water proofing system in two coats(1kg powder,700 ml water and polymer jelly for first coat & 1 kg powder,500 ml water & polymer jelly for second coat) to a neatly cleaned and dust free concrete surface and upto 300 mm over parapet wall prepared by removing loose and deposited material with brush and water, laying glass fibre mesh of 10 x 10 specification of approved make over tacky surface of first coat of polymer followed by second coat in transverse direction, laying mechanical	1607.03	Sq.M			

	protective cover to polymer coating treatment with brick bat coba with burnt broken brick bats laid in C.M. 1:5 admixed with approved water proofing compound, filling up to half depth of brick bats, curing this layer for 3 days,					
	applying cement slurry over this layer joints of brick bats with C.M. 1:3 admixed making the Sq.m. 1102.00 219.00 junctions at the parapet rounded and tapered top for required height, with drip mould at the junction of plaster and parapet and curing and covering 7 years Guarantee against leakproofness on court including ponding test etc. complete (Make: Dr. Fixit Roofseal or equivalent)					
14	**GROUTING TO VARIOUS PARTS** Providing Grouting by specially prepared grout of Weber Crete /Roff Supercrete /Polyalk P/Monobond /Perma shield/Hypercrate or equivalent with cement in proportion 1:3.5 (1 part chemical & 3.5 part cement by weight) along with 50 ml super plasticizer Roff Plast 320/sun polycrete NCT/Perma Plast/Supercon 100 or non-shrinking, non-cracking antiwash high strength polymer cement grout P C grout available in bags or equivalent with proper water for injectable consistency and applying it in the body of structure like slab, beam, column, pillars, deckslab, retaining wall, basement, underground and elevated water storage reservoir concrete and brick wall, crack portion of structure etc. by injectng method, to achieve its original strength including drilling of suitable diameter drills holes at 2 to 4 Nos. per SqM. using caps and nozzle grouting machinery necessary, scaffolding, finishing and covering gurantee of 10 years and necessary testing etc. complete.	750.00	Kg			

15	**WATER PROOFING TO TOILETS** Providing water proofing in W.C. and bath including B.B. Coba in all position consisting of specialised approved waterproofing compound and materials as per manufacturers specifications and covering 7 years guarantee including all lead, lift and ponding test etc. complete.	353.09	CuM			
16	**EMULSION PAINT** Providing and applying plastic emulsion paint on old and new surfaces of approved quality, colour and shade to surfaces in two coats including scaffolding and preparing the surfaces (excluding the primer coat) complete.	250.00	SqM			
				TOTAL		

SIGNATURE AND SEAL OF CONTRACTOR

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

BOQ FOR ELECTRICAL WORK FOR ALL FLOORS

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	**POINT WIRING FOR INDEPENDENT PLUG** Providing, fixing and testing point wiring for independent plug in 20 mm rigid PVC conduit with 1.5 SqM FRLS grade Copper wire with modular switch and concealed wiring with necessary joints, and required accessories complete. As directed by Engineer in-charge	234.00	No.s			
2	**LIGHT POINT WITH SINGLE MODULER SWITCH** Providing, fixing and testing light point with single modular switch with concealed cables and modular plate etc. complete.	1777.00	No.s			
3	**POINT WIRING FOR WALL MOUNTED FANS** Providing, fixing and testing point wiring for wall mounted fans in 20 mm rigid PVC conduit with 1.0 SqM FRLS grade Copper wire with flush type switch and required accessories etc. complete.	125.00	No.s			
4	**WALL MOUNTED FANS** Providing, supplying and fixing wall mounted high speed fans in basement of with regulator, etc. complete (Make: Bajaj or equivalent)	20.00	No.s			
5	**CONCELAED SQUARE LED LIGHT FIXTURE** Supply, Installation, testing & commissioning of the 2x36 watt, 2x2" size concealed light fixture as per drawings complete with LED system etc. (Make: Philips: Green Square 39W 2x2 LED Light or equivalent) with switches etc.	151.00	No.s			

6	**CONCEALED LED CIRCULER LIGHT FIXTURE** Supply, Installation, testing & commissioning of the 5 watt or above, concealed LED circular light fixture complete with copper choke, starter, LED etc. (Make Philips Led Panel Light Round Clear White 59215 or equivalent)	464.00	No.s			
7	**CONCEALED SQUARE LED LIGHT PANEL** Supply, Installation, testing & commissioning of fixture the 15 or more watt, concealed mounted light panel complete with starter, light, switches etc. (Make: Philips Ultra Slim Plus 15-Watt Recessed LED Panel or equivalent)	65.00	No.s			
8	**CEILING SQUARE LIGHT PANEL** Supply, installation, testing & commissioning of white color ceiling fixture of material metal and glass with 15 watt or above LED light including, started, LED system, switches etc, complete (Make: Philips myLiving canvas white model no. 77050/31/16 or equivalent)	108.00	No.s			
9	**STEPS AND RAMP LIGHTING** Supply, Installation, testing & commissioning for steps in auditorium, steps, below seats and ramp lighting of the watt, concealed mounted light fixture complete with copper choke, starter, tube etc. make Havells/Sylvania: wall 5 STE DIR 4W LED WHT LLB with switches etc.	252.00	No.s			
10	**PENDENT LIGHT IN AUDITOIRUM** Providing, installation, testing & commissioning of 9'' Pendalyte with Satined Aluminium Reflector, with suspended, lamp holder, LED/CFL lamp of 32 watt and above etc. complete (Make: Philips Pendalyte with Satined Aluminium Reflector or equivalent)	24.00	No.s			

11	**HANGING LIGHT FIXTURES FIXTURE** Supply, Installation, testing & commissioning hanging light fixtures in lotus shape made from metal with golden color metal polish or equivalent finishing of 32 watt or above, beam mounted light fixture complete with copper choke, starter, LED light, dimmer etc. make Havells/Sylvania/Philips with switches etc. as per design (Drawing No. LIC-AUDI-69)					
a.	Large	15.00	No.s			
b.	Small	40.00	No.s			
12	**FLUSH CEILING LIGHT FIXTURES** Providing, supplying, installation as commissioning, flush ceiling light in lobbies as per original design of 20" or more fixtures with 32 watt or above LED light as approved by engineer, with wiring, scaffolding, golden colored metal pipe casing ¾" dia or above or suggested design for ceiling etc. complete (Make: Metalux AP Series or Equivalent)	30.00	No.s			
13	**WALL MOUNTED FIXTURE** Providing, fixing and commissioning, wall light with light up and down with approximate dimension of H. 10 Cm x Dia. 7 Cm x Th. 10 Cm., 1 x 40 watt or above, metal body, easy to color as per wall color, LED bulb, dimmable, including concealed cabling, modular switch etc. complete (Make: ASTRO0813 Mosto 1 Light Up/Down Wall Light Plaster, Item Code: 0813 or Philips or equivalent)	25.00	No.s			
14	**LED TUBE WHITE IN BASEMENT AND TERRACE** Supply, installation, testing and commission of LED tube25 watt or above of material glass and plastic including bulb, clips, LED system, civil work etc complete(Make: Philips Linea 26-Watt LED Tube (White) or equivalent)	74.00	No.s			

15	**LED STRIP LIGHTS** Supply, installation, testing and commissioning of LED strip lights 8 watt above per metre of required color or hue including, adaptor, controller, male-female clips, cable, switches etc. complete in ceiling, tables, with scaffolding, glass etc. complete. (Make: Philips 800284 Hue Light strip Plus, 2Nd Generation or equivalent)	840.00	Mtr			
16	**EXTERIOR LED LIGHTS FOR BULDING** Supply, Installation, testing & commissioning for lights in exterior in elevation of LED or compliance concealed mounted light fixture complete with copper choke, starter, tube etc. make Havells/Sylvania/Philips with switches etc. Contractor shall assign specialised company for design and installation of external lighting with previous experience in similar field. Contractor and subcontractor shall approve the design by presenting minimum three options for external lighting from architect, owner or engineer. Suggestions shall be incorporated with all necessary requirements etc. complete This item include AMC for three years.	1.00	LS			
17	**POINT WIRING FOR LAN POINTS** Point wiring for LAN points will be carried out with CAT 6, LAN Cable, in surface/ recessed existing PVC conduits, inclusive of p/f of G.I/ PVC box & modular plate RJ 45 AT&T LAN socket. Work includes cutting & repair of chase to original finish. (Make of cable: Polycap or equivalent)	55.00	No.s			

18	**CIRCUIT WIRING** Supply and wiring wall / floor etc. / recessed / surface as per colour code with the following size PVC Insulated copper wire along with given earth wire for phase neutral and earth conductor with standard colour coding, through ISI marked rigid PVC conduit of given size with all accessories. The rate includes the cost of complete wiring from switch box to switch box etc. complete (Make of wire: Polycap or equivalent)					
a.	2 x 1.0 SqM PVC Copper wire in 20 mm dia conduit for Emergency Stop Box Connection	450.00	Mtr			
b.	3 x 1.5 SqM PVC Copper wire with in 20 mm dia conduit (The rate includes the cost of complete wiring between individual switch boards)	350.00	Mtr			
c.	3 x 2.5 SqM PVC Copper wire with in 20 mm dia conduit (for lighting main circuit, 15A plug points & UPS point wiring & 1T AC)	275.00	Mtr			
d.	5 x 4 Sq.mm PVC Copper wire with in 20 mm dia conduit. (for 3-Ph circuits like 3-Ph AC / UPS)	350.00	Mtr			
e.	3 x 4 Sq.mm PVC Copper wire with in 20 mm dia conduit. (for 1.5/2Tonne AC and UPS I/P & O/P upto UPS O/P DB and for Sign Boards if there are multiple Name boards)	350.00	Mtr			
19	**AC/HEATER METAL BOX** Supplying and fixing for AC/Heater metal box of GI box with modular plate and cover in front on surface or in recess , including providing and fixing of 3 No's 3 pin 5/6 amps modular socket outlet and 15/16 amps. Modular switch, connections, painting etc. as required	171.00	No.s			
20	**TWO WAY CONNECTIONS** Point wiring for two way connects for switching lights in corridor, toilet, landscape, steps in 20 mm rigid PVC conduit with 1.0 SqM FRLS grade copper wire with flush type switch and required accessories.	35.00	No.s			

21	**UTP NETWORK CABLE CAT 6** Supplying & installing UTP networking Cat-6+ cable suitable for LAN / WAN Computer networking.	250.00	Mtr			
22	**M. S. CABLE TRAY** Fabrication and installing required sizes of perforated M.S. cable trays including horizontal and vertical bends, reducers, tees, cross members and other accessories as required and duly suspended from the ceiling with M.S. suspenders and including painting with powder coating etc. as required.	1.00	LS			
23	**DISTRUBUTION BOARD** Distribution board of approved make as per design requirements of Lengrand or equivalent make with MCB cables, separation for computers, lights etc. complete	30.00	LS			
24	**PVC CABLE** Supply and erecting PVC armoured cable 2 core 2.5 SqM stranded/solid copper conductors continuous 5.48 SqM (12 swg) GI earth wire complete erecting with glands & lugs on wall in trenches complete (Measurement to be as per site condition and location of Mains) (Make: Polycap or equivalent)	450.00	Mtr			
25	**SUPPLY 16" EXHAUST FAN** Supply of 16" exhaust fan of PVC of high speed with installation, testing including aluminium or wooden framing etc. complete. (Make Godrej/Philips or equivalent) Note: Contractor shall approve the make and model from Engineer in-charge of Embassy)	40.00	No.s			
26	**BELL POINTS** Providing and fixing bell points with concealed conduits with cable, bell of approved make, modular switches, etc. complete	25.00	No.s			
27	**TELEPHONE POINTS** Providing and fixing telephone points with modular plate, cable, switch with concealed cabling etc. complete	45.00	No.s			

28	**EARTHLING WITH G.I. EARTH PIPE** Earthling with G.I. earth pipe 4.5 mtr long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. (but without charcoal or coke and salt) as required.	25.00	No.s			
29	**MUSIC, AUDIO CUM PA SYSTEM OF PHILIPS MAKE** Providing and fixing music, audio cum PA systems of Philips make with speakers, CD, USB, equalizer, etc. complete as approved by engineer incharge with stereo speakers in appropriate locations, including stereo head phones etc. complete. Note: Contractor shall approve the make model of music systema and speaker from Engineer in-charge Embassy. Design & product detail to be submitted with tender.					
a.	Auditorium	1	No.s			
b.	Floors	4	No.s			
30	**MODULAR KITCHEN HOT PLATE** Providing and fixing modular kitchen hot plate with 4 no. of coils of Philips or equivalent make etc. complete. Note: Contractor shall approve the make model of music systema and speaker from Engineer in-charge Embassy.	2.00	No.s			
31	**MODULAR KITCHEN GRILL AND OVEN** Providing and fixing modular kitchen grill and oven of Philips or equivalent make etc. complete. Note: Contractor shall approve the make model from Engineer in-charge Embassy.	2.00	No.s			
32	**MODULAR KITCHEN FRIDGE** Providing and fixing modular kitchen fridge of approved size and capacity Philips or equivalent make etc. complete. Note: Contractor shall approve the make model from Engineer incharge Embassy.	2.00	No.s			

33	**WATER HEATER** Supplying, installation, and testing Smith-Jaquar water heater with all accessories in Male and Female toilets complete. (Make: Jaquar CEWHR-DIGITAL Digital with remote & dual heating elements 35 19.00 395X760 1 KW/ 1.5 KW/ 2.5 KW)	2.00	No.s			
34	**ELECTRICAL PANEL IN BASEMENT** Suppling, installation, commissioning of main electrical panel in basement for all electrical equipments with all necessary requirements as approved by architect or engineer etc. complete.	1.00	LS			
35	**RECESSED FLOOR LIGHTS** Providing, fixing and commissioning recessed floor lights of die-cast aluminium housing in powder-coated finish, colour: white stainless steel or powder coated white trim with camlock fasteners (no screws visible), includes gasket to help prevent water penetrating between luminaire unit and casting surround, PG cable gland, max. load for pedestrian traffic: 1000 kg; without trim: 500 kg, installation with flexible cables e.g. H07RN-F, installed in concrete floors or pavings using concrete casting surround kit, model with overlapping trim: installation kit required for fitting in RCC floor or cavity floors or; without trim: glass panel fixed by 4 torque screws, models with class "R10" anti-slip glass covers, external loop-in/loop-out of cable possible using IP67 universal box, under floor cabling, modular switch etc. complete. (Make: PASO II D120/Q120 or equivalent)	45	No.s			
36	**SPOT LIGHTS ON LOBBY COLUMNS** Providing and fixing spot lights on decorative columns in lobby with cabling from floor including all necessary accessories, modular switch cable, remaking floor etc. complete (Make: Lutec Pixel White Wall Light, Aluminium 270 degree directional	55	No.s			

	spot light with CREE LED or Milan Duo Spot white or equivalent)					
37	**SPOT LIGHTS CONCEALED IN CEILING** Providing, fixing and commissioning, white, die-casted aluminium for a premium look and feel built-in LED, adjustable light angle, maximum Wattage Replacement Bulb: 3 watts, mains Voltage (V) : 100V - 240V, number of bulbs : 5, wattage bulb included : 7 W, color temperature : 2700 K, color designation : warm white, lumens (lm) : 490lm, fixture dimmable : No, lifetime (hrs) : 20,000 hrs, index protection : IP20, class of protection : II - double insulated, material : metal, colour : white, product dimensions (L x W) cm : 8.4 cm x 4.8 cm, net weight : 0.196kg, recessed distance : 7.5 cm, cut out length : 6.9 cm, cut out width : 6.7cm, energy saving : 80% (Make: PHILIPS 59724 Esscus 7W Warm White 27K Recessed Led Spot Light Eyeball or equivalent)	30.00	No.s			
38	**TRACK LIGHT WITH DIMMABLE PENDANT** Providing, fixing and commissioning track light with dimmable pendant with CREE/Citizen COB as light source, reliable quality assurance and Triac dimmable way, widely options of beam angle for different spotlighting demand, A1070 cold forging aluminium heat sink, Meanwell or Philips driver option with three-year warranty, white finished Cast Aluminium, including tracks as per drawings (approx. 6 M x 10 No.s), power consumption: 30W or more, AC100-240V, 50/60Hz, power efficiency: >80%, CCT: 2700K, 3000K, 4000K, 5000K, Luminous Flux: 2900-3100LM, beam angle: 10°/25°/38°, CRI: >82Ra, adapter: 2/3/4 wire, lifespan: 50,000 hours, certification: CE, RoHS, size: D95xH160mm (Make: Maxblue 30W 35W 4-Wire Modern Dimmable Pendant Track Lighting or Philips or equivalent)	60.00	No.s			

39	**WALL LIGHT IN AUDITORIUM** Providing, fixing, and commissioning W High Power Small Round Led Light aluminium di-cast, white color, 4w, CE ROHS certified, 20lm, cct: 3000k, 350mA, 230V, LED lighting source, Dia80*H58mm, IP 20 with auto slow dimmer at the time of start and close including wiring and all accessories complete (Make: Vellnice model no. W3A0006 or Philips or equivalent)	50.00	No.s			
40	**STAGE LIGHTING SYSTEM PACKAGE** Supply and installation of complete lighting system for stage lighting in package of 56 x 16 package Includes: 16 x Metal Light Duty C-Clamp For 1.5 In To 2 In Truss - 16 x 56 DMX RGB LED Wash Light - 1 x Universal DMX Light Controller - 1 x Accu-Cable 3-Pin XLR (F) to XLR (M) DMX Cable 25Ft - 15 x Accu-Cable 3-Pin XLR DMX Light Cable 5ft. Powered by 108 red, green and blue LEDs, the fixture offers 3- or 7-channels of DMX control. IStatic colors and RGB color mixing with or without DMX, built-in automated and sound activated programs and a variable speed pulse effect. Obey 10 is a compact controller ready to handle all the complexities. Capable of controlling up to 8, 16-channel fixtures, the Obey 10 can store 6 sets of chases containing up to 999 scenes each. Including all the DMX cables and clamps to get everything set up and running complete. (Make: Chauvet Slim Par 56 x 16 Complete Lighting System Stage Lighting Package or equivalent)	1.00	LS			
41	**SUSPENDED LIGHT** Providing. Fixing and commissioning arch pendant light in metal of white or black, IP 20 approximate dimensions H 31.6 x H. max. 181.6 x diffuser 39.9 cm diameter, including lamp, all connections, modular switch etc. complete (Make: Philips InStyle Arch Pendant light or equivalent)	4.00	No.s			

42	**RECESSED LED LINEAR LIGHT** Providing, fixing and commission LED recessed luminaire with trim, suitable for ceiling or wall square-shaped extruded aluminium body,, direct light emission with opal diffuser matt white, epoxy powder coating, machined polished, extruded aluminium body, die-cast aluminium end caps, opal polycarbonate diffuser, in-line seamless installation or possible custom-made geometrical configurations are possible (max. 1500W) with linear and angle joints, cabling, modular switches, include all accessories, etc. complete. (Make: Dinamica S9 or Philips or equivalent)	30.00	Mtr			
				Total		

SIGNATURE AND SEAL OF CONTRACTOR

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

BOQ FOR PLUMBING & SANITATION WORK FOR ALL FLOOR

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	**STAR WHITE COLOR WATER CLOSET** Providing & Fixing star white color vitreous china wall mounted water closet with heavy duty soft close seat cover & concealed dual tank. Complete with all accessories including cutting & making good wall & floor wherever required. (Model Jaquar, FLS-WHT- 0111PP, Wall Hung-WC, Dimension: 380*360*545)	67.00	No.s			
2	**WHITE COLOR WASH BASIN OVAL SHAPE** Providing & Fixing star white color vitreous china wash basin Oval shape, 32mm dia C.P waste, 32mm Dia C.P wall flange & rubber adopter for waste connection complete, including cutting & making good the walls wherever required. (Model - Jaquar/SLSWHT- 0558, Table Top Basin, Dimension: 160 x 495 x 365) Note: Contractor shall approve the make and design from Engineer Incharge Embassy.	46.00	No.s			
3	**WHITE COLOR URINAL** Providing & Fixing star white color vitreous china urinal with inbuilt auto flush system with s.s. bracket, pipe to wall with C.P flange compete including cutting & making good the walls & floors wherever required. Model Jaquar URS-WHT-0701, Urinal, Dimension: 545*295*315) Note: Contractor shall approve the make and design from Engineer Incharge Embassy.	35.00	No.s			

4	**STAINLESS STEEL SINK** Providing & Fixing in position best stainless steel sinks with 40mm C.P. brass waste chrome plated & s.s. waste pipe complete in all respect including cutting & making good the walls & floors in canteen. Jaquar/Sunfold/Equivalent 24"X20"X8" 1.0mm thick mat finish. Note: Contractor shall approve the make and design from Engineer Incharge Embassy	2.00	No.s			
5	**WALL MOUNTED SENSOR TAP** Providing & Fixing chrome plated wall mounted sensor taps (Battery / Electric operated) over wash basin complete in all respect including cutting & making good the walls wherever required, Model - JAQUAR /Sungold/Equivalent	46.00	No.s			
6	**STOP TAP FOR WATER CLOSET** Providing & Fixing 15mm C.P brass bib tap for water closet with C.P brass threaded flange complete, including cutting & making good the walls wherever required. Model - JAQUAR /Sungold/Equivalent Note: Contractor shall approve the make and model form	67.00	No.s			
7	**ANGLE VALVE FOR WATER CLOSET** Providing & Fixing 15mm C.P. brass angle valve with C.P copper connecting pipe 375mm long & nuts, washer & C.P. brass flange complete, including cutting & making good the wall wherever required. JAQUAR CONTINENTAL 053 KN for water closet cistern & basins or Equivalent	67.00	No.s			

8	**STOP COCK FOR URINAL BEFORE SENSOR** Providing & Fixing concealed stop cocks for cold water supply. JAQUAR CONTINENTAL 083 or Equivalent for urinals before sensor. Note: Contractor shall approve the make and design from Engineer Incharge Embassy	35.00	No.s			
9	**BRASS MIXING FITTING FOR SINK** Providing & Fixing 15mm C.P. brass mixing fitting for sink with swinging spout complete, including cutting & making good the walls wherever required. Wall mixer with swivel spout. Model: JAQUAR CONTINENTAL 319 or Equivalent	2.00	No.s			
10	**AUTOMATIC SOAP DISPENSER** Providing & Fixing ABS body automatic liquid soap dispenser for all was basins with liquid soaps. (Make - Jaquar/Sungold/Equivalent) Note: Contractor shall approve the make and model from Engineer Incharge Embassy)	40.00	No.s			
11	**CROMIUM PLATED TOWEL ROD 16 MM DIA** Providing and fixing chromium plated towel rod 16 mm dia. and 75 cm. in length are including all accessories, fitting, cleaning, etc. complete. (Make Jaquar or equivalent)	20.00	No.s			
12	**PVC NAHANI TRAP** Providing and fixing 150 cm Rigid PVC Nahani Trap including PVC grating, bend, connecting piece of P.V.C.pipe of required diameter, pipe up to the outside face of the wall, making good the holes and repairs, testing, including cover etc. complete.	12.00	No.s			

13	**MIRROR IN TOILET** Providing and fixing 2000 mm x 900 mm size superior type mirror with 16 mm dia including chromium plated towel rod etc. complete. (Make Jaquar or equivalent) Note: Contractor shall approve a sample from architect/engineer incharge of Embassy	20.00	No.s			
14	**PIPE FOR DRAINAGE** Providing and fixing in position Heavy type alkathene pipe for drainage connections including cutting, boring holes in wood work or masonry if necessary, making connections of pipe to sink and giving test for no leakages, making good the damaged surface etc. complete. As directed by Engineer in-charge Embassy. Note: Separate piping shall be provided for grey water.					
a.	25 MM Dia	3000.00	Rmt			
b.	40 MM Dia	2500.00	Rmt			
15	**PIPE FOR RAINWATER COLLECTION** Providing and fixing in position Heavy type alkathene pipe for drainage connections including cutting, boring holes in wood work or masonry if necessary, making connections of pipe to sink and giving test for no leakages, making good the damaged surface etc. complete. As directed by Engineer in-charge Embassy.					
a.	250 MM Dia	750.00	Rmt			
16	**UPVC WASTE PIPE** Providing and fixing UPVC waste pipes for Wash Basin / Urinals including all fittings, making chases in wall / floor and reinstating the surface. etc. complete. As directed by Engineer in-charge Embassy.					
a.	50 mm Dia	150.00	Rmt			
b.	40 MM Dia	250.00	Rmt			

17	**PVC PIPE** Providing, cutting, erecting, jointing, clamping, fixing including making clamping, fixing including making opening in walls, floors, S.W.R., P.V.C. pipe and fittings, such bends, elbows single junction, double junctions, cowls with PVC / G.I. brackets etc. including jointing with solvent cement/rubber ring, making necessary holes in masonry / concrete, all installation as workmanship like manner and as per manufacturer's instructions, testing, commissioning the lines, attending to leakage if any making it to good leakage if any making it to good condition. Following diameters of S.W.R.PVC pipe and fittings of approved make conforming to IS 13592-1992. All as directed.					
a.	110 mm. dia. PVC pipe for soil stack	350.00	Rmt			
b.	75 mm. dia. PVC pipe for waste wear pipe	250.00	Rmt			
c.	50 mm. dia. PVC pipe for anti-symphonic pipe	55.00	Rmt			
18	**RECTANGULER TISSUE PAPER HOLDER FOR LADIES AND GENT TOILET** Providing and fixing rectangular tissue paper holder in ladies and gents toilet for holding hand wash tissue papers, with additional storage facilities etc. complete (Jaquar or equivalent)	21.00	No.s			
19	**TOILET TISSUE PAPER HOLDER** Providing and fixing toilet tissue paper holder in ladies and gents toilet for holding hand wash tissue papers, with additional storage facilities etc. complete (JaquarAHS-1553 Paper Holder with Flap Recessed Type (Stainless Steel)	64.00	No.s			

20	**WATER TANK** Providing and fixing PVC tank of appropriate capacity in basement, roof and other places etc. complete	75000.00	Ltrs			
				TOTAL		

SIGNATURE AND SEAL OF CONTRACTOR

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

BOQ OF MISCELLANEOUS WORKS

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	**LARGE LETTERS** Providing and fixing Polish Stainless steel letter of Large Size (10" Height or of Size to be approved from Engineer Incharge) in Polish Stainless Steel of high grade that will not corrode in the environment of refinery. Light shall be long life and easy to maintain preferable of brands Philips or equivalent	45.00	No.s			
2	**SMALL LETTER SIGNAGES** Providing and fixing office signage at top of cabins, and all other rooms in polish stainless steel with letter size (2" or as advised) and design approved by the engineer incharge etc. complete	500.00	No.s			
3	**NATURAL PLANTS WITH CONCRETE POTS** Providing and fixing natural plants outside building on 750 Dia on top of concrete pot of approved design by the engineer incharge, including full grown plant as approved by client etc. complete	15.00	No.s			
4	**ARTIFICIAL PLANTS WITH CERAMIC POTS** Providing and fixing artificial plant of approved color and materials with ceramic pot, white stone as approved by the engineer incharge	150.00	No.s			
5	**WALL PAINTINGS** Providing and fixing wall painting of approved design and concept in various room with proper hanging arrangement in wall etc. complete 1) Canvas Size: 48" x 60" – 10 No.s 2) Canvas 30" x 40" depth – 20 No.s; Thickness of canvas - 1.5" above. Good quality wooden framing with width 5-3/4" or above with moulding, decorative,	30.00	No.s			

	polished/painted with depth 2" or above, glass, hanging arrangement, polishing etc. complete. (Note: This item also include providing restoration documentations at various location in above size frame with drawings showing the restoration process, including photos printing, design, drawings etc. complete)					
6	**LOCKER IN TOILETS** Providing and fixing lockers in ladies toilet in Stainless Steel of minimum 8 nos and type of Godrej or Equivalent make etc. complete	15.00	No.s			
7	**FIRE FIGHTING SYSTEM** Providing and fixing proposed firefighting system as per drawing as approved by architect or engineer including all necessary requirements for electrical, safety, approvals from local fire department etc. complete					
a.	Wet Sprinklers System	1.00	Lump Sum			
b.	Dry Sprinklers System (Exhibition Hall & Basement)	1.00	Lump Sum			
c.	Fire Hose Piping	1.00	Lump Sum			
d.	Fire Alarm System	1.00	Lump Sum			
e.	Fire Signage, Escape Routes etc.	1.00	Lump Sum			
8	**FOAM EXTINGUISHER** Making and fixing concealed cabinets for fire / foam extinguisher at appropriate location with fire signage etc. complete	44.00	No.s			
9	**PERMANENT ELECTRICAL CONNECTION** Providing and fixing permanent electric connection to building from local electrical office including cabling, sub meters, including preparation of load sheets, drawings etc. complete	1.00	Lump Sum			

10	**PERMANENT DIRINKING WATER CONNECTION** Providing drinking water connection to the building from local water department including all necessary piping, box arrangement etc. complete	1.00	Lump Sum			
11	**METAL DETECTORS** Providing and fixing Single Zone walk through Metal Detector With 6 Digit counter with foot ramp, walk/stop, continuous wave, indicators, adjustable audio indication, led bar graph signal strength indicator, lcd display for counting and message annunciation, smps 90-270v ac & 12v/7ah battery seamless battery changeover, battery backup integral 12v 7ah chargeable battery with built-in charger to cope, 200 sensitivity levels for precise detection of target objects, traffic counter, microcontroller based intelligent lcd counter to indicate in, out and algebraic sum of the traffic, power source, high immunity to external electrical interference, such as x-ray machines, computer or cctv monitors, memory: parameters stored in non-volatile ram etc. complete	5.00	No.s			
12	**BAGGAGE SCANNER** Providing and supplying baggage scanner for inspection of small size cabin & hand baggage in with specifications measurement weight approx. 400 Kg, tunnel size 505 (W) x 305(H) mm, resolution 0.1 mm of wire penetration, 100% X-ray sensor L shaped photodiode array Gary Level 4096 (12 Bit), conveyor speed approx. 0.2 m/s, Max. load 100 Kg, conveyor type belt conveyor, conveyor running bi direction power consumption 0.5 KVA etc. complete	3.00	No.s			
13	**CONTROLLED ACCESS TURNSTILE:** Providing and fixing controlled access turnstile with round Corian top of size: (36.75" (wide) x 39.925" (Ht.) and 8" (Base)) or	4.00	No.s			

	equivalent size in 304 Stainless Steel, with electronic control both directions, rubber arm care, adjustable shock absorption, two directed gate rod movement etc. complete. Model: The Executive™ Series Waist-High EX100-R of CA or Equivalent					
14	**DIESEL GENERATOR SET** Design, manufacture, supply at site, storing, handling, installation, testing and commissioning of following sizes of DG sets in sound proof enclosure (to meet the requirements of central pollution control board) as per specification complete in all respect 415Volts, 3 phase, 50 Hz, 1500 RPM AC alternator coupled to diesel engine complete with all accessories as per specifications tool kits, service manual, self-starting device, fly wheel, coupling with guard, V belt, radiator cooling system, instrument panel, common bed plate, anti-vibration isolation pads, grouting bolts, XLPE/PVC armoured cables and terminal box as per specification, adopter box, glands, nuts etc. first filling of Engine oil, Gear oil, high speed diesel oil, 24 volts chargeable battery set (Minimum 180 AH capacity) complete with batteries, battery charger etc. DG set including exhaust system, copper flexible expansion joints, silencer, fuel oil day tank, fuel oil piping, oil hand pump, steel support structure, logic panel (weather proof) with AMF operation, civil work etc. complete.					
15	It shall be salient with international noise international emission norms. It shall be compatible for basement as per norms. Any civil work for or necessary requirements shall be considered for basement installation. DG set include automatic switch during the power cuts. (Cummins/Kirloskar/ Volvo or Equivalent)					
a.	225 KVA	1.00	No.s			

b.	180 KVA	2.00	No.s			
16	**METAL RATED FIRE DOORS** Manufacturing, supplying, installation of metal fire door of approved color and make with door frame of material galvanized steel 2mm, of size standard Heights (Wall Openings) 2100 mm with ador leaf in galvanized steel 1.6 mm thick, Infill with Rockwool thickness 45 mm, width 1200, fire Rating of120 Mins, hardware (all hardware parts are ISI marked), SS Hinges 4" x 12, SS D Handle 12", door Closer, dead lock with both side key, vision panel 300 x 300, fully flush construction with no visible welds, robust structure, ease of operation, maintenance-free & high level of aesthetic, including removal of existing doors, making surface good etc. complete	22.68	SqM			
17	**AUDITORIUM / CONFERENCE ROOM PROJECTOR** Providing supply, installation and commissioning large-venue projector combines a laser light source and 3LCD technology for powerful, uncompromising images ideal for events staging and auditoriums with extraordinary color brightness, 3LCD projectors with brilliant images, delivering 6,000 lumens or more of color brightness and 6,000 or more lumens of white brightness1, laser light engine 3 years guarantee, connectivity to all equipments, with extra powered lenses, including, installation, cabling, remote, and screen proposed auditorium etc. complete (Make: Epson Pro L1100U or equivalent)	2.00	No.s			

18	**REPAIR & RESTORATION OF STAIRCASE HANDRAIL AND GRILL** Providing and fixing hand rail of the staircase by dismantling old wooden hand rail with new teak wood handrail, including polishing, making smooth surfaces, etc. complete. Including scrapping and painting of old grill, and repair of grills at necessary locations, etc. complete.	1.00	Lump Sum			
19	**WOODEN ART WORK** Providing, manufacturing, wooden art work resembling Indian motifs & features, in wall panels, columns, etc. as approved by architect or engineer incharge etc. complete.	25.00	No.s			
20	**PARITION IN 18 MM PLY** Providing and fixing partitions in ant termite, moisture resistant ply with framing in aluminium pipe of 1" x 2" in vertical at 4' vertical intervals and 3' horizontal members, with 18 mm ply with 1 mm laminate (texture or glassy or plain) as approved by architect including making grooves, necessary beading, making edges, skirting etc, including making doors with all Hettich or equivalent accessories and door frame in necessary wooden section, polishing etc. complete	57.75	SqM			
21	**PARITION IN ACP PANEL** Providing and fixing partitions in 4 MM ACP panel both side laminate with framing in aluminium pipe of 1" x 2" in vertical at 4' vertical intervals and 3' horizontal members, with as approved by architect including making grooves, necessary beading, making edges, skirting etc, including making doors in ACP panel with all Hettich or equivalent accessories and door frame in necessary aluminium section etc. complete	150.00	SqM			

22	**VERTICAL BLINDS** Providing, supplying, installation and commissioning vertical metal vertical blinds for auditorium and other rooms of approved color with auto controller, remote etc. complete (Make Hunter Douglas or Equivalent)	171.00	SqM			
23	**SOLAR SYSTEM** Providing, supplying, installation and commissioning of appropriate design as approved by architect and engineer solar grid integrated system on roof top with solar PV module of ply crystalline silicon laminated with vacuum laminated glass of efficiency above 13% including mild steel module mounting structure (ms angle and ms flats) protected from corrosion with hot dip galvanized. Battery bank battery voltage 240 V DC of DOD allowed tubular battery 80% max, with efficiency 85%, capacity 240 V 350 Ah, tubular lead acid flooded electrolyte. Invertor of efficiency 90% +, solar charge controller, copper cables, all cables, MCB and accessories for integration with DG set and electric panel, etc. complete. Contractor to provide all design details in tender.	1.00	Lump Sum			
24	**REPAIR OF CONCRETE** Providing and applying polymer modified plaster of 20 mm thick in C.M. 1:3 and adding polymer such as Webercrete, Roff Supercrete, Monobond, Perma Shield, Hypercrate, Dr. Fixit Powercrete at 6.00 litres in 1 bag of Cement and polyprolen fibers @125 gm Polymer powder superscreed or equivalent @ 3.3 kg/ per bag of cement and Superscreed P @ 1 bag per bag of cemeny to damaged structural concrete members by removing chipping out loose concrete, cleaning surface by wire, etc. including curing with covering guarantee etc. complete.	150.00	SqM			

25	**STEEL SHUTTER IN GROUND FLOOR DOOR** Providing and fixing rolling steel shutters fabricated from 20 guage steel laths with slide guides, bottom rail, brackets, door suspension shaft, housing box at the top including mechanical gear operation arrangement and one coat of red lead primer etc. complete.	24.00	SqM			
26	**WATER PROOFING TO WALL SURFACE** Providing and applying water proofing treatment to vertical surface of basement and other walls, in all directions by using standard acrylic copolymer coating of Roff Hyguard, Monopoly 456, Dr. Fixit Pidilite 2K or equivalent in two coats including cleaning the surface by wire brush, washing and drying including covering guarantee of 10 years and as directed by Engineer In Charge etc. complete.	267.70	SqM			
27	**WATER PROOFING TO BASEMENT** Providing and laying Hyperplas standard or equivalent polymeric multiple monolithic five layer water proofing in basement floor flexible, pliable and high tensile strength membrane (3 kg/SqM) & consist of centre core of 90 micron thick High Molecular High density Polyethylene film (HMHDPE) which is protected on both the side with polymeric mix. Applying the membrane by thermofusing to roof & parapet after applying thin film of hot blown bitumen 85/25 or 90/15 grade @ 1.2 kg/SqM maximum as per surface condition or Hyperplas primer @ 250 gms/SqM as per site condition on the surface to be treated with 10 cm overlapping including finishing etc. complete and covering guarantee of 7 years and as directed by Engineer-in-charge.	1344.00	SqM			

28	**PROTECTIVE LAYER TO BASEMENT WATER PROOFING** Providing and laying mechanical protective layer over water proofing membrane in basement with cement screed plaster 1:5 after laying chicken mesh over membrane including curing etc. complete 20 mm thick with cost of chicken mesh etc. complete and covering 7 years guarantee including necessary testing specified by Engineer	1344.00	SqM			
29	**CORIAN SOLID WORKS** Providing and fixing Corian solid works in 6mm and 12 mm thickness wat necessary locations with all necessary required equipments, scaffolding, polishing etc. complete	200.00	SqM			
30	**RESTORATION OF DECORATIVE COLUMN, CORNICES, DECORATIVE CEILING, RAILINGS, ETC.** Restoration of decorative concrete column, cornices, decorative ceiling, railing, etc. as per the instruction of engineer in-charge with appropriate mix of concrete, scaffolding, cleaning, removal of old surfaces, etc. complete	1.00	LS			
31	**REPAIR & RESTORATION OF WOODEN PARITION, SWING DOORS, DOOR FRAMES, LIFT DOOR FRAMES, ETC.** Repair and restoration of wooden partitions, swing doors, door frames, swing doors, lift door frame, etc. as per the instruction of engineer incharge, reuse in new location as instructed, with polishing painting etc. complete.	1.00	LS			
32	**FABRICATION & RESTORATION OF RAILING IN MEZZANINE** Fabrication and restoration of railing in mezzanine floor with wooden handrail as per the design in drawing etc. complete. (Drawing No.: LIC-RAILING-149)	1	LS			

33	**REPAIR AND RESTORATION OF EXTERIOR FAÇADE** Repair and restoration of exterior façade as per the specification and instruction of engineer incharge. This has to be done in following: a) removal of carbonation by water pressure, cleaning, refinishing external surface etc. complete, b) removal of vegetation and restoration of cracks due to vegetation to original by grouting, concrete, painting etc complete, c) repair of visible stone joints, cracks edges etc with concrete, plaster etc. complete (including scaffolding). As per the specifications	1	LS			
34	**EXTERIOR PAINTING OF BUILDING** Providing and applying premium smooth exterior paint with preparation of surface including scrapping, cleaning, sealer, primer and two coats for paints including scaffolding. Paint shall have self-cleaning characteristics, excellent adhesion to absorbent surfaces, good alkali resistance, resistance to mould growth, excellent durability, 7 Year or above warranty, excellent water repellence, high sheen finish, excellent dirt pick up resistance, multi color painting, including scaffolding, etc. complete. As per specifications. Sample to be approved by engineer incharge. (Make: Nippon/Dulex/Asian or equivalent)	1	LS			
35	**INDIAN TERRACOTTA SCULPTURES** Providing and fixing Indian terracotta sculpture of figures like horse, elephant made from Indian artists with color etc, complete. Sizes in range of (1.0 M to 1.6 M). As approved by engineer incharge.	15	No.s			
36	**INDIAN TRADITIONAL WALL PAINTINGS** Providing and fixing Indian traditional wall painting on the walls as instructed by the engineer incharge in Madhubani, Warli, Kamlakari etc. as instructed by engineer incharge with size of approximate 3.5 M x 3.5 M or more with finishing etc. complete.	5.00	No.s			

37	**PORTABLE MOBILITY WHEELCHAIR & UTILITY RAMP** Providing and supplying 4' portable mobility wheelchair and utility ramp 600 lb capacity for steps folding with build in handle etc. complete.	5.00	No.s			
38	**CARPET IN AUDITORIUM** Providing and laying of cut pile designed carpet over the specified area with thoroughly cleaned floor as per manufacturer's specifications and approved color. Flooring shall be levelled, preparation of bed as per manufacturer's approved adhesive spread evenly over the entire floor. The include cutting, trimming, fixing and clearing away of residual material to a location as directed. The fiber will be 2 ply twisted yarn pp, pile wt -1100 grams/meter, pile ht. 5 – 6 mm, provision of EPE foam 8mm thick in aisles and gangway, all necessary cut the carpet for accommodating foot lights or any other appliances wherever required etc. complete.	235	SqM			
39	**WHITE BOARD IN CLASS ROOM** Providing and fixing ultra-slim, lightweight magnetic dry erase board & accessories (includes whiteboard pen & pen Tray, 3 x magnets & eraser) - 24 x 36 Inch, high clarity, scratch-resistant magnetic dry erase board etc. complete. (Make: OfficePro Slimline Magnetic Dry Erase Board or equivalent)	4.00	No.s			
40	**DISMANTLING ASBESTOS SHEETS AND SHED, OLD DRAINAGE PIPES, SANITARY ITEMS, ELECTRICALS ETC.** Dismantling asbestos sheets and shed, old drainage pipes, sanitary items, electrical work etc.. by removing carefully and disposing to required location etc. complete	1.00	LS			
				Total		

SIGNATURE AND SEAL OF CONTRACTOR

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

BOQ FOR CCTV SYSTEM

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
1	**DOME CAMERAS** Supply Installation ,Testing & Commissioning for cctv Camera, Specification: Sony SNC-VM772R outdoor Dome IP camera Security Camera-4K Resolution, 8.8-25.7 mm lens, Day/Night camera etc. complete (Make:Sony-SNC-VM772R or Equivalent)	50.00	No.s			
2	**BULLET CAMERAS** Supply Installation Testing & Commissioning for cctv camera, Specification: Sony IPELA SNC-EB600B Network Camera-color, Monocchome-cs Mount etc. complete Make(Sony Bullet camera-SNC-EB600B or Equivalent)	6.00	No.s			
3	**PTZ CAMERAS** Supply installation and commitioning of CCTV camera etc. complete (Make: 30x 1080p/60 PTZ Camera white or Equivalent)	2.00	No.s			
4	**CONNECTOR FOR CCTV CAMERAS** Connector for cctv camera, adaptor,	58.00	No.s			
5	**NETWORK VIDEO RECORDER** Supply, installation and commissioning of NVR:64 Channel 4K NVR, Plug And Play Black, Up to 8 SATA interfaces Third-party network cameras supported Up to 12 Megapixels resolution recording Support various VCA detection alarm and VCA search Support HDD hot swap with RAID0,1,5,6,10 storage scheme configurable etc. complete (Make: Hikvision DS-9664NI-I8 or equivalent)	1.00	No.s			

6	**CAT 6+ CABLE** Cat 6+ Cable including making hole, taking though ceiling though pipe, concealing, scaffolding etc. complete	780.00	Meter			
7	**JOYSTICKS FOR CCTV CAMERAS** CCTV LCD Screen Display joystick keyboard controller for PTZ Cam Camera, LCD display In-built multi-protocol maximum controllable 128 units PTZ camera 2D joystick controller etc. complete (Make: Sony or equivalent)	1.00	No.s			
8	**LED TV 65 INCH** Sony XBR-65X850E 65-inch 4K HDR Ultra HD Smart LED TV (2017 Model) w/ 3 Month Netflix Subscription, Sony AUTHORIZED DEALER - Includes Full Sony USA WARRANTY Sony 65-inch 4K HDR Ultra HD Smart LED TV (2017 Model) Go beyond what you've seen before with remarkable 4K HDR clarity, color and contrast. Scenes are more detailed, more natural and more real with 4K HDR Processor X1, and life's brilliance is revealed with extra smooth and vibrant colors INCLUDED IN THE BOX: Sony 65" Class (64.5" Diag.) LED 2160p Smart 4K Ultra HD TV with High Dynamic Range - AC power cord - Batteries - IR blaster - Owner's manual - Table top stand (separate, assembly required) - Voice remote control (RMF-TX300U) BUNDLE INCLUDES: Sony XBR-65X850E 65-inch 4K HDR Ultra HD Smart LED TV (2017 Model)	1.00	No.s			
9	**RACK** Supply, installation and fixing Wall Mount Network Server 19 Inch IT Cabinet Rack Enclosure Glass Door Lock, Dimensions: 20"H x 23.5"W x 18"D 130 pound weight capacity Included ground wire Fits Standard 19" rack-mount equipment Total Usable Space of 16" front to back (Make: NavePoint 9U or equivalent)	1.00	No.s			

10	Installation of various items and deviation items for complete work	1.00	Lump Sum			
11	**AMC** Annual Maintenance Comprehensive	3.00	Years			
				TOTAL		

SIGNATURE AND SEAL OF CONTRACTOR

NAME OF WORK: RENOVATION OF LIC BUILDING AT 654-666, MERCHANT STREET, YANGON

`

BOQ FOR HVAC SYSTEM

Sr.No.	DESCRIPTION	QTY	UNIT	RATE (USD)	AMOUNT (FIGURE)	AMOUNT (WORD)
A	**HIGH SIDE WORKS**					
1	**OUTDOOR AND INDOOR UNITS** Supply Installation, testing and commissioning of variable refrigerant flow modular type air conditioning system (Brand: Daikin or Mitsubishi or Toshiba or equivalent) with ODU shall have all DIP-IPM 100% inverter control Scroll compressors with step less modulation for precise control of frequency differential of 1Hz, having two stage oil separation to ensure complete oil recovery & more than 20 steps in ODU BLDC fan motor for stability of suction & discharge pressure and quick response to IDU temperature control suitable for 415 ±10% volts for outdoor and IDU comprises multispeed motor, D-X coil section, outer cabinet, individually controlled louver for Cassette and ducted units suitable to handle extent of duct work 230 ±5% volts for Indoor units. Complete with indoor and outdoor units ,accessories including fully charged with refrigerant R410A, units shall be suitable for operation on cooling as well as heating mode as per detail given in specifications for the following configurations :					
	Outdoor Units-Heat Pump Type					
a	14 HP	9	No.s			
b	18 HP	10	No.s			
c	Multi Connecting Kits	6	No.s			
	Indoor Units with Air Filter					
a.	Ceiling Mounted Cassette (Round Flow) 1.0 TR	2	No.s			
b.	Ceiling Mounted Cassette (Round Flow) 1.5 TR	21	No.s			

c.	Ceiling Mounted Cassette (Round Flow) 2.0 TR	17	No.s			
d.	Concealed Ceiling Unit 700MM Wide Grill (HT:200MM) 1.0 TR	0	No.s			
e.	Concealed Ceiling Unit 700MM Wide Grill (HT:200MM) 1.5 TR	12	No.s			
f.	Concealed Ceiling Unit 700MM Wide Grill (HT:200MM) 2.0 TR	1	No.s			
g.	Slim Ceiling Mounted 900MM Wide Grill (HT:200MM) 1.0 TR	24	No.s			
h.	Slim Ceiling Mounted 900MM Wide Grill (HT:200MM) 1.5 TR	10	No.s			
i.	Slim Ceiling Mounted 900MM Wide Grill (HT:200MM) 2.0 TR	17	No.s			
j.	Ceiling Mounted Cassette (Double Flow) 1.0 TR	2	No.s			
k.	Ceiling Mounted Cassette (Double Flow) 1.5 TR	3	No.s			
l.	Ceiling Mounted Cassette (Double Flow) 2.0 TR	3	No.s			
m.	Duct Type Grill 1100MM Wide Grill (HT:240MM) 1.0 TR	16	No.s			
n.	Duct Type Grill 1100MM Wide Grill (HT:240MM) 1.0 TR	11	No.s			
o.	Duct Type Grill 1100MM Wide Grill (HT:240MM) 1.0 TR	16	No.s			
2	**CORDLESS REMOTE CONTROLS FOR INDOOR UNITS**					
	For Round Flow Cassette Type Unit Cordless Remote	64	No.s			
	For Ductable Type Unit Cordless Remote	13	No.s			
	For Ductable Type Unit Cordless Remote	73	No.s			

3	**CENTRAL REMOTE CONTROLLER** Central remote Controller push button type for four floors: Integratable upto 64 remote controller groups & 160 indoor units can be controlled. In addition to basic controls such as settings for operation/stop, the operation mode & temperature, the air quantity and auto louver can be set. If a problem occurs, an alarm code immediately shows the details of the problem.AN external input terminal is provided as standard. External signals enable the following function: central operation/stop, demand control, emergency stop, central operation output,& central alarm output.	4	No.s			
4	**COMMUNICATION CABLE** Supply, installation and commissioning of communication cable with IDU including 15 Amp sockets of Legrand or equivalent with manufacturers specification cable, concealing in wall, piping, junction boxes in ceiling etc. complete (3C X 2.5SQMM) (Make: Polycab or equivalent)	2818	Rmt			
5	**INSULATED REFRIGERANT PIPING** Supply, fabrication, installation, testing of Interconnecting refrigerant pipe work with closed cell 19mm/13mm thick crosslinked polyethylene (XLPE) tubular insulation between each set of indoor & outdoor units as per specifications, all piping inside the room shall be properly supported with MS hanger as per manufacturer specification etc. complete	2589.5	Rmt			
6	Branch Distribution Joints	146	No.s			
B	**LOW SIDE WORKS**					

1	AIR DISTRUBUTION Supply, Installation, Testing and commissioning of G.I.sheets metal factory fabricated duct complete with neoprene rubber gaskets, slip on flanges, vanes, Link levers, GI thread rod and perforated 'C' channel supports etc. in accordance with the approved shop drawings and specifications.	50	SqM			
2	**VOLUME CONTROL DAMPERS** Supplying, installing, and testing of Zero leakage Aluminium volume control damper within ducts to be provided with suitable links, levers and quadrants for manual control of volume of air flow and for proper balancing of the air distribution system	50	SqM			
3	**SUPPLY AIR GRILL** Supply, installation, testing and commissioning of Powder coated Aluminium extruded grill with damper for supply and return air as per specification & the sizes will be as per schedules and drawing:	11	SqM			
4	**RETURN AIR GRILL** Supply, installation, testing and commissioning of Powder coated Aluminium extruded grill for supply and return air as per specification & the sizes will be as per schedules and drawing:	17	SqM			
5	**SUPPLY AIR DIFFUSSER** Supply, installation, testing and commissioning of Powder coated Aluminium extruded Diffuser for supply with damper as per specification & the sizes will be as per schedules and drawing:	17	SqM			

6	**FLEXIBLE DUCT** Supply, Installation, Testing and Commissioning of pre- insulated factory fabricated flexible ducts constructed out of aluminium sheet duly supported at regular interval as per site requirement. Ducts shall be of following sizes :					
a.	200 mm dia	460	Rmtr.			
b.	250 mm dia	1090	Rmtr.			
7	**SPIGOT** Supply, installation, testing and commissioning of spigots of different sizes to facilitate flexible duct connection.					
	200mm dia	145	No.s			
	250mm dia	145	No.s			
8	**CANVAS** Supply, installation, testing and commissioning of fire retardant double layer flexible canvas cloth connection duly fitted on G.I. Frame with nut, bolt and washer between IDU and Duct etc complete as required.	13	No.s			
9	**LP PLENUM FOR SLOT DIFFUSER** Supply, installation, testing and commissioning of factory fabricated GI LP Plenum for Multi slot diffuser for supply air duly fitted on G.I. Frame with nut, bolt and washer between diffuser and flexible duct etc complete as required.					
a.	1000mmx250mmx300mm	68	No.s			
10	**DRAIN PIPING (CPVC)** 'Supply & installation, testing and commissioning of Rigid heavy class CPVC piping complete with fittings, supports as per specifications and duly insulated with 6 mm thick closed cell crosslinked polyethylene (XLPE) tubular insulation.					
a.	40 mm dia	500	Rmt			
b.	32 mm dia	1000	Rmt			
c.	25 mm dia	1000	Rmt			

11	**INSULATION** Supply, fixing, installation, testing and commissioning of closed cell nitrile rubber/polyethylene foam, insulation on duct with adhesive dendrite and wrapped PVC tape insulation on joints compete as required.					
a.	25 MM thick	1100	SqM			
12	**THERMAL PROTECTION** Supply, installation, testing and commissioning of Thermal protecting layer over exposed duct/copper pipe insulation outer surface with approved make chemical and glass type as per specification compete as required.	1100	SqM			
13	**DUCT ACOUSTIC LINING** Providing & fixing of acoustic insulation with open cell nitrile rubber sheet super silence of following thickness, on existing surface with adhesive/dentrite etc. complete as required. (As per specification).					
a.	10 mm thick	460	SqM			
14	**SERVICE TRAP DOOR** Supply, installation of service Trap door for Ducted IDU make of Aluminium composite panels(ACP) 3 mm thick of standard make on 25mmX25mm square pipe as per design requirement with required hanging arrangement in MS plat etc complete as requirement.	25	No.s			
15	**CABLE TRAY** Providing & fixing cable tray of appropriate size for running refrigerant piping along with control wiring etc. cable tray should be properly clamped and hang with all connected accessories.					
a.	300X100 GI Cable Tray	600	Rmtr.			
b.	400X100 GI Cable Tray	800	Rmtr.			

16	**REFRIGERANT GAS** Supply, charging, and commissioning of additional R-410a Gas charging on VRF system complete as required	260	Kg			
17	**ELECTRICAL INSTALLATIONS** Supply, installation, testing, and commissioning of Electrical Panel complete asper specification for VRF outdoor units, including stand, metal cabinate, etc. complete	1	No.s			
a.	6 AMPS MCB For Indoor Units					
b.	25 AMPS MCB For Indoor Units					
c.	40 AMPS MCB For Indoor Units					
d.	100MLAMPS ELCB IDU VRV System					
e.	300MLAMPS ELCB FOR ODU					
18	**POWER CABLES FOR OUTDOOR UNITS** Supply, laying, testing, and commissioning of following size armoured PVC insulated copper conductor FRLS Power and Control cable of following size on surface/recessed complete as required for VRF outdoor units					
a.	4 Corex 10 Sq.mm	120	Rmt			
19	**MS STANDS** Supply, installation and commissioning of outdoor unit table type (VRV) stands	19	No.s			
20	**INDOOR UNITS HANGERS** Supply, installation and commissioning of hangers for IDU with scaffolding, etc. complete	145	No.s			
22	**DEVICATION & ADDITIONAL FEATURES**		Lump Sum			
	ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT Annual comprehensive maintenance contract of capacity for complete VRF system by OEM which cover all spare, software and consumables requirement to run the VRF system after expiring of 1 year(12 Months) defect liability period.					
21	For 1st year (0-12 Months) after expiring of 1 year(12	12	Mth			

	Months) defect liability period.					
22	For 2nd year (12-24 Months) after expiring of 1 year(12 Months) defect liability period.	12	Mth			
23	For 2nd year (24-36 Months) after expiring of 1 year(12 Months) defect liability period.	12	Mth			
	TOTAL OF HVAC WORKS					

SIGNATURE AND SEAL OF CONTRACTOR

Section IV: Working Drawings

LIST OF WORKING DRAWINGS

1.0 Survey Drawings of LIC Building

1.1 Site Plan (Dr. No.: LIC-SITEPLAN-1)
1.2 Basement Plan (Dr. No.: LIC-BASE-2)
1.3 Ground Floor Plan (Dr. No.: LIC-GROUND-3)
1.4 Mezzanine Floor Plan (Dr. No.: LIC-MEZZANINE-4)
1.5 First Floor Plan (Dr. No.: LIC-FIRST-5)
1.6 Second Floor Plan (Dr. No.: LIC-SECOND-6)
1.7 Third Floor Plan (Dr. No.: LIC-THIRD-7)
1.8 Fourth Floor Plan (Dr. No.: LIC-FOURTH-8)
1.9 Terrace Floor Plan (Dr. No.: LIC-TERRACE-9)
1.10 Roof Plan (Dr. No.: LIC-ROOF-10)
1.11 East Elevation (Dr. No.: LIC-EAST-ELE-11)
1.12 South Elevation (Dr. No.: LIC-SOUTH-ELE-12)
1.13 West Side Elevation (Dr. No.: LIC-WEST-ELE-13)
1.14 North Side Elevation (Dr. No.: LIC-NORTH-ELE-14)
1.15 Section AA (Dr. No.: LIC-SECTION-15)
1.16 Section BB (Dr. No.: LIC-SECTION-16)
1.17 Section CC (Dr. No.: LIC-SECTION-17)
1.18 Existing Air Conditioning Ground Floor (Dr. No.: LIC-AC-18)
1.19 Existing Air Conditioning Mezzanine Floor (Dr. No.: LIC-AC-GROUND-19)
1.20 Existing Air Conditioning First Floor (Dr. No.: LIC-AC-MEZZ-20)
1.21 Existing Air Conditioning Second Floor (Dr. No.: LIC-AC-SECOND-21)
1.22 Existing Air Conditioning Third Floor (Dr. No.: LIC-AC-THIRD-22)
1.23 Existing Air Conditioning Fourth Floor (Dr. No.: LIC-AC-FOURTH-23)

2.0 Proposed Working Drawings for Repair

2.1 Repair of Elevations (Dr. No.: LIC-ELEATION-24)
2.2 Ground Floor Toilets Repair (Dr. No.: LIC-TOILET-25)
2.3 First Floor Toilets Repair (Dr. No.: LIC- TOILET-26)
2.4 Second Floor Toilets Repair (Dr. No.: LIC- TOILET-27)
2.5 Third Floor Toilets Repair (Dr. No.: LIC- TOILET-28)
2.6 Fourth Floor Toilets Repair (Dr. No.: LIC- TOILET-29)
2.7 Proposed Lift A, Lift Duct and Lift Room Repair (Dr. No.: LIC-LIFT A-30)
2.8 Proposed Lift B, Lift Duct and Lift Room Repair (Dr. No.: LIC-LIFT B-31)
2.9 Repair of Terrace with Drainage System: Option 1(Dr. No.: LIC-WATERPROOFING-32)
2.10 Removal of Asbestos System: Option 2(Dr. No.: LIC- ASBESTOS-33)
2.11 Ground Floor Ceiling Repair (Dr. No.: LIC-CEILING-34)
2.12 First Floor Ceiling Repair (Dr. No.: LIC- CEILING -35)
2.13 Second Floor Ceiling Repair (Dr. No.: LIC- CEILING -36)
2.14 Third Floor Ceiling Repair (Dr. No.: LIC- CEILING -37)
2.15 Fourth Floor Ceiling Repair (Dr. No.: LIC- CEILING-38)
2.16 Basement Ceiling Repair (Dr. No.: LIC- CEILING-39)
2.17 Repair of Roofing for Back Side Block (Dr. No.: LIC-ROOF-40)
2.18 Windows Repair: Ground Floor (Dr. No.: LIC-WINDOW-41)
2.19 Windows Repair: Mezzanine (Dr. No.: LIC-WINDOW-42)
2.20 Windows Repair: First Floor (Dr. No.: LIC-WINDOW-43)
2.21 Windows Repair: Second Floor (Dr. No.: LIC-WINDOW-44)
2.22 Windows Repair: Third Floor (Dr. No.: LIC-WINDOW-45)
2.23 Windows Repair: Fourth Floor (Dr. No.: LIC-WINDOW-46)
2.24 Windows Repair: Terrace Floor (Dr. No.: LIC-WINDOW-47)
2.25 Doors Repair: Ground Floor (Dr. No.: LIC-DOOR-48)
2.26 Doors Repair: Mezzanine Floor (Dr. No.: LIC-DOOR-49)

2.27 Doors Repair: First Floor (Dr. No.: LIC-DOOR-50)
2.28 Doors Repair: Second Floor (Dr. No.: LIC-DOOR-51)
2.29 Doors Repair: Third Floor (Dr. No.: LIC-DOOR-52)
2.30 Doors Repair: Fourth Floor (Dr. No.: LIC-DOOR-53)
2.31 Doors Repair: Terrace (Dr. No.: LIC-DOOR-54)
2.32 Staircase and Handrail Repair (Dr. No.: LIC-STAIRCASE-55)

3.0 Proposed Floor Plans

3.1 Site Plan (Dr. No.: LIC-SITE-56)
3.2 Basement Plan (Dr. No.: LIC-BASE-57)
3.3 Ground Floor Plan (Dr. No.: LIC-GROUND-58)
3.4 Mezzanine Floor Plan (Dr. No.: LIC-MEZZ-59)
3.5 First Floor Plan (Dr. No.: LIC-FIRST-60)
3.6 Second Floor Plan (Dr. No.: LIC-SECOND-61)
3.7 Third Floor Plan (Dr. No.: LIC-THIRD-62)
3.8 Fourth Floor Plan (Dr. No.: LIC-FOURTH-63)
3.9 Terrace Floor Plan (Dr. No.: LIC-TERRACE-64)
3.10 Roof Plan (Dr. No.: LIC-ROOF-65)
3.11 Solar Panel Layout (Dr. No.: LIC-SOLAR-66)

4.0 Electrical Layout

4.1 Basement Floor Plan (Dr. No.: LIC-ELECTRICAL-67)
4.2 Ground Floor Plan (Dr. No.: LIC-ELECTRICAL-68)
4.3 Mezzanine Floor Plan (Dr. No.: LIC- ELECTRICAL -69)
4.4 First Floor Plan (Dr. No.: LIC- ELECTRICAL -70)
4.5 Second Floor Plan (Dr. No.: LIC- ELECTRICAL -71)

4.6 Third Floor Plan (Dr. No.: LIC- ELECTRICAL -72)
4.7 Fourth Floor Plan (Dr. No.: LIC- ELECTRICAL -73)
4.8 Terrace Floor Plan (Dr. No.: LIC- ELECTRICAL -74)

5.0 False Ceiling Layout

5.1 Ground Floor Plan (Dr. No.: LIC-CEILING-75)
5.2 Mezzanine Floor Plan (Dr. No.: LIC- CEILING -76)
5.3 First Floor Plan (Dr. No.: LIC- CEILING -77)
5.4 Second Floor Plan (Dr. No.: LIC- CEILING -78)
5.5 Third Floor Plan (Dr. No.: LIC- CEILING -79)
5.6 Fourth Floor Plan (Dr. No.: LIC- CEILING -80)

6.0 Sprinkler and Smoke Detector Layout

6.1 Basement Floor Plan (Dr. No.: LIC-SPRINKLER-81)
6.2 Ground Floor Plan (Dr. No.: LIC- SPRINKLER -82)
6.3 Mezzanine Floor Plan (Dr. No.: LIC- SPRINKLER -83)
6.4 First Floor Plan (Dr. No.: LIC- SPRINKLER -84)
6.5 Second Floor Plan (Dr. No.: LIC- SPRINKLER -85)
6.6 Third Floor Plan (Dr. No.: LIC- SPRINKLER -86)
6.7 Fourth Floor Plan (Dr. No.: LIC- SPRINKLER -87)

7.0 Emergency Escape Layout

7.1 Basement Floor Plan (Dr. No.: LIC-ESCAPE PLAN-88)
7.2 Ground Floor Plan (Dr. No.: LIC- ESCAPE PLAN -89)
7.3 Mezzanine Floor Plan (Dr. No.: LIC- ESCAPE PLAN -90)
7.4 First Floor Plan (Dr. No.: LIC- ESCAPE PLAN -91)
7.5 Second Floor Plan (Dr. No.: LIC- ESCAPE PLAN -92)
7.6 Third Floor Plan (Dr. No.: LIC- ESCAPE PLAN -93)
7.7 Fourth Floor Plan (Dr. No.: LIC- ESCAPE PLAN -94)

8.0 Entrance Door Details

8.1 Entrance Door (Dr. No.: LIC-DOOR-95)

9.0 Auditorium Details

9.1 Auditorium (Dr. No.: LIC-AUDI-96)
9.2 Auditorium Mezzanine floor (Dr. No.: LIC-AUDI-MEZ-97)

10.0 CCTV Layout

10.1 Basement Floor Plan (Dr. No.: LIC-CCTV-98)
10.2 Ground Floor Plan (Dr. No.: LIC- CCTV -99)
10.3 Mezzanine Floor Plan (Dr. No.: LIC- CCTV -100)
10.4 First Floor Plan (Dr. No.: LIC- CCTV -101)
10.5 Second Floor Plan (Dr. No.: LIC- CCTV -102)
10.6 Third Floor Plan (Dr. No.: LIC- CCTV -103)
10.7 Fourth Floor Plan (Dr. No.: LIC CCTV -104)
10.8 Terrace Floor Plan (Dr. No.: LIC- CCTV -105)

11.0 Drainage Layout

11.1 Ground Floor Plan (Dr. No.: LIC-DRAIN-106)
11.2 Mezzanine Floor Plan (Dr. No.: LIC-DRAIN-107)
11.3 First Floor Plan (Dr. No.: LIC-DRAIN-108)
11.4 Second Floor Plan (Dr. No.: LIC-DRAIN-109)
11.5 Third Floor Plan (Dr. No.: LIC-DRAIN-110)

11.6 Fourth Floor Plan (Dr. No.: LIC-DRAIN-111)
11.7 Terrace Floor Plan (Dr. No.: LIC-DRAIN-112)

12.0 Reception Area Details

12.1 Reception Table (Dr. No.: LIC-RECEPTION TABLE-113)

13.0 VRV Layout

13.1 Basement Floor Plan (Dr. No.: LIC-VRV-114)
13.2 Ground Floor Plan (Dr. No.: LIC-VRV-115)
13.3 Mezzanine Floor Plan (Dr. No.: LIC-VRV-116)
13.4 First Floor Plan (Dr. No.: LIC-VRV-117)
13.5 Second Floor Plan (Dr. No.: LIC-VRV-118)
13.6 Third Floor Plan (Dr. No.: LIC-VRV-119)
13.7 Fourth Floor Plan (Dr. No.: LIC-VRV-120)
13.8 Terrace Floor Plan (Dr. No.: LIC-VRV-121)

14.0 Sewage Layout

14.1 Ground Floor Plan (Dr. No.: LIC-SEWAGE-122)
14.2 Mezzanine Floor Plan (Dr. No.: LIC- SEWAGE-123)
14.3 First Floor Plan (Dr. No.: LIC- SEWAGE-124)
14.4 Second Floor Plan (Dr. No.: LIC- SEWAGE-125)
14.5 Third Floor Plan (Dr. No.: LIC- SEWAGE-126)
14.6 Fourth Floor Plan (Dr. No.: LIC- SEWAGE-127)
14.7 Terrace Floor Plan (Dr. No.: LIC- SEWAGE-128)

15.0 Circulation Plan

15.1 Site Circulation Plan (Dr. No.: LIC-CIRCULATION-129)

16.0 Furniture detail drawings

16.1 Meeting Room Table (Dr. No.: LIC-FURNITURE-130)
16.2 Class Room Table (Dr. No.: LIC-FURNITURE-131)
16.3 Office Table (Dr. No.: LIC-FURNITURE-132)
16.4 Indo- Myanmar Chamber Sofa Detail (Dr. No.: LIC-FURNITURE-133)
16.5 Conference Room (Dr. No.: LIC-FURNITURE-134)
16.6 Meeting Room Cupboard Detail (Dr. No.: LIC-FURNITURE-135)
16.7 Class Room Cupboard Detail (Dr. No.: LIC-FURNITURE-136)
16.8 Exhibition Display Racks Detail (Dr. No.: LIC-FURNITURE-137)
16.9 Pantry Details (Dr. No.: LIC-FURNITURE-138)

17.0 Signage Details

17.1 Signage Detail (Dr. No.: LIC-SIGNAGE-139)

18.0 Toilet Details

18.1 Ground Floor Public Toilet Detail (Dr. No.: LIC-TOILET-140)

19.0 Flooring Layout
19.1 Basement Floor (Dr. No.: LIC-FLOOR-141)
19.2 Ground Floor (Dr. No.: LIC- FLOOR -142)
19.3 Mezzanine Floor (Dr. No.: LIC- FLOOR -143)
19.4 First Floor (Dr. No.: LIC- FLOOR -144)
19.5 Second Floor (Dr. No.: LIC- FLOOR -145)
19.6 Third Floor (Dr. No.: LIC- FLOOR -146)
19.7 Fourth Floor (Dr. No.: LIC- FLOOR -147)
19.8 Terrace Floor (Dr. No.: LIC- FLOOR -148)

20.0 Railing Details (Dr. No. : LIC- RAILING – 149)



NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

DRAWING NO: LIC-SITE PLAN-01 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

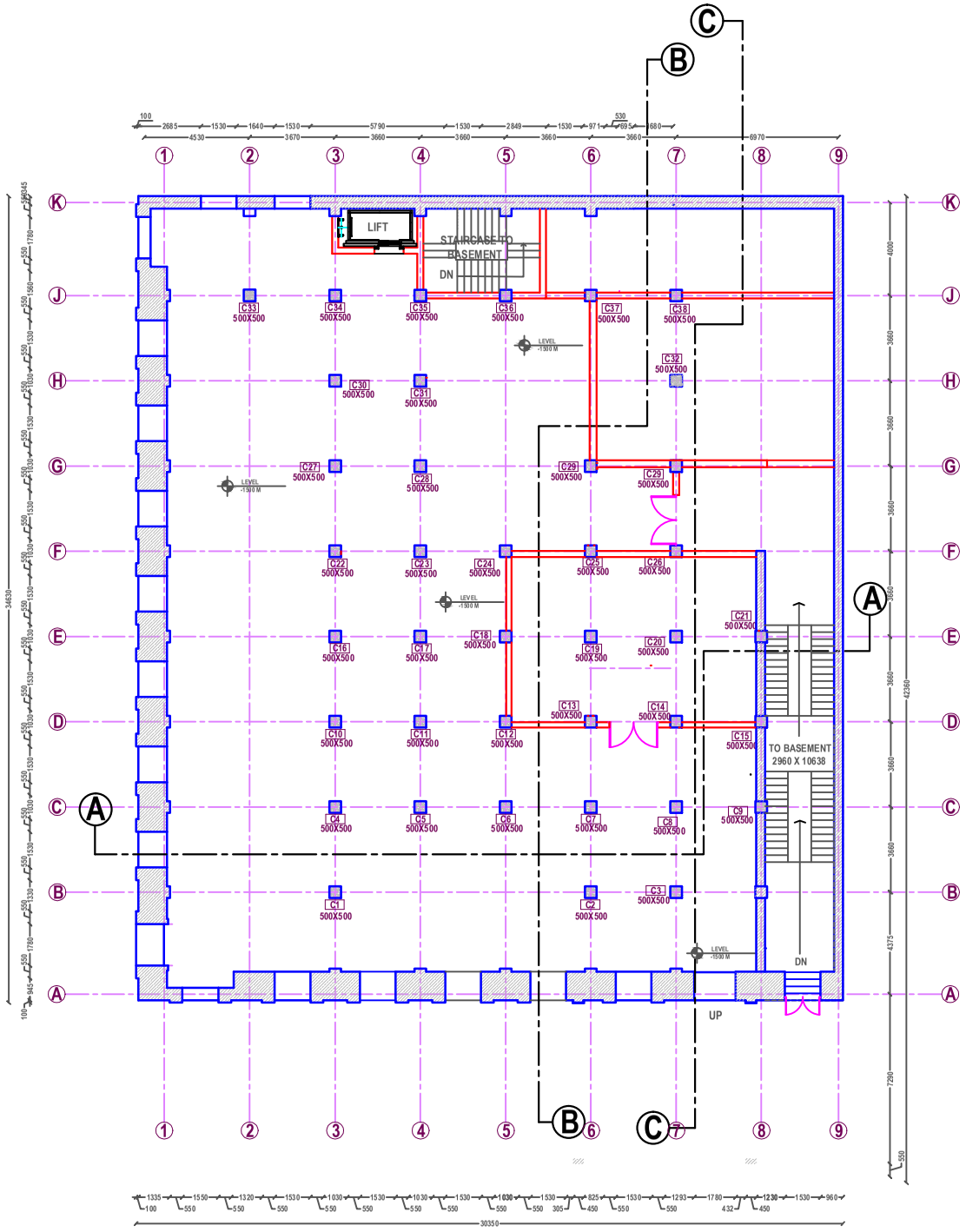
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SITE PLAN

SCALE: 1: 100 REV 0 0 0 0 2

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BASEMENT FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
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3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-BASEMENT-2				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

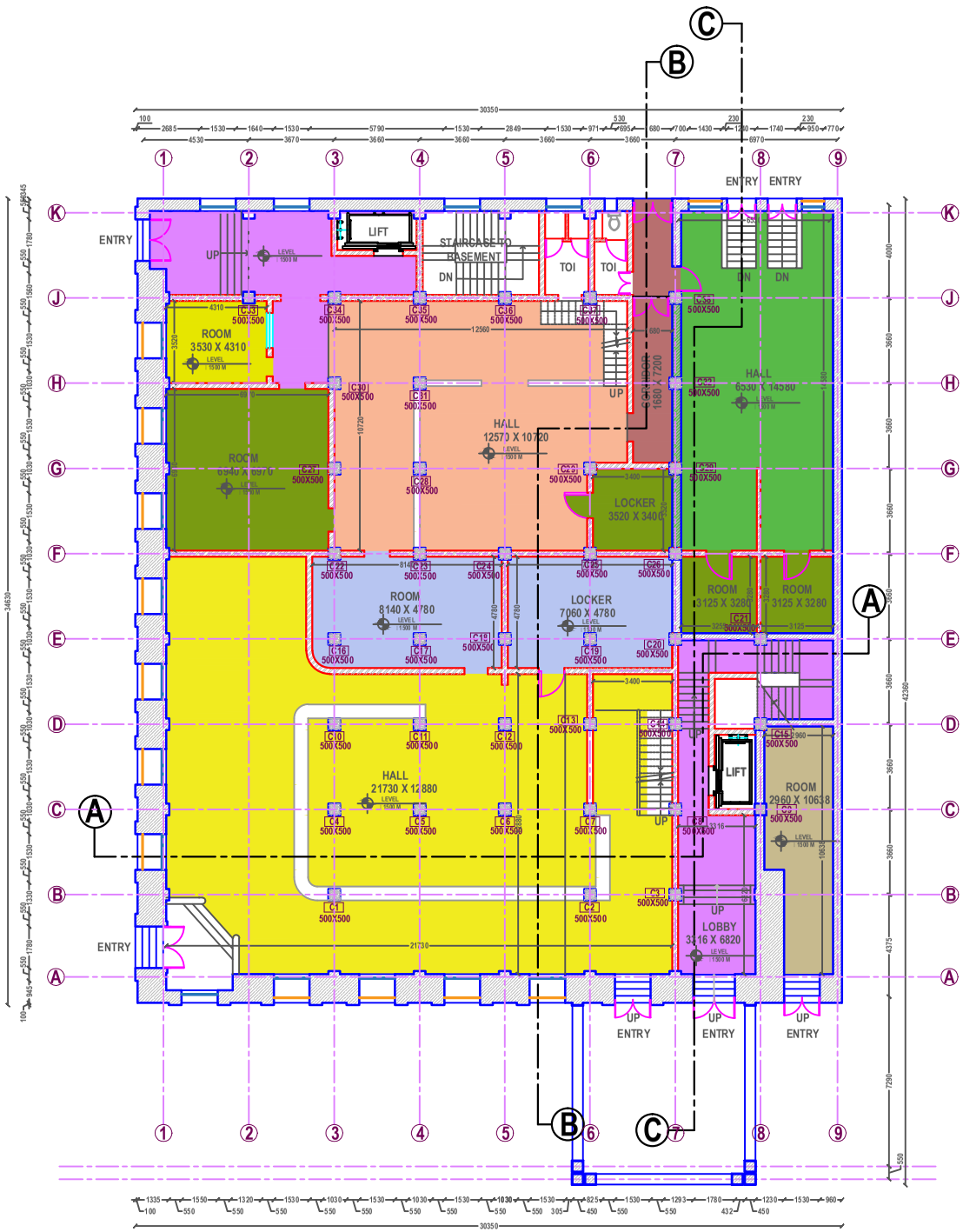
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: BASEMENT FLOOR PLAN

SCALE: 1: 100 REV 0 0 0 0 2

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GROUND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO:	LIC-GROUND-03			DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-9-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

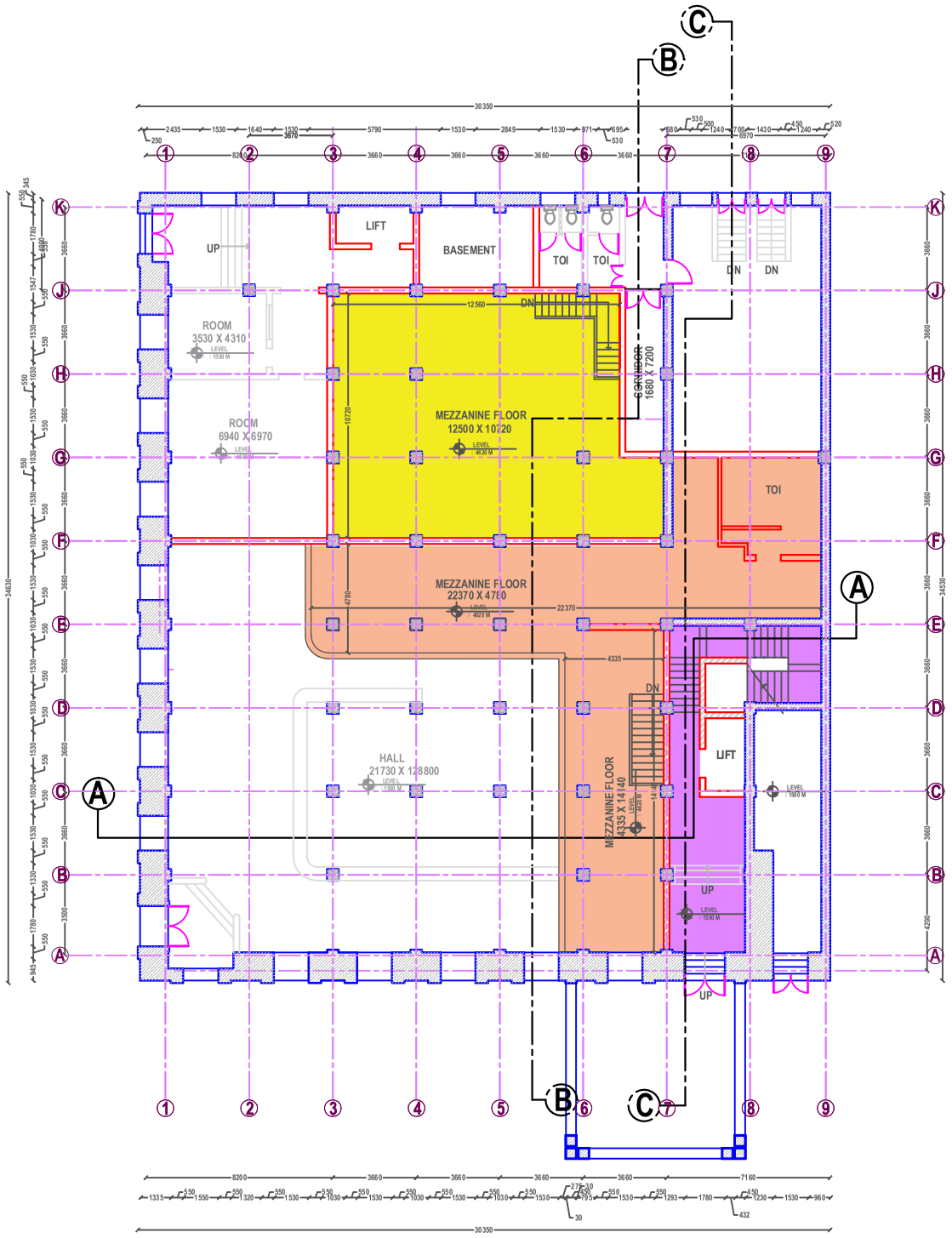
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: GROUND FLOOR PLAN

SCALE: 1: 100

REV 0 0 0 0 2

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MEZZANINE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-MEZZANINE-04 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

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MUMBAI

NORTH

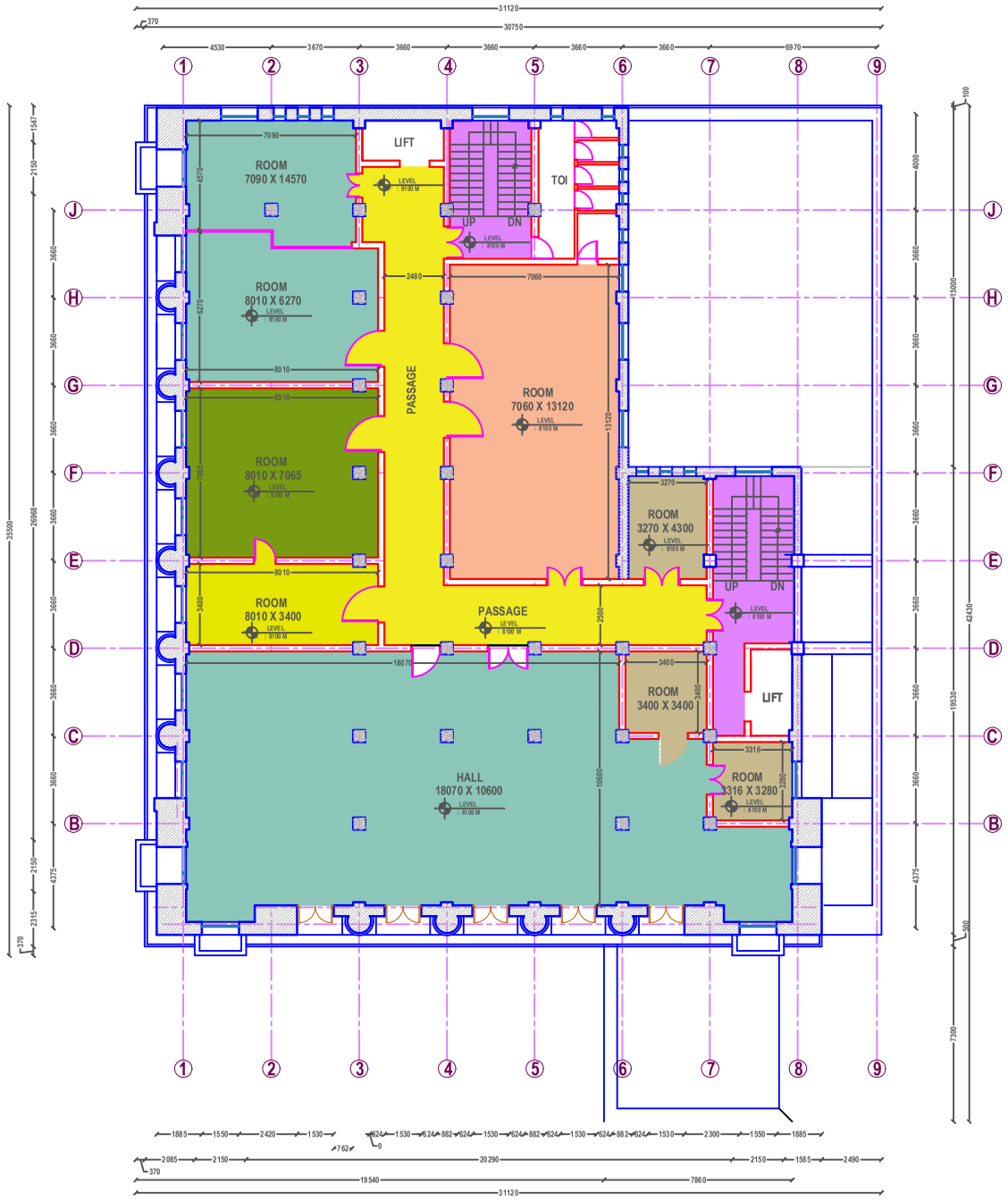
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: MEZAANINE FLOOR PLAN

SCALE: 1: 100

REV 0 0 0 0 2

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FIRST FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-FIRST-05				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

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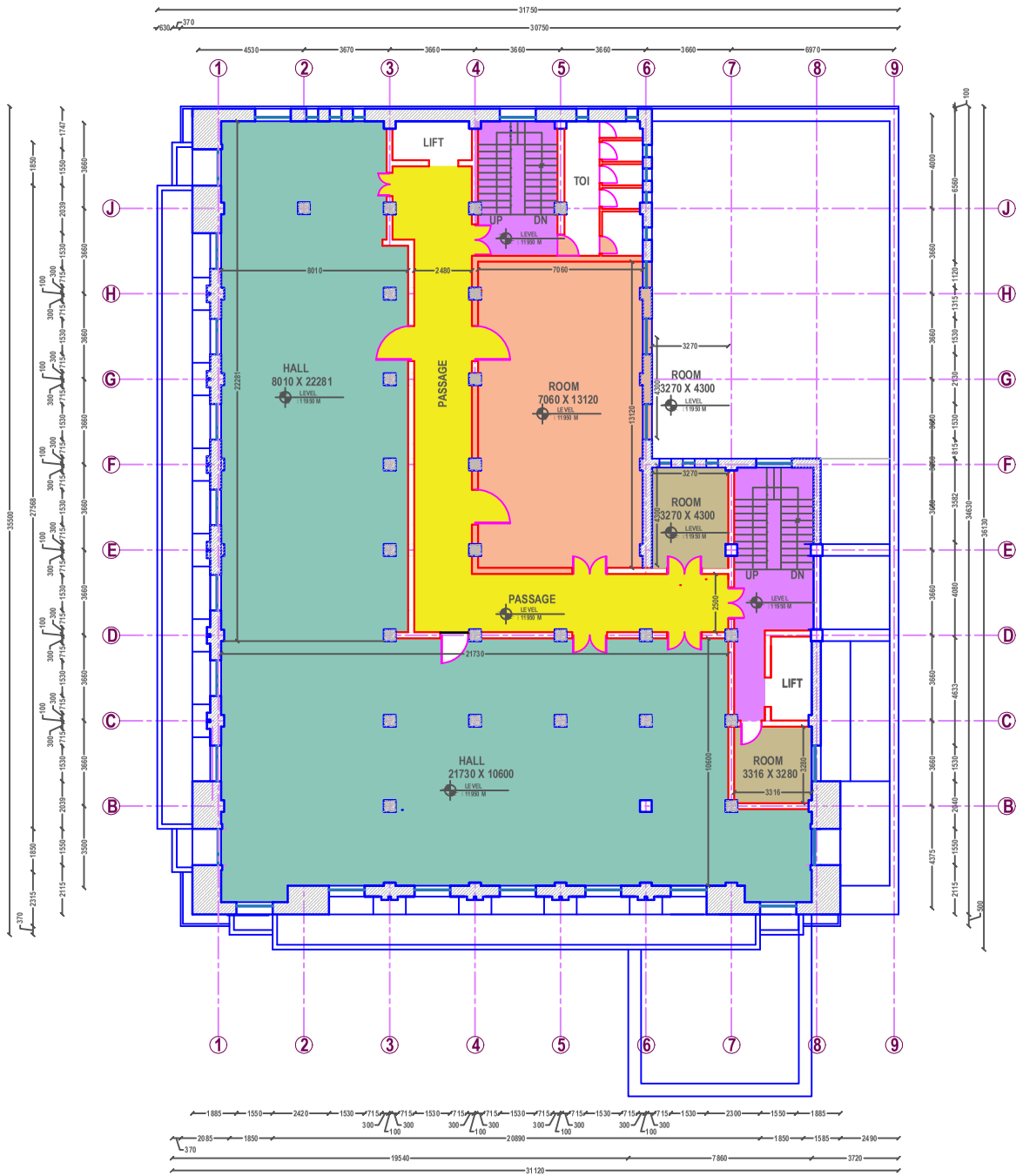
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FIRST FLOOR PLAN

SCALE: 1: 100

REV 0 0 0 0 2

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SECOND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-SECOND-06				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

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NORTH

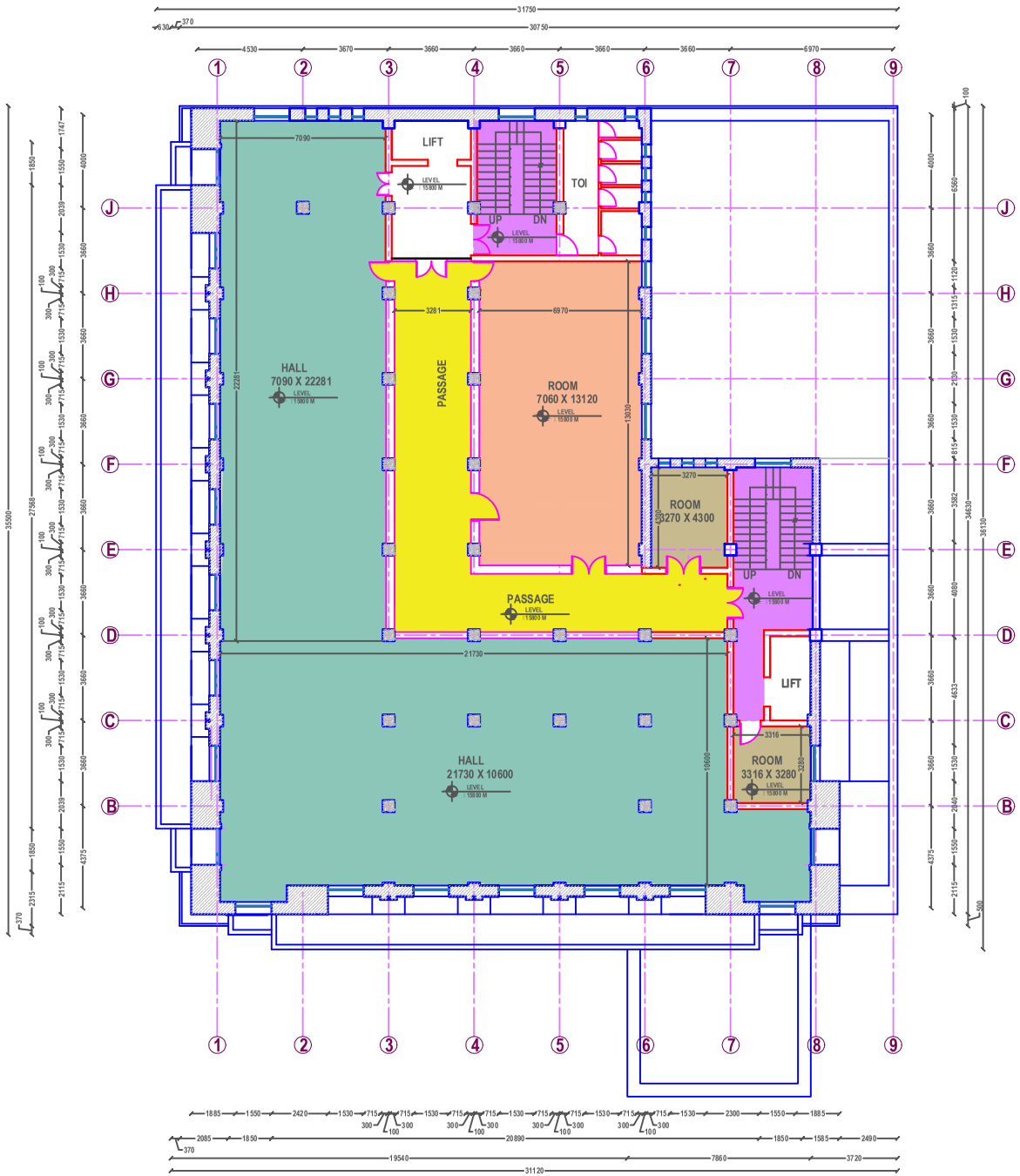
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SECOND FLOOR PLAN

SCALE: 1: 100

REV 0 0 0 0 2

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THIRD FLOOR PLAN SCALE- 1:100

NOTE :-

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3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-THIRD-07				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
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MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: THIRD FLOOR PLAN

SCALE: 1: 100

REV 0 0 0 0 2

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FOURTH FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
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3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-FOURTH-08				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

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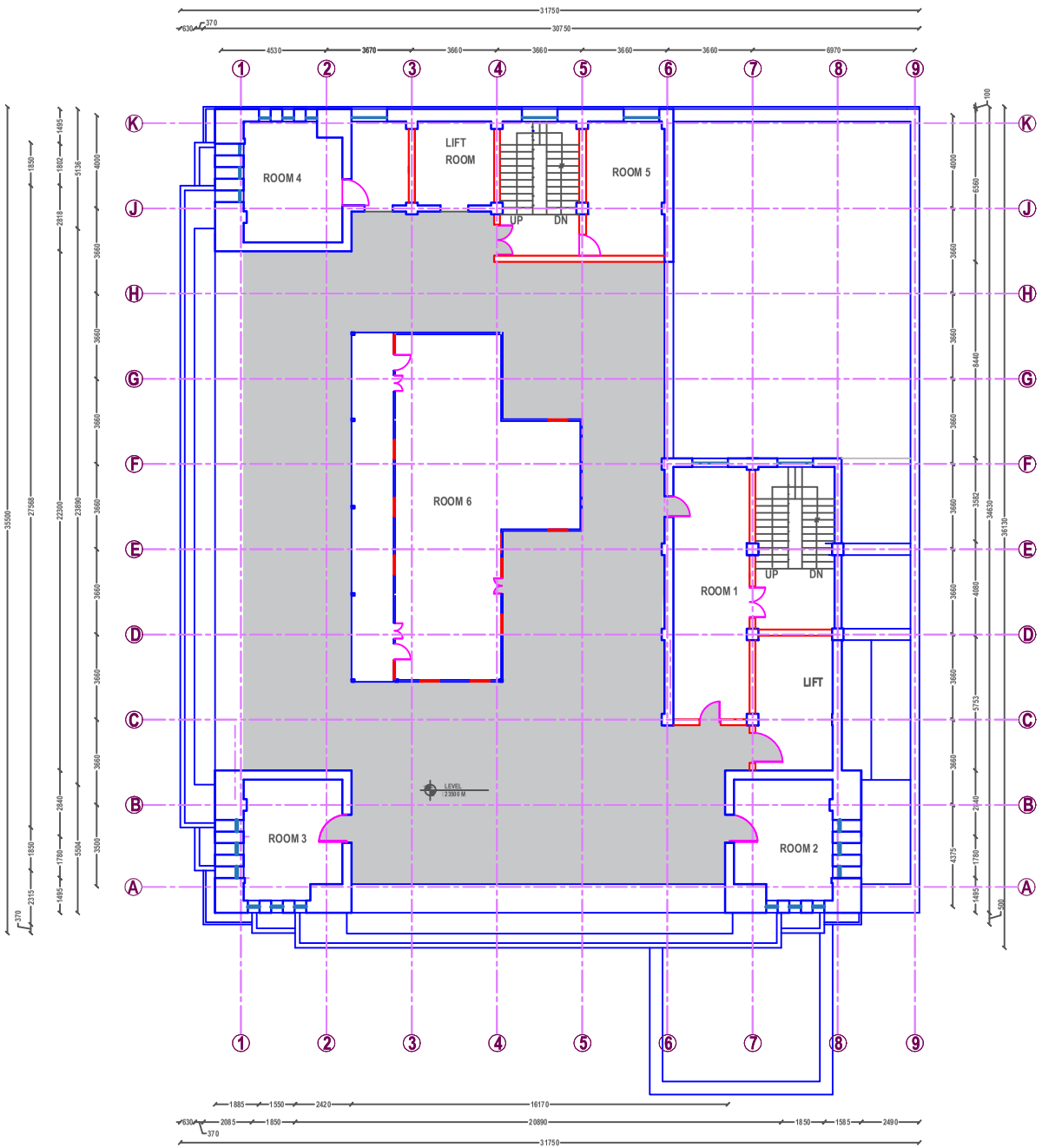
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FOURTH FLOOR PLAN

SCALE: 1: 100

REV 0 0 0 0 2

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TERRACE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
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3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-TERRACE-09				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

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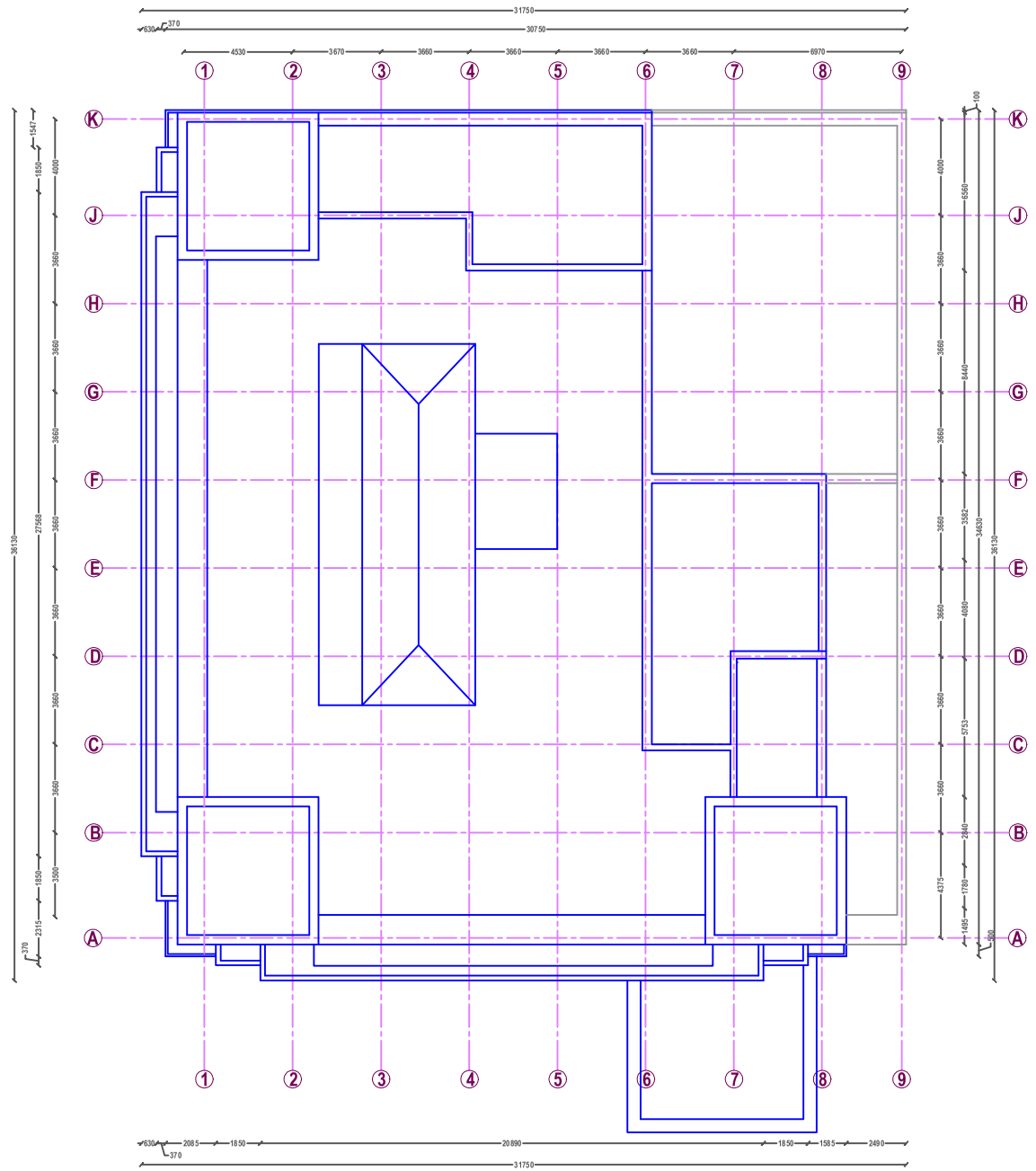
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: TERRACE PLAN

SCALE: 1: 100

REV 0 0 0 0 2

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ROOF PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-ROOF-10				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

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MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ROOF PLAN

SCALE: 1: 100

REV 0 0 0 0 2

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EAST ELEVATION SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

DRAWING NO: LIC-EAST-ELE-11 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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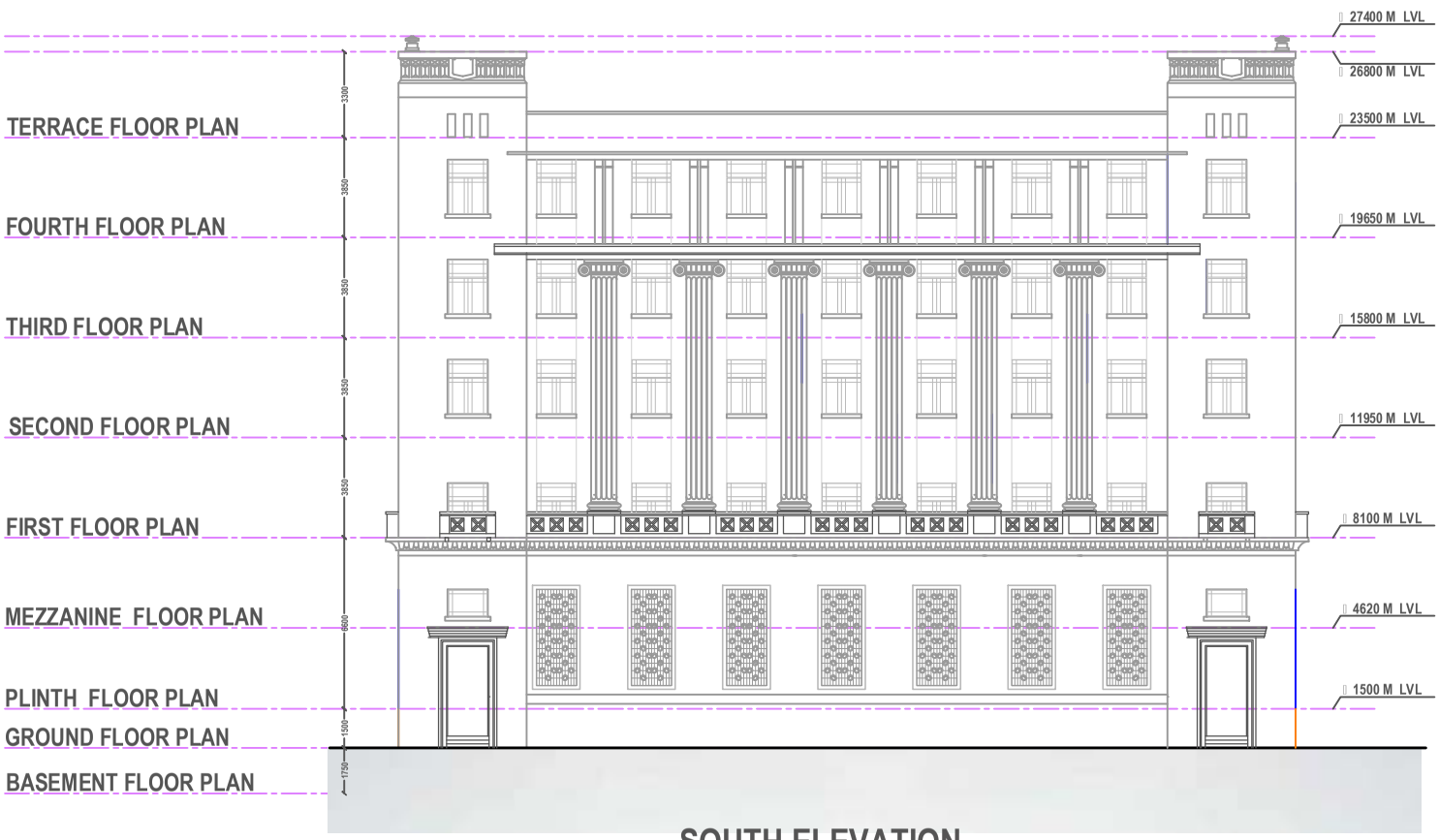
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ELEVATION

SCALE: 1: 100 REV 0 0 0 0 2

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SOUTH ELEVATION SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

DRAWING NO: LIC-SOUTH-ELE-12 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ELEVATION

SCALE: 1: 100 REV 0 0 0 0 2

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WEST ELEVATION SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

DRAWING NO: LIC-WEST-ELE-13 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALWA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ELEVATION

SCALE: 1: 100 REV 0 0 0 0 2

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NORTH ELEVATION

SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

DRAWING NO: LIC-NORTH-ELE-14 | DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-9-16	00	MANISH	PRAFUL		
25-3-17	01	H SALWA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

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MUMBAI

NORTH

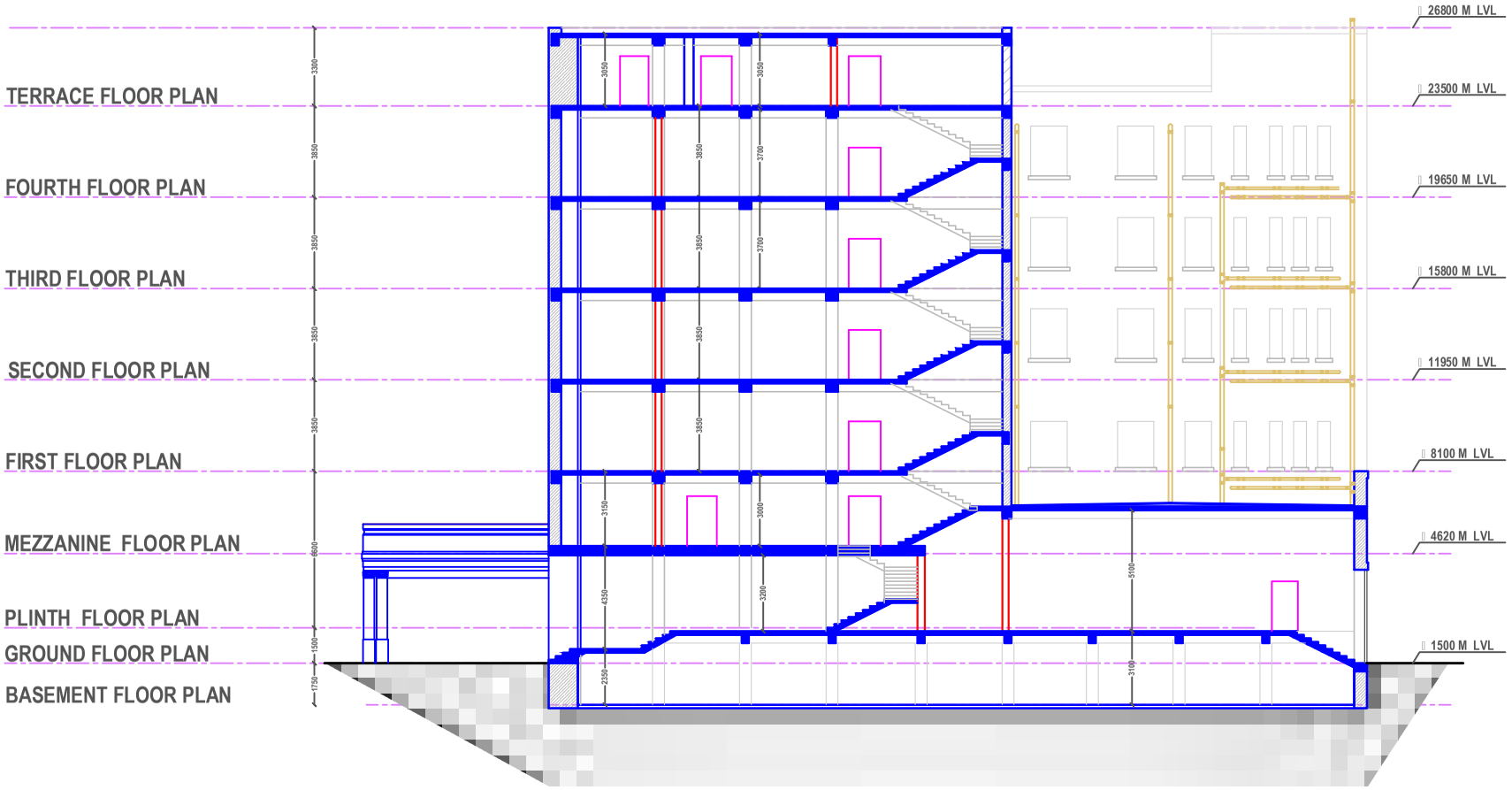
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ELEVATION

SCALE: 1: 100

REV 0 0 0 0 2

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SECTIONAL ELEVATION - CC SCALE- 1:100

184

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

DRAWING NO: LIC-SECTION-15 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W.	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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MUMBAI

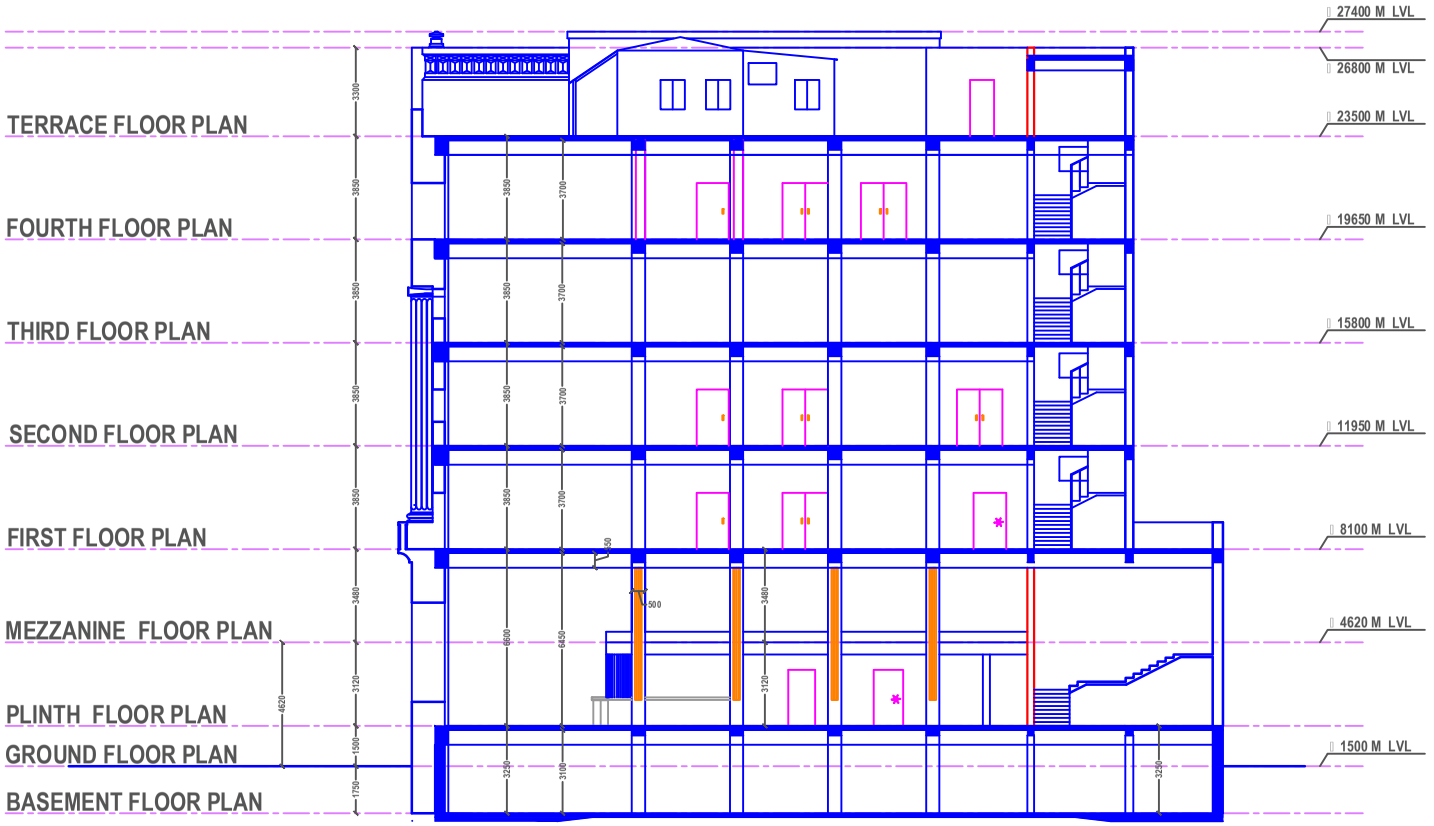
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SECTION

SCALE: 1: 100 REV 0 0 0 0 2

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SECTION -AA SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
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3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

DRAWING NO: LIC-SECTION-16				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

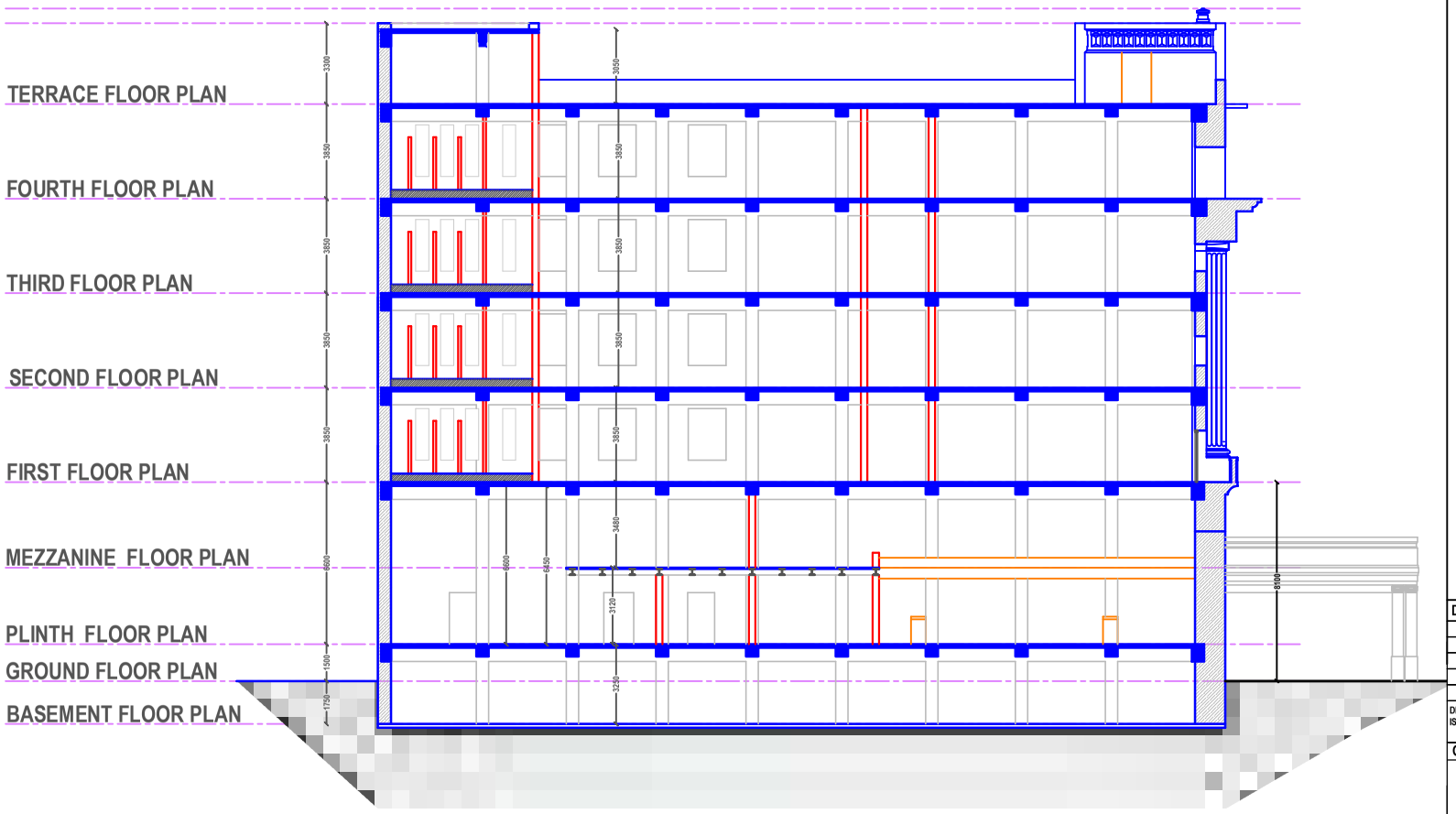
DRAWING TITLE: SECTION

SCALE: 1: 100

REV 0 0 0 0 2

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.



SECTION -BB SCALE- 1:100

DRAWING NO: LIC-SECTION-17				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
25-3-17	01	H SALUJA	PRAFUL		
05-04-18	02	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

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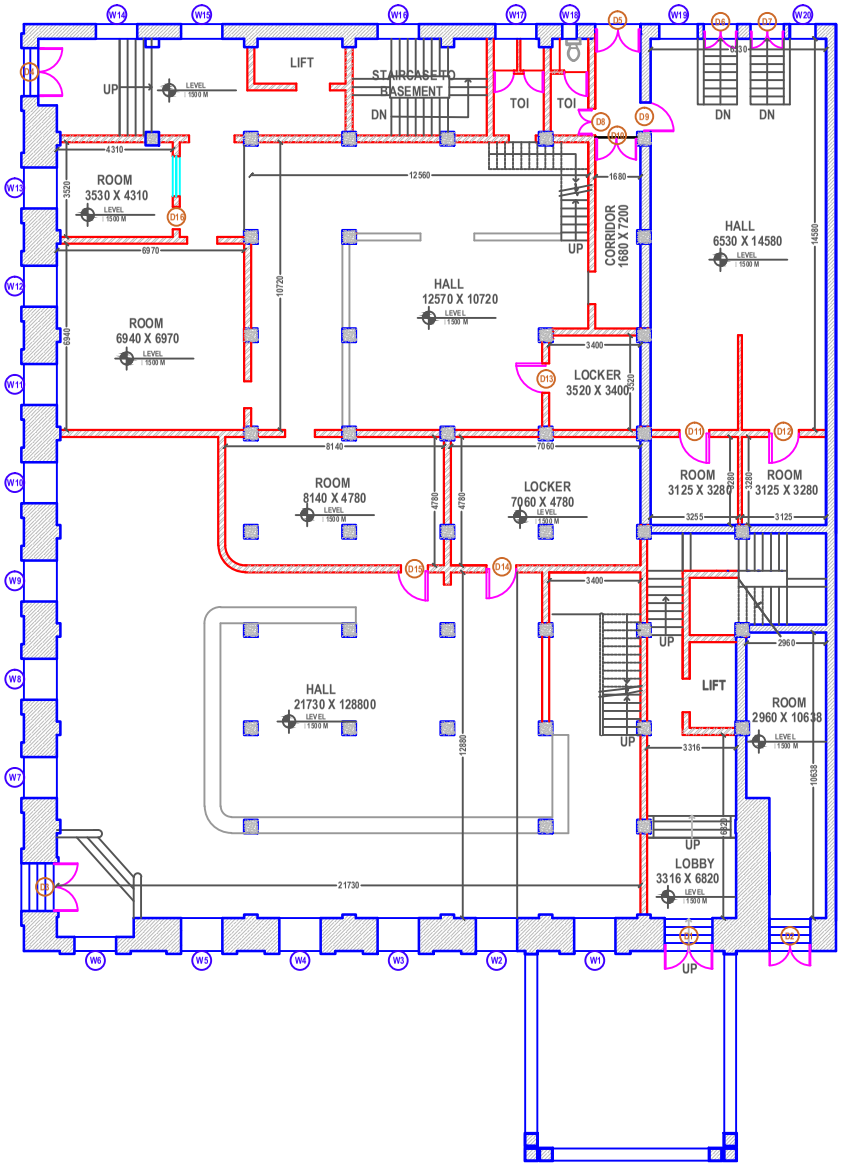
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SECTION

SCALE: 1: 100 REV 0 0 0 0 2

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GROUND FLOOR PLAN SCALE- 1:100

187

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

DRAWING NO: LIC-AC-GRD-18				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

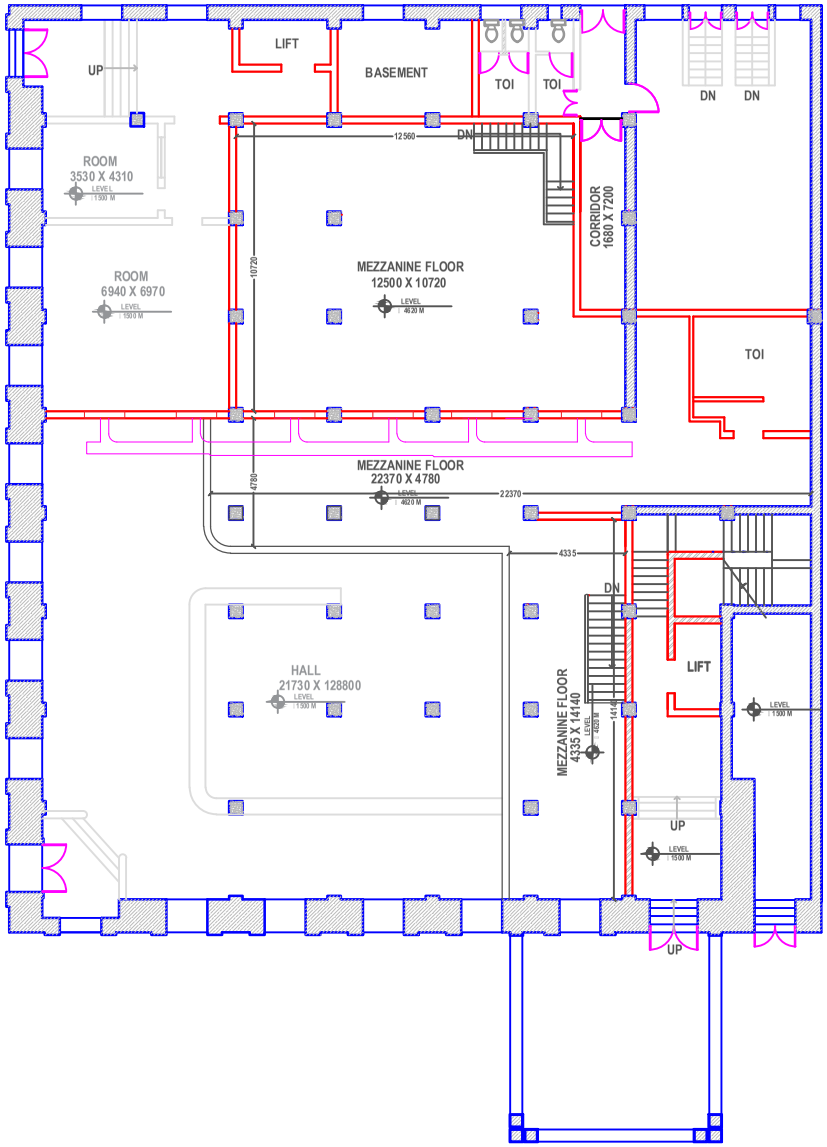
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: GROUND FLOOR PLAN

SCALE: 1: 100, REV 0 0 0 0 1

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MEZZANINE FLOOR PLAN SCALE- 1:100

188



IMAGE SHOWING ACTUAL SITUATION OF AC DUCT IN PASSAGE.



IMAGE SHOWING ACTUAL SITUATION OF AC DUCT IN PASSAGE.



IMAGE SHOWING ACTUAL SITUATION OF AC DUCT IN PASSAGE.



IMAGE SHOWING ACTUAL SITUATION OF AC DUCT IN PASSAGE.

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN
- OPENING FOR AC
- AC DUCT

DRAWING NO: LIC-AC-MEZZ-19				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

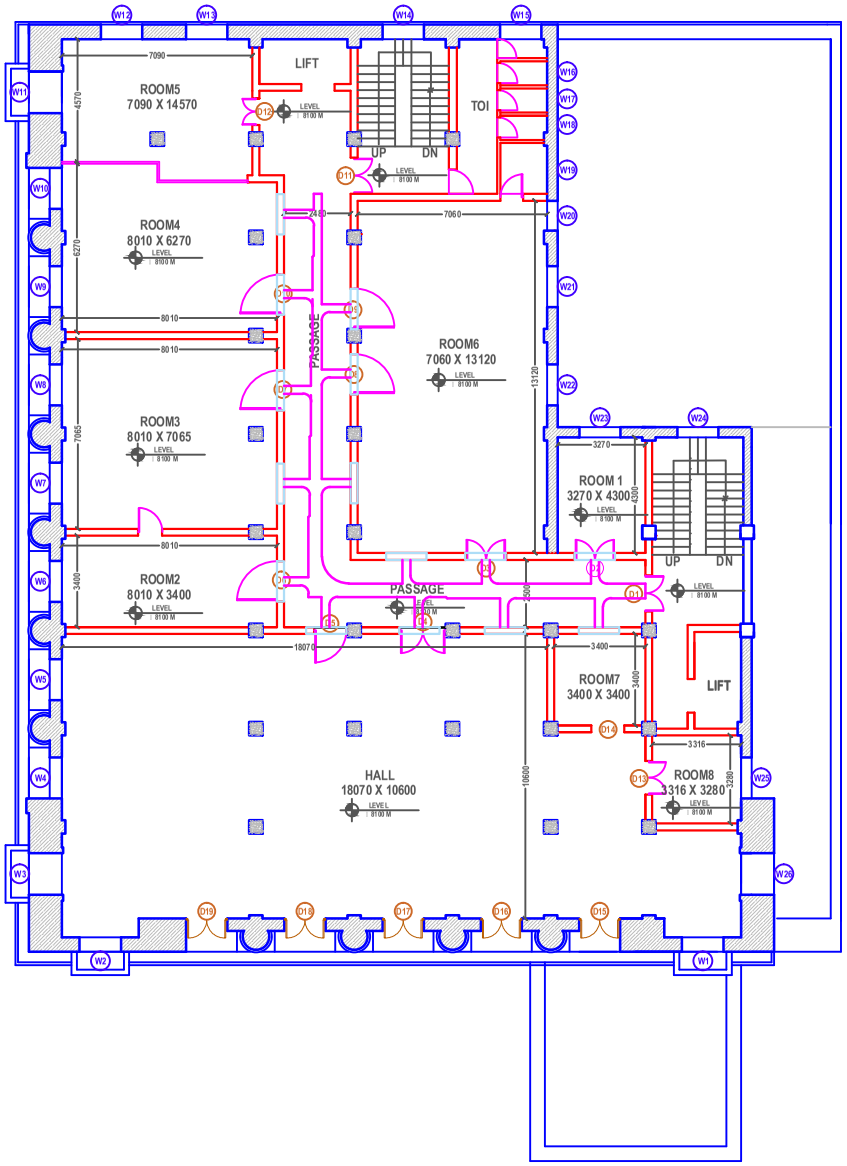
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: MEZAANINE FLOOR PLAN

SCALE: 1: 100, REV 0 0 0 0 1

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FIRST FLOOR PLAN SCALE- 1:100



IMAGE SHOWING FOR OPENING AC IN ROOM



IMAGE SHOWING FOR OPENING AC IN ROOM



IMAGE SHOWING ACTUAL SITUATION OF AC DUCT IN PASSAGE.



IMAGE SHOWING FOR OPENING AC IN ROOM

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN
- OPENING FOR AC
- AC DUCT

DRAWING NO: LIC-AC-FIRST-20				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

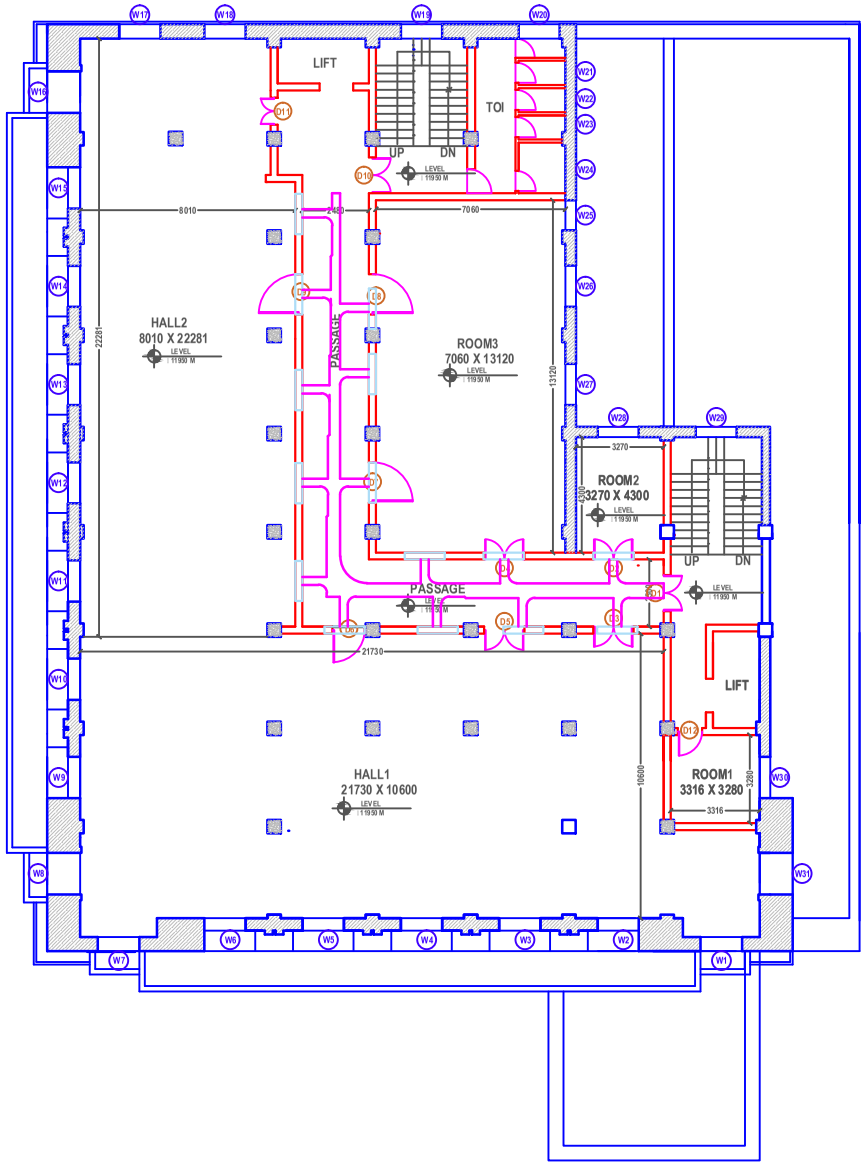
DRAWING TITLE: FIRST FLOOR PLAN

SCALE: 1: 100, REV 0 0 0 0 1

189

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SECOND FLOOR PLAN

SCALE- 1:100



IMAGE SHOWING ACTUAL SITUATION OF AC DUCT IN PASSAGE.



IMAGE SHOWING ACTUAL SITUATION OF AC DUCT IN PASSAGE.



IMAGE SHOWING OPENING FOR AC IN ROOM



IMAGE SHOWING ACTUAL SITUATION OF AC DUCT IN PASSAGE.

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN
- OPENING FOR AC
- AC DUCT

DRAWING NO: LIC-AC-SECOND-21				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

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CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

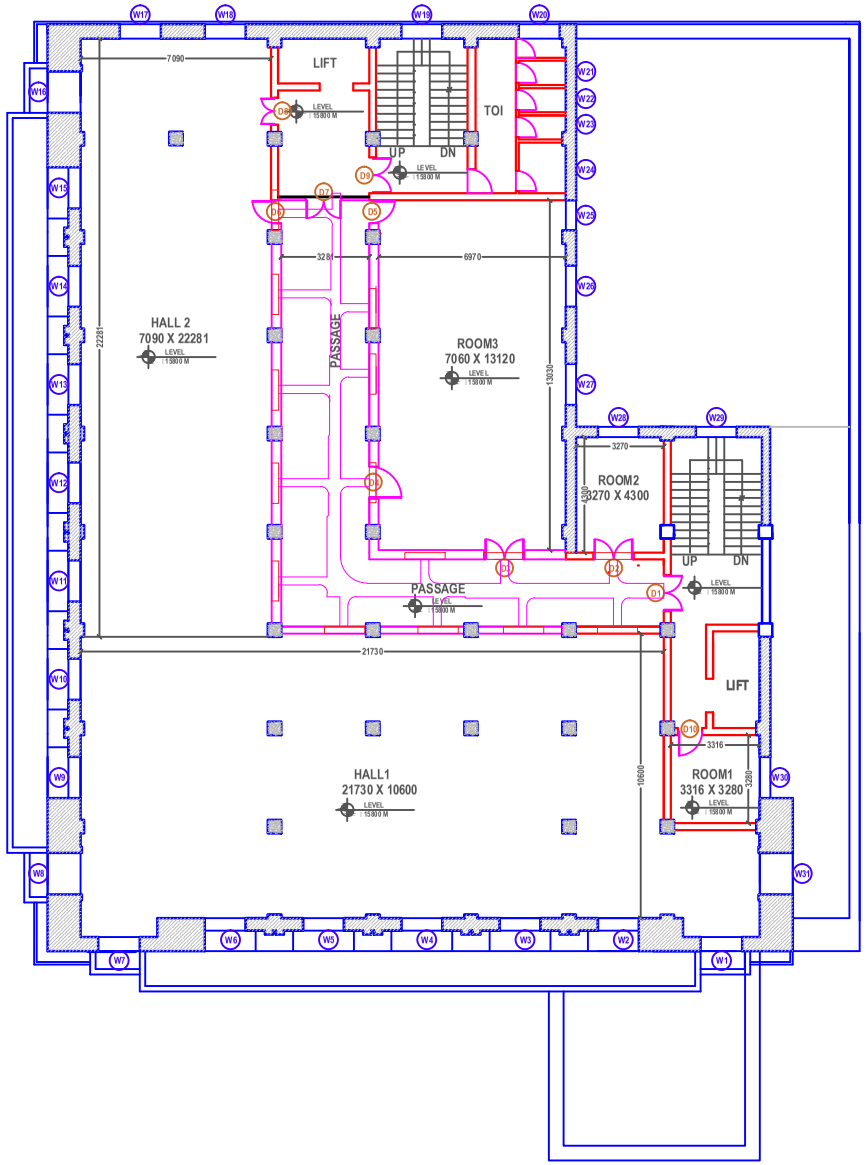
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SECOND FLOOR PLAN

SCALE: 1: 100, REV 0 0 0 0 1

190



THIRD FLOOR PLAN SCALE- 1:100







IMAGE SHOWING ACTUAL SITUATION OF AC DUCT IN PASSAGE.

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN
- OPENING FOR AC
- AC DUCT

DRAWING NO: LIC-AC-THIRD-22				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

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CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

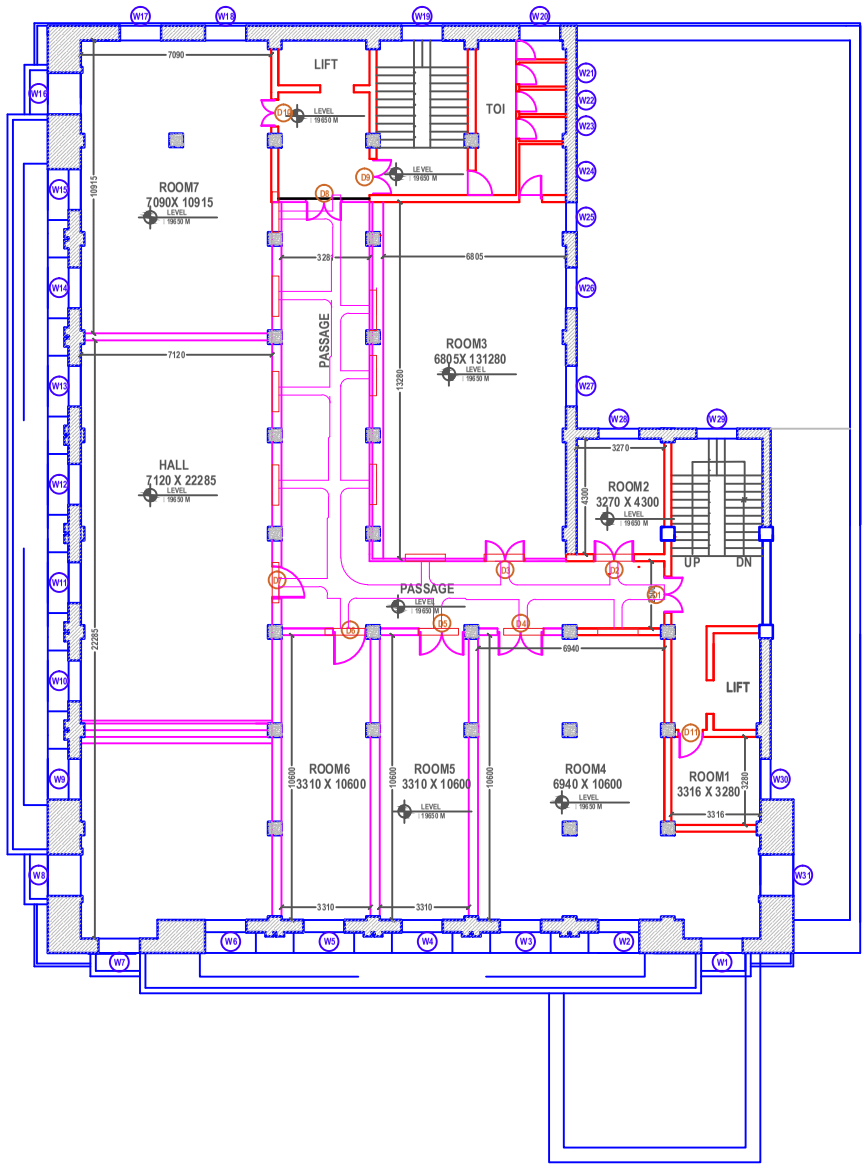
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: THIRD FLOOR PLAN

SCALE: 1: 100, REV 0 0 0 0 1

191

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FOURTH FLOOR PLAN SCALE- 1:100

192

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN
- OPENING FOR AC
- AC DUCT

DRAWING NO: LIC-AC-FOURTH-23				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

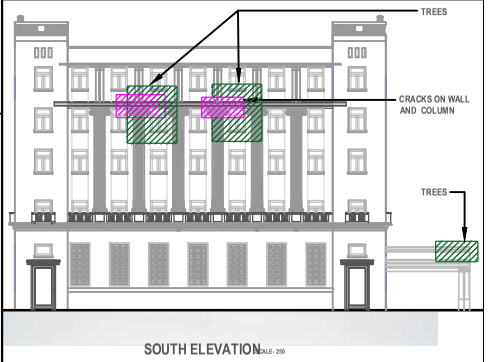
DRAWING TITLE: FOURTH FLOOR PLAN

SCALE: 1: 100, REV 0 0 0 0 1

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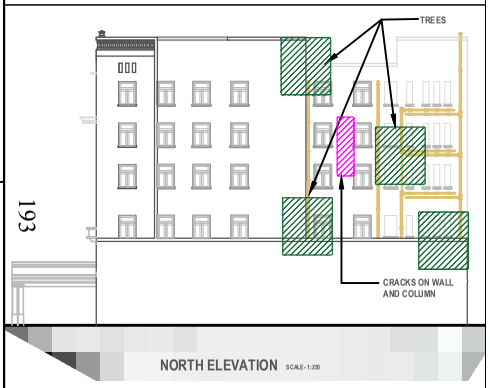
EAST ELEVATION SCALE- 1:250



SOUTH ELEVATION SCALE- 250



WEST SIDE ELEVATION SCALE- 1:250



NORTH ELEVATION SCALE- 1:250

193



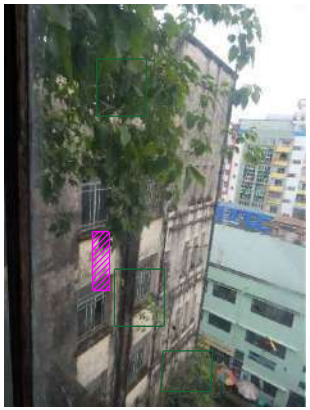
1.FRONT ELEVATION



2.SIDE ELEVATION



3.BACK SIDE ELEVATION



3. SIDE ELEVATION

ACTUAL SITE PHOTOS :- SHOWING LOCATION OF DAMAGES AREA AND TREES ON BUILDING FACADE .

IMAGES SHOWING ACTUAL SITUATION / CONDITION OF BUILDING FACADE ON SITE.







ENLARGE PHOTOS SHOWING DAMAGE AREA AND TREES ON BUILDING FACADE.

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGENDS

TREES

CRACKS ON NON STRUCTURAL ELEMENTS

PROPOSED REPAIRS:

CARBONATION: CARBONATION ON EXTERNAL WALL NEED TO BE REPAIRED BY USE OF LOW TO MEDIUM PRESSURE WATER FOR CLEANING OF EXTERNAL FACADES

VEGETATION: VEGETATION HAS CAUSED CRACKS IN THE NON-STRUCTURAL MEMBERS LIKE CANOPY ABOVE COLUMNS.

IT IS RECOMMENDED THAT THIS VEGETATION SHALL BE REMOVED FROM ROOT. AFTER REMOVAL, EPOXY WILL BE INSERTED IN THE CRACKS.

METHOD

IT IS RECOMMENDED THAT ROOT SYSTEMS OF THIS VEGETATION ARE DEALT WITH THOROUGHLY, PREFERABLY BY REMOVING THEM, AS RE-GROWTH AND COMPRESSIBLE DECAY MAY RESULT IN DAMAGE. ALSO, LOCALIZED CHEMICAL TREATMENT OF ROOT SYSTEMS SHALL ALSO BE DONE TO REDUCE ANY FURTHER INCREASE OF THE VEGETATION. 1 % OF SOLUTION OF AMMONIA AND NONIONIC DETERGENT AREA RECOMMENDED USING TO CLEAN OFF ALGAE AND LICHENS. THE SMALL *PEEPLA* PLANTS CAN BE ERADICATED BY USE OF SPRAY F GLYPHOSATE WITH 1% SOLUTION OF SODIUM ARSENATE. THESE CHEMICALS ARE VERY TOXIC AND TRAINED PERSON SHOULD UNDERTAKE SUCH JOBS WITH ACCURATE SCAFFOLDING WITH PROTECTIVE WEARS LIKE MASK, GLOVES, SPECTATES AND APRON. ONCE THE PLANTS ARE DEAD IT SHOULD BE CAREFULLY REMOVED AND GAPS SHOULD BE FILLED AND REPAIRED AS PER SUGGESTION GIVEN EARLIER.

DRAWING NO: LIC-ELEVATION-24 | DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR IN EXTERNAL FACADES

SCALE: 1: 100, REV 0 0 0 0 1

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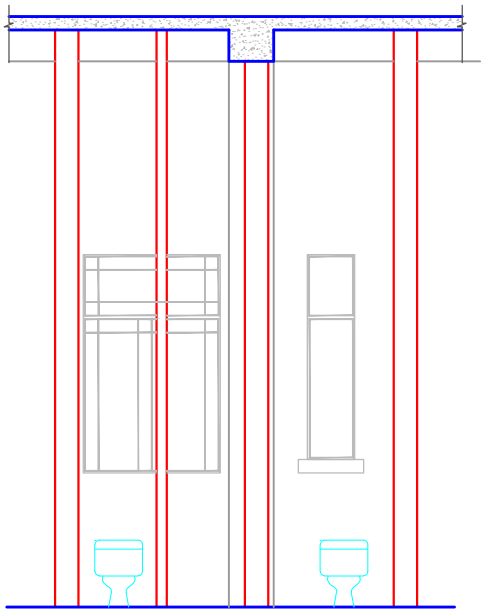
EXISTING TOILET



IMAGE SHOWING ACTUAL SITUATION/CONDITION OF TOILETS.

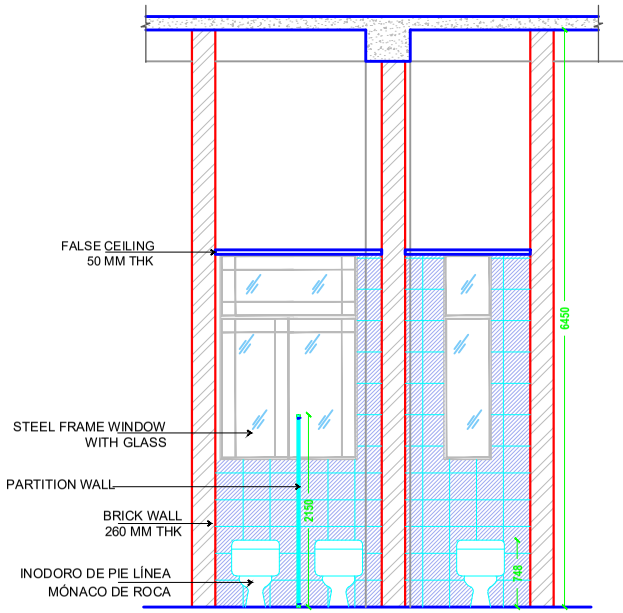


194

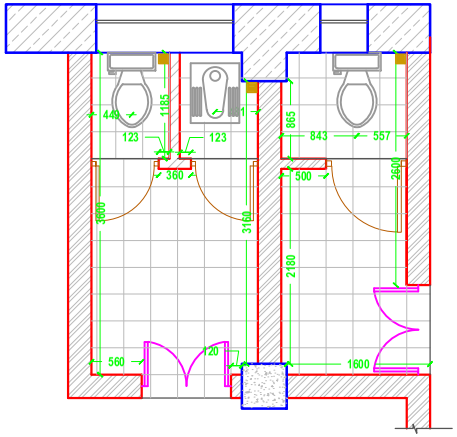


SECTION SCALE- 1:30

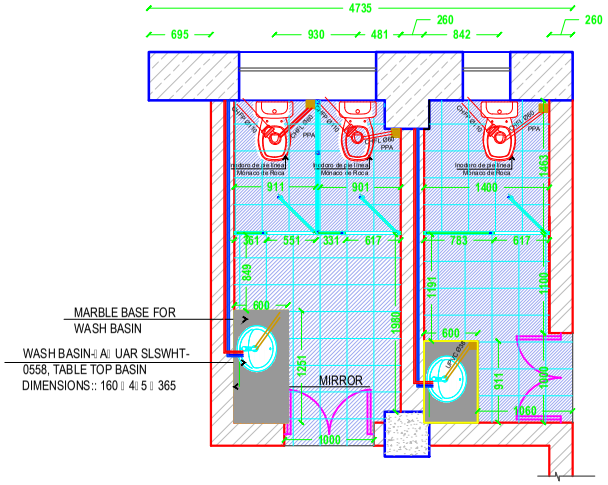
PROPOSED TOILET



SECTION SCALE- 1:30



GROUND FLOOR TOILET SCALE- 1:30



GROUND FLOOR TOILET SCALE- 1:30

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-TOILET-25				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

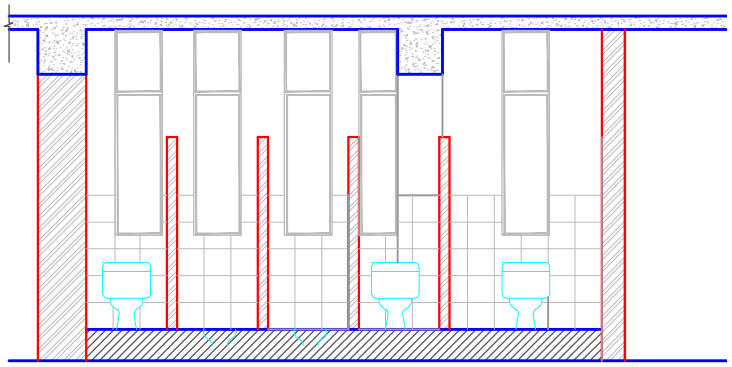
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF TOILET- GROUND FLOOR PLAN

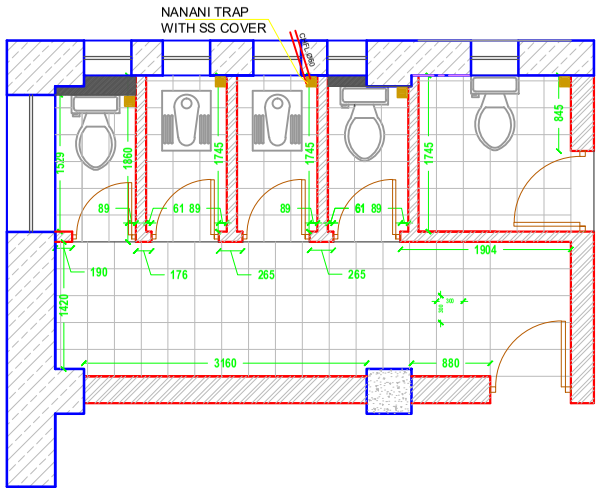
SCALE: 1: 100, REV 0 0 0 0 1

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EXISTING TOILET

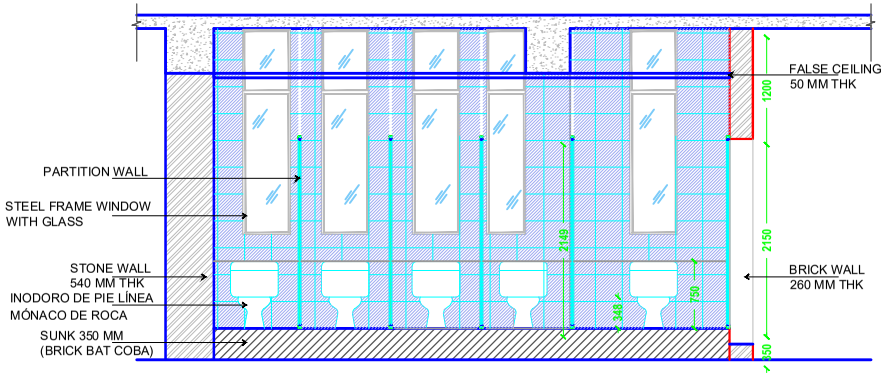


SECTION SCALE- 1:30

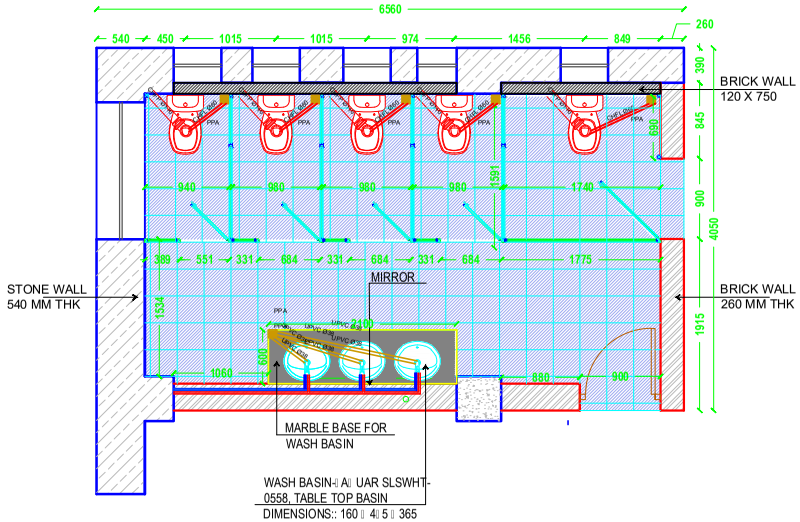


FIRST FLOOR TOILET PLAN SCALE- 1:30

PROPOSED TOILET



SECTION SCALE- 1:30



FIRST FLOOR TOILET PLAN SCALE- 1:30





IMAGE SHOWING ACTUAL SITUATION/CONDITION OF TOILETS.

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-TOILET-26				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

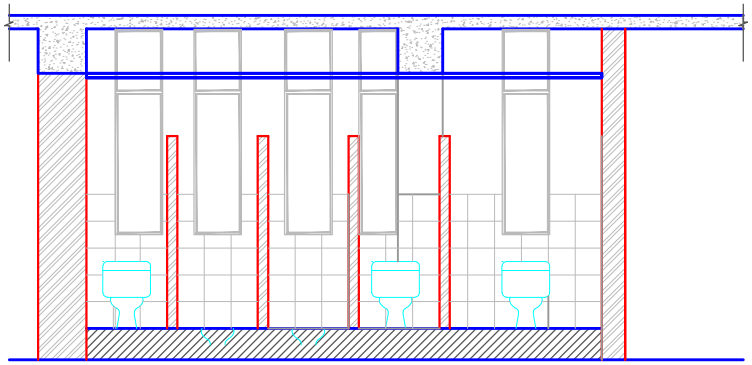
DRAWING TITLE: PROPOSED REPAIR OF TOILET FIRST FLOOR PLAN

SCALE: 1: 100,

REV 0 0 0 0 1

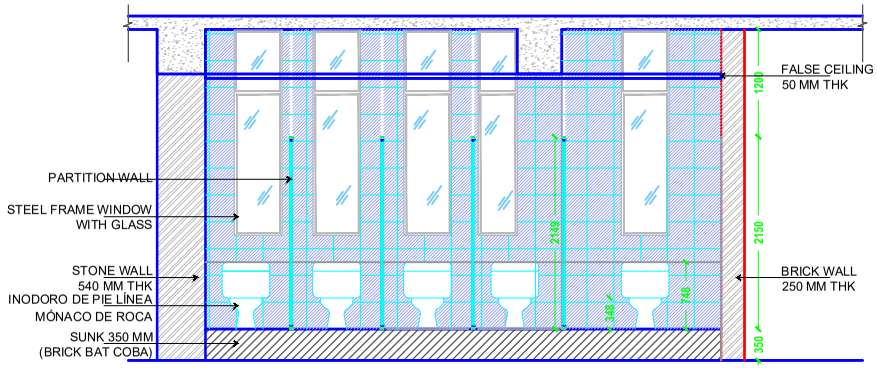
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EXISTING TOILET

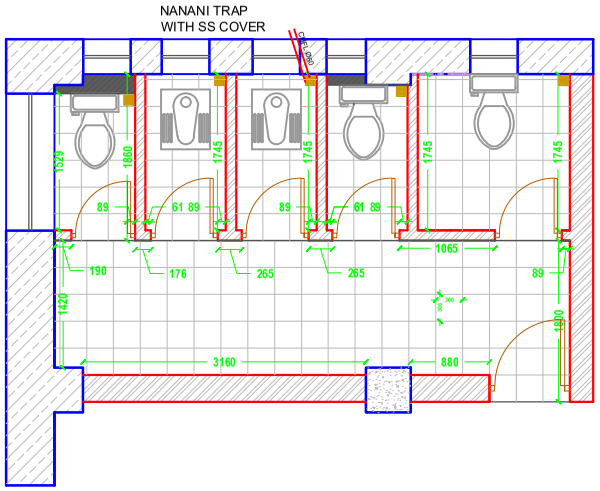


SECTION SCALE- 1:30

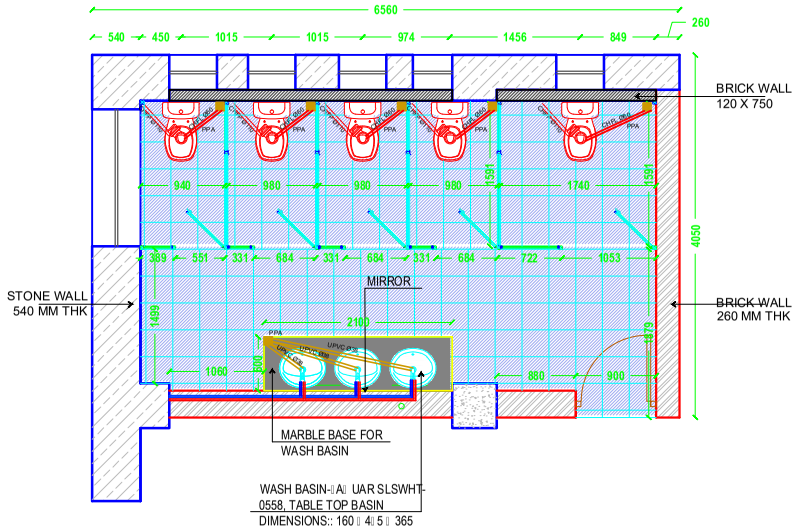
PROPOSED TOILET



SECTION SCALE- 1:30



SECOND FLOOR TOILET PLAN SCALE- 1:30



SECOND FLOOR TOILET PLAN SCALE- 1:30





IMAGE SHOWING ACTUAL SITUATION/CONDITION OF TOILETS.

196

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-TOILET-27				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

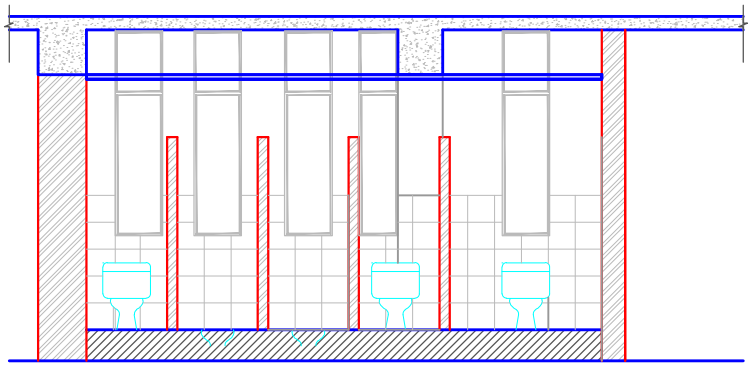
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF TOILET SECOND FLOOR PLAN

SCALE: 1: 100, REV 0 0 0 0 1

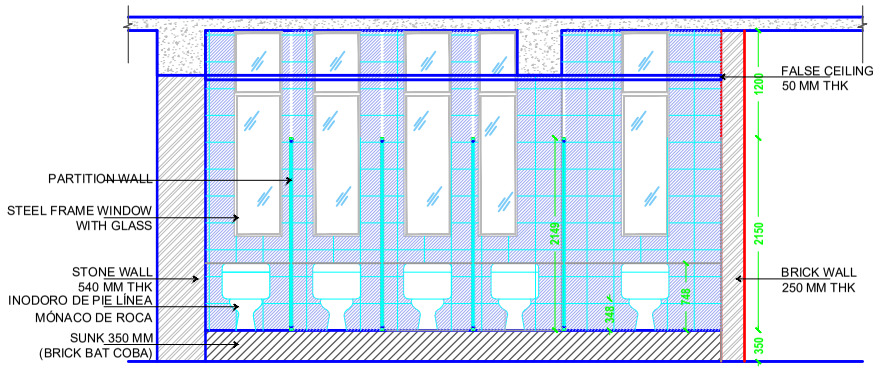
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EXISTING TOILET

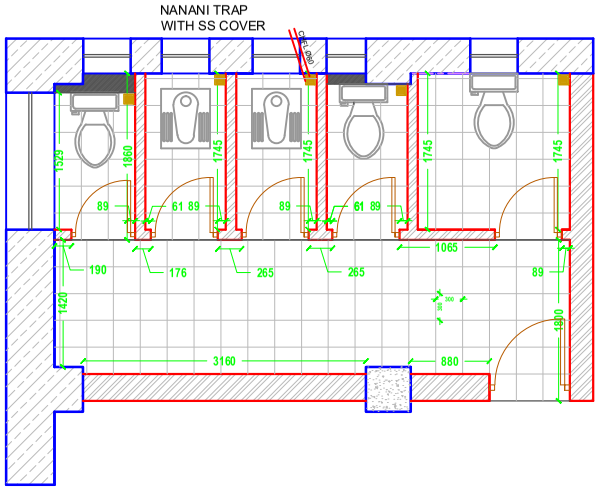


SECTION SCALE- 1:30

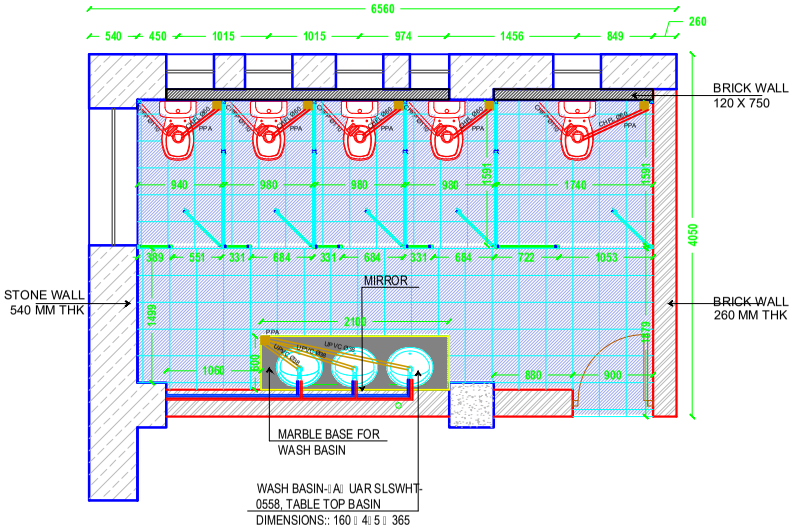
PROPOSED TOILET



SECTION SCALE- 1:30



THIRD FLOOR TOILET PLAN SCALE- 1:30



THIRD FLOOR TOILET PLAN SCALE- 1:30







IMAGE SHOWING ACTUAL SITUATION/CONDITION OF TOILETS.

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-TOILET-28				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

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MUMBAI

NORTH

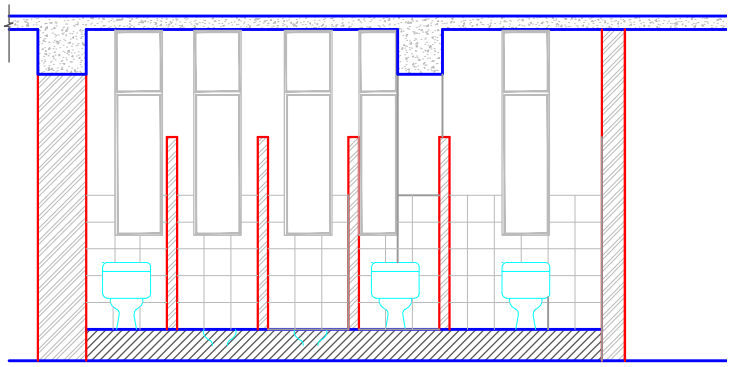
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF TOILET THIRD FLOOR PLAN

SCALE: 1: 100, REV 0 0 0 0 1

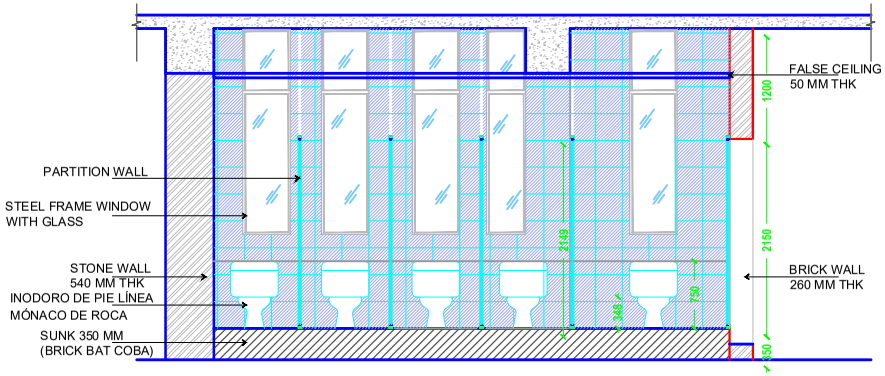
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EXISTING TOILET

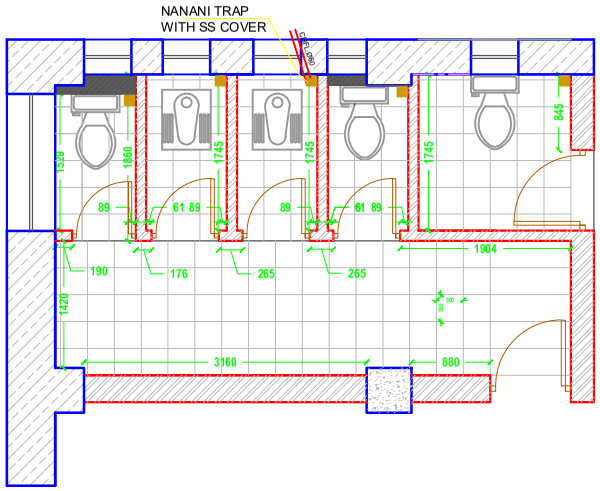


SECTION SCALE- 1:20

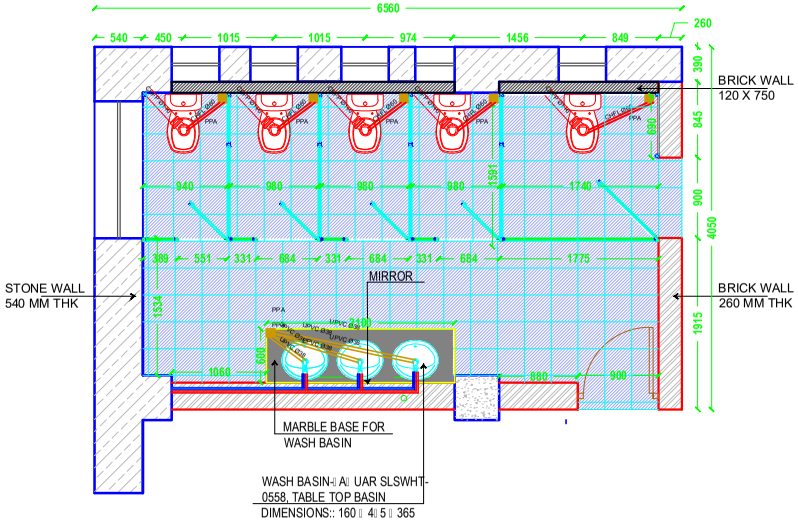
PROPOSED TOILET



SECTION SCALE- 1:20



FOURTH FLOOR TOILET PLAN SCALE- 1:20



FOURTH FLOOR TOILET PLAN SCALE- 1:20





IMAGE SHOWING ACTUAL SITUATION/CONDITION OF TOILETS.

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-TOILET-29				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER	
	○	○	○	●	

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

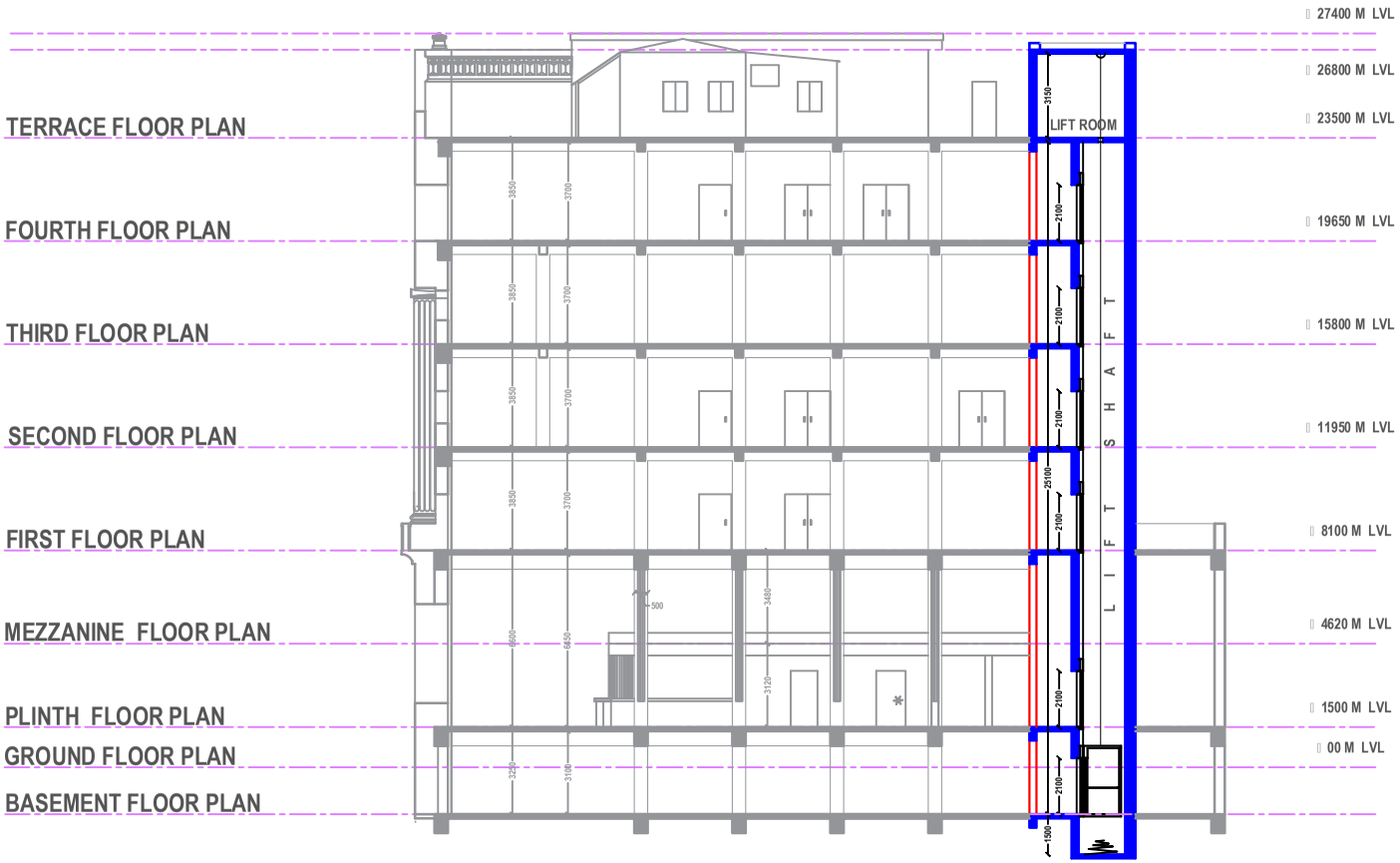
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF TOILET FOURTH FLOOR PLAN

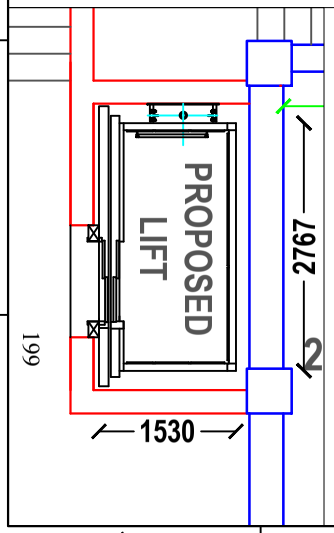
SCALE: 1: 100,

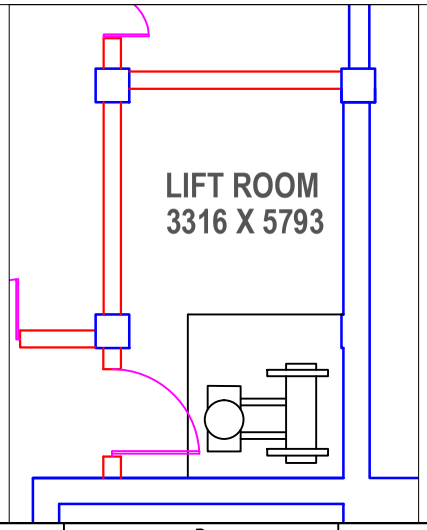
REV 0 0 0 0 1

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SECTION -DD SCALE- 1:100







IMAGES SHOWING ACTUAL SITUATION / CONDITION OF LIFT ROOM .

DAMP PROOF COATING ON EXTERNAL SURFACE: THE EXTERNAL SURFACES WILL BE APPLIED WITH CLEAR WALL COATING THAT PENETRATES INTO THE WALL MATERIALS, BLOCKING THE COMPLEX CAPILLARY NETWORK AND SO PREVENTING MOISTURE FROM ENTERING THE WALL.

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-LIFT A-30				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHANW	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

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MUMBAI

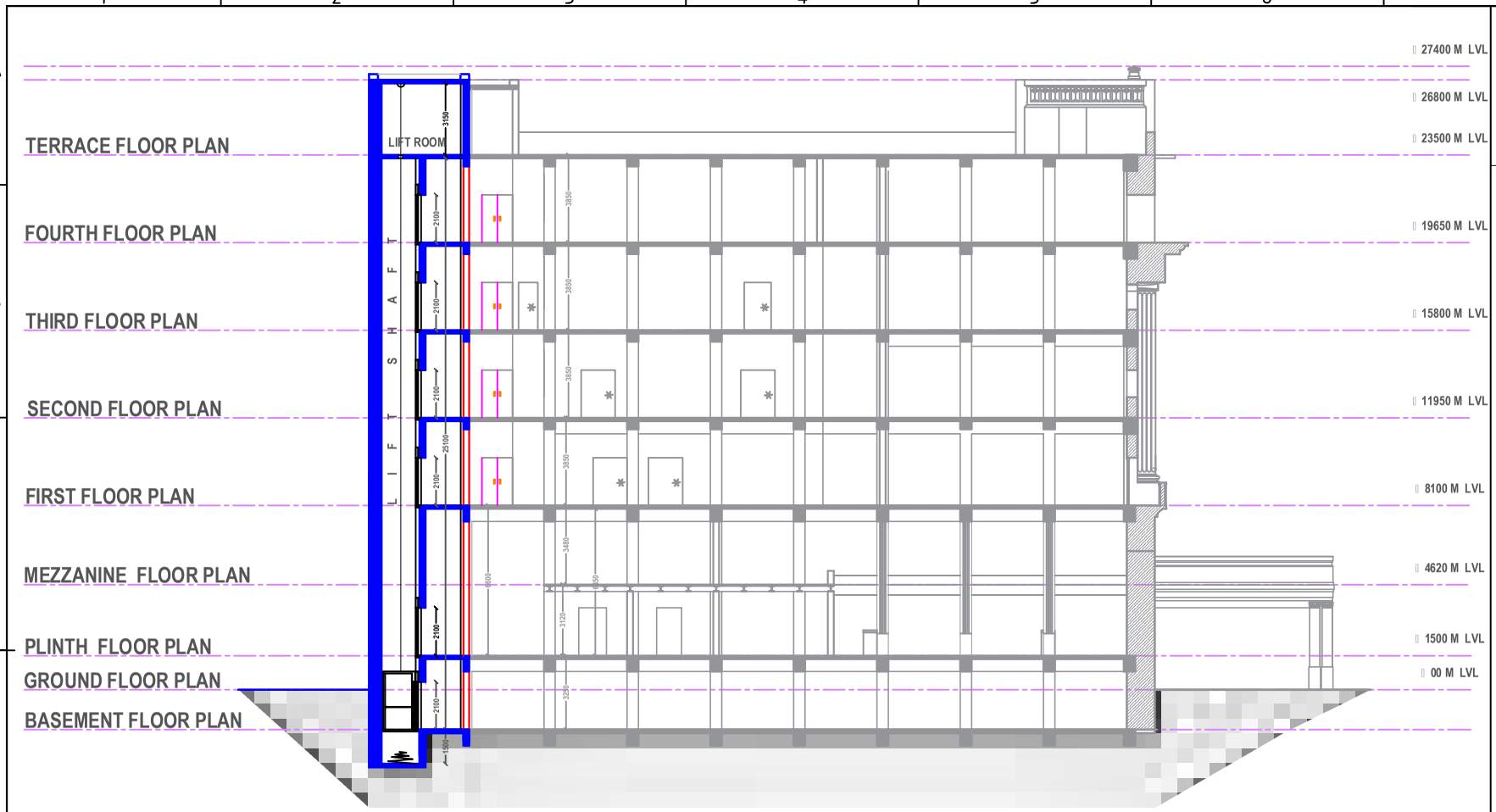
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

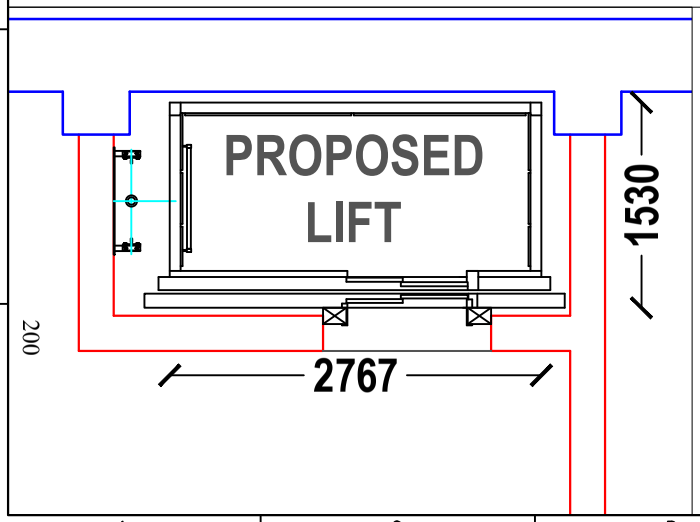
DRAWING TITLE: PROPOSED REPAIR OF LIFT, LIFT DUCT AND LIFT ROOM

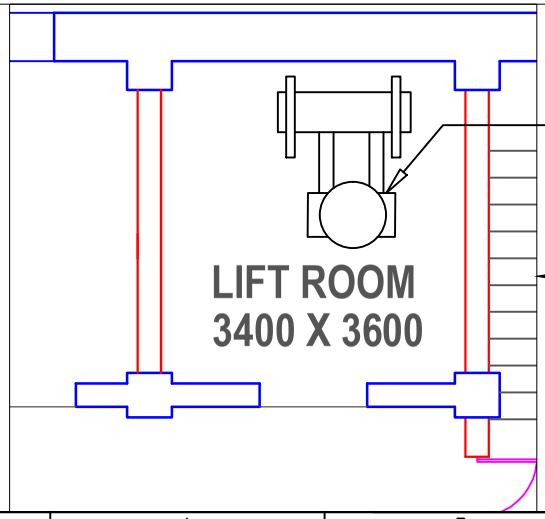
SCALE: 1: 100, REV 0 0 0 0 1

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SECTION -EE SCALE- 1:100





DAMP PROOF COATING ON EXTERNAL SURFACE: THE EXTERNAL SURFACES WILL BE APPLIED WITH CLEAR WALL COATING THAT PENETRATES INTO THE WALL MATERIALS, BLOCKING THE COMPLEX CAPILLARY NETWORK AND SO PREVENTING MOISTURE FROM ENTERING THE WALL.

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-LIFT B-31				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHANW	PRAFUL		
DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER	
	○	○	○	●	

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

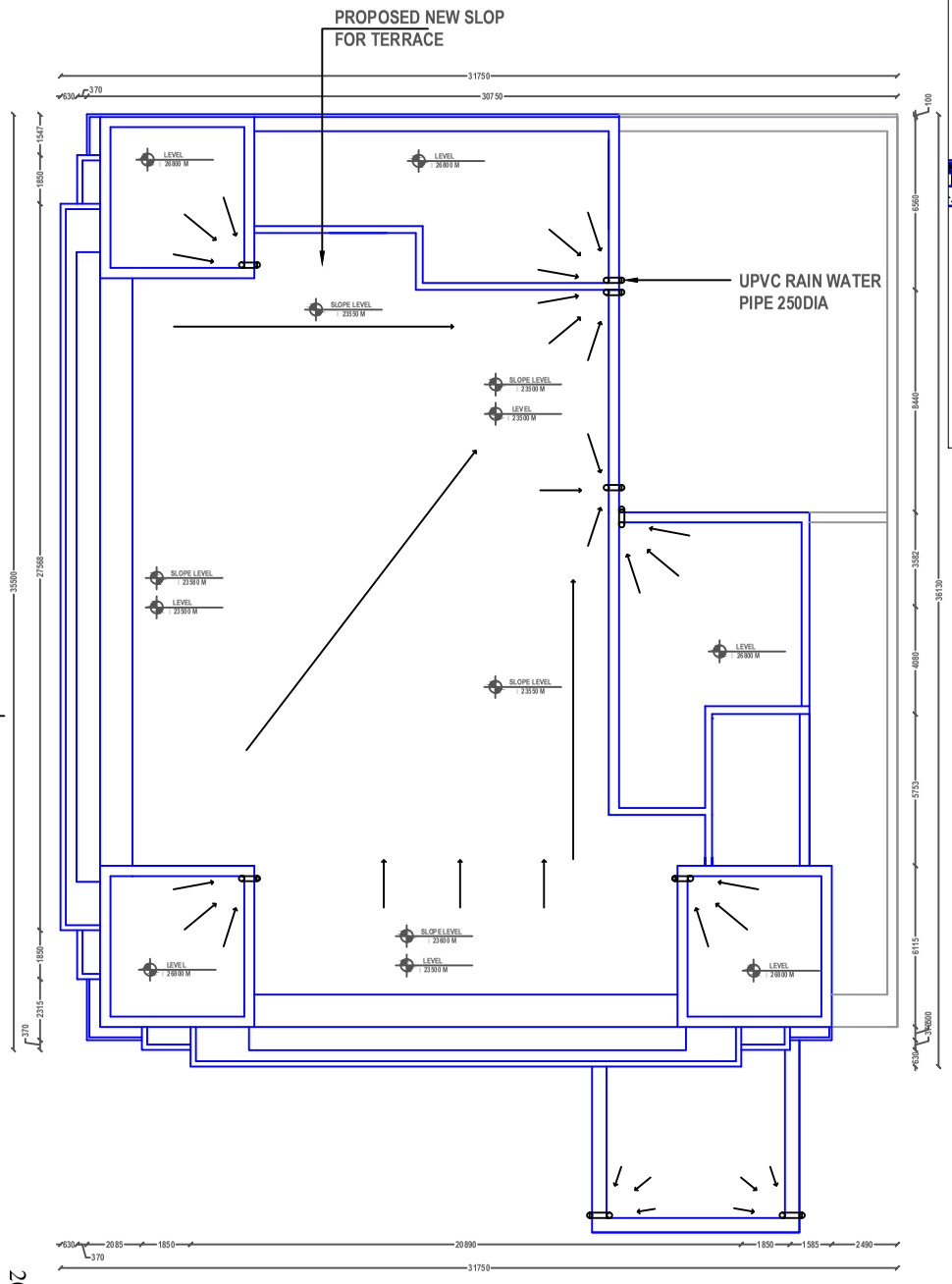
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF LIFT, LIFT DUCT AND LIFT ROOM

SCALE: 1: 100, REV 0 0 0 0 1

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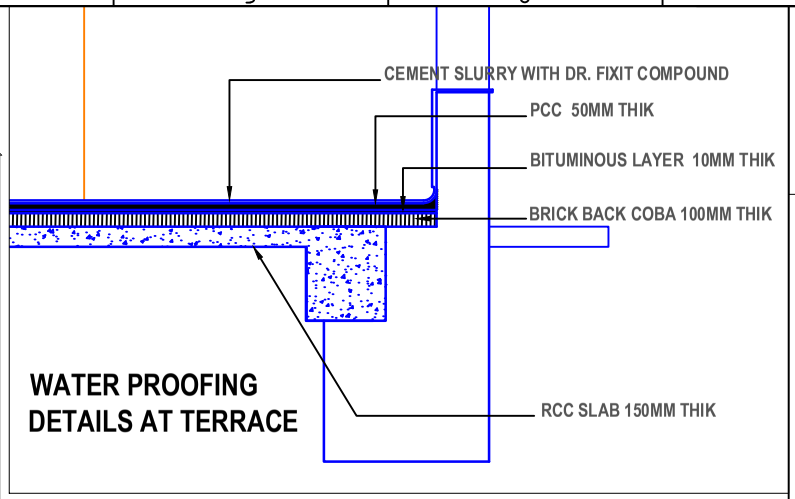




IMAGE SHOWING ACTUAL SITUATION OF TERRACE.



IMAGE SHOWING ACTUAL SITUATION OF TERRACE.



IMAGE SHOWING ACTUAL SITUATION OF TERRACE.



IMAGE SHOWING ACTUAL SITUATION OF TERRACE.

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. CENTER LINE SHOULD BE CHEC□ ED WITH ARCHITECTURAL DRAWINGS.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-WATERPROOFING-32				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHANW	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

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MUMBAI

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PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

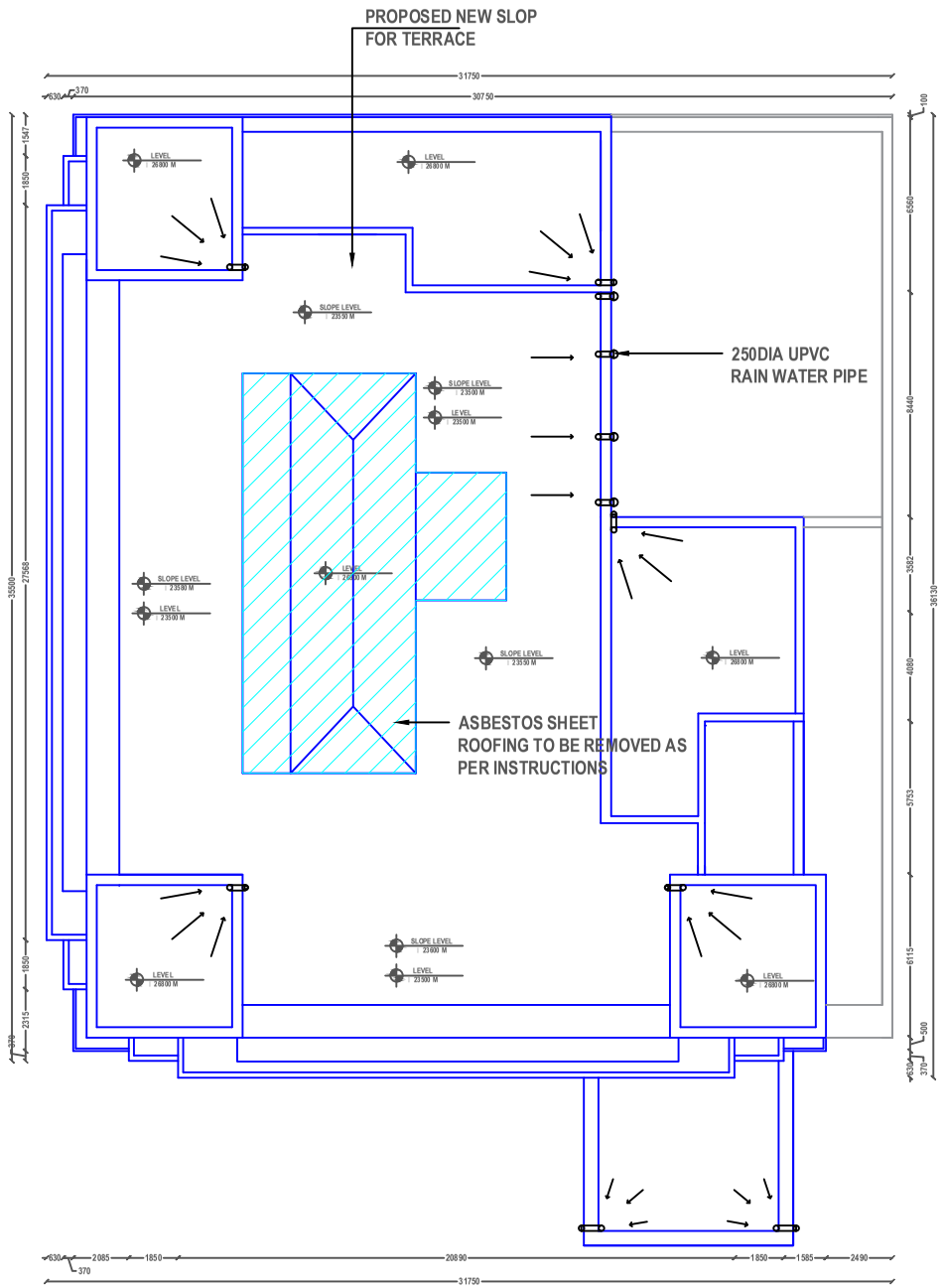
DRAWING TITLE: PROPOSED REPAIR OF TERRACE-OPTION-1

SCALE: 1: 100,

REV 0 0 0 0 1

201

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PLAN SHOWING REMOVAL OF ASBESTOS SHEETS

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. CENTER LINE SHOULD BE CHEC□ ED WITH ARCHITECTURAL DRAWINGS.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-ASBESTOS-33				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

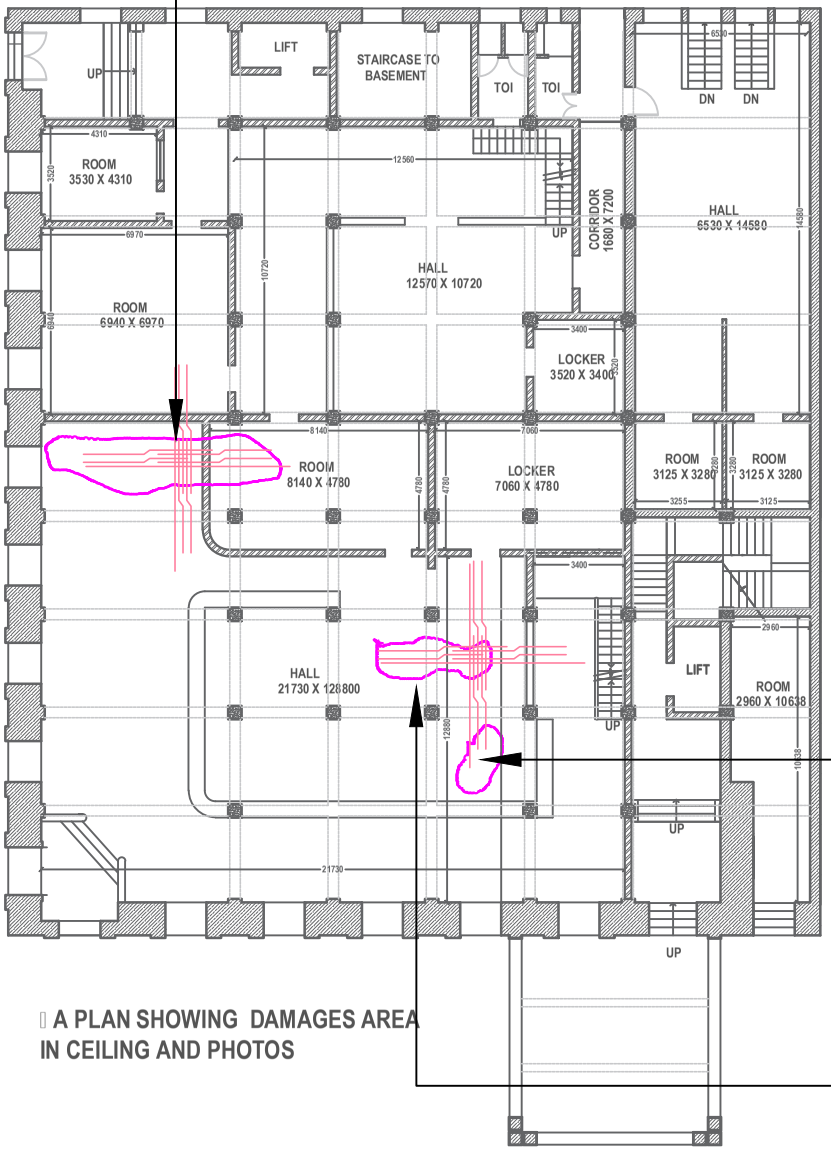
DRAWING TITLE: PLAN SHOWING REMOVAL OF ASBESTOS SHEETS

SCALE: 1: 100,

REV 0 0 0 0 1

202

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A PLAN SHOWING DAMAGES AREA IN CEILING AND PHOTOS

GROUND FLOOR PLAN SCALE- 1:100



IMAGE SHOWING ACTUAL SITUATION OF SLAB IN THE ROOM



IMAGE SHOWING ACTUAL SITUATION OF SLAB IN HALL.



IMAGE SHOWING ACTUAL SITUATION OF SLAB IN HALL.



IMAGE SHOWING ACTUAL SITUATION OF SLAB IN HALL.

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED..

DRAWING NO: LIC-CEILING-34				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

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MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF CEILING - GROUND FLOOR PLAN

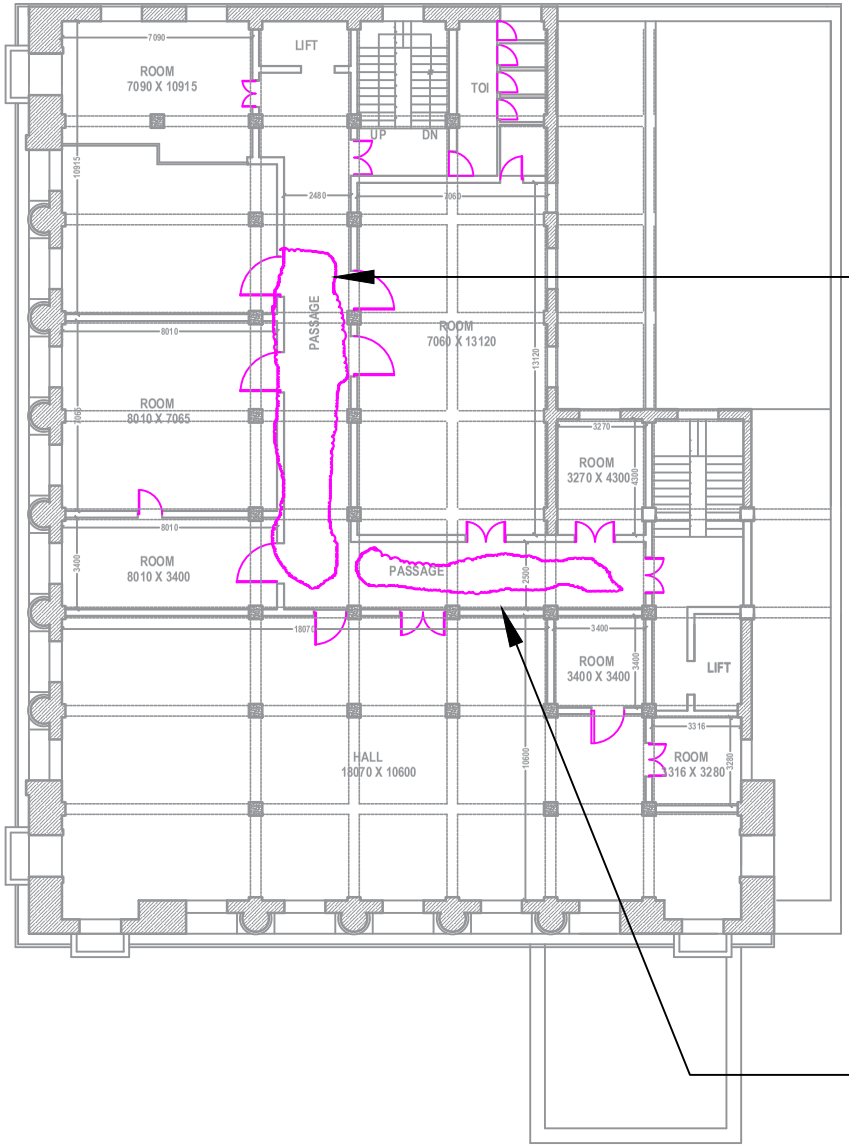
SCALE: 1: 100

REV 0 0 0 0 1

203

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FIRST FLOOR PLAN SCALE- 1:100

REMOVAL OF FALSE CEILING



IMAGE SHOWING ACTUAL SITUATION OF SLAB IN ROOM 1



IMAGE SHOWING ACTUAL SITUATION OF FALSE CEILING IN PASSAGE



IMAGE SHOWING ACTUAL SITUATION OF SLAB



IMAGE SHOWING ACTUAL SITUATION OF SLAB

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

DRAWING NO: LIC-CEILING-35				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

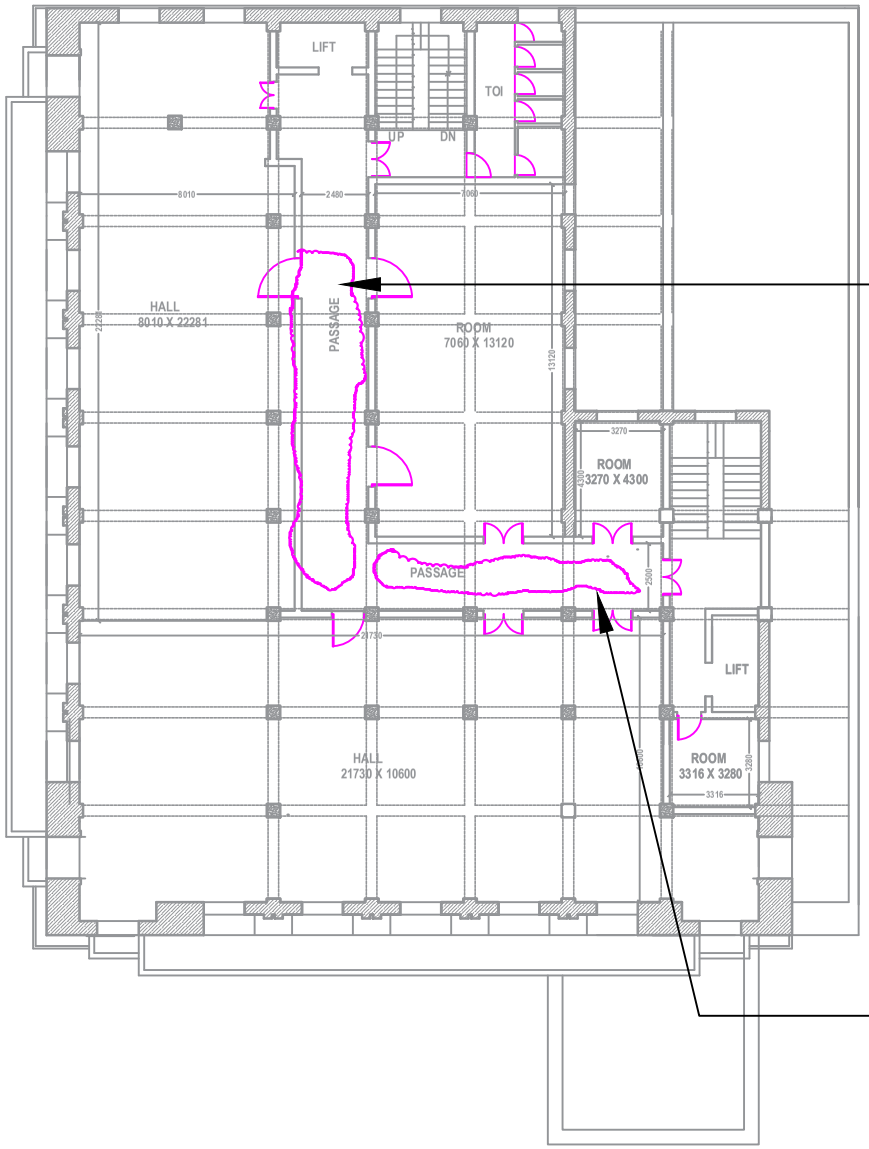
DRAWING TITLE: PROPOSED REPAIR OF CEILING - FIRST FLOOR PLAN

SCALE: 1: 100

REV 0 0 0 0 1

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REMOVAL OF FALSE CEILING



SECOND FLOOR PLAN SCALE- 1:100



IMAGE SHOWING ACTUAL SITUATION OF FALSE CEILING IN PASSAGE



IMAGE SHOWING ACTUAL SITUATION OF FALSE CEILING IN PASSAGE



IMAGE SHOWING ACTUAL SITUATION OF FALSE CEILING IN PASSAGE

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

DRAWING NO: LIC-CEILING-36				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

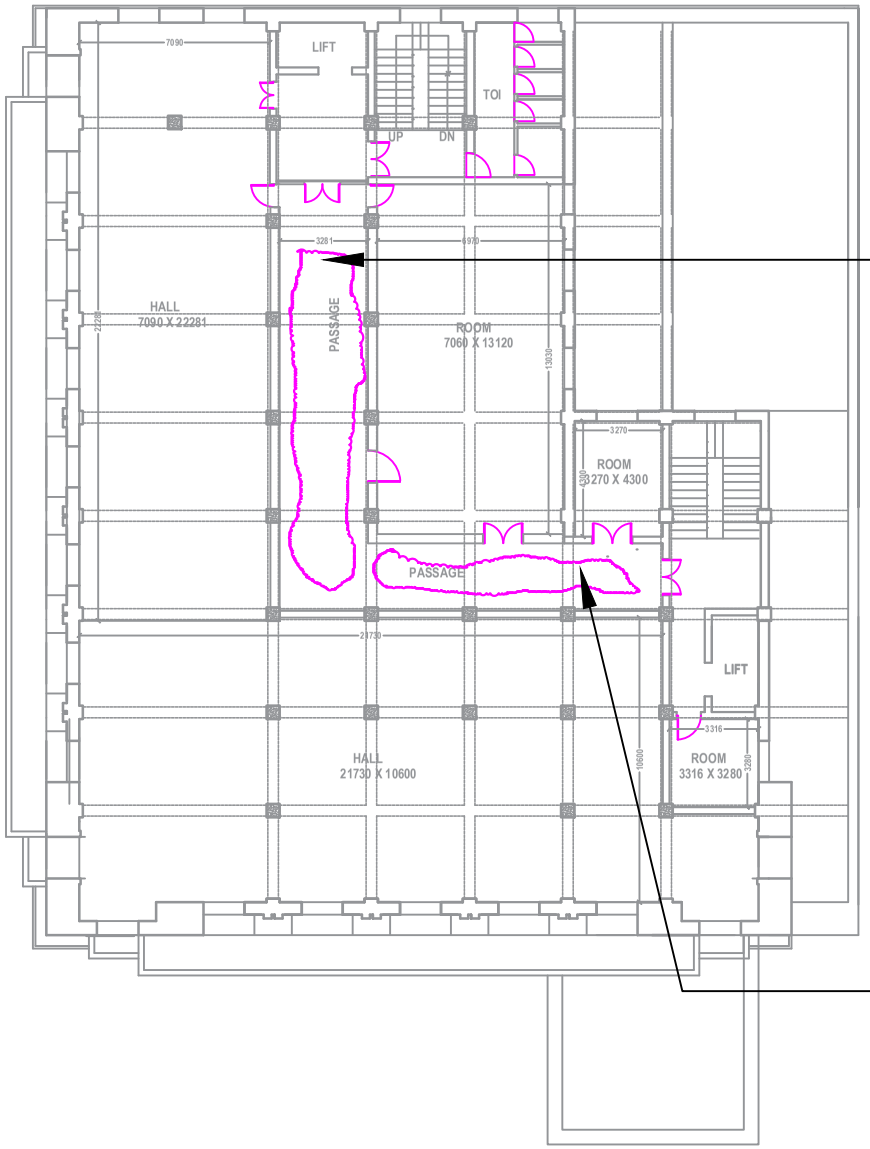
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF CEILING - SECOND FLOOR PLAN

SCALE: 1: 100

REV 0 0 0 0 1

REMOVAL OF FALSE CEILING



THIRD FLOOR PLAN SCALE- 1:100



IMAGE SHOWING ACTUAL SITUATION OF SLAB IN ROOM 1



IMAGE SHOWING ACTUAL SITUATION OF FALSE CEILING IN PASSAGE



IMAGE SHOWING ACTUAL SITUATION OF FALSE CEILING IN PASSAGE

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

DRAWING NO: LIC-CEILING-37 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF CEILING - THIRD FLOOR PLAN

SCALE: 1: 100 REV 0 0 0 0 1

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IMAGE SHOWING ACTUAL SITUATION OF SLAB IN ROOM 1



IMAGE SHOWING ACTUAL SITUATION OF SLAB IN ROOM 2



IMAGE SHOWING ACTUAL SITUATION OF SLAB IN ROOM 3



IMAGE SHOWING ACTUAL SITUATION OF SLAB IN PASSAGE

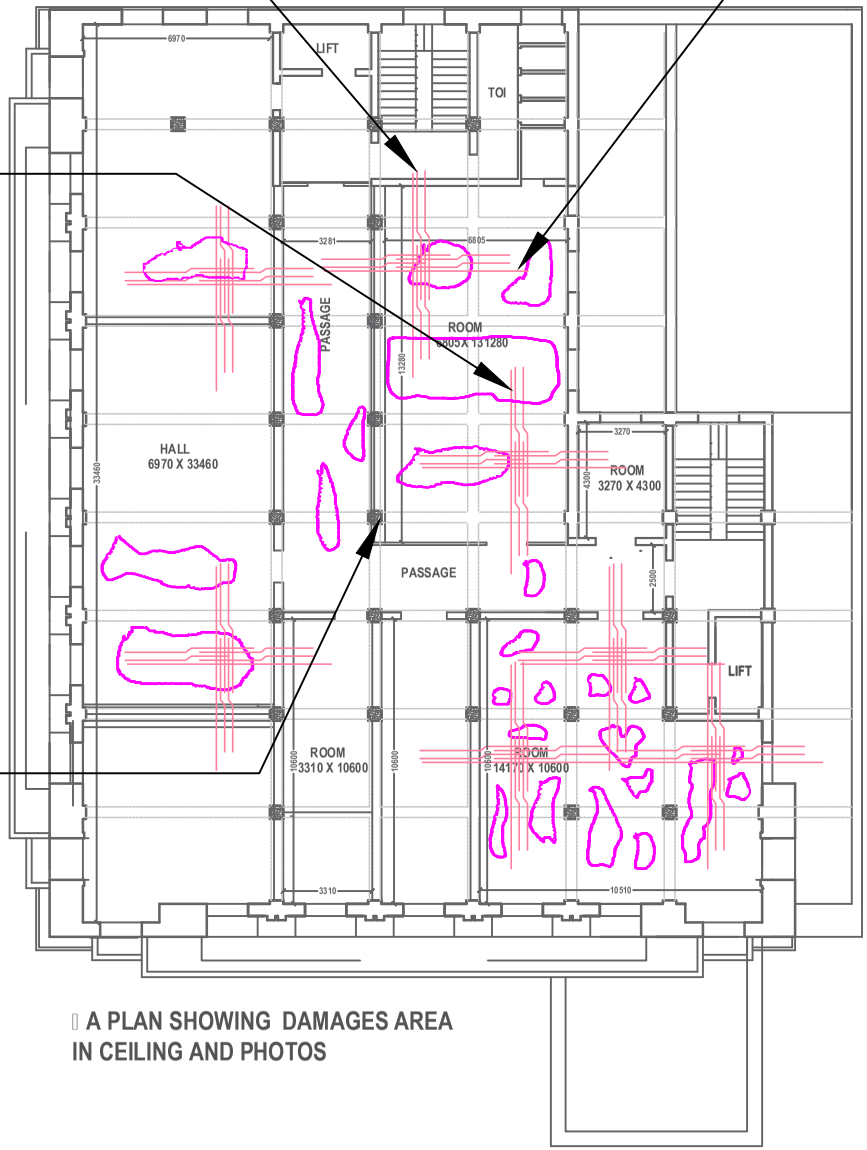


IMAGE SHOWING ACTUAL SITUATION OF SLAB IN ROOM 4



RECOMMENDATION FOR THIS AREA

1. THE ALL LOOSE MORTAR SHALL BE REMOVED FROM THE SURROUNDING FROM THE SPALLED SURFACE. SUFFICIENT CLEANING SHALL BE DONE OF SURROUNDING ARE WITH BRUSH.
2. TWO COATS OF ANTI-CORROSIVE PAINT ON THE EXPOSED REINFORCEMENT SURFACES. ONE COAT OF POLYMER BONDING AGENT SHALL BE APPLIED OVER THE ENTIRE AREA OF STEEL AND CONCRETE.
3. ABOVE THIS POLYMER MODIFIED 1:3 CEMENT MORTARS SHALL BE APPLIED OVER THE REINFORCEMENT. THIS CONCRETE SHALL BE CURED.
4. A WATER PROOFING CAT SHALL BE APPLIED BEFORE FINISHING OF THIS CEILING SURFACE.



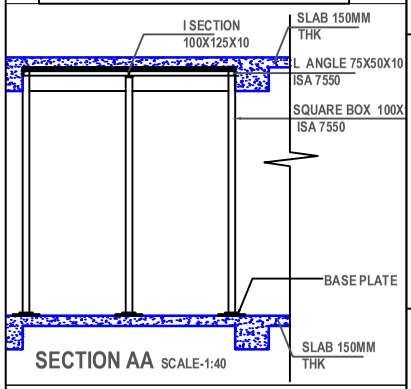
A PLAN SHOWING DAMAGES AREA IN CEILING AND PHOTOS

FOURTH FLOOR PLAN SCALE- 1:100

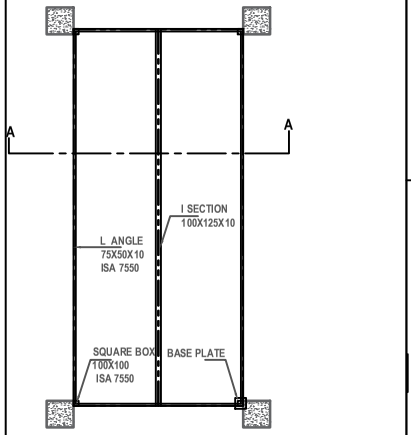
NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

RECOMMENDATION FOR THIS AREA



SECTION AA SCALE-1:40



PROPOSED PLAN OF SUPPORT SCALE-1:50

DRAWING NO: LIC-CEILING-38				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

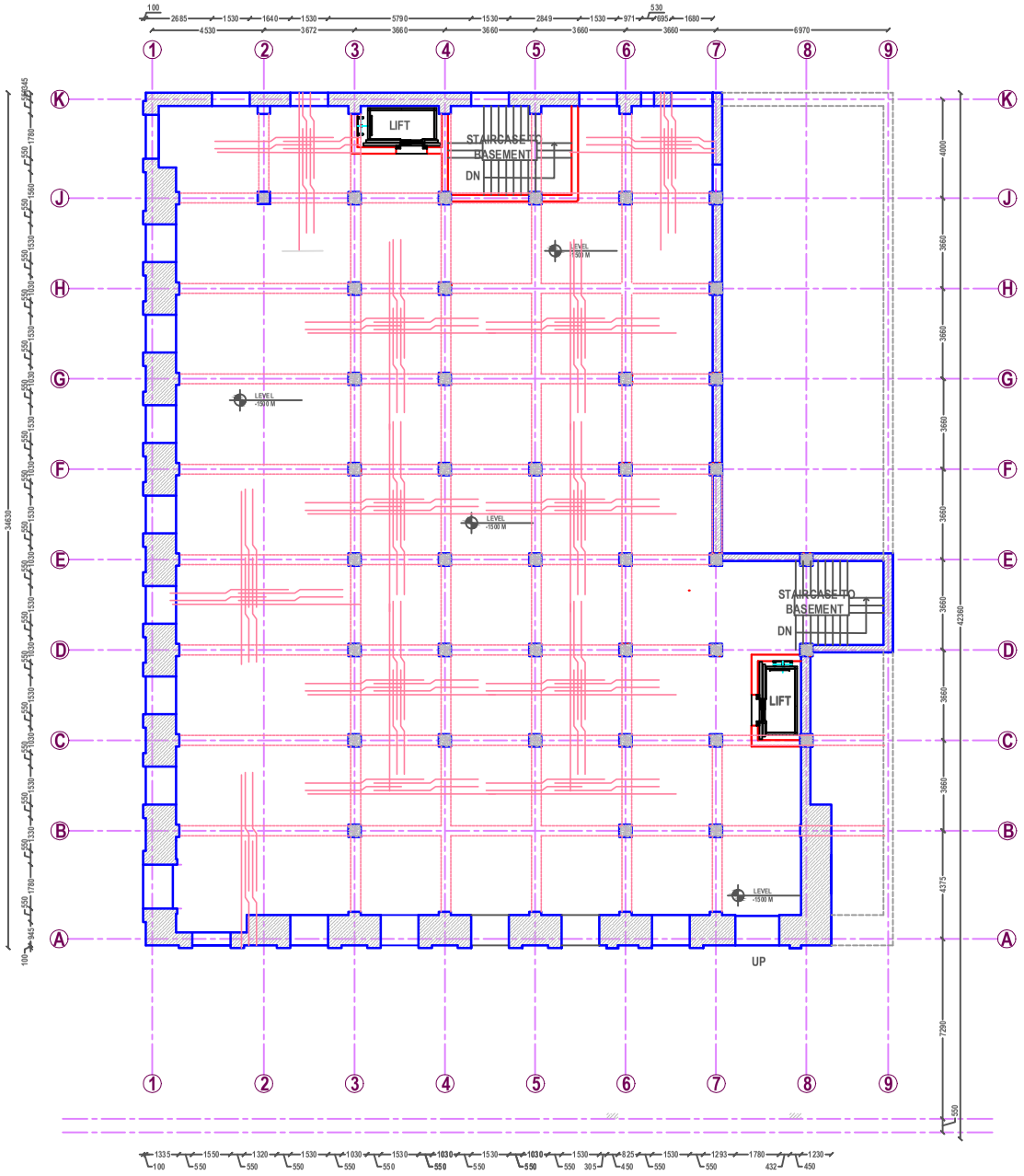
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF CEILING - FOURTH FLOOR PLAN

SCALE: 1: 100

REV 0 0 0 0 1

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BASEMENT FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED..

DRAWING NO: LIC-CEILING-39				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

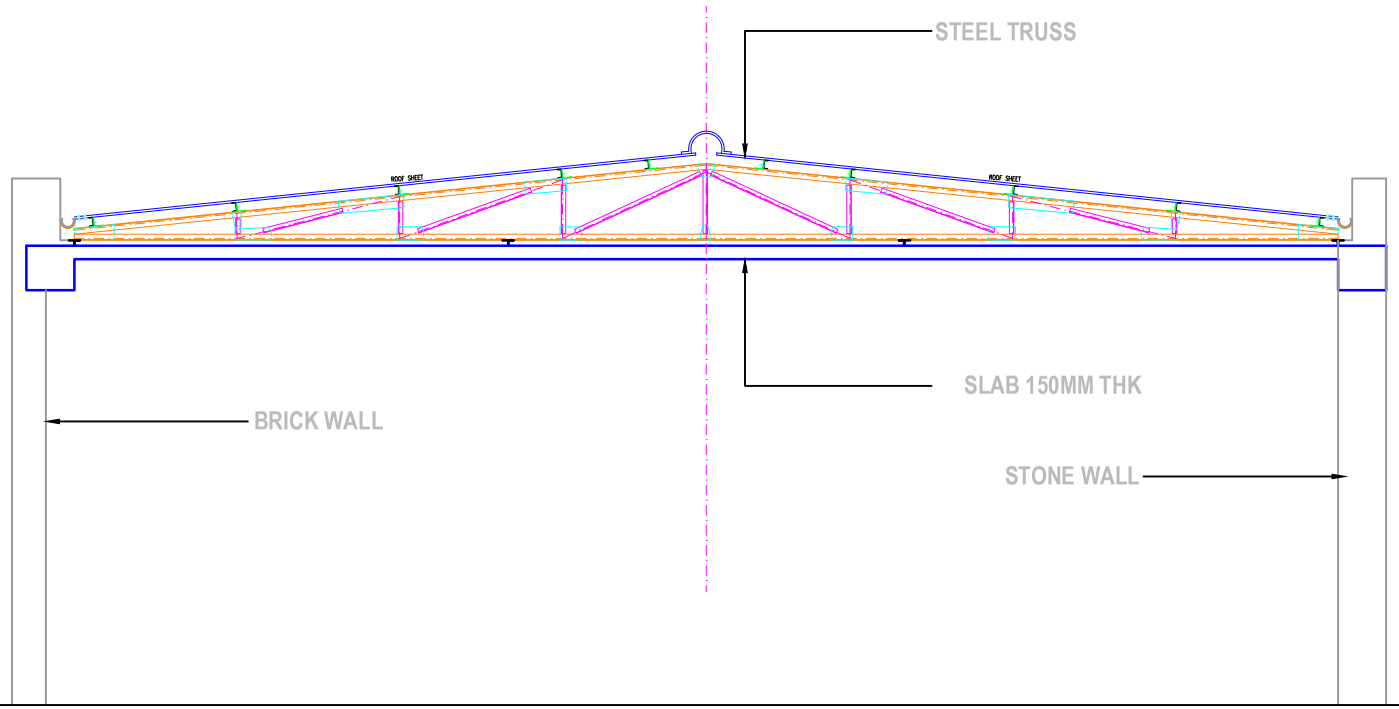
DRAWING TITLE: PROPOSED REPAIR OF CEILING - BASEMENT PLAN

SCALE: 1: 100

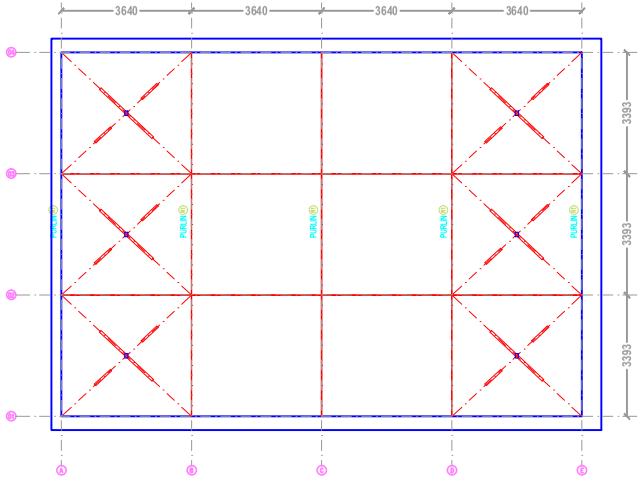
REV 0 0 0 0 1

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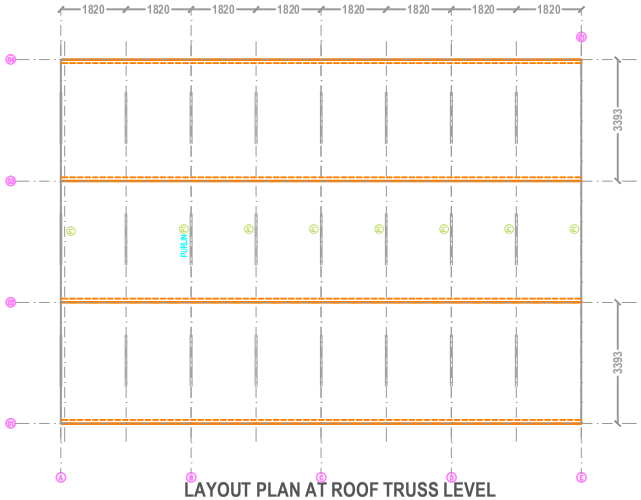
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SECTION AT YY
SCALE 1:50



LAYOUT PLAN AT TRUSS-TIE LEVEL



LAYOUT PLAN AT ROOF TRUSS LEVEL

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

DRAWING NO: LIC-ROOF-40				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	MANISH	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

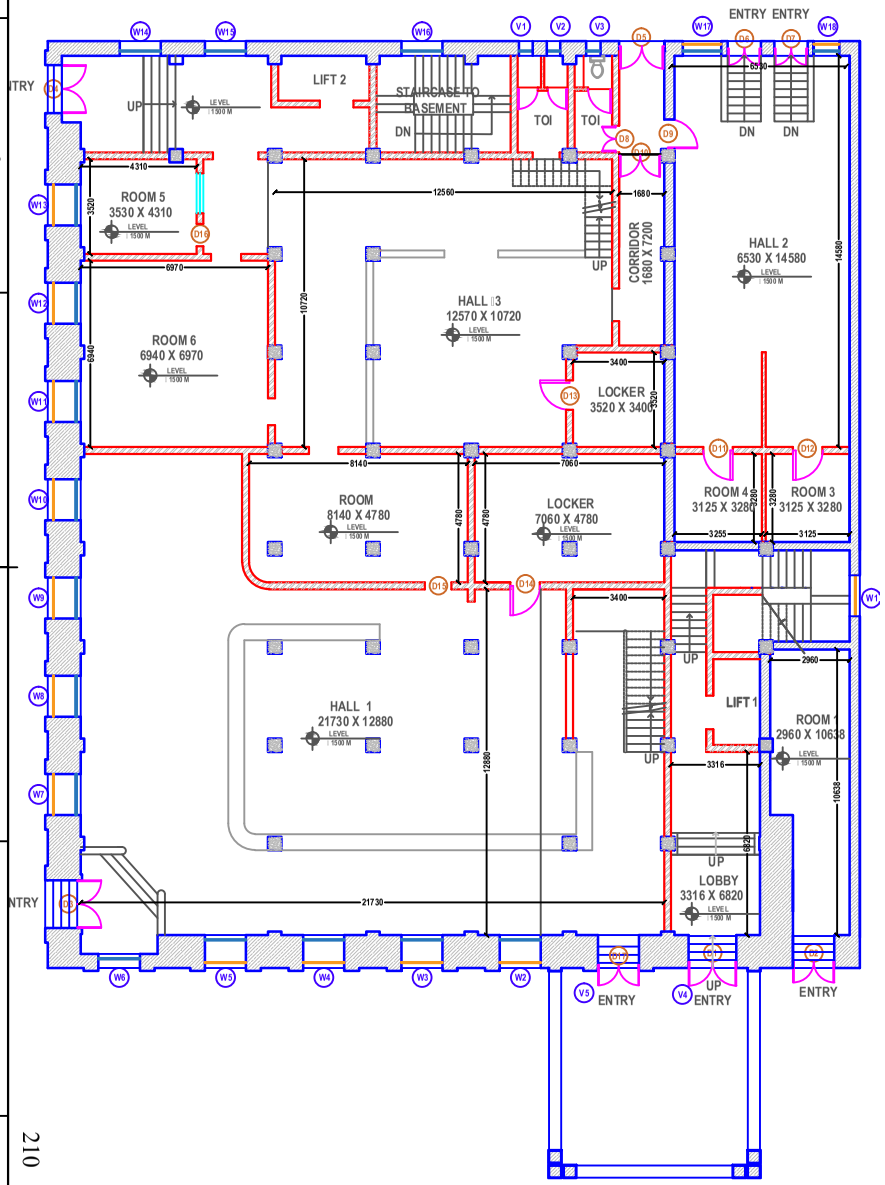
CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF TRUSS FOR HALL 2 GROUND FLOOR

SCALE: 1: 100, REV 0 0 0 0 1



GROUND FLOOR PLAN SCALE- 1:100

210

SCHEDULE OF WINDOWS

SR.NO.	NO.	DESCRIPTION	PHOTOS	EXISTING CONDITION	RECOMMENDATION
1	W1	FRONT SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
2	W2	FRONT SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
3	W3	FRONT SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
4	W4	FRONT SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
5	W5	FRONT SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
6	W6	FRONT SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
7	W7	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
8	W8	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
9	W9	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
10	W10	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
11	W11	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
12	W12	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
13	W13	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
14	W14	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
15	W15	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
16	W16	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
19	W17	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
20	W18	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
17	V1	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
18	V2	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
20	V3	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
21	V4	ABOVE PORTCH	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
22	V5	ABOVE PORTCH	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. ALL WOODEN WINDOWS TO BE RESTORED WITH ORIGINAL METAL WINDOW
5. GLASS OF ALL WINDOWS TO BE REPLACED

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-WINDOW-41 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

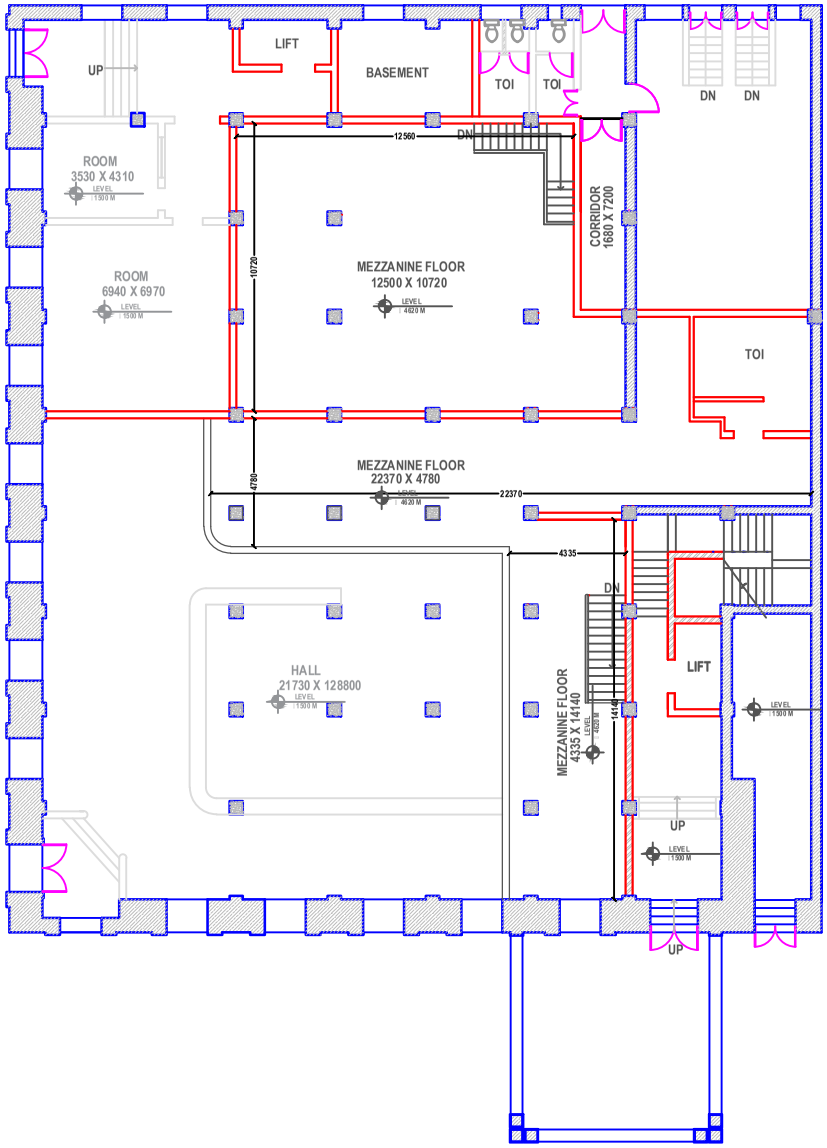
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR-GROUND FLOOR

SCALE: 1: 100, REV 0 0 0 0 1

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MEZZANINE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-WINDOW-42				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

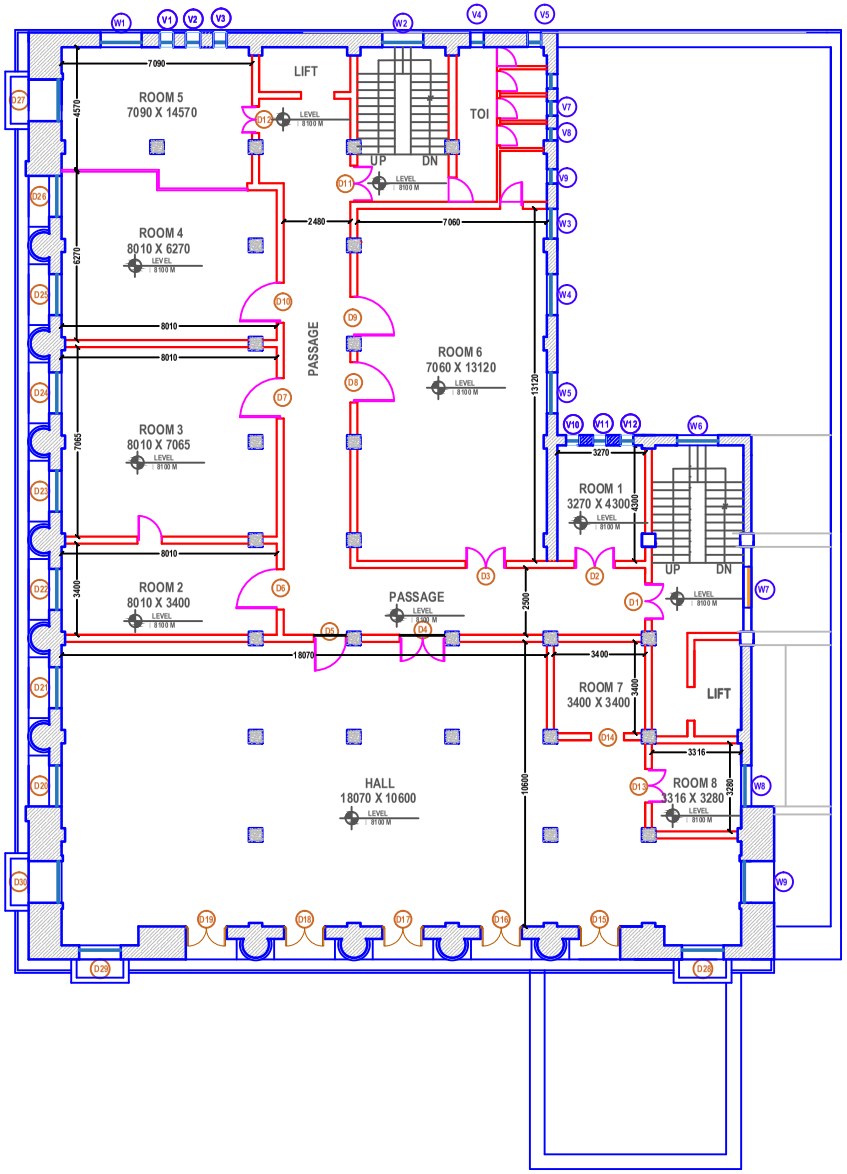
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR-MEZZANINE FLOOR

SCALE: 1: 100, REV 0 0 0 0 1

211

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FIRST FLOOR PLAN SCALE- 1:100

212

SCHEDULE OF WINDOWS

SR.NO.	NO.	PHOTOS	EXISTING CONDITION	RECOMMENDATION
1	W1		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
2	W2		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
3	W3		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
4	W4		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
5	W5		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
6	W6		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
7	W7		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
8	W8	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
9	W9		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
10	V1		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
11	V2		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
12	V3		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
13	V4	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
14	V5	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
15	V6		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
16	V7		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
17	V8		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
18	V9		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING
19	V10	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING
20	V11	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING
21	V12	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. ALL WOODEN WINDOWS TO BE RESTORED WITH ORIGINAL METAL WINDOW
5. GLASS OF ALL WINDOWS TO BE REPLACED

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-WINDOW-43 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
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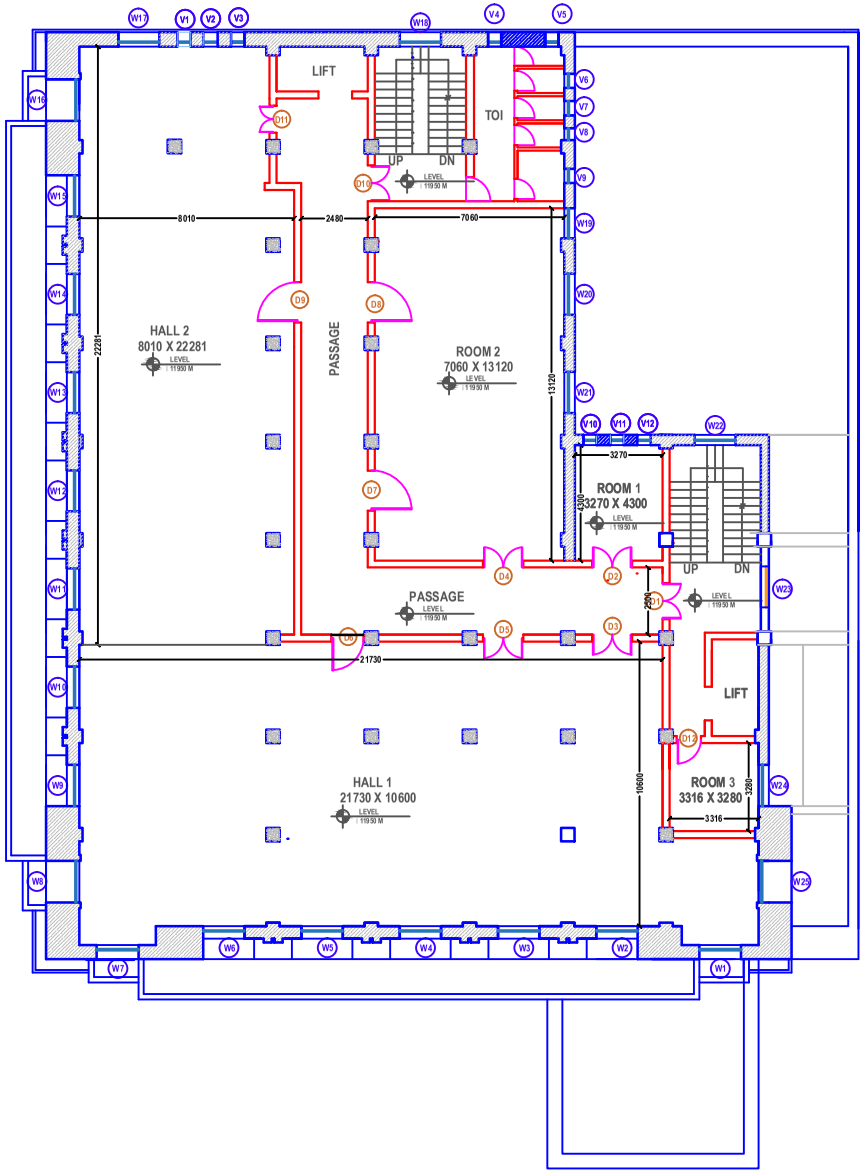
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR- FIRST FLOOR

SCALE: 1: 100, REV 0 0 0 0 1

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SECOND FLOOR PLAN SCALE- 1:100

SCHEDULE OF WINDOWS

SR.NO.	NO.	DESCRIPTION	PHOTOS	EXISTING CONDITION	RECOMMENDATION
1	W1	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
2	W2	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
3	W3	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
4	W4	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING REMOVAL OF CANOPY
5	W5	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING REMOVAL OF CANOPY
6	W6	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING REMOVAL OF CANOPY
7	W7	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
8	W8	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
9	W9	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
10	W10	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
11	W11	SOUTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
12	W12	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
13	W13	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
14	W14	SOUTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
15	W15	SOUTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
16	W16	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
17	W17	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
18	W18	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
19	V1	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
20	V2	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
21	V3	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
22	V4	NORTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
23	V5	NORTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
24	V6	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
25	V7	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
26	V8	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
27	V9	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
28	W19	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
29	W20	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
30	W21	WEST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
31	W22	NORTH SIDE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
32	W23	NORTH SIDE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
33	W24	NORTH SIDE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
34	W25	NORTH SIDE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-WINDOW-44				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

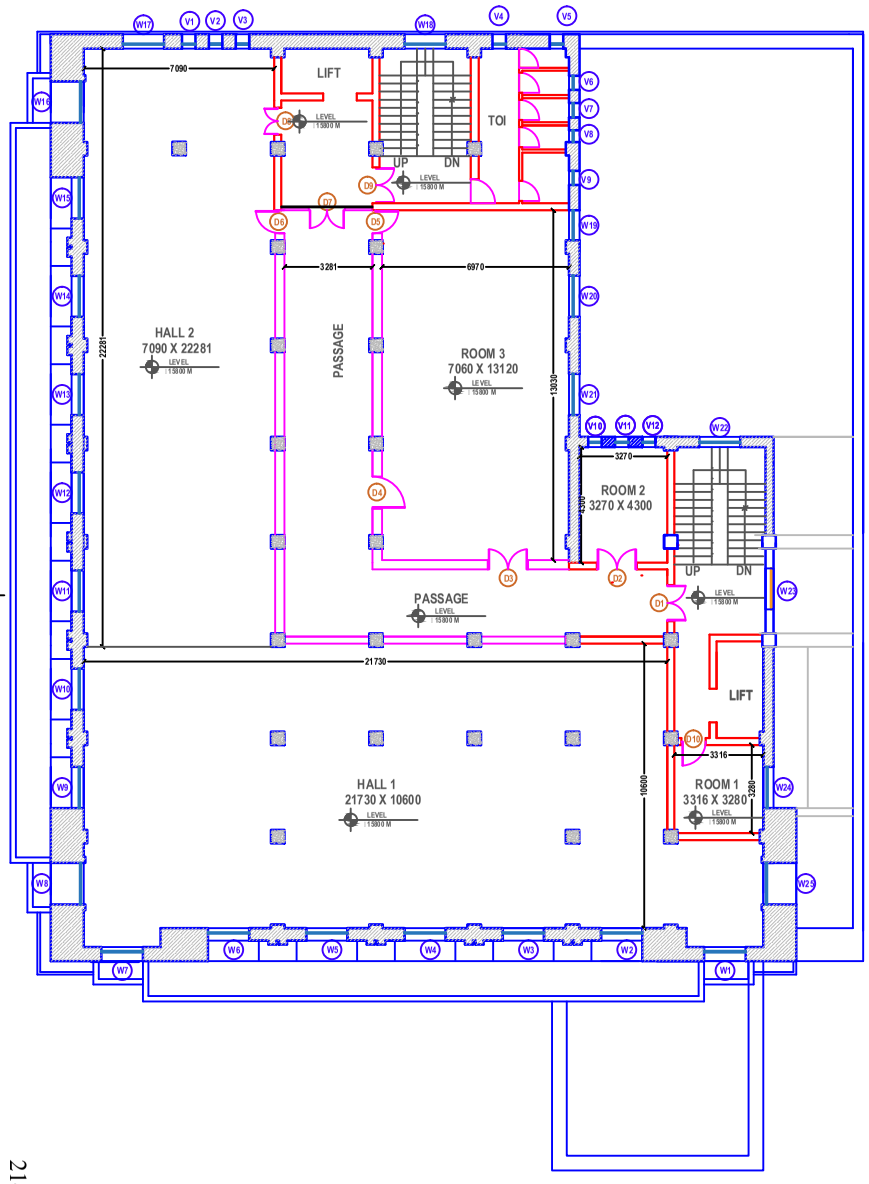
DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR- SECOND FLOOR

SCALE: 1: 100,

REV 0 0 0 0 1

213

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THIRD FLOOR PLAN SCALE- 1:100

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SCHEDULE OF WINDOWS

SR.NO.	NO.	DESCRIPTION	PHOTOS	EXISTING CONDITION	RECOMMENDATION
1	W1	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
2	W2	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
3	W3	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
4	W4	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
5	W5	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
6	W6	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
7	W7	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
8	W8	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
9	W9	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
10	W10	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
11	W11	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
12	W12	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
13	W13	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
14	W14	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
15	W15	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
16	W16	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
17	W17	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
18	V1	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
19	V2	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
20	V3	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
21	W18	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
22	V4	WEST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
23	V5	WEST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
24	V6	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
25	V7	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
26	V8	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
27	V9	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
28	W19	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
29	W20	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
30	W21	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
31	W24	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
32	W25	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-WINDOW-45 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

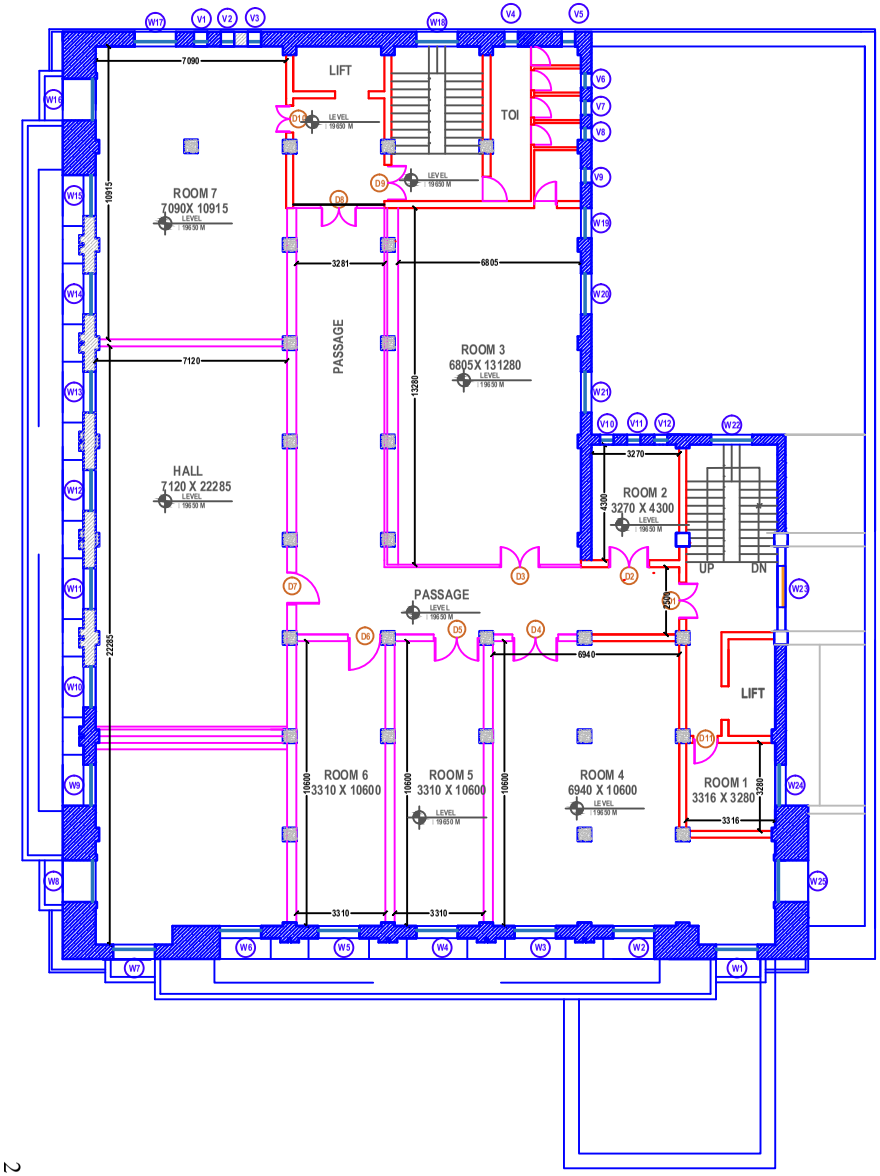
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR- THIRD FLOOR

SCALE: 1: 100, REV 0 0 0 0 1

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FOURTH FLOOR PLAN SCALE- 1:100

SCHEDULE OF WINDOWS

SR.NO.	NO.	DESCRIPTION	PHOTOS	EXISTING CONDITION	RECOMMENDATION
1	W1	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
2	W2	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
3	W3	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
4	W4	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
5	W5	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
6	W6	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
7	W7	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
8	W8	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
9	W9	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
10	W10	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
11	W11	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
12	W12	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
13	W13	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
14	W14	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
15	W15	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
16	W16	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
17	W17	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
18	V1	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
19	V2	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
20	V3	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
21	W18	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
22	V4	NORTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
23	V5	NORTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
24	V6	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
25	V7	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
26	V8	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
27	V9	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
28	W19	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
29	W21	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
30	V10	WEST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
31	V11	WEST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
32	V12	WEST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
33	W22	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
34	W24	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING
3	W25	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKENGLASS PANEL, CLEANING AND PAINTING

NOTE :-

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2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-WINDOW-46 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

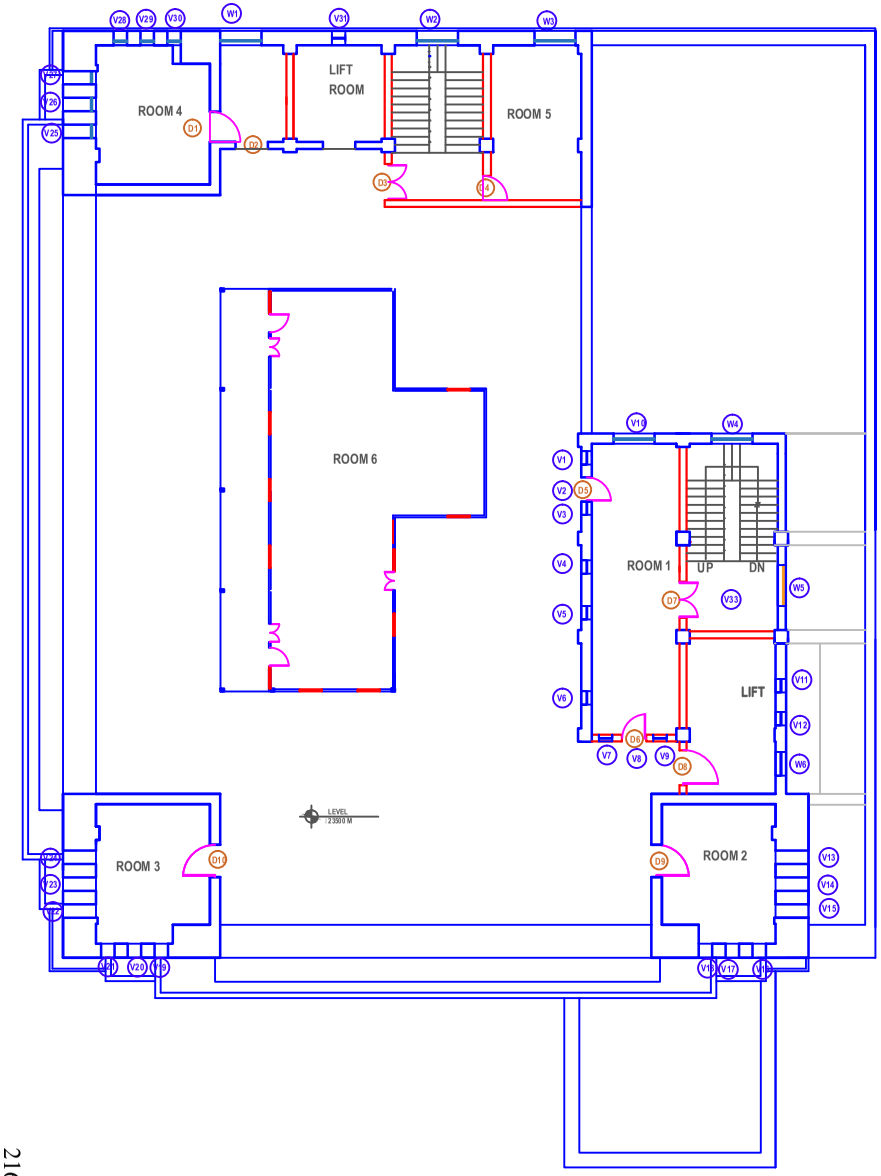
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR FOURTH FLOOR

SCALE: 1: 100, REV 0 0 0 0 1

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TERRACE FLOOR PLAN SCALE- 1:100

SCHEDULE OF WINDOWS

SR.NO.	NO.	DESCRIPTION	PHOTOS	EXISTING CONDITION	RECOMMENDATION
1	W1	WEST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
2	W2	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
3	W3	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
4	W4	EAST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
5	W5	EAST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
6	W6	SOUTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
7	V1	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
8	V2	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
9	V3	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
10	V4	WEST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
11	V5	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
12	V6	WEST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
13	V7	WEST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
14	V8	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
15	V9	NORTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
16	V10	NORTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
17	V11	NORTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
18	V12	EAST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
19	V13	EAST SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
20	V14	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
21	V15	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
22	V16	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
23	V17	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
24	V18	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
25	V19	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
26	V20	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
27	V21	SOUTH SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
28	V22	WEST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
29	V23	WEST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
30	V24	WEST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
31	V25	EAST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
32	V26	EAST SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
33	V27	SOUTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
34	V28	SOUTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
35	V29	SOUTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING
36	V30	SOUTH SIDE STONE WALL	NA	BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-WINDOW-47 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

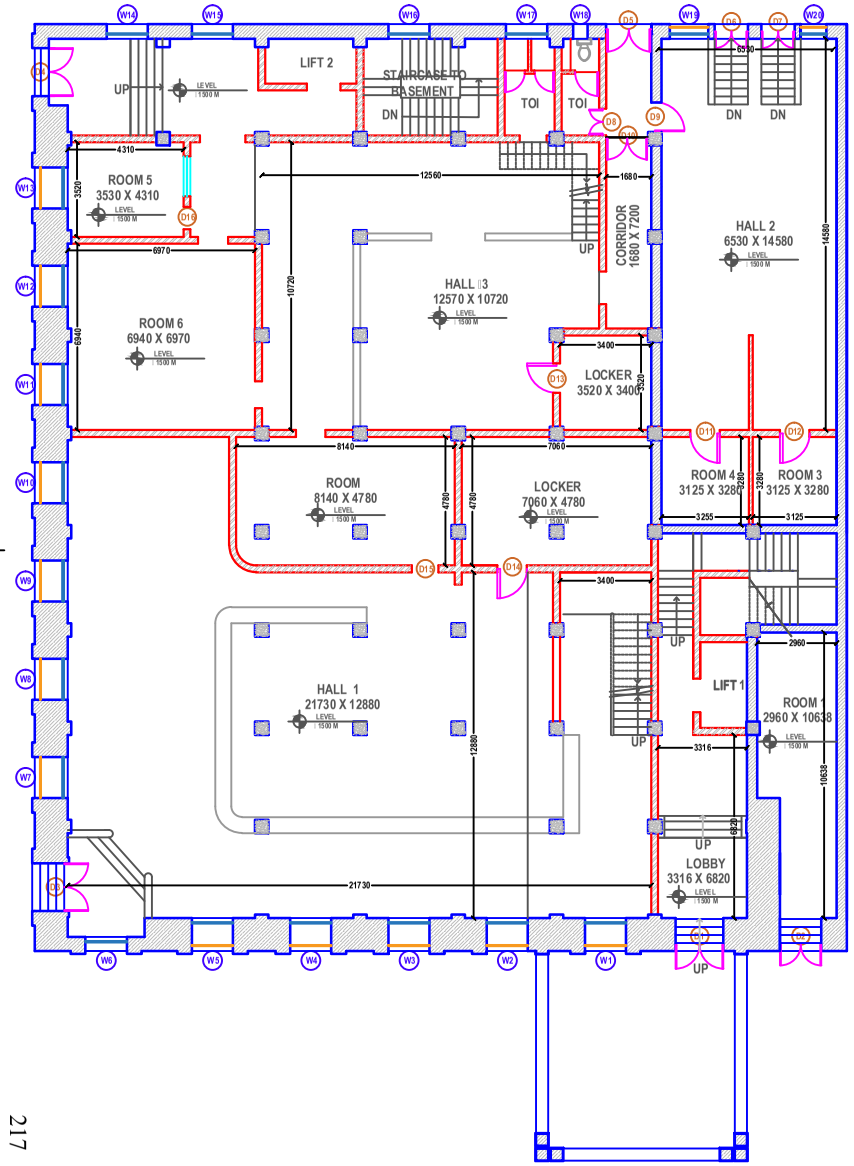
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR - TERRACE FLOOR

SCALE: 1: 100, REV 0 0 0 0 1

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GROUND FLOOR PLAN SCALE- 1:100

SCHEDULE OF DOOR

SR.NO.	NO.	DESCRIPTION	PHOTOS	EXISTING CONDITION	RECOMMENDATION	REMARK
1	D1	ENTRANCE FROM PORCH SIDE		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
2	D2	ROOM 1		BAD	REPLACEMENT OF DOOR	
3	D3	ENTRANCE LOBBY OF MAIN HALL		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
4	D4	ENTRANCE LOBBY OF LIFT 2		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
5	D5	BACK SIDE ENRTY		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
6	D6	BACK SIDE HALL 2 ENTRY		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
7	D7	BACK SIDE HALL ENTRY		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
8	D8	BACK SIDE TOILET		BAD	REPLACEMENT OF DOOR	
9	D9	BACK SIDE ENTRY FROM CORRIDOR		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
10	D10	ENTRY OF HALL 3		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
11	D11	ROOM 2		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
12	D12	ROOM 3		BAD	REPLACEMENT OF DOOR	
13	D13	SMALL LOCKER ROOM		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
14	D14	LARGE LOCKER ROOM		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
15	D15	NEAR HALL 1		--	--	
16	D16	ROOM 5		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-DOOR-48 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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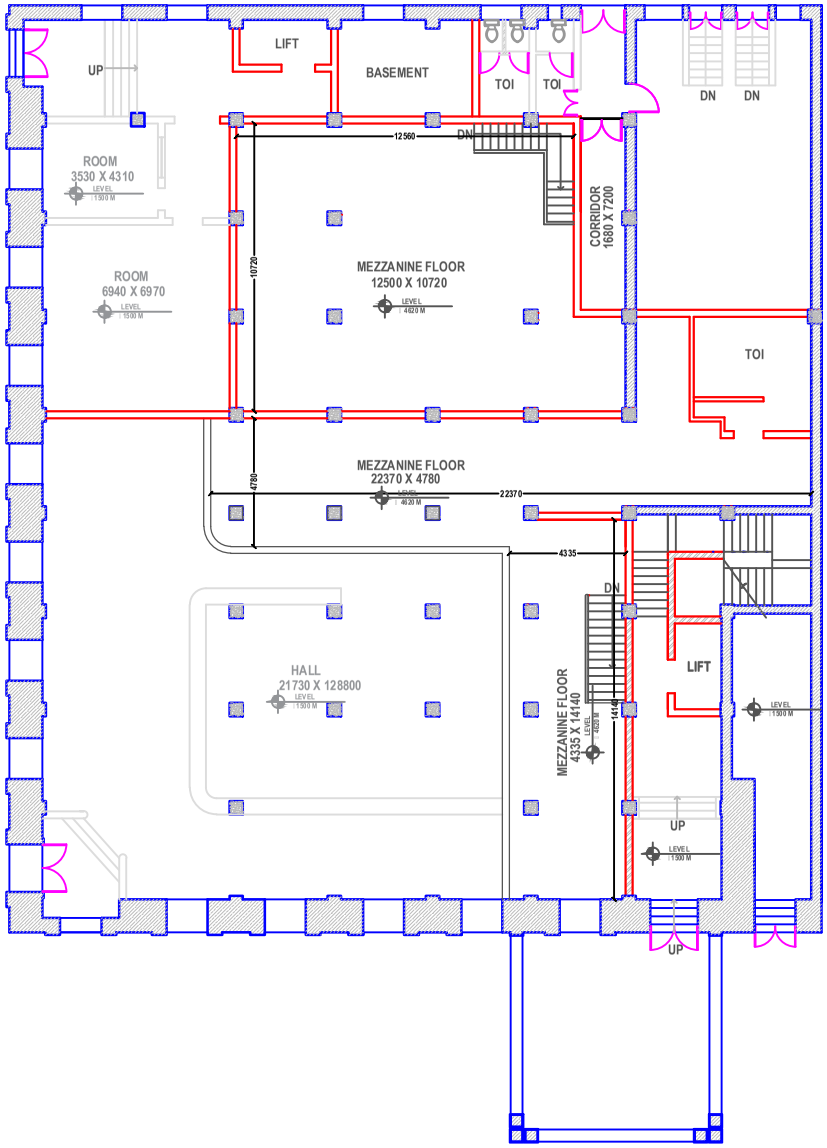
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR-GROUND FLOOR

SCALE: 1: 100, REV 0 0 0 0 1

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MEZZANINE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-DOOR-49				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

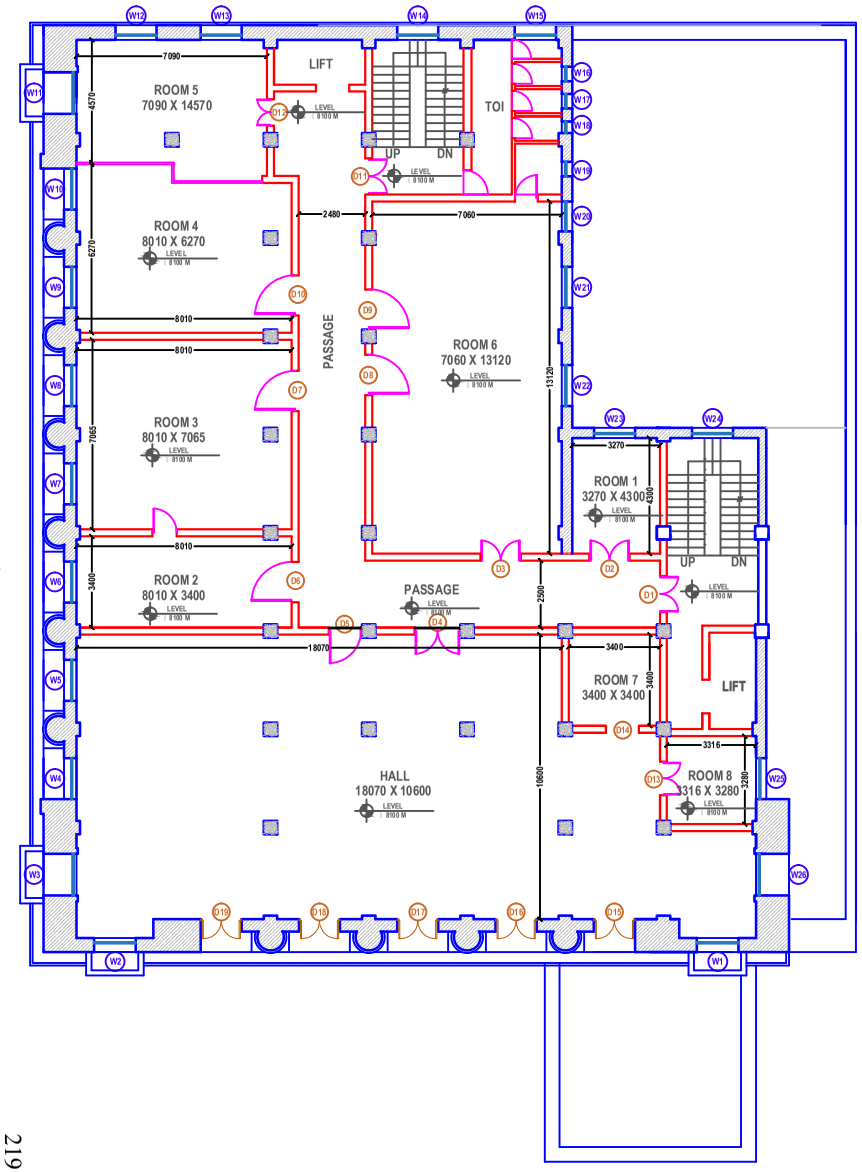
CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR-MEZZANINE FLOOR

SCALE: 1: 100, REV 0 0 0 0 1



FIRST FLOOR PLAN SCALE- 1:100

219

SCHEDULE OF DOOR

SR.NO.	NO.	DESCRIPTION	PHOTOS	EXISTING CONDITION	RECOMMENDATION	ITEMS	REMARKS
1	D1	NEAR STAIRECASE		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT		
2	D2	ROOM 1		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT		
3	D3	ROOM 6		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT		
4	D4	HALL		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	WOODEN	
5	D5	HALL		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	WOODEN	
6	D6	ROOM 2		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	WOODEN	
7	D7	ROOM 3		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	WOODEN	
8	D8	ROOM 6		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	WOODEN	
9	D9	ROOM 6		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	WOODEN	
10	D10	ROOM 4		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT		
11	D11	NEAR STAIRECASE		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT		
12	D12	ROOM 5		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT		
13	D13	ROOM 8		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT		
14	D14	ROOM 7		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT		
15	D15	FRONT SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING	GLASS	
16	D16	FRONT SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING	GLASS	
17	D17	FRONT SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING	GLASS	
18	D18	FRONT SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING	GLASS	
19	D19	FRONT SIDE STONE WALL		BROKEN GLASS PANEL, HEAVY DUST AND RUSTING	REPLACE BROKEN GLASS PANEL, CLEANING AND PAINTING	GLASS	

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-DOOR-50				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

NORTH

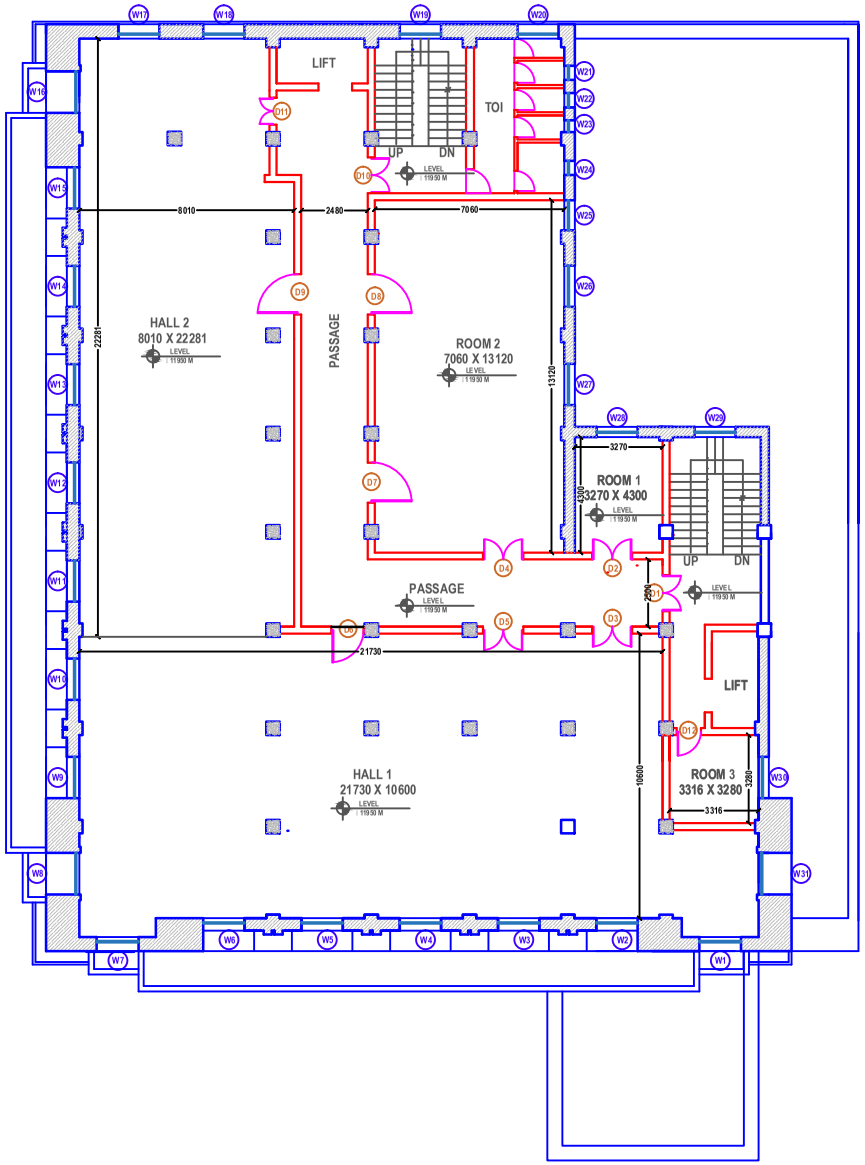
PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR- FIRST FLOOR

SCALE: 1: 100,

REV 0 0 0 0 1

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220

SECOND FLOOR PLAN SCALE- 1:100

SCHEDULE OF DOOR

SR.NO.	NO.	DESCRIPTION	PHOTOS	EXISTING CONDITION	RECOMMENDATION	REMARKS
1	D1	NEAR STAIRECASE		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
2	D2	ROOM 2		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
3	D3	HALL 1		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
4	D4	ROOM 3		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
5	D5	HALL 1		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
6	D6	HALL 1		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
7	D7	ROOM 2		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
8	D8	ROOM 2		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
9	D9	HALL 2		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
10	D10	STAIRECASE		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
11	D11	HALL 2		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
12	D12	ROOM 3		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-DOOR-51 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPEMENT CORPORATION PVT LTD.
MUMBAI

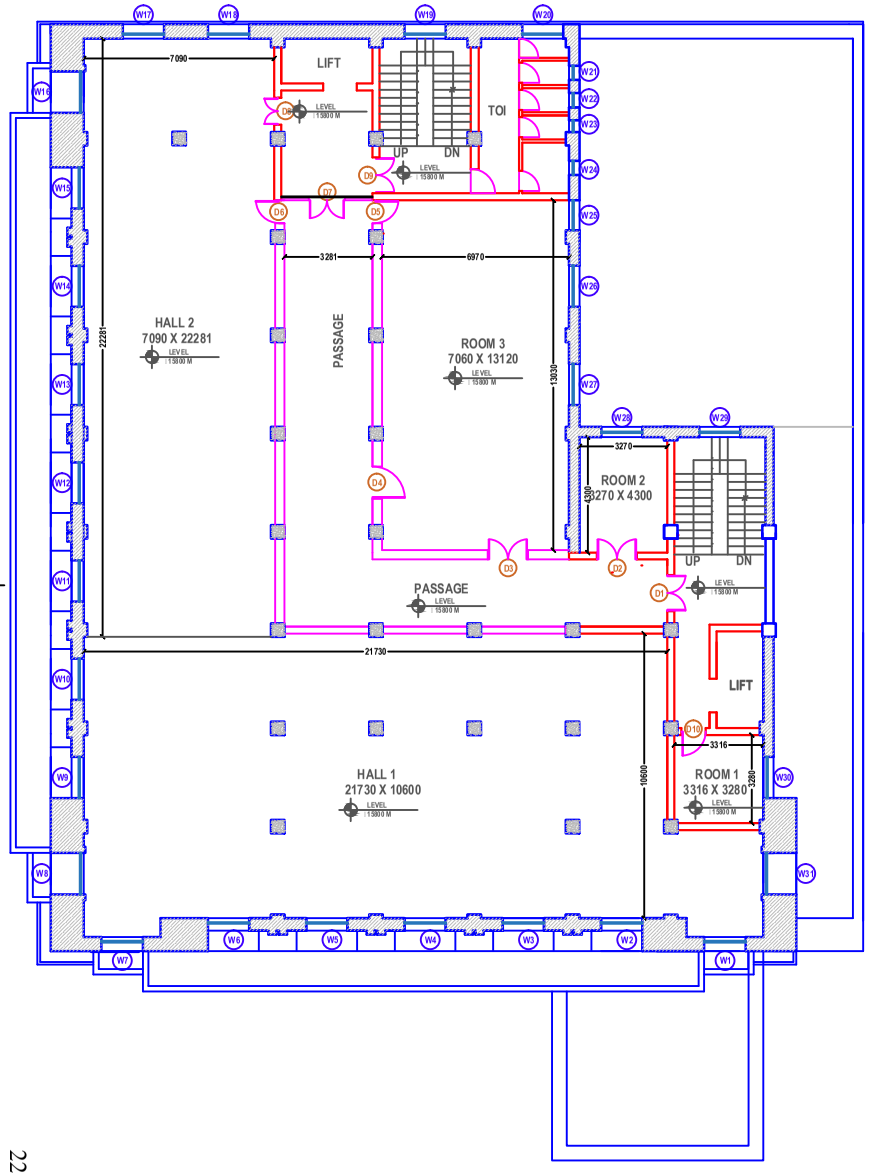
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR- SECOND FLOOR

SCALE: 1: 100, REV 0 0 0 0 1

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221

THIRD FLOOR PLAN SCALE- 1:100

SCHEDULE OF DOOR

SR.NO.	NO.	DESCRIPTION	PHOTOS	EXISTING CONDITION	RECOMMENDATION	REMARKS
1	D1	NEAR STAIRECASE		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
2	D2	ROOM 2		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
3	D3	ROOM 3		BAD	REPLACEMENT OF DOOR	
4	D4	ROOM 3		BAD	REPLACEMENT OF DOOR	
5	D5	ROOM 3		BAD	REPLACEMENT OF DOOR	
6	D6	HALL 2		BAD	REPLACEMENT OF DOOR	
7	D7	PASSAGE		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
8	D8	HALL 2		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
9	D9	STAIRECASE		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
10	D10	ROOM 1		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-DOOR-52 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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MUMBAI

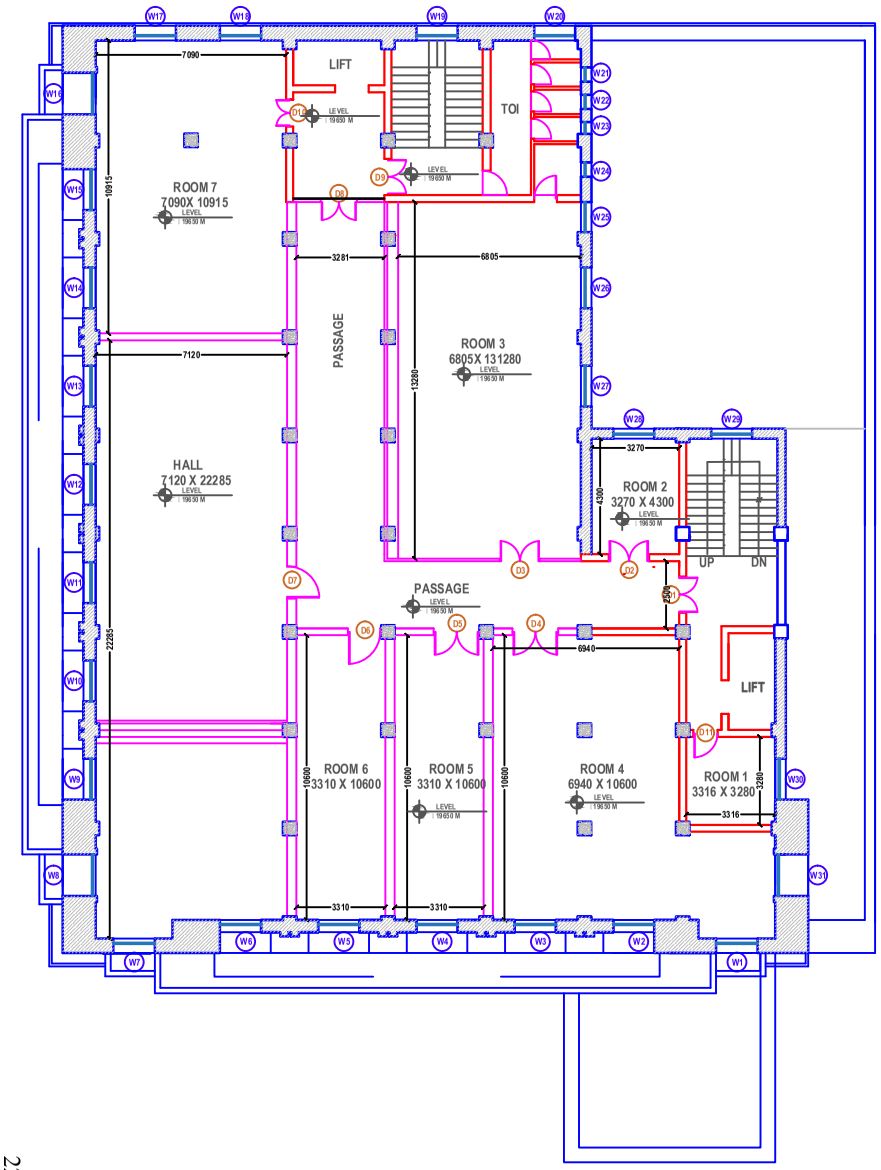
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR- THIRD FLOOR

SCALE: 1: 100, REV 0 0 0 0 1

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FOURTH FLOOR PLAN SCALE- 1:100

222

SCHEDULE OF DOOR

SR.NO.	NO.	DESCRIPTION	PHOTOS	EXISTING CONDITION	RECOMMENDATION	REMARKS
1	D1	NEAR STAIRECASE		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
2	D2	ROOM 2		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
3	D3	ROOM 3		BAD	REPLACEMENT OF DOOR	
4	D4	ROOM 4		BAD	REPLACEMENT OF DOOR	
5	D5	ROOM 5		BAD	REPLACEMENT OF DOOR	
6	D6	ROOM 6		BAD	REPLACEMENT OF DOOR	
7	D7	HALL		BAD	REPLACEMENT OF DOOR	
8	D8	PASSAGE		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
9	D9	ROOM 7		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
10	D10	STAIRECASE		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
11	D11	ROOM 1		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-DOOR-53 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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MUMBAI

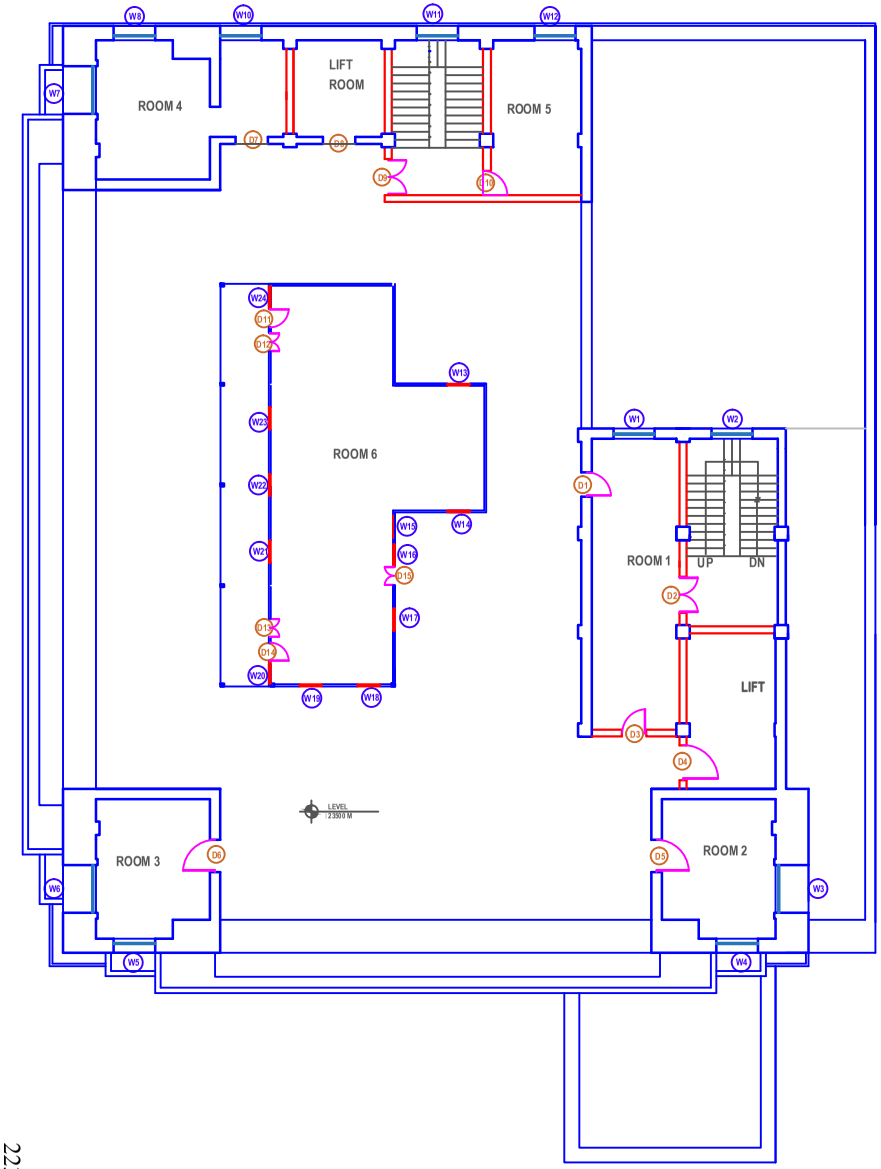
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR FOURTH FLOOR

SCALE: 1: 100, REV 0 0 0 0 1

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TERRACE FLOOR PLAN SCALE- 1:100

223

SCHEDULE OF DOOR

SR.NO.	NO.	DESCRIPTION	PHOTOS	EXISTING CONDITION	RECOMMENDATION	REMARKS
1	D1	ROOM 1		BAD	REPLACEMENT OF DOOR	
2	D2	STAIRECASE		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
3	D3	ROOM 1		BAD	REPLACEMENT OF DOOR	
4	D4	LIFT A		BAD	REPLACEMENT OF DOOR	
5	D5	ROOM 2		BAD	REPLACEMENT OF DOOR	
6	D6	ROOM3		BAD	REPLACEMENT OF DOOR	
7	D7	ROOM 4		BAD	REPLACEMENT OF DOOR	
8	D8	LIFT B		BAD	REPLACEMENT OF DOOR	
9	D9	STAIRECASE		BAD	REPLACEMENT OF DOOR	
10	D10	ROOM 5		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
11	D11	ROOM 6		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
12	D12	ROOM 6		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
13	D13	ROOM 6		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
14	D14	ROOM 6		GOOD	CLEANING, SCRAPPING, AND TWO COATS OF OIL BASED PAINT	
15	D15	ROOM 6		BAD	REPLACEMENT OF DOOR	

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-DOOR-54 | DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

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MUMBAI

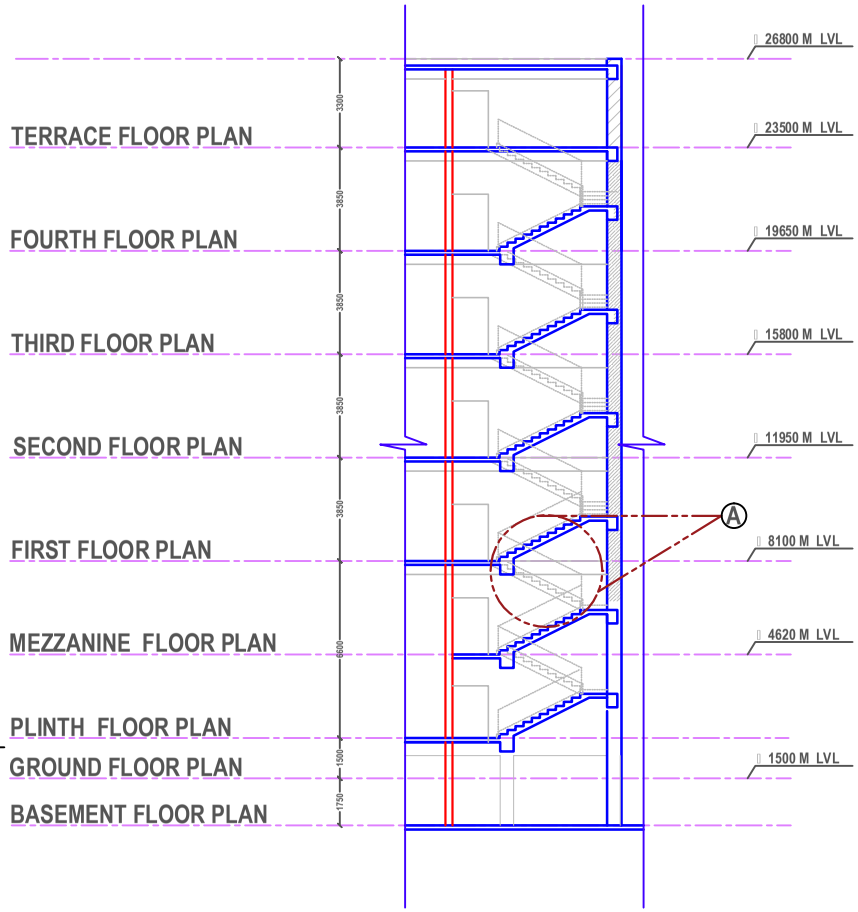
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

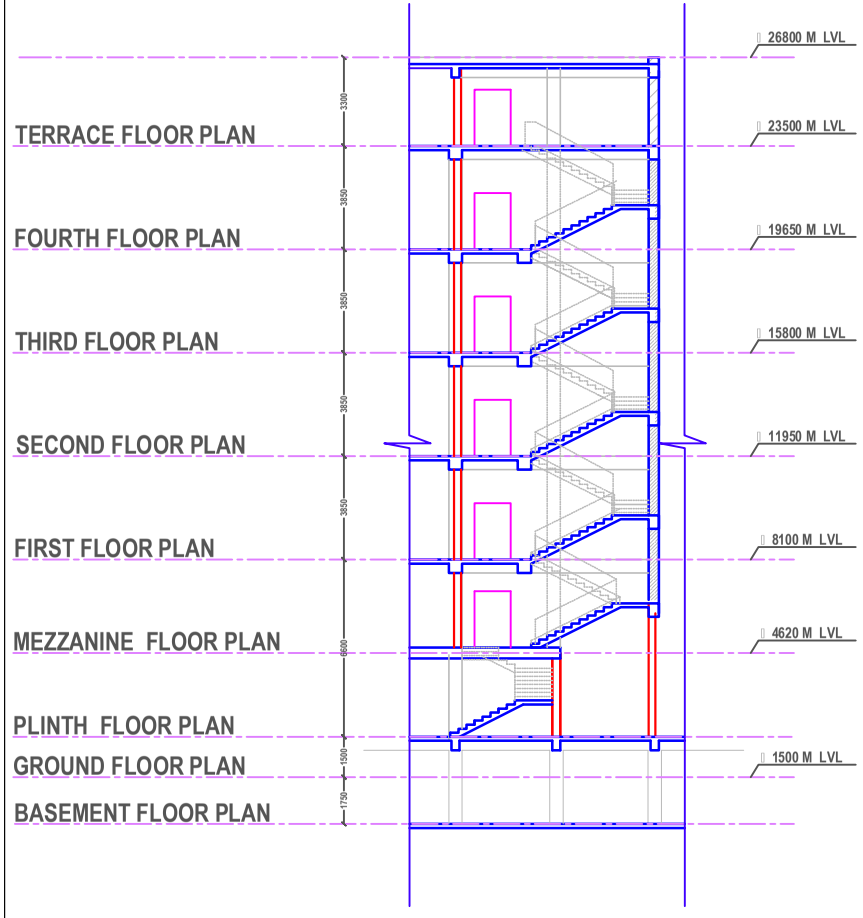
DRAWING TITLE: PROPOSED REPAIR OF WINDOWS AND DOOR - TERRACE FLOOR

SCALE: 1: 100, REV 0 0 0 0 1

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SECTION A SCALE- 1:100



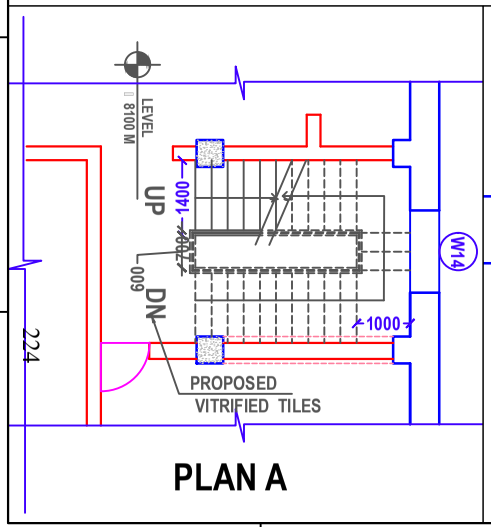
SECTION B SCALE- 1:100

NOTE :-

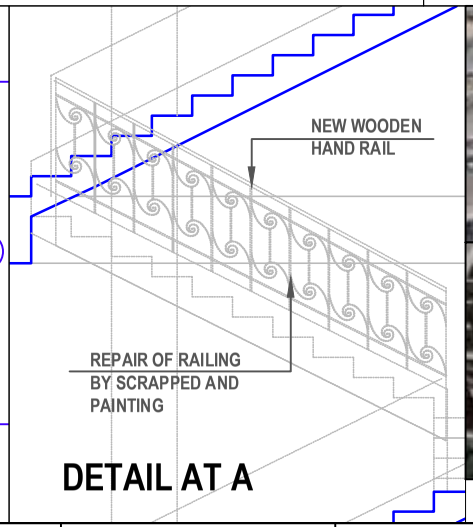
1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

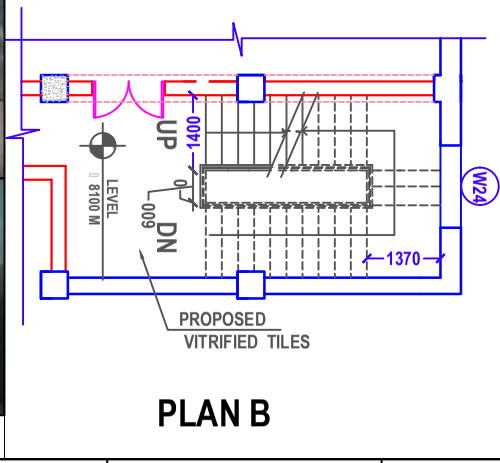


PLAN A



DETAIL AT A





PLAN B

DRAWING NO: LIC-STAIRCASE-55					DATE: 05/04/2018
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
5-4-18	01	EASHAN W	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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MUMBAI

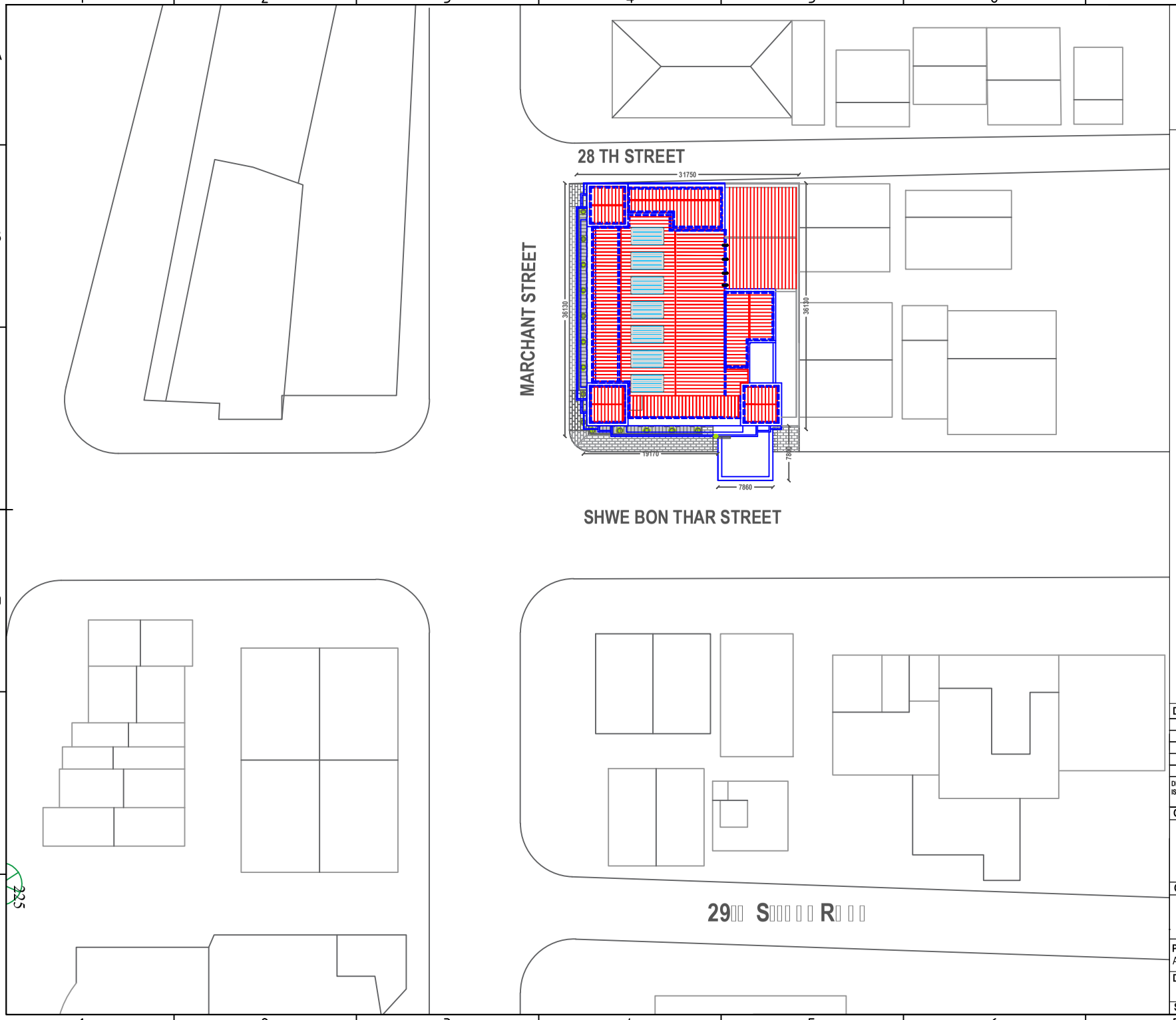
NORTH

PROJECT NAME: RENNOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: PROPOSED REPAIR OF STAIRCASE

SCALE: 1: 100, REV 0 0 0 0 1

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NOTE :-

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LEGEND :-

EXISTING BUILDINGS

DRAWING NO: LIC-SITE-56 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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MUMBAI

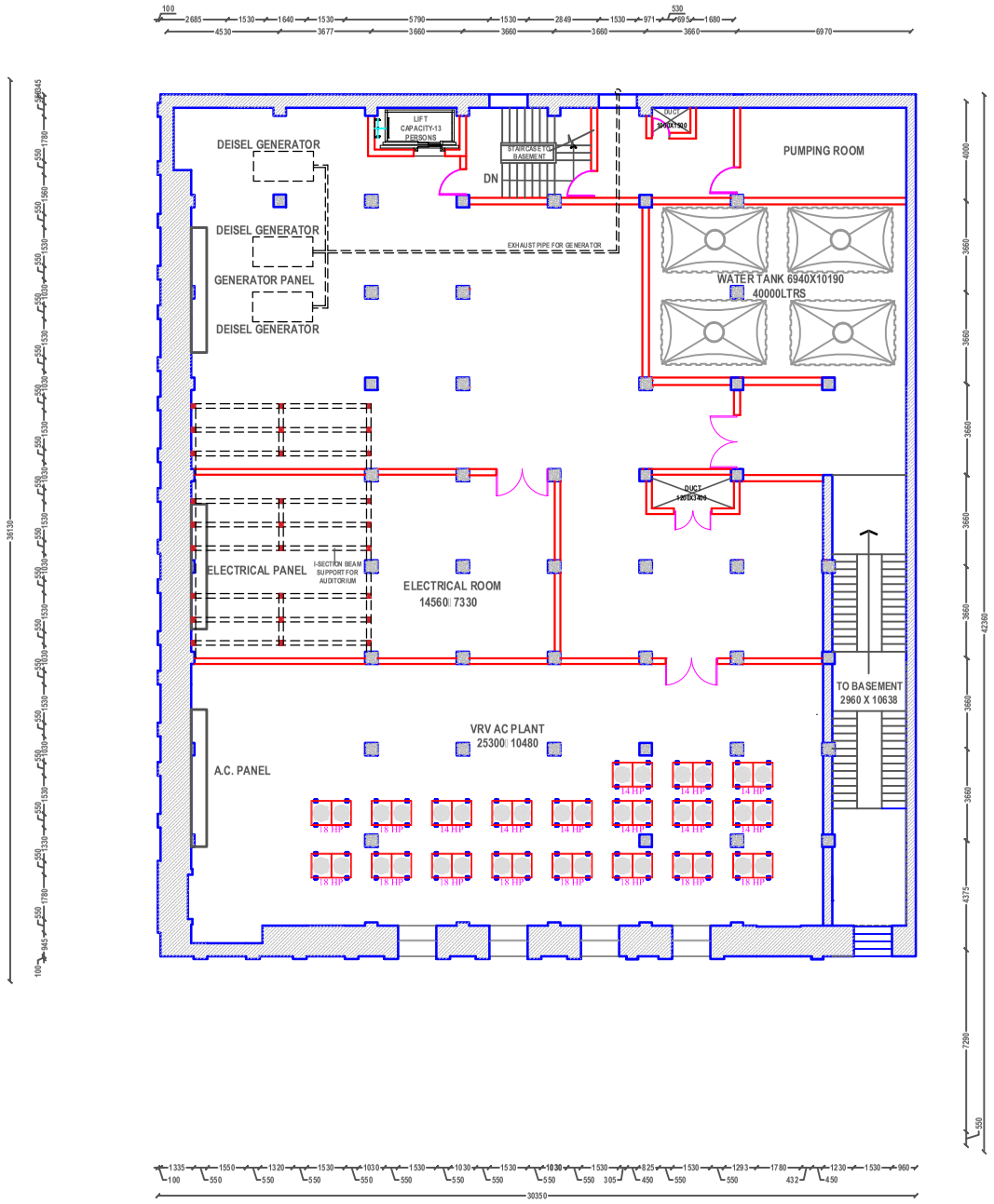
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SITE PLAN

SCALE: 1: 100 **REV** 0 0 0 0 3

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BASEMENT FLOOR PLAN SCALE- 1:100

AREA OF BASEMENT FLOOR		
SR. NO.	DISCRIPTION	AREA
1	ELECTRICAL ROOM	106.72 SQ.M
2	VRV AC PLANT	265.14 SQ.M
3	WATER TANK ROOM	71.55 SQ.M

AREA OF STAIRCASE BASEMENT FLOOR		
SR. NO.	DISCRIPTION	AREA
1	EMERGENCY ESCAPE STAIRCASE	18.00 SQ.M
2	STAIRCASE	44.04 SQ.M

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-BASE-5 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
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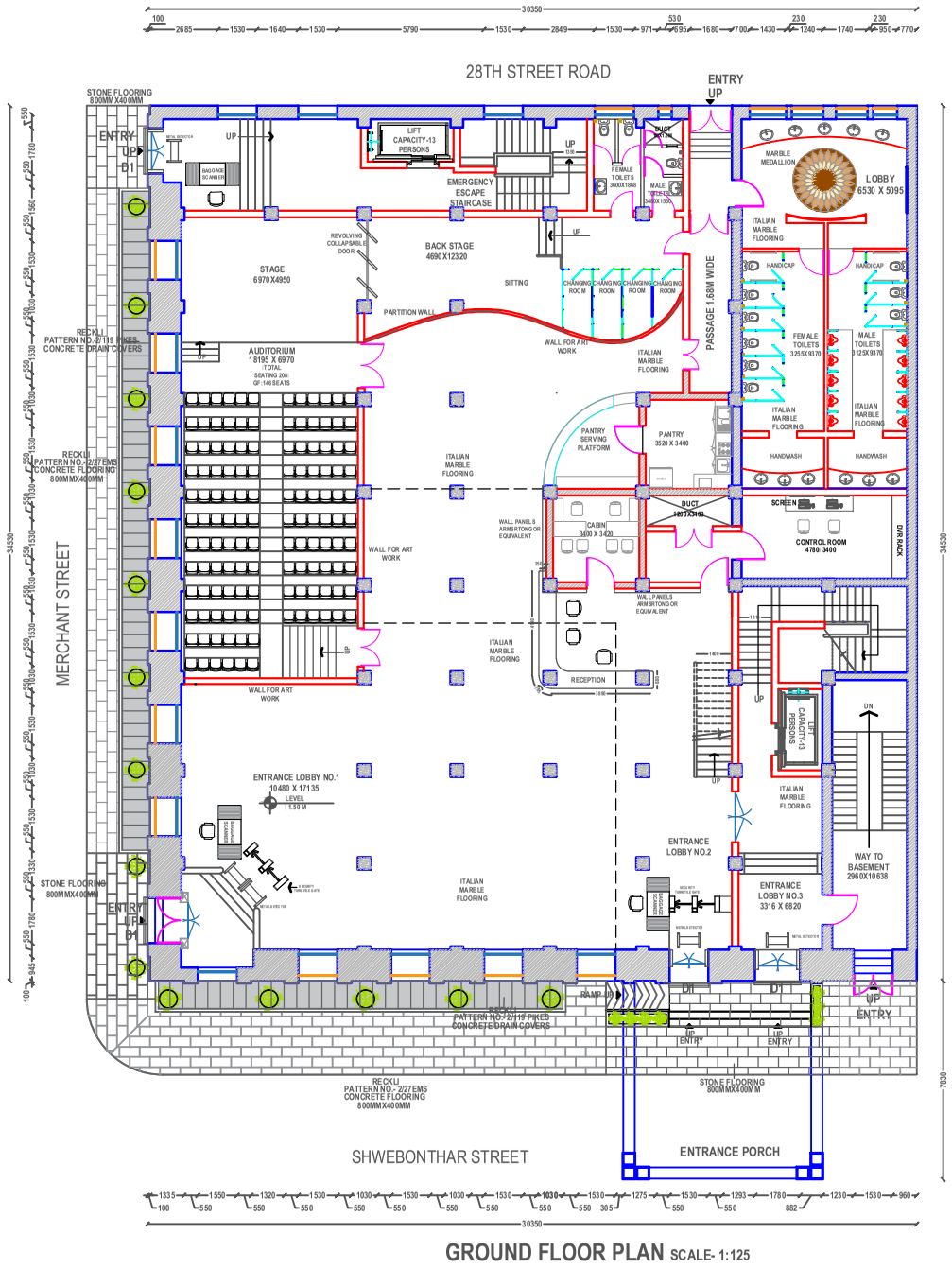
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: BASEMENT FLOOR PLAN

SCALE: 1: 100 REV 0 0 0 0 3

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GROUND FLOOR PLAN SCALE- 1:125

AREA STATEMENT GROUND FLOOR		
SR. NO.	DISCRIPTION	AREA
1	ENTRANCE LOBBY NO.1	311.10 SQ.M
2	ENTRANCE LOBBY NO.2	58.86 SQ.M
3	ENTRANCE LOBBY NO.3	22.57 SQ.M
4	ENTRANCE LOBBY NO.4	28.04 SQ.M
5	AUDITORIUM	137.58 SQ.M
6	TOILETS	107.27 SQ.M
7	CABIN	15.02 SQ.M
8	PANTRY	24.42 SQ.M
9	CONTROL ROOM	16.25 SQ.M
10	PASSAGE	18.73 SQ.M
	TOTAL AREA	723.59 SQ.M

AREA OF STAIRCASE GROUND FLOOR		
SR. NO.	DISCRIPTION	AREA
1	EMERGENCY ESCAPE STAIRCASE	18 SQ.M
2	STAIRCASE	20.81 SQ.M

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-GROUND-58 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-9-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

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MYANMAR

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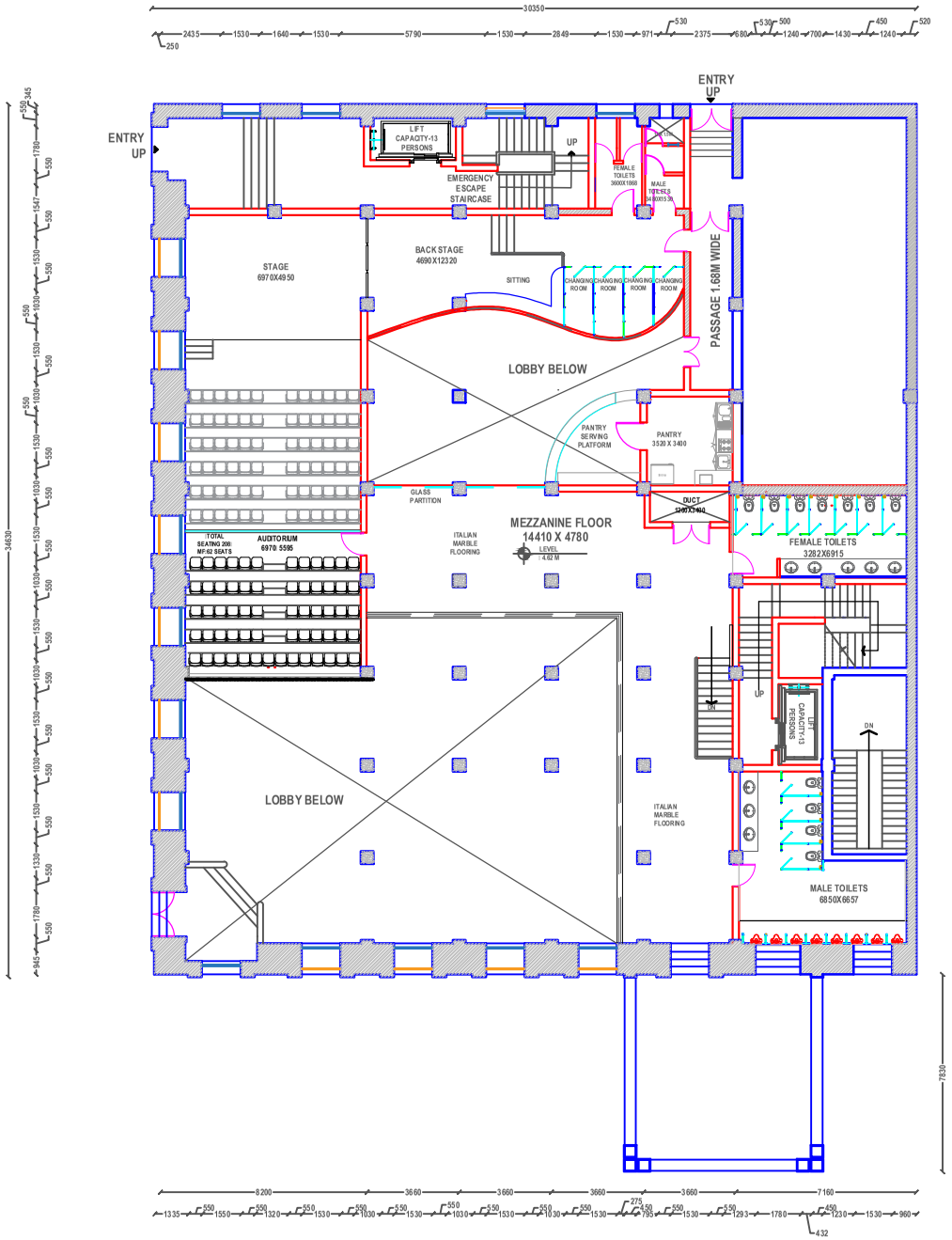
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: GROUND FLOOR PLAN

SCALE: 1: 100 **REV** 0 0 0 0 3

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MEZZANINE FLOOR PLAN SCALE- 1:100

AREA STATEMENT MEZZANINE FLOOR		
SR. NO.	DISCRIPTION	AREA
1	LOBBY	121.39 SQ.M
2	AUDITORIUM VIP SEATING	38.97 SQ.M
3	TOILETS	69.03 SQ.M
	TOTAL AREA	229.39 SQ.M

AREA OF STAIRCASE MEZZANINE FLOOR		
SR. NO.	DISCRIPTION	AREA
1	STAIRCASE	05.52 SQ.M

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-ME□□-5□ DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

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MUMBAI

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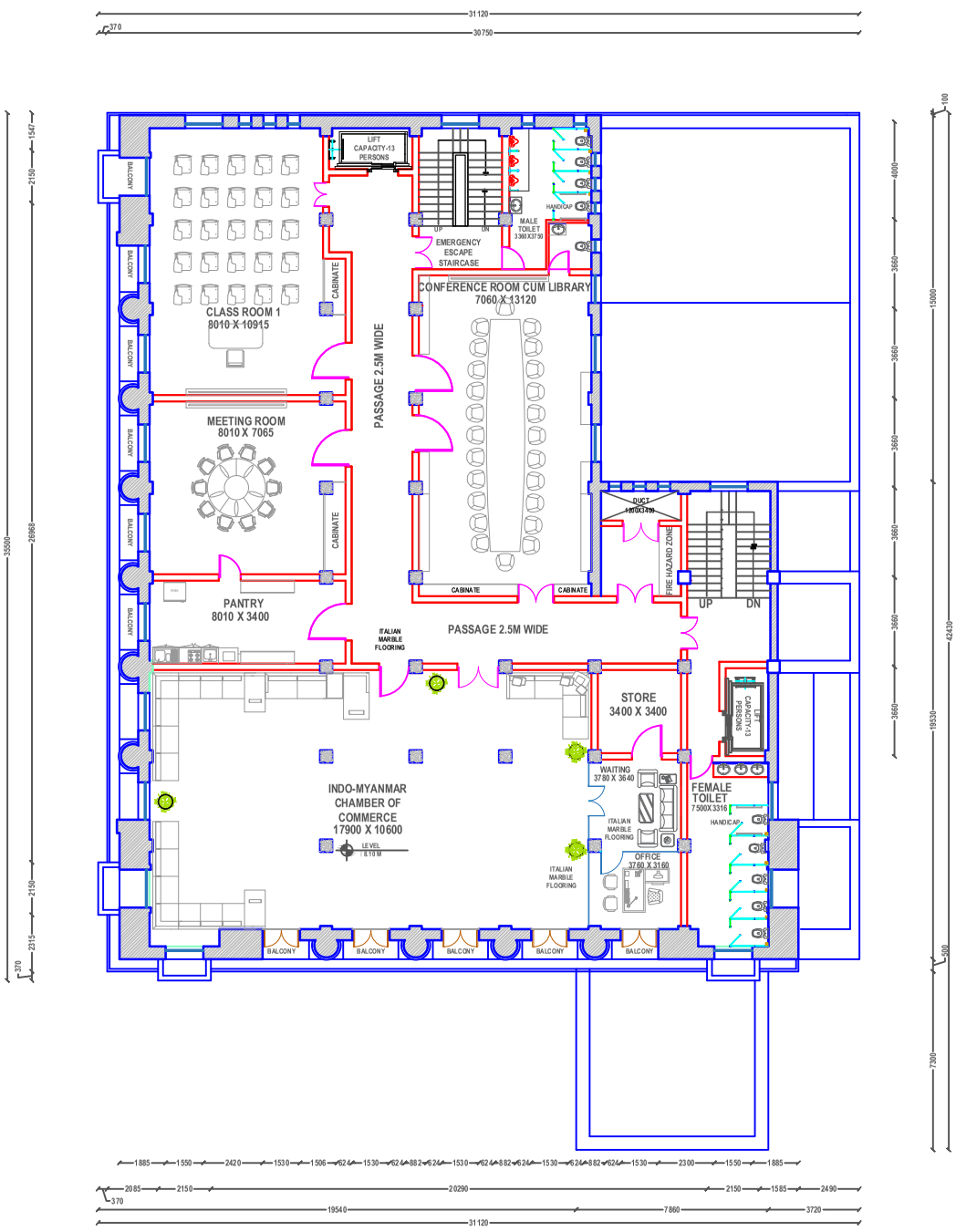
PROJECT NAME:PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ME□□ANINE FLOOR PLAN

SCALE: 1: 100

REV 0 0 0 0 3

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FIRST FLOOR PLAN SCALE- 1:100

AREA STATEMENT FIRST FLOOR		
SR. NO.	DISCRIPTION	AREA
1	CLASS ROOM 1	87.38 SQ.M
2	MEETING ROOM	56.55 SQ.M
3	PANTRY	28.83 SQ.M
4	CHAMBER OF COMMERCE	189.74 SQ.M
5	OFFICE	11.88 SQ.M
6	WAITING	13.75 SQ.M
7	CONFERENCE ROOM/LIBRARY	92.62 SQ.M
8	STORE	25.62 SQ.M
9	TOILETS	44.17 SQ.M
10	PASSAGE	79.30 SQ.M
	TOTAL AREA	629.84 SQ.M

AREA OF STAIRCASE FIRST FLOOR		
SR. NO.	DISCRIPTION	AREA
1	EMERGENCY ESCAPE STAIRCASE	19.58 SQ.M
2	STAIRCASE	23.60 SQ.M

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FIRST-60 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
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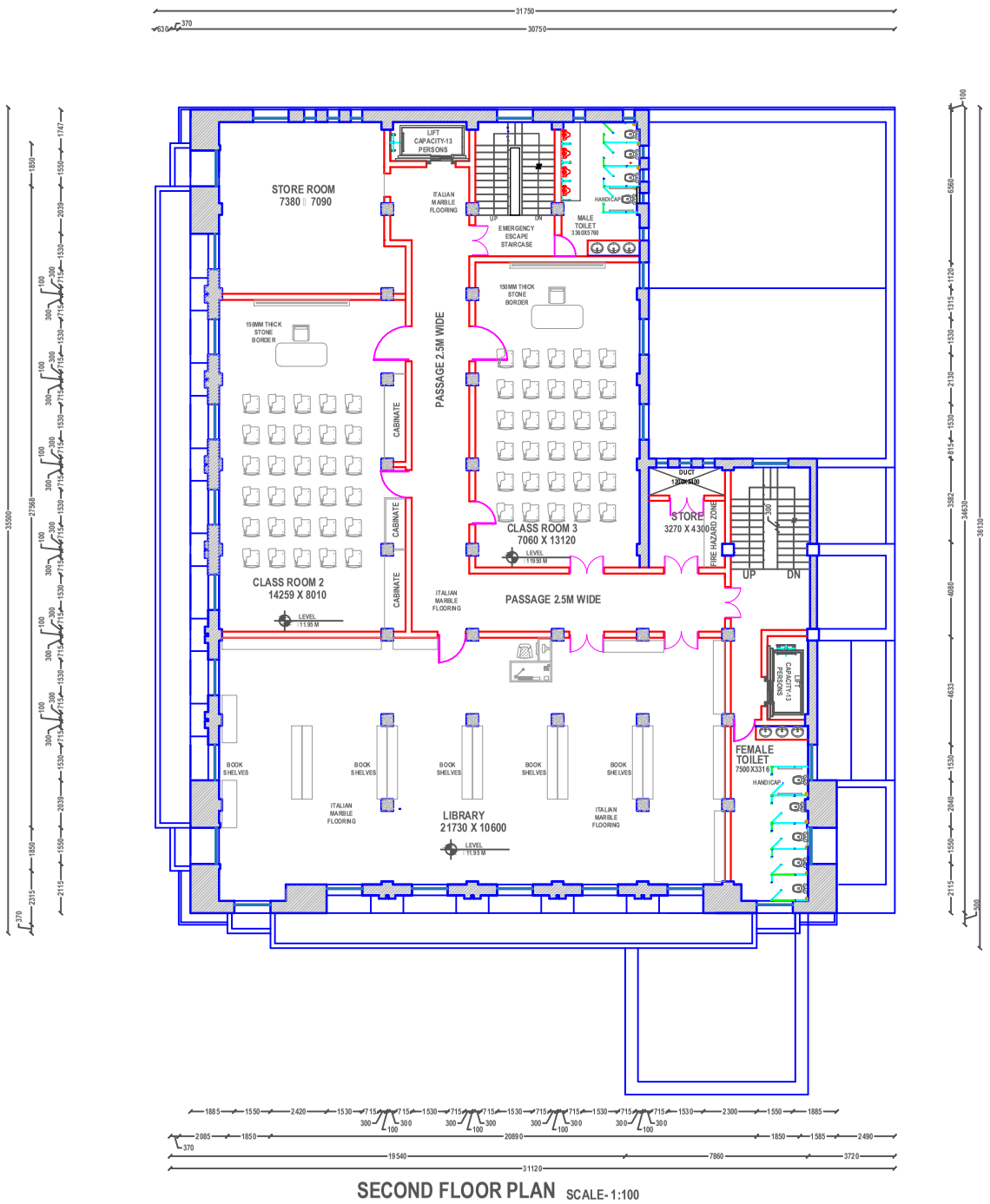
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FIRST FLOOR PLAN

SCALE: 1: 100 **REV** 0 0 0 0 3

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SECOND FLOOR PLAN SCALE- 1:100

AREA STATEMENT SECOND FLOOR		
SR. NO.	DISCRIPTION	AREA
1	CLASS ROOM 2	114.14 SQ.M
2	CLASS ROOM 3	92.62 SQ.M
3	LIBRARY	230.33 SQ.M
4	TOILETS	44.17 SQ.M
5	PASSAGE	79.30 SQ.M
6	STORAGE AREA	13.75 SQ.M
7	CONFERENCE ROOM/LIBRARY	92.62 SQ.M
8	STORE	66.33 SQ.M
	TOTAL AREA	733.26 SQ.M

AREA OF STAIRCASE SECOND FLOOR		
SR. NO.	DISCRIPTION	AREA
1	EMERGENCY ESCAPE STAIRCASE	19.58 SQ.M
2	STAIRCASE	23.60 SQ.M

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-SECOND-61 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

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MYANMAR

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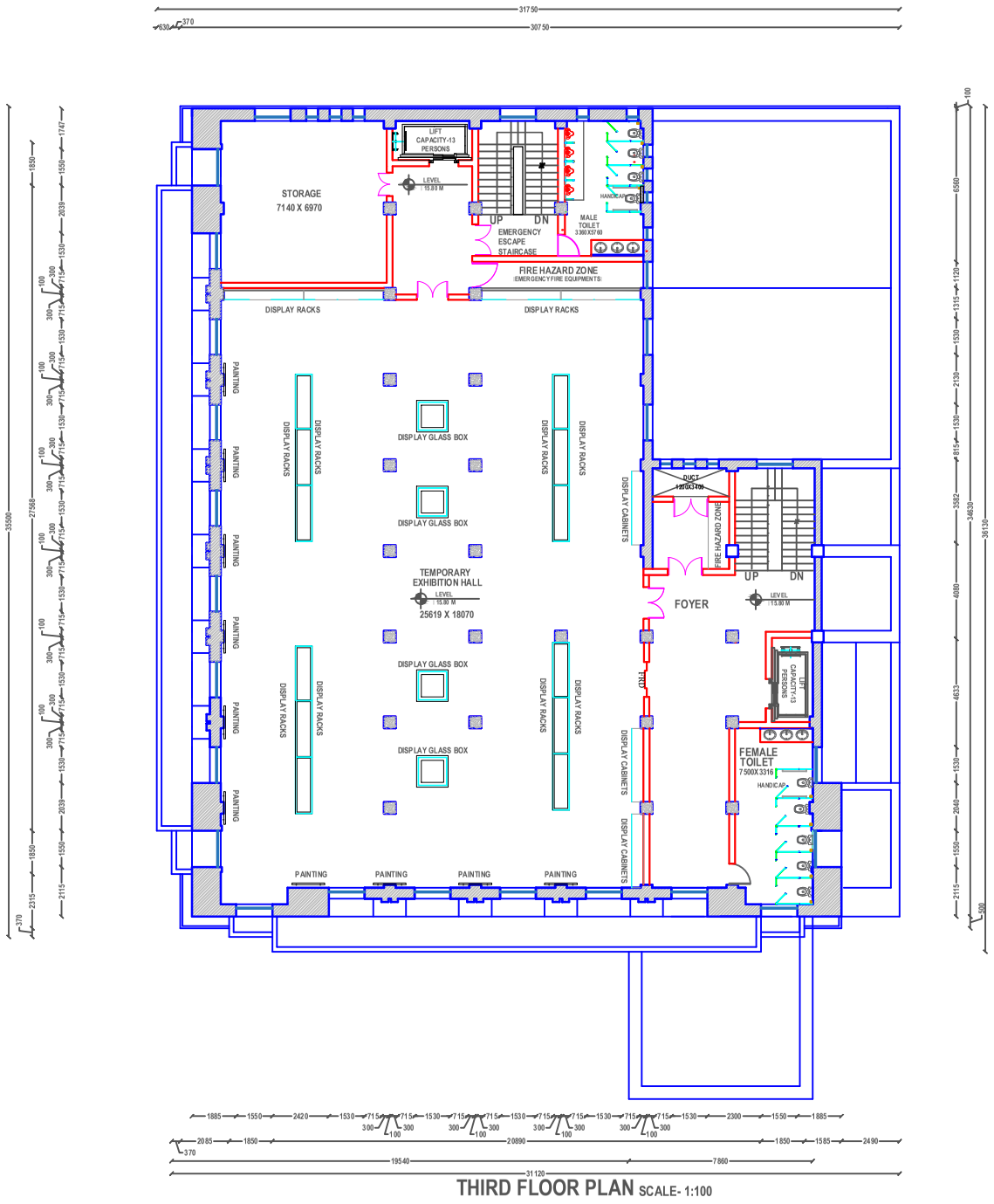
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SECOND FLOOR PLAN

SCALE: 1: 100 **REV** 0 0 0 0 3

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AREA STATEMENT THIRD FLOOR		
SR. NO.	DISCRIPTION	AREA
1	TEMPORARY EXHIBITION	462.77 SQ.M
2	STORAGE	100.60 SQ.M
3	TOILETS	44.17 SQ.M
	TOTAL AREA	607.54 SQ.M

AREA OF STAIRCASE THIRD FLOOR		
SR. NO.	DISCRIPTION	AREA
1	EMERGENCY ESCAPE STAIRCASE	19.58 SQ.M
2	STAIRCASE	23.60 SQ.M

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-THIRD-62				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON
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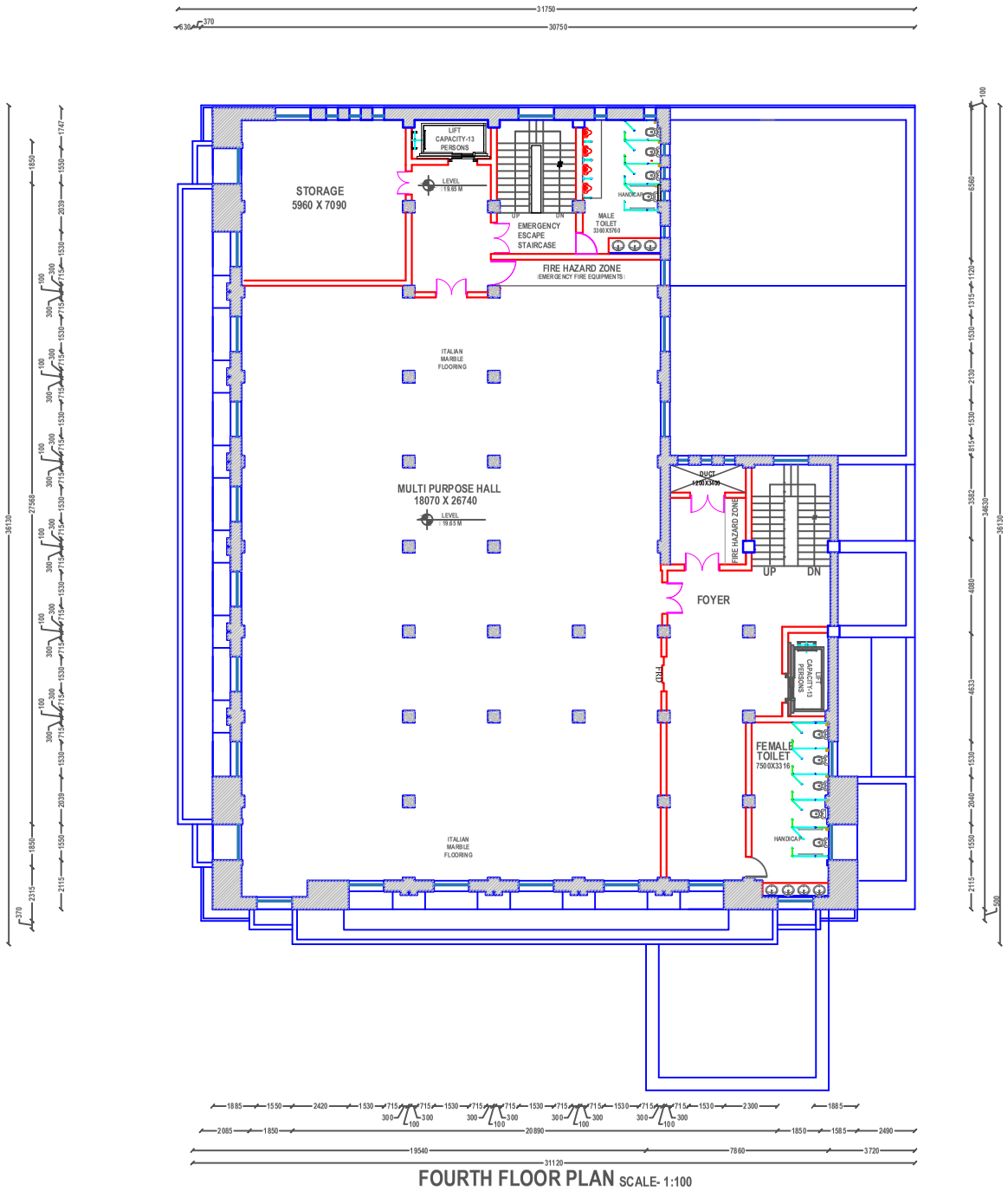
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: THIRD FLOOR PLAN

SCALE: 1: 100

REV 0 0 0 0 3

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FOURTH FLOOR PLAN SCALE- 1:100

AREA STATEMENT FOURTH FLOOR		
SR. NO.	DISCRIPTION	AREA
1	MULTIPURPOSE HALL	483.20 SQ.M
2	STORAGE	93.09 SQ.M
3	TOILETS	44.17 SQ.M
	TOTAL AREA	620.46 SQ.M

AREA OF STAIRCASE FOURTH FLOOR		
SR. NO.	DISCRIPTION	AREA
1	EMERGENCY ESCAPE STAIRCASE	19.58 SQ.M
2	STAIRCASE	23.60 SQ.M

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FOURTH-63 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

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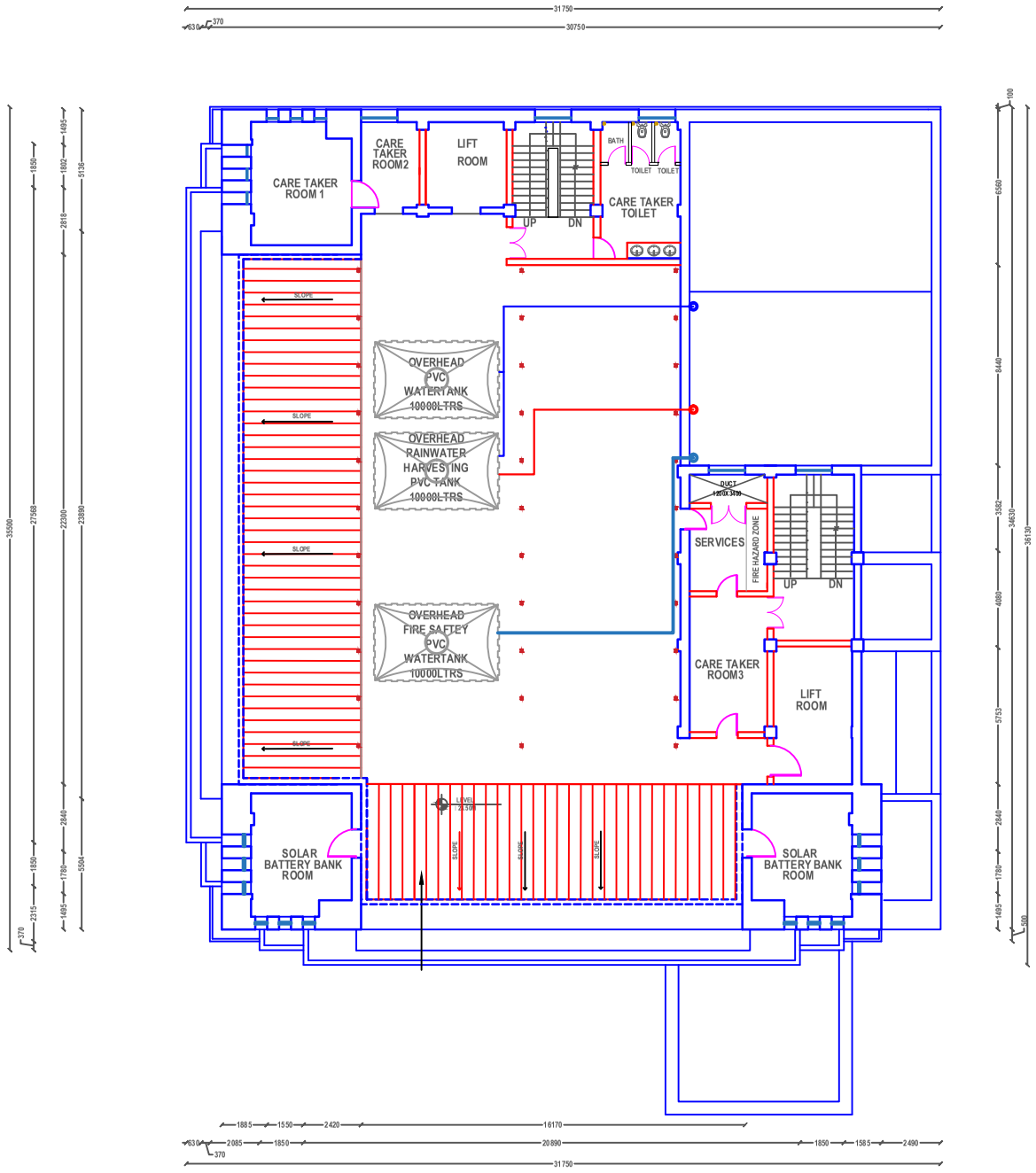
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FOURTH FLOOR PLAN

SCALE: 1: 100 REV 0 0 0 0 3

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TERRACE FLOOR PLAN SCALE- 1:100

NOTE :-

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3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-TERRACE-64				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

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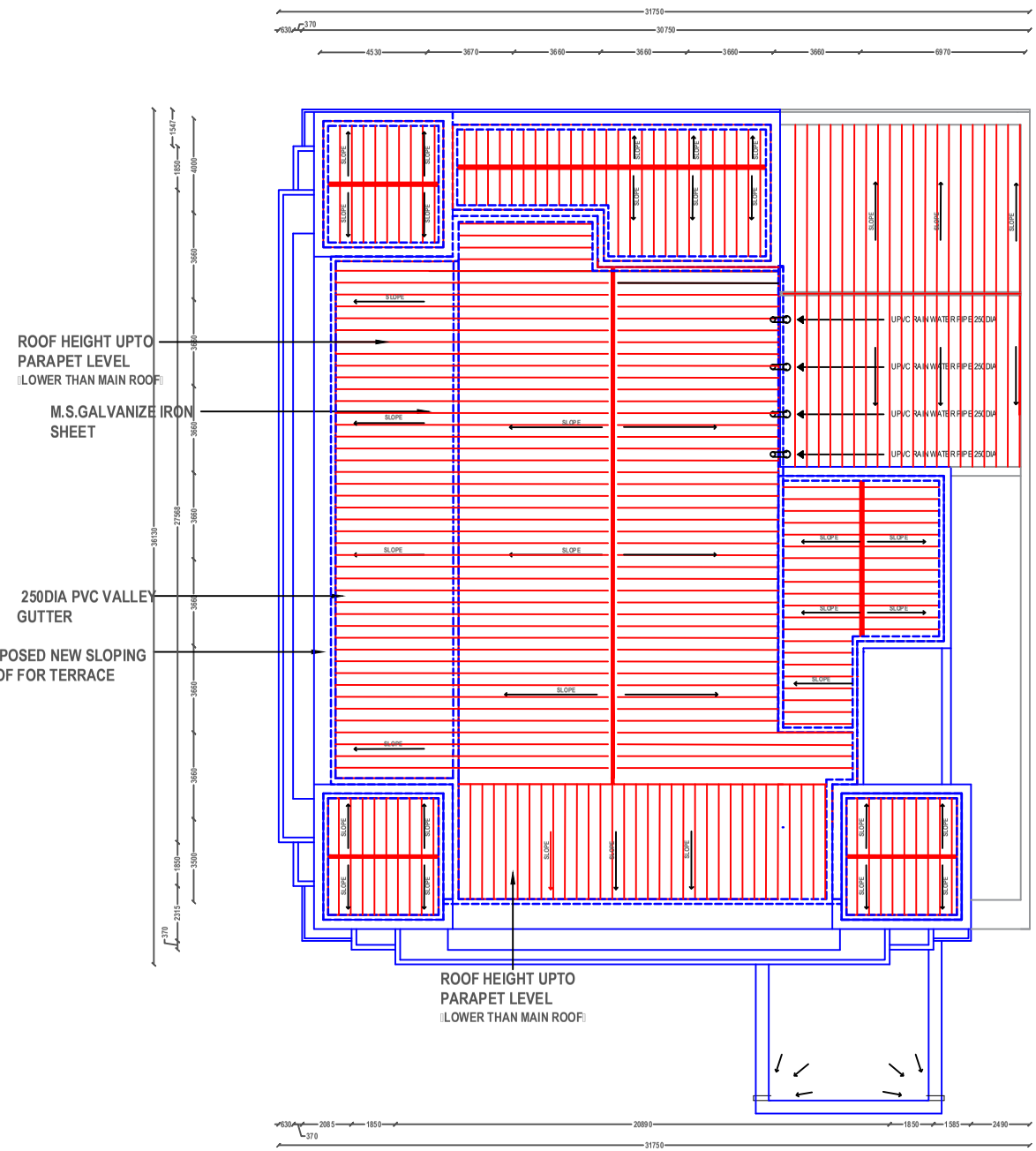
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: TERRACE FLOOR PLAN

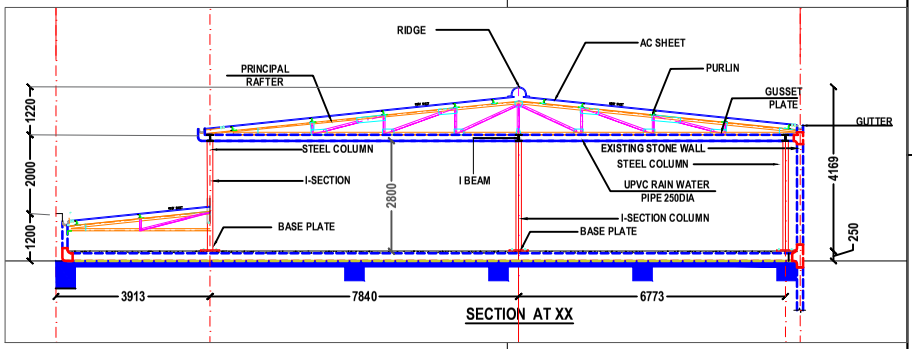
SCALE: 1: 100

REV 0 0 0 0 3

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ROOF PLAN SCALE- 1:100



SECTION AT XX

NOTE :-

1. ALL DIMENSION ARE IN MM.
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3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-ROOF-65				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER

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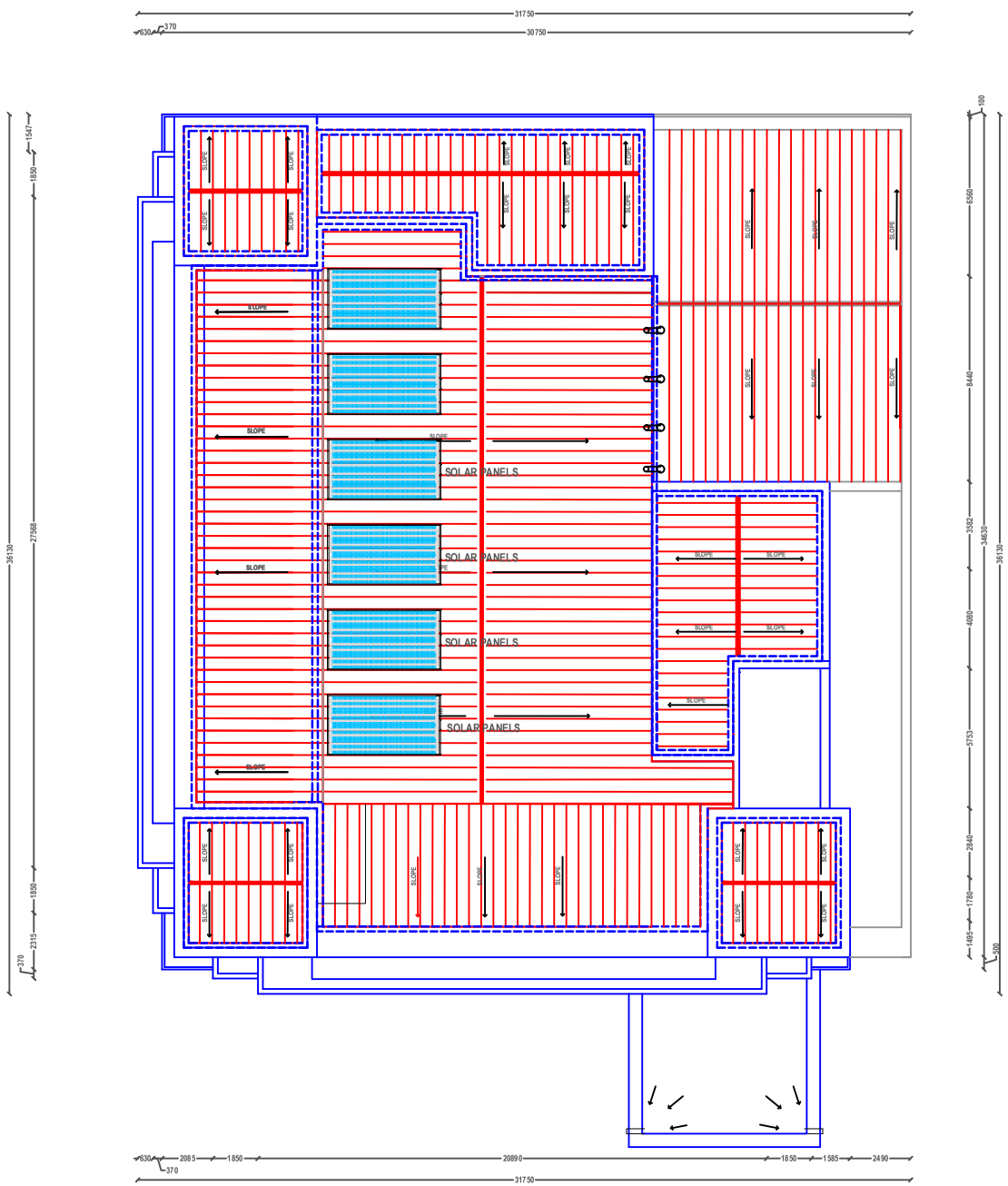
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ROOF PLAN

SCALE: 1: 100

REV 0 0 0 0 3

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SOLAR LAYOUT PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-SOLAR-66 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

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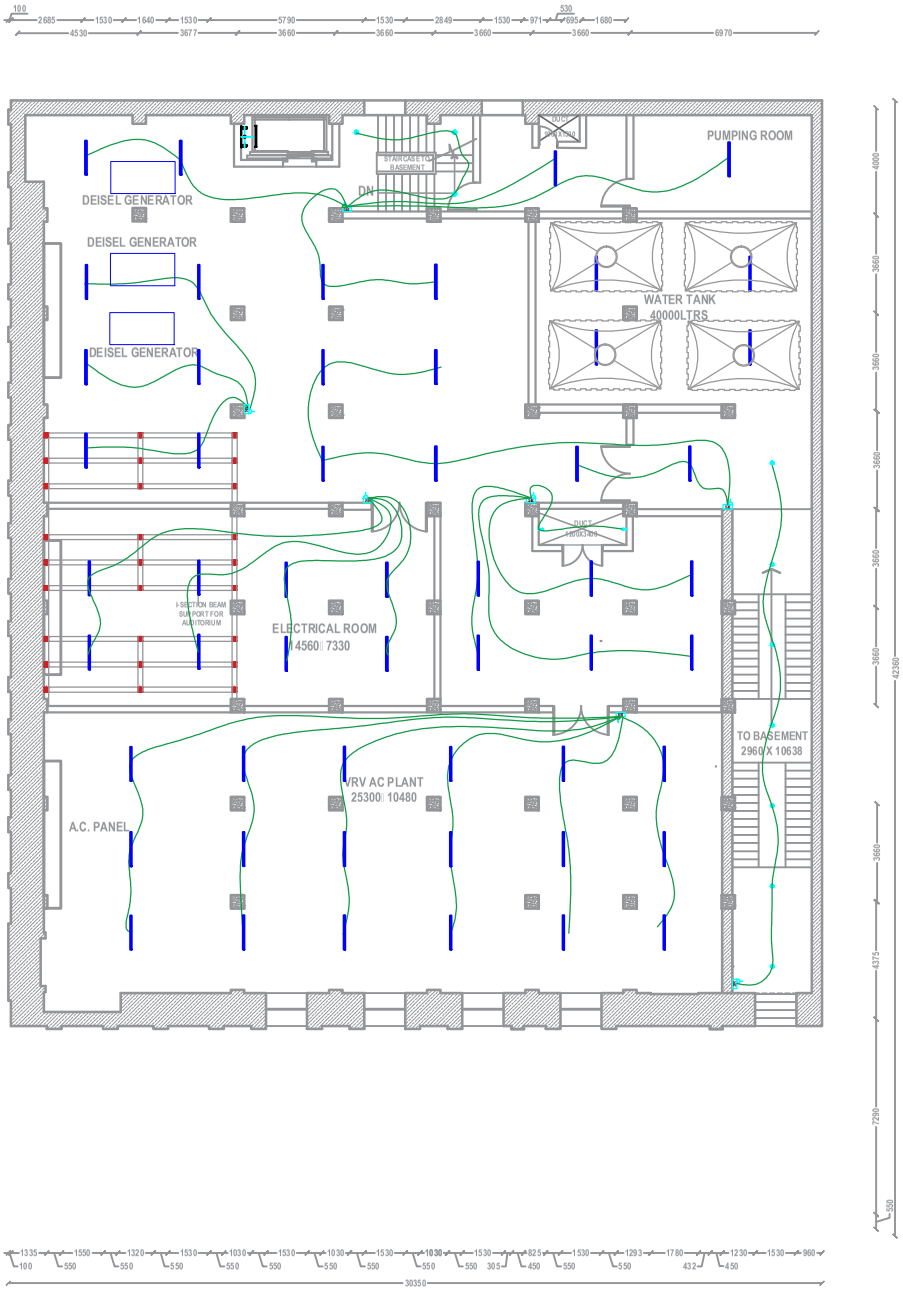
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SOLAR PANEL LAYOUT

SCALE: 1: 100 **REV** 0 0 0 0 3

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BASEMENT FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. E TERNAL LIGHTING ACCORDING TO VENDOR S ELECTRICAL LIGHTING LAYOUT.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

ELECTRICAL LEGENDS

SR. NO.	DISCRIPTION	SYMBOL
1	CEILING LIGHT	
2	SQUARE SHAPE CEILING LIGHT	
3	SURFACE MOUNTED LIGHT	
4	CEILING LIGHT	
5	SWITCH BOARD WITH 5AMP POINT	SB
6	LIGHT BEAM	
7	CUSTOM MADE PENDANT LIGHTS	
8	TUBELIGHT	
9	A.C.POINTS	AC.PT
10	RECESSED FLOOR LIGHTS	
11	COLUMN LIGHTS	

DRAWING NO: LIC-ELECTRICAL-6 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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NORTH

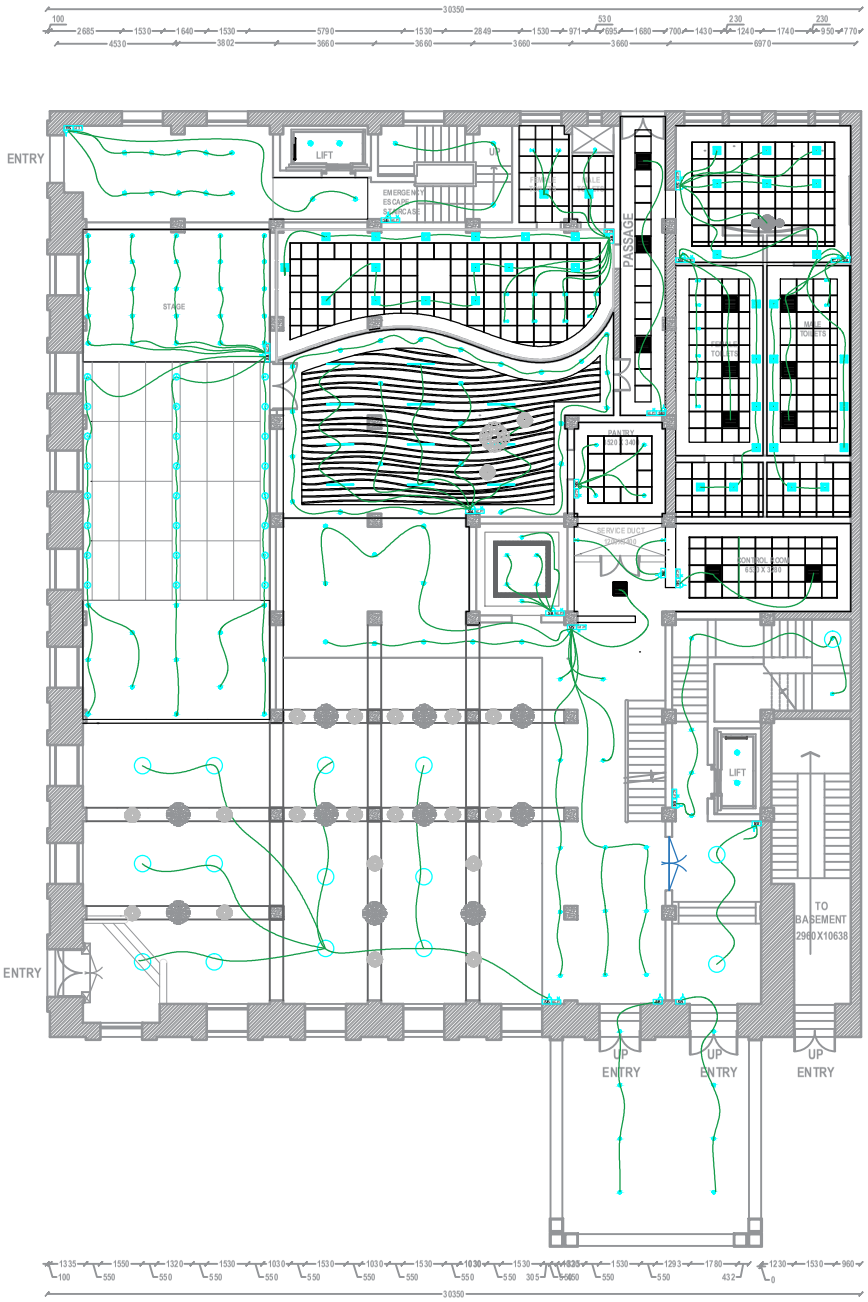
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ELECTRICAL LAYOUT BASEMENT FLOOR

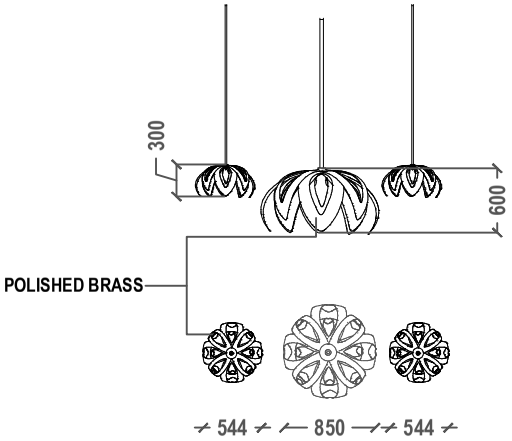
SCALE: 1: 100

REV 0 0 0 0 3

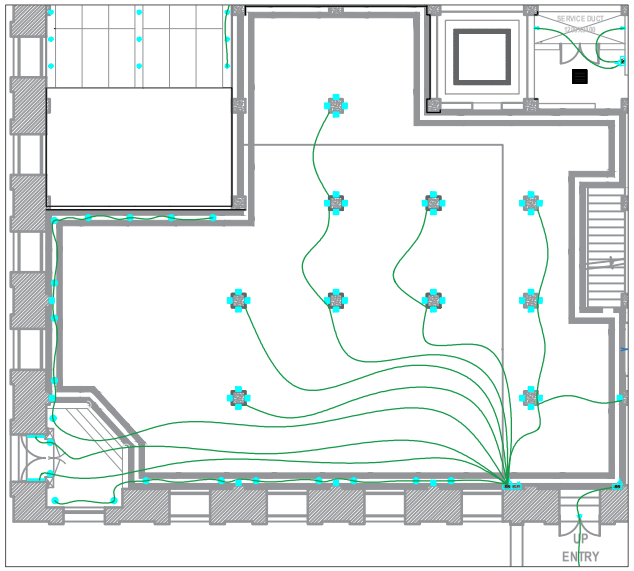
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GROUND FLOOR PLAN SCALE- 1:100



PETAL SHAPED PENDANT LIGHTS



RECESSED FLOOR LIGHTS AND COLUMN LAIGHTS LAYOUT

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

ELECTRICAL LEGENDS

SR. NO.	DISCRIPTION	SYMBOL
1	CEILING LIGHT	
2	SQUARE SHAPE CEILING LIGHT	
3	SURFACE MOUNTED LIGHT	
4	CEILING LIGHT	
5	SWITCH BOARD WITH 5AMP POINT	SB
6	LED STRIP LIGHT	
7	CUSTOM MADE PENDANT LIGHTS	
8	TUBELIGHT	
9	A.C.POINTS	AC.PT
10	RECESSED FLOOR LIGHTS	
11	COLUMN LIGHTS	
12	PENDANT LIGHTS	

DRAWING NO: LIC-ELECTRICAL-68 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

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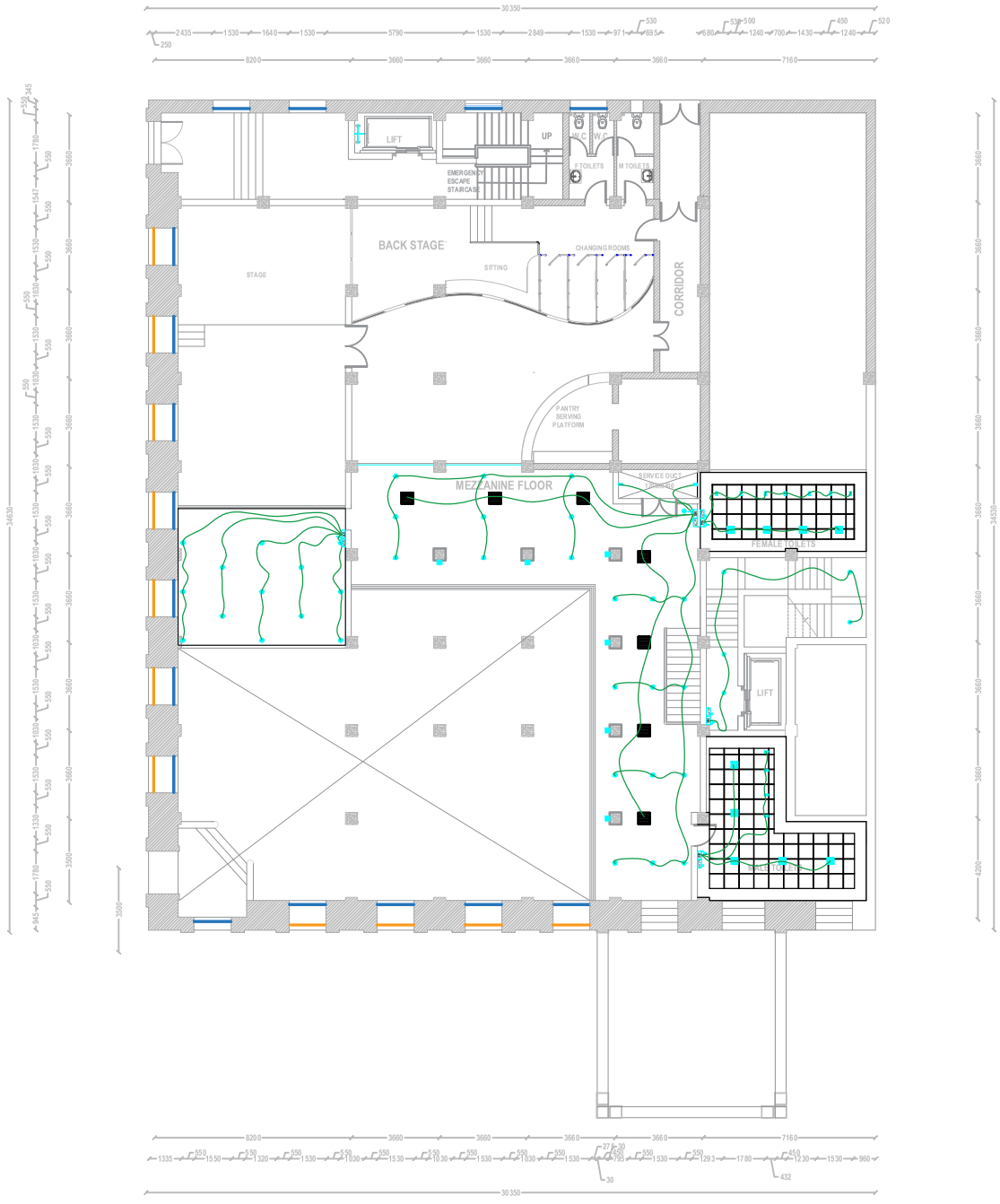
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PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ELECTRICAL LAYOUT GROUND FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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MEZZANINE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

ELECTRICAL LEGENDS

SR. NO.	DISCRIPTION	SYMBOL
1	CEILING LIGHT	
2	SQUARE SHAPE CEILING LIGHT	
3	SURFACE MOUNTED LIGHT	
4	CEILING LIGHT	
5	SWITCH BOARD WITH 5AMP POINT	SB
6	LIGHT BEAM	
7	CUSTOM MADE PENDANT LIGHTS	
8	TUBELIGHT	
9	A.C.POINTS	AC.PT
10	RECESSED FLOOR LIGHTS	
11	COLUMN LIGHTS	

DRAWING NO: LIC-ELECTRICAL-6 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-9-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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MUMBAI

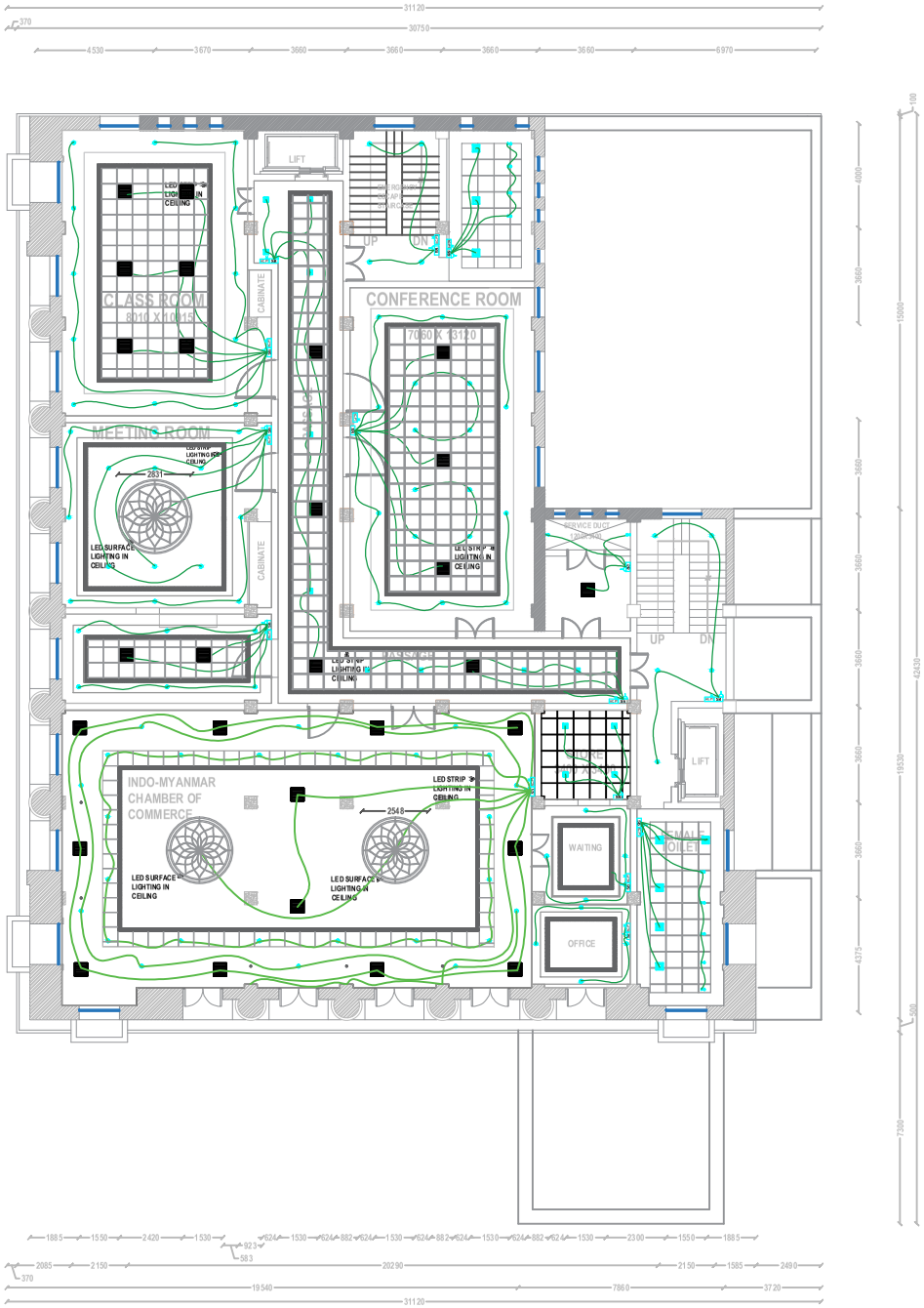
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

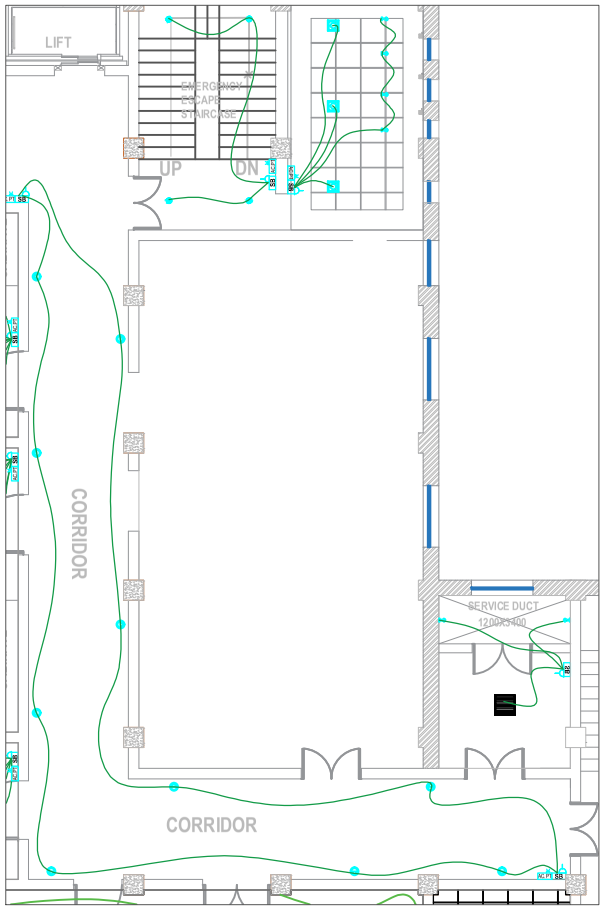
DRAWING TITLE: ELECTRICAL LAYOUT ME□□ANINE FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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FIRST FLOOR PLAN SCALE- 1:100



RECESSED FLOOR LIGHTS
LAYOUT IN CORRIDOR

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

ELECTRICAL LEGENDS

SR. NO.	DISCRIPTION	SYMBOL
1	CEILING LIGHT	
2	SQUARE SHAPE CEILING LIGHT	
3	SURFACE MOUNTED LIGHT	
4	CEILING LIGHT	
5	SWITCH BOARD WITH 5AMP POINT	SB
6	LIGHT BEAM	
7	CUSTOM MADE PENDANT LIGHTS	
8	TUBELIGHT	
9	A.C.POINTS	AC.PT
10	RECESSED FLOOR LIGHTS	
11	COLUMN LIGHTS	

DRAWING NO: LIC-ELECTRICAL-I 0 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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MYANMAR

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CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

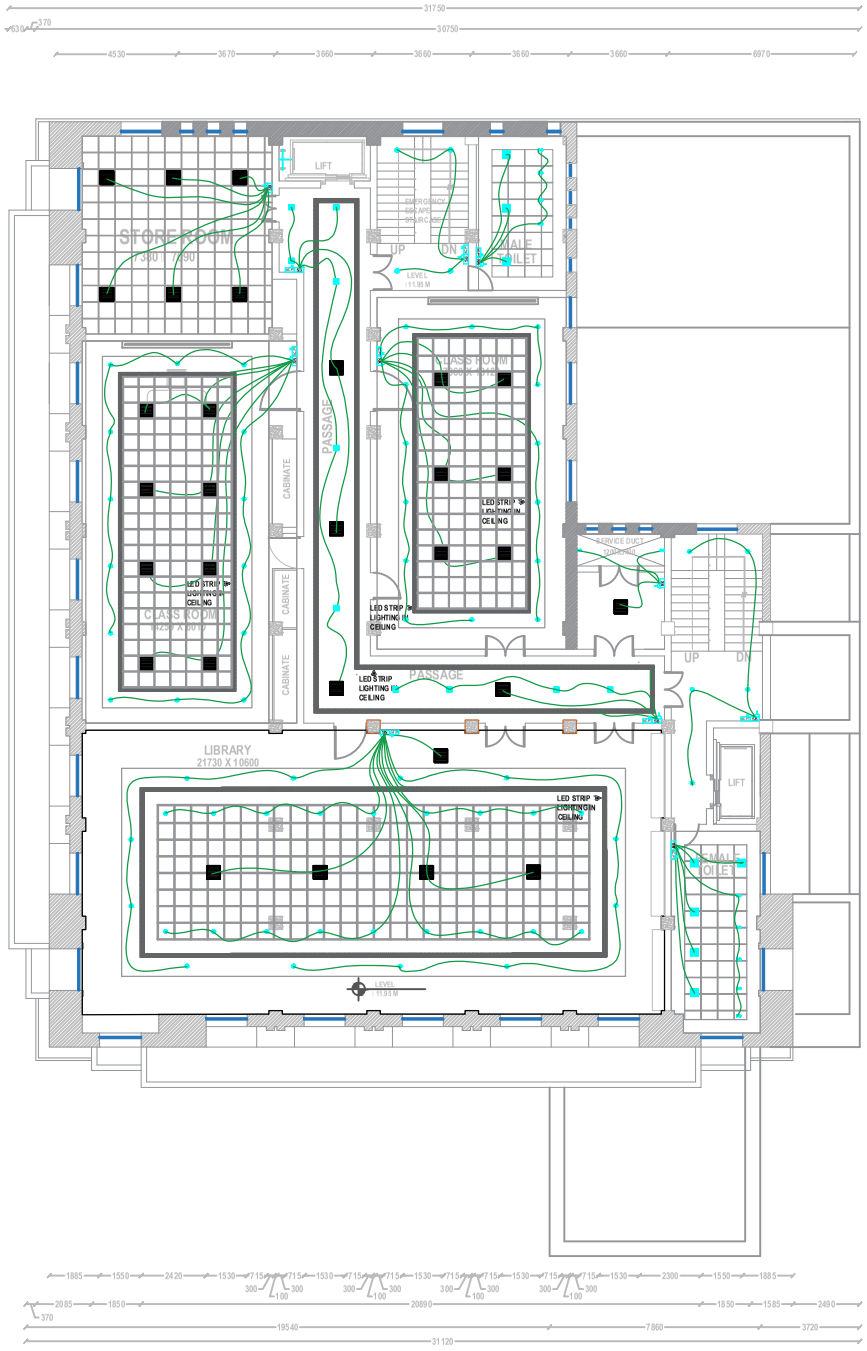
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

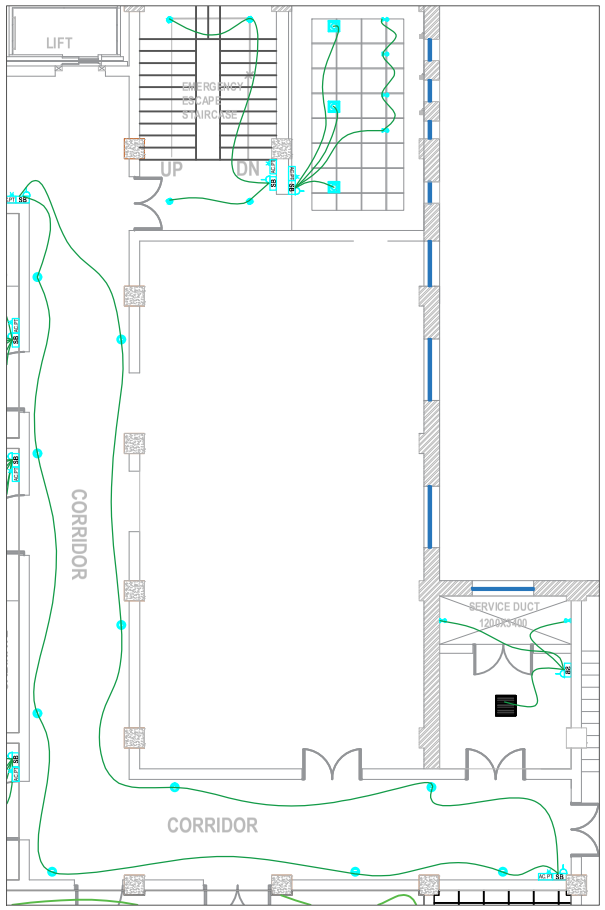
DRAWING TITLE: ELECTRICAL LAYOUT FIRST FLOOR

SCALE: 1: 100 REV 0 0 0 0 3

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SECOND FLOOR PLAN SCALE- 1:100



RECESSED FLOOR LIGHTS
LAYOUT IN CORRIDOR

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

ELECTRICAL LEGENDS

SR. NO.	DISCRIPTION	SYMBOL
1	CEILING LIGHT	
2	SQUARE SHAPE CEILING LIGHT	
3	SURFACE MOUNTED LIGHT	
4	CEILING LIGHT	
5	SWITCH BOARD WITH 5AMP POINT	SB
6	LIGHT BEAM	
7	CUSTOM MADE PENDANT LIGHTS	
8	TUBELIGHT	
9	A.C.POINTS	AC.PT
10	RECESSED FLOOR LIGHTS	
11	COLUMN LIGHTS	

DRAWING NO: LIC-ELECTRICAL-□1 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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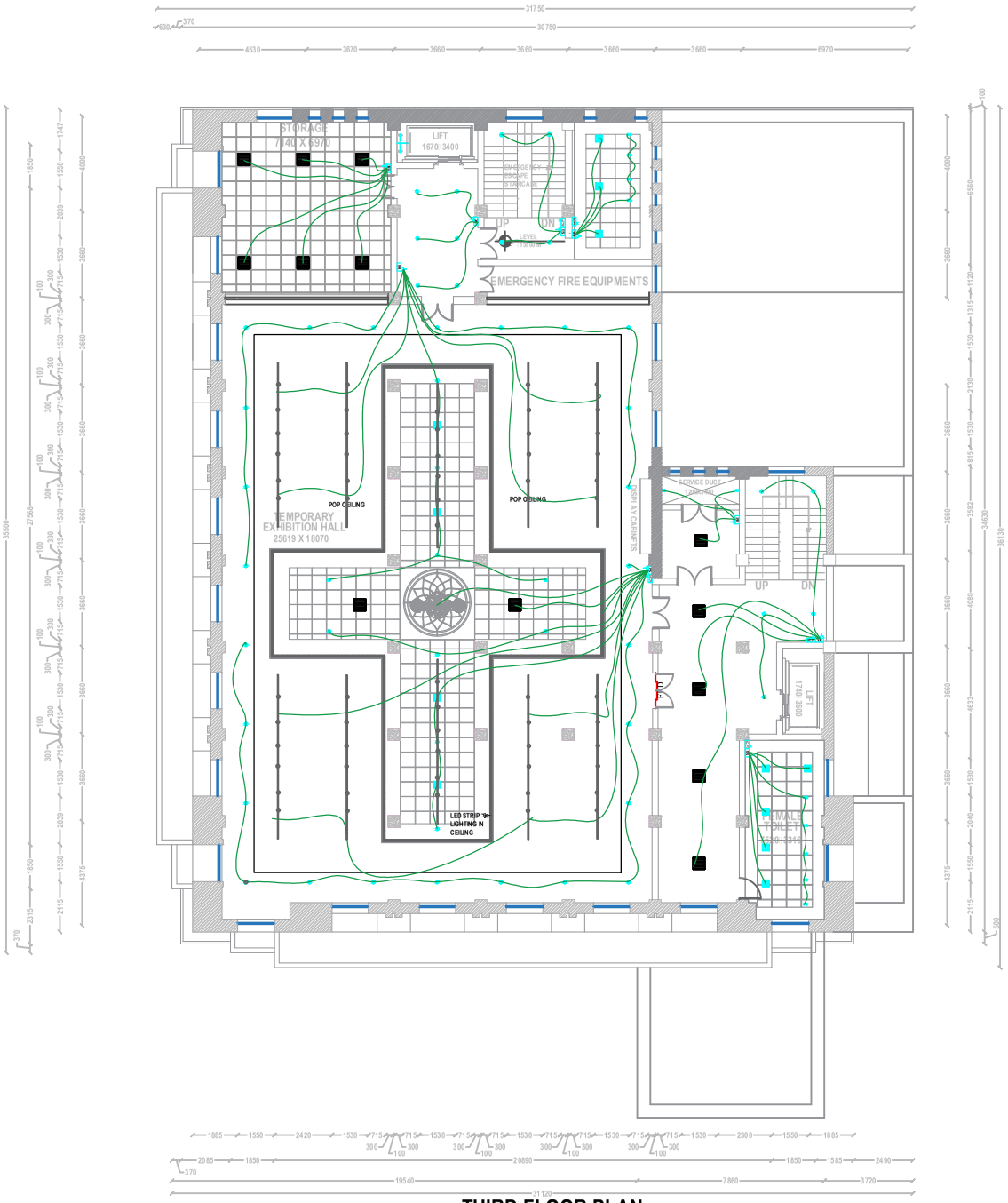
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ELECTRICAL LAYOUT SECOND FLOOR

SCALE: 1: 100 REV 0 0 0 0 3

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THIRD FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

ELECTRICAL LEGENDS

SR. NO.	DISCRIPTION	SYMBOL
1	CEILING LIGHT	
2	SQUARE SHAPE CEILING LIGHT	
3	SURFACE MOUNTED LIGHT	
4	CEILING LIGHT	
5	SWITCH BOARD WITH 5AMP POINT	SB
6	LIGHT BEAM	
7	CUSTOM MADE PENDANT LIGHTS	
8	TUBELIGHT	
9	A.C.POINTS	AC.PT
10	RECESSED FLOOR LIGHTS	
11	COLUMN LIGHTS	

DRAWING NO: LIC-ELECTRICAL-II 2 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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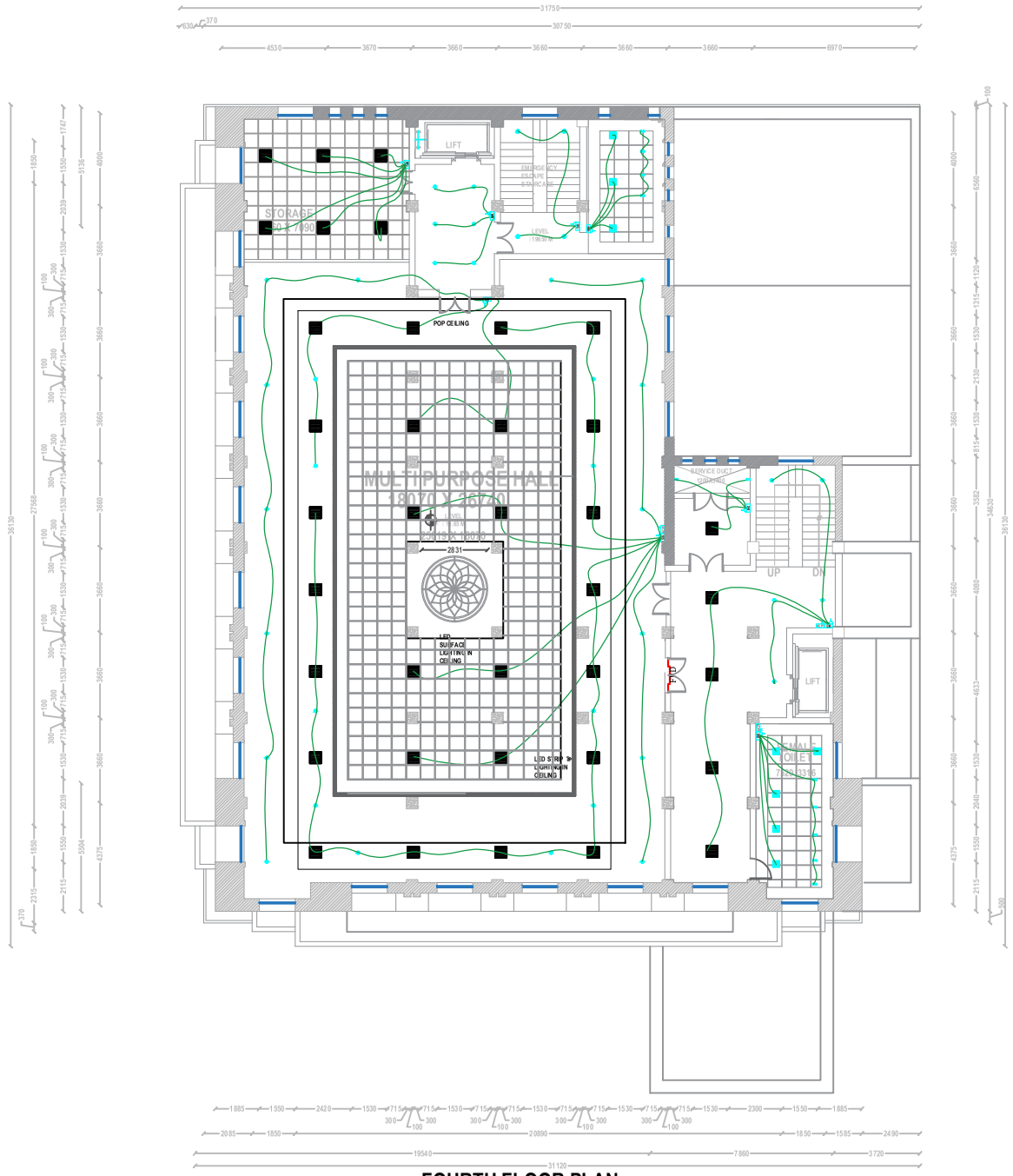
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ELECTRICAL LAYOUT THIRD FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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FOURTH FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

ELECTRICAL LEGENDS

SR. NO.	DISCRIPTION	SYMBOL
1	CEILING LIGHT	
2	SQUARE SHAPE CEILING LIGHT	
3	SURFACE MOUNTED LIGHT	
4	CEILING LIGHT	
5	SWITCH BOARD WITH 5AMP POINT	SB
6	LIGHT BEAM	
7	CUSTOM MADE PENDANT LIGHTS	
8	TUBELIGHT	
9	A.C.POINTS	AC.PT
10	RECESSED FLOOR LIGHTS	
11	COLUMN LIGHTS	

DRAWING NO: LIC-ELECTRICAL-□ 3 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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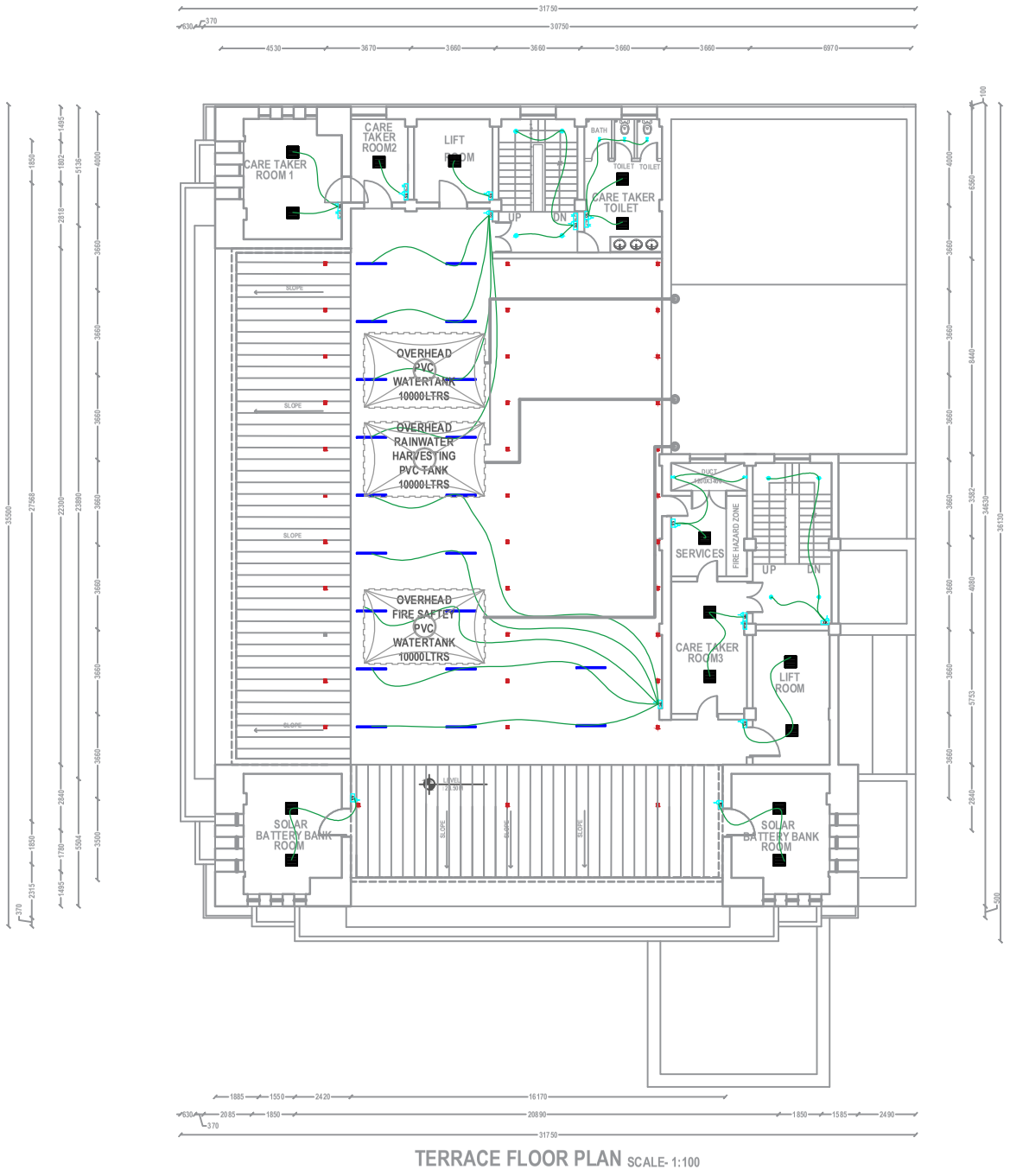
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ELECTRICAL LAYOUT FOURTH FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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TERRACE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

ELECTRICAL LEGENDS

SR. NO.	DISCRIPTION	SYMBOL
1	CEILING LIGHT	
2	SQUARE SHAPE CEILING LIGHT	
3	SURFACE MOUNTED LIGHT	
4	CEILING LIGHT	
5	SWITCH BOARD WITH 5AMP POINT	SB
6	LIGHT BEAM	
7	CUSTOM MADE PENDANT LIGHTS	
8	TUBELIGHT	
9	A.C.POINTS	AC.PT
10	RECESSED FLOOR LIGHTS	
11	COLUMN LIGHTS	

DRAWING NO: LIC-ELECTRICAL-04 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-9-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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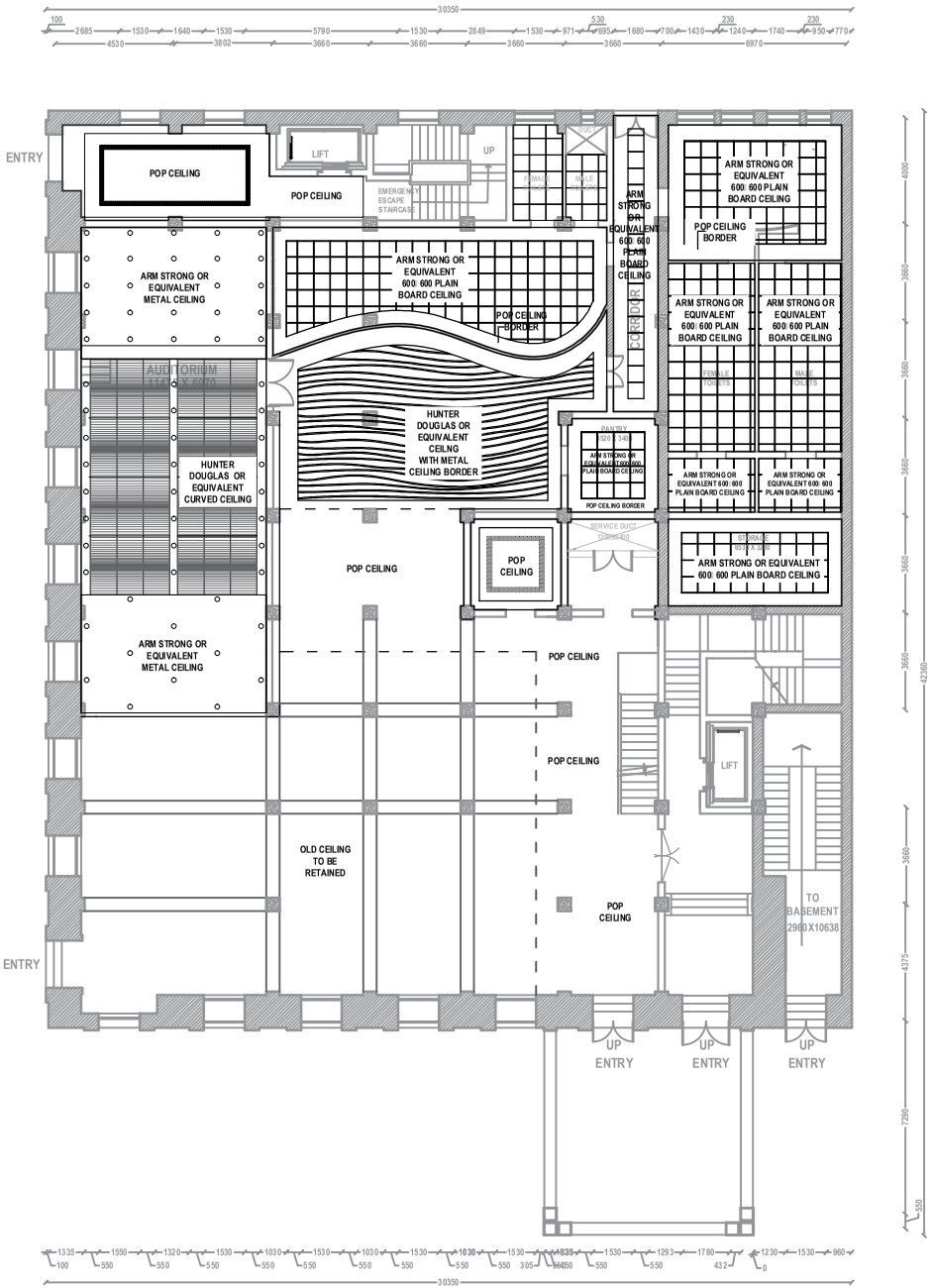
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ELECTRICAL LAYOUT TERRACE FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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GROUND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-CEILING-05 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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MUMBAI

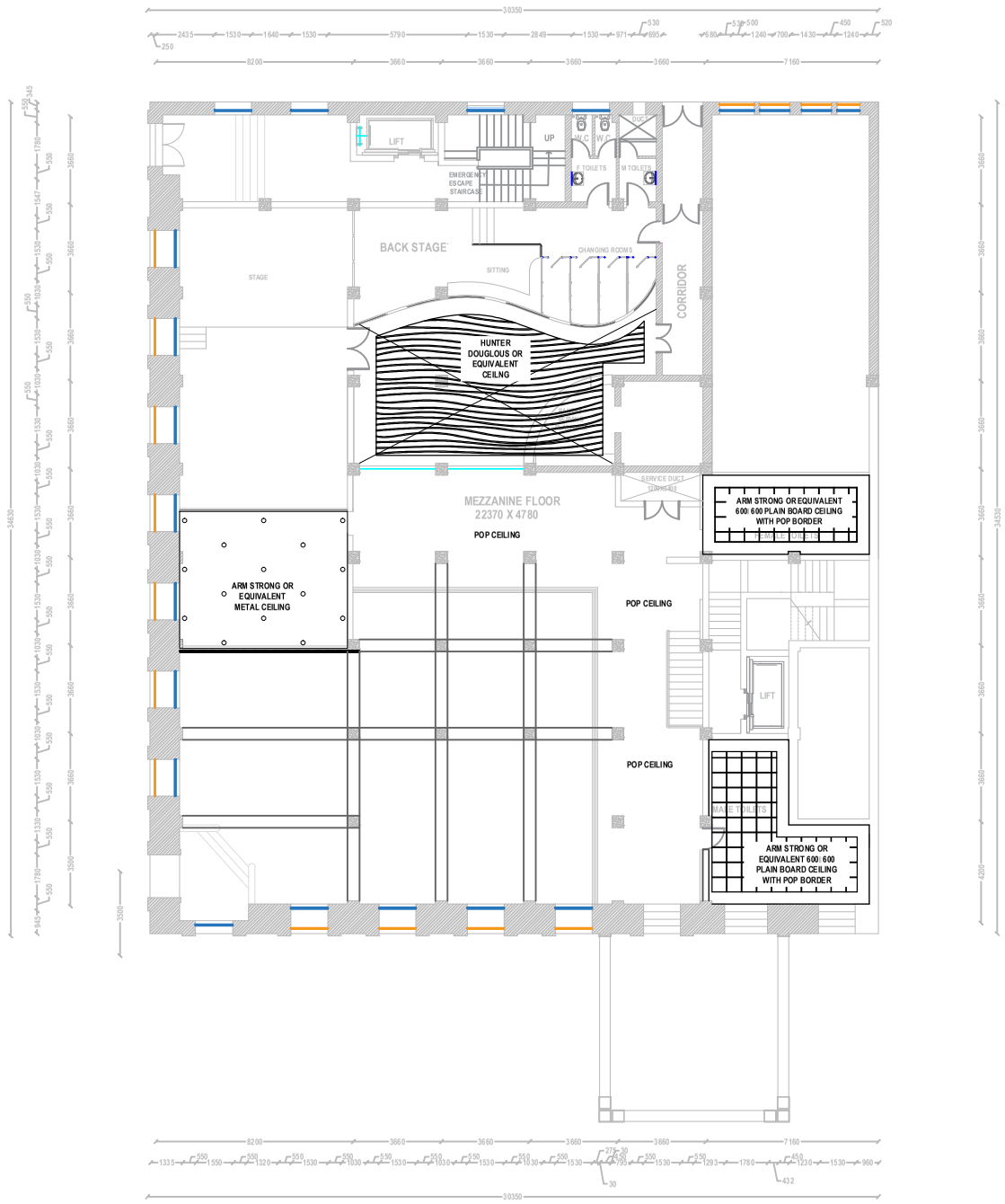
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FALSE CEILING LAYOUT GROUND FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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MEZZANINE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-CEILING-□6 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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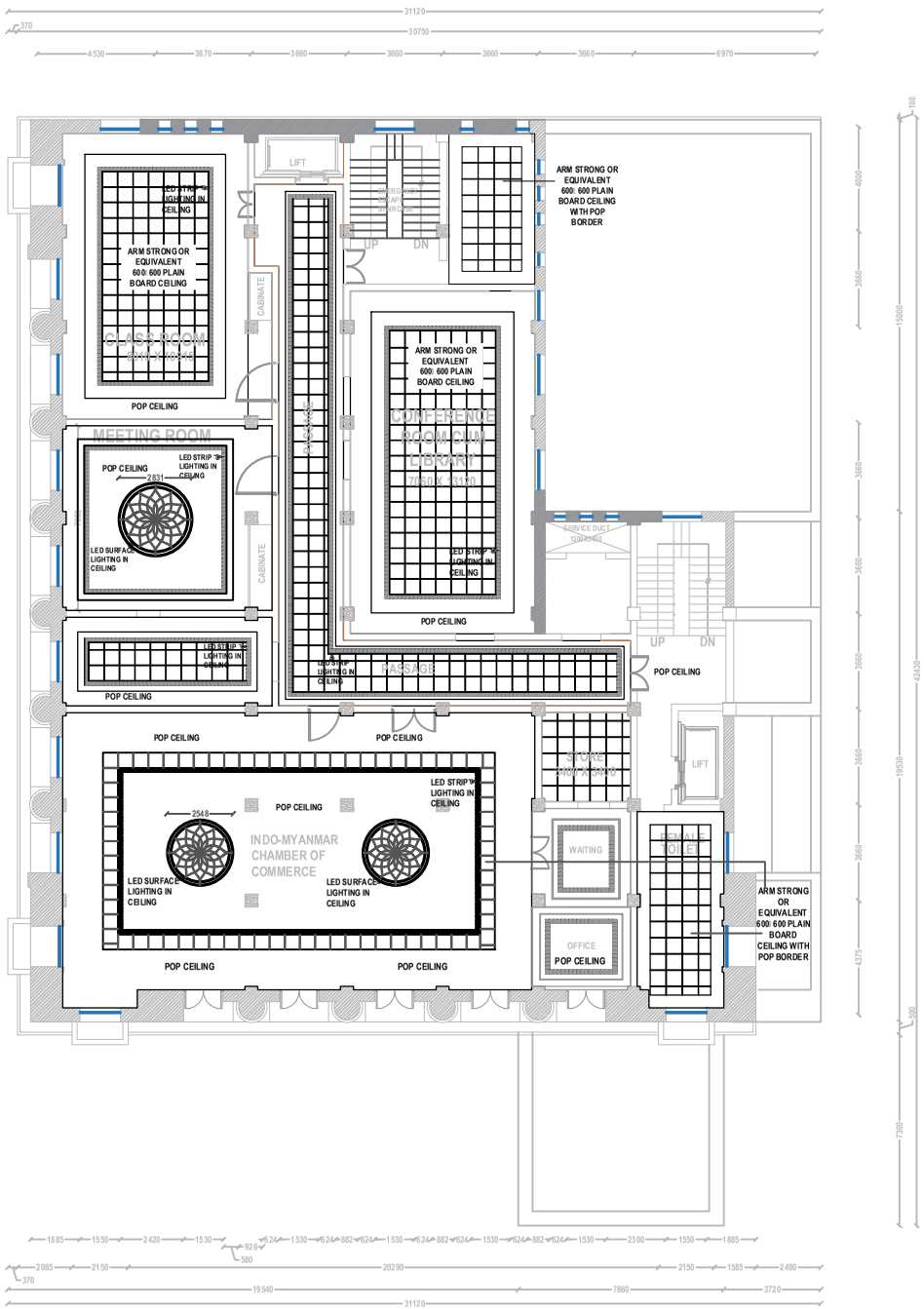
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FALSE CEILING LAYOUT ME□□ANINE FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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FIRST FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-CEILING-[illegible]				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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MUMBAI

NORTH

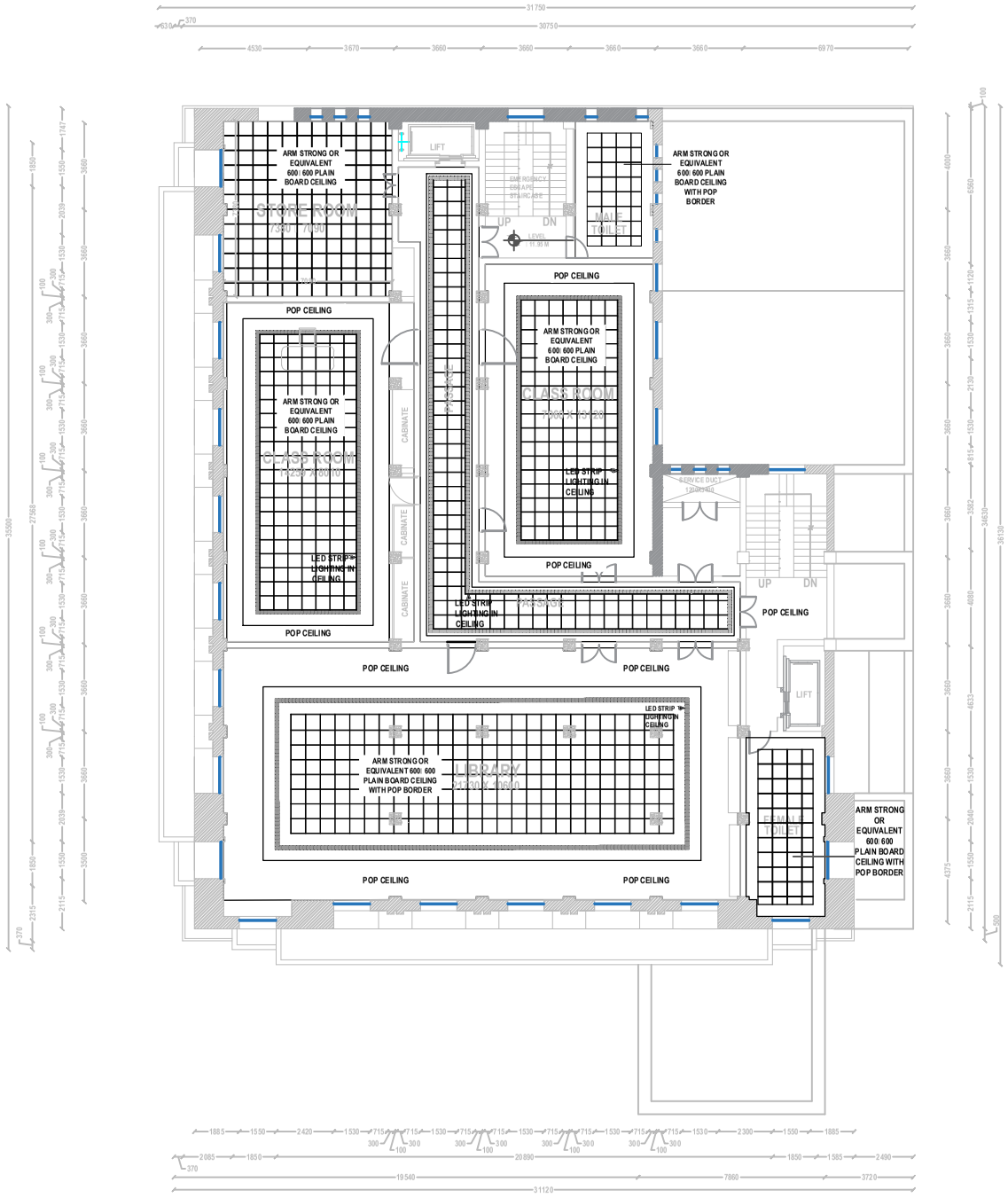
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FALSE CEILING LAYOUT FIRST FLOOR

SCALE: 1: 100

REV 0 0 0 0 3

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SECOND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-CEILING-□ 8				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-9-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

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MUMBAI

NORTH

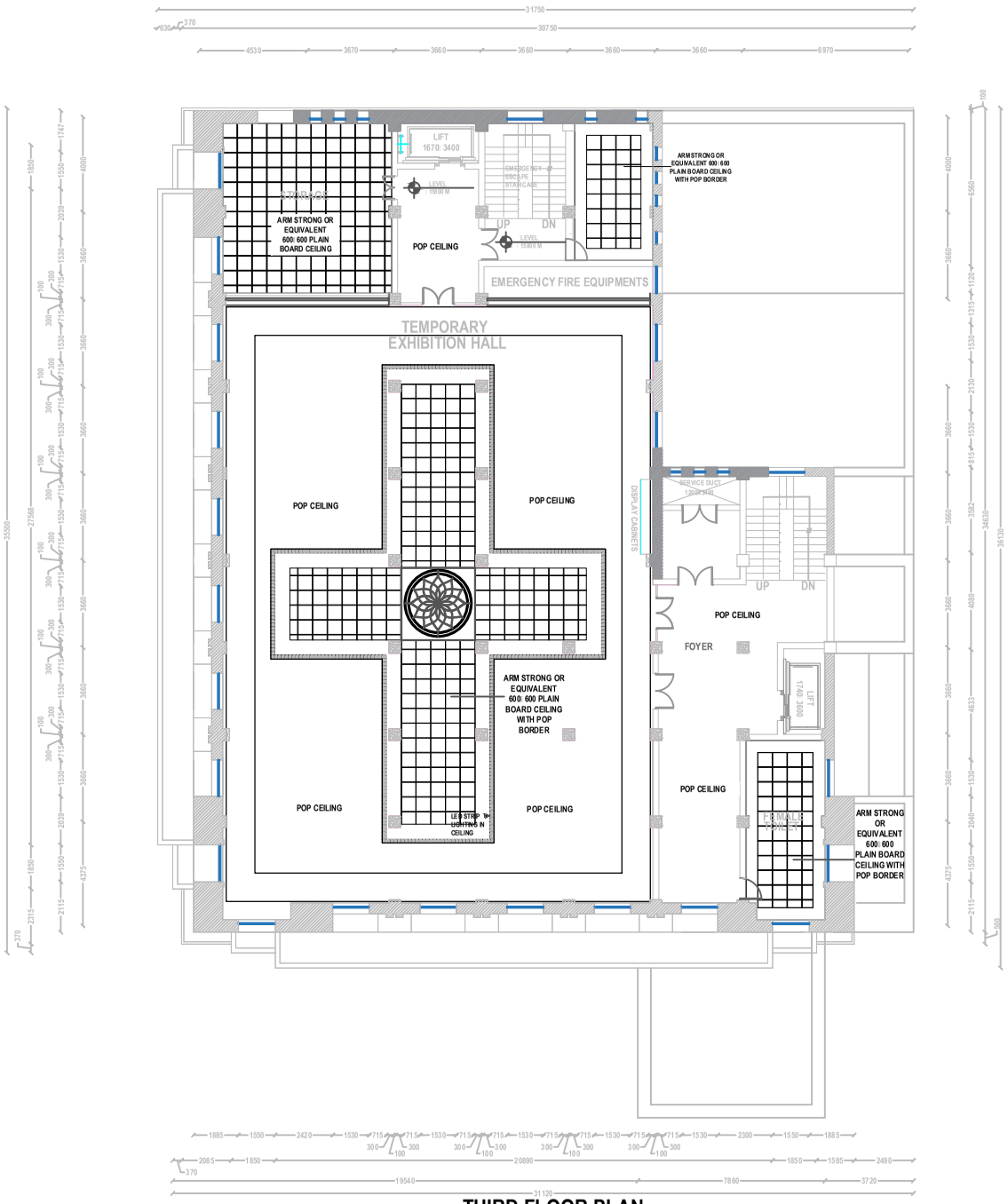
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FALSE CEILING LAYOUT SECOND FLOOR

SCALE: 1: 100

REV 0 0 0 0 3

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THIRD FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-CEILING-□□				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-9-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

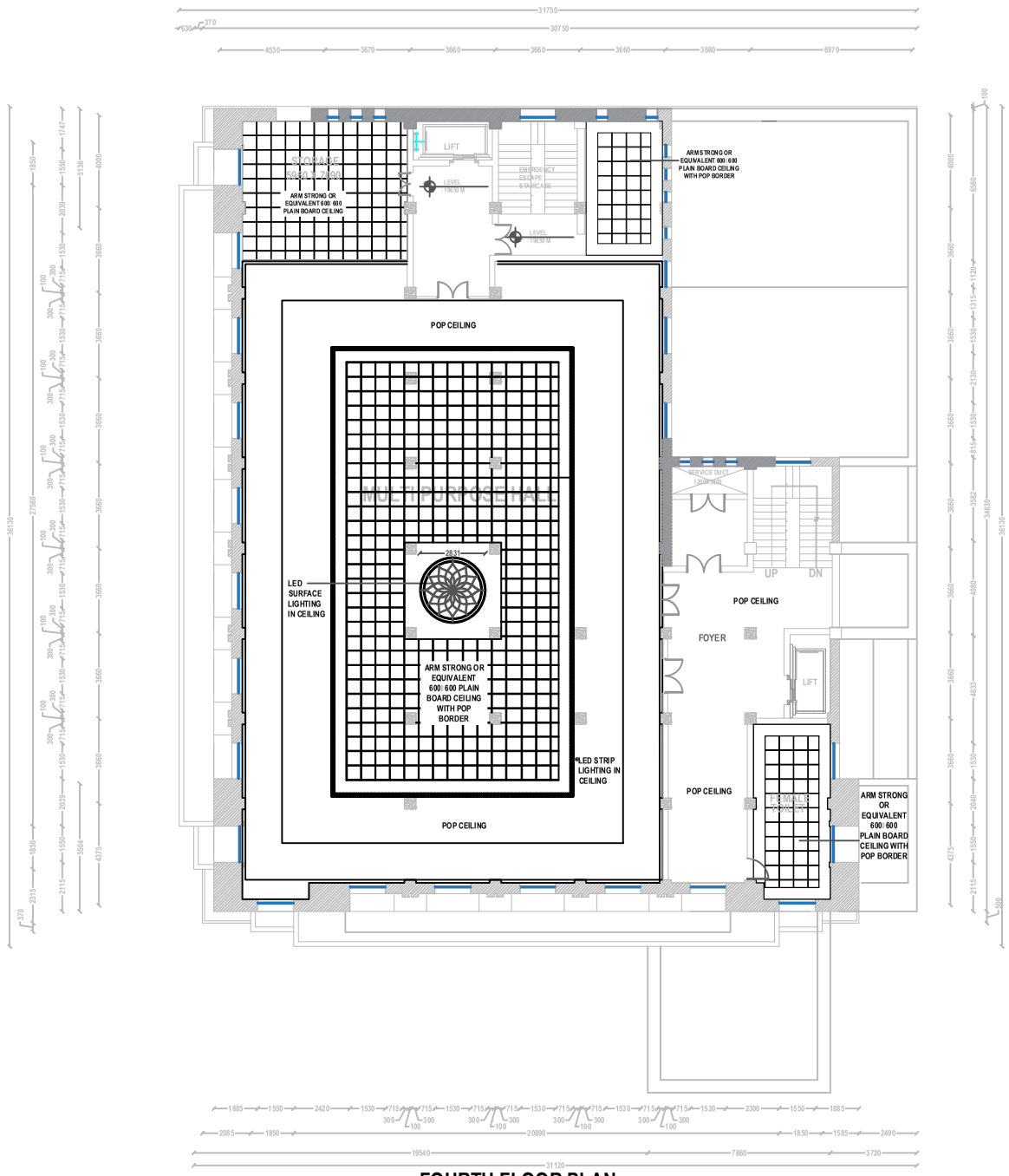
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FALSE CEILING LAYOUT THIRD FLOOR

SCALE: 1: 100

REV 0 0 0 0 3

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FOURTH FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-CEILING-80				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

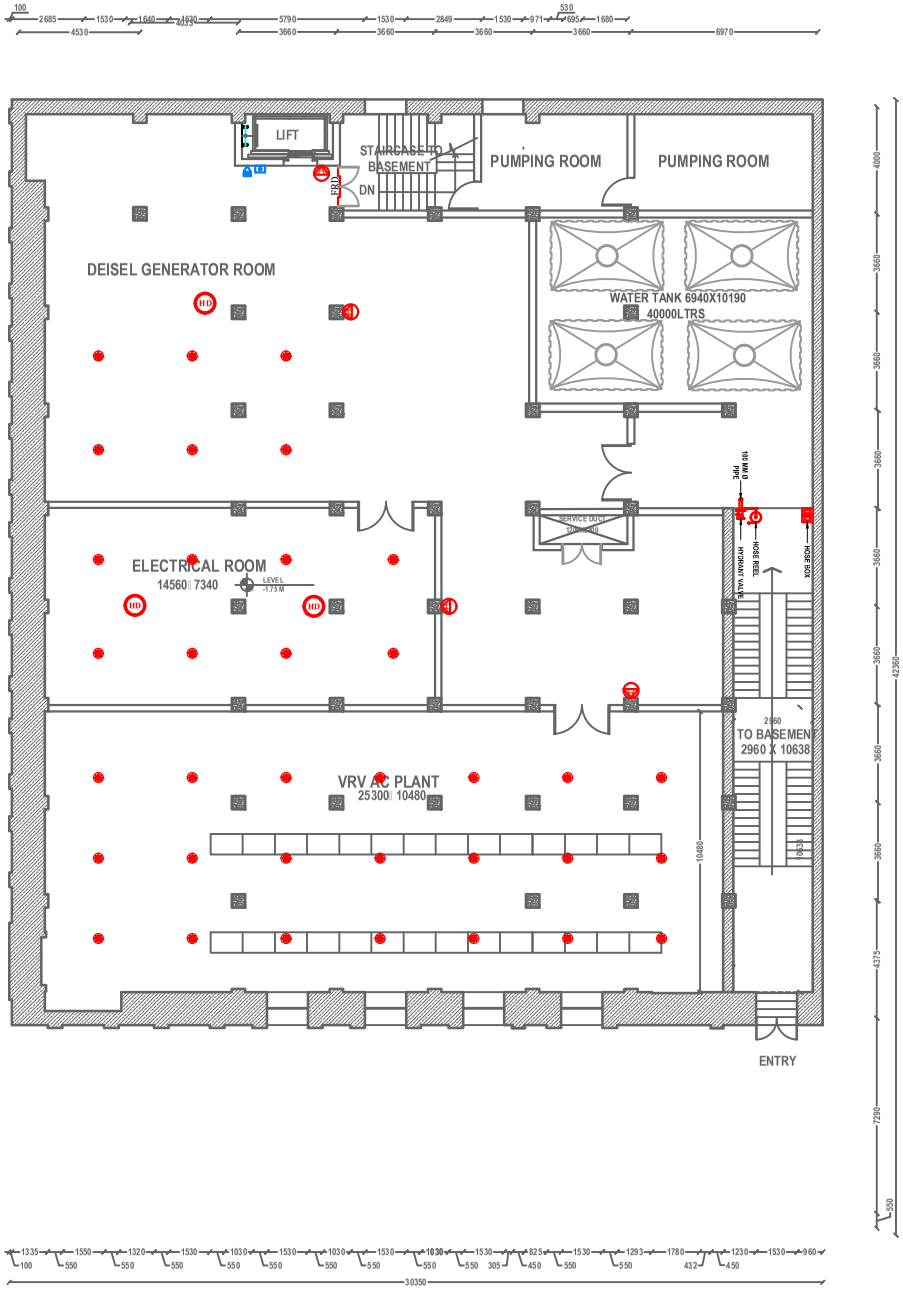
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FALSE CEILING LAYOUT FOURTH FLOOR

SCALE: 1: 100

REV 0 0 0 0 3

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BASEMENT FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

FRD	FIRE DOOR
	FOAM EXTINGUISERS
	SPRINKLERS
	DRY SPRINKLERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE HOSE REEL
	FIRE HOSE BOX
	SMOKE DETECTOR
	FIRE HYDRANT VALVE
HD	HEAT DETECTOR
PUMP	FIRE PUMP
	FIRE SAND BUCKET STAND
	100MM DIA TANK TO SPRINKLER PIPELINE
	80MM DIA SPRINKLER PIPELINE
	25MM DIA SPRINKLER BRANCH PIPELINE

DRAWING NO: LIC-SPRIN LER-81 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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MUMBAI

NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

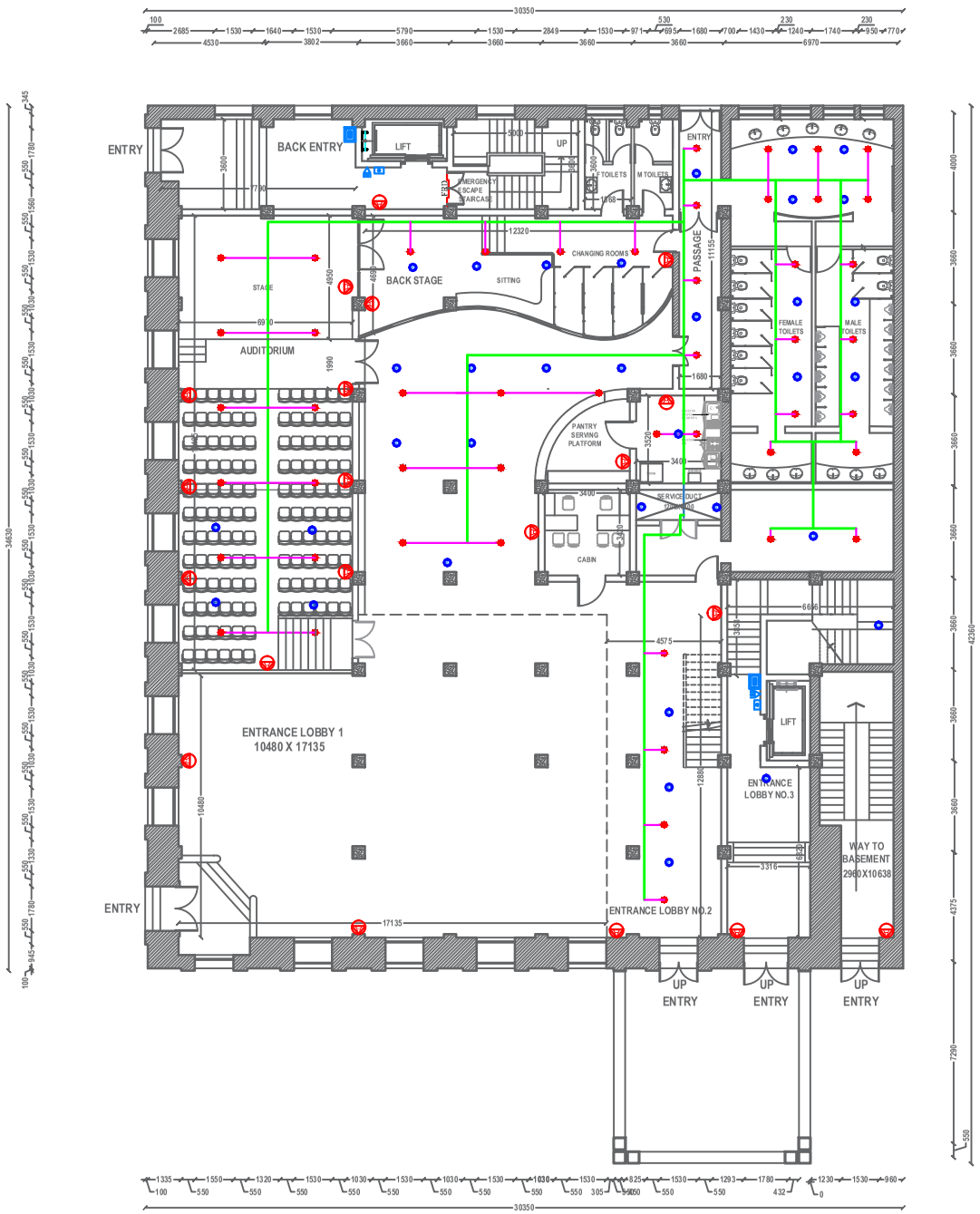
DRAWING TITLE: SPRIN LER AND SMO E DETECTOR BASEMENT FLOOR

SCALE:

REV 0 0 0 0 3

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250



GROUND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGENDS

F.R.D.	FIRE DOOR
	FOAM EXTINGUISERS
	SPRINKLERS
	DRY SPRINKLERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE HOSE REEL
	FIRE HOSE BOX
	SMOKE DETECTOR
	FIRE HYDRANT VALVE
H.D.	HEAT DETECTOR
PUMP	FIRE PUMP
	FIRE SAND BUCKET STAND
	100MM DIA TANK TO SPRINKLER PIPELINE
	80MM DIA SPRINKLER PIPELINE
	25MM DIA SPRINKLER BRANCH PIPELINE

DRAWING NO: LIC-SPRIN LER-82 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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MYANMAR

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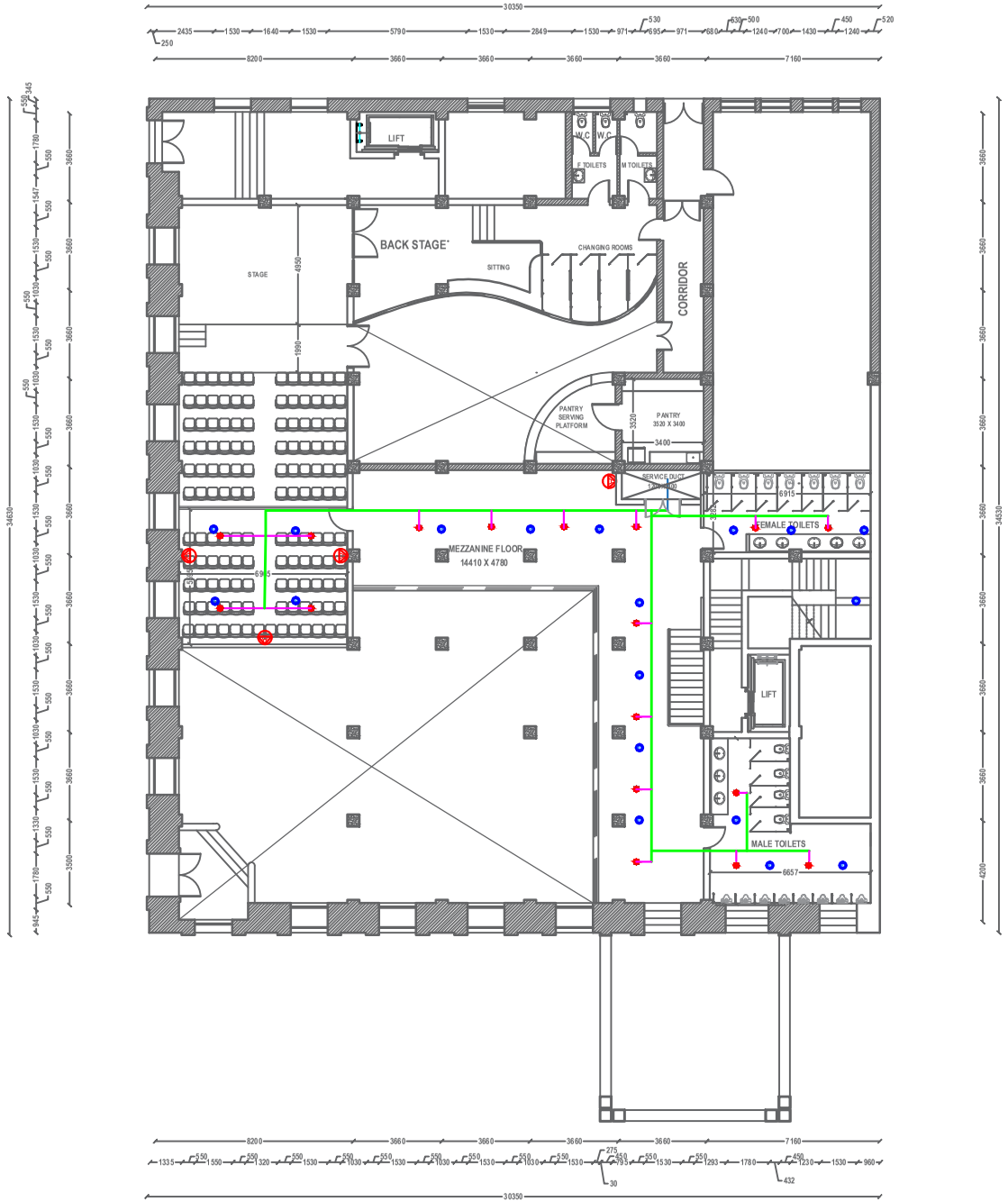
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SPRIN LER AND SMO E DETECTOR LAYOUT GROUND FLOOR

SCALE: REV 0 0 0 0 3

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MEZZANINE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

FRD	FIRE DOOR
	FOAM EXTINGUISERS
	SPRINKLERS
	DRY SPRINKLERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE HOSE REEL
	FIRE HOSE BOX
	SMOKE DETECTOR
	FIRE HYDRANT VALVE
	HEAT DETECTOR
PUMP	FIRE PUMP
	FIRE SAND BUCKET STAND
	100MM DIA TANK TO SPRINKLER PIPELINE
	80MM DIA SPRINKLER PIPELINE
	25MM DIA SPRINKLER BRANCH PIPELINE

DRAWING NO: LIC-SPRIN LER-83 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

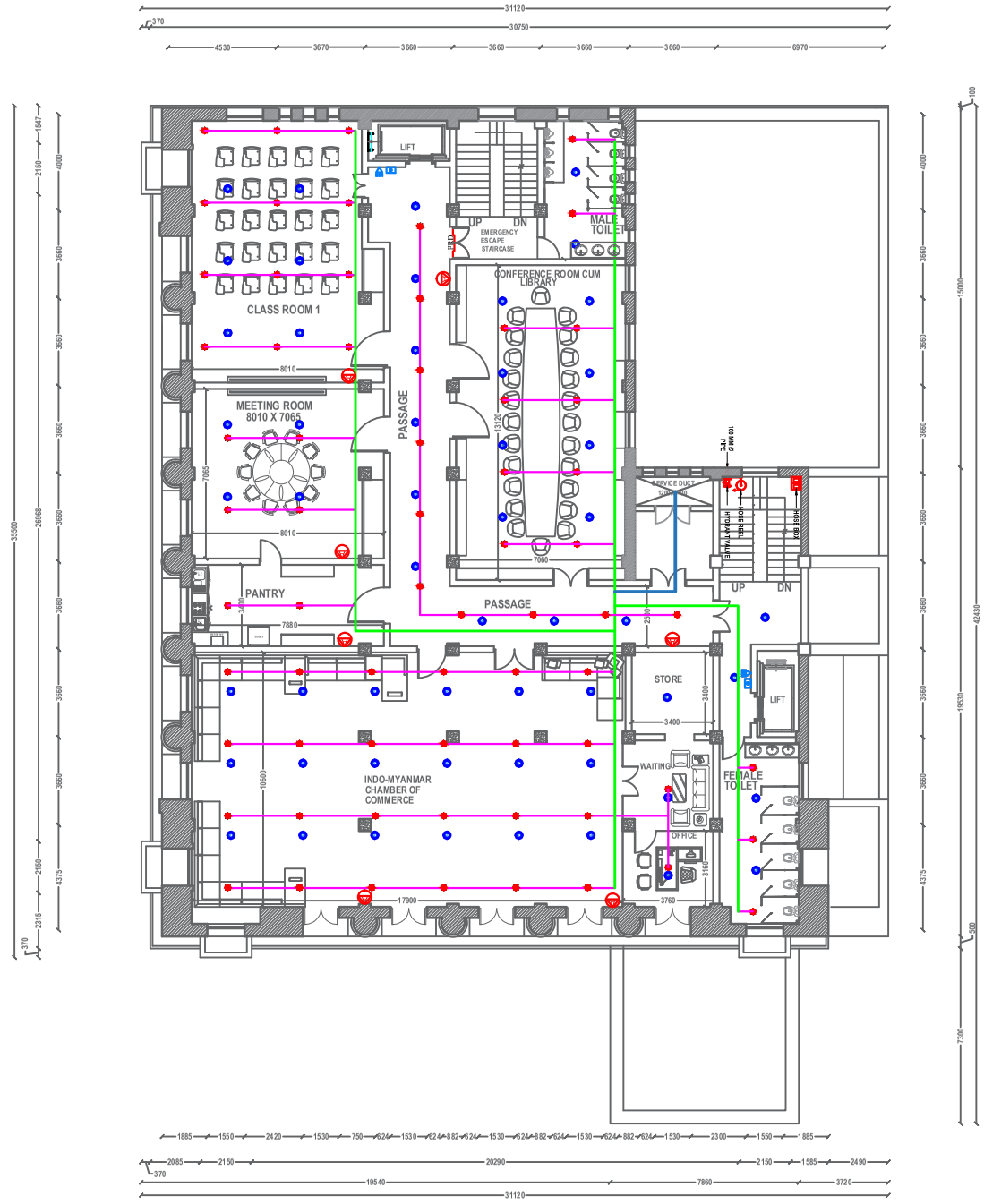
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FIRE SAFTEY LAYOUT ME ANINE FLOOR

SCALE:

REV 0 0 0 0 3

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FIRST FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

FRD	FIRE DOOR
	FOAM EXTINGUISERS
	SPRINKLERS
	DRY SPRINKLERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE HOSE REEL
	FIRE HOSE BOX
	SMOKE DETECTOR
	FIRE HYDRANT VALVE
	HEAT DETECTOR
PUMP	FIRE PUMP
	FIRE SAND BUCKET STAND
	100MM DIA TANK TO SPRINKLER PIPELINE
	80MM DIA SPRINKLER PIPELINE
	25MM DIA SPRINKLER BRANCH PIPELINE

DRAWING NO: LIC-SPRIN LER-84 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

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MUMBAI

NORTH

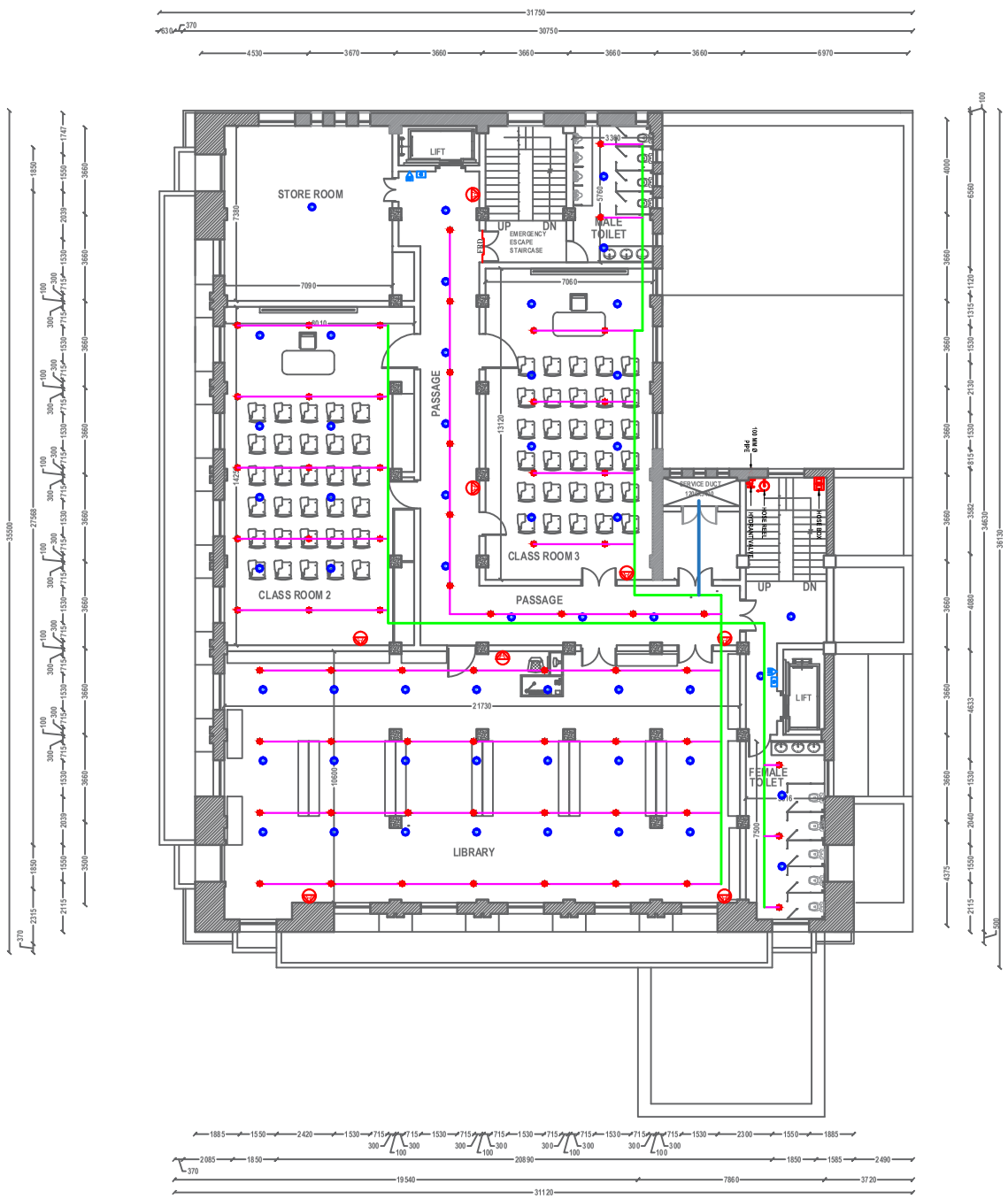
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SPRIN LER AND SMO E DETECTOR LAYOUT FIRST FLOOR

SCALE:

REV 0 0 0 0 3

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SECOND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

FRD	FIRE DOOR
	FOAM EXTINGUISERS
	SPRINKLERS
	DRY SPRINKLERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE HOSE REEL
	FIRE HOSE BOX
	SMOKE DETECTOR
	FIRE HYDRANT VALVE
	HEAT DETECTOR
PUMP	FIRE PUMP
	FIRE SAND BUCKET STAND
	100MM DIA TANK TO SPRINKLER PIPELINE
	80MM DIA SPRINKLER PIPELINE
	25MM DIA SPRINKLER BRANCH PIPELINE

DRAWING NO: LIC-SPRIN LER-85 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

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MUMBAI

NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SPRIN LER AND SMO E DETECTOR LAYOUT SECOND FLOOR

SCALE: REV 0 0 0 0 3

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THIRD FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

FRD	FIRE DOOR
	FOAM EXTINGUISERS
	SPRINKLERS
	DRY SPRINKLERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE HOSE REEL
	FIRE HOSE BOX
	SMOKE DETECTOR
	FIRE HYDRANT VALVE
	HEAT DETECTOR
PUMP	FIRE PUMP
	FIRE SAND BUCKET STAND
	100MM DIA TANK TO SPRINKLER PIPELINE
	80MM DIA SPRINKLER PIPELINE
	25MM DIA SPRINKLER BRANCH PIPELINE

DRAWING NO: LIC-SPRIN LER-86 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

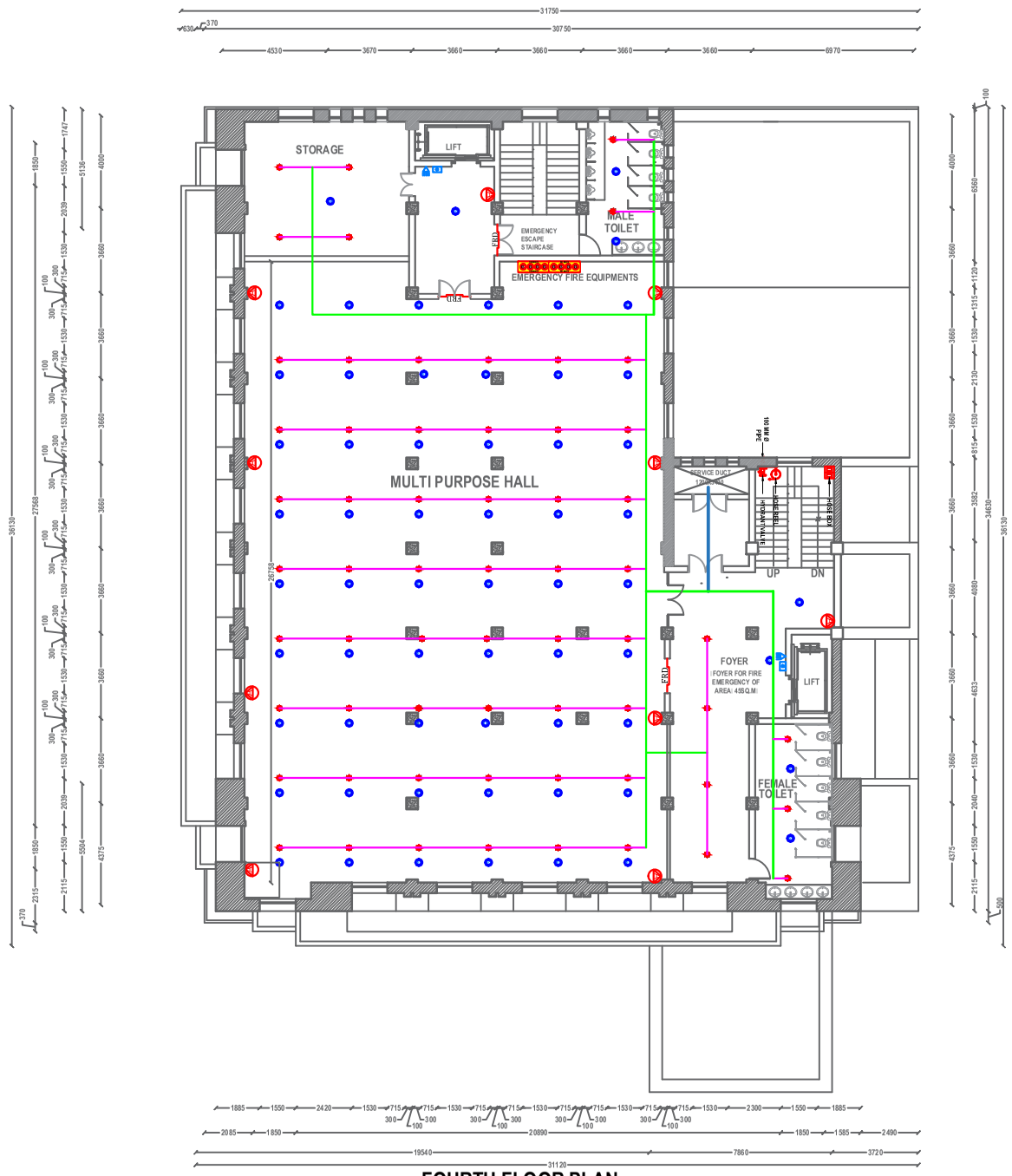
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SPRIN LER AND SMO E DETECTOR LAYOUT THIRD FLOOR

SCALE:

REV 0 0 0 0 3

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FOURTH FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

FRD	FIRE DOOR
	FOAM EXTINGUISERS
	SPRINKLERS
	DRY SPRINKLERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE HOSE REEL
	FIRE HOSE BOX
	SMOKE DETECTOR
	FIRE HYDRANT VALVE
	HEAT DETECTOR
PUMP	FIRE PUMP
	FIRE SAND BUCKET STAND
	100MM DIA TANK TO SPRINKLER PIPELINE
	80MM DIA SPRINKLER PIPELINE
	25MM DIA SPRINKLER BRANCH PIPELINE

DRAWING NO: LIC-SPRIN LER-8 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT NORTH

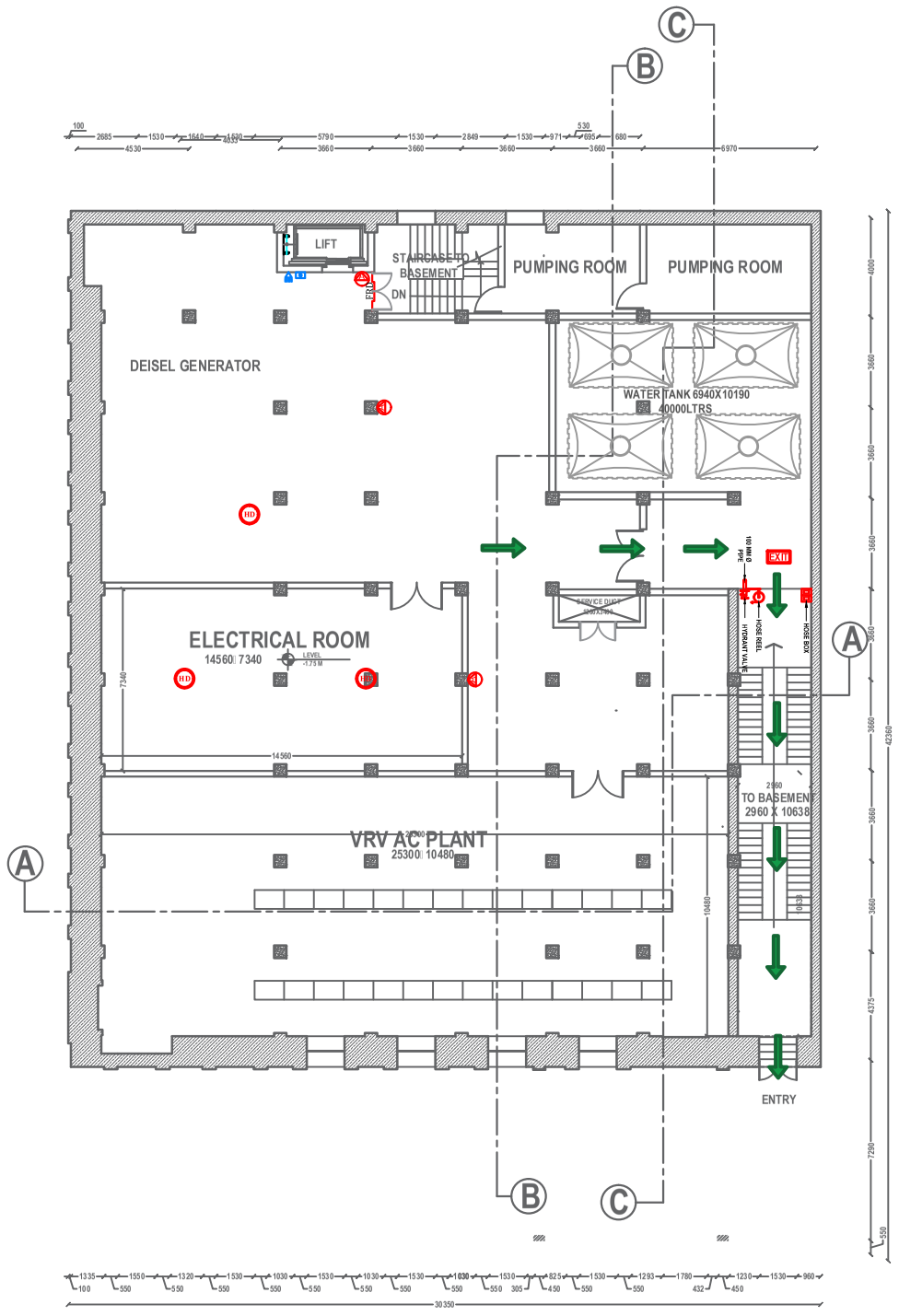
CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SPRIN LER AND SMO E DETECTOR LAYOUT FOURTH FLOOR

SCALE: REV 0 0 0 0 3

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BASEMENT FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
4. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.EMERGENCY E□ IT PLAN TO BE DISPLAYED ON ALL FLOORS.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS	
	FIRE EXTINGUISERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE SAND BUCKET STAND
	EMERGENCY ESCAPE ROUTE
EXIT	EMERGENCY EXIT

DRAWING NO: LIC-ESCAPE PLAN-88 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

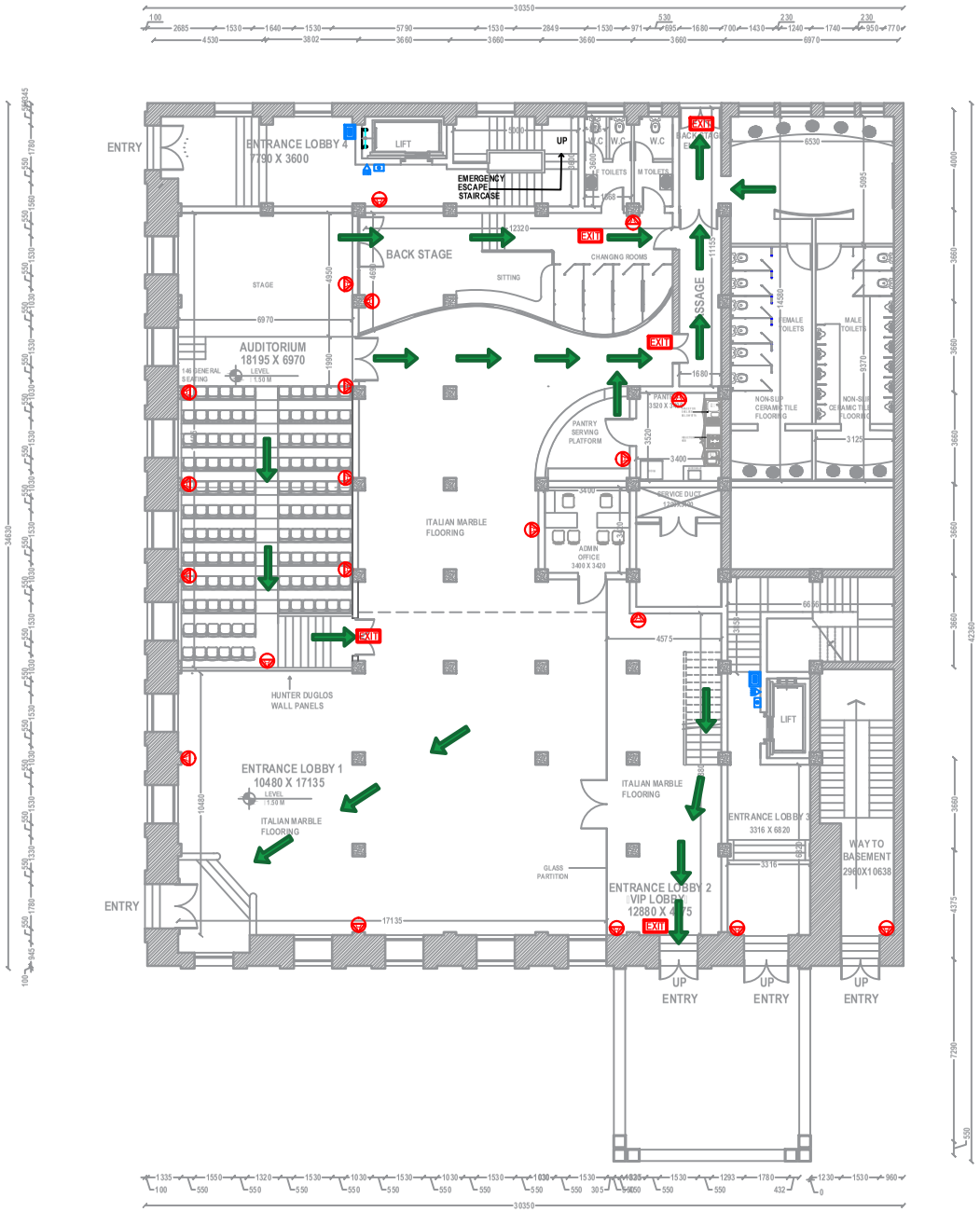
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: EMERGENCY ESCAPE PLAN BAEMENT FLOOR

SCALE: REV 0 0 0 0 3

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GROUND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. EMERGENCY E□ IT PLAN TO BE DISPLAYED ON ALL FLOORS.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGENDS	
	FIRE EXTINGUISERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE SAND BUCKET STAND
	EMERGENCY ESCAPE ROUTE
EXIT	EMERGENCY EXIT

DRAWING NO: LIC-ESCAPE PLAN-8□ DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

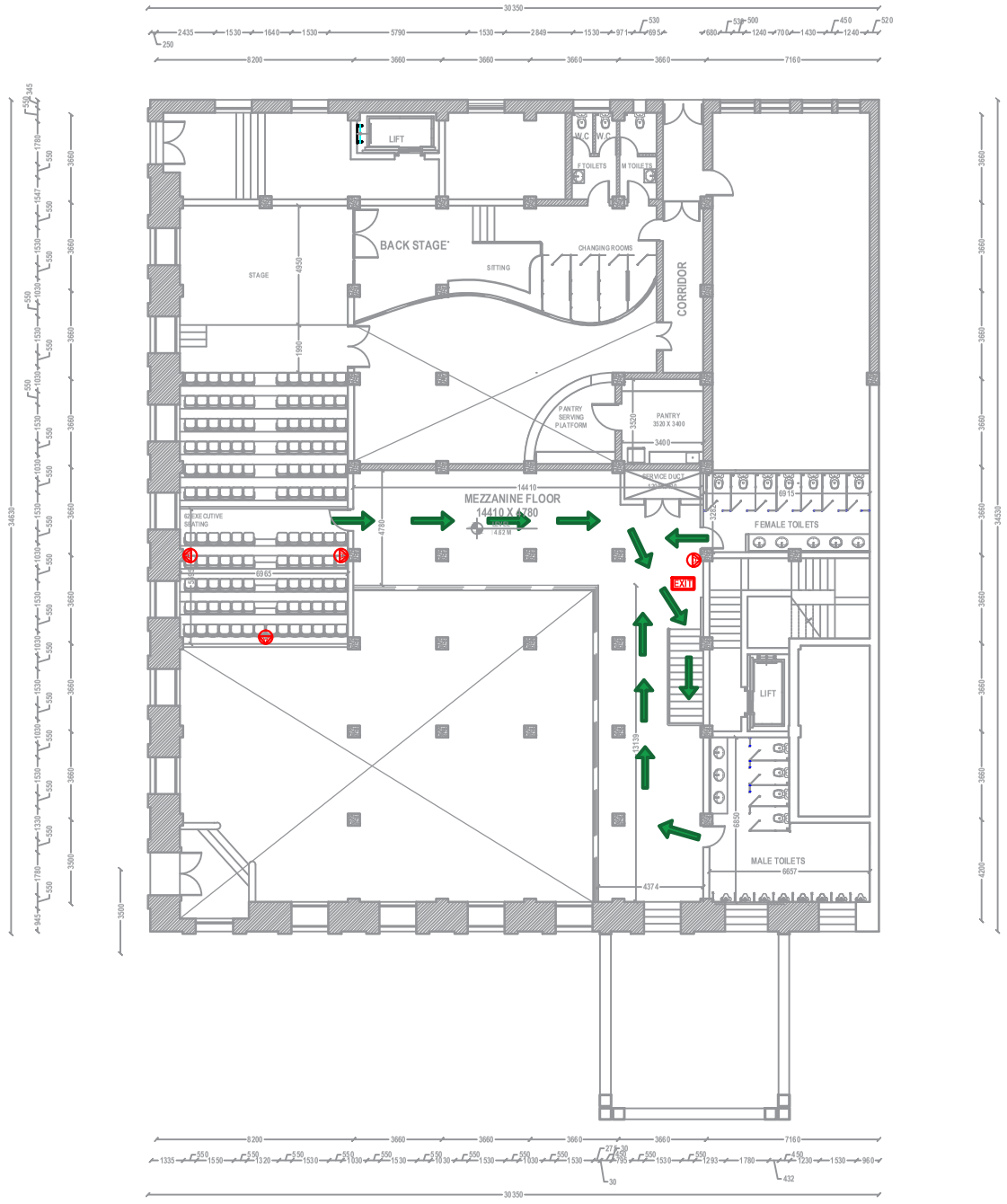
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: EMERGENCY ESCAPE PLAN GROUND FLOOR

SCALE: REV 0 0 0 0 3

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MEZZANINE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. EMERGENCY E□ IT PLAN TO BE DISPLAYED ON ALL FLOORS.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGENDS	
	FIRE EXTINGUISERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE SAND BUCKET STAND
	EMERGENCY ESCAPE ROUTE
EXIT	EMERGENCY EXIT

DRAWING NO: LIC-ESCAPE PLAN-□ 0 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

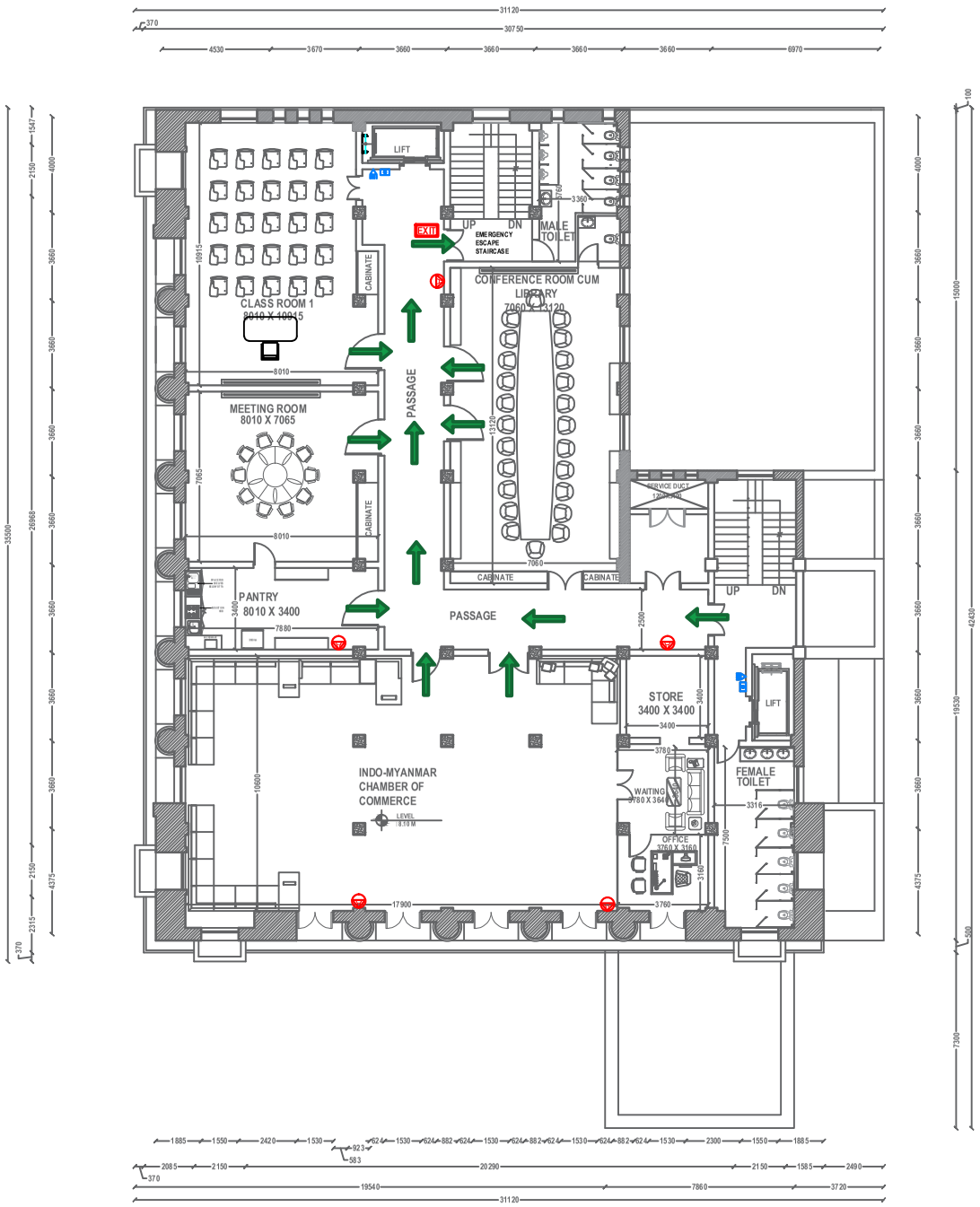
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PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: EMERGENCY ESCAPE PLAN ME□ □ ANINE FLOOR

SCALE: REV 0 0 0 0 3

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FIRST FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
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4. EMERGENCY E□ IT PLAN TO BE DISPLAYED ON ALL FLOORS.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGENDS	
	FIRE EXTINGUISERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE SAND BUCKET STAND
	EMERGENCY ESCAPE ROUTE
EXIT	EMERGENCY EXIT

DRAWING NO: LIC-ESCAPE PLAN-□ 1 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

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MYANMAR

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MUMBAI

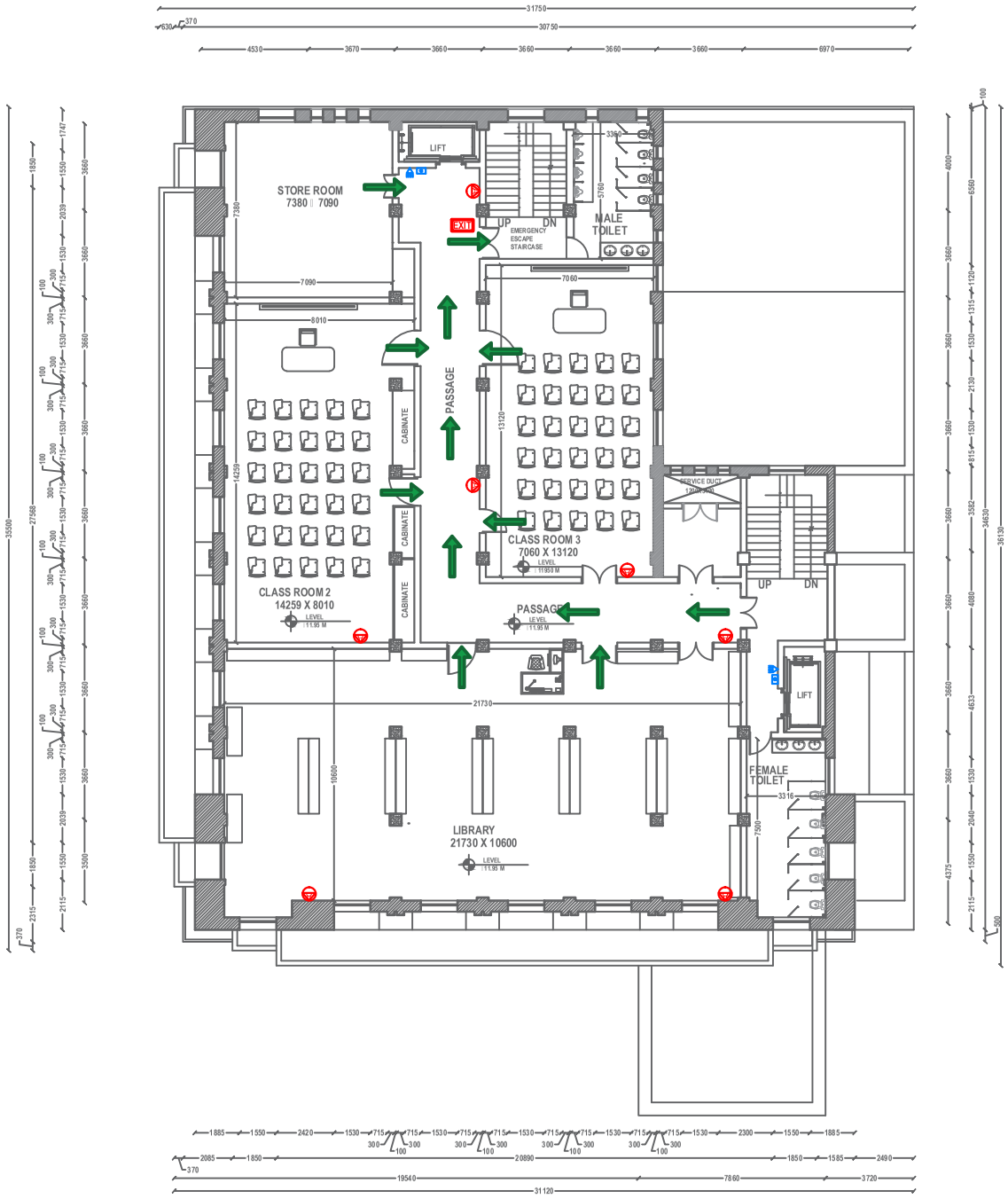
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: EMERGENCY ESCAPE PLAN FIRST FLOOR

SCALE: REV 0 0 0 0 3

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SECOND FLOOR PLAN SCALE- 1:100

NOTE :-

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4. EMERGENCY E□ IT PLAN TO BE DISPLAYED ON ALL FLOORS.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGENDS	
	FIRE EXTINGUISERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE SAND BUCKET STAND
	EMERGENCY ESCAPE ROUTE
EXIT	EMERGENCY EXIT

DRAWING NO: LIC-ESCAPE PLAN-□ 2 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME:PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: EMERGENCY ESCAPE PLAN SECOND FLOOR

SCALE: REV 0 0 0 0 3

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THIRD FLOOR PLAN SCALE- 1:100

NOTE :-

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4. EMERGENCY E□ IT PLAN TO BE DISPLAYED ON ALL FLOORS.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGENDS	
	FIRE EXTINGUISERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE SAND BUCKET STAND
	EMERGENCY ESCAPE ROUTE
EXIT	EMERGENCY EXIT

DRAWING NO: LIC-ESCAPE PLAN-□ 3 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

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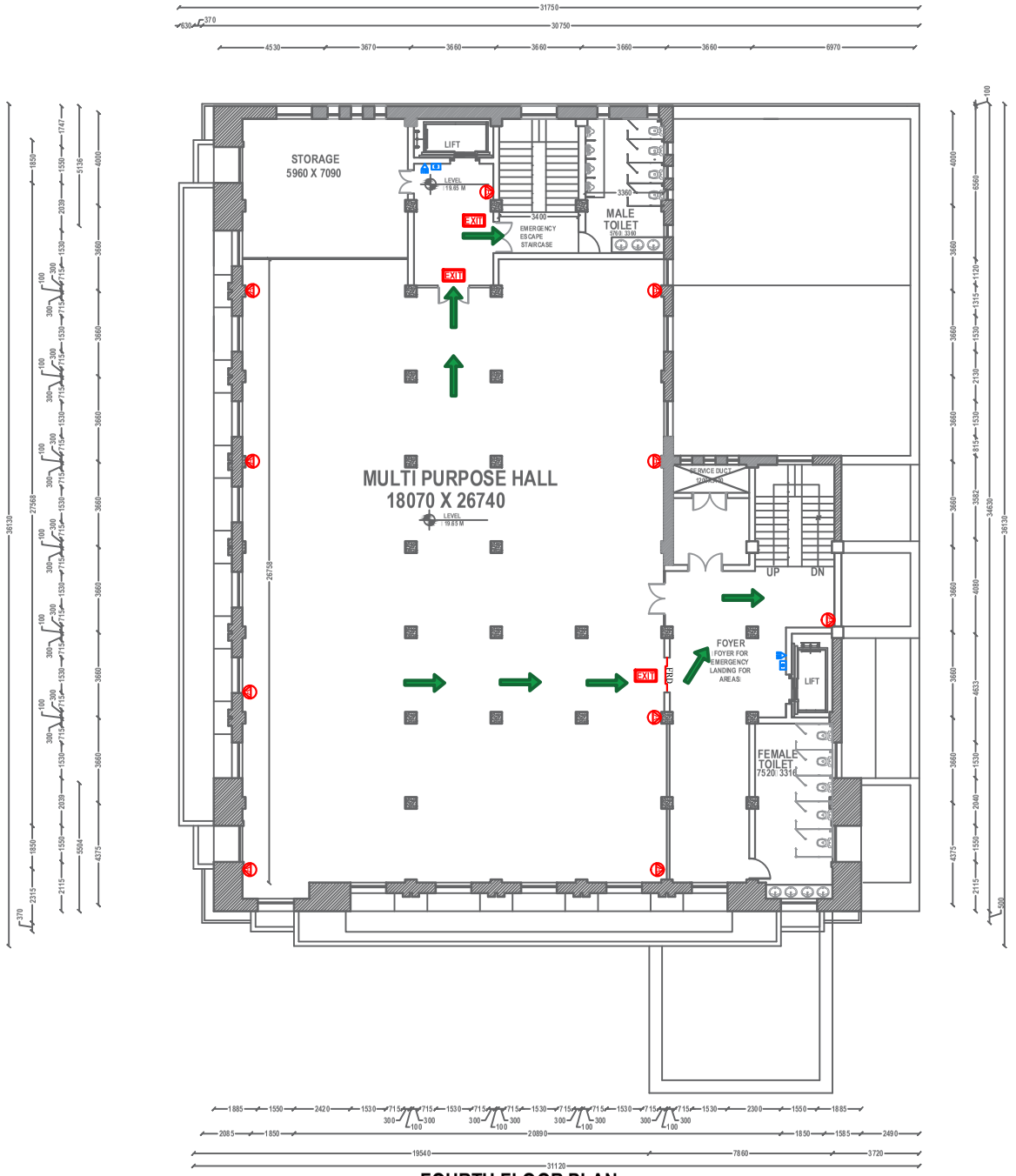
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: EMERGENCY ESCAPE PLAN THIRD FLOOR

SCALE:

REV 0 0 0 0 3

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FOURTH FLOOR PLAN SCALE- 1:100

NOTE :-

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4. EMERGENCY E□ IT PLAN TO BE DISPLAYED ON ALL FLOORS.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

	FIRE EXTINGUISERS
	FIRE CONTROL PANEL
	FIRE MANUAL CALL POINT
	FIRE HOOTER
	FIRE SAND BUCKET STAND
	EMERGENCY ESCAPE ROUTE
EXIT	EMERGENCY EXIT

DRAWING NO: LIC-ESCAPE PLAN-□ 4 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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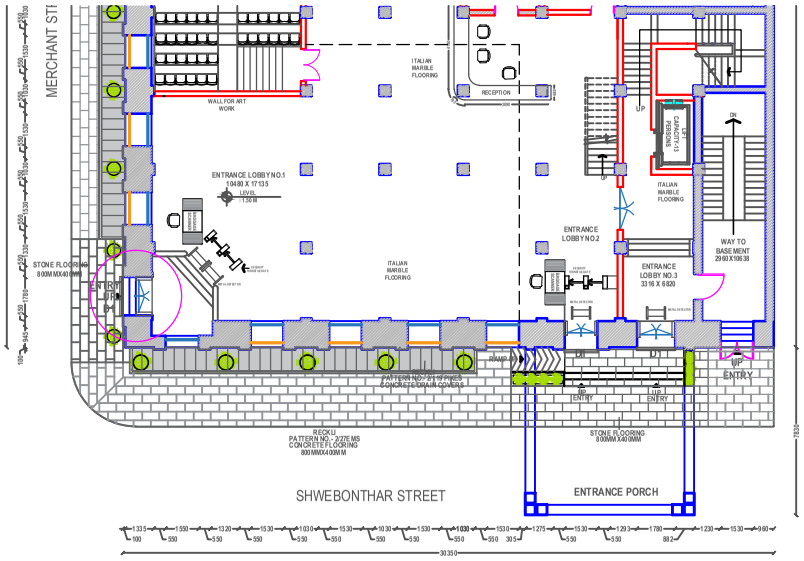
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: EMERGENCY ESCAPE PLAN FOURTH FLOOR

SCALE:

REV 0 0 0 0 3

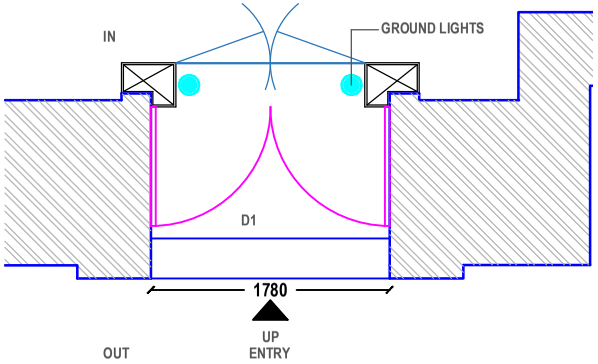
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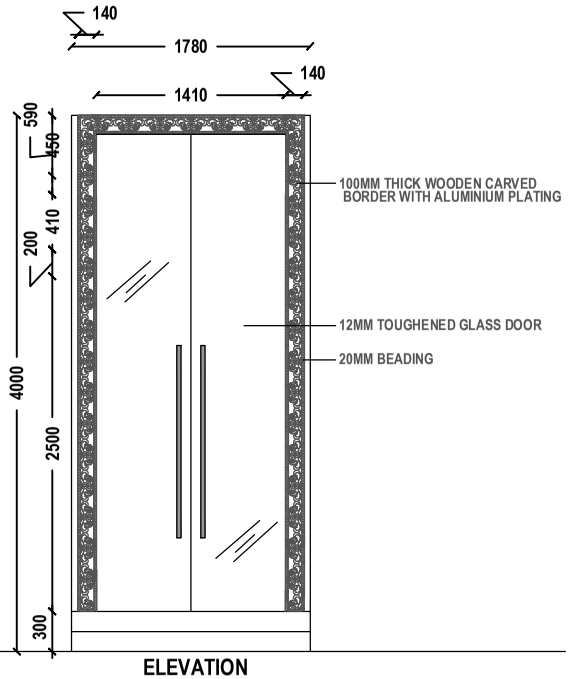
GROUND FLOOR PLAN SCALE- 1:125



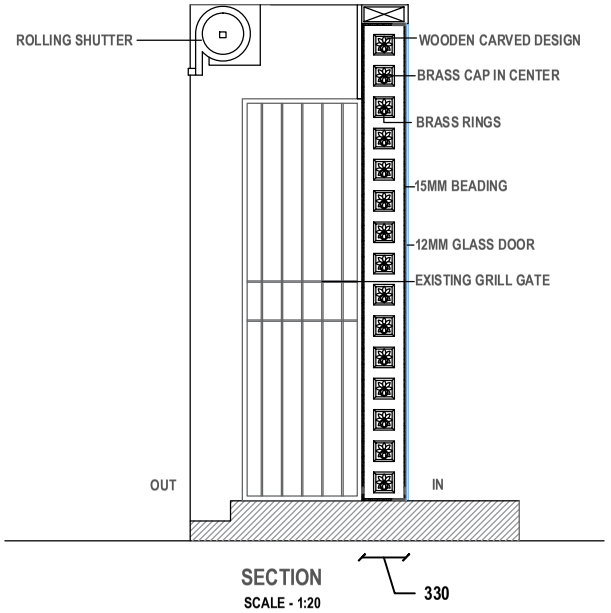




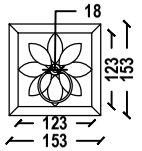
PLAN SCALE - 1:20



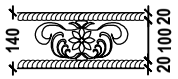
ELEVATION
SCALE - 1:20



SECTION
SCALE - 1:20



TRADITIONAL WOOD CARVED DESIGN



TRADITIONAL CARVED BORDER DESIGN ON METAL

NOTE :-

1. ALL DIMENSION ARE IN MM.
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3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-DOOR-□ 5				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT — NORTH

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

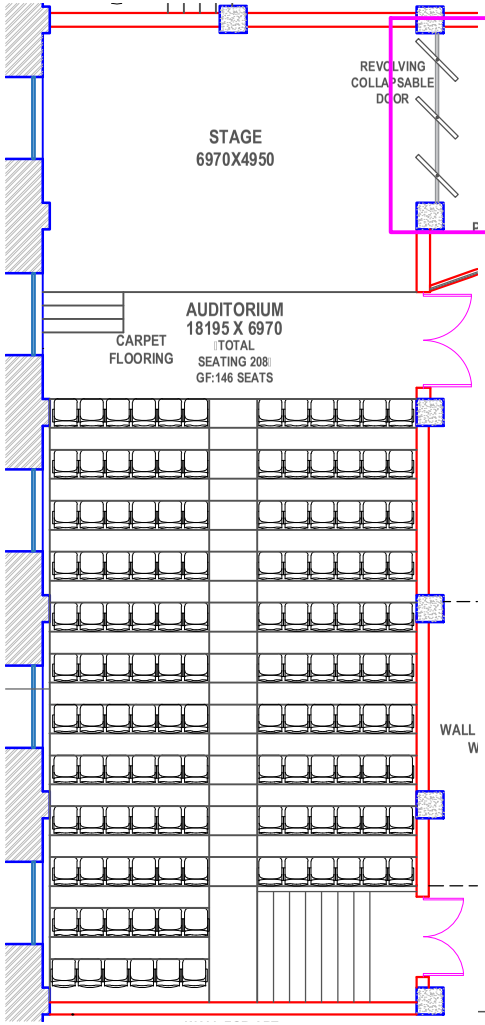
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ENTRANCE DOOR DETAILS - DOOR D1

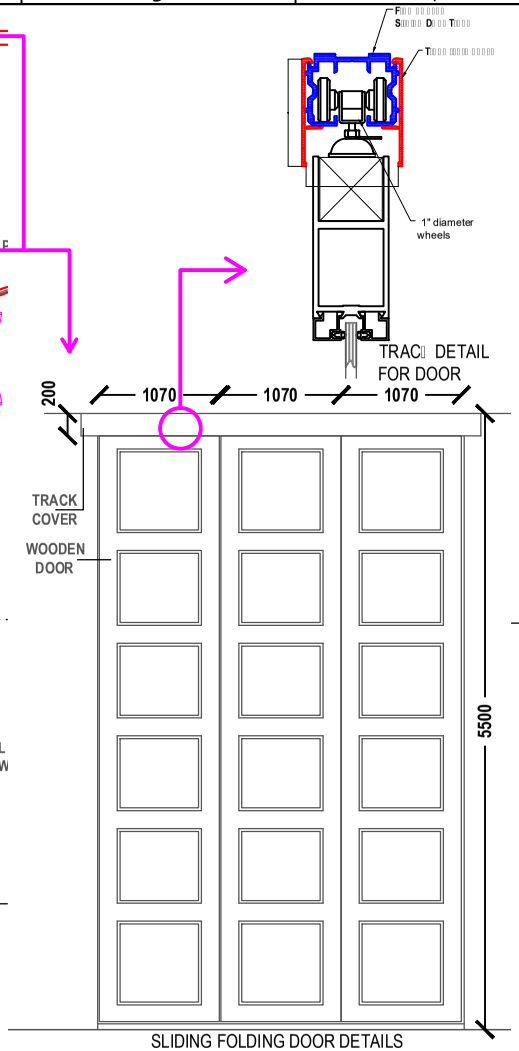
SCALE: — REV 0 0 0 0 3

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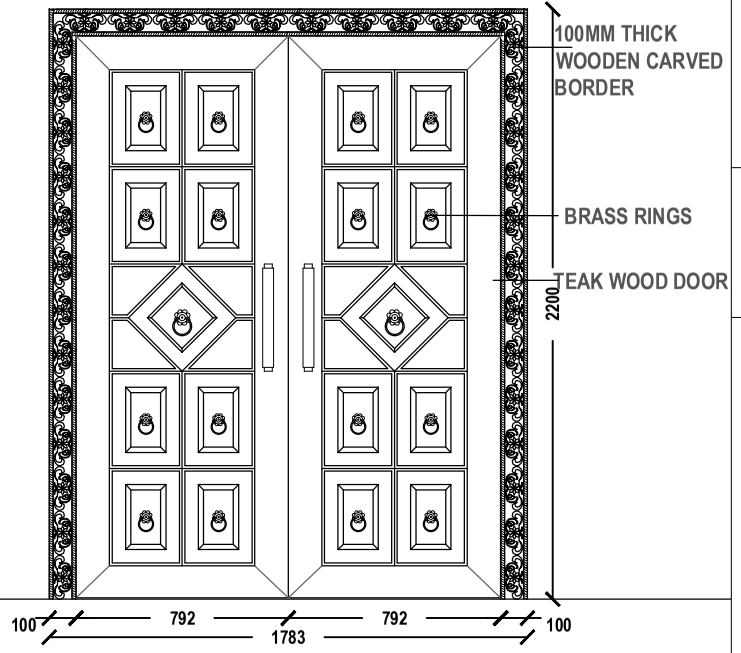
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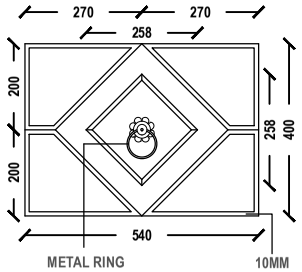
GROUND FLOOR PLAN AUDITORIUM SCALE- 1:50

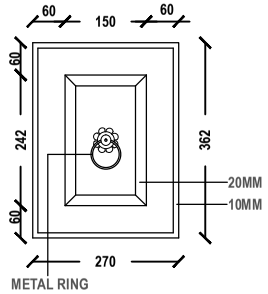


SLIDING FOLDING DOOR DETAILS

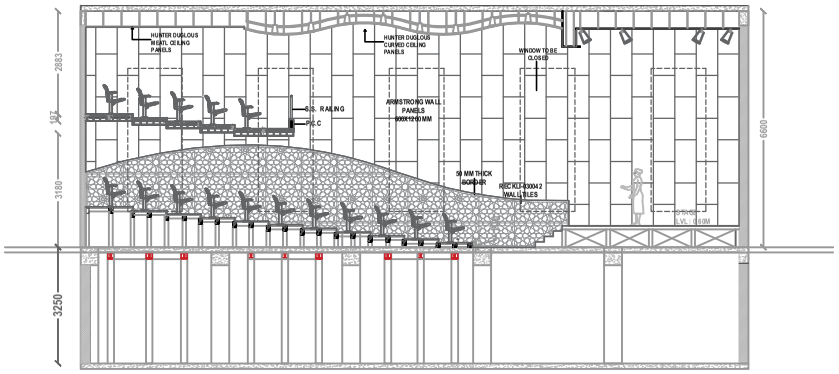


TEAK WOOD DOOR FOR AUDITORIUM SCALE- 1:10



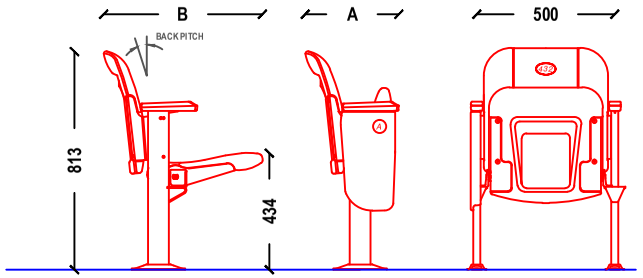


DOOR DESIGN DETAILS



SECTION AA SCALE- 1:5

BACK PITCH	A	B
20°	368MM	584MM
16°	343MM	558MM



AUDITORIUM CHAIR DETAIL SCALE- 1:10

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-AUDI- **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

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MUMBAI

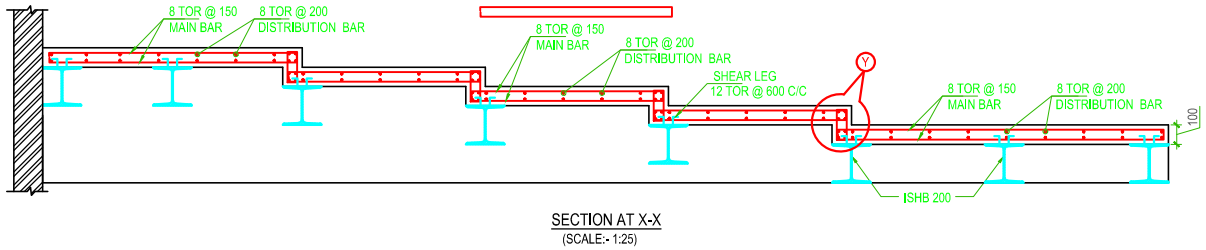
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

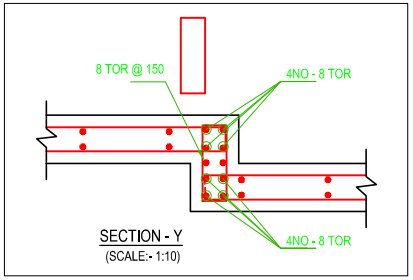
DRAWING TITLE: AUDITORIUM DETAILS

SCALE:

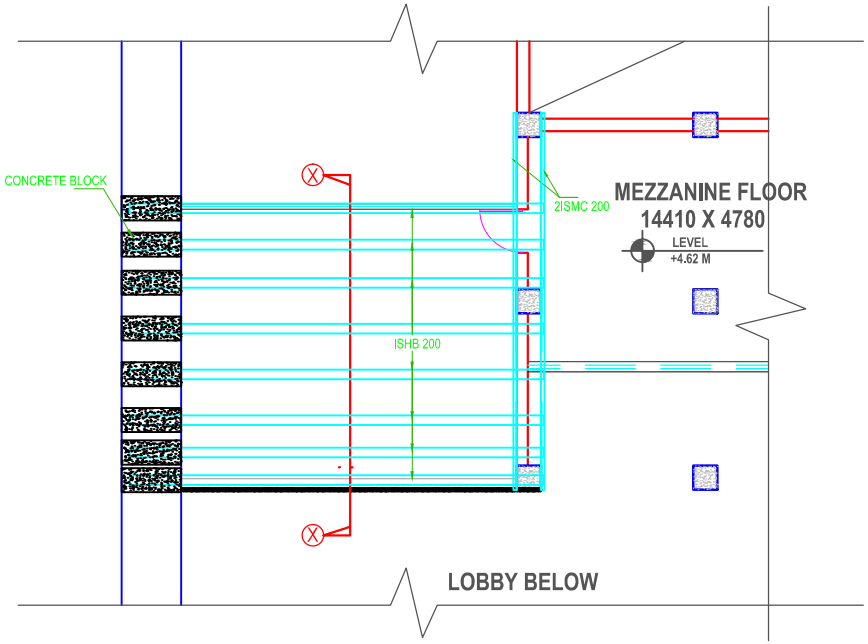
REV 0 0 0 0 3



SECTION AT X-X
(SCALE:- 1:25)



SECTION - Y
(SCALE:- 1:10)

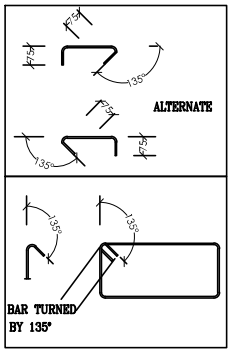


MEZZANINE FLOOR PLAN
SCALE- 1:100

NOTES:

1. ALL DIMENSIONS ARE IN MM
2. ALL RCC WORK IN CONCRETE M-20 AND STEEL FE-500
   PLAIN CEMENT CONCRETE M-15
3. MINIMUM CLEAR COVER
   a. FOOTING = 50 mm
   b. BEAM = 25 mm
   c. COLUMN = 40 mm
   d. SLAB = 20 mm
4. TENSION OVERLAP : 60 X BAR DIA
   COMPRESSION OVERLAP : 40 X BAR DIA
   NOT MORE THAN HALF THE BARS SHALL BE LAPPED AT A SECTION.
5. EXTRA BARS TO EXTEND 0.3XL IN CONTINUOUS SUPPORT,
IF EXTRA TOP NOT PROVIDED AND ANCHOR DOWN IN END COLUMN.
6. USE OF NIDDLE VIBRATOR AND PLASTISIZER IS RECOMMENDED FOR RCC WORK
7. USE DENSIFIED COATED PLYWOOD FOR SHUTTERING AND FORMWORK.
8. BURNT OIL NOT PERMITTED FOR DE - SHUTTERING.
9. EXPOSED SURFACE OF CONCRETE SHALL BE CONTINUEOSLY IN WET CONDITION FOR MINIMUM 14 DAYS.
10. FOR CURTAILMENT, SPLICING, REINFORCEMENT BAR DETAILING SPECIFICATIONS, COMPACTION OF CONCRETE ETC. SHALL BE AS PER IS 456 - 2000 AND IS 13920 - 1993
11. DO NOT SCALE THE DRAWINGS.
12. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
13. IN CASE OF ANY AMBIGUITY PLEASE BRING IT TO THE NOTICE OF OFFICE BEFORE EXECUTION OF THE WORK.
14. ANY TYPE OF OPENING FOR PLUMBING, DRAINAGE OR ELECTRIFICATION IS NOT PERMITTED IN RCC BEAMS AND COLUMNS DURING OR AFTER CASTING.

TYPICAL BAR ARRANGEMENT



DRAWING NO: LIC-AUDI-□□				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

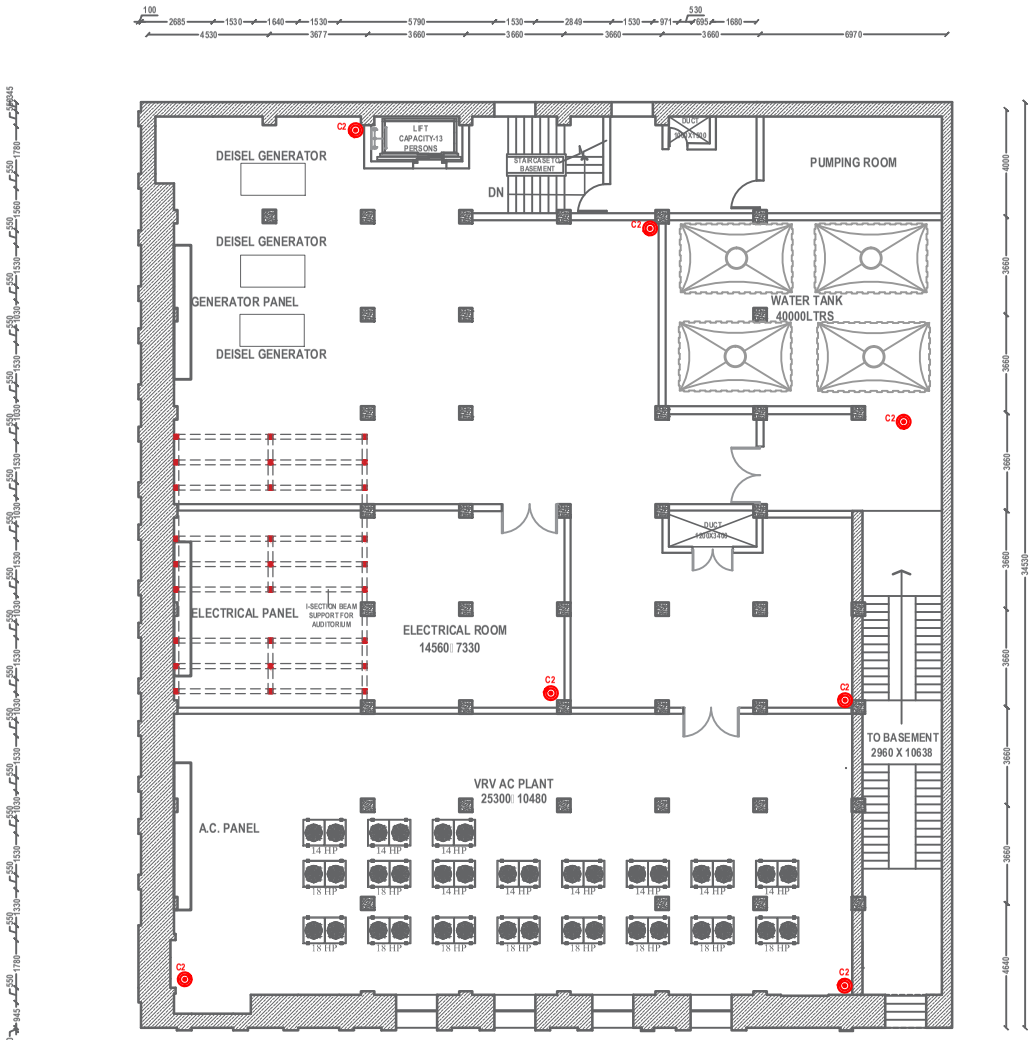
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: AUDITORIUM ME□□ ANINE FLOOR DETAIL

SCALE:

REV 0 0 0 0 3

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BASEMENT FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
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LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

C1	SONY BULLET CAMERA-SNC-EB640 / EQUIVALENT
C2	SONY DOME CAMERA-SNC-VM772R / EQUIVALENT
C3	SONY PTZ CAMERA-WR632C / EQUIVALENT

DRAWING NO: LIC-CCTV-II 8 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT NORTH

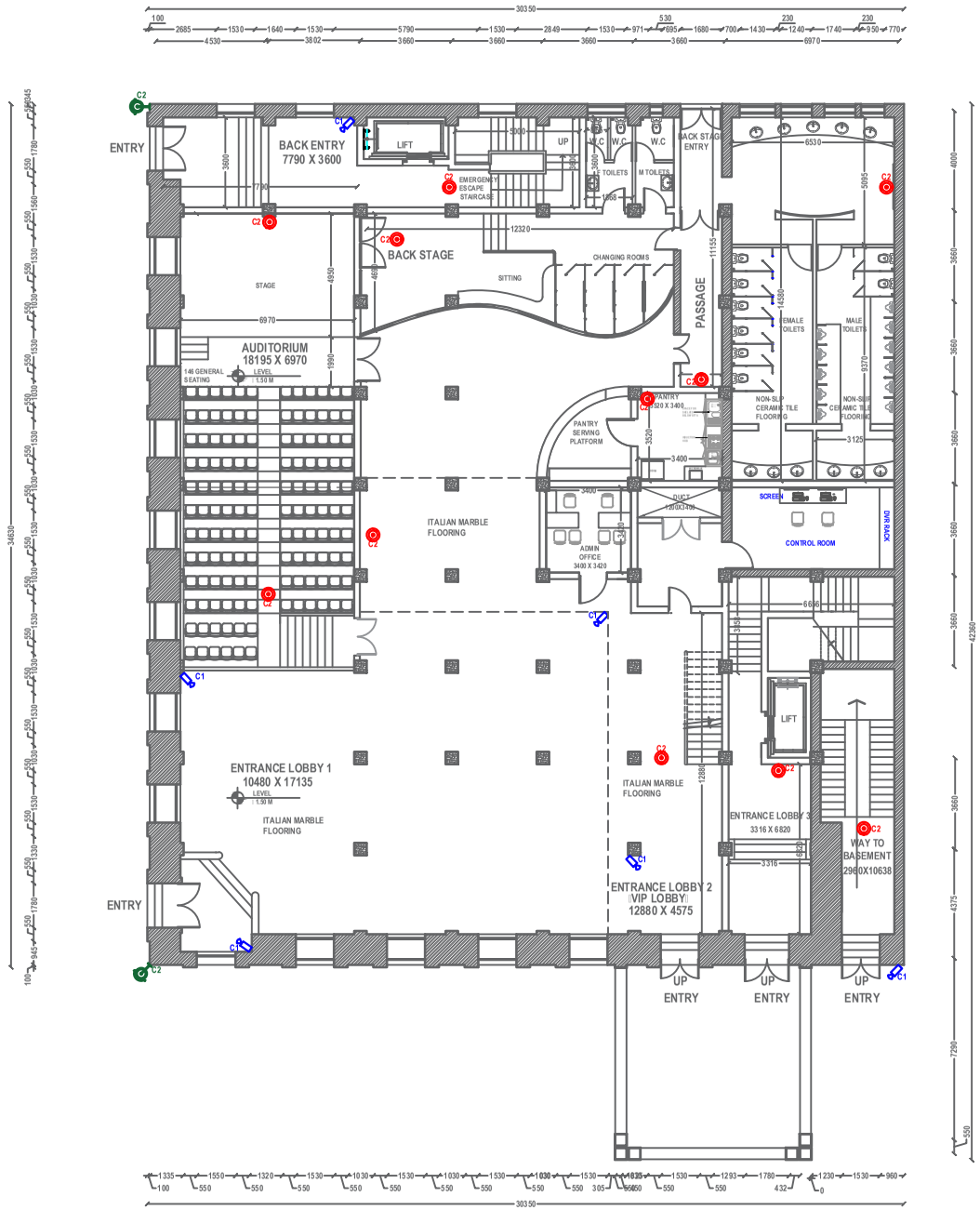
CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: CCTV LAYOUT PLAN BASEMENT FLOOR

SCALE: REV 0 0 0 3

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GROUND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGENDS

C1	SONY BULLET CAMERA-SNC-EB640 / EQUIVALENT
C2	SONY DOME CAMERA-SNC-VM772R / EQUIVALENT
C3	SONY PTZ CAMERA-WR632C / EQUIVALENT

DRAWING NO: LIC-CCTV-II

DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

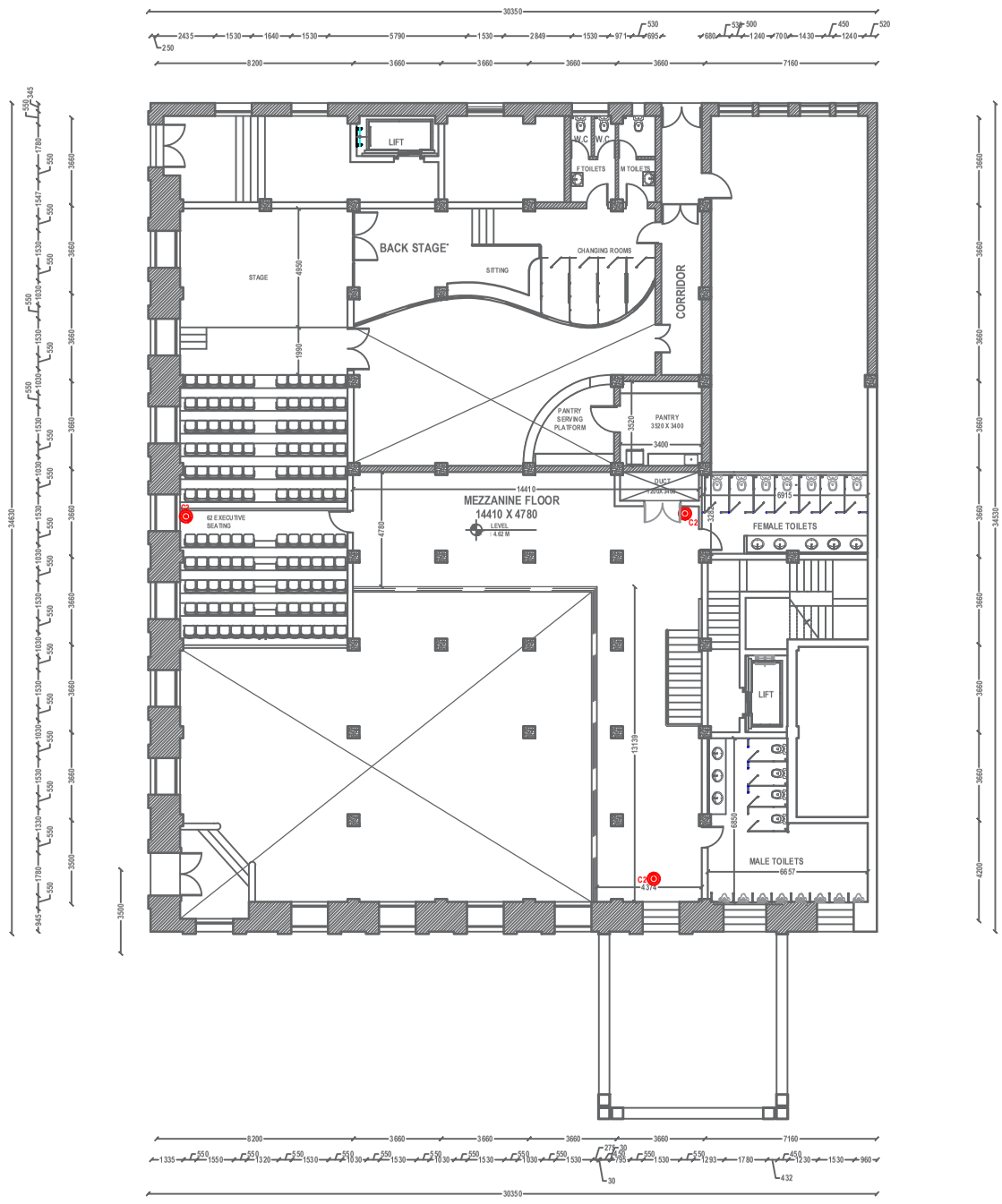
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: CCTV LAYOUT PLAN GROUND FLOOR

SCALE:

REV 0 0 0 0 3

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MEZZANINE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

C1	SONY BULLET CAMERA-SNC-EB640 / EQUIVALENT
C2	SONY DOME CAMERA-SNC-VM772R / EQUIVALENT
C3	SONY PTZ CAMERA-WR632C / EQUIVALENT

DRAWING NO: LIC-CCTV-100 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

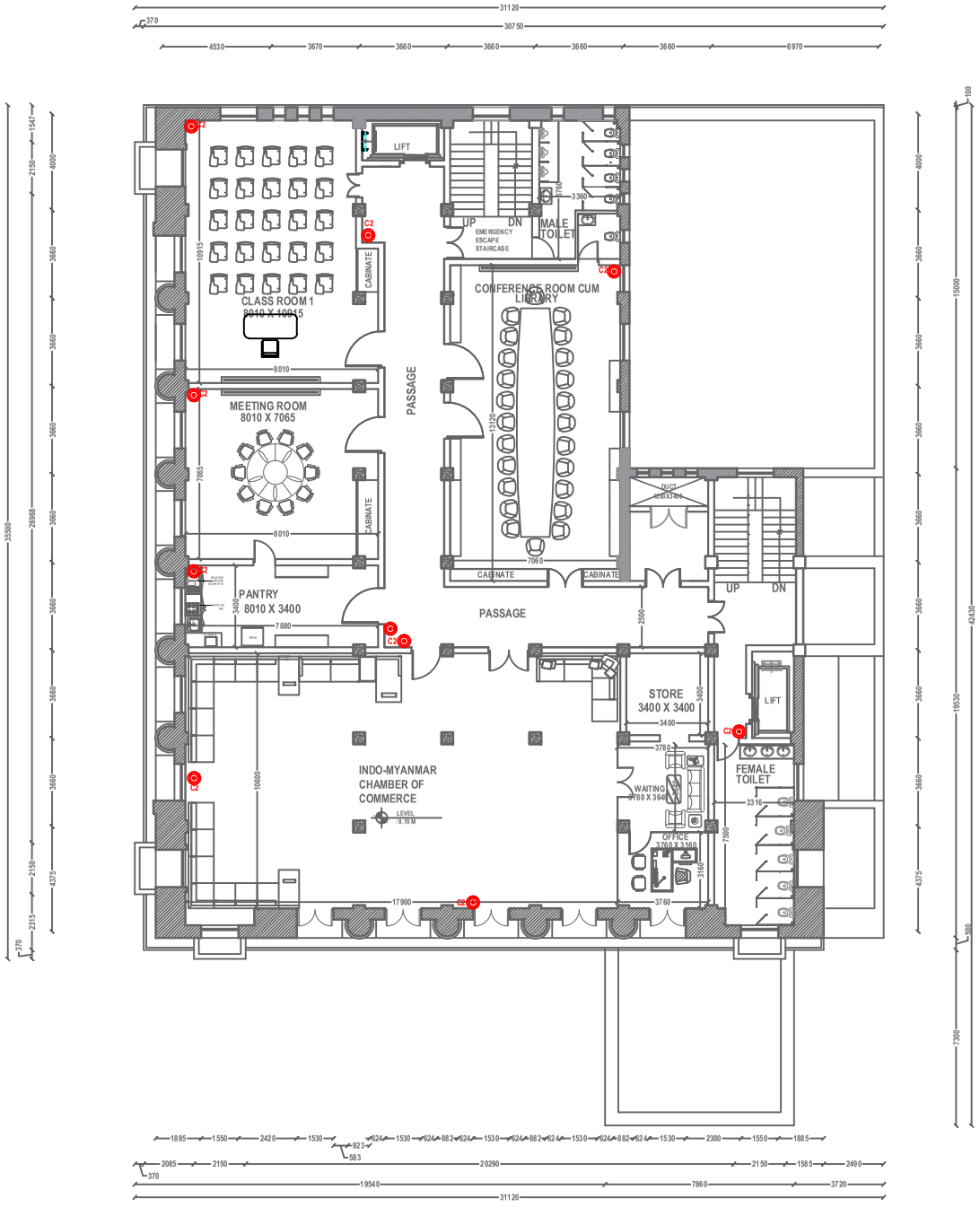
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: CCTV LAYOUT PLAN ME□□ANINE FLOOR

SCALE:

REV 0 0 0 0 3

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FIRST FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

C1	SONY BULLET CAMERA-SNC-EB640 / EQUIVALENT
C2	SONY DOME CAMERA-SNC-VM772R / EQUIVALENT
C3	SONY PTZ CAMERA-WR632C / EQUIVALENT

DRAWING NO: LIC-CCTV-101 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

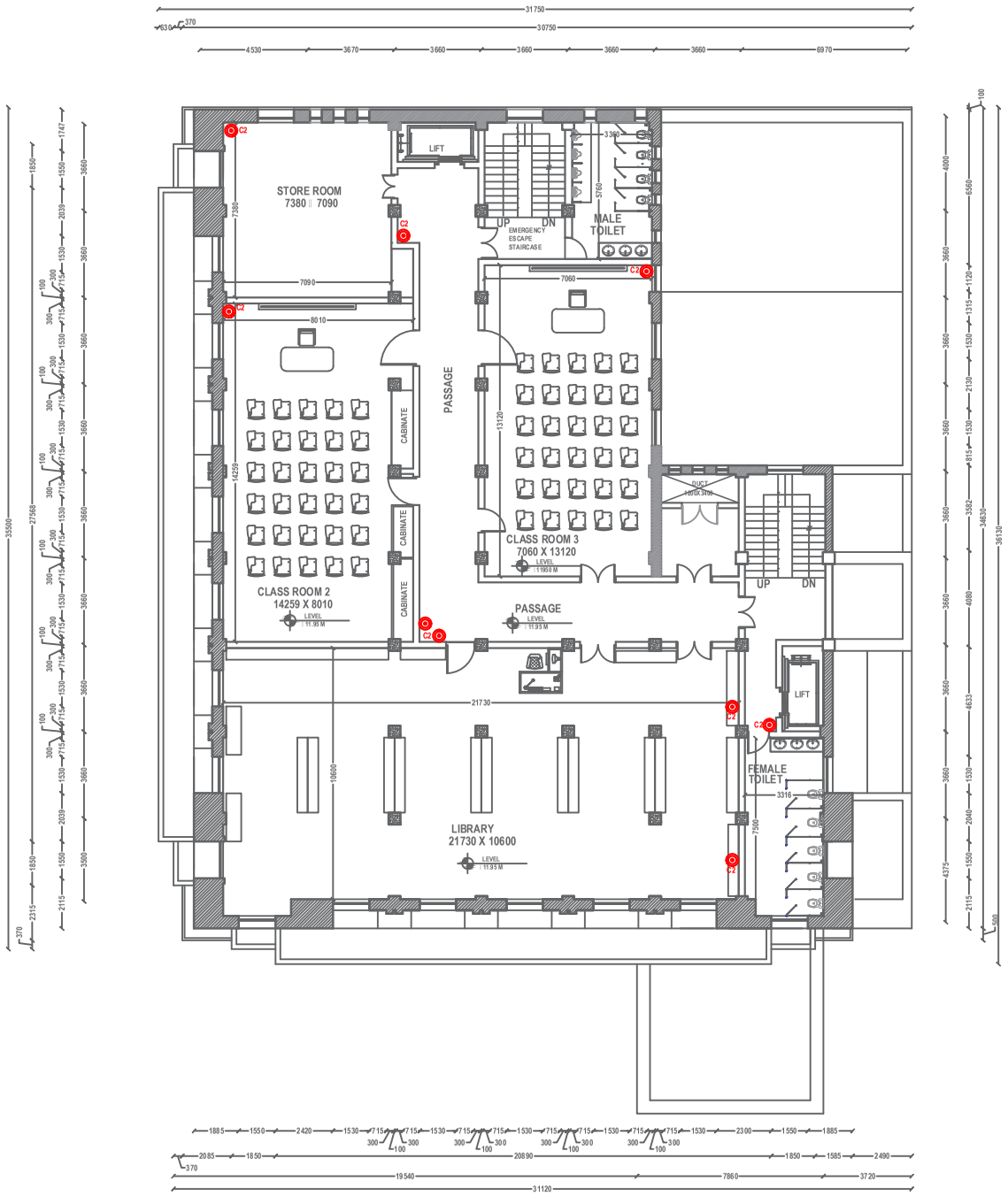
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: CCTV LAYOUT PLAN FIRST FLOOR

SCALE: REV 0 0 0 0 3

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SECOND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

C1	SONY BULLET CAMERA-SNC-EB640 / EQUIVALENT
C2	SONY DOME CAMERA-SNC-VM772R / EQUIVALENT
C3	SONY PTZ CAMERA-WR632C / EQUIVALENT

DRAWING NO: LIC-CCTV-102 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

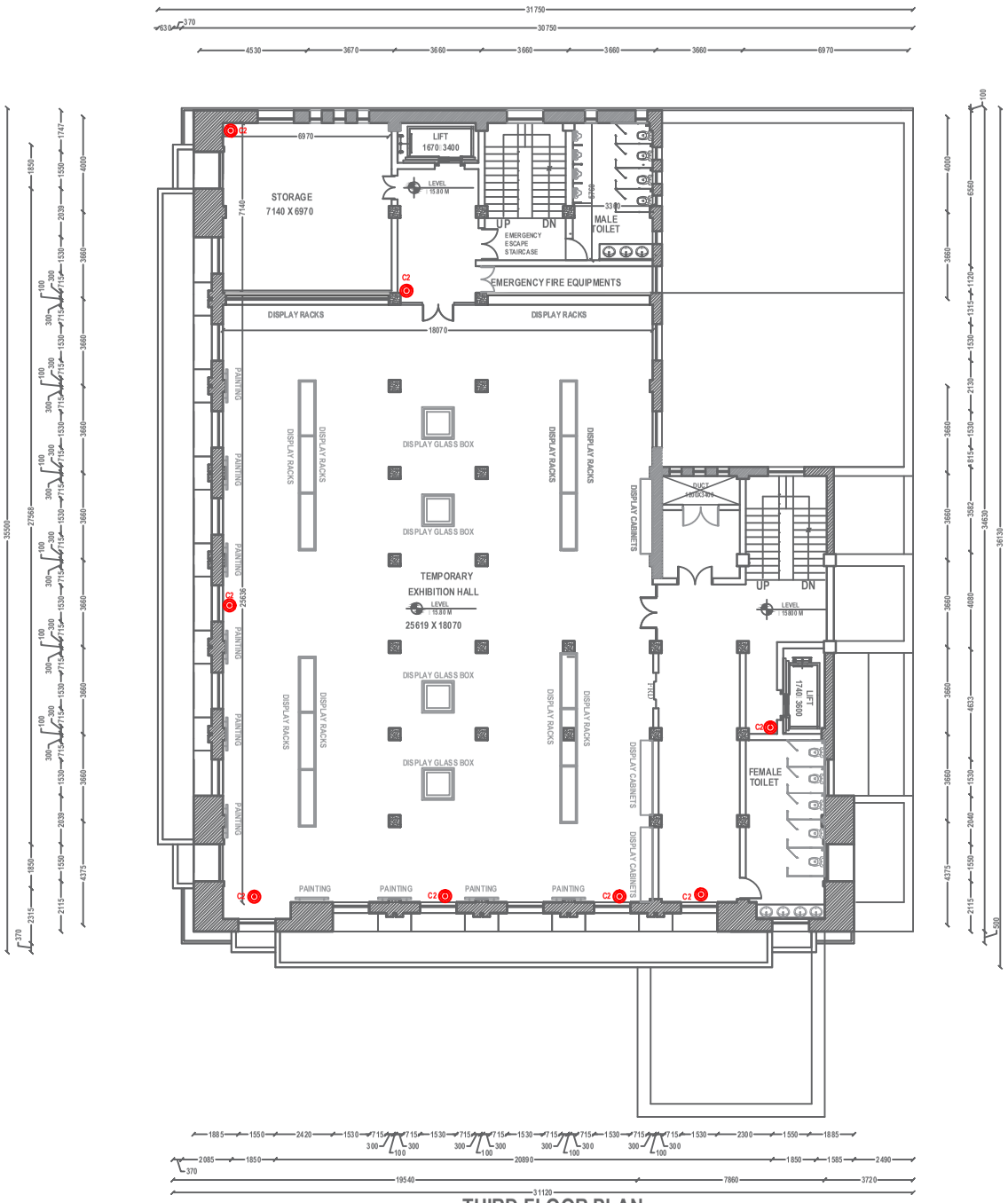
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: CCTV LAYOUT PLAN SECOND FLOOR

SCALE:

REV 0 0 0 0 3

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THIRD FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGENDS

C1	SONY BULLET CAMERA-SNC-EB640 / EQUIVALENT
C2	SONY DOME CAMERA-SNC-VM772R / EQUIVALENT
C3	SONY PTZ CAMERA-WR632C / EQUIVALENT

DRAWING NO: LIC-CCTV-103 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

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MUMBAI

NORTH

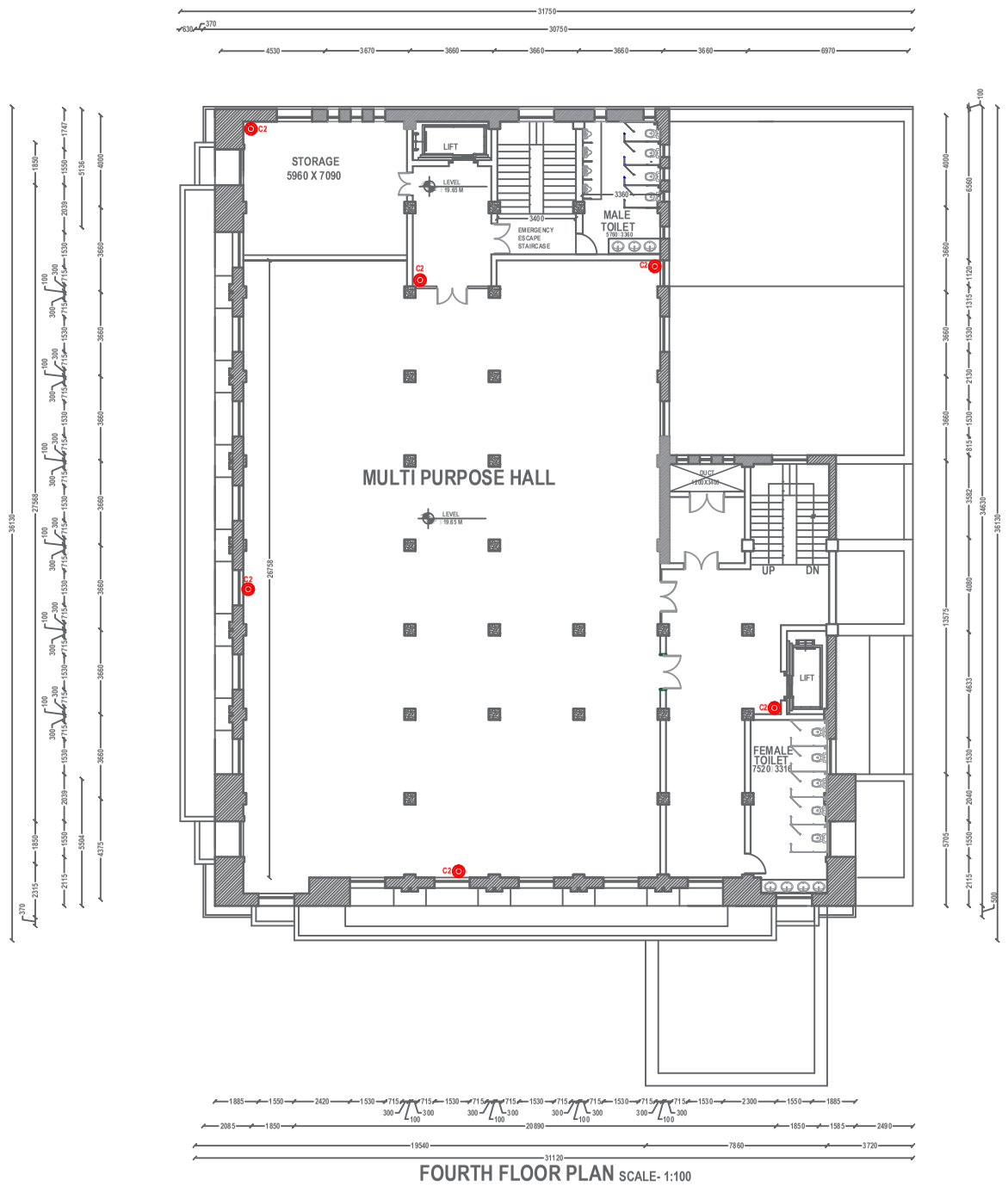
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: CCTV LAYOUT PLAN THIRD FLOOR

SCALE:

REV 0 0 0 0 3

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FOURTH FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

C1	SONY BULLET CAMERA-SNC-EB640 / EQUIVALENT
C2	SONY DOME CAMERA-SNC-VM772R / EQUIVALENT
C3	SONY PTZ CAMERA-WR632C / EQUIVALENT

DRAWING NO: LIC-CCTV-104 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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MYANMAR

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MUMBAI

NORTH

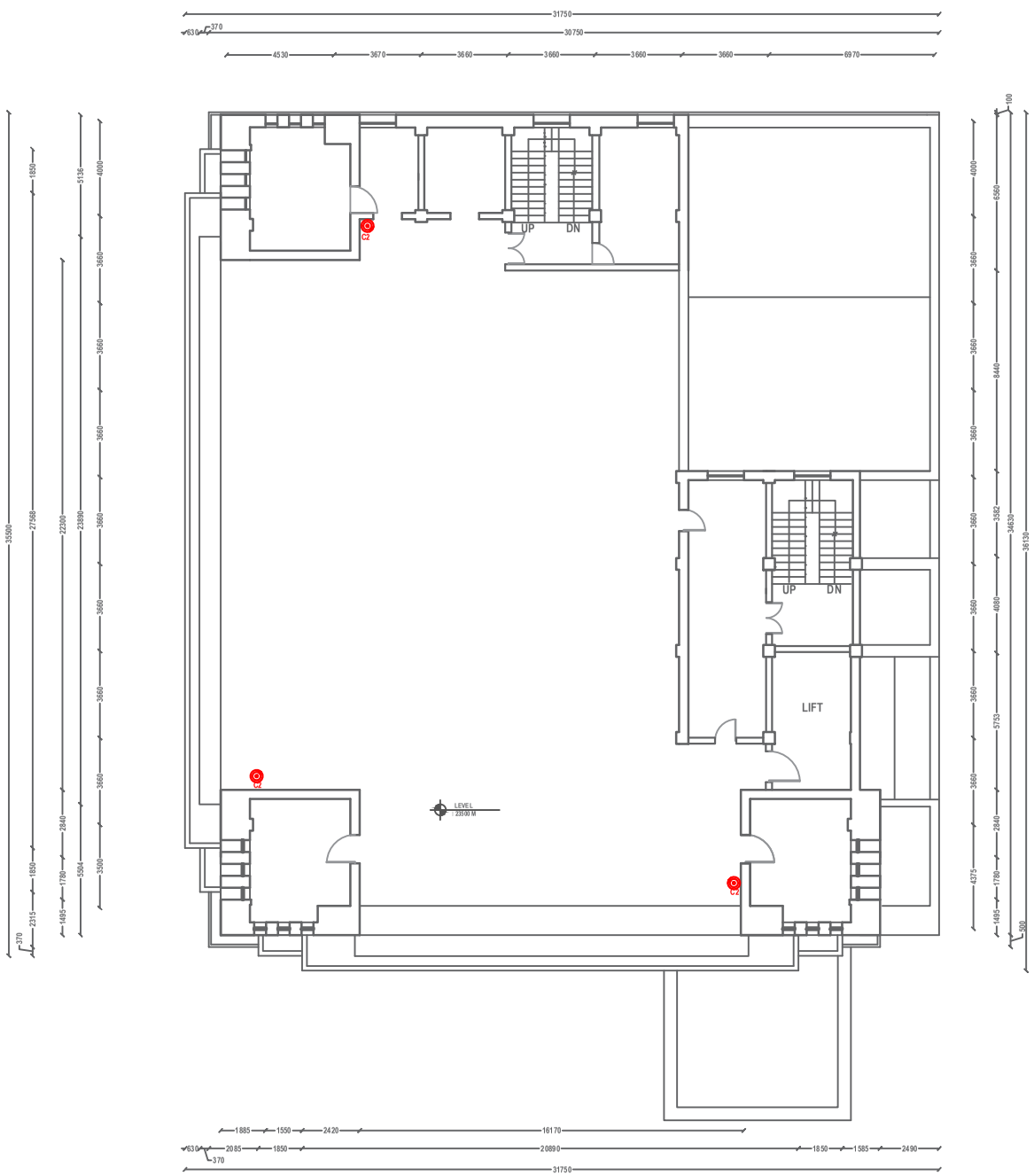
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: CCTV LAYOUT PLAN FOURTH FLOOR

SCALE:

REV 0 0 0 0 3

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TERRACE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGENDS

C1	SONY BULLET CAMERA-SNC-EB640 / EQUIVALENT
C2	SONY DOME CAMERA-SNC-VM772R / EQUIVALENT
C3	SONY PTZ CAMERA-WR632C / EQUIVALENT

DRAWING NO: LIC-CCTV-105 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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MYANMAR

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MUMBAI

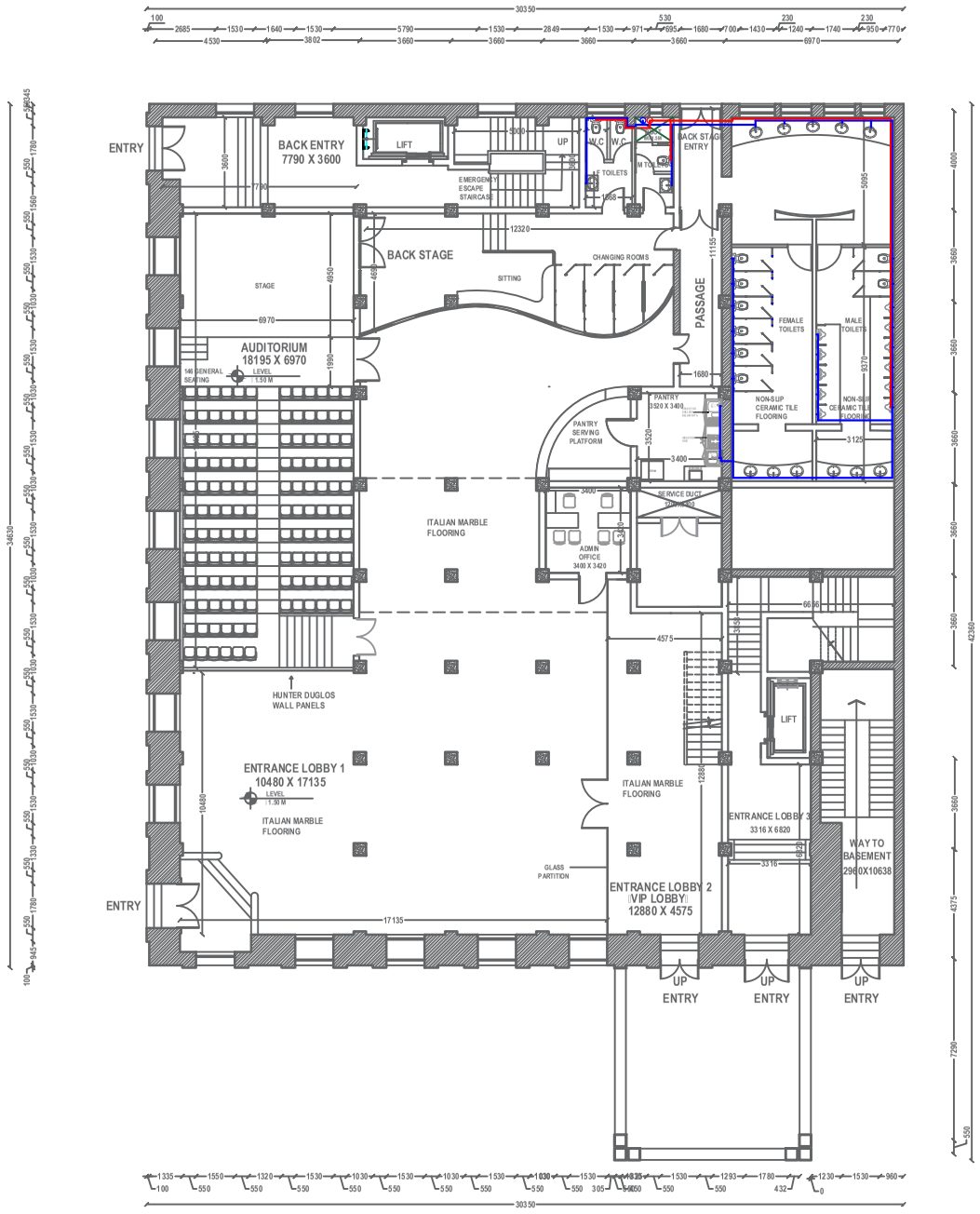
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PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

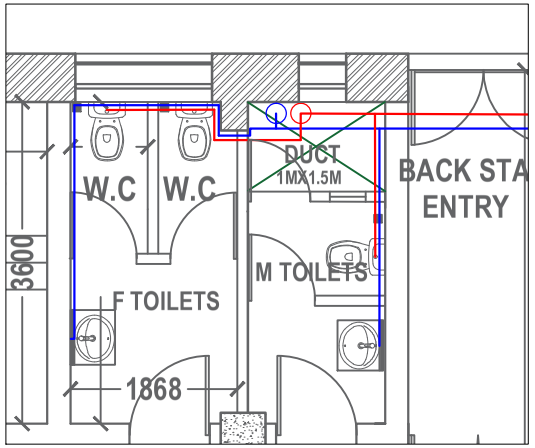
DRAWING TITLE: CCTV LAYOUT PLAN TERRACE FLOOR

SCALE: REV 0 0 0 0 3

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GROUND FLOOR PLAN SCALE- 1:100



DUCT DETAILS ON GROUND FLOOR

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

	WELL WATER PIPELINE
	GREY WATER PIPELINE

DRAWING NO: LIC-DRAIN-106 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-9-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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NORTH

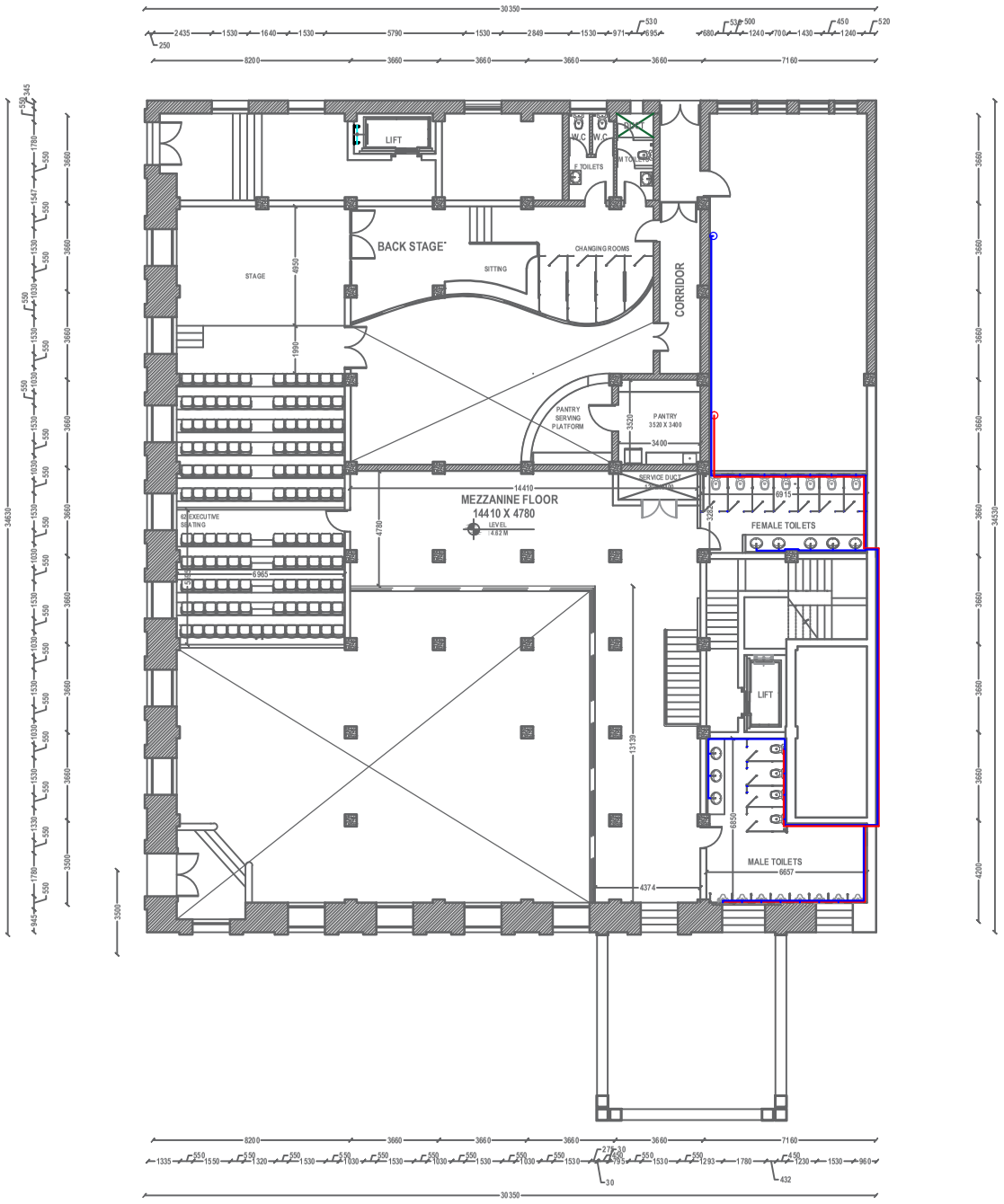
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: DRAINAGE LAYOUT PLAN GROUND FLOOR

SCALE:

REV 0 0 0 0 3

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MEZZANINE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGENDS

	WELL WATER PIPELINE
	GREY WATER PIPELINE

DRAWING NO: LIC-DRAIN-10 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

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MUMBAI

NORTH

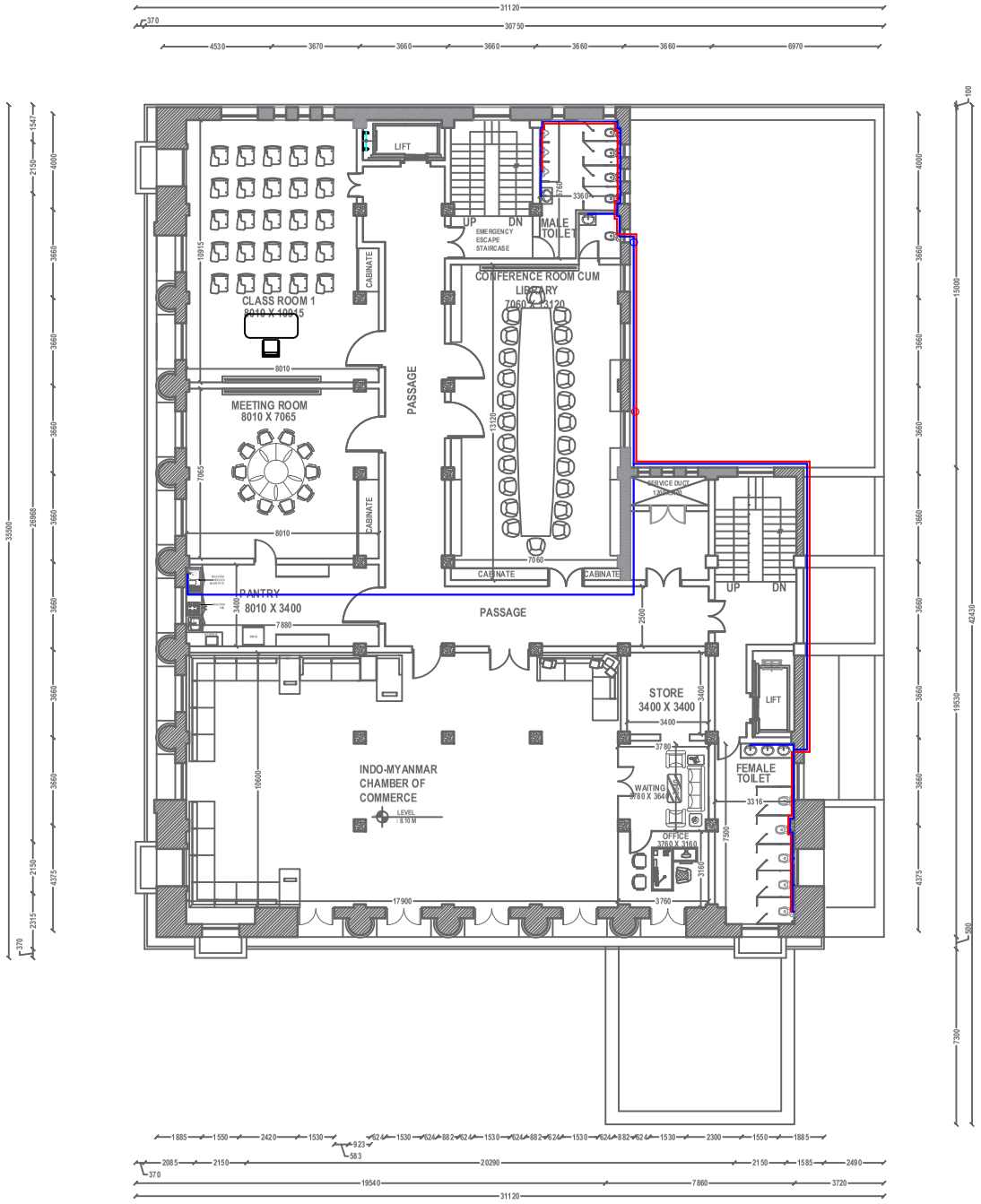
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: DRAINAGE LAYOUT PLAN MEZZANINE FLOOR

SCALE:

REV 0 0 0 0 3

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FIRST FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

	WELL WATER PIPELINE
	GREY WATER PIPELINE

DRAWING NO: LIC-DRAIN-108 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-9-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

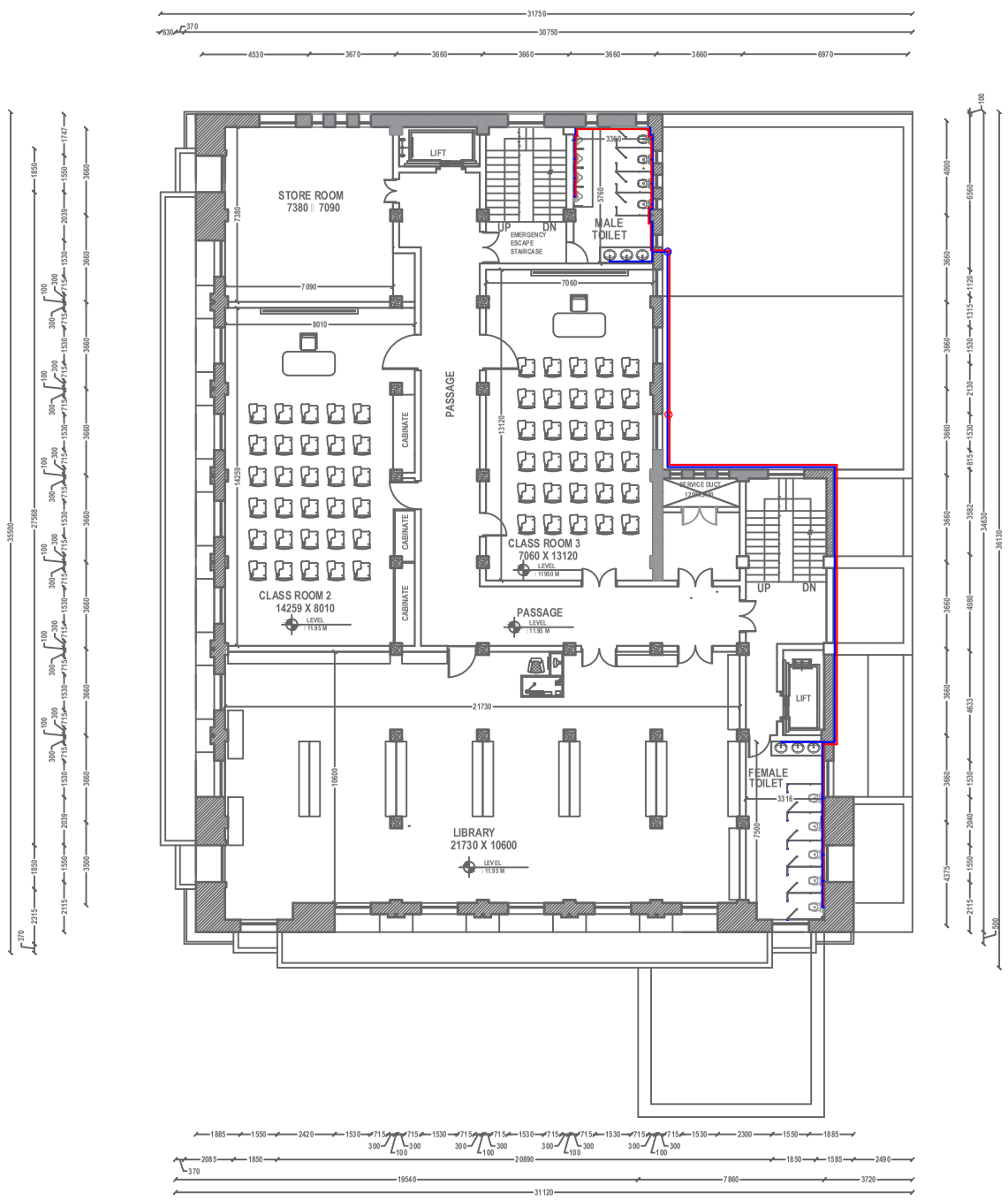
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: DRAINAGE LAYOUT PLAN FIRST FLOOR

SCALE:

REV 0 0 0 0 3

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SECOND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

	WELL WATER PIPELINE
	GREY WATER PIPELINE

DRAWING NO: LIC-DRAIN-10| **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
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CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

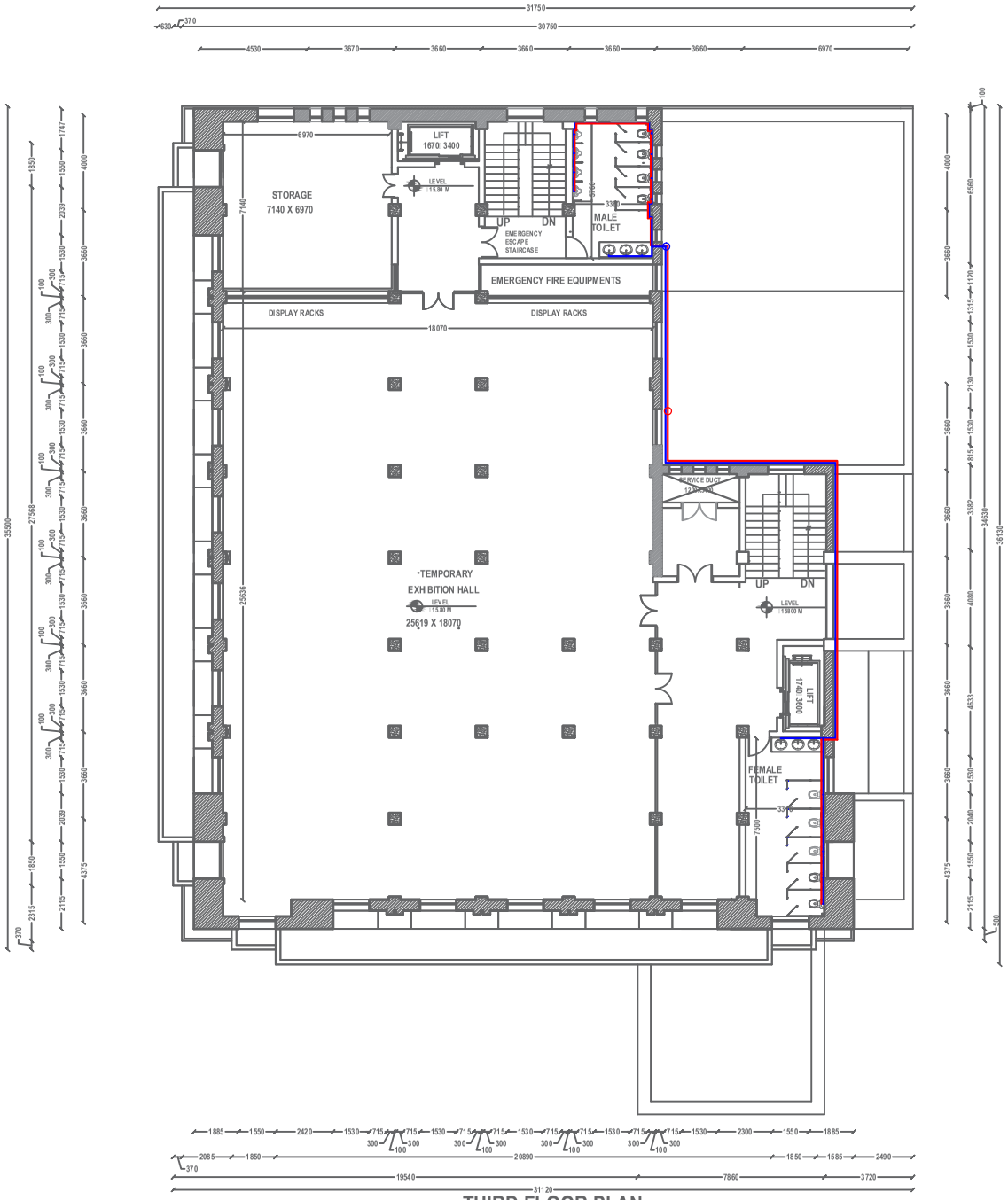
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: DRAINAGE LAYOUT PLAN SECOND FLOOR

SCALE:

REV 0 0 0 0 3

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THIRD FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGENDS

	WELL WATER PIPELINE
	GREY WATER PIPELINE

DRAWING NO: LIC-DRAIN-110 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

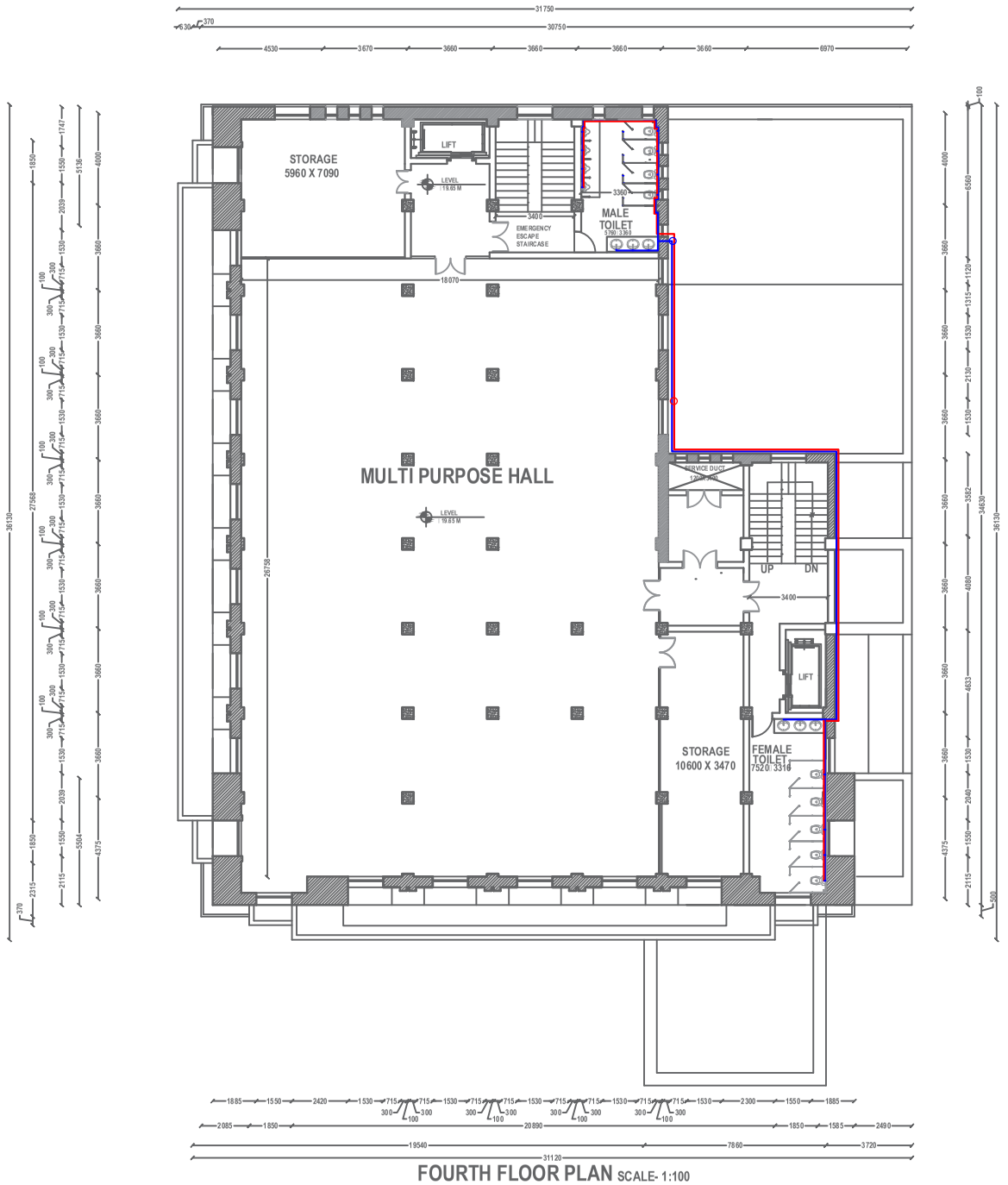
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: DRAINAGE LAYOUT PLAN THIRD FLOOR

SCALE:

REV 0 0 0 0 3

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FOURTH FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

	WELL WATER PIPELINE
	GREY WATER PIPELINE

DRAWING NO: LIC-DRAIN-111 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

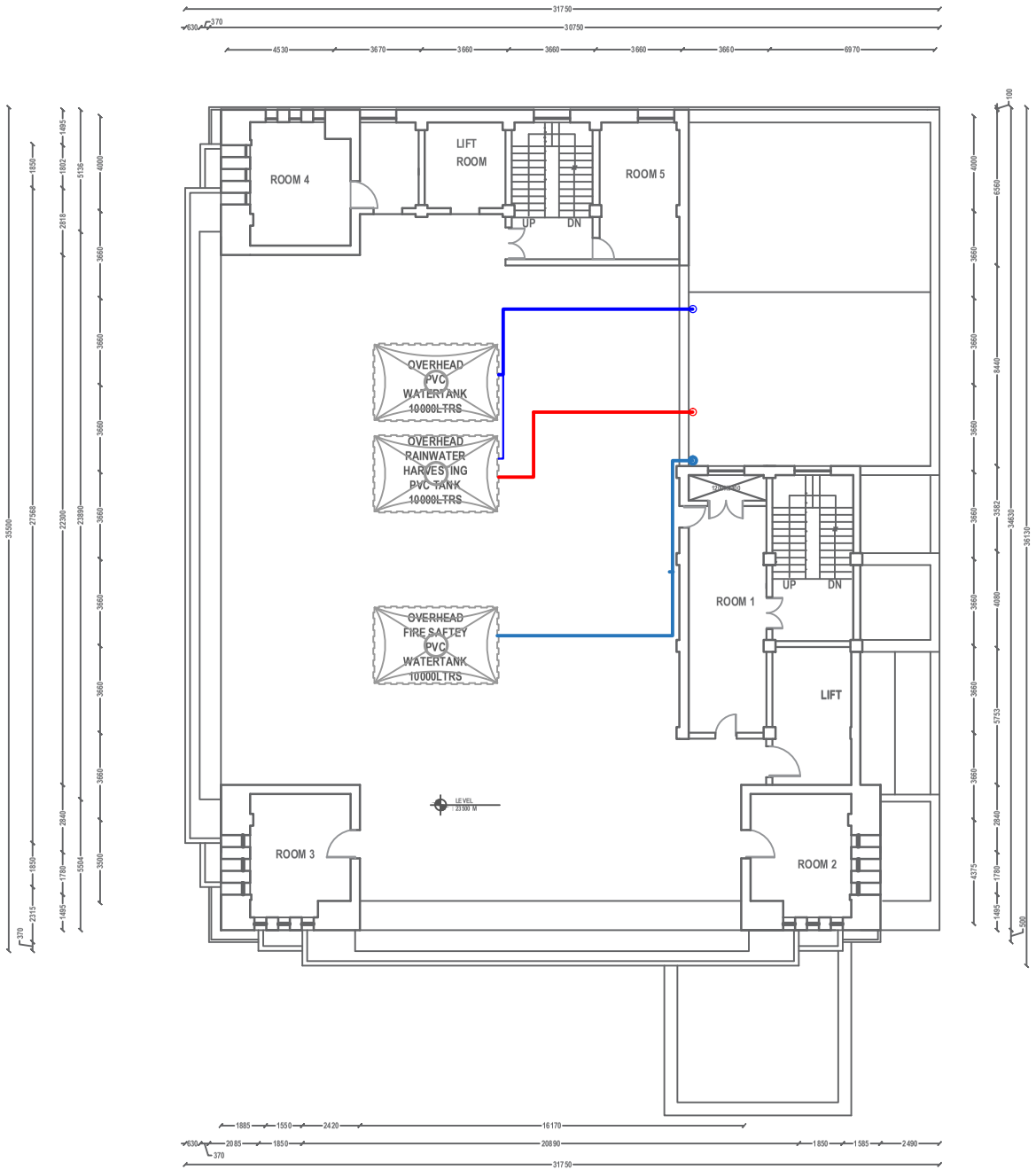
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: DRAINAGE LAYOUT PLAN FOURTH FLOOR

SCALE:

REV 0 0 0 0 3

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TERRACE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGENDS

	WELL WATER PIPELINE
	GREY WATER PIPELINE

DRAWING NO: LIC-DRAIN-112 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

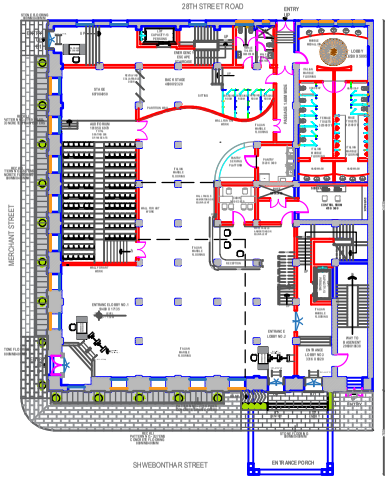
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: DRAINAGE LAYOUT PLAN TERRACE FLOOR

SCALE:

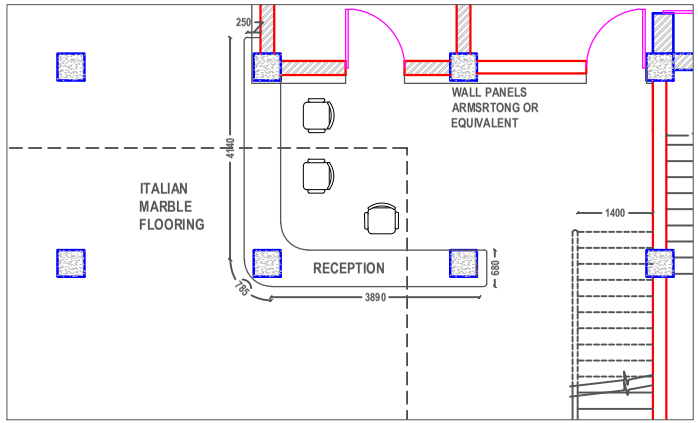
REV 0 0 0 0 3

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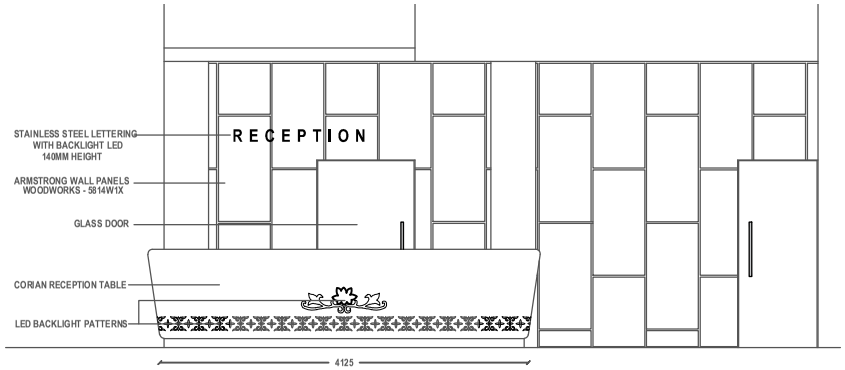


EY PLAN SCALE - 1:250

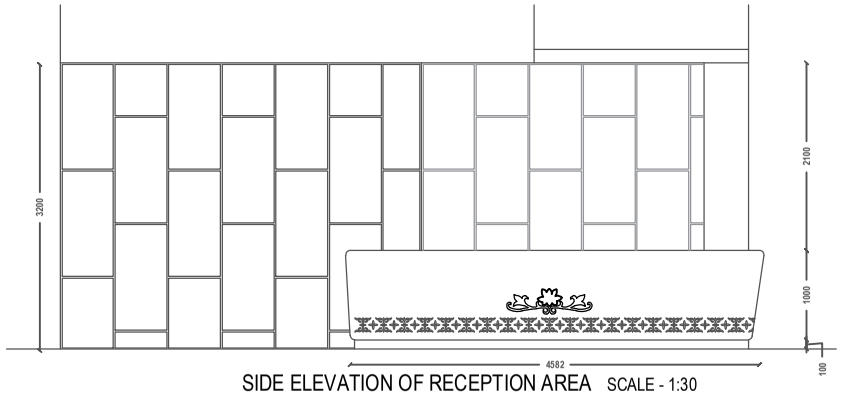




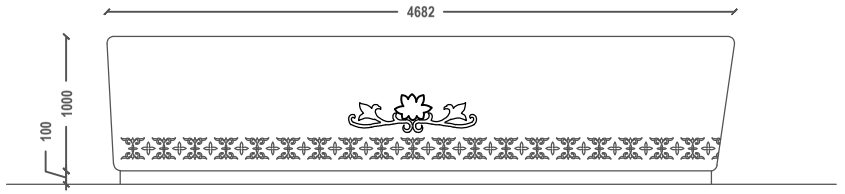
RECEPTION AREA SCALE - 1:50



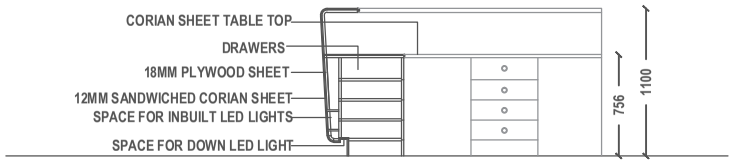
FRONT ELEVATION OF RECEPTION AREA SCALE - 1:30



SIDE ELEVATION OF RECEPTION AREA SCALE - 1:30



RECEPTION TABLE SCALE - 1:20



SECTION RECEPTION TABLE SCALE - 1:20

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-RECEPTION-113				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

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EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

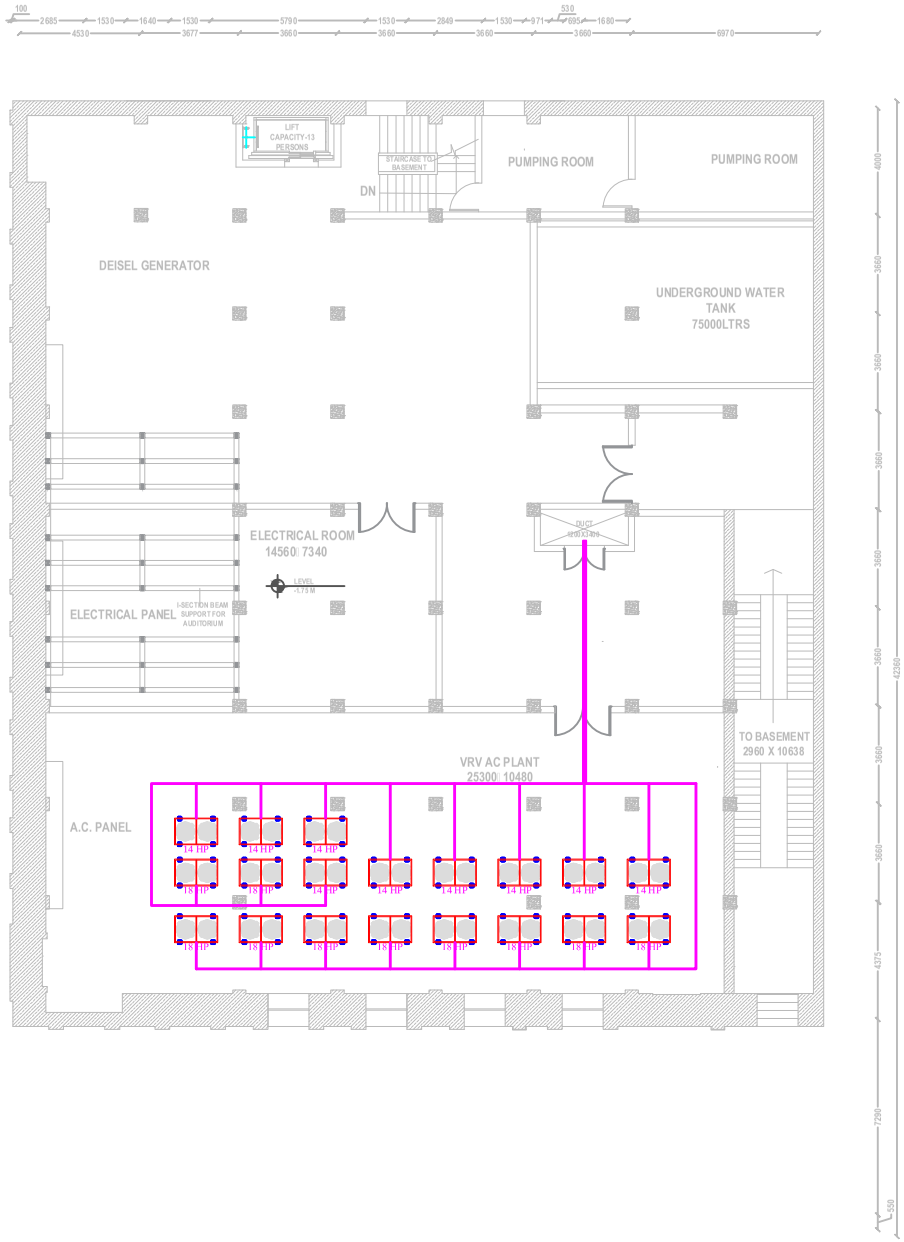
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: RECEPTION AREA DETAILS

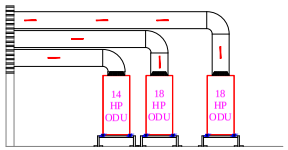
SCALE: 1: 100

REV 0 0 0 0 3

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BASEMENT FLOOR PLAN SCALE- 1:100



ELEVATION
VRV AC PLANT

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DAIKIN VRV SYSTEM LEGENDS

SR. NO.	SYMBOL	DISCRIPTION
1		DAIKIN CEILING MOUNTED CASSETTE ROUND FLOW - FXFQ-LUV1 OR EQUIVALENT
2		DAIKIN CONCEALED CEILING UNIT - FXMQ-50-80P7 OR EQUIVALENT
3		DAIKIN SLIM CEILING MOUNTED DUCT TYPE - FXDQ-PBVE / FXMQ-MVE OR EQUIVALENT
4		DAIKIN CEILING MOUNTED CASSETTE DOUBLE FLOW - FXCQ-MVE OR EQUIVALENT
5		DAIKIN DUCT TYPE- R410A-FDXS SERIES INDOOR UNIT OR EQUIVALENT
6	14 HP	DAIKIN 14HP SINGLE OUTDOOR UNIT - RX Y Q14TRY6 E OR EQUIVALENT
7	18 HP	DAIKIN 18HP SINGLE OUTDOOR UNIT - RX Y Q18TRY6 E OR EQUIVALENT

DRAWING NO: LIC-VRV-114 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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MUMBAI

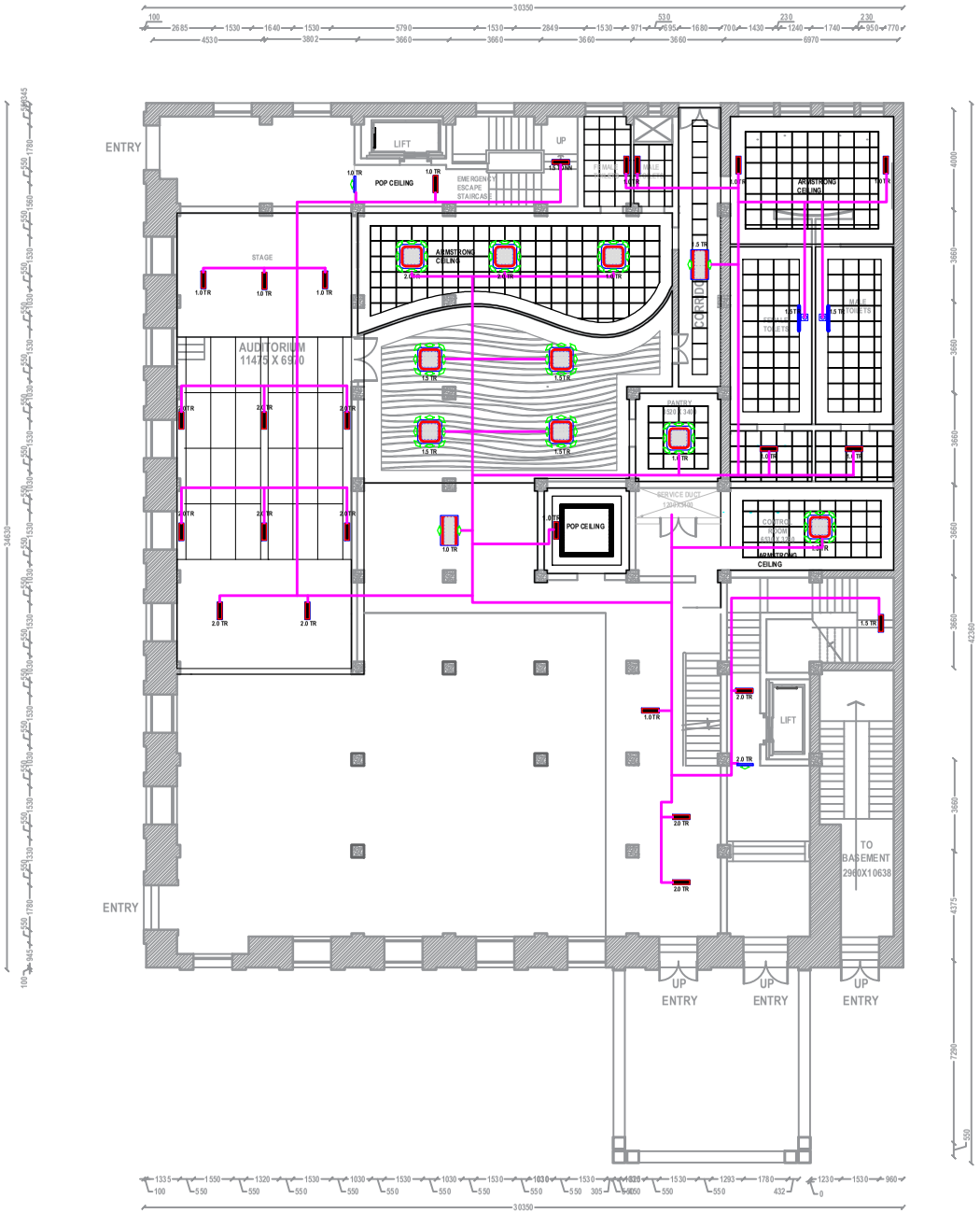
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: VRV AC LAYOUT BASEMENT FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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GROUND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-VRV-115 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

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MUMBAI

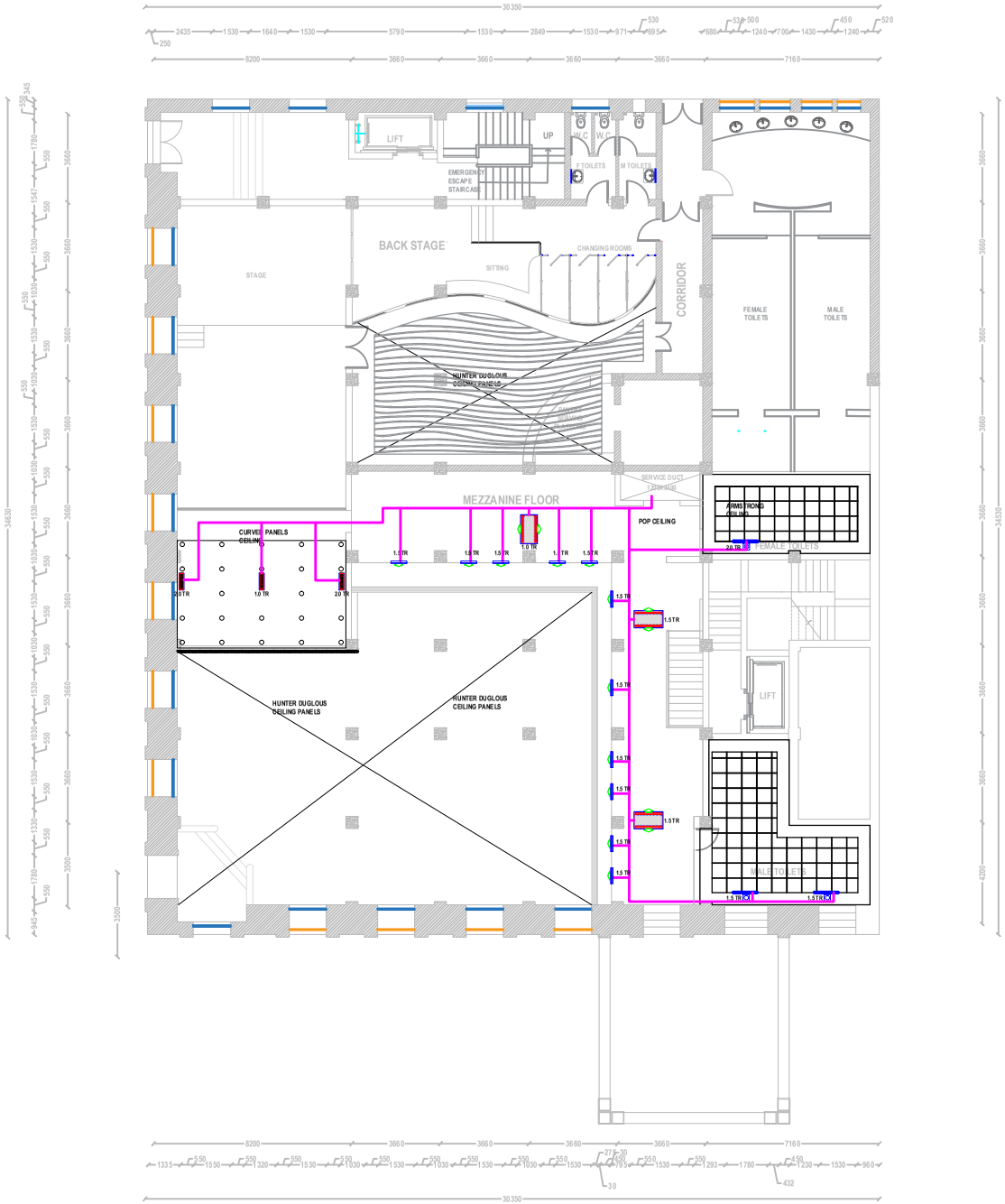
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: VRV AC LAYOUT GROUND FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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MEZZANINE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-VRV-116 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

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MUMBAI

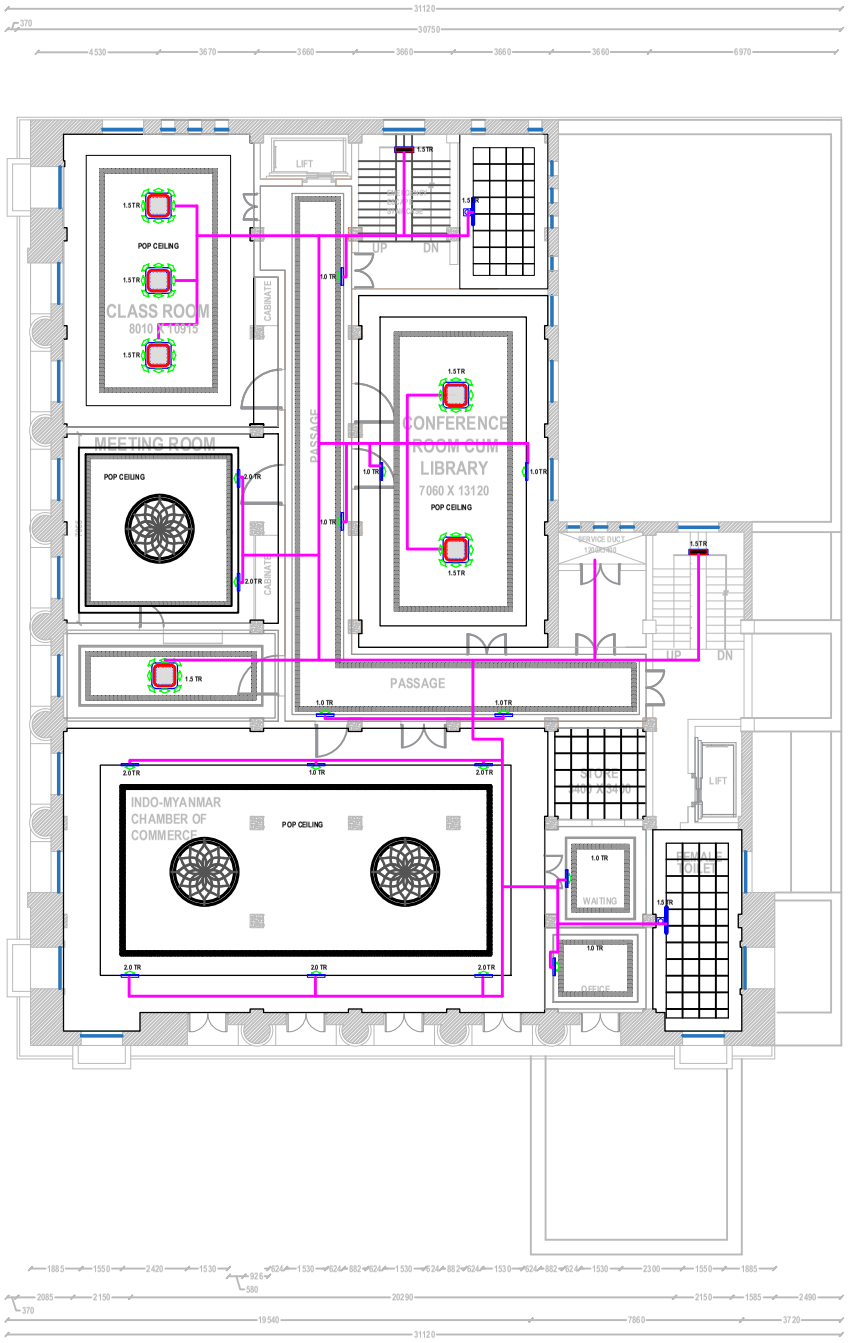
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: VRV AC LAYOUT ME□□ANINE FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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FIRST FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-VRV-11

DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

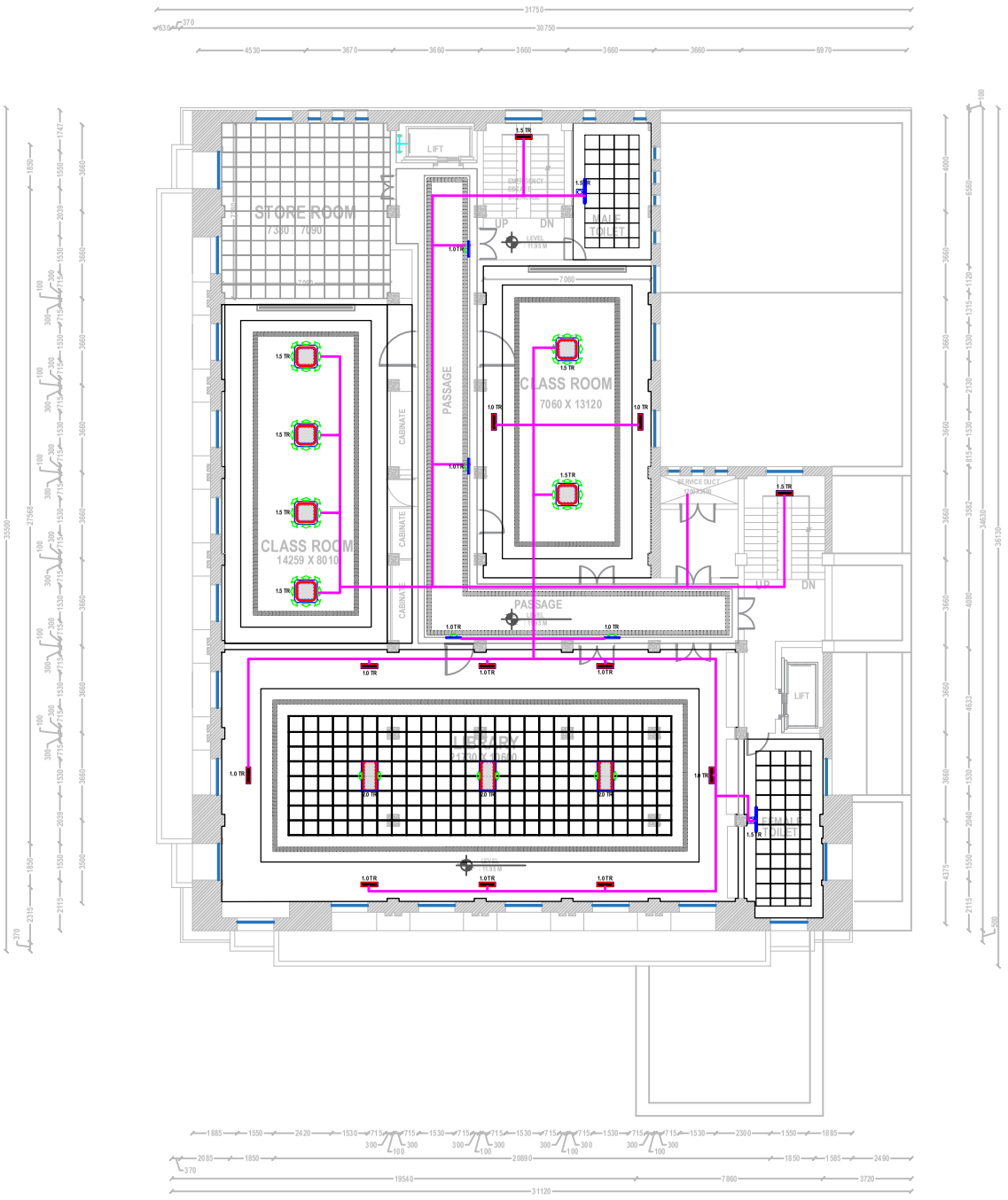
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: VRV AC LAYOUT FIRST FLOOR

SCALE: 1: 100

REV 0 0 0 0 3

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SECOND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-VRV-118 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

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MUMBAI

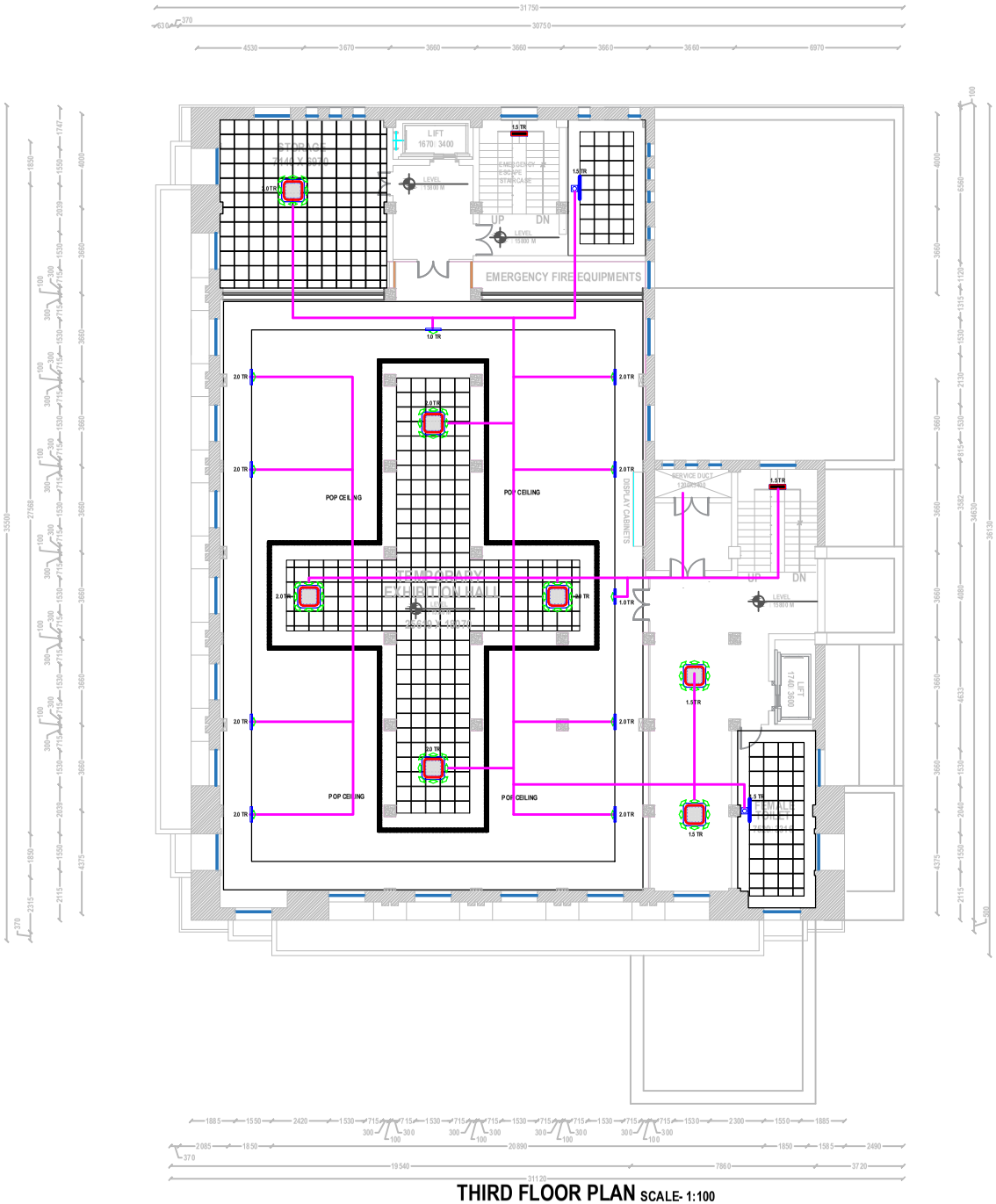
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: VRV AC LAYOUT SECOND FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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THIRD FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-VRV-11				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

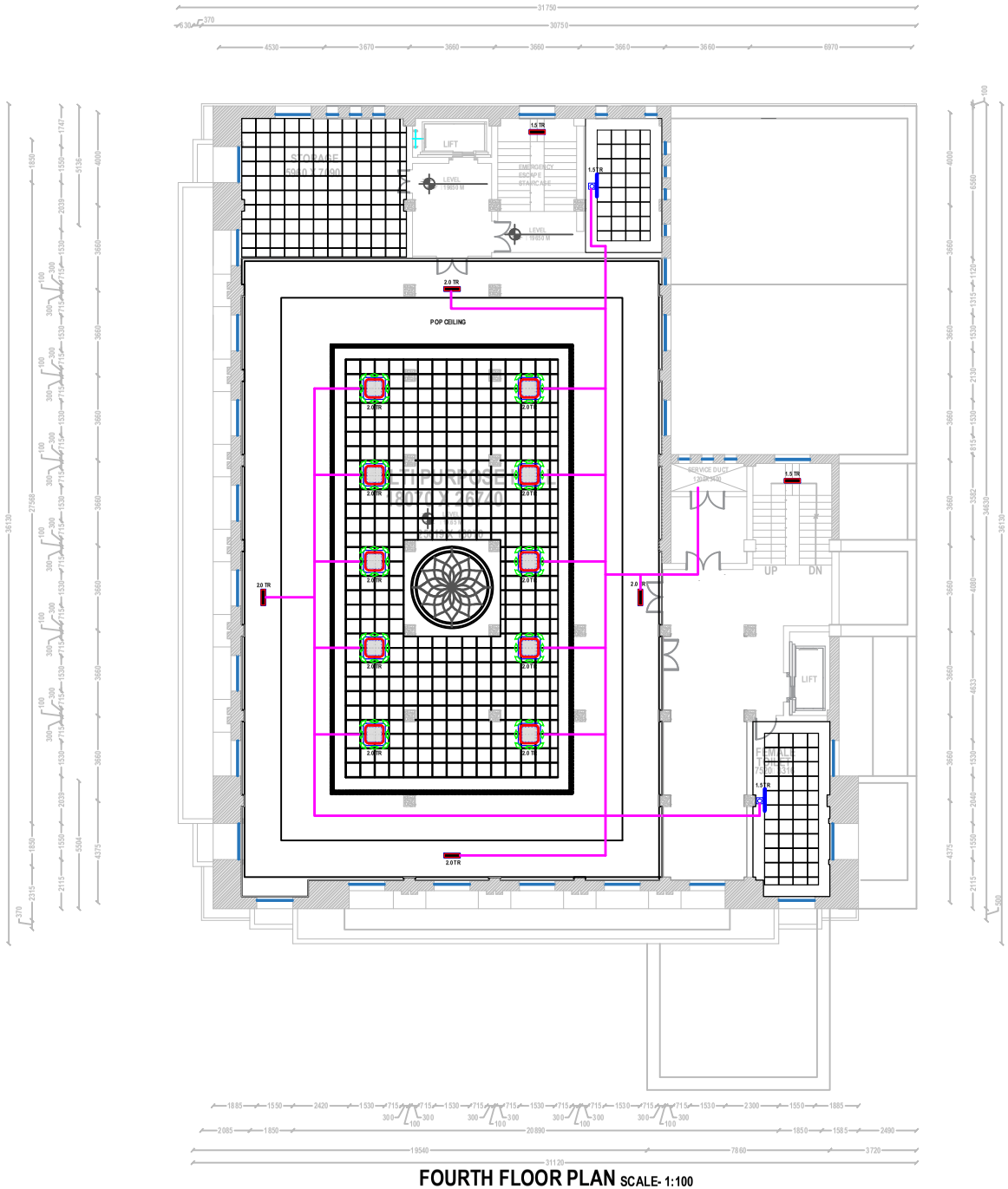
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: VRV AC LAYOUT THIRD FLOOR

SCALE: 1: 100

REV 0 0 0 0 3

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FOURTH FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-VRV-120				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

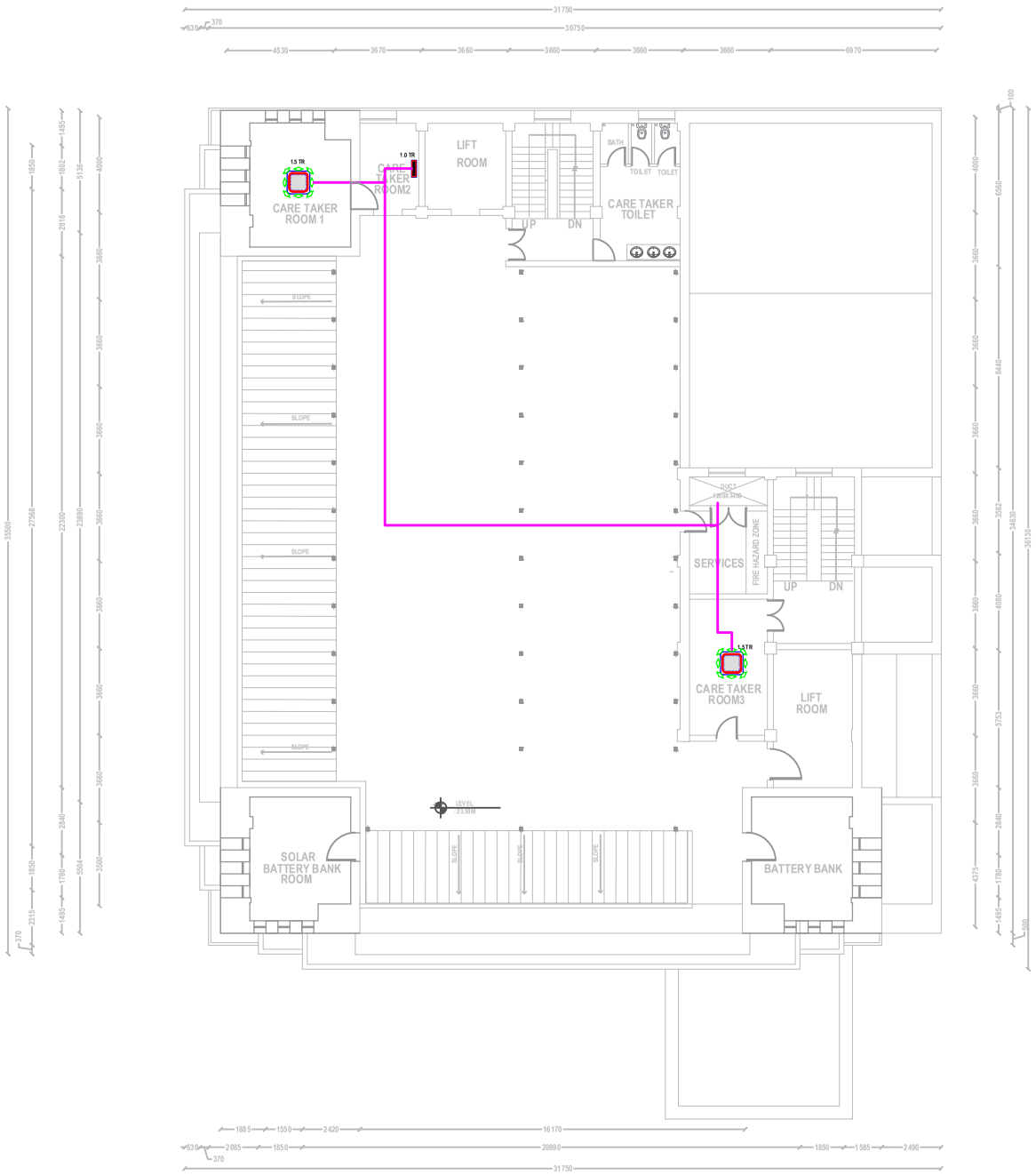
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: VRV AC LAYOUT FOURTH FLOOR

SCALE: 1: 100

REV 0 0 0 0 3

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TERRACE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-VRV-121 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

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MUMBAI

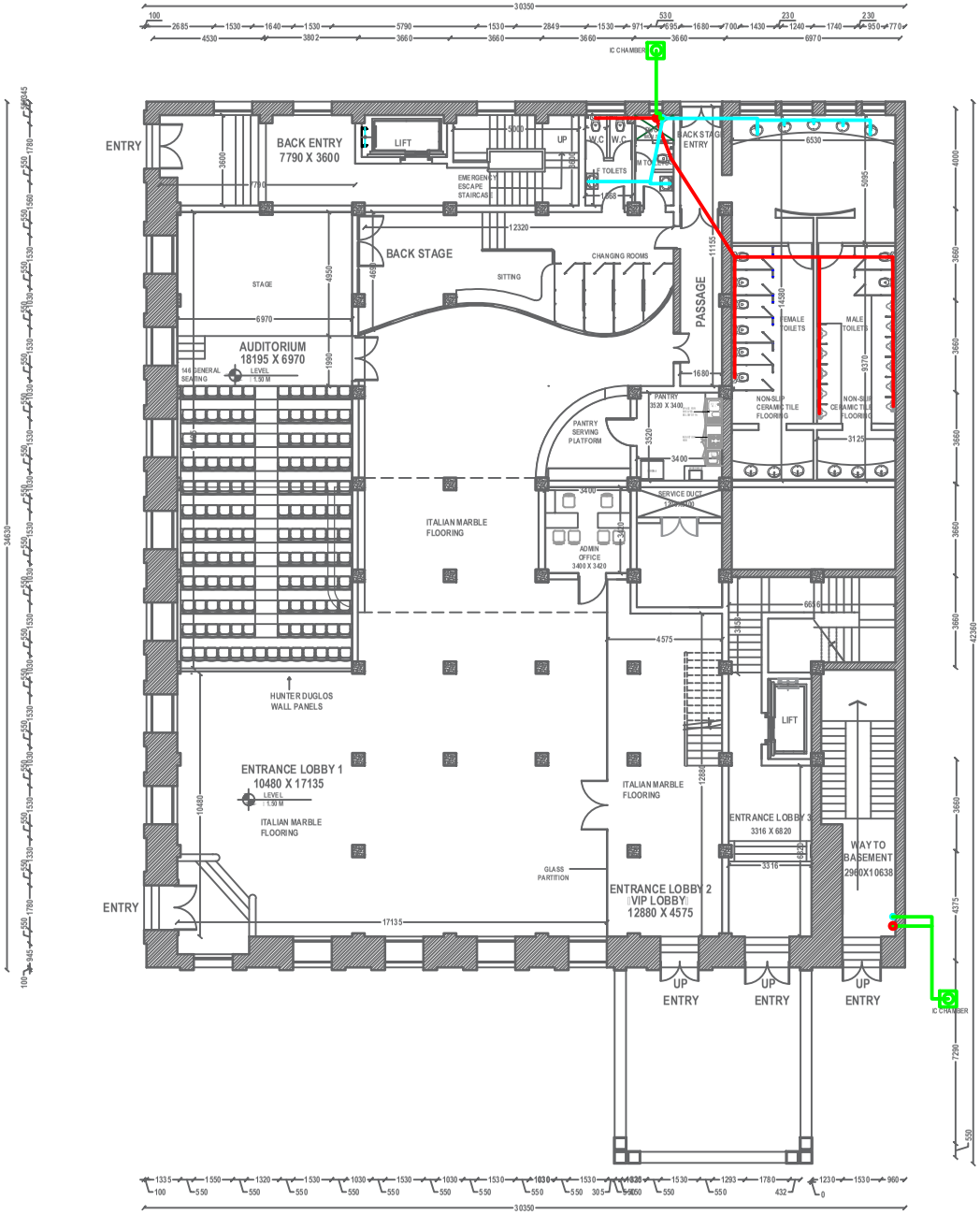
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: VRV AC LAYOUT TERRACE FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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GROUND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGEND :-

- 250MM SOLID WASTE PIPE
- 150MM WASTE WATER PIPE
- INSPECTION CHAMBER

DRAWING NO:	LIC-SEWAGE-122			DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

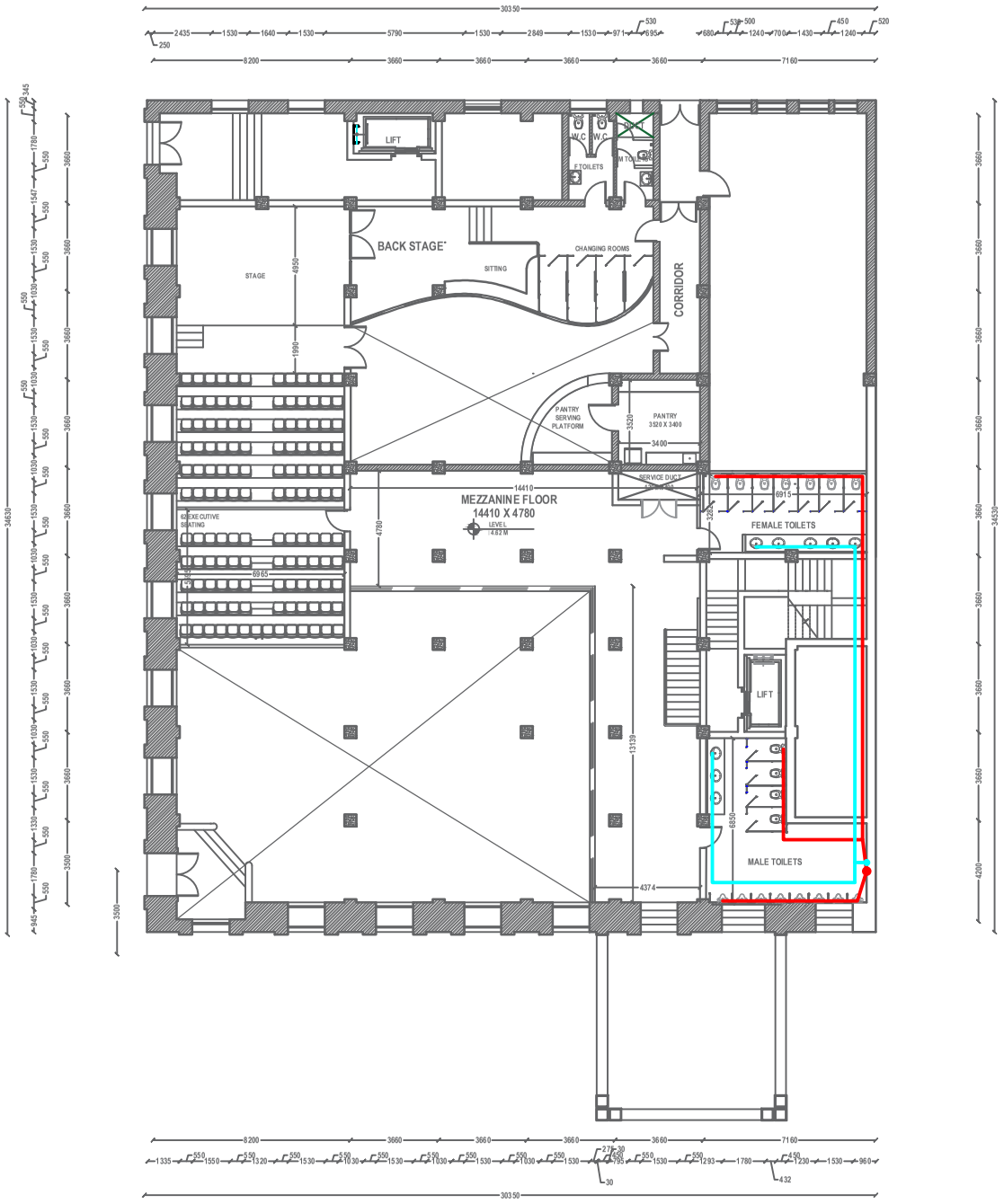
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SOLID WASTE DRAIN LAYOUT GROUND FLOOR

SCALE:

REV 0 0 0 0 3

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MEZZANINE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGEND :-

- 250MM SOLID WASTE PIPE
- 150MM WASTE WATER PIPE
- INSPECTION CHAMBER

DRAWING NO: LIC-SEWAGE-123				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

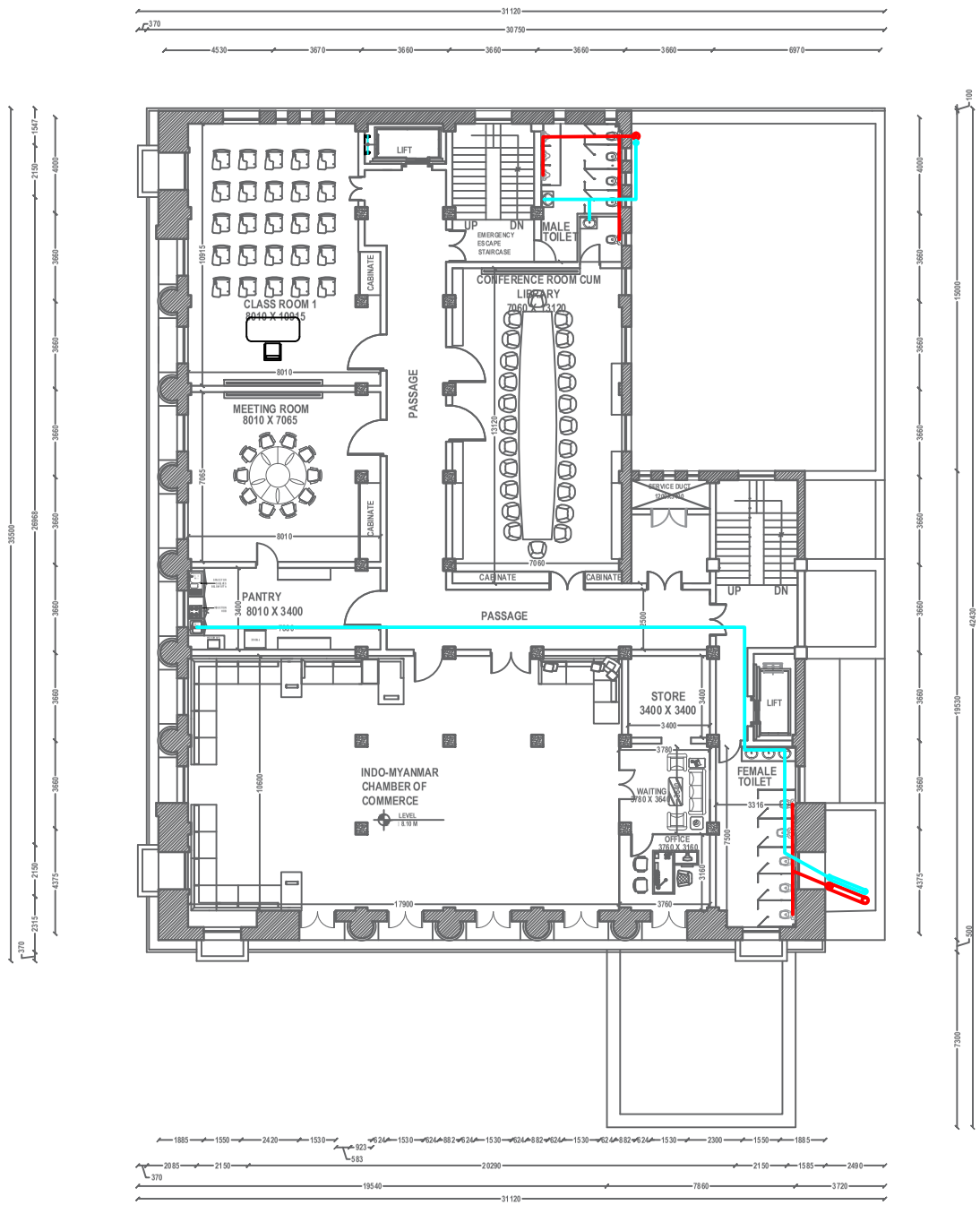
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SOLID WASTE DRAIN LAYOUT ME□ □ ANINE FLOOR

SCALE:

REV 0 0 0 0 3

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FIRST FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGEND :-

- 250MM SOLID WASTE PIPE
- 150MM WASTE WATER PIPE
- INSPECTION CHAMBER

DRAWING NO:	LIC-SEWAGE-124			DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

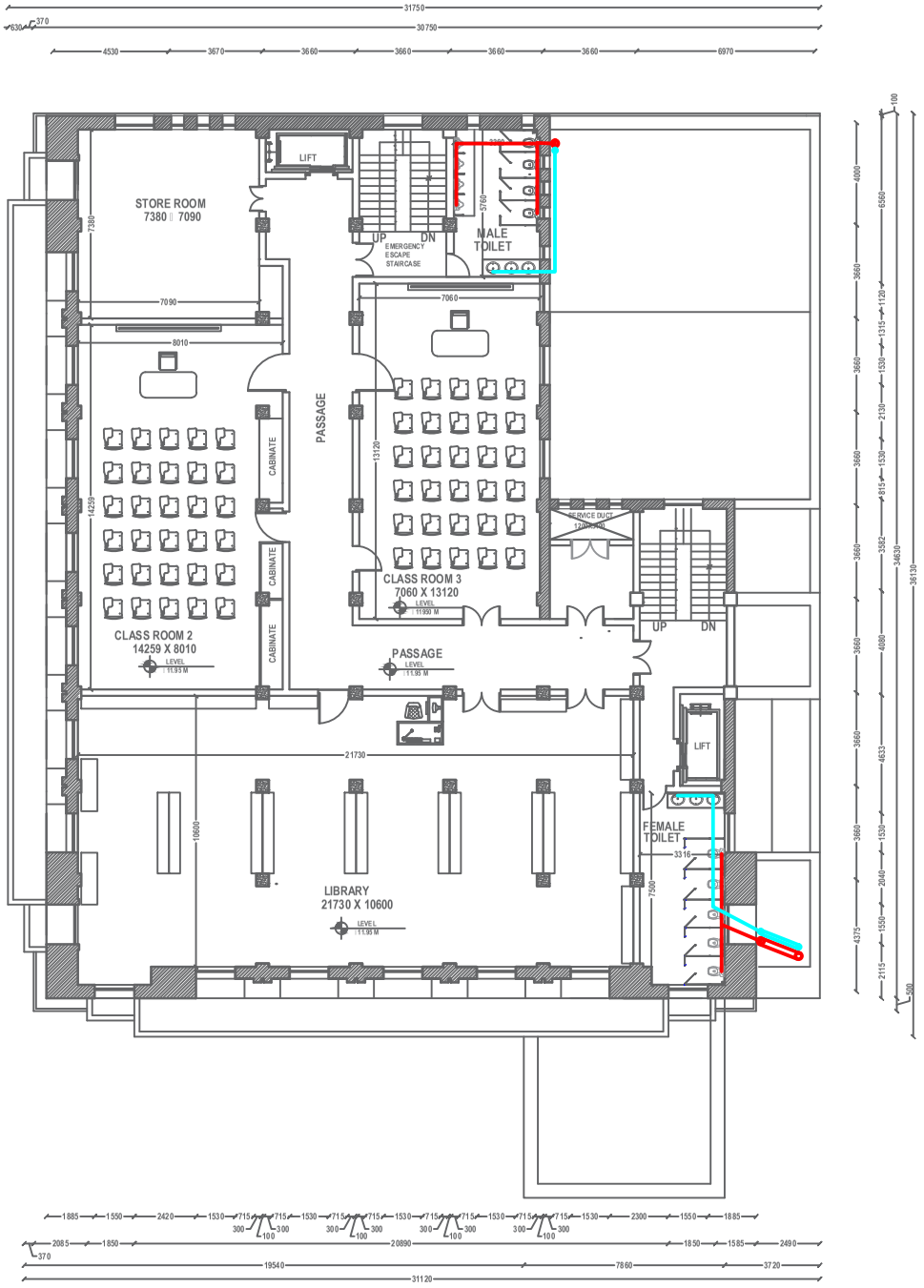
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SOLID WASTE DRAIN LAYOUT FIRST FLOOR

SCALE:

REV 0 0 0 0 3

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SECOND FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGEND :-

- 250MM SOLID WASTE PIPE
- 150MM WASTE WATER PIPE
- INSPECTION CHAMBER

DRAWING NO: LIC-SEWAGE-125				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

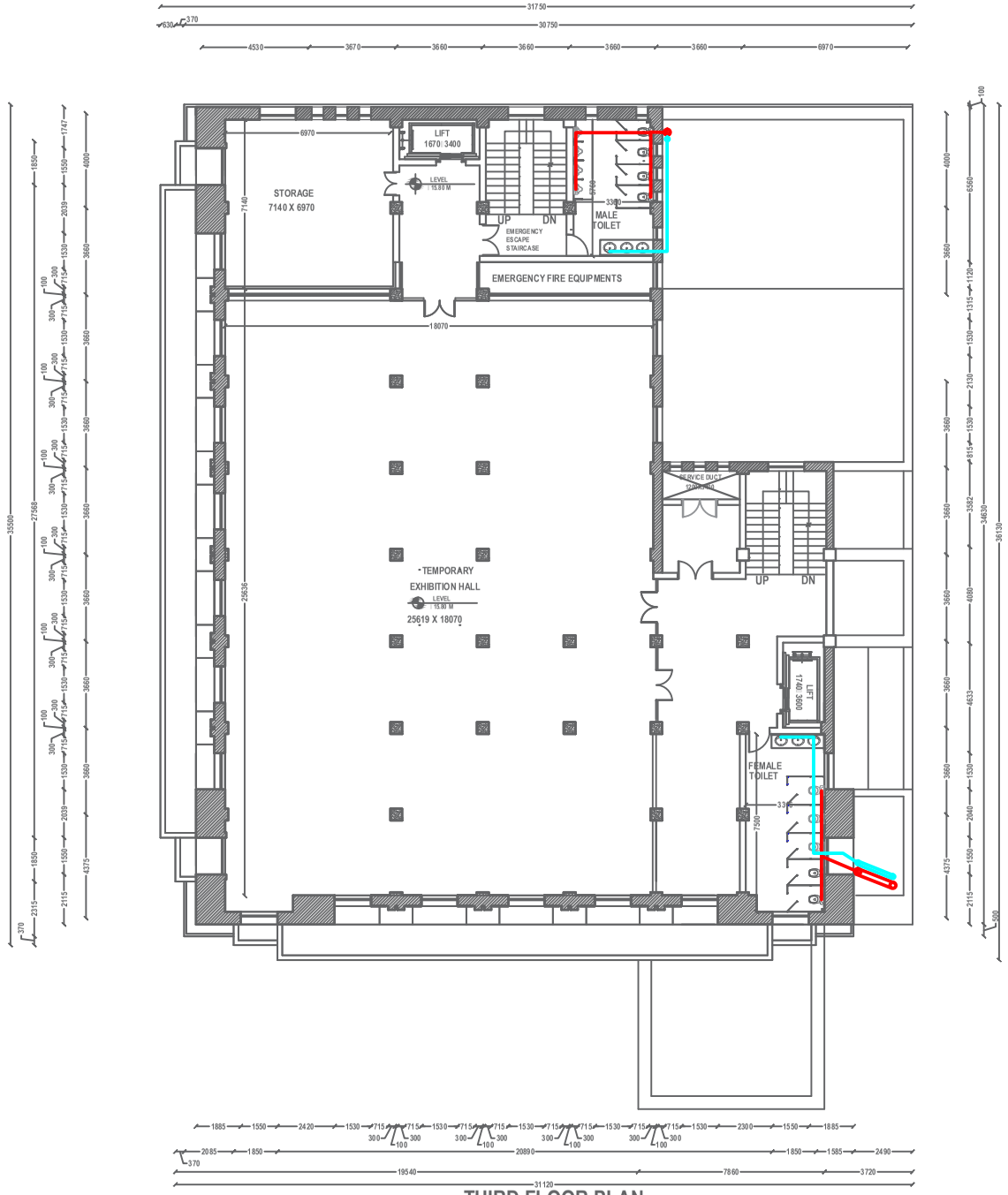
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SOLID WASTE DRAIN LAYOUT SECOND FLOOR

SCALE:

REV 0 0 0 0 3

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THIRD FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGEND :-

250MM SOLID WASTE PIPE
150MM WASTE WATER PIPE
INSPECTION CHAMBER

DRAWING NO: LIC-SEWAGE-126				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

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MUMBAI

NORTH

PROJECT NAME:PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SOLID WASTE DRAIN LAYOUT THIRD FLOOR

SCALE:

REV 0 0 0 0 3

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FOURTH FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGEND :-

- 250MM SOLID WASTE PIPE
- 150MM WASTE WATER PIPE
- INSPECTION CHAMBER

DRAWING NO: LIC-SEWAGE-12 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

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MUMBAI

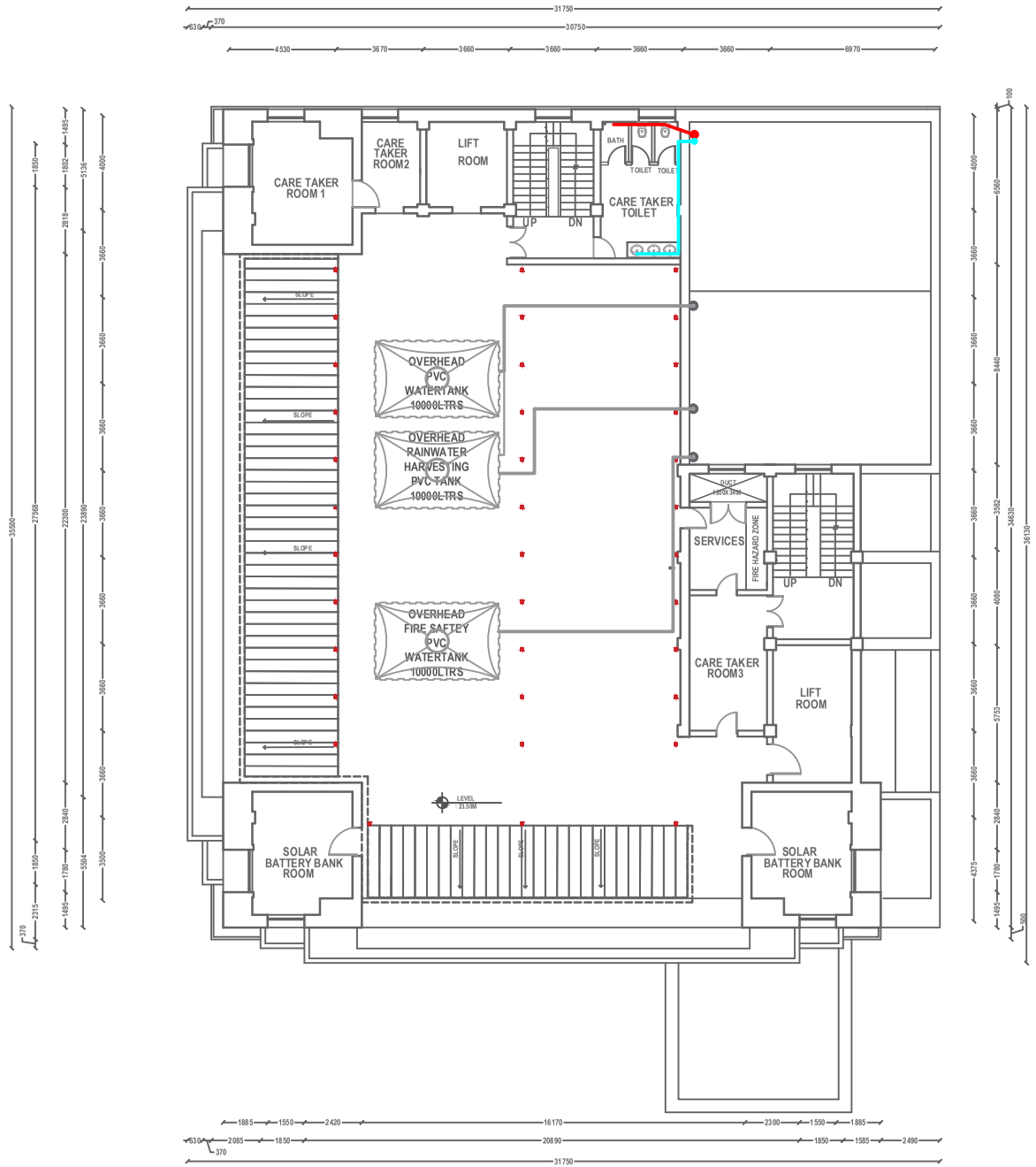
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SOLID WASTE DRAIN LAYOUT FOURTH FLOOR

SCALE:

REV 0 0 0 0 3



TERRACE FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

LEGEND :-

- 250MM SOLID WASTE PIPE
- 150MM WASTE WATER PIPE
- INSPECTION CHAMBER

DRAWING NO: LIC-SEWAGE-128 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
27-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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MUMBAI

NORTH

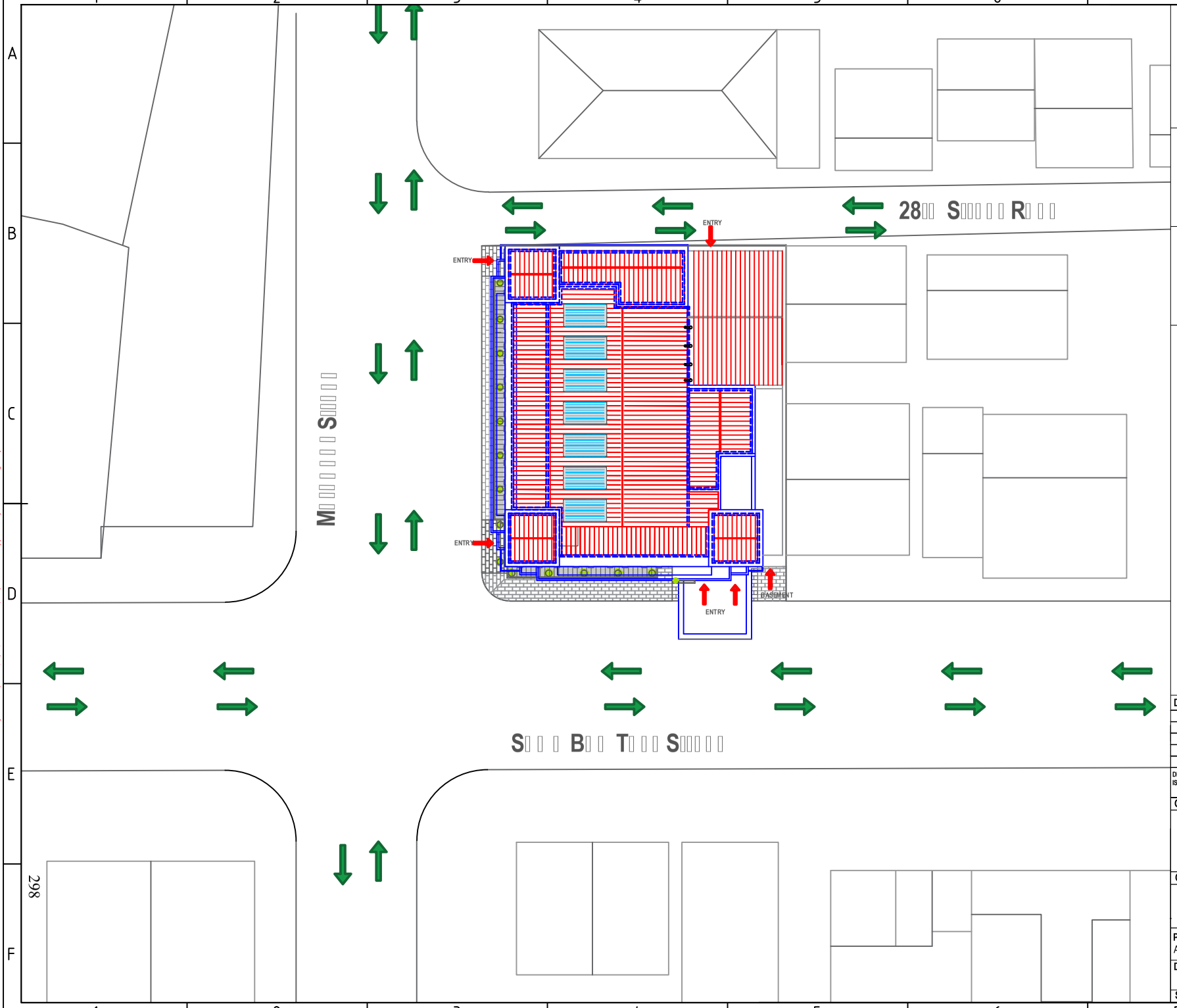
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SOLID WASTE DRAIN LAYOUT TERRACE FLOOR

SCALE:

REV 0 0 0 0 3

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NOTE :-

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LEGEND :-

STONE WALL
BRICK WALL
COLUMN

LEGEND :-

VEHICULAR CIRCULATION AROUND BUILDING

PEDESTRIAN ENTRY

DRAWING NO: LIC-CIRCULATION-12□ **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

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MUMBAI

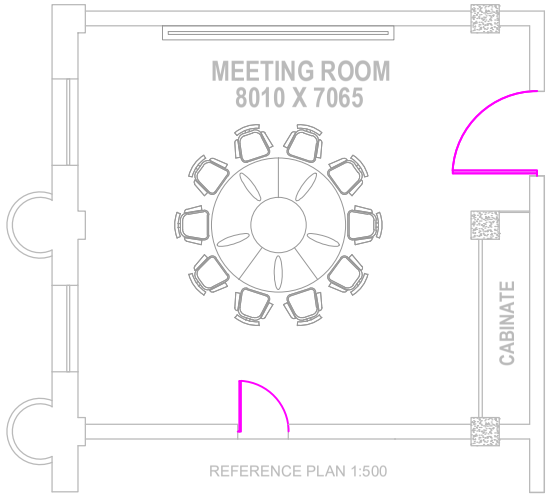
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PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

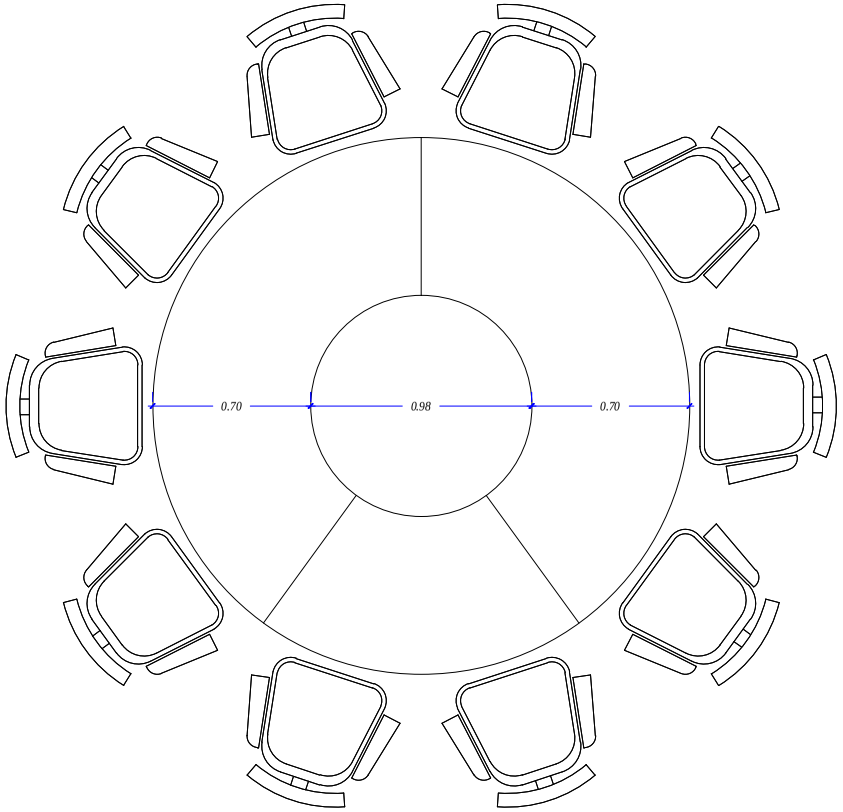
DRAWING TITLE: CIRCULATION PLAN

SCALE: 1: 100 REV 0 0 0 0 3

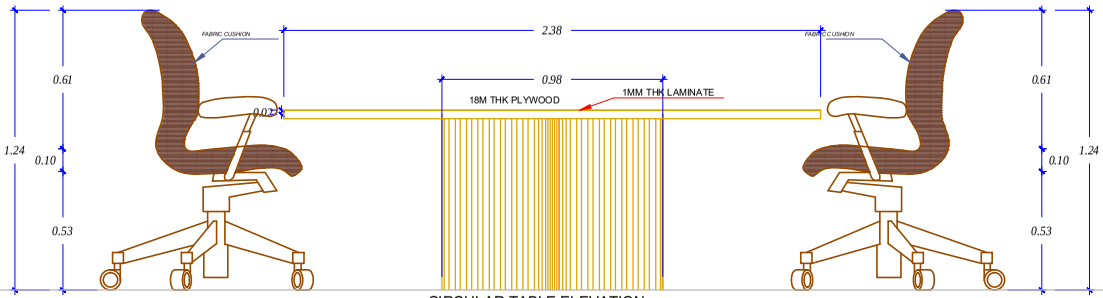
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REFERENCE PLAN 1:500



CIRCULAR TABLE PLAN



CIRCULAR TABLE ELEVATION

299

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FURNITURE-130 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

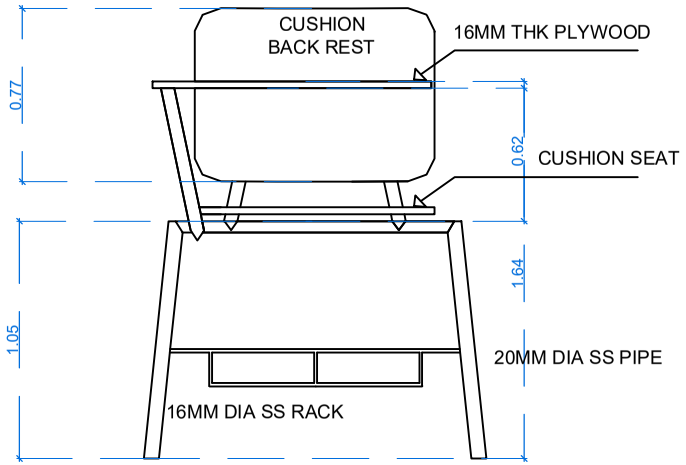
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

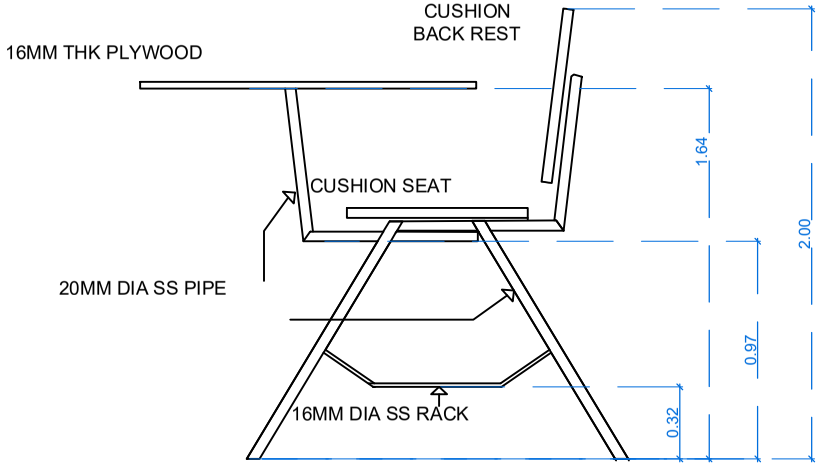
DRAWING TITLE: MEETING ROOM FURNITURE DETAILS

SCALE: 1: 100 **REV** 0 0 0 0 3

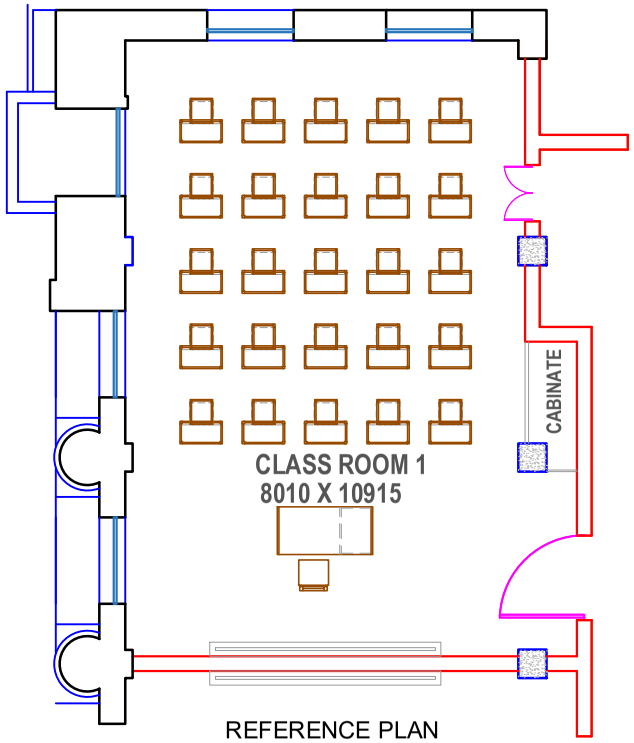
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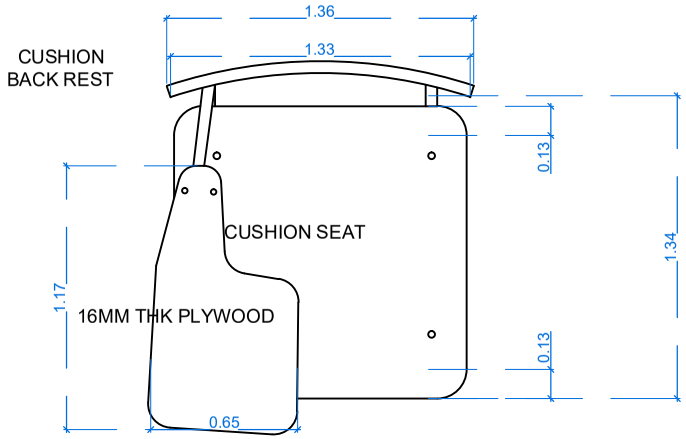
FRONT ELEVATION



SIDE ELEVATION



REFERENCE PLAN



PLAN

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FURNITURE-131				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

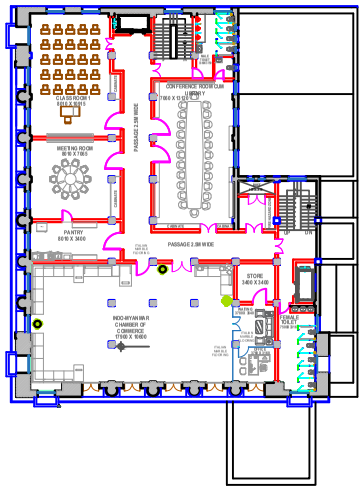
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

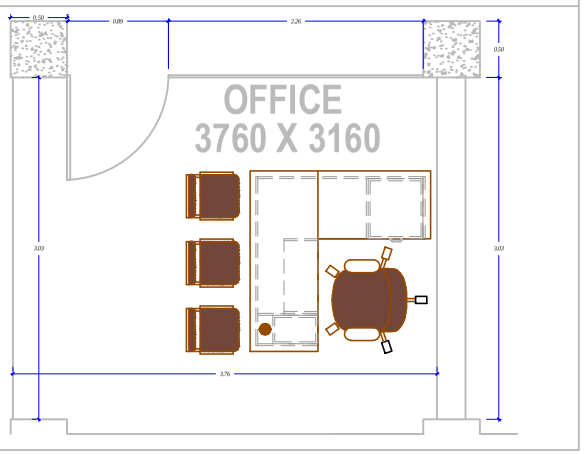
DRAWING TITLE: CLASS ROOM FURNITURE DETAILS

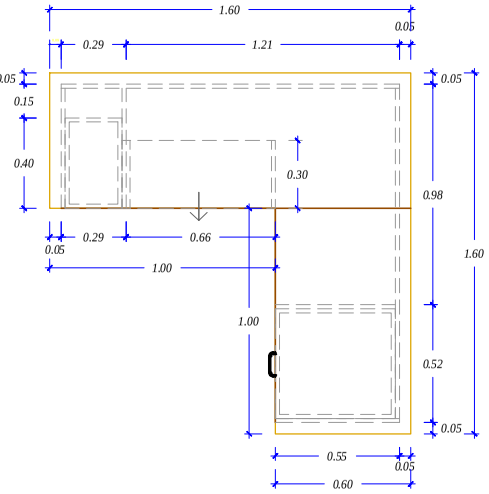
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REV 0 0 0 0 3

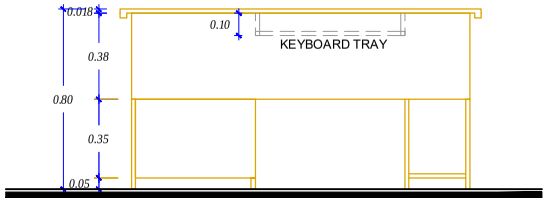
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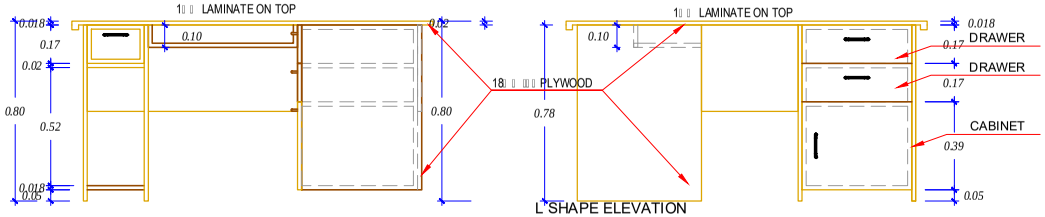




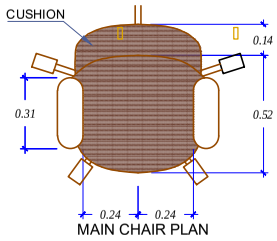


L SHAPE TABLE PLAN

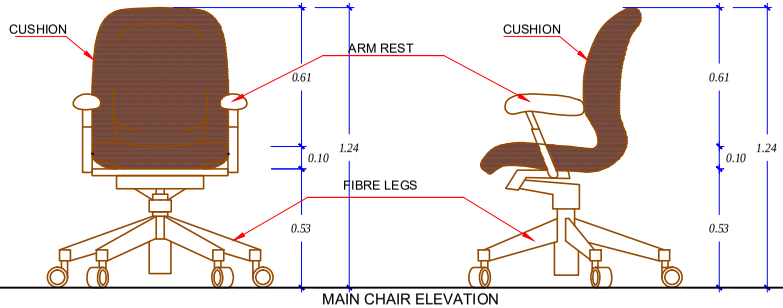




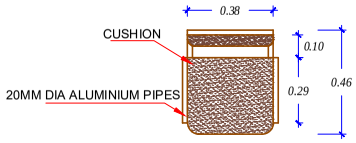
L SHAPE ELEVATION



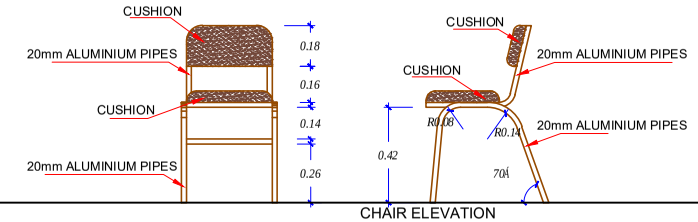
MAIN CHAIR PLAN



MAIN CHAIR ELEVATION



CHAIR PLAN



CHAIR ELEVATION

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FURNITURE-132				**DATE:** 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-9-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

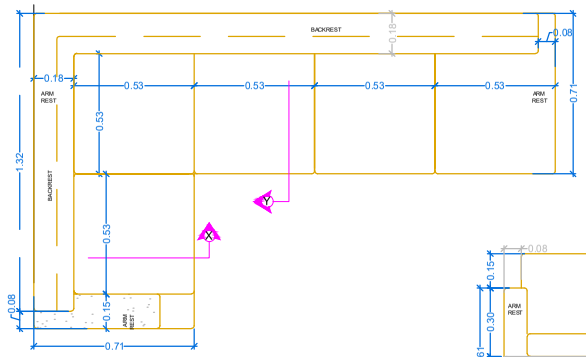
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: OFFICE FURNITURE DETAILS

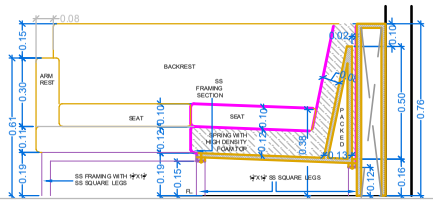
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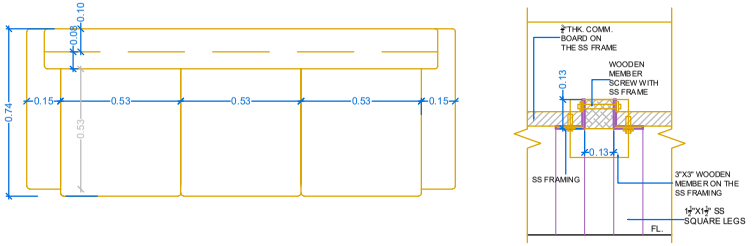
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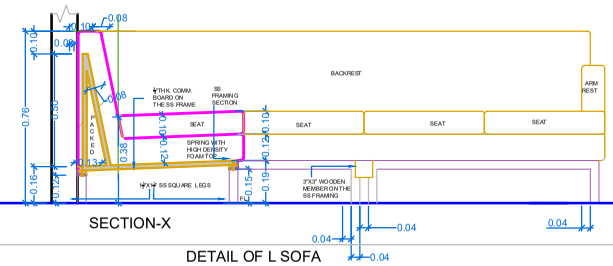
L SHAPE SOFA PLAN



SECTION-Y

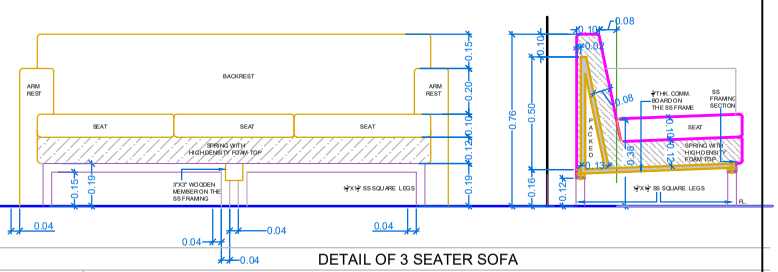


3 SEATER SOFA PLAN

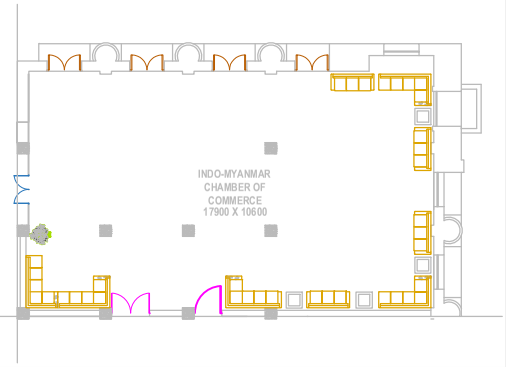


SECTION-X

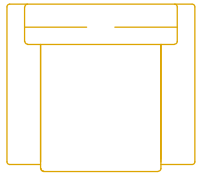
DETAIL OF L SOFA



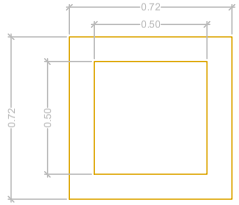
DETAIL OF 3 SEATER SOFA



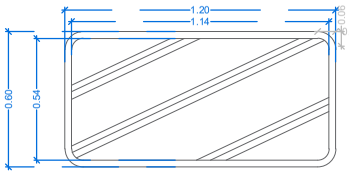
REFERENCE PLAN 1:1000



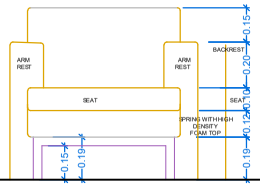
SINGLE SEATER SOFA PLAN



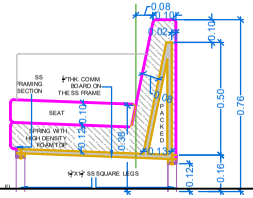
SIDE TABLE PLAN

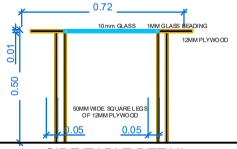


CENTRE TABLE PLAN

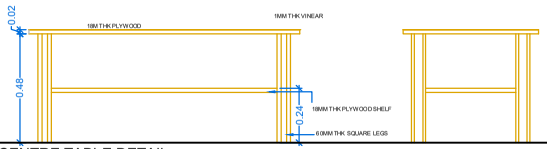


DETAIL OF SINGLE SEATER SOFA





SIDE TABLE DETAIL



CENTRE TABLE DETAIL

302

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-FURNITURE-133 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

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MUMBAI

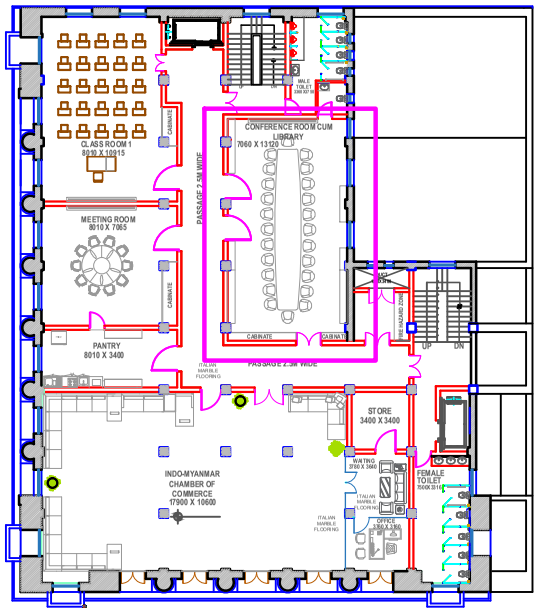
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PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

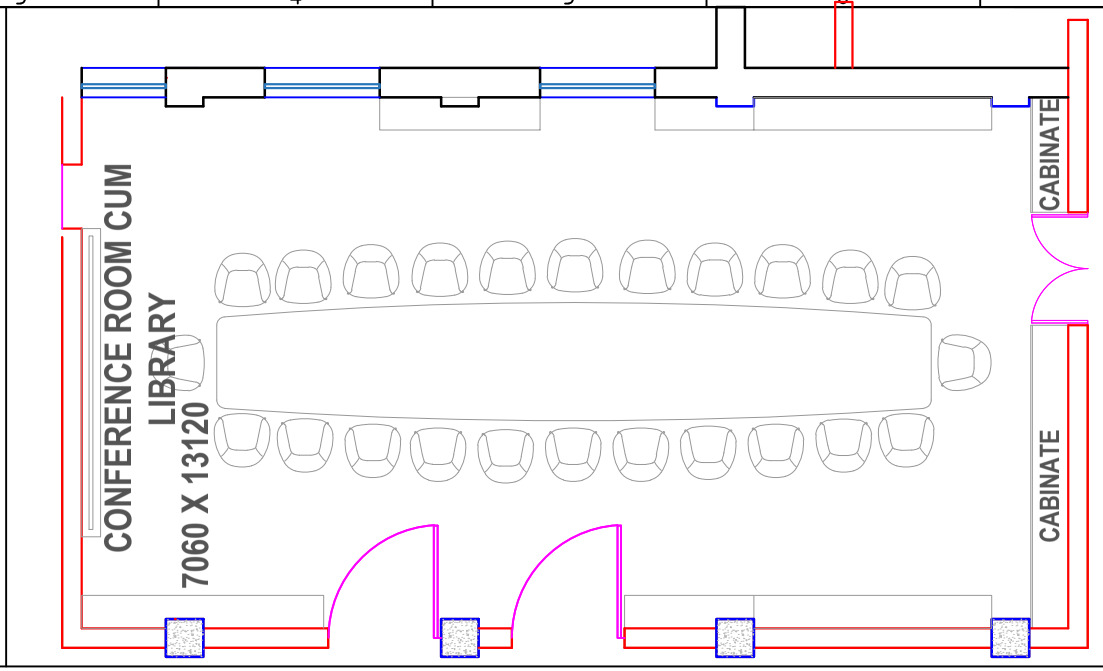
DRAWING TITLE: INDO-MYANMAR CHAMBER FURNITURE DETAILS

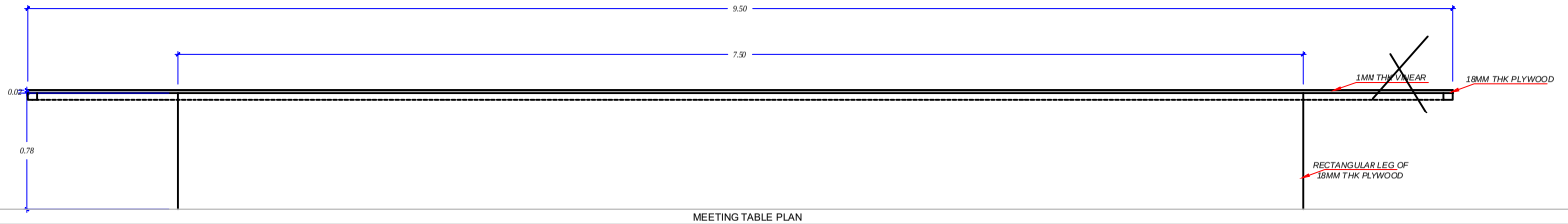
SCALE: 1: 100 **REV** 0 0 0 0 3

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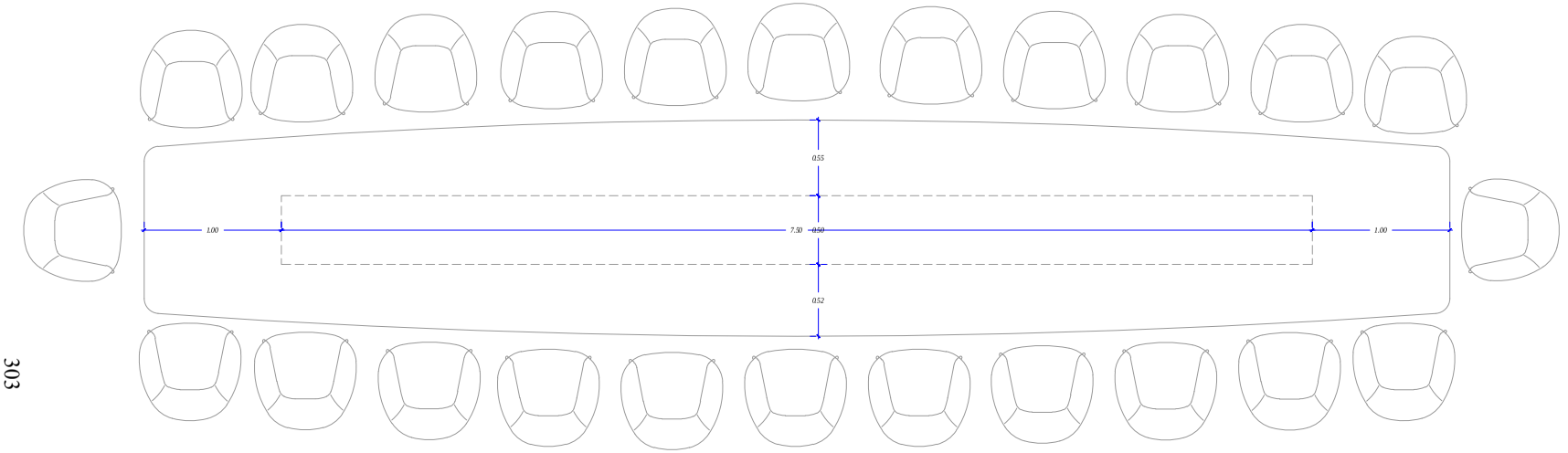


KEY PLAN





MEETING TABLE PLAN



MEETING TABLE ELEVATION

303

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-FURNITURE-134				**DATE:** 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

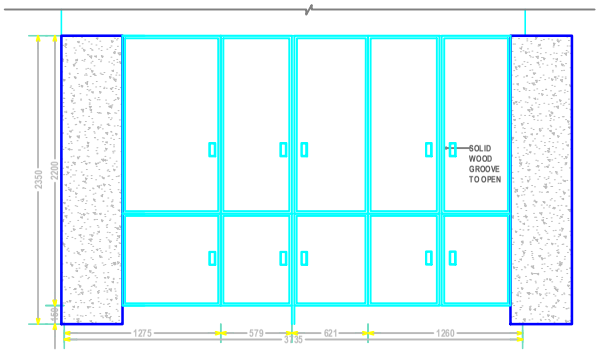
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: CONFERENCE ROOM FURNITURE DETAILS

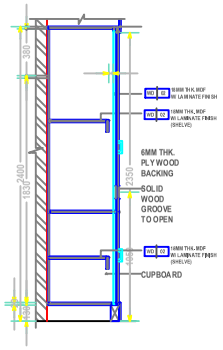
SCALE: 1: 100

REV 0 0 0 0 3

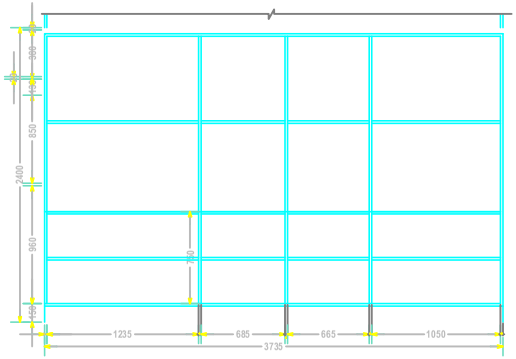
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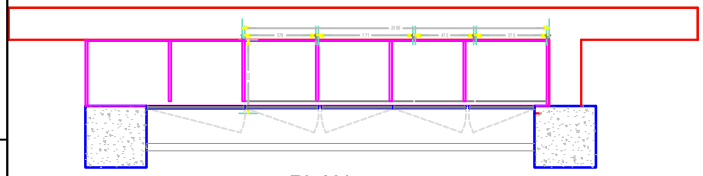
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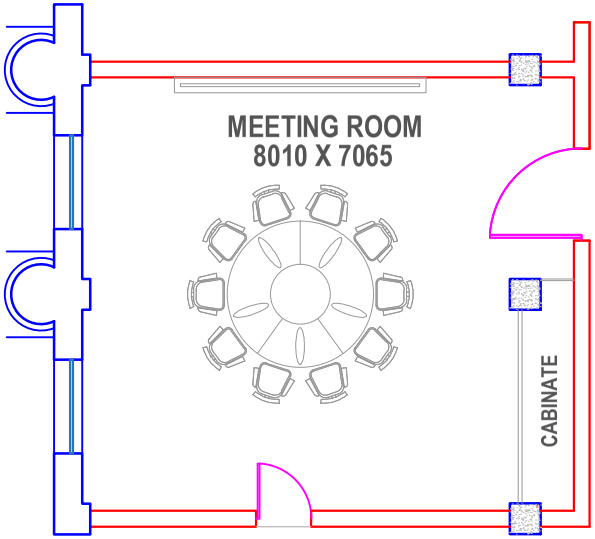
SECTION



SECTION



PLAN



REFERENCE PLAN

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FURNITURE-135 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

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EMBASSY OF INDIA, YANGON
MYANMAR

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MUMBAI

NORTH

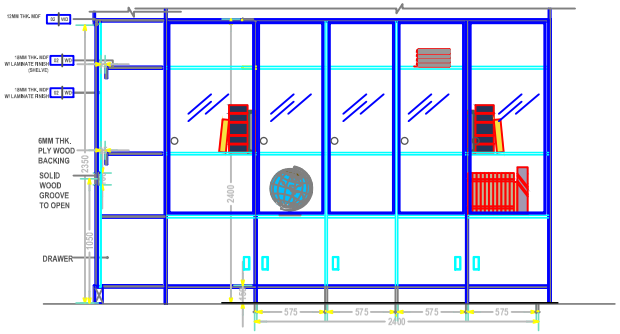
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: MEETING ROOM FURNITURE AND CUPBOARD DETAILS

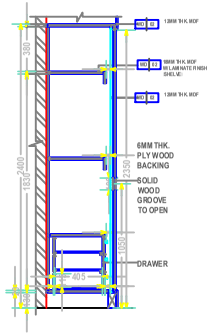
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304

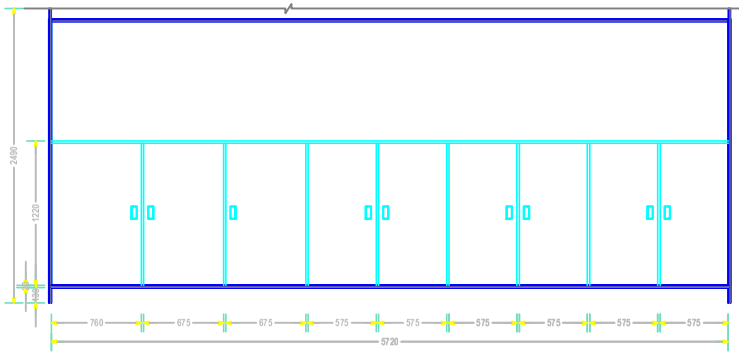
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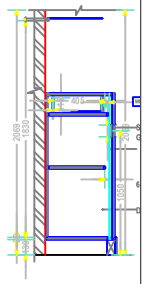
ELEVATION



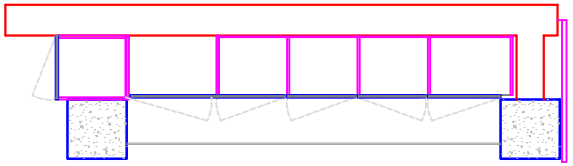
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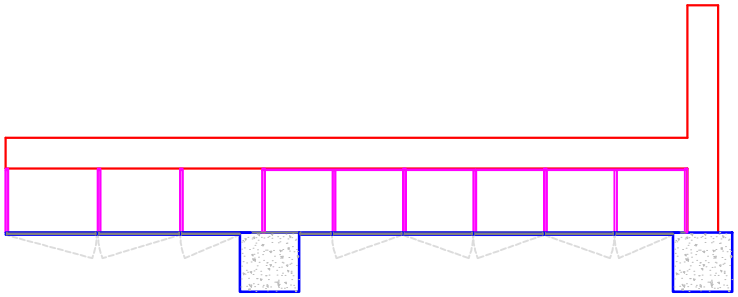
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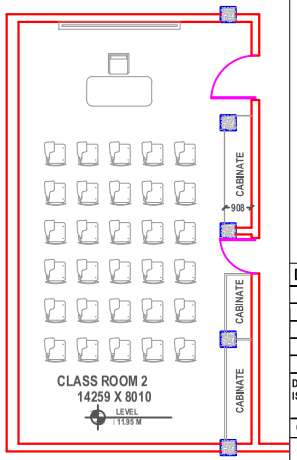
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PLAN



PLAN



REFERENCE PLAN

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FURNITURE-136				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-9-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

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EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

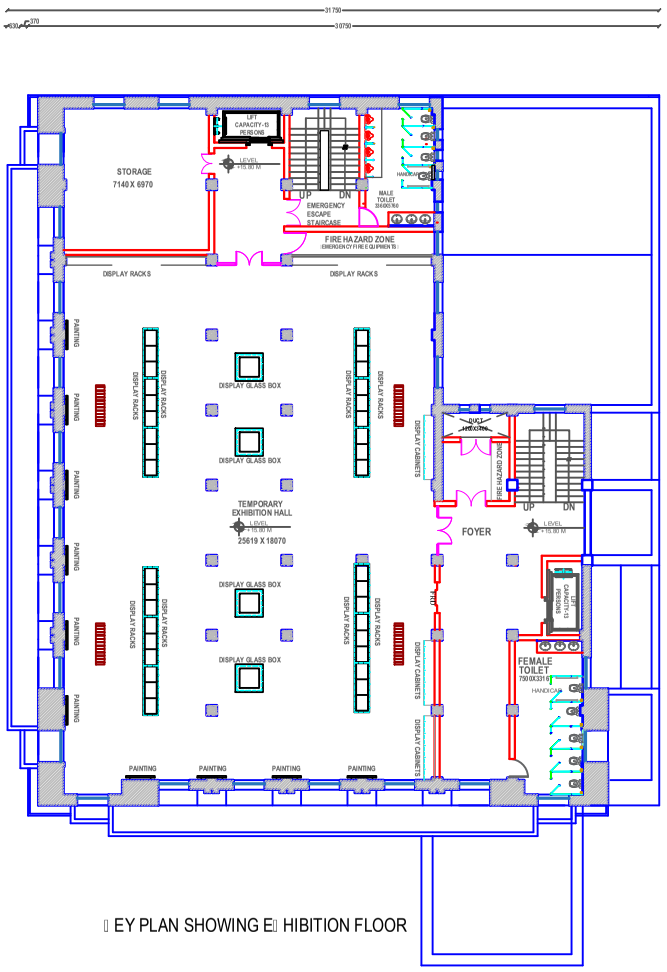
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: CLASSROOM FURNITURE AND CUPBOARD DETAILS

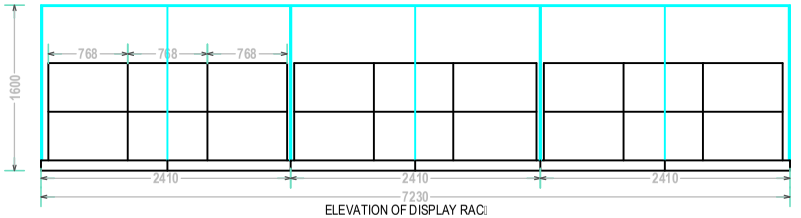
SCALE: 1: 100

REV 0 0 0 0 3

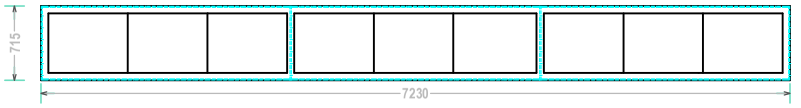
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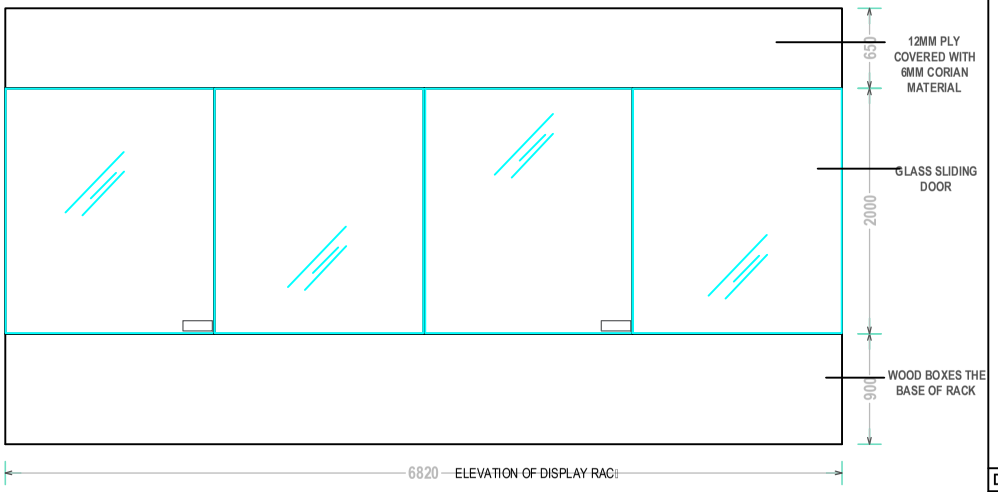
KEY PLAN SHOWING EXHIBITION FLOOR



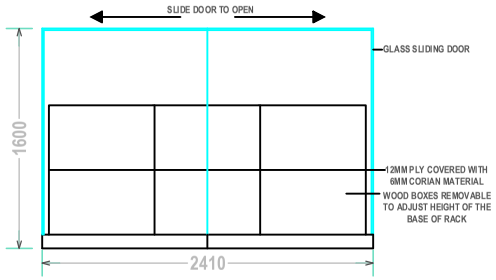
ELEVATION OF DISPLAY RACK



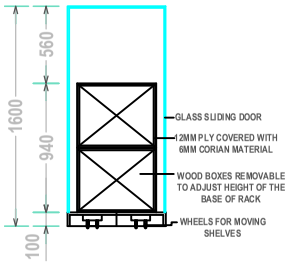
PLAN OF DISPLAY RACK



ELEVATION OF DISPLAY RACK



ELEVATION OF SINGLE DISPLAY RACK



SECTION OF DISPLAY RACK

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FURNITURE-13 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

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EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

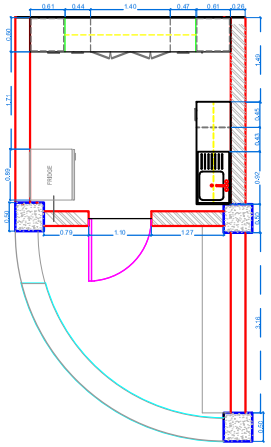
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

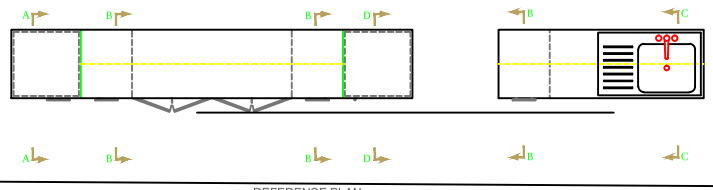
DRAWING TITLE: EXHIBITION DISPLAY RACKS DETAILS

SCALE:

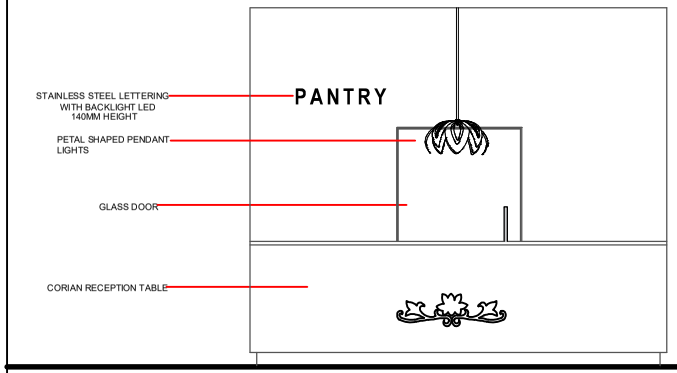
REV 0 0 0 3

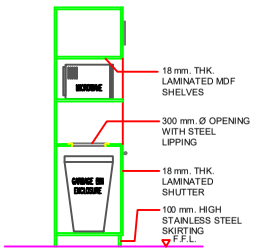
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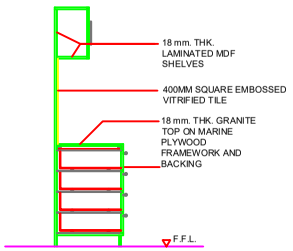


REFERENCE PLAN

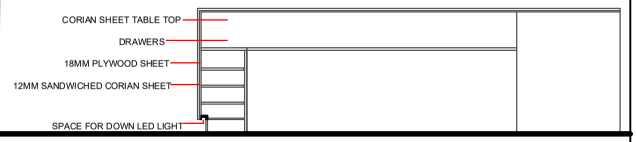




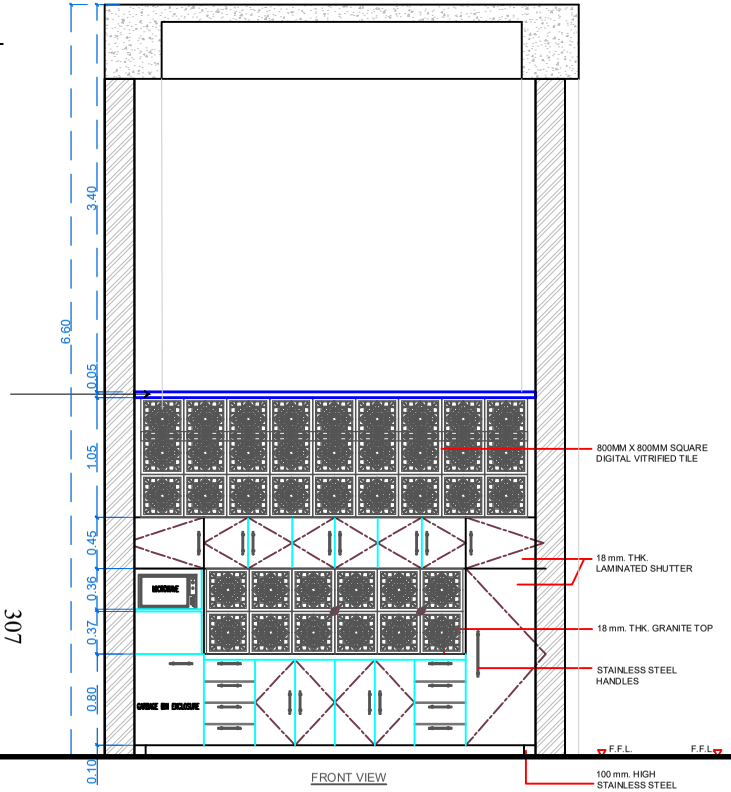
SECTION : A-A



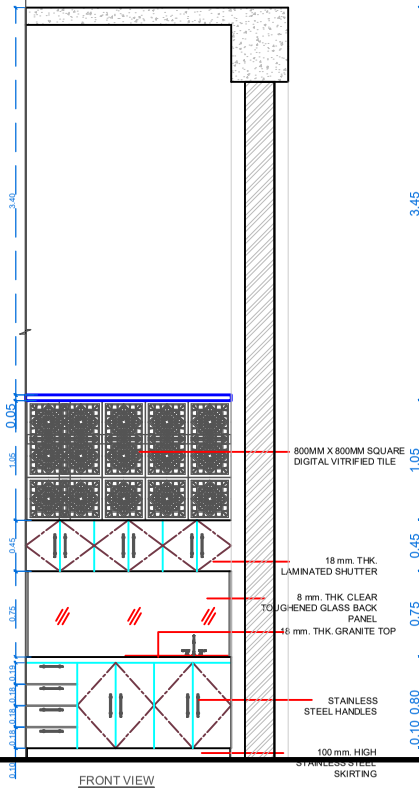
SECTION : B-B



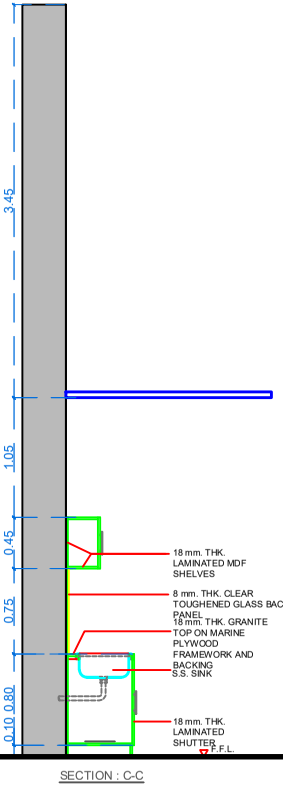
REFERENCE PLAN | ELEVATION | SECTION



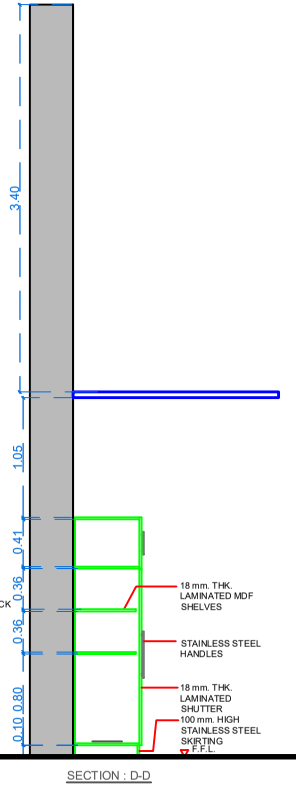
FRONT VIEW



FRONT VIEW



SECTION : C-C



SECTION : D-D

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-PANTRY-138 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-9-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

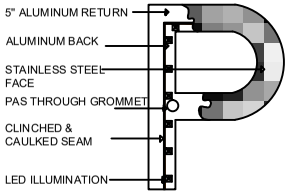
DRAWING TITLE: PANTRY DETAILS

SCALE: 1: 100

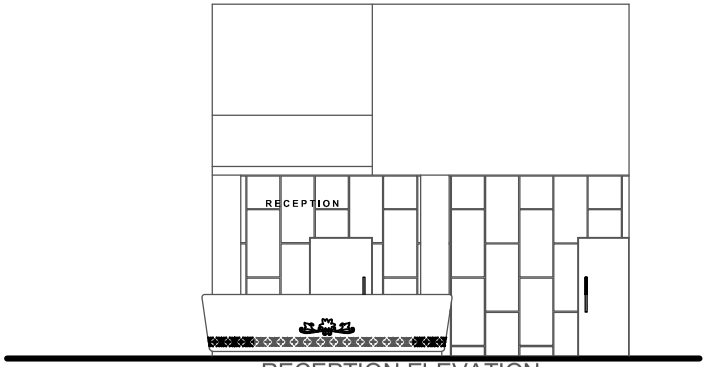
REV 0 0 0 0 3

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PANTRY

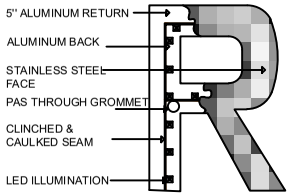


FRONT VIEW

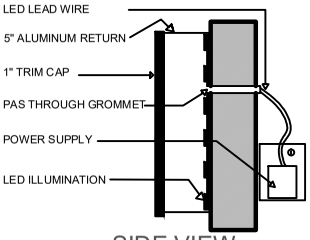


RECEPTION ELEVATION

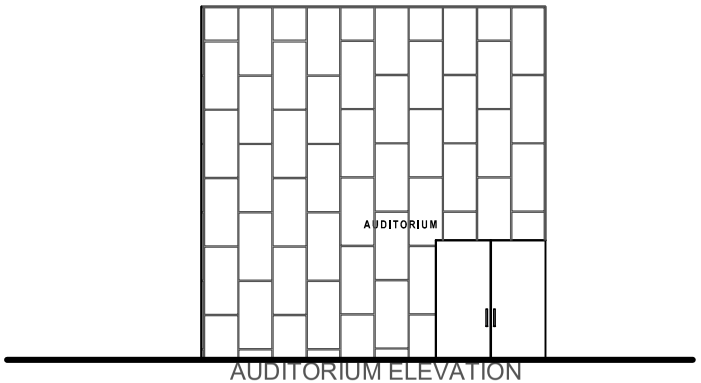
RECEPTION



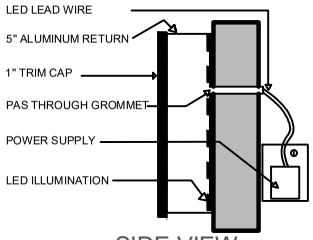
FRONT VIEW



SIDE VIEW

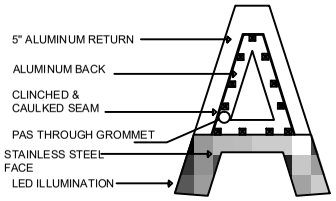


AUDITORIUM ELEVATION

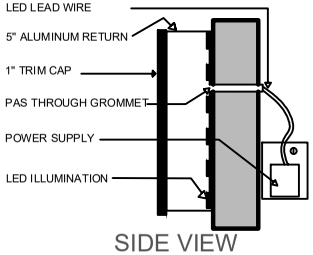


SIDE VIEW

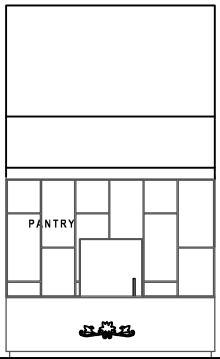
AUDITORIUM



FRONT VIEW

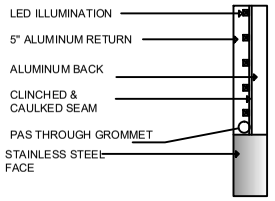


SIDE VIEW

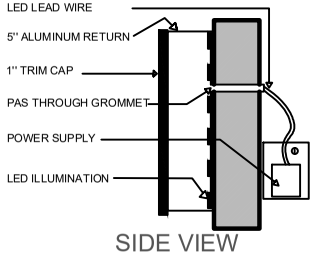


PANTRY ELEVATION

INFORMATION



FRONT VIEW



SIDE VIEW

308

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-SIGNAGE-130 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

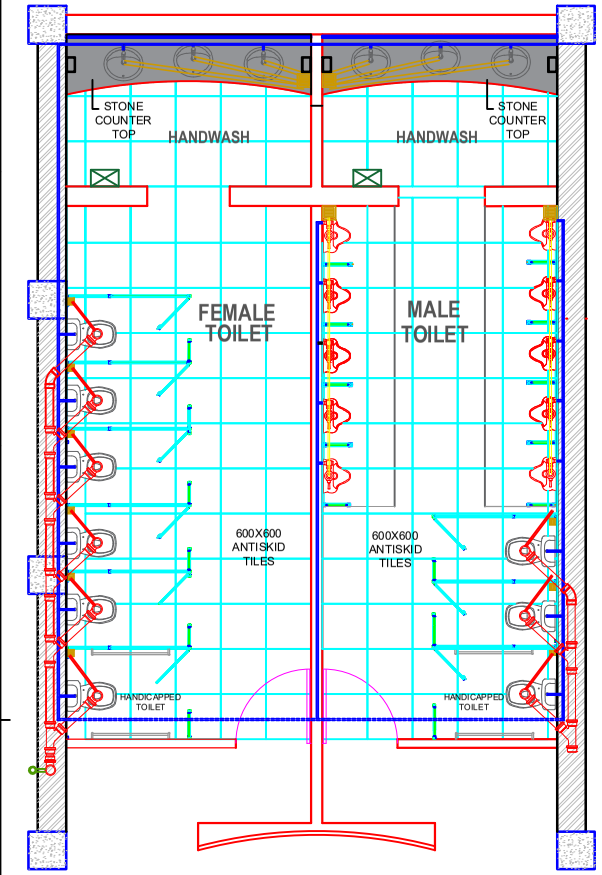
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SIGNAGE DETAILS

SCALE: 1: 100

REV 0 0 0 0 3

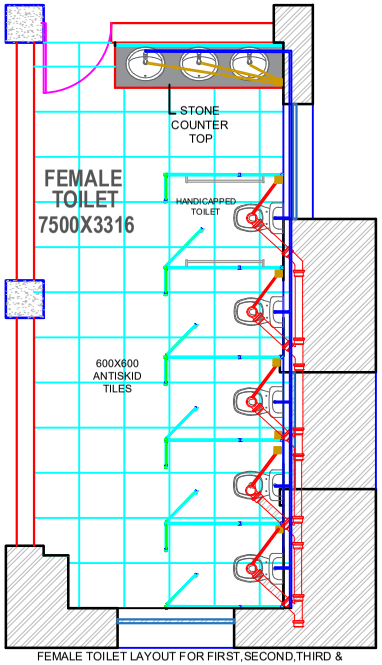
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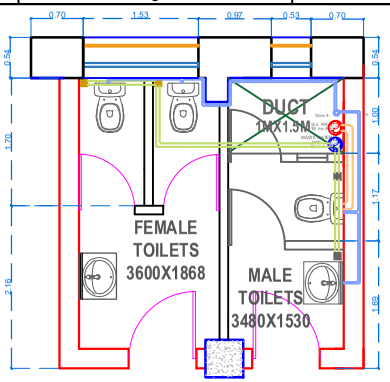
GROUND FLOOR PUBLIC TOILET PLAN



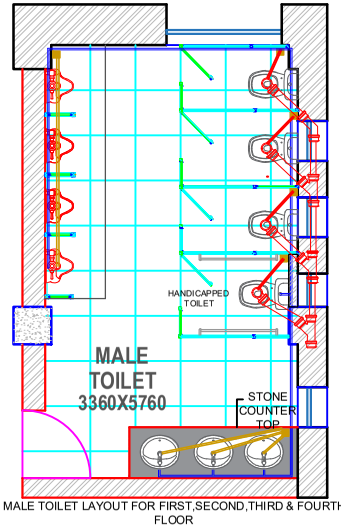
GROUND FLOOR PUBLIC TOILET LOBBY VIEW



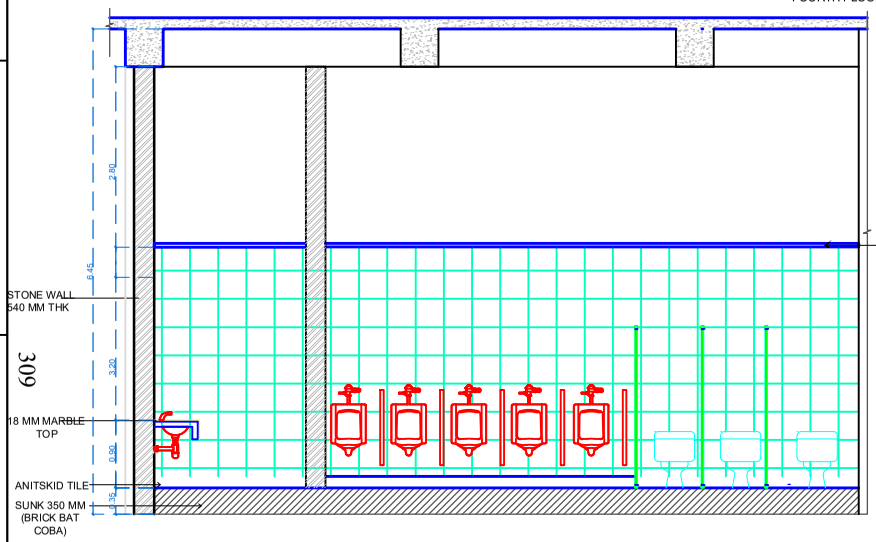
FEMALE TOILET LAYOUT FOR FIRST,SECOND,THIRD & FOURTH FLOOR

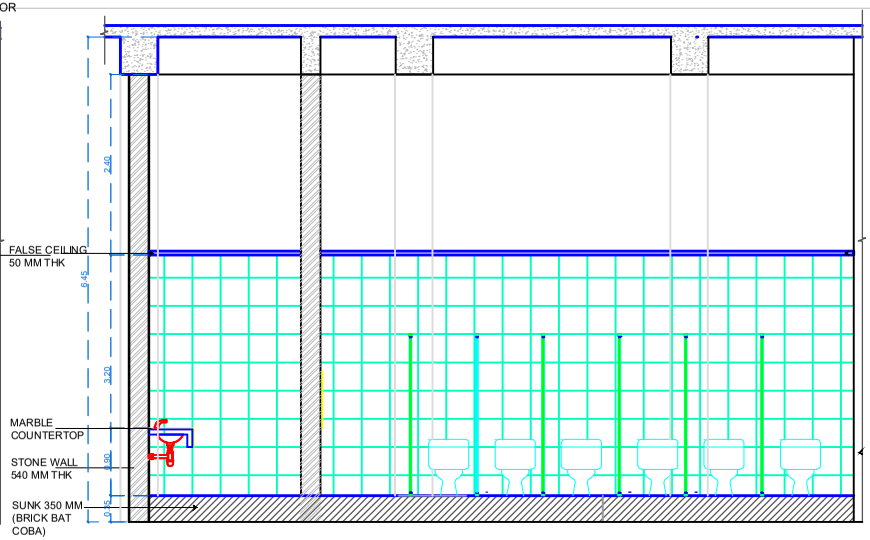


GROUND FLOOR GREEN ROOM TOILET PLAN



MALE TOILET LAYOUT FOR FIRST,SECOND,THIRD & FOURTH FLOOR





NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. DETAILS AS PER SPECIFICATIONS.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-TOILET-140				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

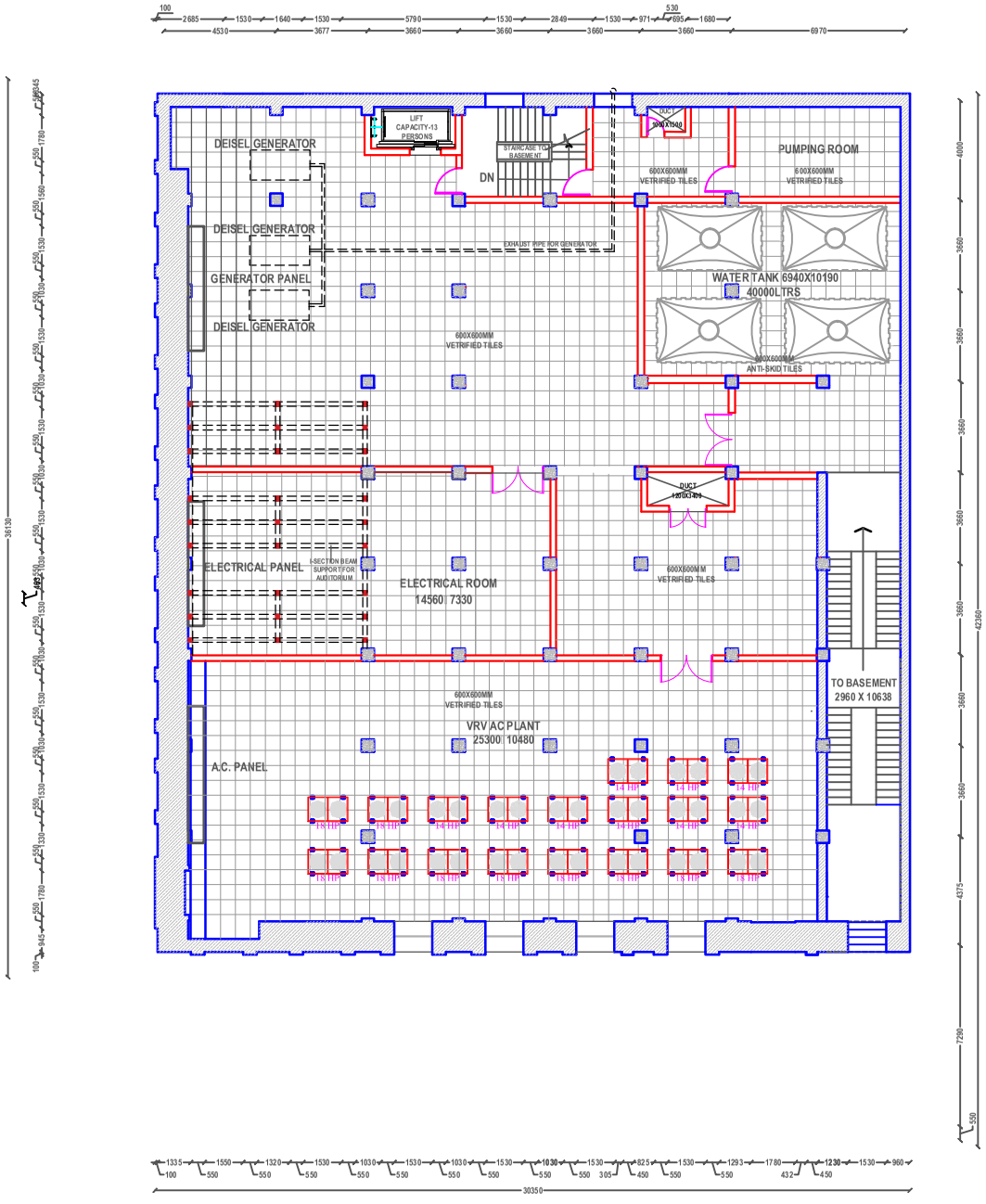
PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: GROUND FLOOR PUBLIC TOILET DETAILS

SCALE: 1: 100

REV 0 0 0 0 3

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BASEMENT FLOOR PLAN SCALE- 1:100

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. SI IRTING TO BE PROVIDED ON ALL WALL.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-FLOOR-141 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

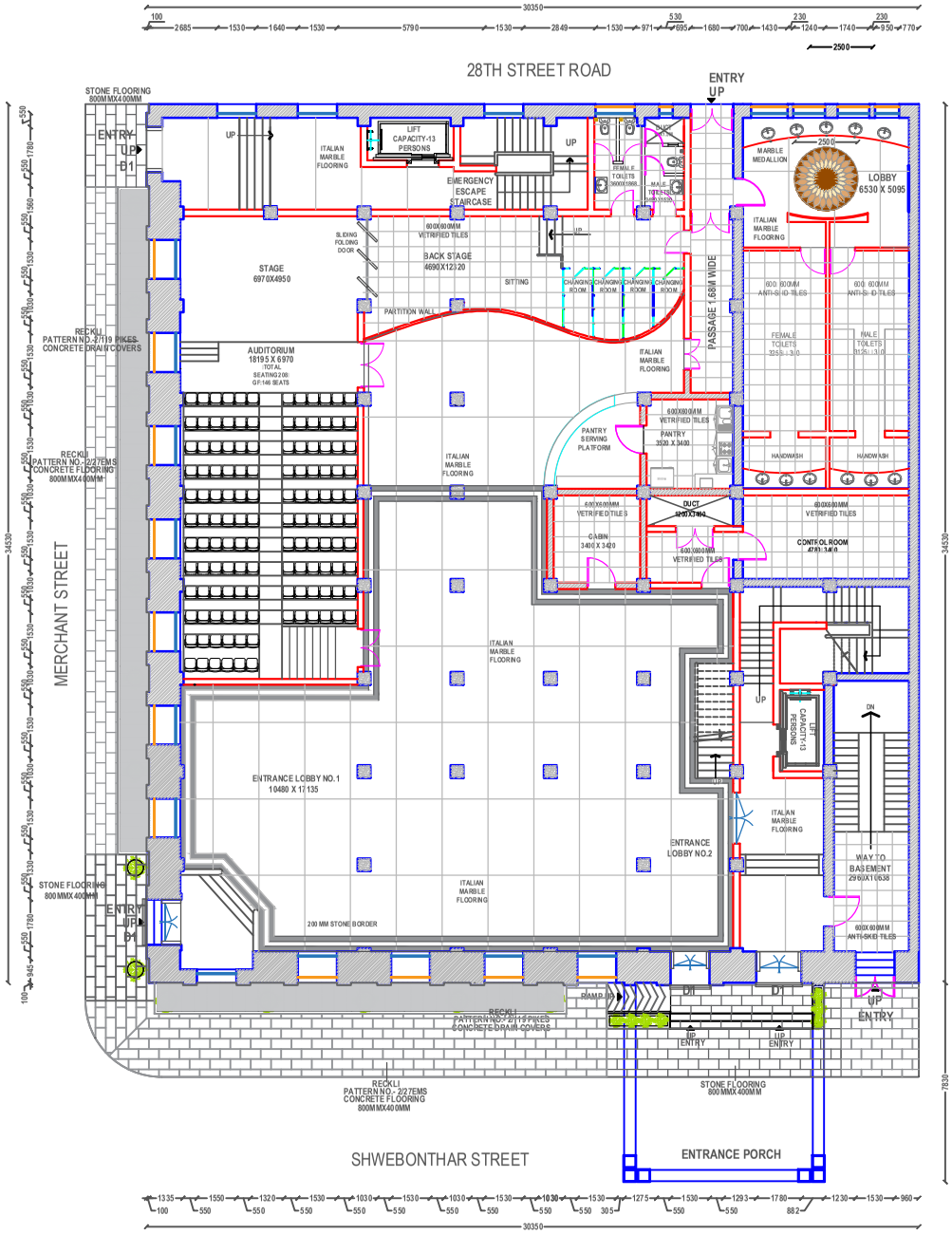
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: BASEMENT FLOORING LAYOUT

SCALE: 1: 100 **REV** 0 0 0 0 3

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GROUND FLOOR PLAN SCALE- 1:125

AREA STATEMENT GROUND FLOOR		
SR. NO.	DISCRIPTION	AREA
1	ENTRANCE LOBBY NO.1	311.10 SQ.M
2	ENTRANCE LOBBY NO.2	58.86 SQ.M
3	ENTRANCE LOBBY NO.3	22.57 SQ.M
4	ENTRANCE LOBBY NO.4	28.04 SQ.M
5	AUDITORIUM	137.58 SQ.M
6	TOILETS	107.27 SQ.M
7	CABIN	15.02 SQ.M
8	PANTRY	24.42 SQ.M
9	CONTROL ROOM	16.25 SQ.M
10	PASSAGE	18.73 SQ.M
	TOTAL AREA	723.59 SQ.M

AREA OF STAIRCASE GROUND FLOOR		
SR. NO.	DISCRIPTION	AREA
1	EMERGENCY ESCAPE STAIRCASE	18 SQ.M
2	STAIRCASE	20.81 SQ.M

NOTE :-

1. ALL DIMENSION ARE IN MM.
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3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. SIGNIRTING TO BE PROVIDED ON ALL WALL.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FLOOR-142 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

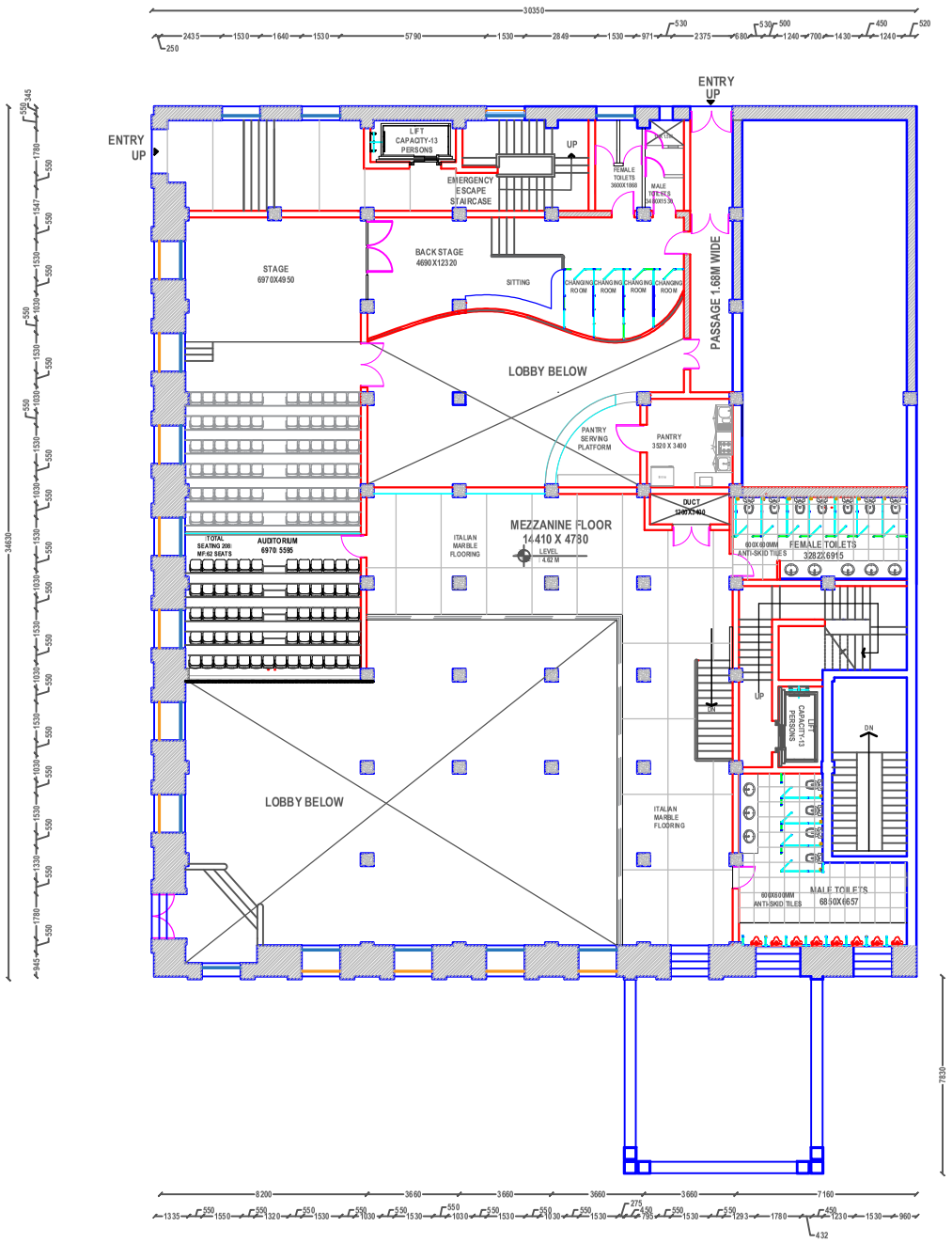
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: GROUND FLOOR FLOORING LAYOUT

SCALE: 1: 100 REV 0 0 0 0 3

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MEZZANINE FLOOR PLAN SCALE- 1:100

AREA STATEMENT MEZZANINE FLOOR		
SR. NO.	DISCRIPTION	AREA
1	LOBBY	121.39 SQ.M
2	AUDITORIUM VIP SEATING	38.97 SQ.M
3	TOILETS	69.03 SQ.M
	TOTAL AREA	229.39 SQ.M

AREA OF STAIRCASE MEZZANINE FLOOR		
SR. NO.	DISCRIPTION	AREA
1	STAIRCASE	05.52 SQ.M

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. SI IRTING TO BE PROVIDED ON ALL WALL.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FLOOR-143				DATE: 05/04/2018	
DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		
DRAWING ISSUED FOR	COMMENTS		APPROVAL	CONSTRUCTION	TENDER
	○		○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

NORTH

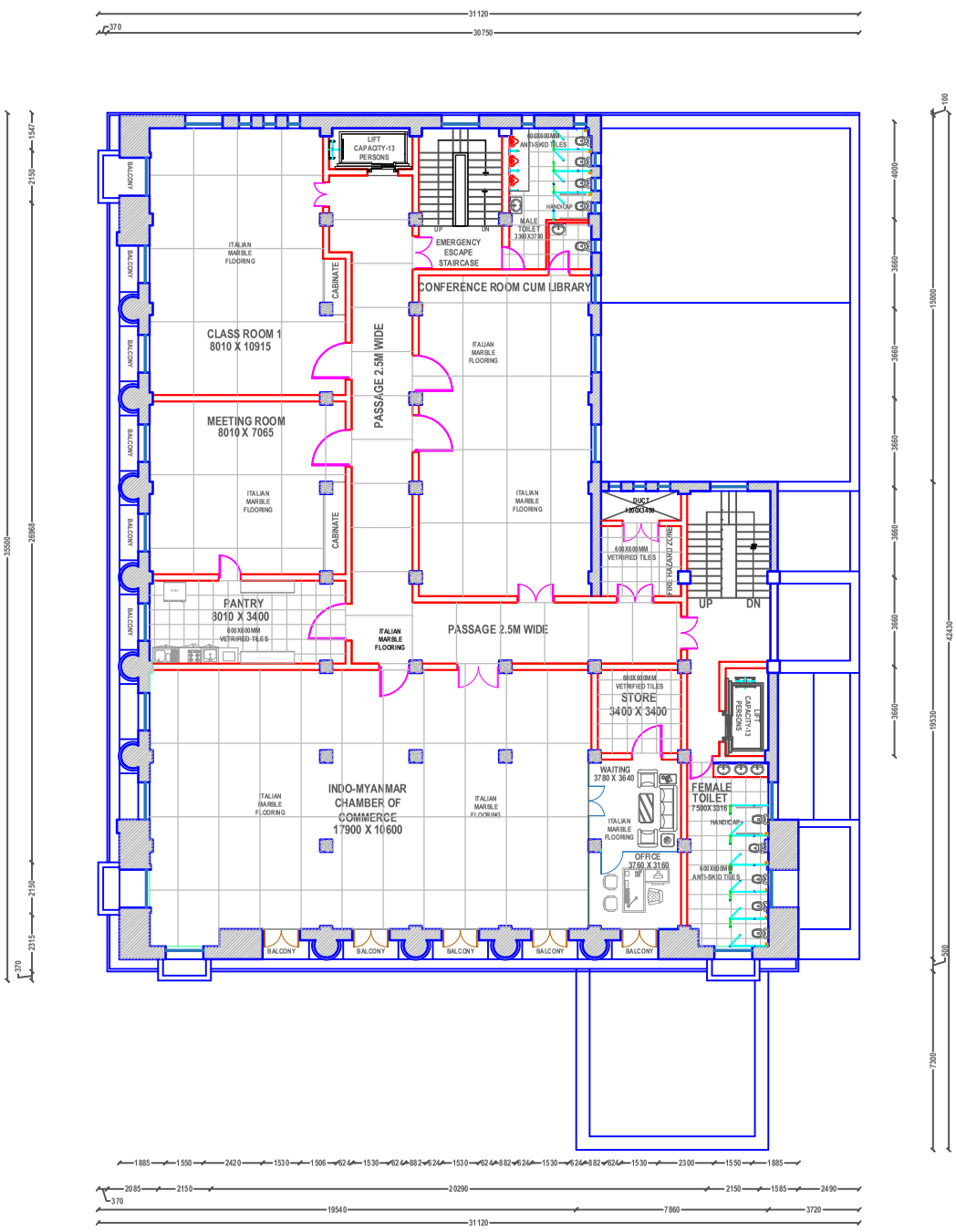
PROJECT NAME:PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: ME ANINE FLOOR FLOORING LAYOUT

SCALE: 1: 100

REV 0 0 0 0 3

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FIRST FLOOR PLAN SCALE- 1:100

AREA STATEMENT FIRST FLOOR		
SR. NO.	DISCRIPTION	AREA
1	CLASS ROOM 1	87.38 SQ.M
2	MEETING ROOM	56.55 SQ.M
3	PANTRY	28.83 SQ.M
4	CHAMBER OF COMMERCE	189.74 SQ.M
5	OFFICE	11.88 SQ.M
6	WAITING	13.75 SQ.M
7	CONFERENCE ROOM/LIBRARY	92.62 SQ.M
8	STORE	25.62 SQ.M
9	TOILETS	44.17 SQ.M
10	PASSAGE	79.30 SQ.M
	TOTAL AREA	629.84 SQ.M

AREA OF STAIRCASE FIRST FLOOR		
SR. NO.	DISCRIPTION	AREA
1	EMERGENCY ESCAPE STAIRCASE	19.58 SQ.M
2	STAIRCASE	23.60 SQ.M

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. SI IRTING TO BE PROVIDED ON ALL WALL.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FLOOR-144 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

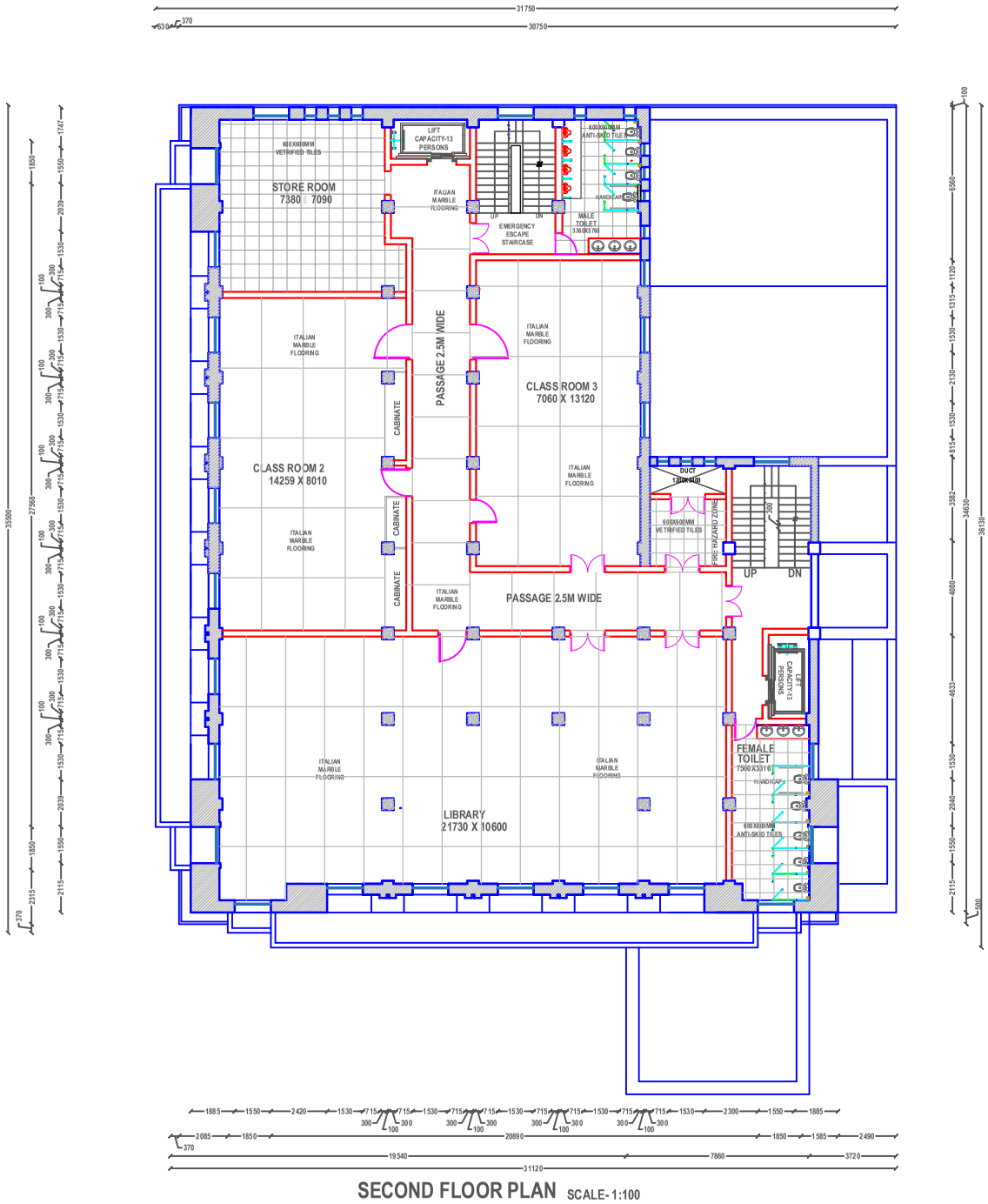
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FIRST FLOOR FLOORING LAYOUT

SCALE: 1: 100 REV 0 0 0 0 3

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SECOND FLOOR PLAN SCALE- 1:100

AREA STATEMENT SECOND FLOOR		
SR. NO.	DISCRIPTION	AREA
1	CLASS ROOM 2	114.14 SQ.M
2	CLASS ROOM 3	92.62 SQ.M
3	LIBRARY	230.33 SQ.M
4	TOILETS	44.17 SQ.M
5	PASSAGE	79.30 SQ.M
6	STORAGE AREA	13.75 SQ.M
7	CONFERENCE ROOM/LIBRARY	92.62 SQ.M
8	STORE	66.33 SQ.M
	TOTAL AREA	733.26 SQ.M

AREA OF STAIRCASE SECOND FLOOR		
SR. NO.	DISCRIPTION	AREA
1	EMERGENCY ESCAPE STAIRCASE	19.58 SQ.M
2	STAIRCASE	23.60 SQ.M

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. SI IRTING TO BE PROVIDED ON ALL WALL.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FLOOR-145 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT NORTH

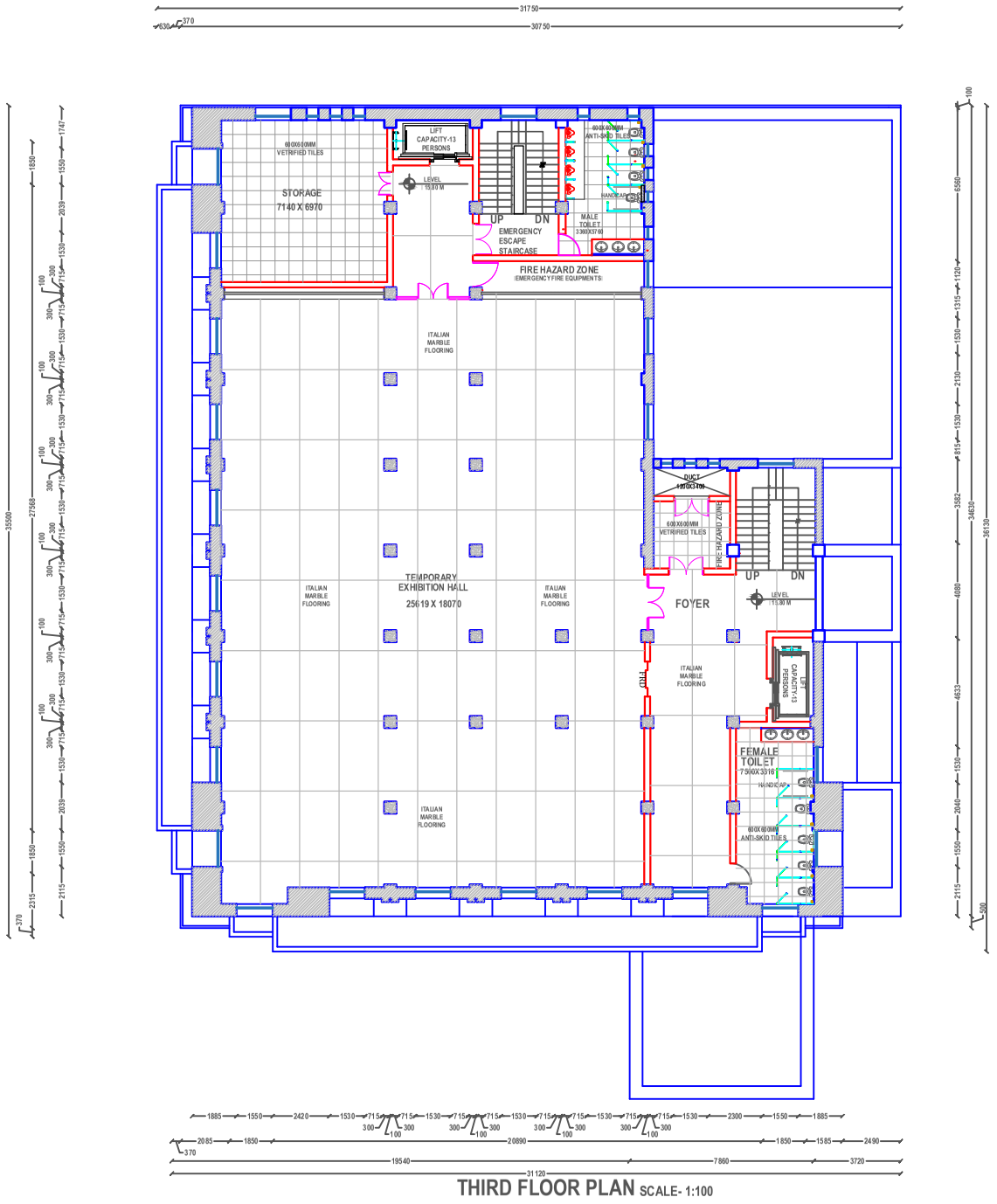
CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: SECOND FLOOR FLOORING LAYOUT

SCALE: 1: 100 **REV** 0 0 0 0 3

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THIRD FLOOR PLAN SCALE- 1:100

AREA STATEMENT THIRD FLOOR		
SR. NO.	DISCRIPTION	AREA
1	TEMPORARY EXHIBITION	462.77 SQ.M
2	STORAGE	100.60 SQ.M
3	TOILETS	44.17 SQ.M
	TOTAL AREA	607.54 SQ.M

AREA OF STAIRCASE THIRD FLOOR		
SR. NO.	DISCRIPTION	AREA
1	EMERGENCY ESCAPE STAIRCASE	19.58 SQ.M
2	STAIRCASE	23.60 SQ.M

NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. SI IRTING TO BE PROVIDED ON ALL WALL.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FLOOR-146 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

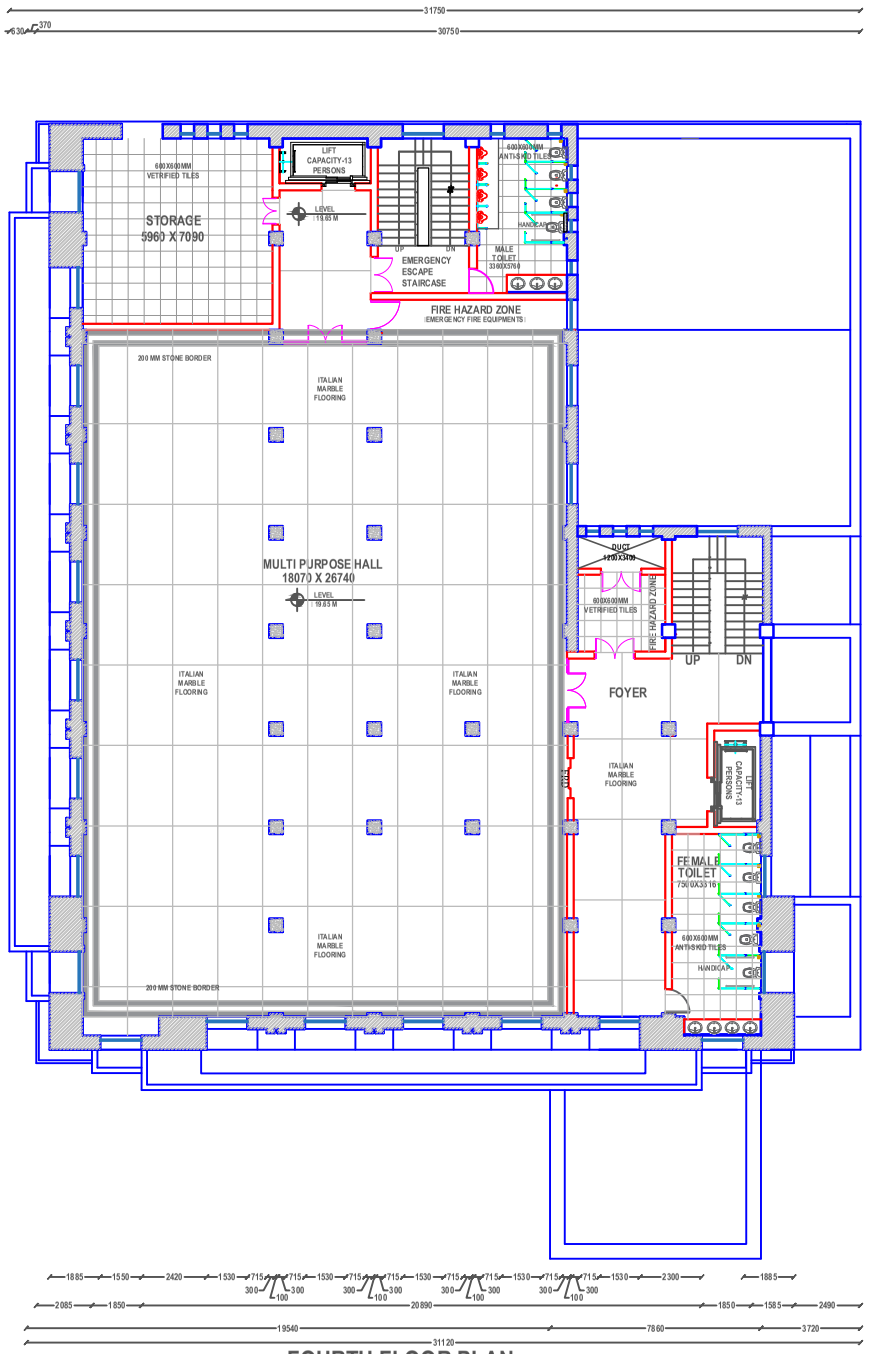
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PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: THIRD FLOOR FLOORING LAYOUT

SCALE: 1: 100 **REV** 0 0 0 0 3

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FOURTH FLOOR PLAN SCALE- 1:100

AREA STATEMENT FOURTH FLOOR		
SR. NO.	DISCRIPTION	AREA
1	MULTIPURPOSE HALL	483.20 SQ.M
2	STORAGE	93.09 SQ.M
3	TOILETS	44.17 SQ.M
	TOTAL AREA	620.46 SQ.M

AREA OF STAIRCASE FOURTH FLOOR		
SR. NO.	DISCRIPTION	AREA
1	EMERGENCY ESCAPE STAIRCASE	19.58 SQ.M
2	STAIRCASE	23.60 SQ.M

NOTE :-

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2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
4. S IRTING TO BE PROVIDED ON ALL WALL.

LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FLOOR-14 DATE: 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT

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MUMBAI

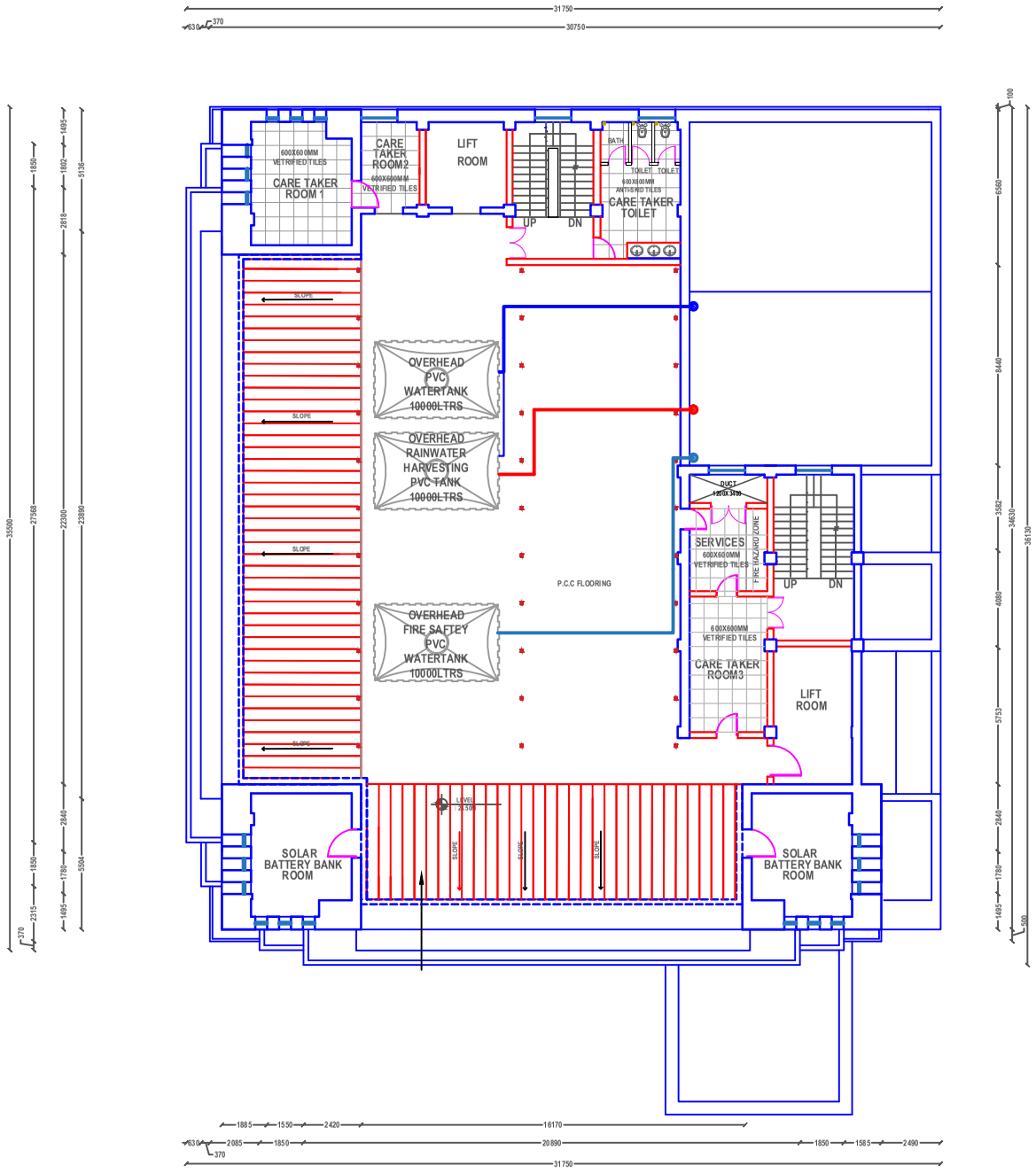
NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: FOURTH FLOOR FLOORING LAYOUT

SCALE: 1: 100 REV 0 0 0 0 3

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TERRACE FLOOR PLAN SCALE- 1:100

NOTE :-

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LEGEND :-

STONE WALL
BRICK WALL
COLUMN

DRAWING NO: LIC-FLOOR-148 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON
MYANMAR

CONSULTANT NORTH

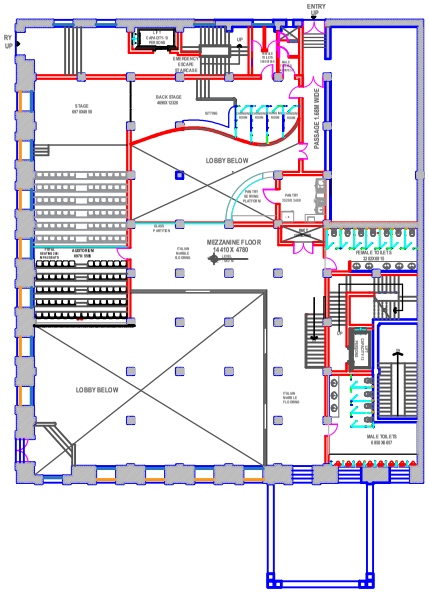
CITY DEVELOPMENT CORPORATION PVT LTD.
MUMBAI

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

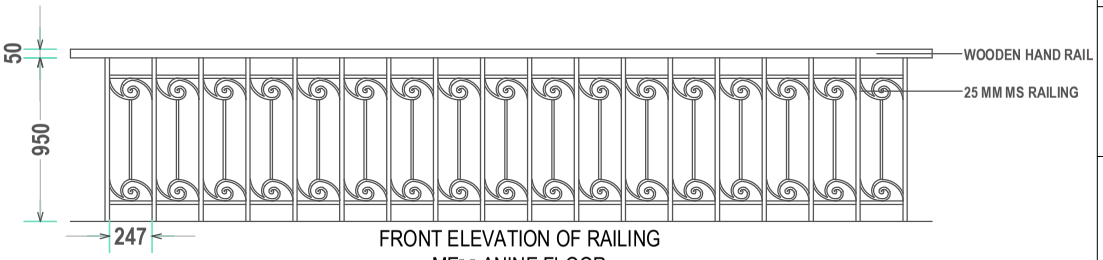
DRAWING TITLE: TERRACE FLOOR FLOORING LAYOUT

SCALE: 1: 100 **REV** 0 0 0 0 3

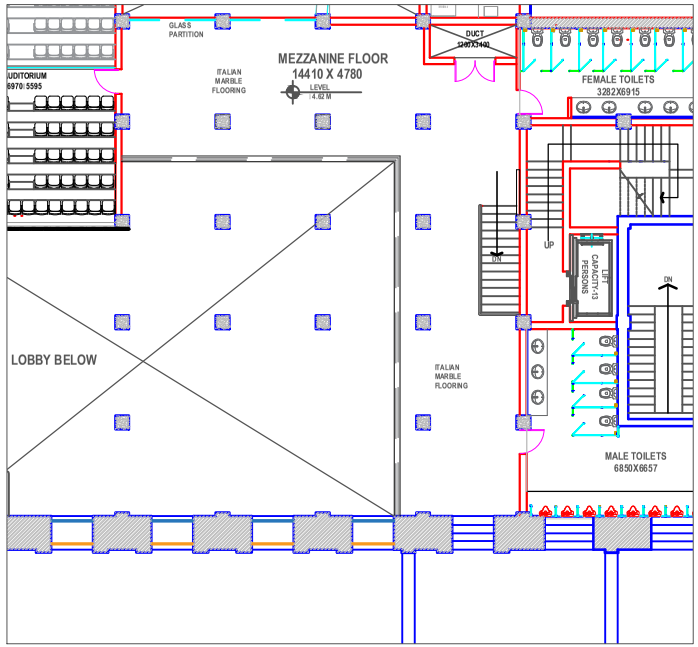
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 EY PLAN SCALE - 1:200



FRONT ELEVATION OF RAILING
ME ANINE FLOOR



ME ANINE FLOOR SHOWING RAILING LOCATION





NOTE :-

1. ALL DIMENSION ARE IN MM.
2. DO NOT SCALE THE DRAWINGS.
3. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.

LEGEND :-

- STONE WALL
- BRICK WALL
- COLUMN

DRAWING NO: LIC-RAILING-14 **DATE:** 05/04/2018

DATE	REVISIONS	BY	CHKD	APPD	PROJECT ENGINEER
8-8-16	00	MANISH	PRAFUL		
8-11-16	01	MANISH	PRAFUL		
20-10-17	02	EASHAN	PRAFUL		
05-04-18	03	EASHAN	PRAFUL		

DRAWING ISSUED FOR	COMMENTS	APPROVAL	CONSTRUCTION	TENDER
	○	○	○	●

OWNER

EMBASSY OF INDIA, YANGON

MYANMAR

CONSULTANT

CITY DEVELOPMENT CORPORATION PVT LTD.

MUMBAI

NORTH

PROJECT NAME: PROPOSED RENOVATION OF LIC BUILDING, AT 654-666 MERCHANT STREET, YANGON, MYANMAR.

DRAWING TITLE: RAILING DETAILS FOR ME ANINE FLOOR

SCALE: 1: 100 **REV** 0 0 0 0 3

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Section V:

TECHNICAL SPECIFICATIONS

CONTENTS

1. General Conditions
2. Section 1: Mortar
3. Section 2: Portland Cement Plaster
4. Section 3: Concrete Curing
5. Section 4: Waterproofing Works
6. Section 5: Flooring Work
7. Section 6: Painting Work
8. Section 7: Anti-termite Treatment by Chemical Injection Method
9. Section 8: House Keeping
10. Section 9: Firefighting and Sprinklers Works
11. Section 10: Drainage
12. Section 11: Electrical Installations
13. Section 12: Sanitary Installations
14. Section 13: POP and Armstrong False Ceiling
15. Section 14: Metal False Ceiling
16. Section 15: Lifts/Elevator/MLCP System Work
17. Section 16: Air Conditioning System
18. Section 17: External Façade Treatment

GENERAL CONDITIONS

1. General

These specifications are to specify the quality of materials, level of workmanship, and methods to be followed and respected for renovation of LIC Building Yangon, Myanmar.

2. Drawings

The contractor shall be provided with a list of drawings included in this bid of the drawings file. All the drawing provided by owner and architect are indicative. Contractor at his own cost shall prepare any additional drawing required for execution. The Contractor shall also modify the drawings, if required as per the site conditions.

All expenses borne by the contractor, to execute the conditions included in this section, on the contractor own cost and his unit rates in the bills of quantity shall be deemed to include all costs and expenses. If during executing the work or before, the Engineer found that the contractor needs drawings to execute a certain task, the contractor must prepare these drawings and submit them to the Engineer for approval. The Engineer has the right to instruct the contractor at any time to submit drawings which the Engineer considers necessary for executing a certain task. The contractor is to abide by this instruction and don't proceed with the task before the Engineer approves the drawings.

The drawings must be fully detailed with a suitable scale and unless otherwise specified be submitted in four copies.

The Engineer has within a reasonable time from receiving the drawings approved the drawings. If the Engineer returns the drawings with notes, the contractor shall adjust the drawings as instructed by the Engineer and resubmit it to the Engineer for approval and he must point out the adjustment made to the first drawing according to the standard procedure.

3. Approvals and Permits

The contractor shall obtain at his own cost all approvals and permits necessary for execution of work well in advance. These include permits from YCDC, YHT, electrical department, water supply department, sanitation department, roads department, lift installation department, firefighting department, etc. Extension of present permits with Embassy of India, Yangon is also in scope of contractor.

4. As- Built Drawings

The contractor, at this own cost, shall adjust the drawing copies with him as necessary during execution of works. The contractor is required to obtain the Engineers approval on these adjustments. When the contractor hands over the works, he shall prepare a new set of drawings for the project as executed with all adjustments (if any) and submit

to the Engineer for approval. Contractor shall submit one set each of as built drawings to architect and Embassy of India, Yangon after completion of works.

The final payment to the contractor shall be paid according to the works actually executed as recorded in the AS- BUILT drawings mentioned above.

The assessment report will be supplied to the Contractor which includes assessment of damages of the building. This report explains the conservation methodology for repair of various damage parts of the building. Any inadequate drawings or requirement of new drawings shall be provided by contractor at his own cost.

5. Scaffolding

The contractor shall provide, erect and maintain the needed scaffoldings to execute the works of this project. Upon completion the contractor shall remove them. The contractor is to take all the necessary safety measures related to these scaffoldings and repair any damages caused by the scaffoldings to the permanent works during the execution period.

The scaffolding for exterior and interior work shall be as per the rules and regulation of YCDC, Yangon.

6. Protection of Works

The contractor is to cover and protect the works from the climatic conditions or misuse or negligence … etc, by providing proper barrier, covers according to the Engineer's approval. The contractor, at his own expenses, shall repair any damages to the works caused by his negligence, or not fulfilling his obligation, according to the Engineer's instruction and satisfaction.

7. Materials and Its Equivalent

All materials and goods must be according to technical specification. The contractor is to submit the specification and description of the materials that he intends to supply with all necessary information to the Engineer to investigate before supplying. These information include, but not limited to, trade name, manufacturer address and the contractor is to submit samples if asked by the Engineer.

Wherever a trade name or catalogue number to any material or any item of work in the specification or bills of quantities or drawings, this is necessary to specify the level of specification required. The contractor can suggest alternatives for these materials provided it is with the same level of specification, and to obtain the Engineer approval.

When alternative materials, other than mentioned in the contract, are approved and it was not in the same level of specification, the Engineer has the right to make suitable

deduction to the unit rate of these materials. No increase to the contractor prices should be made if better materials were provided (compared to the required specification).
Wherever, in the bills of quantity or specification or drawings, a trade name is mentioned or materials known by its manufacturer company or distributing company or catalogue number, it is to be automatically understood that the required is these materials or equivalent even if the phrase "or equivalent" is not mentioned.

8. Samples

The contractor must be always ready to submit samples for materials and workmanship according to Engineer's instruction. The Engineer shall test and inspect these samples to determine its compliance with the technical specification and contract documents. The contractor shall execute the works according to the accepted samples and following conditions:

a. The cost of all samples shall be borne by the contractor

b. The contractor is to submit samples before a reasonable time of starting the work to give the Engineer time to inspect the samples and make the required tests.

c. The samples shall be submitted with a letter containing all the needed information to obtain the Engineers approval.

d. The samples shall be kept at the Engineers office in the site.

9. Materials' Testing

The Engineer has the right to ask the contractor to accompany the required materials with a testing certificate from the source either from the manufacturer or a laboratory approved by the Engineer.

The Engineer has the right to test samples from any material supplied to the site, and whenever needed, either in the lab specified by the Engineer inside the country or outside. Any materials that don't pass the test shall be rejected.

The contractor is to make for the Engineer and his assistants all necessary assistance and services to test the materials brought to site, taking samples, checking measurements and weighs and provide on his own expenses whatever need from labor, tools, materials …etc.

The Construction specified for the use of the supervision staff

The cost of the offices for the Engineer's use shall be included in the contractor's prices in the bills of quantity as described in the tender documents and conditions.

The contractor must provide temporary offices for the use of the Engineer and supervision staff. The Engineer shall also have the right to provide these services and needs on the contractor expenses. And all sums shall be deducted from the contractor payment and insurance whatever sum it reach.

The contractor shall during the execution of works provide all the required services for the above- mentioned offices including maintenance, cleaning, keeping and guarding the offices and its content at all times.

The contractor shall be responsible for all the costs of the needed services of the Engineer and inspectors offices and their maintenance including electricity, water, telephone, cleaning the sewage pit, providing drinking water and all needed papers, books, files, … for the works according to Engineer's approval. The required offices shall be erected in the place approved by the Engineer, and shall stay during the execution of the works and afterwards shall become the property of the school. The contractor must hand it over in a good condition without any construction or architectural defects.

10. Load Testing

The contractor shall conduct slab load test by use of gunny bags or water in containers to ensure the load imposed on the slabs. Once the load is imposed, for 7 days the deflection in beam/slabs shall be measure. Contractor shall conduct this complete test in presence of architect or engineer incharge at his own cost.

11.Handling of Historic Building

All the work of historic building shall be undertaken in professional manner under the supervision of architect and engineer. Prior meeting shall be conducted by the contractor for any breaking work for the historic building. All the local and international standards shall be followed for the renovation work in coordination with Yangon Heritage Trust.

12. Temporary Construction for the Contractor's Use

The contractor must, from the day of the order to start works, has an existence in the site in a temporary office for the use of his staff to receive the Engineer's instruction when needed. The office shall be in the size suitable for the contractor's needs and requirements and he must obtain the prior approval of the Engineer on this office.

The contractor shall be responsible to guard and maintain all the above mentioned temporary constructions that are used by the contractor. He shall also be responsible to provide the required services for these constructions.

The contractor shall bear all the costs of constructing these temporary constructions.

13. Removing the Temporary Constructions

All temporary constructions for the contractor use shall be kept in all times in a good condition until all stages of works are completed and finally handed over. Afterwards, the contractor shall remove all these constructions and its residuals and clean its locations properly so that they leave no trace. If the contractor didn't fulfil this obligation, the Engineer has the right to execute these tasks on the contractor's account and deduct all the expenses from the contractor's payment and insurance with the owner, whatever sum it reach without any legal procedure.

14. Temporary and Permanent Services

The contractor shall, at his own expense, redirect public services if exist (like electricity, water,) which he found during work and according to Engineer's directions and approval. If existing services is connected to or related to or related to the works, the contractor shall maintain and keep in place until handing over the works.

The contractor shall ,on his own cost, repair any damages to the public services like telephone, electrical , sewage and water services for the concerned authorities or a third party.

If the concerned authority or the third party decided to repair the damages by itself, or asking any of its representatives to do so, the contractor shall borne the cost of these repairs done by the concerned authority or the third party. The owner, according to the contract conditions, shall not be responsible for any claims for such actions.

15. Contradiction in the Contract Documents

The contract documents complete each other and in case of contradiction or ambiguity in the contract documents the contractor shall raise it to the Engineer's attention. The Engineer shall make the appropriate decision and inform the contractor. In case of contradiction or ambiguity, as mentioned above, the contractor price shall be as recorded in the bills of quantities. In case any material or work needed to execute the works is not mentioned in the bills of quantities, the contractor has to execute these materials or works and their cost shall be deemed to be automatically included in the contractor's price for the related item. The contractor has no right to claim any differences as a result of this.

16. Site Meetings

During executing the works and on periodical bases, site meetings shall be held every 2 weeks or whenever needed for the purposes to coordinate the works and to be sure that it is properly executed according to contract conditions and technical specification. Minutes of the meetings shall be prepared by the Engineer or his representative and distributed to all parties and it shall be followed.

The contractor shall present in the meeting detailed of the works intended to be executed in the next two weeks, which shall be discussed and proper instruction shall be given, and these instructions and approval issued in the meeting shall be followed by the contractor.

17. Daily Reports

The contractor shall submit to the Engineer (or his representative) a daily report containing the required information on the labor (Nos & types), equipment and materials arrived to the site and works executed in that day.

18. Photographs of Progress of Works

The contractor at his own expense shall submit once a month, or as the Engineers find suitable, suitable number of colored photographs in 3 copies (size 10x15 cm) for the executed works or works under progress as directed by the Engineer. The original film negative and all copies shall be the ownership of the owner, and the photos can't be use without his approval.

19. Work Schedule

The contractor shall prepare (in 3 copies) and submit schedule of the work including all tasks of the subcontractors and any works in the contract condition. The contractor shall keep a copy in his site office and submit 2 copies to the Engineer.

The contractor has to make monthly (or as the Engineers see necessary) adjustment to the schedule according to site conditions and progress of works. Two copies of the revised schedule shall be submitted to the Engineer.

20. Handing Over Works and Removing Residuals

The contractor must hand over all works clean and insure removing all materials, construction residuals, rejected materials, remains in the site in general or in the buildings or nearby. The completion of the works as explained here shall be on the contractor's expense and according to the Engineer's approval. If the contractor didn't fulfil this obligation, the Engineer has the right to execute these works on the contractor expense and deduct it from the contractor payments or insurance or security.

21. Measurements of Works

The Engineering measurement shall be made for all works; all openings and intersection shall be deducted. Actual net distances shall be calculated but not exceeding the measurement reported in the drawings.

22. Codes And Standards

Where ever B.S. is mentioned it should be read as follows: All building materials and equipment should be registered with an international recognized norm institution or correspond to an international recognized norm. The standards used shall be DIN, ISO, B.S. or approved equivalent.

23. CCTV Camera for Monitoring Work

Contractor shall provide CCTV System at his own cost for monitoring of works at site. This system shall be integrated with internet. All the ongoing work shall be visible through mobile app to Architect, Site Engineer, and Embassy. These same cameras can be later used for the CCTV system proposed in the project.

24. Changes in Drawings and Specification

Contractor shall readily accept any changes in the drawings and specifications to improve the functional and aesthetical requirements in the project. If these changes are not part of the BOQ, contractor will be paid separately subject to approval from Ministry of External Affairs (MoEA). Contractor shall co-operate to incorporate these changes in items which are not necessary to implement. Owner shall have all right to implement or not implement any items not found necessary for this project.

25. Site Security

Contractor after official handover of site shall provide complete security of project site including all the material, valuables, etc. inside the building. Contractor shall maintain inventory of all the items going in and out of the project site. Embassy of India will legally recover any losses or damages due to contractor negligence in security of project site.

SECTION 1

MORTAR

SECTION 1

MORTAR

1. GENERAL WORK INCLUDED

1.1. Mortar for brick masonry and concrete unit masonry

2. RELATED WORK

2.1. Concrete Masonry Work.

3. QUALITY ASSURANCE

3.1. Quality assurance shall be performed by The Contractor in accordance with the requirements National Building Code (NBC) of Myanmar.

4. REFERENCE STANDARDS

BS 12 - Ordinary Portland Cement
BS 5224 - Masonry Cement
BS 890 - Building limes
BS 882 - Aggregates from natural sources for concrete.
BS 4551 - Methods of testing mortars.
BS 4721 - Specification for ready mixed building mortars.

5. TESTING

Testing of mortar mix(es) shall be performed by a firm appointed and paid for by The Contractor. Free access shall be provided to all portions of work. Proposal for mortar mix design shall be submitted by The Contractor to the testing firm for approval prior to commencement of work.

Tests of mortar mix(es) shall be performed to ensure conformance with requirements stated herein and to ensure mortar will not produce efflorescence.

If mortar mix(es) do not conform with requirements stated herein, new design mix shall be submitted to the testing firm (laboratory) and at the cost of The Contractor.

6. SUBMITTALS

The Contractor shall submit manufacturer's recommendations and product data to obtain approval of design Professional.

7. PRODUCTS

7.1. ACCEPTABLE MANUFACTURERS

The Contractor shall submit to the Design Professional the names of three manufacturers and their products which will be acceptable under this section. Approval of the manufacturer or product must be obtained before proceeding with associated work.

8. MORTAR MATERIALS

Portland Cement: BS12 Ordinary Portland Cement; grey color.

Masonry Cement: BS 5224 for general use Aggregates: Standard Masonry Type, BS 882, clean, dry and protected against dampness, freezing and foreign matter.

Water: Clean and free from injurious amounts of oil, alkali, organic matter or other deleterious material.

9. ADMIXTURES

Plasticizer: Water reducing type which reduces porosity and absorption to increase bond strength; as approved by the Design Professional.

10. MORTAR MIX

Provide minimum 15 Mpa mortar for non-load bearing walls and partitions.

11. EXECUTION

For mixing mortar Trade Contractor shall undertake the following measures:

- Thoroughly mix mortar ingredients, in quantities needed for immediate use.
- Add mortar color and admixtures in accordance with manufacturer's recommendations. Ensure uniformity of mix and coloration.
- Do not use anti freeze compounds to lower the freezing point of mortar.
- Use mortar within two hours of mixing at temperatures over (26 deg. C), and two and one half hours at temperatures under 10 degrees C.
- If necessary, retemper mortar within two hours of mixing to replace water lost by evaporation.
- Do not retemper mortar after two hours of mixing.

SECTION 2

PORTLAND CEMENT PLASTER

SECTION 2

PORTLAND CEMENT PLASTER

1. GENERAL

1.1. WORK INCLUDED

1.1.1. Three coat cement plaster with wood float trowelled finish coat.
1.1.2. Two coat cement plaster with rough finish coat to receive wall tiles.

1.2. RELATED WORK

1.2.1. Cast in place concrete
1.2.2. Concrete Unit masonry

1.3. REFERENCE STANDARDS

a.	ASTM C150	Portland Cement
b.	ASTM C144	Sand for Cement Plaster Work
c.	ASTM C6	Normal Finishing Hydrated Lime.
d.	ASTM C206	Special Finishing Hydrated Lime
e.	ASTM C35	Inorganic Aggregates for Use in Gypsum
f.	UL	Underwriters' Laboratories Incorporated.
g.	ASTM C631	Bonding Compounds for Interior Plastering.

1.4. SAMPLE PANEL

1.4.1. The Contractor shall construct 1000 mm wide x 1000 mm high sample panel with finished surface, using materials and methods specified herein, for review by the Design Professional.

1.4.2. The accepted surface finish of sample shall establish the minimum standard of quality and workmanship of cement plaster work on job.

1.5. ENVIRONMENTAL CONDITIONS

1.5.1. Adequate ventilation shall be provided in areas where work of this Section is being performed, so as to allow cement plaster to properly cure. Precautionary measures shall be undertaken to ensure that excessive temperature changes do not occur.

2. PRODUCTS

2.1.1. BASECOAT MATERIALS

2.1.1.1. Cement: Normal - Type I. Portland type, conforming to requirements of ASTM C150; grey color.

2.1.1.2. Hydrated Lime: Normal finishing type conforming to requirements of ASTM C6, or an approved mortar plasticiser, both types pending the Design Professional's approval.

2.1.1.3. Water: Clean, portable fresh and free from injurious amounts of oil, acid, alkali, organic matter or other deleterious substances.

2.1.1.4. Sand: Shall conform to ASTMC - 144, except that the gradation shall meet further requirements for cement plaster work.

2.1.1.5. Bonding Agent: Type recommended for satisfactorily bonding cement plaster to concrete block surfaces. Conforming to ASTM C631.

2.1.2. METAL ACCESSORIES

2.1.2.1. Angle Beads, Corner Mesh and Plaster stops: Minimum 0.50mm thick steel with rust inhibitive coating of longest possible lengths; sized and profiled to suit application. Angle beads to have bullnosed edges.

2.1.2.2. Anchorages: Nails, staples, or other metal supports, of type and size to suit application and to rigidly secure metal accessories in place.

2.1.3. CEMENT PLASTER MIXES

2.1.3.1. The Contractor shall provide materials and comply/perform as follows:

2.1.3.2. Mix and proportion cement plaster as follows: (by volume).

a. Base coat: 1 part cement, to 2 parts sand, using an approved plasticiser.
b. Second coat: 1 part cement to 4 parts sand with an approved plasticiser.

c. Finish coat: 1 part cement, to 4 parts sand with an approved platicicser,

2.1.3.3. Mix only as much plaster as can be used in one hour.
2.1.3.4. Mix materials dry, to uniform colour and consistency, before adding water.
2.1.3.5. Add color pigments in accordance with manufacturer's recommendations. uniformity of mix and colouration
2.1.3.6. Protect mixes from frost, dust and evaporation
2.1.3.7. Do not re temper mixes after initial set has occurred.
2.1.3.8. Where hydrated lime is accepted and approved by the Design

Professional, the volume of lime must not exceed 0.5 that of cement volume for the base course, and 1.0 that of cement volume for the second and third coats.

2.1.3.9. For two coats plaster use items 1 and 2 of "A" above.

3. EXECUTION

3.1. PREPARATION

The Contractor shall provide materials and comply/execute as follows:

3.1.1.1. Prior to application ensure mechanical and electrical services behind surfaces to receive cement plaster have been tested and approved.

3.1.1.2. Clean concrete and concrete block surfaces of dust, laitance, efflorescence, loose particles, grease or other foreign matters. Thoroughly wet surfaces before using acid solutions, solvents or detergents to perform cleaning. Thoroughly wash surfaces with clean water immediately following their use. Ensure mortar joints are flush.

3.1.1.3.c. Roughen smooth concrete surfaces so as to allow adequate adhesion. Use method acceptable to the Design Professional

3.1.1.4. Apply a bonding agent on concrete and concrete block surfaces which are to receive cement plaster. Apply in accordance with manufacturer's recommendations, ensuring complete coverage.

3.1.1.5. Ensure metal lath has been properly installed and rigidly secured.

3.1.1.6. Wet concrete and concrete block surfaces to reduce excessive suction.

3.1.1.7. Place metal accessories true to lines and levels.

3.2. PLASTERING

The Contractor shall provide materials and perform all labour to undertake the following:

a. Apply cement plaster using two coat system and three coat system respectively.

b. Apply each basecoat to minimum thickness of 10 mm. Moist cure and allow each coat to slowly dry for minimum period of 24 hours.

c. Allow each coat to cure for minimum 3 days prior to application of the following coat.

d. Evenly dampen each coat, to ensure uniform suction, and apply the following coat. Apply to thickness sufficient to secure required texture but in no case less than 3mm. Apply finish coat subject to requirements.

e. Maintain surface flatness, with maximum variation of 3.2mm in 3.000m.

f. Provide surfaces receiving paint with a steel trowel finish.

g. Avoid excessive working of surface. Delay trowelling as long as possible to avoid drawing excess fines to surface.

h. Moist cure finish coat for minimum period of 48 hours.

3.3. FIRE RATED ASSEMBLIES

Perform Cement plaster work for fire rated assemblies shall be performed by The Contractor in accordance with drawings and as per recommendation of specialized laboratories and subject to the approval of the Specialized Design Professional.

SECTION 3

CONCRETE CURING

SECTION 3

CONCRETE CURING

1. GENERAL

1.1. WORK INCLUDED

1.1.1. Initial and final curing
1.1.2. Curing materials

1.2. RELATED WORK

1.2.1. Cast in Place Concrete
1.2.2. Formwork

1.3. REFERENCES

1.3.1. ANSI A168.1 Practice for curing concrete,
1.3.2. ACI 305 Recommended Practices for Hot Weather Concreting.
1.3.3. ACI 306 Recommended Practices for Cold Weather Curing.
1.3.4. ACI 308 71 Recommended Practice for Curing Concrete.

2. PRODUCTS

2.1. MATERIALS

2.1.1. Water: Potable
2.1.2. Absorptive Mats Burlap: Cloth made of jute or kenaf conforming to AASHTO M182 and minimum weight 0.29 kg/m2
2.1.3. Membrane Curing Compound: acrylic, or chlorinated rubber type, pigmented.

3. EXECUTION

3.1. CURING WATER

Should be of a temperature compatible with concrete temperature and not more than 11 degree C cooler than concrete surface.

3.2. PONDING

100% coverage of water over slabs/spalling shall be maintained continuously for 5 days.

3.3. SPRAYING

Where spraying is required, slabs/spalling shall be maintained wet for 5 days.

3.4. ABSORPTIVE MAT

Saturated burlap shall be placed over exposed areas, lapping ends and sides minimum 50% over lap, and maintained in place saturated for 5 days.

3.5. MEMBRANE CURING COMPOUND

Curing compound shall be applied in strict accordance with manufacturer's instructions.

SECTION 4

Waterproofing Works

SECTION 4

Waterproofing Works

1. GENERAL

1.1. WORK INCLUDED

1.1.1. Preparation of surfaces to receive the membranes..
1.1.2. Supply and placement of the membranes.
1.1.3. Seal joints (supply and application).
1.1.4. Supply and fixing of protective coverings.

1.2. RELATED WORK

1.2.1. Cast in place concrete.
1.2.2. Concrete unit masonry.
1.2.3. Sealants.

1.3. PRODUCT DATA

The Contractor shall submit manufacturer's instructions for the Design Professional's review.

1.4. WARRANTY

1.4.1. The Contractor shall submit written warranties in the name of the Owner for the membrane material approved by the Design Professional.

1.4.2. The warranty shall provide for making good, within period of five (5) years, at no cost to the Owner, failures of waterproofing to resist penetration of water, except where such failures are result of structural failures of building. Hairline cracking due to temperature of shrinkage is not considered as structural failure.

2. PRODUCTS

2.1. MATERIALS

2.2. Modified bitumen torchable membrane, 4mm thick, reinforced with 180 gm/m2 non-woven polyester with 50 gm/m2 non-woven glass.

2.3. Primer compatible with waterproofing and recommended by waterproofing manufacturer and approved by the Design Professional.
2.4. c. Protective cover, 10cm thick pre-cast hollow concrete blocks as covered under concrete unit masonry section.
2.5. Sealing mastic of type recommended by waterproofing manufacturer and

approved by the Design Professional.

3. EXECUTION

3.1. SURFACE PREPARATION

The Contractor shall clean and prepare surfaces to receive waterproofing in accordance with manufacturers recommendations subject to obtaining the approval of the Design Professional.

3.2. APPLICATION

The Contractor shall comply/execute as follows:

3.3. All prepared surfaces shall be dry, and painted with a coat of primer at a rate recommended by waterproofing manufacturer. All blinding surfaces must be finished fair faced or trowel smooth to receive the waterproofing membrane.

3.4. Apply the waterproof membrane surface against prepared surfaces, in accordance with manufacturers recommendations, ensuring that air is excluded from under membrane.

3.5. Adjacent rolls of waterproof membrane should be provided with a minimum 150mm lap and complete adhesion must be achieved between both layers to ensure complete waterproofing.

3.6. All external and internal angles and corners shall be reinforced with an extra strip of waterproof membrane, minimum 300mm wide.

3.7. All internal corners should be provided with a 50 mm x 50 mm minimum fillet.

3.8. Where waterproof membrane is to be terminated above ground level (150mm from G.L. or as instructed by the Design Professional) a chase should be provided of minimum dimension 25mm x 25mm. The waterproof membrane should be dressed into the chase and immediately sealed as per the approved shop Drawings.

3.9. Pipes and other projections through waterproof membrane should be properly treated with reinforcing strips, collars etc. as per manufacturer’s recommendations to ensure complete waterproofing.

3.10. Where waterproof membrane is expected to be left exposed for any period of time, the top edge should be batten-fixed to secure edge. The perimeter should be left with an extended edge for later continuity and the free edge shall be adequately protected while exposed. The free edge of the membrane should be carefully cleaned before further lying is commenced.

3.11. Before covering, inspect to ensure no damage. Any damaged area should be cleaned and patched in accordance with manufacturer’s recommendations to ensure complete waterproofing.

3.12. On horizontal applications where steel reinforcement is to be fixed prior to concreting, the waterproof membrane should be protected with a minimum of 25mm sand/cement screed or other approved protection in accordance with manufacturer’s recommendations.

3.13. On vertical applications the waterproof membrane should be protected with tough non-rot board or other approved protection in accordance with manufacturer’s

recommendations.

3.14. The area of waterproof membrane laid in a working day should not exceed that which can be protected in the same working day, in order to ensure that membrane is not subjected to site traffic or damage.

3.15. Material having limited shelf life are to be supplied with labels indicating batch number and dates of manufacture and expiry. Materials not properly stored or which have exceeded their expiry date will not be permitted to be used in the work and are to be removed from the site.

3.16. Submit five years guarantee covering materials and workmanship of waterproofing system.

The guarantee should be substantiated with a certified copy of the material guarantee provided by the manufacturer.

The Contractor shall provide materials and perform all labour for works duly outlined above.

SECTION 5

Flooring Work

SECTION 5

Flooring Work

1. GENERAL

1.1. Section Includes:

1.1.1. Marble Flooring, Vitrified Tiles, and Ceramic tile floor finish using the mortar bed application method.
1.1.2. Local marble tile stair treads using the mortar bed application method.

1.2. References:
ANSI
TCA
ASTM

1.3. Submittals:

1.3.1. Product data: provide instructions for using adhesives and grouts.
1.3.2. Samples: Mount tile and apply grout on two plywood panels, (1000X1000) mm. in size illustrating pattern, color variations, and grouts joint size variations.
1.3.3. Manufacturer's certificate: Certify that products specification meet or exceed specified requirements.

1.4. Maintenance Data

1.4.1. Maintenance data: Include recommended cleaning methods, cleaning materials, stain removal methods and polishes and waxes.

1.5. Qualification:

1.5.1. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum 3 years experience.

1.5.2. Installer: Specialist in performing the work of this section with minimum 10 years experience.

1.6. Mock-up:

1.6.1. Construct tile mock-up, 2m long by 2m wide, with cleavage membrane, waterproofing, finish grout, and specified accessories.
1.6.2. Local where directed.
1.6.3. Mock-up may remain as part of the work.

1.7. Pre-Installation Conference:

Convene one week prior to commencing work of this section.

1.8. Delivery, storage, and handling
1.8.1. Deliver storage, and handling to site under provisions of ASTM.
1.8.2. Protect adhesives from freezing or overheating in accordance with manufacturer instructions.

1.9. Environmental requirements:
1.9.1. Do not install adhesives in an unventilated environment.
1.9.2. Maintain 10 degrees C during installation of mortar materials.

2. PRODUCTS

Ceramic Tile Materials

	Floor Tile:	
1	Moisture	0.5-3
2	Size	200x200
3	Shape	Square
4	Edge	Square
5	Surface Finish	Matte
6	Color	as

Vitrified Tile:

Moisture Absorption	0.5-3 Percent
Size	300x300, 600mm 600x600 400x800 200x800
Shape	Square// Rectangle
Edge	Square
Surface Finish	Glazed/Digitized
Color	as selected

Marble:

Moisture Absorption	0.5-3 Percent
Size	(320x1100),(140x1100)
Shape	Rectangular
Edge	Square
Surface Finish	Glazed
Color	as Selected

2.1. Mortar Materials
2.1.1. Portland cement Sand

2.1.2. Water

3-2 Grout Materials: White/Selected Cement Filler Aggregate

3. EXECUTION

3.1. Examination:
Verify that surfaces are ready to receive work.

3.2. Preparation
zProtect surrounding work from damage or disfiguration.

3.2.1. Vacuum clean surfaces.
3.2.2. Seal substrate surface cracks with filler.
3.2.3. Apply sealer conditioner to substrate surfaces in accordance with adhesive manufacturer's instructions.

3.3. Installation – Mortar bed Method:
3.3.1. Install mortar bed, tile threshold, stair treads, and grout in accordance with manufacturer's instructions.
3.3.2. Install cleavage membrane, lap and seal watertight, edges and ends.
3.3.3. Apply mortar bed over concrete surfaces to thickness of (30) mm.
3.3.4. Lay tile to pattern indicated do not interrupt tile pattern through openings.
3.3.5. Place thresholds, edge strips at exposed tile edge.
3.3.6. Cut and fit tile tight to penetrations through tile, insure finish trim will cover cut tile edges.
3.3.7. From corners neatly.

3.3.8. Place tile joints uniform in width, subject to variance intolerance allowed in tile size make joints watertight, with out voids, cracks excess mortar or excess grout.
3.3.9. Sound tile after setting, replace hollow sounding units.
3.3.10. Allow tile to set for minimum of 48 hours prior to grouting.
3.3.11. Grout tile joints.
3.3.12. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.

3.4. Cleaning

3.4.1. Clean tile and grout surfaces.

3.5. Protections of finished work

3.5.1. Do not permit traffic over finished floor surface for 4 days after installation.

SECTION 6

Painting Works

SECTION 6

Painting Works

1. GENERAL

1.1. Work Included

1.1.1. Prepare surfaces, which are to receive, finish.
1.1.2. Supply and apply paint finish in accordance with the finishing schedule.
1.1.3. Spot priming and painting of materials delivered to the site, factory finished.
1.1.4. Stopping and filling where necessary.
1.1.5. Exterior grade finishing to external stone walls and other concrete and masonry surfaces.
1.1.6. Water proofing/dam proofing coat for internal and external surfaces.
1.1.7. All the necessary scaffolding for internal and external painting works.

1.2. Mock-Up

1.2.1. Before proceeding with paint application, finish one complete surface of each color scheme required, clearly indicating selected colors, finish texture, materials and workmanship.
1.2.2. If approved, sample area will serve as a minimum standard for work throughout project area.

1.3. Samples

1.3.1. Prepare 500mm X 100mm samples of finishes when requested by the Engineer. When possible, apply finishes on identical type materials to which they will be applied on job.
1.3.2. Identify each sample as to finish, formula, color name and number and sheen name and gloss units. Colors to be selected by Engineer prior to commencement of work.
1.3.3. Maintenance Materials
1.3.4. Leave on premises, where directed by Engineer, not less than one five-liter can of each color used.
1.3.5. Containers to be tightly sealed and clearly labeled for identification.
1.3.6. Delivery, Storage and Handling
1.3.7. Deliver paint materials in sealed original labeled containers, bearing manufacture’s name, type of paint, brand name, color designation and instructions for mixing and/or reducing.
1.3.8. Provide adequate storage facilities. Store paint materials at minimum ambient temperature of 7 degrees C in well ventilated area.
1.3.9. Take precautionary measures to prevent fire hazards and spontaneous combustion.

2. Environmental Conditions

2.1. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture contents of surfaces are below following maximums: Plastered surfaces 12%. Masonry, concrete and concrete block 12%.

2.2. Ensure surface temperatures or the surrounding air temperatures for latex paints for interior work are 7 degrees C and 10 degrees C for exterior work.

2.3. Provide adequate continuous ventilation and sufficient heating facilities to maintain temperatures above 7 degrees C for 24 hours before, during and 48 hours after application of finishes.

2.4. Protection Before painting is commenced floors shall be cleaned before applying paint a specified, and all precautions taken to keep down dust whilst work is in progress.

2.5. No paint shall be applied to surfaces structurally or superficially damp and all surfaces must be ascertained to be free from condensation efflorescence, etc. before the application of each coat

2.6. No painting shall be carried out externally during humid, rainy, damp foggy or freezing conditions, or conditions where surfaces have attained excessively high temperatures or during dust storms.

2.7. No new, primed or undercoat woodwork and metalwork shall be left in an exposed or unsuitable situation for an undue period before completing the process.

2.8. No dilution of paint materials shall be allowed unless stated otherwise and except strictly as detailed by the manufactures own direction, either on the containers, or their literature, and with the special permission of the Engineer. For undercoats may be thinned by the addition of not more than 5% thinners. Gloss finish shall not be thinned at all.

2.9. Concrete shall be allowed to age a minimum of 28 days prior to coating application.

2.10. The surface must then be chemically treated or sweep blasted to remove the laitance layer.

2.11. The PH of the concrete surface should be within the 6.8-8.0 range for safe coating application. If

2.12. the surface PH is outside this range, the fresh water rinse should be repeated until PH is within the required range.

2.13. Plasterwork shall be prepared by removing all loose friable materials by wire brushing/sanding. Surfaces are to be cleaned to remove dust, dirt, oil grease, etc.

2.14. Adequately protect other surfaces from paint and damage. Repair damage as a result of inadequate or unsuitable protection.

2.15. Furnish sufficient drop cloths, shields and protective equipment to prevent spray or droppings from fouling surfaces not being painted and in particular, surfaces within storage and preparation area.

2.16. Place cotton waste, cloths and material, which may constitute a fire hazard in closed, metal containers and remove daily from site.

2.17. Electrical plates, surface hardware, fittings and fastenings. These items are to be carefully stored, and fixed after work complete. Do not use solvent to clean hardware that may remove permanent lacquer finish.

3. PRODUCTS

3.1. Acceptable Manufactures

3.2. The Contractor has to submit to the Engineer the names of three manufactures and their products, which will be acceptable under this Section. Approval of the manufacturer or product must be obtained before proceeding with associated work.

3.3. Materials

3.3.1. Powder coated paint, Varnish, Stain, Enamel, clear Lacquer, polyurethane, dico and fillers type and brand or equivalent products, approved by Engineer.
3.3.2. Paint Accessory Materials (Linseed oil, shellac, turpentine and other materials not specifically indicated herein but required to achieve the finishes specified) of high quality and approved manufacturer.
3.3.3. Paints Ready-mixed except field catalyzed coatings. Pigments fully ground maintaining a soft paste consistency, capable of readily and uniformly dispersed to a complete homogeneous mixture.
3.3.4. Paints to have good flowing and brushing properties and be capable of dry or curing free of
3.3.5. streaks or sags.
3.3.6. Powder coated paint shall be applied as recommended by the manufacturer for metal work.

4. EXECUTION

4.1. Inspection

4.1.1. Thoroughly examine surfaces scheduled for painting prior to commencement of work.
4.1.2. Report in writing to Engineer, any condition that may potentially affect proper application.
4.1.3. Do not commence until such defects have been corrected.
4.1.4. Correct defects and deficiencies in surfaces, which may adversely affect work of this section.
4.1.5. No priming coats shall be applied until the surface has been inspected and the preparatory work has been approved by the Engineer. No undercoats or finishing coast shall be applied until the previous coat has been similarly inspected and approved.

SECTION 7

Anti-termite treatment by Chemical Injection Method

SECTION 7

Anti-termite treatment by Chemical Injection Method

1. GENERAL

1.1. The anti-termite treatment is a pre construction method of reticulate piping laid insite with post construction injection method of treatment carried out for Basement, Ground floor, Upper floors and all part of terrace. The Contractor shall submit a detailed proposal with drawings, catalogues, write-ups confirming the technical requirements for approval of Engineer-In-charge before placement of order.

1.2. Material

1.2.1. Linear Low Density Polythene (LLDP) pipes of outer Dia 8.0mm and Inner Dia 6.4mm

1.2.2. The tube shall have dippers at a spacing of 300mm Max. Every dripper shall have a pressure valve which open when the chemical is injected.

1.2.3. Junction boxes.

1.2.4. Chemical for injection with disbursement of Solution of "Imidaclorprid" @ 2.5Ltr. /Sq. Mtr.

2. EXECUTION

2.1. Laying and application:

2.1.1. 8mm joint less tube shall be laid along all the walls inside and out side below the floorings at Ground floor level. Necessary junction boxes are to be installed. Necessary testing is to be carried out to ensure the piping loop is secure and in order. Injection of chemical through the tubes with injecting pump as per the recommendations of the manufacturer.

2.1.2. Measurement: Outer wall to outer wall area at Ground floor shall be measured in sqm nearest to two decimals.

SECTION 8

House Keeping

SECTION 8

House Keeping

Contractor shall ensure that a high degree of house keeping is maintained and shall ensure inter alia the followings wherever applicable:

1. All surplus earth and debris are removed/disposed off from the working areas to identified location(s).

2. Unused/Surplus Cables, Steel items and steel scrap lying scattered at different places within the working areas are removed to identified location(s).

3. All wooden scrap, empty wooden cable drums and other combustible packing materials, shall be removed from work place to identified location(s).

4. Passages shall be kept clear and materials like: pipes, steel, sand boulders, concrete, chips and bricks etc. shall not be allowed on the passage to obstruct free movement of men & machineries.

5. Fabricated steel structural, pipes & piping materials shall be stacked properly for erection.

6. Water logging on roads shall not be allowed.

7. No parking of trucks / trolleys, cranes and trailers etc. shall be allowed on roads which may obstruct the traffic movement.

8. Utmost care shall be taken to ensure over all cleanliness and proper upkeep of the working areas.

9. Trucks carrying sand, earth and pulverised materials etc. shall be covered while moving.

10. Only properly designed steel scaffolding materials to be used for working at heights more than 3.0 M.

SECTION 9

Fire Fighting and Sprinkler Works

SECTION 9

Fire Fighting and Sprinkler Works

1. TECHNICAL SPERCIIFACITON FOR FIRE HYDRANT SYSTEM

Following are the different items of works which have to be designed, supplied, erected, tested and commissioned along with getting entire system approved from Local Fire Authority

1.1. Automatic Fire Hydrant System consisting of Diesel Engine (Main pump), Electrical Pump and Jockey Pumps, Sprinkler Pump, G.I. Piping with fittings, M.S Valves, Yard Hydrant Hose Cabinets and Hose Reels, Sprinklers

1.2. First Aid Fire Extinguishers System consisting of Carbon dioxide, Dry Chemical Powder Extinguisher and Fire Buckets

1.3. Code of practice for installation and servicing of electrical fire alarm systems (CP 10:2005)

1.4. Drawings

1.1.1. The drawings enclosed herewith are for the general guidance to the Tenderers. The Contractor shall upon the award of the work, furnish detailed shop drawings necessary to carryout the work at site within 15 day. These shall be submitted for approval to the Architects/Employer. The work shall be commenced only after the approval of drawing by the Architects/Employer and obtaining the approval from Local Fire Authority.

1.2. Drawing/Information Required From Successful Tenderer within 15 Days after Award of Work

1.2.1. Pump GA and Cross-sectional drawings.

1.2.2. Performance curve for the pump.

1.2.3. Necessary civil scope drawing for the system.

1.2.4. Bar chart showing engineering, manufacturing and dispatch of equipment and erection services.

1.2.5. Drawing, literature and technical particulars of all bought out items.

1.2.6. Control logic diagram for the pump to start.

1.1.1. Schedule for valves and piping material.

1.3. Inspection and Approval

1.3.1. The contractor shall arrange all necessary inspection by the Local Fire Authority/Tariff Advisory Committee. He shall also arrange for all the tests, obtain and deliver to the Employer any approval required as per the local by–laws and Local Fire Authority. It is the sole responsibility of the contractor to prepare and submit the drawings to Local Fire Authority and do all liaisons works with Local Fire Authority in getting the complete installation approved by them.

1.4. Painting

1.4.1. All piping equipment, furnished under this specification shall be properly painted with two coats of synthetic enamel paint after installation and shall meet the requirements as outlined in Fire Protection Manual. Paint used for this work will be lead free quality. The cost of painting deems to be inclusive in the respective items.

1.5. Guarantee

1.5.1. The contractor shall guarantee that the material and workmanship of the entire system are of first class quality and shall correspond to standard Engineering Practice. All the equipment/apparatus shall be guaranteed to yield the specified rating and design capacities speeds. Any defective equipment/material/workmanship found short of the specified quality shall be rejected. Contractor shall make good the rejected items at his own cost. Guarantee certificate of equipment from suppliers/manufacturers shall be handed over to the Employer.

1.6. Defects and Liability

1.6.1. All the equipment/material and the system shall be guaranteed against defective material and workmanship for a period of 12 months from the date of commissioning and handling over the Employer along with all relevant documentation. The contractor shall repair/rectify or replaces all the defective materials, components free of cost. In addition, normal maintenance shall be carried out during Defect Liability period of 12 months.

1.7. Instruction Manual/Completion Drawings/Training

1.7.1. The contractor shall furnish detailed instruction and operation manual in quadruplicate. The contractor shall also furnish detailed completion drawings on tracing sheet drawn to an approved scale. The drawings shall be inclusive of control schematic, if any. The contractor shall train the Employer‟s personnel in the operation and maintenance of the system for one month.

1.8. Testing

1.8.1. The contractor shall arrange to test the entire system as per the procedure enumerated under Particular specification after the erection is completed. The test shall be carried out to the Satisfaction of Architects/Employer. The results of the tests shall be submitted to the Employer. If the results of the tests are not found to be satisfactory by the Architects/Engineer in-charge, necessary rectification shall be done untill the test result are found to be satisfactory. The installation shall be deemed to be completed only after the successful completion of the test

1.9. Technical Data

1.9.1. The Tenderers shall furnish data of their equipment as per the proforma under "Technical Data". The tenders without technical data are liable to be rejected.

1.10. Data

1.10.1. Type : a) wet riser system, and b) dry riser system

1.10.2. No. of Fire Pumps : 1 Jockey pump, 1 Electrical Pump, 1 Diesel Pump & 1 Sprinkler Pump.

1.1.1. Static Water Storage : 1,00,000 Ltrs Storage Sump.

1.11. Anticorrosive Treatment for Underground Piping

G.I. pipe laid outdoor in trenches/buried in earth shall be wrapped with pipe coat membrane consisting of seven layers of polyethylene polymerized bitumen and polyester mat laid over a suitable primer of fiber and solvent based rubber modified bituminous primer of density 0.9 Gms/cum applied at the rate of approx. 200-250 gam/Smt. Material to be laid strictly as per manufacturer"s specification and laid under technical assistance of manufacturer"s representative.

Pipes passing through masonry walls, foundation, beams shall be taken through embedded pipe sleeve of same material. The pipes sleeve size to be at least 11/2 times the diameter of the crossing pipeline. The pipeline running below floor shall be given anticorrosive treatment same as for underground piping.

1.12. Butterfly Valves

1.12.1. Butterfly Valves shall conform the following specification:

Body : High duty cast iron to IS-210 Gr. FG220 and BS 1452 Gr. 220.
Seating : Mouldedinsitu resilient lining of black nitrite rubber.
Disk : Nylon coated S.G. Iron to IS 1865/SG 400/12 and BS 2729 Gr. 420/12.
Shaft : The shafts are made of stainless steel AISI 431.

Only flanged End valves to be used with flanges drilled to BS 10 Table F. Valves shall be capable of being locked in open position. Hand Wheel shall be with vertical gear unit for smooth opening and Closing of the valve. Key rods with M.S. coated extended Spindles to be provided whenever the valves are not approachable from the ground surface.

1.13. Non-return Valves

1.1.1.Non-return valve shall be of cast iron with gum metal seat, non-return valves shall be of flanged type. Spring-loaded valves shall not be used. The valves shall be suitable for a test pressure of 21 Kgs/Cm2.

1.14. Hydrant Valves (Landing Valves)

Landing valves shall be gunmetal 63-mm dia oblique female instantaneous pattern with caps and chains. Landing valves shall conform to IS-5290 in all respects. Double-headed landing valves shall have separate control valves. Landing valves shall be of gum metal and fitted with instantaneous coupling conforming to IS-901. The coupling shall be fitted with an internal plug secured by a chain. Landing valves shall be installed on hydrant risers at a height of 1.0 to 1.2 Mtrs from the floor level. The landing valves shall be connected to the wet riser standpipes by means of a suitable tee, the cost of which is deemed to be included in the unit rate for piping.

1.15. Hose Pipes

1.5. All hose shall be of 63 mm diameter made of RRL as per Code of practice for installation and servicing of electrical fire alarm systems (CP 10:2005)

1.16. Branch Piping and Nozzle

Branch pipes shall be of gunmetal to fit into the instantaneous coupling. Nozzle shall be of spray or fog type of diameter of not less than 16 mm and not more than 25 mm. Branch pipe and nozzle shall be of instantaneous pattern.

1.17. Sprinklers

1.17.1. The automatic sprinklers shall be installed in the basement and parking. The sprinklers shall be quartz bulb type only and operating at 68 deg. C.

1.17.2. The sprinklers shall be connected through a 38mm GI pipe of medium class and feeder pipe shall be of 80 mm dia connected to wet riser /down comer.

1.17.3. The contractor shall give required tools for removing and fixing of different types of sprinklers free of cost as directed by Engineer –in-charge.

1.18. Air Valve

1.18.1. The contractor shall provide 25 mm dia screwed inlet cast iron single acting air

valves on all high points in the system.

1.19. Drain Valve

1.19.1. The contractor shall provide 50mm dia M.S pipe to heavy class with 50mm gunmetal full way valve for draining any water in the system in low pockets as directed by Engineer-In-Charge.

a. Landing valves (Single Headed)
b. 63 mm hose pipe (2 lengths of 15 Mtrs each)
c. Branch pipe and nozzles (one set)
d. Two keys of break glass recess for keys.

1.20. Pump Driven By Diesel Engine

1.21. Diesel Engine shall be 4 (Four)-cylinder type with individual head assemblies. The engine shall be water-cooled and shall include radiator, water pump and connecting piping, strainer, isolating and pressure reducing valves, by-pass line complete in all respects.

1.22. Engine shall be direct injection type with low noise and exhaust omission levels.

1.23. The speed of the engine shall match the pump speed for direct drive.

1.24. The engine shall be self starting type and shall be provided with 12 Volts heavy duty batteries, dynamo, starter, cut-out, starter, cutout battery leads complete in all respects. Two additional spare batteries shall be provided.

1.25. The system shall be provided with an automatic fully connected batterer charger of type and capacity required for the system.

1.26. System should be designed such a way that both batteries are connected and are individually able to provide automatic pump starting. The battery circuits should be arranged to alternately attempt starting on one circuit first, then the other one battery could be charged by an alternator on the engine with the other one charged by an independent means.

1.27. The engine shall be provided with an oil bath air cleaner.

1.28. Engine shall be suitable for running on high-speed diesel oil.

1.29. The system shall be provided with a control panel with push button starting arrangement and wired to operate the engine on a differential pressure gauge.

1.30. The entire system shall be mounted on a common structural base plate with anti-vibration mounting and flexible connections on the suction and delivery piping.

1.31. Providing one fully mounted and supported day oil tank fabricated from 5-mm thick MS sheet of capacity (size 1 Mtr x 1 Mtr x 0.7 Mtrs) 500 Ltrs with inlet, outlet with valves, gauge glass, manhole cover. The cost of MS frame work for staging to be included.

1.32. Provide one exhaust pipe of MS 3 mm thick with suitable muffler to discharge the engine gasses to outside open air as per site conditions duly painted. Exhaust

pipes to be insulated and GI sheet cladded from engine outlet up to muffler and located outside the building.

1.33. Provide all accessories fittings and fixtures necessary and required for a complete operating engine set.

1.34. Pressure switches/sensing devices to be mounted on its own independent discharge header for all the four pumps to achieve automatic operation.

1.35. Air vessel Tank made out of 4 mm MS sheet 300 mm dia x 1000 mm long with dished ends in 5 m thick sheet with provision necessary for inlet, outlet, duly painted inside with two coats of anti-corrosive paint of approved synthetic enamel paint.

1.36. Pump Driven by Electric Motor

1.36.1. Fire pump shall be electrically driven centrifugal pump of capacity 2280 LPM. The pump shall be automatic in operation and driven by a totally enclosed fan cooled induction electric motor of 60 HP at 1500 RPM. The construction details of the pumps shall be as follows:

1.36.1.1. Pump : Horizontal type split casing.
1.36.1.2. Casing : Cast Iron
1.36.1.3. Impeller : Double inlet enclosed type – bronze.
1.36.1.4. Shaft : Stainless steel.
1.36.1.5. Bearings : Heavy-duty ball bearings.
1.36.1.6. Flanges : Faced and drilled as per BSS-10 tables or IS.
1.36.1.7. Drive : Direct drive with flexible coupling.
1.36.1.8. Gland : Horizontal split for each insertor and removal.
1.36.1.9. Motor : Total enclosed fan cooled inducting motor suitable for operation of 430 Volts, 3 Phase, 50 Hz, and a/c. supply. Motors shall confirm to IS: 325.Motors shall be wound for class-B insulation.
1.36.1.10. Starting : Automatic starting device with arrangement contactor, pressure switch, etc. and suitable hooter.
1.36.1.11. Installation : Pump and motor set shall be mounted on a common base plate and installed on a suitable concrete foundation and curing the same. Suitable anti-vibration springs shall also be installed to minimize the vibration. The pump set shall, however be factory aligned. The bedplate Levels shall be properly fixed at site before the Foundation bolts are grouted.

1.36.2. Pump Accessories : Pump set shall be provided with the following accessories: -

1.36.2.1. Coupling Guard.
1.36.2.2. Air vent for pump casing.
1.36.2.3. Suction and delivery pressure gauges.
1.36.2.4. Base plate, foundation bolts, nuts, washers.

1.36.3. Jockey Pump

Pump shall be electrically driven centrifugal pump of capacity **180 LPM** at 70 MTRS The pump shall be automatic in operation and driven by dip proof squirrel cage electric motor of 15 HP at 2860 rpm.

1.36.4. Diesel Engine.

1.37. GENERAL

The diesel engine shall be of multi cylinder type four-stroke cycle with mechanical (airless) injection, cold starting type. The engine shall be manufactured as per IS 10000 and shall be ease of maintenance, repair, cleaning and inspection. This will also provide interchangeability of parts. All parts susceptible to temperature changes shall have tolerance for expansion and contraction without resulting in leakage, misalignment of parts or injury to parts.

1.38. STARTING

The engine shall be capable of both automatic and manual start. Generally the engine shall start automatically but in case of the auto-start system failure the engine shall be capable of manual start. Engine shall be able to start without any preliminary heating of combustion chamber; cranking mechanism shall also be provided. All controls/ mechanism, which has to be operated in the starting process, shall be within easy reach of the operator. A DC motor charged by battery shall initiate automatic start of diesel engine. The battery shall hold adequate retainable charge to provide the starting of the diesel engine. Starting power will be supplied from two sets of storage batteries. One set of battery is for automatic starting of the engine and the other provided for manual starting. A selector switch will be provided at automatic starting control panel to select any of the two sets of battery for manual / auto starting of the engine. The battery capacity shall be adequate for ten consecutive starts without recharging with a cold engine under full compression. The battery banks shall be used for no other purpose other than starting of the engine and shall be fully charged at all times with provision for trickle and boost charges. After start of the engine the charger shall be disconnected, the battery being fed from the engine dynamo. The two-battery charger of air-cooled type shall be able to charge on battery bank at a time. The D/E starting panel along with the battery chargers should be of reputed approved makes.

1.39. GOVERNING SYSTEM

The engine shall have a speed control device which will control the speed under all conditions of load., the governor shall be suitable for operation without external power supply. The Governor shall offer following features: An adjustable governor to regulate engine speed within a range of 10% between shut-off and maximum load conditions of the pumps. The governor shall be set to maintain rated pump speed at maximum pump load.

1.40. FUEL SYSTEM

The diesel engine is to run on high-speed diesel, the tank provided being enough to hold the volume required for 6 hours (minimum) continuous operation. Fuel tank shall be

double wall type, so that over flow of the fuel shall be collected in the secondary tank. Fuel supply and return piping shall be metal with necessary valves. Fuel tank shall be mounted on the fabricated consisting with air vent, over flow, drain, filling and manhole etc.

1.41. COOLING WATER SYSTEM

Direct cooling system shall be employed for the diesel engine. Water shall be tapped from the fire pump discharge. This water shall be led through duplex strainer, pressure breakdown orifice and then after passing through the engine, the outlet water shall be taken directly to the sump through an elevated funnel. Re-circulating thermo siphon system of cooling using a fan cooled radiator or indirect cooling system using heat exchanger shall not be accepted.

1.42. ACCESSORIES

The engine shall be mounted on a base plate of fabricated steel construction. Adequate access shall be provided for the big end and main bearings, camshaft and governor drives, water jackets etc., The engine shall have a base plate made from MS sections. There shall be reasonable space at the big end, camshaft, water jackets, governor drives and main bearings. The engine shall be provided with intake and discharge ductwork, inlet filter and silencer, outlet muffler, expansion joints, dampers etc., as necessary for efficient operation. Intake air should be taken from inside the building in which the engine is located, but the exhaust should be discharged outside the building and exhaust duct shall be adequately sized for minimum pressure drop as per relevant code/standard, and shall be housed clearing man height. The flywheel shall have graduated marking around the periphery to facilitate checking of valve and fuel pump timings. Full set of diesel engine spares as per Standard requirement to be provided along with tool kit.

1.43. INSTRUMENTATION

The diesel engine shall be provided with adequate instrumentation. The gauges etc., as required are provided for in the Engine Panel. Also Bidder shall supply one set of Spare parts recommended by the manufacturer for maintenance purposes.

1.44. Testing

After laying and jointing, the piping shall be pressure tested by hydrostatic method. The piping shall be slowly filled with water in order to expel all the air. The piping shall then be allowed to stand full of water for 24 hours. Any leakage at flanges or elsewhere shall be rectified. The pressure shall then be applied by means of a test pump (either hand operated). The test pressure shall not be less than 1.5 times the working pressure of the system. However the test pressure shall not exceed 10.5 kgs/cm$_2$ in any case.

Pressure gauges used for the test shall be accurate and shall preferably have been recalibrated before the test. The open ends of the piping shall be plugged during the test.

Capacity of pumps shall be checked with respect to the contractors piping and equipment layout. Tests shall be conducted to determine the delivery head, flow end BHP of pumps after installation. All the test results shall correspond to the performance curves.

All the leaks and defects in joints revealed during the testing shall be rectified to the satisfaction of the Employer/TAC Inspector.

The system shall also be tested for its desired performance and function by opening hydrant valves on each floor separately and four landing valves simultaneously. The flow of water at the top most hydrants shall be checked when three landing valves below are open. The cutting in and cutting out pressure setting of starting device shall also be checked for its correct operation. The test results shall be recorded and countersigned by Employer‟s representatives and submitted in triplicate for approval by the Employer.

1.45. Fire Brigade Inlet Connection

Fire Brigade Inlet Connection to the 150mm feeder line shall be comprised of four instantaneous pattern 63-mm dia. Make inlets with caps and chains complete with non-return valves housed in a 16 Gauge MS cabinet with 4-mm thick glass fronted door. The cabinet shall be 1000 x 300 mm x 400-mm size for recess mounting.

1.46. Base Plate

Pumps and motors shall be mounted on a common structural base plate with ant vibration mounting.

1.47. Yard Hydrants

Yard hydrant shall comprise of 80-mm dia M.S. flanged standpipe, 63-mm dia gunmetal instantaneous landing valve. The buried protection shall be anticorrosive treatment as per specification.

2. AUTOMATIC SRINKLER SYSTEM

2.1. SCOPE OF WORK

The sprinkler system shall be provided in basement and all upper floors. This system shall include the following :

Sprinkler main, branch and internal piping complete with valves, alarms and supporting arrangements. Sprinkler heads with spare sprinklers. Connections to risers etc., all material shall be of the best quality conforming to specifications and subject to the approval of the Engineer-in-Charge. Pipes and fittings shall be fixed truly vertical/horizontal or on slopes required in a neat manner. Pipes shall be fixed in such a manner so as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc., Pipes shall be securely fixed to walls and ceilings by suitable clamps at intervals specified. Only approved types of anchor fasteners shall be used for RCC ceilings and walls. Valves and other equipment shall be so located that they are easily accessible for operation, repairs and maintenance.

2.2. SPRINKLER HEADS

The sprinkler heads shall be UL listed fixed temperature type with a quartzoid bulb containing liquid having high vapor pressure held in position by a forged GM yoke and deflector. The rated temperature of quartzoid bulb shall be 68 deg. C for complete building. The spacing shall however conform to the detailed drawing, in Co-ordination with electrical and other allied services at the ceiling level. Contractor shall supply spare sprinkler heads and spanners neatly installed in a steel box with glass shutter at an appropriate position approved by the Engineer-in-Charge.

A water motor gong and an inspection test connection shall be provided on the down streamside of the system.

Sprinklers for below false ceiling shall be fixed with recessed (two piece) type Rosette plate fabricated by M.S. sheet of 2mm thick with Powder coated finish of approved color.

2.3. PIPES AND FITTINGS

Pipes for the sprinkler system shall refer to the clause No. 2.0,11.0,12.0 and 13.0 of Section – A above.

3. TECHNICAL SPECIFICATIONS FOR 415 VOLTS FIRE PUMP PANEL.

3.1. Scope of Work

3.1.1. This specification is intended to cover the design, manufacture, assembly testing at manufacturer‟s works, properly packed for transportation, supply and delivery, testing and commissioning complete in all respects with all components, fittings and accessories for efficient and trouble free operation as specified hereinafter for the proposed project.

3.2. General Information

3.3. The equipment shall be designed, manufactured and equipped with accessories in accordance with these specifications and the applicable code standards indicated below. Materials and components not specifically stated in this specification but which are necessary for satisfactory and trouble free operation and maintenance of the equipment shall be supplied.

3.4. The design and workmanship shall be in accordance with the best engineering practices to ensure satisfactory performance and service life as specified here.

3.5. Switch boards shall be suitable for an ambient temperature of 45 degree C.

3.6. Codes and Standards

3.7. The equipment covered by this specification shall unless otherwise stated be designed, constructed and tested in accordance with the requirements of the Myanmar Electricity

Act and Rules and latest revision of the following standards.

3.8. Design Requirement

3.8.1. The switchboards shall be designed for 400/440 V, 3 phase 4 wire, 50 c/s supply.
3.8.2. Switchboards shall be suitable for direct-on-line starting of all motors.
3.8.3. Control power supply of the Switchboards shall be 415 Volts, single phase, and 50 Hz AC supply tapped for the respective module itself.
3.8.4. The switchboards manufacturers shall apply all detracting factors necessary to all components of the switchboards to comply with the conditions detailed in this specification.

3.9. Constructional Features

3.9.1. The switchboard shall be:

3.9.1.1. The totally metal enclosed, indoor, floor mounted, free standing, cubicle fixed type, fuse switch units with compartmentalized design.
3.9.1.2. Be made up of the requisite vertical section, which when coupled together shall form continuous dead front switchboards.
3.9.1.3. Provide dust and damp protection, the degree of protection being no less than IP 54 to IS2147.
3.9.1.4. Be readily extensible on both sides by addition of vertical sections after removal of the end covers.
3.9.1.5. Switchboards shall have access to the feeders, bus bars, cable termination, cable alley etc. from front only.

3.10. Each vertical section shall comprise:

3.10.1. A front framed structure rolled/folded sheet steel channel section, of minimum 3-mm thickness, rigidly bolted, together. The structure shall house the components contributing to the major weight of the equipment, such as circuit breaker cassettes, fuses switch units, main horizontal bus bars, vertical risers and other front mounted accessories.
3.10.2. The structure shall be mounted on a rigid base frame of folded sheet steel of minimum 3-mm thickness and at least 75-mm height. The design shall ensure that the weight of the components is adequately supported without deformation or loss of alignment during transit or during operation. Each compartment shall be provided with a hinged door interlocked with switch/breaker housed inside the compartments so that door cannot be opened unless the switch breaker is in “OFF” position.
3.10.3. The design shall ensure generous availability of space, ease of installation, maintenance of cabling and adequate safety for working in one vertical section without coming into accidental contract with live parts in and adjacent section.
3.10.4. A cover plate at the top of the vertical section, provided with a ventilation hood where necessary. Any aperture for ventilation shall be covered with a perforated sheet having less than 1-mm diameter perforations to prevent entry of vermin.
3.10.5. Front and rear doors shall be fitted with dust - tight neoprene gaskets with easy

operating type fasteners designed to ensure proper compression of the gaskets. When covers are provided in place of doors, generous overlap shall be assured between sheet steel surfaces with closely spaced fasteners to preclude the entry of dust. The doors shall have concealed hinges. Removable screwed covers shall be provided on the rear of the cubicles.

3.10.6. The height of the panel should not be more than 2200 mm. The working height shall be limited to a maximum height of 1800 mm. The total depth of the panel should be adequate to cater for proper cabling space.

3.10.7. Covers and partitions shall be of minimum 16 gauge sheet steel, whereas doors shall be minimum 14 gauge sheet steel. All sheet steelwork forming the exterior of switchboards shall be smoothly finished, levelled and free from flaws.

3.10.8. All switches, push buttons etc. shall be operable from the front and shall be flush/semi-flush mounted.

3.10.9. The apparatus and circuits shall be so arranged as to facilitate their operation and maintenance and at the same time to ensure the necessary of degree of safety.

3.10.10. Apparatus forming part of the switchboards shall have the minimum clearances as per relevant IS clearances shall be maintained during normal service conditions.

3.10.11. All insulating material shall be of DMC/FRP/SMC to withstand the effects of high humidity, high temperature, tropical ambient service conditions, etc.

3.10.12. Foundation bolts and nuts for each panel shall be supplied along with the respective switchboards.

3.10.13. The lifting eyes for each shipping section and danger notice plates shall be provided for each switchboard.

3.10.14. Functional units such as circuit breakers and fuse switches shall be arranged in multi-tier formation.

3.10.15. Metallic/insulated barriers shall be provided within vertical sections and between adjacent sections to ensure prevention of accidental contract with:

3.10.16. Main bus bars and vertical risers during operation, inspection or maintenance of functional units and front mounted accessories.

3.10.17. Cable terminations of one functional unit, when working of those of adjacent unit/units.

3.10.18. All covers providing access to live power equipment/circuits shall be provided with tool operated fasteners to prevent unauthorized access. 5.14 Provision shall be made for permanently earthing the frames and other metal parts of the Switchgear by the independent connections.

3.11. Metal Treatment and Finish

3.11.1. All steelwork used in the construction of the switchboards should have undergone a rigorous metal treatment process.

3.11.2. All surface to be painted including interior and exterior of panels, and other metal parts shall be chemically treated to remove all rust, scale, grease and other adhering foreign matters using seven tank process. All parts shall be coated with two coats of highly corrosion resistant primer followed by two coats of synthetic enamel paint (post office red) of approved colour and approved manufacturer. Matt finish of the painting is required.

3.11.3. The complete treatment painting, dying with compressed air and stowing operations shall be done in dry and dust free atmosphere.

3.11.4. Should finished paint chip off or crinkle during transit/handling/installation, the contractor shall arrange for repainting the equipment at site at his own cost.

3.12. Bus Bars

3.12.1. The bus bars shall be air insulated and made of high strength aluminium alloy complying with the requirements of grade E91E of IS-5082 and suitable for 415 Volts, 4 wire 50 Hz system.

3.12.2. The bus bars and connections shall be suitably supported / braced with non-hygroscope DMC / FRP / SMC supports.

3.12.3. High tensile bolts and spring washers shall be provided at all busbar joints.

3.12.4. The busbars shall be liberally sized and shall have uniform cross section throughout and shall be capable of carrying the rated current at 415 V continuously. The bus bars shall be designed to withstand a temperature rise of 45-degree C above the ambient. A current density of 1.3 Amps/Sqmm. shall not be exceeded for aluminium bus bars.

3.12.5. All bus connections, joints and taps shall be short and as straight as possible, and applied with contact grease in the mating surface.

3.12.6. The main horizontal bus bars shall be run through the entire length of the panel and shall be accessible for maintenance from the front as well as rear. Busbar chamber shall have separately screwed covers. All bus bars, links, etc. shall be provided with insulating cover to prevent accidental contacts. The neutral bus bars shall have a continuous rating of at least 50% of the phase bus bars.

3.12.7. Bus bars shall be encased in colour coded heat shrunk PVC sleeves (snug fit type). An earth bus of size not less than 25x6 mm shall run through the length of switch boards at top or bottom as required.

3.13. Combination – Fuse Switch Units (FSUs) :

3.13.1. 8.1 The fuse switch units shall be of the load break, fault make heavy duty, and cubicle type conforming to the requirements of IS-4064-1978 (AC 23 duty).

3.13.2. 8.2 The fuse switch units shall be double break and have quick make and quick break mechanisms, designed to ensure positive operation even in the event of failure of operating spring.

3.13.3. All fuse switch contacts shall be silver plated at current transfer surfaces.

3.13.4. The unit shall be provided with front operating handle. The ON and OFF positions of the switch handle shall be clearly marked.

3.13.5. Interlocks shall be provided so as to prevent opening of the unit door when the switch is in the ON position, and also to prevent closing of the switch with the door not properly secured. It should, however, be possible to defeat the interlock mechanism to operate the switch with the door open intentionally.

3.13.6. The switches shall be capable of withstanding the thermal and Electro magnetic strenuous caused by short circuit currents for the time of operation of the associated fuse links.

3.13.7. Fuse switch and air break switch operating handles shall be provided with padlocking facilities to lock them in OFF position.

3.13.8. The interior arrangement of the switch unit shall be such that all „Live“ parts are shrouded.

3.14. Indicating Lamps

3.14.1. LED type indicating lamps shall be provided wherever called for in the control schematic diagrams.

4. Fuses

4.1. All control and power fuses shall be link type HRC fuses and they shall be provided with visible indication to show that they have operated.

5. **Current Transformers**

5.1. Current transformers shall comply with the requirements of IS-2705. They shall have ratio, outputs and accuracy as specified/required.
5.2. Current transformers wherever required and called for in the single line diagram and/or required shall be furnished.
5.3. The CTs shall be bar primary in epoxy encapsulated type, rated for 415V. The CTs shall be designed to withstand the thermal and mechanical stresses resulting from the maximum short circuit current.
5.4. The vendor shall ensure that the VA output of the CTs is adequate for the relays, meters and loads connecting them.
5.5. The CTs shall be provided with Class A / Class B insulation and proper polarity markings in a suitable manner.

6. Indicating Meters

6.1. All indicating instruments shall be of flush mounting industrial pattern, conforming to the relevant standard.
6.2. Integrating meters shall be of flush mounting switch board pattern DIGITAL TYPE complying with the requirements of latest and relevant IS.
6.3. Digital Meter shall have +/- 1% accuracy on full scale.

7. Cable Terminations

7.1. Cable entries and terminals shall be provided in the switchboard to suit the number, type and size of the aluminium conductor power cables and copper conductor control cable specified in the detailed specifications.
7.2. Provision shall be made for top or bottom entry of cables as required. Generous size of cabling chambers shall be provided, with the position of cable gland and terminals such that cables can be easily and safely terminated. Removable undrilled plates shall be furnished for fitting the cable glands.
7.3. Sufficient space shall be provided to avoid sharp bending and for easy connection.
7.4. Multiway terminal blocks complete with screws, nuts, washers and marking strips shall be furnished for terminating the internal wiring and outgoing cables.
7.5. Power and control terminals shall be washer head screw type or stud type complete with crimping type connectors. Screw type terminals with screws directly impinging of conductors are not acceptable.
7.6. Each control terminal shall be capable for connection of 2 Nos. 2.5-mm standard

copper wire at each end.

7.7. Not more than two wires shall be connected to any terminal. If necessary a number of terminals shall be jumpered together to provide wiring points.

7.8. At least 20% spare terminals shall be provided in each module.

7.9. Terminal block for current transformer secondary lead wires shall be provided with shorting and earthing facility.

7.10. Barriers or shrouds shall be provided to permit safe working at the terminals of one circuit without accidentally touching that of another live circuit.

7.11. Cable risers shall be adequately supported to withstand the effects of rated short circuit currents without damage and without causing secondary faults.

8. Control Wiring

8.1. The wiring shall be completed in all respects so as to ensure proper functioning of control, protection and interlocking scheme.

8.2. All wiring shall be completed upto terminal blocks on the side of each unit.

8.3. All control wiring shall be carried out with 1100/660 V grade single core PVC cable conforming to IS-694/IS-8130 having standard copper conductors switchboard wires of minimum 2.5 Sqm.

8.4. Wiring shall be neatly bunched, adequately supported and properly routed to allow for easy access and maintenance. Wires shall not be spliced or tapped between terminal point.

8.5. Wires shall be identified by numbered ferrules at each end. The ferrules shall be of the ring and of non-deteriorating material. They shall be firmly located on each wire so as to prevent free movement, and shall be interlocking type.

8.6. All control circuit fuses shall be mounded in front of the panel and shall be easily accessible.

8.7. All spare contacts of relays and switches shall be wired up to the terminal blocks.

8.8. Each of the DC circuit shall be provided with two fuses one in the positive and the other in the negative for 2 wire DC ungrounded system of specified voltage.

8.9. Ground Bus

9. An aluminium ground bus rated to carry maximum fault current shall be furnished along the entire length of each switchboard. Each stationary unit shall be connected directly to this ground bus by two separate and distinct connections in accordance with Indian Electricity Rules.

9.1. Grounding terminals on the ground bus shall be provided. Connectors shall be provided at either end of each PMCC for connection to station ground mat.

10. Terminal Blocks

10.1. Terminal blocks shall be 660 Volts grade of stud type. Insulating barriers shall be provided between adjacent terminals.

10.2. Suitable provision shall be made to terminate control/power connections in the respective module.

10.3. Terminal blocks shall have a minimum current rating of 10 Amps and shall be shrouded. Provisions shall be made for label inscriptions. The wire terminations to the blocks shall be of screw type suitable for crimp type socket.

11. Name Plate

11.1. The panel as well as feeders compartments shall be provided with nameplate of anodized aluminium, with white engraving on black background. They shall be properly secured with self-tapping screws at the top of the cubicles. The panel/feeder descriptions shall be as indicated in the drawings. The size of the nameplates shall be proportionate to the respective equipment.

11.2. Also individual panel number and danger plate shall be furnished at back.

12. Drawings and Manuals

12.1. The following drawings shall be supplied for each switch board.

12.2. General arrangement drawing for each type of board showing constructional features and space required in the front of withdrawal of breaker, power and control cable entry points, location of various devices, terminal blocks etc. GA drawings shall be submitted alongwith offer.

12.3. Foundation plan and anchor hold details including dead load and impact load.

12.4. Drawing and data sheet for each component.

12.5. Electrical wiring diagram.

12.6. Terminal block arrangement drawing for out going feeders.

12.7. Operation, maintenance and installation manuals, (one set to Architects).

12.8. Technical catalogues/leaflets of CTs, meters, lamps, etc shall be submitted alongwith offer.

12.9. The approval of the drawing does not absolve the contractor from his obligation of ensuring proper and correctness of functioning/operation of the system.

13. Tests

13.1. Routine and Type Test:

Type test certifies and results as per relevant standards (Specifications) for all the equipment offered under the scope of this specification shall be furnished.

13.2. All routine tests on all major components shall be made as per relevant specification.

13.2.1. Inspection of Switch boards including inspection of wiring and electrical operational tests wherever necessary.

13.2.2. Dielectric Tests:

13.2.3. Insulation of the main circuit that is the insulation resistance of each pole to the earth and that between the poles shall be measured.

13.2.4. Insulation resistance to earth of all secondary wiring should be tested with 1000 V meggar.

13.2.5. Insulation test shall be carried out both before and after high voltage test.

13.2.6. Each switch board will be completely assembled, wired, adjusted and tested for operation under stipulated conditions to ensure correctness of wiring and proper functioning of all equipment.

13.2.7. All current carrying parts and wing shall be subjected to a high potential test.

14. High Voltage Test

A high voltage test with 2.5 KV for one minute shall be applied between the pole and earth. Test shall be carried out on each pole in turn with the remaining poles earthed. All units racked in position and the switches closed. Originals test certificate shall be submitted along with panel.

14.1. 20. Employer reserves the right to get the routine tests witnessed by his representatives if so desired by the Employer. The contractor shall give atleast 14 days advance notice for the above to the Employer.

15. Packing and Transportation

The switchboards shall be sent to site by road transport packed in wooden crates. The packing should be of high quality to avoid any damage to the equipment during transit. They shall be wrapped with polythene sheets before being placed in crates to prevent damage to the finish.

16. TECHNICAL SPECIFICATIONS FOR STARTERS

16.1. Contactors shall be air breakers and the electromagnetic type rated for uninterrupted duty as defined in IS-2959 and IS-1822 unless otherwise specified.
16.2. The main contacts shall be of silver or silver alloy. The insulation class for the coils shall be classes „E".
16.3. Contractors shall be provided with minimum 4 Nos. of auxiliary contacts. Out of which 2 Nos. will be normally closed and 2 Nos. normally open.
16.4. A typical module wiring has to be approved by Architects. The exact wiring to be made for each motor shall be intimated to the Contractor.
16.5. To provide facility for inclusion of interlocks, the control circuit has been developed with a number of breaks bridged up with jumpers. In actual wiring, these are to be provided on the terminal board bridging up with jumpers. This arrangement is considered essential to avoid jointing and tapping of wires for inclusion of interlocks.
16.6. The short time rating of the contractors shall be properly coordinated with the operating time of fuse preceding it.
16.7. 7.0 The protective relays shall be flush mounted type and shall be in draw out type cases with built-in test facilities and having provision for CT shorting when the relays are drawn out. The relays shall be provided with externally reset operation indicators.
16.8. 8.0 Wherever shown, auxiliary relays, contractors shall be furnished for interlocking and indication purposes.
16.9. 9.0 All push buttons shall be heavy duty type suitable for flush mounting on sheet steel cubicle doors. The push buttons shall have one „NO" and one „NC" contact. The continuous current breaking capacity of the contacts shall be adequate for the duty involved. The contacts shall be rated for 10A at 240 V, 1 phase, 50 c/s. push buttons shall be suitable colours ("RED" for "ON" (&) "GREEN" for "OFF") according to their functioning.

17. TECHNICAL SPECIFICATIONS FOR SWITCH BOARDS

17.1. Storing

The panels shall be stored under a shelter and in a well-ventilated and dry place. Suitable polythene covers shall be provided for necessary protection against moisture.

17.2. 1.1 Erection

Switchboards shall be installed on suitable foundation. Foundation shall be as per the dimensions supplied by the panel manufacturer. The foundation shall be flat and level. Suitable grouting holes shall be provided in the foundation. Suitable MS base channel shall be embedded in foundation on which the panel can be directly installed. The switchboards shall be properly aligned bolted to the foundation by atleast four bolts. Cables shall be terminated on the bottom plate or top plate as the case may be, by using brass Siemens type double compression glands. The individual cables shall then be led through the panel to the required feeder compartments for necessary terminations. The cables shall be clamped to the supporting arrangement. The switch board earth bus shall be connected to the local earth grid.

17.3. Pre-commission Tests

17.3.1. Panels shall be commissioned after the successful completion of the following test. The tests shall be carried in the presence of Architect"‘ representative.

17.3.2. All main and auxiliary bus bar connections shall be checked and tightened.

17.3.3. All wiring terminations and bus bar joints shall be checked and tightened.

17.3.4. Wiring shall be checked to ensure that it is according to the drawing.

17.3.5. All wiring shall be tested for insulation resistance by a 1000 voltage megger.

17.3.6. Phase rotation tests shall be conducted.

17.3.7. All relays and protective devices shall be tested for correctness of settings and operation.

18. Hardware

The erection rate shall include supply, fabrication, and installation of necessary m.s. Channel for erection of switchboards.

19. TECHNICAL SPECIFICATIONS FOR MEDIUM VOLTAGE CABLES

19.1. Scope

19.1.1. This specification covers the technical requirements of supply, laying, testing and commissioning of heavy duty medium voltage cables up to 1100 Volts for power, control and lighting application for efficient and trouble free operation.

19.1.2. The cables shall be properly packed for transportation, supply and delivery at site.

19.1.3. Codes and Standards

19.1.4. The materials covered by this specification shall unless otherwise stated as designed constructed, manufactured and tested in accordance with latest revisions of the relevant Indian Standards.

19.1.5. Rating

19.1.6. The cable shall be related for a voltage rating of 650/1100 Volts.

19.1.7. Selection of Cables

19.1.8. Cables have been selected considering the conditions of maximum connected load, ambient temperature, grouping factor, allowance voltage drops. However it is the responsibility of the contractor to recheck the sizes before cables are procured and connected.

20. Insulation

20.1. The conductor is insulated with suitably compounded PVC applied to the conductor by the extrusion.

20.2. Laying

20.2.1. Cables shall be laid as per the specification given below:

21. Cables In Outdoor Trenches

21.1. Cables shall be laid in outdoor trenches wherever called for. The depth of the trenches shall not be less than 75 cms from the final ground level. The width of the trenches shall not be less than 45 cms. However where more than 15 cms shall be allowed between the cables. The trenches shall be cut to square with vertical sidewalls and with uniform depth. Suitable shoring and propping may be done to avoid caving in of trench walls. The floor of the trench shall be rammed level. Shall be laid in trenches over the toilers placed inside the trench. The cable drum shall be rolled in the direction of the arrow for rolling. Wherever cables are bent, the minimum bending radius shall not be less than 12 times the diameter of the cable. After the cable is laid and straightened, it shall be covered with 8 cms thick layer of sand. Cable shall be then lifted and placed over this sand cushion, where cable is laid in rocky situation.

21.2. Extra thick cushioning sand, as may be required/decided by the Project Manager/Architects shall be done without extra charge. Over this, a course of cable protection tiles orbricks shall be protected by concrete tiles/stone slabs of minimum 25 mm thick placed on top of the trench breadwise for the full length of the cable. Trench shall be back filled with earth and consolidated. Cables shall be laid in hume pipes/stoneware pipes at all road crossings and in GI pipes at wall entries. Approved cable markers made of concrete blocks indicating the voltage grade and the direction of run of the cables shall be installed at regular intervals of 25 Mtrs. The depth of concrete blocks shall be atleast 300 mm below ground and 50 mm above ground.

22. Cables In Indoor Trenches

22.1. Cables shall be laid indoor trenches wherever specified. Suitable painted M.S base plate, clamps, saddles, GI nuts/bolts shall be used for securing the cables in position at an interval not more than 450 mm. Spacing between the cables shall not be less than 15 cmscentre to centre. Wherever specified, trenches shall be filled with fine sand and covered with steel chequered trench covers or RCC slabs.

22.2. All chases and passage if necessary for the laying of service cables at the entry or of Premises shall have to be cut and made good to the satisfaction of the project Manager/Architects.

22.3. All cables entries into the buildings shall be laid on cable trays.

22.4. All cables will be identified close to their termination point by cable number as per circuit schedule. Cable numbers will be punched on 2mm thick aluminium strips and securely fastened to the cables. In case of control cables, all covers shall be identified by their wire numbers by means of ferrules. For trip circuit identification additional red ferrules are to be used only in the particular case of control cables at the termination

points in the switchgear/control panels.

22.5. Jointing and End Terminations

22.5.1. Cable jointing shall be done as per the recommendations of the cable manufacturer. Jointing shall be done by qualified cable jointer under strict supervision.

22.5.2. Each termination shall be carried out using electroplated brass double compression glands and copper cable sockets and approved jointing materials are to be used.

22.5.3. Hydraulic crimping tool shall be used for making the end terminations. Cable gland shall be bonded to the earth by using suitable size copper/G.I. wire. The cable armoring is to be earthed properly so that the earth continuity is maintained.

23. Testing

23.1. Copy of cable test certificate of manufacturers shall be furnished to the Employer.

23.2. Cables shall be tested at site after installation and results shall be submitted to Architects.

23.3. Pressure test for 15 minutes.

23.4. Insulation resistance between conductors and neutral and conductors and earth.

24. FIRE EXTINGUISHERS

24.1. Fire extinguishers shall be worked out in such a way that the Occupants shall not travel more than 15m to reach a Fire extinguisher. Also there shall be a Fire extinguisher for every 300 sq.m of floor plate / rooms / Shops of suitable type / size. Additional to shopping areas Extinguishers to be provided at Surface car parks, outdoor Transformers / electrical instillations and on the landing of each Staircase of all floors.

24.2. All Fire extinguishers shall be portable and hand held, a operating instruction should be pasted on the extinguisher body.

24.3. Portable Fire extinguishers should be BIS approved and valid ISI certificates to be furnished at the time of delivery to site.

25. SIGNAGE

25.1. Required, as per Local fire force like exit signs & Floor indication (all floros), size shall 200mm x 500mm & action chart (size shall be 600mm x 1000mm) in case of fire / emergency, Staircase location indication etc. The location / quantity shall be on each landing of every staircase on each floor.

25.2. Signs shall be made out of 3mm thick PVC foam board with PVC non – reflective self-adhesive

25.3. Vinyl foam board OR equivalent material with Mirror fasteners for fixing complete.

26. ANNEXTURE - I

TECHNICAL DATA SHEETS

A. Fire Hydrant System :

1. Type :

2. Capacity in LPS :

3. Delivery held in Mtrs. :
4. Materials of impeller :

5. Rate speed in RPM :

6. Suction and delivery sizes in mm :

7. Type of Drive recommended motor rating :

8. Recommended motor rating :

9. Material of casting shaft. :

10. Efficiency of the Pump at rated capacity

And head. :

B. Jockey Pump :

1. Type :
2. Make :
3. Capacity / Head :
4. Material of Impeller :
5. Rate speed in RPM. **:**
6. Suction and delivery :
7. Type of motor **:**
8. Motor rating / drive :
9. Material of casting shaft**. :**
10. Efficiency :

C. Diesel Engine :

1. Type :
2. Make **:**
3. Maximum Rating :
4. Gross Power **:**
5. Governed speed **:**
6. Continuous rating :
7. Number of cylinder :
8. Bore and Stroke **:**
9. Piston displacement **:**
10. Fuel consumption Ltrs/Hr. **:**
1. Operating Cycles **:**
12. Lube system oil :
13. Coolant capacity engine only :
14. Net weight, dry with radiator and base **:**
15. Overall dimension of Engine (L x W x H**) :**

D. M.S. Pipe :

1. Make :
2. Standard (IS/BS) **:**

E. Cast Iron Pipes :

1. Make **:**
2. Standard (IS/BS) :

F. Landing Valve :

1. Make **:**

2. Type **:**
3. Standard (IS/BS) **:**
4. Whether approved by TAC **:**

G. Valve :

1. Make :
2. Material of seat **:**
3. Material of body **:**
4. Whether approved by TAC **:**

H Hose Pipes :

1. Make **:**
2. Material of body **:**
3. Whether as per IS **:**
4. Whether approved by TAC **:**

SECTION 10

Drainage

SECTION 10

Drainage

1. Scope

1.1. This Specification deals with the installation of the materials, fittings and equipment, the design and performance, the workmanship and the testing and commissioning of the below ground drainage.
1.2. This Specification is in addition to and will be read in conjunction with the Contract Drawings and relevant parts of the Contract Documents.

2. General

2.1. Works shall be constructed in accordance with BS CP 301 : 1971 Building Drainage. The Contractor shall notify the Engineer of discrepancies between BS CP 301 and the working drawings and specifications.
2.2. Pipes and fittings shall be jointed and laid in accordance with the manufacturer's recommendations. The Contractor shall notify the Engineer of discrepancies between the manufacturer's recommendations and the design.
2.3. Unless otherwise stated, the provisions of the latest revised additions of relevant British Standards and Codes of Practice shall be held to be incorporated in the specification of materials and workmanship.
2.4. Drains shall be accurately laid, true to line and grade from point to point. Manholes shall be provided at changes of direction or gradient and at points of connection. Drain runs between manholes should be absolutely straight. Lines and falls shall be accurately set as shown on Drawings or as directed on Site.
2.5. Pipe work materials shall be as stated in the Particular Conditions or on the Drawings. The Contractor shall perform all necessary excavation for drains, manholes, septic tanks, soak ways etc., uphold sides , level or grade bottoms , return fill and ram and remove surplus spoil as directed .

3. Pipe work

3.1. Excavation of any section of the work shall not start until a complete set of the pipes and components for that section is available.
3.2. The trench on road shall be as narrow as practicable but not less than the pipe diameter plus 300mm from each side to permit adequate compaction of side fill. Adequate working space shall be left for pipe jointers and joint holes shall be formed where necessary. The approval for any such work will be contractors scope.
3.3. Bedding material shall be
3.4. Local.
3.5. Sand to BS 882 Zones 1 - 4.
3.6. Pipes and fittings shall be inspected before fixing, and defective items shall be

rejected.

3.7. Pipes shall be laid with the socket ends against the flow and shall rest on a solid and even bearing for the full length of the barrel.

3.8. Trenches shall be back-filled only after drains have been tested to the satisfaction of the Engineer.

3.9. In rocky ground a minimum of 200mm of granular or sand bed shall be used.

3.10. The bedding material shall be well tamped down on the trench bottom, which shall be free from hard, or soft spots.

3.11. The finished bottom shall be true to line and gradient.

3.12. Rigid pipes including vitrified clayware, asbestos cement pipes, grey iron pipes and concrete pipes shall either be laid on a granular or sand bed or on a concrete base in the trench bottom. The type of base provided shall depend on the nature of the trench formation and the presence of ground water.

3.13. Where the nature of the ground is such as to allow the trench formation to be trimmed to provide a uniform and solid bearing, pipes shall be laid upon the formation. Socket and joint holes shall be as short as practicable and shall be scraped or cut into the formation.

3.14. Where because of the nature of the ground or the presence of ground water pipes cannot be laid directly on the trench formation, the trench shall be excavated below the invert level of the pipe to a depth to allow a minimum thickness of 200mm of granular bedding material, which shall extend the full width of the trench. The bedding material, trench, etc., shall be as for flexible pipes.

3.15. Where pipes are to be laid with a concrete bed, bed and haunch or surrounds, the trench bottom shall be prepared as for the laying of pipes on a granular bed but with a layer of concrete at least 50mm thick. The pipes shall be supported clear of the trench bottom by blocks or cradles placed under the pipe and immediately behind each socket for short small pipes with a second block near the spigot end for long or large pipes.

3.16. The support should yield under load sufficiently to permit the barrel of the pipe to rest uniformly on its bed after the normal setting shrinkage of the concrete has occurred. The clearance under the barrel before placing the concrete should be not less than 100mm. The concrete bed or haunch should extend to 150mm on each side of the pipe.

3.17. Concrete shall not be laid until the drain has been approved by the Engineer.

3.18. Where rigid pipes with flexible joints are employed with a concrete bed, haunch or surround a simple constructional flexible joint shall be provided in the concrete and at the face of a pipe joint at intervals of not more than 5 meters to reduce the natural rigidity of the concrete.

3.19. The first 300mm of filling above the top of pipes and the filling around the pipes shall be placed by hand over the pipe and compacted by hand in finished layers of 150mm to a maximum of 300mm and shall be selected material, well watered and carefully rammed around the pipes .The material shall be distributed equally to both sides of the pipe to buttress it to the sides of the trench. Subsequent filling shall be placed, rammed and watered if necessary in 300mm thick layers. Drains shall be kept free from earth, sand, surplus mortar and other obstructions during laying. Adequate cover shall be provided before

using power compactors or heavy rollers.

3.20. Vitrified clay pipes and concrete pipes with more than 4.25 m of earth cover shall be laid on a 150mm thick bench of concrete and be haunched with concrete 150mm thick to at least the horizontal diameter of the pipe and above that level splayed tangentially to the extrados.

3.21. Where vitrified clay pipes and concrete pipes with more than 6 m of earth cover are used or where the pipes are laid in a heading or the cover is less than 1.2m if the pipes are laid in roads or 0.90 m elsewhere, the pipe shall be completely surrounded with concrete to a thickness of not less than 150mm.

3.22. Where drains run beneath buildings in basement aare they shall be constructed of cast iron pipes and shall be encased in concrete on bottom, top and both sides to a thickness of 150mm greater than the external diameter of the pipe and adequate flexibility in the pipeline shall be allowed.

3.23. The Engineer shall be consulted if pipes are to be laid with less than 600mm of cover or within 150mm of the underside of a concrete slab.

3.24. The head of every drainage system shall be ventilated and such ventilating pipes shall, where possible, be fixed against the outside face of an external wall unless otherwise shown on the Drawings and carried up to a height of 900mm above that part of the structure immediately adjacent to it. The ventilating pipe shall be fitted with a galvanized or copper wire balloon at the top.

3.25. Except where branches or other fittings occur, the top length of each ventilating stack shall consist of a complete length of pipe which shall be anchored 1.20 m from the top by means of wrought steel strap fixed as described elsewhere and painted to match the pipe. Any short length required to make up the length of the stack shall be fitted immediately below the top length.

4. UPVC Pipes And Fittings

4.1. UPVC pipes and fittings shall comply with BS 4660.

4.2. All pipes and fittings on all soil, waste and vent pipes shall be in Unplasticised Polyvinyl Chloride, with solvent weld cement joints, to pipes and fittings.

4.3. All branch waste and vent pipes from baseness and sinks to stacks, floor gullies, collection boxes and manholes shall be in modified UPVC with seal ring joints suitable to receive high temperature water discharge.

4.4. Fittings and coupling for use with UPVC pipes shall be jointed with solvent cement in accordance with manufacturer recommendations.

4.5. Fittings and coupling for use with UPVC pipes on movement joints shall be jointed with an incorporate synthetic rubber rings in accordance with the manufacturer recommendations.

4.6. Slip on cover plates shall be provided as a finish to pipe work, up to and including 50mm diameter, emerging from a wall in occupied areas other than service voids. Samples shall be first submitted to the Engineer for approval.

4.7. On pipe work up to and including 50mm diameter union type fittings shall be provided to make up to outlets of basin, bath and sink wastes.

4.8. Access plates shall be fitted at the roof of each vertical stack at changes, to enable the complete disposal system to be internally cleaned and rodded.
4.9. Soil, waste and vent stacks above their highest branches shall be continued upwards, at their full diameter, above roof level.

5. Safety

5.1. The Contractor shall provide, maintain and uphold safety measures adequate for the particular hazards of drainage works for all his employees. All safety measures taken by the Contractor should be approved by the Engineer.
5.2. Such approval will not affect the full responsibility of the contractor toward the safety of all his employees, the supervision staff and any other third party existing on site.
5.3. The Contractor shall ensure that all timbering, shuttering, staging, strutting, ladders etc., used in drain trenches and pits are adequate.

6. Connections To Existing Manholes And Drains

6.1. When work is being undertaken on existing drains and manholes including the construction of new manholes, building in pipes, cutting through manhole walls, cutting out and reforming benching, completing pipe entries and making good the Contractor shall keep existing drains open to flow and reasonably free form debris at all times during the progress of works .
6.2. On completion all work shall be in a watertight condition.

7. Cleaning, Protection And Testing Of Drains

7.1. The Contractor shall remove all silt and foreign matter from drains and manholes and leave the whole in a clean and workable condition.
7.2. In the event of delay between the laying of a drain and the placing of the first 300mm of back filling over the top of the pipe, precautions shall be taken to protect the pipes from damage arising from differential exposure to sun or wind.
7.3. Lengths of drain, manholes and inspection chambers shall be capable of withstanding the test.
7.4. The test shall be applied after laying and before back filling or placing concrete surround and bedding concrete.
7.5. Leakage of the section under test, including sweating, which causes a drop in the test water level shall be noted and the defective part of the work shall be rectified on the Contractor's own expenses.
7.6. The test shall be repeated after back filling and any faults in the bedding or support of the pipe, inadequacies in design or accidental damage during, or subsequent to, back filling, shall be noted and the defective part of the work shall be rectified on the Contractor's own expenses.

7.7. Whenever possible testing shall be carried out from manhole to manhole.
7.8. Testing shall not be started until at least 48 hours after completion of the last joint.

8. Tests before back filling:

8.1. The section shall be filled with water and after about one hour test readings shall be taken.
8.2. A test pressure of 1. 2m head of water shall be applied at the high end of the section (but not Than 2.4m at the low end). Steeply graded mains shall be tested in sections.
8.3. The loss of water over a period of 30 minutes shall be measured by adding water from a measuring
8.4. Vessel at regular intervals of 10 minutes and noting the quantity required maintaining the original
8.5. Water level in the standpipe.
8.6. The average quantity of water added shall not exceed 0.06 litres per hour per 100 linear meters per millimetre of nominal bore of the drain.
8.7. For sections of drain where the highest point is more than 1.2m below the water table the Following infiltration test shall be undertaken.
8.8. Inlets to the system shall be closed. Visual inspection at manholes or inspection chambers will
8.9. Reveal any flow the cause of which shall be investigated and the faults rectified.
8.10. Tests for line, level and freedom from obstruction shall be applied by means of a mirror at one end of the drain and a lamp at the other.
8.11. Final test: The water test shall be repeated in accordance with the requirements of the Local Authority or the Engineer.

SECTION 11

Electrical Installations

SECTION 11

ELECTRICALINSTALLATIONS

1. General

1.1. The Contractor shall supply all labor, materials and equipment necessary for the installation of medium voltage switchboards, sub-main cables and distribution units, lighting and power, together with all other apparatus shown on the Drawings and as detailed in the Particular Specification, with the exception of those items stated specifically as being supplied by others.

1.2. All works shall be carried out in a manner satisfactory to the Engineer and all unspecified materials shall be of approved manufacture. The complete installation is to be to the entire satisfaction of the Engineer.

1.3. The whole of the electrical installation and all works appertaining thereto shall be carried out in strict accordance with the Regulations for the Electrical Equipment of Buildings current edition (including all amendments and supplements made and issued thereto) as issued by the Institution of Electrical Engineers, British or VDE Standards, and also to the national and local requirements.

1.4. The Contractor shall further make good, repair, replace all defective work and clear away on completion and leave all installations in perfect working order and to the satisfaction of the Engineer.

1.5. Building works shall include the preparation of trenches and provision and laying in such trenches of asbestos cement or salt-glazed stoneware pipes, having easy bends to form ducts for entry of main cables. The numbers, sizes and locations of such pipes shall be as required by the Particular Specification.

1.6. Manufacturer's Recommendations means the recommendations or instructions printed or in writing and current at the date of tender.

1.7. The phrase "or other approved" means that commodities of different manufacture may be substituted if prior approval has been obtained.

1.8. The Contractor shall be deemed to have included in his price for anything necessary to supply the installation described in the Specification, or as shown on the Drawings .If no figure is put against the item shown in the summary it shall be deemed to have been included elsewhere.

1.9. The Contractor shall handle, store and fix each commodity in accordance with the manufacturer's recommendations. He shall inform the Engineer if these conflicts with any other specified requirement and submit copies of manufacturers' recommendations to the Engineer when requested to do so.

1.10. When choice of manufacturer is allowed for any particular commodity the Contractor shall obtain the whole quantity required to complete the work from one manufacturer or obtain approval of any change in source of supply. He shall produce written evidence of sources of supply when requested to do so by the Engineer.

1.11. All the materials purchased for the work must operate satisfactorily at an ambient temperature of 50ºC.

1.12. Progress reports shall be made by the Contractor, to be inspected and approved by the Engineer. Changes in plans or additional works shall be executed by written approval of the Engineer.

2. Specialist Subcontractors

2.1. The Electrical Works shall be executed by an approved Specialist Subcontractor. The Main Contractor shall attend on same and provide all the usual services required for such attendance.

3. Builders Work

The following is a summary of the work to be carried out by the Main Contractor:

3.1. The cutting and forming of holes for conduits or pipes or conduit or pipe fixings through walls, floors, ceilings, partitions, roofs etc. and making good after the work is sufficiently advanced.

3.2. The building of concrete and/or brick ducts in floors, walls etc. . The building of manholes, pits etc. .

3.3. The excavation, forming of trenches for services etc. and the filling in of same after the cables are laid.

3.4. Excavation forming for underground services of ducts and courses.

3.5. The cutting or forming of chases, recesses etc. in floors, walls etc. for conduits and fittings, and making good.

3.6. Excavation for and laying of cable carrying pipes.

3.7. The building in of brackets and supporting bars or other from of conduit or pipe suspensions.

3.8. The painting of all pipes, tubes and conduits etc. after fixing unless specified to the contrary.

3.9. The providing and building of sleeves through slabs and walls

4. Testing

4.1. The Contractor shall provide all necessary testing equipment as required by the Engineer to carry out tests as set out in the Regulations and as required by the relevant Electricity Authority.

4.2. The Subcontractor shall also be responsible for the payment of fees to specialists and manufacturers, for testing and commissioning required to bring all such plant and equipment into fully efficient operation as part of the

installation.

4.3. The Subcontractor shall thoroughly test each section of the Contract Works all generally in accordance with I.E.E. and Electricity Authorities regulations, and except where otherwise specified the tests shall include the following.

4.4. Insulation resistance tests to earth and between phases on all circuits and power consuming equipment by means of a 500-Volt insulation tester. During the test all lighting switches, except those controlling fluorescent fittings, shall be turned off and all lamps installed but no inductive apparatus shall be connected.

4.5. All insulation tests shall be made between phases, between each phase and earth, and between earth and neutral with the controlling switch neutral link removed.

4.6. Insulation tests shall be repeated between phases and between each phase and neutral with all switches off and all lamps removed.

5. Insulation resistances below 5 megaohms will not be accepted.

5.1. Earth continuity tests shall be made on each main, submain, circuit and sub circuit. Polarity of switches and continuity of ring main circuits shall be tested.

5.2. Insulation resistance tests of all connected appliances shall be made

5.3. Tests of the effectiveness of earthling including resistance of main earth shall be made.

5.4. Any other tests the Engineer may reasonably instruct the Subcontractor to make. Such will include readings of potential drop and current balance between phases at full load conditions at various points in the installation.

5.5. The Subcontractor is to provide all necessary labour, materials, test media and instruments required and all instruments must carry a recent calibration certificate from an approved body.

5.6. All tests are to be witnessed by the Engineer, and triplicate test record certificates, signed by all test witnesses, are to be provided to the Engineer as the work proceeds, upon request, or in any event before the commencement of the Maintenance Period.

5.7. At least 7 days written notice is to be given of intention to perform any test.

5.8. In addition to installation testing the Subcontractor is to carry out operation testing of all sections and is to clean, set, calibrate and fully commission, demonstrate and hand over the entire contract works in a thoroughly complete and operational state to the satisfaction of the Engineer.

6. Main- Switchgear And Sub- main Distribution Equipment

6.1. All main switchgear and sub-main distribution equipment to be provided and installed within the Contract shall comply with the relevant British

Standards.

6.2. Main switchboards shall be 600 volt rating, of sheet steel construction of 2mm minimum thickness, finished in a suitable anti-rust cubicle type front access panels, epoxy- electrostatic painted (colour to be approved by the Engineer), complete with all necessary incoming main isolators, low bars, outgoing fuse switches, distribution units, interconnection accessories, cable glands and entries. The main switchboard shall also be provided with a metering panel and all necessary interconnections as may be required by the Electricity Authority. Three ammeters and a voltmeter complete with an integral phase shift switch shall be provided and connected via the main incoming cable connections. The main switchboard shall also be provided with all necessary labels for each item of switchgear stating the area service duty or equipment controlled therefrom both in Burmese and English.

6.3. All access panels; hinged doors etc. should be provided with rubber or similar gaskets to protect the interiors against ingress of dust.

6.4. An 'as installed' diagram of the electrical distribution shall be provided within a glazed frame and fitted adjacent to the main switchboard.

6.5. Switch fuses, isolating switches, fuse boards, miniature circuit breaker boards and main distribution panels are to be of the particular types, and capacities and manufacture later specified in the Particular Specifications or as indicated on the Drawings and unless otherwise specified are to be generally in accordance with the following.

6.6. Switch fuses are to be of the 600 Volt "on-load" pattern with the switch blades mounted on to a solid insulating bar arranged for quick make and break action.

6.7. Fuses are to be H.R.C. type mounted independently of the switch mechanism.

6.8. Switch operating handles are to be of the 'free handle type' interlocked so that the access door may not be opened unless the switch is 'Off ' but with a means to circumvent this feature. The switch ‘On ‘ or ‘Off ‘ positions is to be clearly marked.

6.9. Miniature /mould case type circuit breakers shall have automatic tripping by means of a calibrated bi-metal mechanism for over-current protection and an electro-magnetic tripping device for short circuit protection. All three-phase circuit breakers shall have over-current and short circuit protection devices in each phase.

6.10. These devices shall be interlocked with each oh the other phases, such that the operation of a

6.11. trip in any one phase will automatically cause all three phases to be isolated from the supply.

6.12. The Fuse /M.C.B. Boards shall be adequately and securely fixed to the surface of the building walls in the positions shown on the various Drawings by means of rawlbolts or other metallic fixing devices as approved by the Engineer. All fixing bolts that can be accommodated in the fixing holes shall be used.

6.13. The positions of the Fuse M.C.B. Board as shown on the Contract Drawings shall be agreed with the Engineer before erection of any Fuse /M.C.B. Board.

6.14. The busbars of all Fuse /M.C.B. Boards shall be connected to the phases of the supply so that the standard arrangement of red, yellow, blue and neutral working from top to bottom of the Fuse /M.C.B. Boards is adhered to throughout the installation to ensure uniformity in phase colouring. The top busbar of the Fuseboard is to be tested to make sure it is fed from the red phase right the way back through the system to the source of supply.

6.15. The Fuse /M.C.B. Boards shall be supplied with charts mounted inside their doors and /or across the phase barriers. These charts shall be completed by the Subcontractor to give a clear and permanent indication of :

6.16. The circuit reference of each fuseway /M.C.B.

6.17. The correct H.R.C. fuse /M.C.B. for each fuseway.

6.18. The title of the plant protected by each H.R.C. fuse /M.C.B.

6.19. Sweating sockets or facilities for crimped terminals are to be provided for incoming phase and neutral cables.

6.20. All live metal parts are to be enclosed by insulating material including when the fuse carriers are withdrawn, and the carriers are to be arranged to protect persons handling them from electric shock or burns.

7. Earthing

7.1. Earth leads and earth tapes shall be of high conductivity bare copper in internal dry conditions and where they are run underground or in damp locations they shall be tinned.

7.2. As far as possible they shall be continuous without joints, but where joints are unavoidable, they

7.3. shall be bolted and soldered. All such joints shall be coated with anti-corrosive paint and wrapped with self -adhesive PVC tape.

7.4. Where earth leads and earth tapes are required to be buried, they shall be at a depth of not less than 500mm (1'8"). Where they are fixed to building surfaces they shall be fixed at intervals not exceeding 1.0 m (3'4") with copper or brass saddles of the spacing type. The saddles shall be tinned where necessary to correspond to the lead or tape being fixed.

7.5. An earth test link is to be provided adjacent to all switchboards. The link shall be a 13mm x 3mm copper strip secured across a 50mm (2") break in the earth lead or tape by high tensile steel bolts and nuts.

7.6. All earthling cables shall be installed in accordance with the relevant requirements called for in the Cables section of this specification.

7.7. All bonding leads in the form of cable having a standard conductor shall be terminated in 'sweated' sockets and shall be rigidly bolted to earthling terminals.

7.8. All earthling cables shall be insulated with a green PVC sheath. Where

connection on the earth lead to the main earth is made with a standard cable, the earth lead shall be double insulated with PVC sheaths, the outer sheath being colored green.

7.9. Where a lightning protection scheme is installed the earth lead may be bonded to the lightning conductor earth.

7.10. The Main Contractor will execute any trenching and backfilling and erect and cement into position all electrode manholes to details provided by the Subcontractor.

7.11. Connections by means of copper earth tape shall be made between the main earth bars to the frame terminals of all items such as switchboards etc.

7.12. The main ground connection shall be to a grid of electrodes of galvanized water pipes buried in the ground, and shall provide a minimum ground resistance of 2 ohms.

7.13. The connections from the main ground to the switchboard shall be of 50 sq.mm copper cable.

8. Cables

8.1. All cables shall be manufactured to comply with the relevant British Standards and are to be obtained from one of the approved manufacturers. All cables shall be XLPE,

8.2. The minimum size of conductor used for lighting subcircuits shall be 1.5 sq.mm and for local ring main circuits 2.5 sq.mm .

8.3. All cables shall be supplied to site on suitable drums with labels clearly indicating the origin and specification of cable.

8.4. Where cables are installed underground the Subcontractor shall mark out trenches for excavation by the Main Contractor, according to the Drawings and as directed by the Engineer.

8.5. The Subcontractor shall install the cables on a smooth bed of sifted sand 10 cm thick (minimum), and then cover the cables with another layer of sand up to 10cm above the top of the cable, and provide and install interlocking concrete cable covers engraved 'Electricity' in both English and Burmese along the complete underground length of the cables.

8.6. The cable clamps are to be fixed to the building structure by means of loose bolt type rawlbolts and by steel nuts and bolts to any other structure.

8.7. All cables run within the site buildings are to have the serving removed and the single wire armoured cleaned bright and left bare throughout the entire length of the cable, or alternatively the cable is to be taped with 50mm (2") wide PVC tape half lapped. This is to minimise the fire risk of the compound serving on the cable.

8.8. All cables shall be colored in accordance with the following:

8.9. Red phase - Red

8.10. Yellow phase	Yellow
8.11. Blue phase -	Blue
8.12. Neutral	Black

9. Lighting Fittings Lamps and Tubes

9.1. The Subcontractor shall supply all lighting fittings unless otherwise specified in the Schedule of Lighting Fittings. The Subcontractor shall provide all the lamps for lighting fittings, which he supplies as part of the Contract.

9.2. The Subcontractor shall allow for the installation of all the lighting fittings in the locations as shown on the Drawings. Where lighting fittings are recessed in ceiling panels he shall obtain from the Engineer detailed drawings of the ceiling layout prior to commencement of fixing.

9.3. Lighting fittings shall generally be fixed direct or suspended from the structural ceiling to heights as stated in the Particular Specification. In the case of wall mounted lighting fittings not above doorways or structural openings the mounting heights shall be as indicated on the Contract Drawings. In instances where they are mounted over doorways or structural openings they shall not be fixed more than 300mm (10") higher than the lintel of the doorway.

9.4. Where fluorescent lighting fittings are required to be suspended this shall be done by means of a 1" link galvanized heavy jack chain of the welded link type, the chain being attached to standard conduit box hook plates fixed to conduit boxes.

9.5. The conduit boxes from which any fluorescent lighting fitting is supported or suspended shall be securely fixed to the building structure by means of at least one 1/4" whit worth bolt, complete with flat washers, spring washer and full size nut or the equivalent diameter roundhead wood screw and /or toggle bolts of Rawlplug manufacture or other fixings as approved by the Engineer.

9.6. The supply to each lighting fitting shall be by means of 32/0.2mm 3-core circular, heat resistant butyle sheathed flexible 250 volt grade cable, to be connected to the circuit wiring by means of multiway P.V.C. connector blocks having brass mechanical screw clamp connections. Screwit type connectors will not be permitted. Taped and soldered joints will not be permitted.

9.7. The third core, earth conductor of the flexible cable is being securely earthed in the conduit box, socket or ceiling rose and the lighting fitting. These connections shall be effected in purpose made terminations and the fixing screws of the conduit box lid, hook plate or similar means not specifically intended as a conductor termination shall not be used for securing the earthling. The connection of the third core to the lighting

fitting shall be effected in a similar manner as described above.

9.8. The Subcontractor shall allow in his tender for all the necessary supports steelwork and other accessories required for the supporting and /or mounting of all the lighting fittings as shown on the Contract Drawings.

9.9. Where fluorescent lighting fittings are mounted direct to purpose made lighting trucking, the lighting trunking manufacturer's purpose made fixings and supports are to be utilized for the mounting of the lighting fittings. The connection and earthling of the lighting fittings is to be effected as previously described herein.

9.10. At every lighting point an earthling terminal shall be provided and connected to the earth- continuity conductor of the final sub-circuit.

10. Pendant lighting fittings

10.1. The Subcontractor is to supply and install all plain pendant lighting fittings as shown on the Drawings.

10.2. All ceiling roses containing permanently 'live' terminals shall be of such a manufacture that 'live' terminals are completely shielded and contact cannot be made there with the normal replacement of the flexible pendant.

10.3. Every ceiling rose shall be provided with an earthling terminal.

11. Switches And Switch Lighting

11.1. The Subcontractor shall supply and install the lighting switches in accordance with the type specified. Where they are indicated on the Drawings, switches shall be of the two-way or intermediate type, and in some instances shall be ganged in various numbers in a single box with a common cover plate.

11.2. All switches shall have 15 Amp interiors for lighting circuit loads in excess of 600 watts.

11.3. The lighting switches shall be mounted at a height of 1.4m (4-'8") form finished floor level to the center of the switches unless deemed otherwise by the Engineer. The switches shall be fixed by any fixing device approved by the Engineer.

11.4. Where ceiling mounted cord operated "PULL" switches are called for on the Drawings they shall be positioned such that the cord will hang free at a distance of 75 mm (3") from any wall surface or door opening. The cords for such switches shall be of a length sufficient to reach a point 1.5m (5'0") above finished floor level.

11.5. All switches shall be wired in the live side of the circuit they control.

11.6. Where six or more switches are ganged together in one box with a common switch plate, the switch plate shall be engraved to indicate the area, row or points controlled.

12. Socket Outlets

12.1. All socket outlets unless otherwise specified or indicated on the Contract Drawings shall be of the 13 Amp shuttered rectangular pin type complying with BS 1363.

12.2. The contacts shall be housed in a track resistant molding, controlled where indicted on the Drawings by integral A.C. type single pole switch.

12.3. The finishes of socket outlet plates may vary depending upon the area and these will be as specified in the Particular Specification. However, socket outlets in plant rooms shall have steel front plates.

12.4. Mounting boxes shall be either of aluminum or enameled steel for flush installations, or aluminum only for surface installations. All boxes shall incorporate an earthling terminal.

12.5. The Subcontractor shall supply and install all socket outlets in accordance with the types and ratings specified and /or indicated on the Contract Drawings.

12.6. The positions of all socket outlets as shown on the Contract Drawings must be checked with the Main Contractor, attention being given to type of wall finish required and the method of mounting thereon.

13. Telephones

13.1. The Subcontractor shall be responsible for the supply and installation of the necessary encloses, cable trays and draw wires for a complete telephone installation throughout the premises.

13.2. The Subcontractor shall ensure that the main cable entry duct is installed by the Main Contractor to the requirements of the local Telephone Company. In all cases the main duct shall have a minimum size of 10cm, be of plastic manufacture, and have no right angle bends.

13.3. Each 2.5cm telephone conduit will serve no more than 4 telephone outlets.

13.4. At the junction point of risers and conduits and at the main entry duct point the Subcontractor must ensure a clear wall space of at least 1 sq.m for the installation of the telephone company's distribution boxes.

13.5. If it is a requirement of the local Telephone Company that the Subcontractor is to install the necessary telephone cables, the Subcontractor shall liaise closely with the Telephone Company and obtain prior approval for any telephone cables installed.

14. Maintenance Tools , Keys And Spare Equipment

14.1. The Subcontractor is to provide two sets of any special tools and keys

necessary for the maintenance of the items of equipment supplied under the Contract.

14.2. Spare items of equipment shall only be supplied where particularly specified, as for fuses.

14.3. All keys, tools and spare equipment are to be handed over to the Employer, with a detailed list of all items. The Subcontractor is to obtain two receipted copies of the list and forward one to the Engineer.

15. Outside Lighting

15.1. The Subcontractor shall supply and install an outside lighting system as shown on the Drawings and in accordance with the Schedule of Lighting Fittings.

15.2. The Subcontractor shall be responsible for the supply and erection of the lighting columns, and shall also be responsible for advising the Main Contractor of the routes of the trenches for the mains cables to each column and the siting of the holes for the column bases.

15.3. The excavation and backfilling of the trenches and the concreting in of the column bases shall becarried out by the Main Contractor.

15.4. Each column shall be fitted with O.C.C. Bs manufacture connecting to the lighting units mounted on the column.

15.5. The termination of the cables to each column and the fusing of each column shall be as detailed in the Drawings.

15.6. Wiring to floodlights mounted on the building shall be routed on the inside of the building.

15.7. Cables fixed to the outside face of the building will only be permitted at the discretion of the Engineer.

16. Voltage drop

16.1. Drop Voltage should be calculated to be less than 2,5% from the network to the distribution board.

16.2. Cross suction for cables produce drop voltage less than 2% for the farthest distribution board.

17. Lighting Protection

17.1. Lightning protection should be agree with standard NFC-102.

17.2. It should be self contained, draws its energy from the ambient electric field existing at the time of the storm (10 t0 20 kv/m).

17.3. The intio0n advance starts up as soon as the ambient field exceeds a peak value witch corresponds the minimum lightning stroke.

17.4. The high of the instrument should protect the buildings with all sides.

17.5. Earthing for lightning protection should be separated from the earth of the building

17.6. Electrodes 19m.m 3mt long with 5mt between each other and a test manhole 30x30cm. all of electrodes should connected the bus bar in the manhole.

18. Fire Reaction

18.1. A contactor should be installed on the main distribution board to shut down electric current.

18.2. A signal from the fire alarm board should be connected to the distribution board for this purpose.

19. Safety Lighting

19.1. Emergency lighting should be with three hours duration. Five pole technology = 4 pole change over and delayed action relay for switching the mains supply to ensure compatibility with 011 electronic ballast .

19.2. Batteries should be high temperature Nicd and with 4 years life.

20. Eruptional Bonding:

20.1. All metallic equipment enclosures, steel conduit system, cable trays, trunkings, lighting fixtures, earthing pins of sockets, all non-current carrying metal parts of the electrical systems and any other equipment or system components required by NMW and I.E.E. regulations shall be earthed in an approved manner.

20.2. All earth connections shall terminate finally at the main low tension switch board earth bus and extended from there to earth electrodes as specified hereinafter.

20.3. The earthling system of the building shall be an independent system connected to the earth bus on the rnain low tension switch board.

20.4. The earth wires shall be covered with- PVC and distinguished by Green color.

20.5. All distribution boards, switch fuses and isolators shall be provided with earth bus or earth terminal and these shall be connected to the earth bus in the main switch board by earth conductors included with the feeders.

20.6. On cable trays and in electrical riser shafts an earthing copper tape of 25 x 3 mm. shall be provided for earthing all distribution boards, isolators and equipment.

20.7. A main earth electrode shall be supplied and installed near electrical supply

intake and shall consist of and interconnected by a grounding cable and as may be required to obtain the ground resistance specified copper rods driven in the ground in the 3 angles of a triangle in a cubic hole with a depth not less than 1 M. The top of the main earth electrode shall be protected shall be protected from damage, but to be available for inspection by being enclosed in a concrete or brick lines pit and fitted with an inspection cover and the pit should be with a dimensions not less than 0.45 mm.

20.8. The principal earth continuity shall be connected to the main earth elect-ode by heavy duty metal clamps.

20.9. Connection between earth bars and equipment frames and stranded copper cables shall be made with appropriate compression lugs, bolts, nuts and lock washers. Contact surfaces shall be thoroughly cleaned and tinned.

20.10. The maximum earth resistance shall not exceed 2 (ohm) as measured at the earth pit -with main earth electrode disconnected to the earth pit. if this resistance cannot be obtained with two earth ,rods, additional earth rods or sectional earth rods shall be used to obtain the required resistance. Parallel connected earth rods shall be spaced at a distance of not less than the rod lengths and connected by 25 x 3 mm. copper tape. If approved by the,, Engineer, earth plates or other earthing means may be used instead of the additional earth rods.

20.11. Earth rods shall be steel copper of not less than 16 mm. Diameter , three meters long, driven full length into the earth

20.12. The connection between earth conductors and earth rods shall be made by means of high strength corrosion resistant copper alloy connector clamps.

20.13. The tops of the electrodes shall be protected from any damage and shall be easily accessible.

20.14. With a view of this, they shall be enclosed in pits equipped with covers.

21. Under Floor and concealed cabling

21.1. The entire new laid floor shall have cable ducts in flooring which are easy to maintain. They should be aesthetically to merge with flooring.

21.2. All the cabling shall be concealed by remaking the old surfaces.

Section 12

Sanitary Installations

SECTION 12

Sanitary Installations

1. The Layout of the fitting and pipe work is approximate and diagrammatic only. The Contractor shall be responsible for laying out the fittings and equipment together with the service pipe work to satisfaction of the Engineer.

2. Pipe work and fittings for services

2.1. Each part of the piping systems shall be complete in all details and provided with all control valves and accessories necessary for satisfactory operation.

2.2. The drawings indicate generally the sizes of all main piping, and while the sizes are not to be decreased the Engineer reserves the right to change the runs and sizing of piping to accommodate conditions arising during construction.

2.3. All pipe work; valves, fittings etc. are to be as detailed for various services in the Schedules.

2.4. All piping shall be grouped wherever practical and shall be erected to present a neat appearance. Pipes shall be parallel to each other and parallel or at right angles to structural members of the building and shall give maximum possible headroom.

2.5. Pipe work shall generally be set around all columns and shall follow the contour of the building.

2.6. Piping shall not pass in front of doorways or windows, nor be installed passing through ductwork or directly under electric light outlets.

2.7. Unless otherwise shown on the drawings or instructed on the site, all pipes shall have a minimum clearance of 75mm from floors and ceilings and 25mm from the finished face of walls or other surfaces

2.8. All pipe drops shall be truly vertical, drain piping shall pitch down in direction of flow, and all pipe work shall be installed with a continuous gradient to allow natural circulation, air venting and drainage. Levels are to be approved by the Engineer.

2.9. Run outs shall be graded in such a manner as to prevent air traps being formed within them when the mains expand or contract.

2.10. Pipes erected in plant rooms, vertical shafts or false ceiling spaces shall be arranged to provide maximum access, and generally all pipe work installed in voids, shafts or false ceilings and in other places where subsequent access is likely to be difficult and where ease of dismantling is not required, shall have welded joints.

2.11. Sufficient space is to be allowed for accessibility for servicing. No joints shall be formed in the thickness of walls, floors or ceilings.

2.12. Where pipes are to pass through reinforced concrete this must be

ascertained before the concrete is cast and approval must be obtained for size of hole to be formed.

2.13. The Contractor is responsible for ascertaining the thickness of plaster and other wall finishes, skirting heights, sill lengths and floor finishes and routing pipe work to suit.

2.14. Where pipe work is to be insulated , it shall be fitted in such a manner as to allow each pipe to be insulated the full circumference and also to allow the prescribed clearance, after insulation, between the insulation and walls, floors, ceilings, other pipes or the insulation on other pipes , to any other surfaces .

2.15. Where pipes pass through or near walls, partitions or in chases, sufficient space must be left for the complete insulation treatment to be continued without interruption.

2.16. The Contractor shall be deemed to have included in his tender for work in setting pipes around all work and apparatus connected with other trades such as piers, wastes, drains, girders etc.

2.17. All reductions in sizes of horizontal piping shall be installed with eccentric fittings to maintain a level bottom.

2.18. Overflow and other warning pipes shall be fitted so that they discharge in obvious positions.

2.19. Lightweight hinged weather flaps shall be provided which will close against wind pressure and open when discharging.

2.20. Pipe connections to equipment and valves shall be flanged for sizes 65 mm and above and with unions for other sizes, and shall be arranged for easy dismantling and removal.

2.21. All branches from mains shall be taken from the top of the main wherever practicable and shall be made in such a manner as to allow for expansion and contraction in both main and branch.

2.22. All sets, double sets and springs shall be formed on long lengths of tube with as large a radius as possible and shall be free from distortion.

2.23. The Contractor shall supply and install malleable iron unions for all pipes, up to and including 50 mm nominal bore to form removable joints at intervals of approximately 18 m and wherever difficulty in dismantling might occur.

2.24. All pipe work shall be free of corrosion and without any signs of scaling pitting or excessive weathering, to the satisfaction of the Engineer.

2.25. Pipes stored on site shall be kept clean and off the ground and were possible stored under cover.

2.26. Pipes corroded beyond normal "stock rust" conditions shall not be used.

2.27. The Contractor shall ensure that all tubes are free from internal obstructions. All burred and cut ends of pipes shall be well reamed and filed to ensure that the full bore of the pipes is maintained. The Contractor shall take special care to prevent dirt or rubbish entering the open ends of all pipe

work during storage and erection. Screwed iron caps or plugs or plastic caps shall be used for this purpose.

2.28. Wood, rag, paper or other inadequate material will not be permitted. A valve fitted at an open pipe end shall not be considered adequate protection. Should any stoppage in the circulation occur after the various systems have been put into operation owing to non- compliance with these requirements the Contractor shall attend and rectify the matter at his own expense. Further information regarding flushing out of pipe work system is given elsewhere in the Specification.

2.29. The Contractor will ensure that at no part of any one system does he include, either in contact or at a distance, dissimilar metals, which will promote chemical or electro - chemical action, causing a weakening or failure of the service. This applies not only to the internal surfaces but also the external surfaces of all pipes, fittings, valves, plant, vessels, pumps and any other item of equipment in the installation.

2.30. Where pipes are held in vices, as when screwing, care shall be taken to ensure that the pipe surface is not damaged. Any pipe work so damaged shall not be fitted.

2.31. All such wrapping shall be approved by the Engineer before the trench is filled in.

2.32. Any pipe work which, in the opinion of the Engineer, does not conform as to material and workmanship with this specification shall be removed and refixed at the expense of the Contractor.

3. Joints

3.1. Reduction in pipe diameters shall be made by using one fitting only be it reducing elbow, tee or coupling.

3.2. Where standard fittings are not available in the configuration required reductions to the run and branch connections shall be made with reducing sockets. Bushes will not be permitted.

3.3. Branch connections to mains may be employed where the sizes of the branch is two or more smaller than the size of the main. Generally sweep branches shall be made except for tees on headers, or where a sweep fitting would cause air to be trapped.

3.4. Upon completion welded joints shall be thoroughly cleaned with a stiff wire brush and screwed joints shall have jointing compound removed.

3.5. Plastic Piping

3.6. Plastic pipes shall be used only if approved by the Engineer (in all cases UPVC pipes must be used) .

3.7. Cleaning fluids and solvent cements shall be suitable for use in the local ambient air conditions and operatives shall be fully trained in their use by attendance at an installation course organized by the manufacturers of the

particular piping system.

4. Valves And Cocks

4.1. All valves and cocks for the services in which they are installed shall comply with the requirements of the appropriate Water Authority, and the Contractor shall include for any testing and stamping which the Authorities may require.

4.2. Valves are to be provided as indicated and at all places necessary for the proper working, regulation, control and maintenance of the installation.

4.3. Valves shall be either screwed or flanged in accordance with the Specification for the pipe work into which they are installed and as directed by the Engineer.

4.4. Where flanged valves are specified, flanges are to correspond to appropriate BS specified in respect of the piping.

4.5. Gate valves shall be used for shut-off purposes and globe valves shall be used for balancing purposes. All valves shall be designed for packing under pressure when fully open. Gate valves shall comply with BS 5154 or 5150 . All valves must be approved by the Engineer.

4.6. Taps and stop cocks shall comply with BS 1010 and shall be marked with the manufacturer's name or trade mark and the nominal size. All taps and stops cocks must be approved by the Engineer.

4.7. Valves shall be marked with the manufacturer's name or trademark, the nominal size and the class number and must be approved by the Engineer.

4.8. Mixing valves shall comply with BS 1415 and shall be marked with the manufacturer's name and trademark and the nominal size, and must be approved by the Engineer.

5. Insulation

5.1. All insulating materials required for general plumbing and equipment shall be furnished and installed according to this section of the specifications.

5.2. Insulation shall be installed in a smooth, clean, workmanlike manner and joints shall be tight and finished smooth.

5.3. All surfaces to be insulated shall be dry and free from loose scale, dirt, oil or water when insulation is applied .

5.4. Insulation shall be applied in such a manner that there will be no air circulation within the insulation or between the insulation and the surface to which it is applied.

5.5. Surface imperfections in the insulation such as clipped edges, small joints or cracks and small voids, or holes not over 25 sq.mm shall be filled with like insulating material or with insulating cement if approved by the Engineer.

5.6. Insulation for all services shall be continued through sleeves. The insulation on exposed risers shall extend through the floor.

6. Domestic Water Services

6.1. Generally water shall be supplied from the City Main and will connect either to the roof storage tanks or to the low level suction tanks . From the suction tanks water shall be pumped up to the tanks at roof level . Connection can also be made directly to the water network in the building.

6.2. Where the rising main is installed in an open-to-sky void, it shall be in cast iron to BS 1211 with flanged joints or as directed by the Engineer.

6.3. All hot and cold water services shall be in solid drawn copper tube, to BS 2871 Table X with capillary or compression fittings to BS 864.

6.4. The use of flexible connectors between services and sanitary fittings will NOT be permitted.

7. Filter and Water Tanks

7.1. All water storage tanks shall comply with the relevant British and local standards, and must be approved by the Engineer .

7.2. Tanks shall be fitted with a suitably sized ball valve and overflow and shall include a metal cover.

7.3. Before all pumps and control equipment and on the outlet from all tanks, a strainer shall be fitted.

7.4. Large water storage tanks on roofs shall be sectional tanks to conform to BS 1564 and shall be type B(2) . The sizes of the tanks shall be as shown on the Drawings and noted on the schedules in the Particular Specification and the Contractor must allow in his rates for assembling, waterproofing, adequately bracing and providing holes, overflows and valves as required.

7.5. The tanks shall be supplied with one coat of black non-toxic paint and two further coats shall be applied on site to the approval of the Engineer.

7.6. Alternatively the Contractor may provide fiberglass tanks subject to their suitability for the particular project and the approval of the Engineer.

7.7. All tanks must be provided with strong covers and adequate access points for maintenance and cleaning.

8. Tests At Site

8.1. Pressure tests shall be applied to piping only before connection of equipment and appliances. In no case shall piping, equipment or appliances be subject to pressures exceeding their rating.

8.2. Tests shall be completed and approved before any insulation is applied or pipes, valves and fittings have been concealed. Tests shall be performed in the presence of and to the satisfaction of the Engineer. Any leaks or defects uncovered by the tests shall be repaired and the system re-tested at no additional cost to the Employer.

8.3. When the installation has been completed to the satisfaction of the Engineer, it shall be tested in the following manner:

8.3.1. The entire system shall be slowly filled with water, allowing any trapped air to escape.

8.3.2. When all outlets are closed the system shall be checked for water tightness.

8.3.3. Each outlet must be checked for rate of flow and correct operation.

9. Sanitation And Rain Water Drainage

9.1. The soil and waste system shall be installed in accordance with this Specification and bill of quantities and must be approved by the Engineer.

9.2. Soil , waste and ventilation pipework and fittings fixed in open-to-sky areas shall be in cast iron orUPVC as shown on the Drawings or directed and approved by the Engineer .

9.3. Soil , waste and ventilation pipework and fittings fixed in internal ducts shall be in unplasticised P.V.C. and according to manufacturer's specification and as approved by the Engineer .

9.4. Expansion joints and brackets shall be fixed in accordance with the manufacturer's recommendations where required .

9.5. Rain water pipes and fittings shall be as shown on the Drawings, Bill Of Quantities and as directed by the Engineer .

10. Testing

Tests shall be carried out at the Engineer's request during installation in accordance with manufacturer's specifications and to the approval of the Engineer.

11. Sanitary Fittings

11.1. All sanitary fittings shall be of an approved quality obtained from an approved manufacturer.

11.2. Sanitary fittings and their connections, services, wastes, overflows etc. shall be located as shown on the Drawings and shall be designed and installed to the satisfaction of the Engineer.

11.3. Details of the fittings are as shown in the particular specification and Drawings or as directed by the Engineer.

11.4. All sanitary fittings noted in the particular specification shall be properly assembled and the Contractor shall include for all waste fittings, traps, taps, plugs, chains, seats, handles, levers, fixings and brackets required to suit the installation.

11.5. All traps shall be of the correct size with a 3" deep seal and compression outlet connection. Bath traps shall be provided with an integral overflow.

12. Builders Work

12.1. Normally pipes will be fixed on the surface of walls and the Contractor shall perform all cutting and pinning for holderbats or plugging and screwing for pipe clips .

12.2. Where pipes are required to be concealed in the walls etc., the contractor shall perform all cutting and subsequent making good. Pipes passing through walls and floors shall be sleeved with metal.

12.3. The expression 'Builders Work' shall mean work to be carried out by the Main Contractor under the direction of the Engineer in connection with the plumbing installation.

12.4. The Contractor shall prepare accurate drawings giving details of all holes, fixings , bases , and other builders work requirements and shall be responsible for their accuracy . The cost of any unnecessary work due to failure to comply with this condition will be charged to the Contractor and deducted from his account when making payment. The cost of preparing builders work drawings shall be included in the tender price.

12.5. If, in order to progress the contract, the Engineer has prepared certain details in connection with the builders work, the Contractor , when appointed , must immediately check these details against the architectural and structural drawings and if any additional work or alterations are required the Engineer must be advised immediately .

12.6. The following is a summary of the work to be carried out by the Main Contractor :

12.6.1. Cutting and forming of holes for pipes or pipe fixings through walls , floors , ceilings , partitions , roofs etc., and making good after the work is sufficiently advanced .

12.6.2. Building of concrete and/or brick ducts in floors, walls…etc.

12.6.3. Formation of concrete bases, plinths etc. for plant and equipment.

12.6.4. Building of manholes pits etc.

12.6.5. Excavation, forming of trenches for services etc., and the filling in of same after the pipes are laid.

12.6.6. Cutting or forming of chases, recesses etc. in floors, walls…etc. for pipes and fittings, and making good .

12.6.7. Excavation for and lying of pipes and ducts.

12.6.8. The building in of brackets and supporting bars or other form of pipes after fixing unless specified to the contrary.

12.6.9. Painting of all pipes after fixing unless otherwise specified

12.6.10. Providing and building in of sleeves through slabs and walls

12.7. In general all holes through walls, floors and beams for pipes and ducts will be left out by the Main Contractor.

12.8. Where pipes or fittings are fixed to concrete or stonework by means of saddles or clips the Contractor shall himself execute the work necessary and shall include the cost of such work in the price given in the Form of Tender.

Section 13

POP and Armstrong False Ceiling

SECTION 13

FALSE CEILING

1. POP False Ceiling

1.1. The thickness of POP ceiling shall be 10 mm & will include all the curves, coves, etc as per architectural design. The frame work shall be treated with one coat of primer of zinc coating of grade 350 as per IS 277 and shall be true to planers or slopes as specified.

1.2. The joints in the expanded metal shall be provided only under the main steel frame work.

1.3. The plaster of Paris shall be of calcium sulphate semi-hydrate variety, its fineness shall be such that when sieved through a sleeve of IS sieve designations 0.05mm for 5 min after drying the residue left on it shall not be more than 1% by weight. It shall not be too quick setting. Initial setting time shall not be less than 13 min. The average compressive strength of material determined by testing 5 cm cubes after removal from mould. After 24 hours and drying in an over at 40 c till weight of the cubes is constant, Shall not be less than 84 Kg/sq.m.

1.4. The material will be mixed with water to a workable consistency; plaster of Paris shall be applied to the underside of expanded metal in suitably sized panels and finished to a smooth surface by steel trowels. The finished surface shall be smooth and true to planed slopes or curved as required.

1.5. The ceiling will have CNC cut wooden and ply wood member as per the design suggested by the architect.

1.6. The work of POP ceiling in combination with the metal or Armstrong ceiling shall have accurate joints.

1.7. Submittal

1.7.1. The contractor shall submit samples. Drawings, manufactures specification for POP, G.I Framing system, wood and ply work.

1.8. Measurements:

1.8.1. The measurement for the ceiling will be based only of Sq. Mtr. as per the BOQ items. No extra payment will be made for recesses, CNC wood/ply work, internal lighting arrangements, etc. No extra payment will be made for the drops, lighting holes or any other extra work in the POP ceiling.

2. Armstrong 600 m x 600 m ceiling

2.1.1. The 600 mm. X 600 mm. false ceiling system manufactured by M/s. Armstrong World Industries shall beg hot dipped galvanized steel section, exposed surface with pre-coated capping, main tee of size 24 x 32 mm., having 0.27 mm gauge at every 1200 mm.

2.1.2. The centre to centre maximum and rotary stitched cross tee shall be of size 24 x 27 mm, having 0.27 mm gauge at every 600 mm. c/c.

2.1.3. The sub cross tee of size 24 x 27 mm shall have 0.25 mm gauge at 1200 mm c/c.

2.1.4. The wall angle will be of size 19 x 19 mm., having 0.35 mm gauge fixed to the periphery of the wall.

2.1.5. The above grid is suspended at every 1200mm c/c. in both directions using 2.0 mm. thick

2.1.6. Suspension system shall be consist of G.I. rod 4 mm dia. This will be attached to the top of ceiling with butterfly fixing assembly.

2.1.7. The ceiling shall have ceiling tiles manufactured by M/s. Armstrong World Industries, of size 600mmx600mmx15mm having NRC 0.55, Light reflectance of >84% (WT), thermal conductivity k = 0.052-0.057 W/m0K, Humidity Resistance of 99% , having Fire Performance CLASS O / CLASS 1 (BS 476), surface having 3 coats of white paint with Fine Fissured, back of the tile duly sanded and finished with a coat of protective paint over the formed grid complete.

2.1.8. The work of POP and this ceiling shall be with accurate joints.

2.1.9. Submittal: The contractor shall submit the sample of all the material for approval by Engineer.

2.1.10. Mock up: The contractor shall make an mock up of 2.0 m x 2.0. This mock up can be part of the finished ceiling.

Section 14

Metal False Ceiling

SECTION 14

Metal False Ceiling

1. GENERAL

1.1. RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2. SUMMARY

1.2.1. Section Includes:

1.2.1.1. LEED Data: www.ecoscorecard.com

1.2.1.2. Perforated and non-perforated metal ceiling panels

1.2.1.3. Acoustical backing

1.2.1.4. Suspension systems

1.2.1.5. Accessories; provide other necessary items including devices for attachment overhead construction, secondary members, splines, splices, connecting clips, wall connectors, wall angles, and other devices required for a complete installation.

1.2.1.6. Supplemental support framing: Provide fully engineered secondary framing as required to meet code, conforming to layout shown in drawings, to support direct-hung metal ceilings suspension system.

1.2.1.7. Related Sections / Work:

1.2.1.8. Sections 05 40 00 – Cold-Formed Metal Framing

1.2.1.9. Sections 09 20 00 – Plaster and Gypsum Board

1.2.1.10. Sections 09 50 00 – Acoustical Ceilings

1.2.1.11. Sections 09 90 00 – Paintings and Coatings

1.2.1.12. Division 23 – Heating, Ventilating and Air Conditioning

1.2.1.13. Division 26 – Electrical

1.2.1.14. This Section covers the general requirements only for Acoustical Metal Ceilings as shown on the drawings. The supplying and installation of additional accessory features and other items not specifically mentioned herein, but which are necessary to make a complete installation, shall also be included or clarified accordingly.

1.2.1.15. Qualification Data:

1.2.1.16. Test Reports: Certified reports from independent agency substantiating structural compliance to wind loads and other governing requirements.

1.2.1.17. Certificates:

1.2.1.18. Data substantiating manufacturer and installer qualifications.

1.2.1.19. Certified data attesting fire rated materials comply with specifications.

1.2.1.20. Manufacturer's Instructions: Detailed installation instructions and maintenance data.

1.3. REFERENCES

1.3.1. American Society for Testing and Materials (ASTM)

1.3.2. E 84 – "Standard Test Method for Surface Burning Characteristics of Building Materials"

1.3.3. E 488 – "Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements"

1.3.4. B 209 – "Standard Specification for Aluminium and Aluminium Alloy Sheet and Plate"

1.3.5. C 423 – "Sound Absorption and Sound Absorption Coefficients by Reverberation Room Method"

1.3.6. E 580 – "Standard Practice for Application of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Requiring Moderate Seismic Restraint"

1.3.7. C 635 – "Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings"

1.3.8. C 636 – "Recommended Practice for Installation of Metal Ceiling Suspensions Systems for Acoustical and Lay-in Panels"

1.3.9. A 641 – "Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire"

1.3.10. A 653 – "Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvanized) by the Hot-Dip process"

1.3.11. E 1264 – "Classification for Acoustical Ceiling Products"

1.3.12. E 1477 – "Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by use of Integrating-Sphere Reflectometers"

1.3.13. D 1044 – "Practice for Abrasion Resistance"

1.3.14. D 1002 – "Practice for Adhesion Resistance"

2. LEED-CI 2009: Applicable LEED Environmental Categories and Credits and performance requirements as indicated in LEED for Commercial Interiors 2009:

2.1.1. Material and Resources (MR)

2.1.2. MRc4 – Recycled Content

2.1.3. MRc5 – Regional Materials

2.1.4. MRc7 – Certified Wood

2.1.5. Indoor Environmental Quality (IEQ)

2.1.6. IEQc4.1 – Low-Emitting Materials – Adhesives & Sealants

2.1.7. IEQc4.2 – Low-Emitting Materials – Paints & Coatings

2.1.8. IEQc4.4 – Low-Emitting Materials – Composite Wood & Agrifiber

2.1.9. IEQpc24 – Acoustics

2.1.10. LEED v4 ID+C: Applicable LEED v.4 Environmental Categories and Credits and performance requirements as indicated in LEED v4 for Interior Design + Coordination:

2.1.11. EA Credit: Optimize Energy Performance

2.1.12. MR Credit: Building Product Disclosure & Optimization – EPD

2.1.13. EQ Credit: Low-Emitting Materials

2.1.14. EQ Credit: Indoor Air Quality Assessment

2.1.15. EQ Credit: Daylight

2.1.16. EQ Credit: Acoustic Performance

3. SUBMITTALS

3.1.1. Product Data: Manufacturer's published literature, including specifications.

3.1.2. LEED Submittal Data: Manufacturer's product data for each product specified in this section per ecoscorecard.com.

3.1.3. Product Certification: Manufacturer's certifications that products comply with specified requirements and governing codes including product data, laboratory test reports and research reports showing compliance with specified standards.

3.1.4. Shop Drawings: Submit shop drawings for reflected ceiling plans (RCP's), drawn to scale, and indicating penetrations and ceiling mounted items. Show the following details:

3.1.5. Reflected Ceiling Plan(s): Indicating metal ceiling layout, ceiling mounted items and penetrations.

3.1.6. Suspension System, Carrier and Component Layout.

3.1.7. Details of system assembly and connections to building components.

3.1.8. Samples for Verification: Full-size units (or as specified below) of each type of ceiling assembly indicated; in sets for each color, texture, and pattern specified, showing the full range of variations expected in these characteristics. Submit samples for each type specified.

3.1.9. 11" square metal panel units.

3.1.10. 11" long samples of each exposed moulding or trim.

3.1.11. 11" long samples of each suspension component.

4. QUALITY ASSURANCE

4.1.1. Manufacturer/Installer Qualifications:

4.1.1.1. Provide metal ceiling system components produced by a single manufacturer with a minimum 5 years' experience in actual production of specified products and with resources to provide consistent quality in appearance and physical properties, without delaying the work.

4.1.1.2. Provide suspension system components produced by a single manufacturer to provide compatible components for a complete metal ceiling system installation.

4.1.1.3. Perform installations using a firm with installers having no less than 3 years of successful experience on projects of similar size and requirements.

4.1.2. Regulatory Requirements:

4.1.2.1. Fire Rating Performance Characteristics: Install system to provide a flame spread of 0 - 25, complying with certified testing to ASTM E 84.

4.1.2.2. Structural Criteria: Install and certify system to comply with structural and wind load requirements of governing codes.

4.1.2.3. Installation Standard for Suspension System: Comply with ASTM C 636.

4.2. Mock-Up: Prior to beginning installation erect a mock-up section, where directed, using all system components.

4.3. Pre-installation Conference: Conduct a conference, prior to start of installation, to review system requirements, shop drawings, and all coordination needs.

4.4. DELIVERY, STORAGE AND HANDLING

4.4.1. Deliver system components in manufacturer's original unopened packages, clearly labeled.

4.4.2. Store components in fully enclosed dry space. Carefully place on skids, to prevent damage from moisture and other construction activities.

4.4.3. Handle components to prevent damage to surfaces and edges, and to prevent distortion and other physical damage.

4.5. PROJECT CONDITIONS

4.5.1. Begin system installations only after spaces are enclosed and weather-tight, and after all wet work and overhead work have been completed.

4.5.2. Prior to starting installations, allow materials to reach ambient room temperature and humidity intended to be maintained for occupancy.

4.6. WARRANTY

4.6.1. Provide specified manufacturer's warranty against defects in workmanship, discoloration, or other defect considered undesirable by the Architect or Employer.

4.6.2. This warranty shall remain in effect for a minimum period of one (1) year from date of initial acceptance.

4.7. MAINTENANCE & EXTRA MATERIALS

4.7.1. Maintenance Instructions: Provide manufacturer's standard maintenance and cleaning instructions for finishes provided.

4.7.2. Extra Materials: Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents. Only typical system components are included with attic stock.

4.7.3. Acoustical Metal Ceiling Pan Units: Full-size units equal to two percent (2%) of amount installed.

4.7.4. Ceiling Suspension System Components: Quantity of each grid and exposed component equal to two percent (2%) of amount installed.

5. PRODUCTS

5.1. MANUFACTURER

A. Provide "Hunter Douglas Architectural" Deep Box linear metal ceiling system manufactured by Hunter Douglas Architectural, Inc., 5015 Oakbrook Parkway, Suite 100, Norcross, GA 30093, USA (800) 366-4327

B. Or Equivalent product upon approval of sample from architect, owner and engineer.

6. SYSTEM MATERIALS

C. Linear metal panel ceiling system for (interior)(exterior) installations:

1. Panel Profile Type: Deep Box 2, roll-formed, (.020" interior)(.025" interior/exterior) inch thick aluminium with square edges; 1-5/32" wide, 1-1/2" deep with 27/32" reveal to form a 2" module.

2. Panel length: (Standard 12')(minimum 3' – maximum 16')

3. Closure: (No Closure)(Flat Recessed Closure: 5/8" wide roll-formed aluminium hat-shaped closure panel to snap-fit between ceiling panels.)*

* Recessed Closure required for exterior applications.

   a. Finish: As specified by Architect

D. Linear Suspension System:

1. Carrier: Universal hat-shaped, .038" roll-formed aluminium section with hook-shaped tabs spaced to receive ceiling panels at 2” on-center and 27/32" apart. Support holes spaced 4" on-center. Finish: Factory-applied black enamel.

2. Hanger Wire: 12 gage galvanized carbon steel hanger wire.

3. Seismic/Wind Uplift Compression Struts: 1-1/2” (38 mm) deep, 16 Ga., cold-rolled steel “C” channels.

E. Perforations: Non-perforated only.

F. Panel Finish:

1. Paint; color to be selected by architect

   a. Applied Polyester

   b. Powder Coat

   c. Decorated Wood-Look Powder Coat

2. Film (.025", interior only)

3. Wood Veneer (interior only)

7. ACCESSORY MATERIALS

G. Panel End Caps: Formed, stamped, or milled end caps with matching finish

H. Panel Splice: Formed aluminium insert designed to snap-fit between ends of two ceiling panels. Finish: (black)(to match panel)

I. Access Door: (2' x 2')(____ feet x ____ feet) aluminium access frame with hinges and retainer clip for downward-acting access panel to plenum space.

J. Acoustic Material – interior only: (1” thick glass fiber, 1-1/2 pcf density, polygraphed)

1. NRC Rating: (.65)(.90)

K. Air Distribution Devices: Provide distribution devices that are independently suspended, adjustable from below finished ceiling, capable of being concealed

behind (invisible to view) and fully integrated with ceiling system to allow no interruption of ceiling components.

L. Lighting Fixtures (Modular Type “M” or “MT” flange) and HVAC diffusers: Optional.

8. EXECUTION

8.1. EXAMINATION

A. Examine substrates and structural framing to which acoustical metal panels attach or abut, with installer present, for compliance with requirements specified in this and other Sections that affect installation and anchorage, and other conditions affecting performance of metal panel ceilings.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

8.2. PREPARATION

C. Coordination: Furnish layouts for cast-in-place anchors, clips, and other ceiling anchors whose installation is specified in other Sections.

D. Measure each ceiling area and establish layout of acoustical metal pan units to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width units at borders, and comply with layout shown on reflected ceiling plans.

E. Survey substrate for wall attachment to assure squareness and proper elevation for wall panel installation.

INSTALLATION

F. General: Install acoustical metal pan ceilings, per manufacturers shop drawings provided, per manufacturer's written instructions and to comply with publications referenced below.

1. ClSCA “Ceiling Systems Handbook”
2. Standard for Ceiling Suspension System Installations - ASTM C 636
3. Standard for Ceiling Suspension Systems Requiring Seismic Restraint - ASTM E 580
4. IBC (International Building Code) Standard for Seismic Zone for local area

G. Suspend ceiling hangers from building's approved structural substrates and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.

2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, counter-splaying, or other equally effective means.

3. Where width of ducts and other construction within ceiling plenum produce hanger spacings that interfere with location of hangers at spacing required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Utilize supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.

4. Where used secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure; that are appropriate for substrate; and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.

5. Space hangers not more than 48” on-center, along each member supported directly from hangers, unless otherwise indicated; and provide hangers not more than 12” from ends of each member. Supply supporting calculations from licensed Structural Engineer verifying hanger spacing meets all requirements, when spacing exceeds those recommended.

6. Level grid to 1/8” in 10’ from specified elevation(s), square and true.

7. Adjust suspension system runners so they are square (within .5 degree from 90 degrees) and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

H. Secure bracing wires to ceiling suspension members and to supports acceptable to Architect/Engineer and/or inspector. Suspend bracing from building's structural members and/or structural deck, as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs (unless directed otherwise).

I. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical metal pan. Method of edge trim attachment and design of edge trims to be approved by Architect.

1. Screw attach moldings to substrate at intervals not more than 18” on-center and not more than 6” from ends, levelling with ceding suspension system to a tolerance of 1/8” in 10’. Metre corners accurately and connect securely.

2. Do not use exposed fasteners, including pop rivets, on moldings and trim without prior written approval, or unless detailed otherwise.

J. Scribe and cut acoustical metal panel units for accurate fit at penetrations by other work through ceilings. Stiffen edges of cut units as required to eliminate evidence of buckling or variations in flatness exceeding referenced standards for stretcher-levelled metal sheet.

K. Install acoustical metal panel units in coordination with suspension system.

1. Align joints in adjacent courses to form uniform, straight joints parallel to room axis in both directions, unless otherwise indicated. Install directionally patterned or textured panels in directions indicated on approved shop drawings. Panel- joints shall flow smoothly and in a straight line within 1/8” in 10’. Intersections shall be continuous.

2. Fit adjoining units to form flush, tight joints. Scribe and cut units for accurate fit at borders and around construction penetrating ceiling.

3. Remove protective film from panels only when space is completely clean and free of airborne particles. Use white cotton gloves for final installation of panels into grid system.

8.3. ADJUST AND CLEAN

8.3.1. Adjust components to provide uniform tolerances.

8.3.2. Replace all ceiling panels that are scratched, dented or otherwise damaged.

8.3.3. Clean exposed surfaces with non-solvent, non-abrasive commercial type cleaner.

Section 15

Lifts/Elevator/MLCP System Works

SECTION 15

Specifications for Lift / Elevators/ MLCP System Works

1. General

This specification covers design, manufacture, testing as may be necessary before dispatch, delivery at Site, all preparatory work, assembly and installation, commissioning putting into operation of lifts.

1.1. Rates: The rates quoted by the tenderer, shall be firm and inclusive of all taxes (including works contract taxes) Duties, Octroi and Levies and all charges for packing forwarding, insurance, freight and delivery, installation, testing, commissioning etc. at site i.e. temporary constructional storage, risks, overhead charges general liabilities / obligations and clearance from local authorities. Any advance payment to be made to lift manufacturer shall be the sole responsibility of the tenderer. The contractor has to carry out routine and preventive maintenance for 12 months from the date of handing over. Nothing extra shall be paid.

1.2. Completeness Of Tender:-

1.3. All sundry equipment, fittings, unit assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections, and all other items which are useful and necessary for efficient assembly and installation of equipment and components of the work shall be deemed to have been included in the tender irrespectively of the fact whether such items are specifically mentioned in the tender documents or not.

1.4. For item / equipment requiring initial inspection at manufacturers works the contractor will intimate the date of testing of equipments at the manufacturers works before dispatch. The Client also reserves the right to inspect the fabrication job at factory and the successful tenderer has to make the arrangement for the same. The successful tenderer shall give sufficient advance notice regarding the dates proposed such tests / inspection to the Client‟s representative (s) to facilities his presence during testing / fabrication. The Engineer-in-charge at his discretion witness such testing / fabrication. Also equipment may be inspected at the manufactures premises, before dispatch to the site by the contractor.

2. Completion of period :

The completion period as mentioned in the Appendix / indicated in the tender documents is for the entire work of planning, designing, supplying, installation, testing, commissioning and handing over of the entire system to the satisfaction of the Engineer- in-Charge after obtaining the license from the lift inspector of Local / State Government. And certification of competent local authority in respect of compliance of factory act lift provision.

3. Data manual and drawings to be furnished by the tenderer:

3.1. With Tender: The tenderer shall furnish along with the tender, detailed technical literature, pamphlets and performance data for appraisal and evaluation of the tender.

3.2. After Award of work: The successful tenderer would be required to submit the following drawings for approval before commencement of installation.

4. All general arrangement drawings:

4.1. Details of foundations for the equipment, load data, location etc. of various aspects of equipments as may be needed generally by other agencies for purpose of their execution. The data will include breaking load on guides; reaction of buffers on lift pits required, support points in machine room, lift well etc.

4.2. The General Arrangement Drawing in triplicate will be forwarded by Contractor. The purpose of this drawing is to clearly indicate to the contractor pertinent dimensional details of the elevator shaft, pit, machine room, car and landing entrances, etc.

4.3. Complete layout dimensions for every unit /group of units with dimensions required for erection purposes.

4.4. Any other drawing / information not specifically mentioned above but deemed to be necessary for the job by the contractor.

4.5. The successful tenderer should furnish well in advance three copies of detailed instruction manuals of manufactures for all items of equipments regarding installation, adjustment, operation and maintenance i.e. preventive maintenance & trouble shooting together with all the required data sheets, spare parts catalogue and workshop procedure for repairs, assembly and adjustment etc. all in triplicate.

5. Extent of work

5.1. The work shall comprise of entire labour including supervision and all materials necessary to complete installation and such tests and adjustments and commissioning as may be required by the Client. The term complete installation shall not only mean major items of the plants, equipments covered by specifications but all incidental sundry components necessary to complete execution and satisfactory performance of installation with all layout charts whether those have been mentioned in details in the tender document in connection with this contract.

6. Inspection and testing

6.1. Copies of all documents of routine and type test certificates of the equipment, carried out of the manufacturers premises shall be furnished to the Engineer-in-Charge and consignee.

6.2. After completion of the work in all respect the contractor shall offer the installation for testing and operation.

6.3. The following tests shall be carried out to the satisfaction of the owner.

6.3.1. Insulation and earth test for all electrical apparatus.

6.3.2. Continuous operation of the lift under full load conditions for one hour at the end of which time the temperature of the motor and operating coils will be tested. This shall be as per I.S specifications.

6.4. Compliance with regulations and myanmar standards:

6.4.1. All works shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standards related to the works covered by these specifications. In particular the equipment and installation will comply with the following:

6.4.2. Factories Act.
6.4.3. (ii) Myanmar Electricity Rules
6.4.4. IS. & BS Standards as applicable
6.4.5. Workman's Compensation Act.
6.4.6. Statutory norms prescribed by local bodies.
6.4.7. Nothing in this specification shall be construed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes. In case of any conflict, interpretation of the Architect shall be deemed final and binding.

(a) Erection Tools:-

(b) No tools and tackles either for unloading or for shifting the equipments for erection purposes would be made available by the Client. The successful tenderer shall make his own arrangement for all these facilities.

7. Verification Of Correctness Of Equipment At Destination:-

The contractor shall have to produce all the relevant records to certify that the genuine equipment from the manufactures has been supplied and erected.

8. Painting:

This shall include cost of painting of entire exposed iron work complete in the installation. All equipments work shall be painted at he works before dispatch to the site.

9. Training:

The scope of works includes on job technical training of two persons at site. Nothing extra shall be payable on this account

10. Maintenance:

10.1. Trained and experienced staff shall be made available to meet any exigency of work during the guarantee period of one year from the handing over at the installation.

10.2. The maintenance, routine as well as preventive for one year from the date of taking over the installation as per manufactures recommendation shall be carried out and record of the same shall have to be maintained.

A. GENERAL TECHNICAL SPECIFICATIONS

1. Scope:

These general specifications cover the details of equipment to be designed, supplied, inspection as may be necessary before dispatch, delivery at site, installation, testing, commissioning and handing over in working condition of electrical lifts.

1.1. Related Documents: These technical specifications shall be read in conjunction with the General Conditions of contract with all correction slips, as well as schedules and drawings. In the event of any discrepancy between these specifications and inter-connected contract documents, the technical requirements as per the tender specifications shall be followed and deem to be having over-riding value.

1.2. Conformity With Statutory Acts, Rules, Regulation, Standards And Safety Codes

1.3. The installation shall be carried out in conformity with the local lifts Act and Rules. The installation shall also conform to requirements of local Municipal Bylaws.

1.4. Myanmar Electricity Act and Rules

1.4.1. All Electrical works in connection with installation of electric lifts shall be carried out in accordance with the provisions of Myanmar Electricity Act & Rules amended up to date.

1.4.2. Safety Codes and Labour Regulations

1.4.3. The contractor shall at his own expenses arrange for the safety provisions as per the statutory regulations. IS recommendations, regulations under Factory Act etc., where applicable and instructions issued from time to in respect of all labour employed by him directly or indirectly for the installation of the lift.

1.5. The contractor shall provide necessary barriers, warning signs and other safety measures etc., wherever necessary so as to avoid accident. In addition all safety procedures as outlined in the tender shall be complied with.

1.6. In case of default the client shall be at liberty to make arrangements and provide facilities as aforesaid and recover the cost from the contractor.

1.7. Fire Regulations

1.7.1. The Installation shall be carried out in conformity with the local fire regulations and rules there under wherever they are in force. The contractor shall be responsible for obtaining fire clearances for all lift stops, including basement and terrace floors, from local authorities.

1.8. Works To Be Done By The Contractor:

In addition to the manufacture, supply, installation, testing and commissioning of the lift including all auxiliary equipment, following works shall be deemed to be included within the scope of the work to be done by the contractor.

1.9. Supply of necessary R.S joists or angle iron supports brackets etc., for installation of the lift either in the machine room or at other places as may be necessary including their installation in position.
1.10. Responsibility to ensure safety of lift materials against pilferage and damage till the installation is handed over to the Employer
1.11. All Scaffolding as may be necessary in the lift well during erection work and subsequently removed.
1.12. Temporary barricades with caution boards at each landing to prevent accident during execution of work.
1.13. Supply and installation of landing facia plates made of steel, car apron plates, sill support angles with necessary clamps; foundation bolts supports etc., as are necessary in connection with the installation of the lift.
1.14. Steel ladder to be provided for access to lift pit wherever required under regulations.
1.15. All electrical work from panel to lift controller and machine etc. shall be done by lift supplier and same should be included in his bid.
1.16. Providing of hoisting beam in the machine room for hoisting of equipment during erection and to facilitate maintenance in future including their fixing etc.
1.17. Providing and fixing of necessary sill supporting projection sheet steel fascia plates on all landing as per requirements.
1.18. The contractor shall remove old lift and its all part. All the debris shall be disposed to the location as instructed by Engineer.

1.19. Completeness Of Tender: All fittings, equipments, units, assemblies and accessories, hardware, foundation bolts, terminal lugs for electrical connections, cable glands, junction box and items which are useful and necessary for efficient assembly in operation and installation shall be deemed to have been included in the scope of work. The installation shall be complete in all details whether such details have been mentioned in the specifications or not.

1.20. Information To Be Supplied By Contractor After Award Of Work: The contractor shall provide the client his program bar chart for submission of preliminary drawing, manufacturing of equipment, installation, testing, commissioning and handing over. This should be correlated with the building completion program. The contractor shall be required to submit in triplicate the following drawings and information for approval of the client through architect/consultant before commencing the work:

1.20.1. All general arrangement drawings: Details of foundations for equipments, load data location etc. of various assembled equipment as may be needed generally by other agencies for purpose of their work. The data will include breaking load on guides, reaction of buffers on lift pits, reaction on support points in machine room, lift well etc.
1.20.2. Complete layout dimensions for every unit/group of units with dimensions

required for erection purposes.

1.20.3. Motor sizing calculation.

1.20.4. Brake selection calculation.
1.20.5. Single line/Schematic diagram of electronic control panel.]
1.20.6. Layout of lift machine room showing electric control panel, elevator equipment etc.
1.20.7. Cable size calculation along with cable and equipment layout.
1.20.8. Rope size calculation.
1.20.9. Earthing layout.
1.20.10. Inspection manuals for equipment and accessories covered in the scope of supply.
1.20.11. Technical literature of operation and control.
1.20.12. Any other drawing/information not specially mentioned above but deemed to be necessary for the job by the contractor.
1.20.13. List of items to be carried out by the client in accordance with the tender accepted.

B. TECHNICAL SPECIFICATION FOR PASSENGER LIFTS

1. Scope

This section deals with technical requirements of lift installation, its components, and safety devices various type of controls and methods of operation. The selection of a particular type of control and method of operation will be guided by the requirements in individual case such as nature of building, usage, occupancy traffic pattern etc., and has to be decided in individual cases.

1.1. Drive Machinery:
1.2. Electric Supply : The entire lift equipment should be suitable for operation at three phase, 415 V ±10%, 50 HZ ±3%, A.C electric supply. The supply for illumination and signalling equipment shall be 230 V, 1-ph A.C.
1.3. Gearless machine: The gearless machine shall consist of a motor, traction sheave and break-drum or brake disc completely aligned on a single shaft. Gearless machine shall be A. C. gearless with VVVF drive.
1.4. Sheaves: Sheaves and pulleys shall be hard alloy, cast iron, SG iron or steel and free from cracks, sand holes and others defects. They shall have machined rope grooves. The traction sheave shall be grooved to produce proper traction and shall be of sufficient dimension to provide for wear in the groove. The deflector sheave shall be grooved so as to provide a smooth bed for the rope. The deflector or secondary sheave assemblies where used shall be mounted in proper alignment with the traction sheave. Such deflector sheaves shall have grooves larger than rope diameter as specified in clause 8 of IS 14665 (Part – 4 Sec 3): 2000. The size of all the sheaves shall be in accordance with clause 8.4 of IS 14665 (Part – 4 sec 3): 2000. Wherever it is necessary suitable protective guards may be provided.
1.5. Shaft Keys: Shafts, which support sheaves, gears, coupling and other members, which transmit torque, shall be provided with tight fittings keys of sufficient strength and quality.

1.6. Brake: Braking of the lift will be done by electronically varying the voltage and the frequency of motor feeding current (Variable voltage and variable frequency control) i.e V.V.V.F control. The electromagnetic holding brake will be applied only after the lift has come to a standstill**.**

The lift drive machinery shall be provided with an electro-magnetic brake or motor operated brake normally applied by means of springs in compression when the operating device is in off position. The brake shall be suitably curved over the brake drum or brake disc and provided with fireproof friction lining. The operation of brake shall be smooth, gradual and with minimum noise. The brake shall be designed to be of sufficient size and strength to stop and hold the car at rest with rated load. The brake should be capable of operation automatically by the various safety devices current failure and by the normal stopping of the car. The brake shall be released electrically. It shall also be possible to release the brake manually, such releasing requiring the permanent application of manual force so as to move the lift car in short stops. For this purpose suitable brake release equipment wherever necessary shall be supplied with each lift installation and the same shall be kept in safe custody to prevent misuse.

1.7. Hand winding wheel or handle:

At times of lift stoppage due to any reasons, it shall be possible to move the lift car to the nearest landing manually. The manual operation shall be by means of a winding wheel or handle mounted on the end of the motor shaft. The up or down direction of the movement of the car should be clearly marked on the motor or at suitable location. A warning plate written in bold signal red colour advising the maintenance staff to switch off the mains supply before releasing the brake and operating the wheel is to be prominently displayed.

1.8. Bearings:

Bearings shall be either of the anti-friction metal sleave type with oil reservoirs, self, lubrication, oil gauges, capped filler openings and drains of the ball roller or sintered type subject to oil flood lubrication or grease lubrication.

Grease lubricated bearings shall have grease gun connections and drain plugs. The bearings and lubricant reservoirs shall be dust tight and shall incorporate effective seals to prevent leakage. The outer end of the bearings shall be closed with a removable oil tight plate. Thrust bearings shall be of the ball or roller type and shall have two sets of balls or rollers arranged to minimize backlash for efficient working.

1.9. Type of Controls:

1.9.1. Single Speed Alternating Current Control

A control for a driving machine induction motor, which is arranged to run at a single speed.

Variable Voltage Variable Frequency: Incoming mains ac power is first rectified to dc and then inverted to provide controlled AC current to the elevator drive. Precision monitoring of motor speed and car direction, position and load enable the pulse width of the ac power supplied to the motor to be adjusted to ensure that elevator speed is maintained very accurately to an ideal

profile.

1.1.1. Vibration, Isolation: Vibration and isolation arrangement shall be provided to prevent transmission of vibration to the building and structure.

1.2. General Illumination of Lift well: Suitable light points shall be provided in the lift well at a spacing of not more than 10 meters in between, starting at the ground floor. All the points should be group controlled from the M/C room. The wiring shall be carried out in surface conduit as per General Electrical Specification. One socket outlet shall be provided in the shaft for use by maintenance personnel at a level slightly above the ground floor landing.

1.3. Guide rails: Guide rails shall be in accordance with clause 3 of IS: 14665 (Part 4 Sec2) 2000. Only machined guide rails shall be permitted for cars for passengers and hospital lifts. Formed sheet metal rails shall be used up to speeds of 1.75 mps for counter weight applications. In the case of goods lifts, un machined guides rails shall be permitted for the counterweight for all speeds and for the cars only up to a speed of 0.5 m/sec. The guide rails shall be continuous throughout the entire travel and shall withstand without any deformation the action of safety gear with a fully loaded car.

Generally the guide rails shall be supported by brackets secured to the hoist way frame at each floor. The rails shall be securely fastened to the brackets or other supports by approved heavy rail clamps. All necessary guide rails packing or additional supports shall be provided to prevent guide rail deflection and stresses exceeding the prescribed limits. The stresses on the guide rail due to the horizontal forces imposed on it during loading, unloading and running calculated without impact, shall not exceed 1100 kg/sq. cm based upon the class of loading and the deflection shall not exceed 5 mm. The guide rail brackets, their fastenings and supports shall be capable of resisting the horizontal forces mentioned above, with the total deflection at the point of support not in excess of 3 mm.

Guide rails shall extend from pit floor to the underside of concrete slabs or roofing at top of the lift well. They shall be erected in plumb and parallel with a maximum deviation of 3 mm. All shimming required shall be of metal securely held in place. Jointing plates shall be so located as not to interfere with supporting clamps and brackets. The bolts shall be used with spring lock washers. The guide rail anchorage at pit floor must be made without puncturing the waterproofing. The expansion joints in the guide rails shall be so designed as to avoid jerks in the lift car. Machined guide rails shall have finished surfaces, which shall be coated with corrosion preventive compound, which shall be maintained till the commissioning of the installation. Before the car is placed in operation, the preventive coating shall be removed and the guide rails thoroughly cleaned and smoothened.

1.4. Lift car

1.4.1. Car Frame: The car frame shall be in accordance with clause –4 of IS 14665 (Part 4 Sec 3): 2001 made of sheet steel of rigid construction to withstand without

permanent deformation the operation of safety gear. The car shall be so mounted on the frame that vibration and noise transmitted to the passengers inside is minimized.

1.1.1. Car platform: The car platform shall be of framed construction and designed on the basis of rated load evenly distributed. The dimensions shall confirm to IS: 14665 (Part-1) 2000 unless otherwise specified. The flooring shall be smooth and of anti-skid surface.

1.1.2. A load plate along with overload alarm, giving the rated load and permissible maximum number of passengers (10) should be fitted in each lift car in a conspicuous position.

1.5. Car body: The car shall be enclosed on all sides by a metallic enclosure. The enclosure including the door shall withstand without deformation a thrust of 35 kg applied normally at any point and as per IS 14665 (Part 4 Sec 3) 2001. Ventilation openings if specified shall be as per IS 14665 (Part 4 Sec 3) 2001.

1.5.1. Stretcher guards/trolley guards made of PVC/Rubber extrusion housed in a stainless steel beading shall be fitted at suitable level (s) to rear / side panels for bed lifts / goods lifts.

1.5.2. Lift car door shall have a fire resistance rating of one hour.

1.5.3. Grounding switches, at ground floor level, shall be provided on all the lifts to enable the fire service to ground the lifts.

1.6. Car roof: The roof of the car shall be solid type capable of supporting a weight of at least 140 kg and as per IS 14665 (Part 4 Sec 3): 2001

1.7. Car Thresholds: Car entrance shall be provided with metal thresholds having a grooved surface. Thresholds for lifts having horizontally sliding car doors gates shall have machined or extruded guide grooves.

1.8. Toe Guard Aprons; The toe guard apron of gauge not less than 1.6 mm sheet may be provided extending at least 15 mm beyond entrance jambs at each side. The guards shall have a straight vertical face extending below the level of the finished car floor and not less than the depth of the levelling zone plus 7.5 mm. The bottom of guard shall extend 700 mm for lifts up to speed of 1.5 mps& 1000 mm for lifts above speed of 1.5 mps below vertical face and bevelled at 15˚ angle from the vertical. It shall be seamed to car platform construction and be reinforced and braced.

1.9. Clearance: The clearance between the top of the car and soffit of the lift shaft roof, bottom of the car and the pit floor, the buffers etc., and the clearance between the car and the lift well, between the car and the landing sill, between two lift cars in the same shaft etc, shall be provided as per IS 14665 (Part 1, 2 & 4) and relevant lift rules mentioned in appendix – 1.

1.10. Car Apron, Landing Thresholds and Sills: An apron shall be fitted to the car platform such that no dangerous gap exists at any time when the landing door is opening. Thresholds and sill plates shall be provided at the landings also. The distance between landing sill and the sill on car platform shall not be more than 30 mm.

1.11. Inter-communication system:

1.11.1. Though para 8.4.3 of IS 14665 (Part 2 Sec 1): 2000 recommends for provision of either an emergency signal or a telephone inside the car but as a general experience, it is seen that over a period of time these devices become inoperative due to one reason or the other. Therefore, in order to have at least one device of communication functioning at all the times, as an alternative arrangement, provision of both i.e. telephone with minimum two connections- one at the operators room and other at guard room and the emergency signal with re-chargeable batteries as source of supply shall be made in the lift cars.

1.11.2. The device used for emergency signals should incorporate a feature that gives immediate feedback to the car passengers that the device has worked properly and the signal has been passed on to the intended agency, this shall be achieved by pressing of button from control room which shall give audio signal to the passengers in the car.

1.11.3. Provision of group indicator panel in the control room shall be made to indicate working of lifts.

1.11.4. Emergency Power Supply for lift car This shall include suitable secondary battery with trickle / boost charge arrangement and inverter power pack with necessary contactors for supplying the light fixtures in the lift car, the same battery shall also feed the alarm bell and communication equipment. This battery backup shall function minimum for 90 minutes in case of power failure.

1.12. Rating and Instructions: Inside the lift car, the lift supplier shall also provide a stainless steel metallic plate indicating the rated load and detailed instructions for the passengers. This shall be mounted at a suitable place.

1.13. Lift Car Interior Finish:

1.13.1. Car enclosure shall be of brushed satin stainless steel mat finish. Side panelling also meet brushed satin stainless steel finish. Rear panel with 6mm thick ceiling panel with stainless steel finish. The ceiling panel shall be with 4 down lights& acrylic diffuser for fluorescent lights in stainless steel panelling. Floor with 12mm thick granite flooring laid to pattern over 20mm thick plywood backing/sound isolating platform having 100mm high stainless steel skirting. There shall be pressure fan inside the lift. The owner reserves the right to take a plain car shell and do the interior furbishment as per details supplied by consultant, limiting the weight of the interiors to 200 KG. Tenderers need to mention the lift cost without interiors separately.

Other Cabin Features: a) Handrails on two sides and on the rear side walls. c)Ventilation by motor driven fan built in ceiling panel. d) Telephone cabinet with phone and lead up to the machine room. Lift phone shall be connected to reception and security room. e) Single light-ray with photo-electric cells across the car entrance. f) A friction clutch for passengers trapped between doors. g) Door reversal feature in case of obstruction of doors. h) Built-in-music system

i) CCTV camera is to be provided inside the lift car, to be linked with BMS system. J) Provision for Floor Level indication and Mode indication (on/off/service), to be viewed from central security panel. This will have to be coordinated with BMS system.

1.13.2. Operating Panel Inside the car

1.13.2.1. The car-operating panel shall be metal, flush mounted and duly finished to match the car interior décor and shall contain all the devices as may be specified depending upon the type of operation required. In addition separate illuminated panel for indicating the floor and direction may be provided on the top or the doorway. All switches shall be fade proof and the devices shall be of suitable quality.

1.13.2.2. Each device and its operating position shall be legible fade proof and marked.

1.13.2.3. The car operating panel shall contain the following:

1.13.2.3.1. A series of push buttons numbered to correspond to the landing served which will light up while in service.

1.13.2.3.2. An emergency “stop button”.

1.13.2.3.3. An emergency call button connected to a bell to serve as an emergency signal.

1.13.2.3.4. An alarm buzzer.

1.13.2.3.5. A nonstop priority control button.

1.13.2.3.6. A door open &close button.

1.13.2.3.7. A fan switch.

1.13.2.3.8. Overload indicator with buzzer.

1.13.2.3.9. Ventilation slots at top and bottom of panel as per requirement.

1.13.2.3.10. Name plate of manufacturer with load and capacity data.

1.13.2.3.11. Intercom system built into the panel.

1.13.2.3.12. Auto-emergency light.

1.13.2.3.13. Audio speaker for built-in music system & for car next.

1.14. Car and landing entrances: The car and landing doors shall be of flush type sheet only for power operation. The flush type may further be of single sliding, center opening or two-speed construction. Power operated car and landing door shall be so designed as not to injure any person during their closure by means of provision of a safety pressure switch, which shall cause the doors to reopen on the slightest pressure. In case of power-operated doors, it shall be possible on power failure, to open them from the car side. All the openings for passenger lift shall be 2000 mm clear in height. The door opening and closing shall be accomplished smoothly and quickly without undue noise, vibration and shock and their movements shall be cushioned and checked at both limits.

1.15. The car door shall be hung from the top M.S. fabricated track and means shall be provided to prevent the door from jumping of the track. The door shall be provided with two points suspension sheave type hangers suitable for the type of door operation specified. The hangers shall be securely fastened on bearings mounted on a malleable iron or steel bracket. Arrangement shall be provided for vertical and literal adjustment of car doors. The sheave shall move on a M.S. fabricated track so shaped as to permit free movement of sheaves with regard to vertical adjustment of sheave bracket or housing.

The car door shall be center opening horizontal sliding.

1.16. A potential cause of accidents could be the attempts made to open the landing door lock of lower floor in case the car stops away from floor level due to power failure. Since the car door can be opened in case of power failure so as to improve the ventilation and avoid claustrophobic situations etc. as outlined in IS 14665 (Part 2 Sec 1): 2000 para 10.9.1, there is a tendency among trapped passengers to make attempts to open any accessible landing door which can be opened by a electromechanical latch in the landing doors as the lock is accessible through open car doors. This attempt in panic may result in accidental fall into the lift pit. In order to ensure that the trapped passenger do not attempt opening the landing door, the electromechanical latch should be so designed that it is inaccessible or invisible to the passengers in the car.

1.17. In order to avoid accidental closure of door while boarding or alighting the car, a temper proof infrared curtain covering almost the entire height of the doors should be provided in the lift doors.

1.18. CALL BUTTON AT LANDINGS: An „up" push button and a „down" push button at each intermediate landing and a single push button at each terminal landing shall be provided to call the lift car in a particular landing for traveling in desired direction. The push buttons shall have call registration lights and shall illuminate when a button is momentarily pressed to indicate that the call is registered and the direction of the call is registered. The button shall remain illuminated until the call is answered. The top covers of landing push button boards shall be of stainless steel.

1.19. Provision as per Barrier Free requirements

1.19.1. A hand rail not less than 600 mm long at 900 mm above floor level shall be fixed adjacent to the control panel.

1.19.2. The time of an automatically closing door should be minimum 5 seconds and the closing speed should not exceed 0.25 M/Sec.

1.19.3. The interior of the cage shall be provided with a device that audibly indicate the floor the cage has reached and indicate that the door of the cage for entrance/exit is either open or closed.

1.20. Landing doors: Each landing door shall be complete with locks, headers, sills, frames, rims, hanger supports with cover plates, fascia plates etc. The finished work shall be strong, rigid and neat in appearance. Plain surfaces shall be smooth and free from warp or buckle. Moulded surfaces shall be clean out, straight and true. Fastenings shall be concealed from the face side of the material. Steel Sills shall be provided with a suitable nosing of approximately 25 mm depth on the shaft side. The opening for the landing gates or doors shall not be wider than that of the lift car. In the case of bi-parting type steel doors, the locking of the doors should be positive.

1.20.1. Car landings

1.20.2. All the lift car landings shall be well lit to an illumination level of 150 lux and shall be free from obstructions. The control for landing lights and the sign lights shall be tamper proof. Wherever stand by power supply is available, these lights shall be connected to standby circuits also.

1.20.3. For the purpose of identification, the lift number should be displayed outside the landing door, inside the car and in the machine room. This numbering may be used as reference for the purpose of routine/preventive maintenance, for operating from machine rooms and reporting of any incidents etc.

1.21. Instructions: Detailed instructions as specified for guidance of passengers shall be prominently displayed inside the car by contractor and outside the car at all landings by the client. The Braille signage will be posted by the client outside lift lobby at all landings for the lift meant for barrier free requirements physically challenged people.

1.22. It is seen generally, that though the instruction on Do‟s and Don‟ts, as per provision of the relevant IS, are displayed in lift cars but the same are either displayed in inconspicuous location, or are very small in size or are in one language only. To make these instruction serve the intended purpose, and not a more compliance of relevant IS clause; that these instruction should be displayed at a conspicuous location with larger and understandable script and should be written in Hindi, English, and regional language (where official regional language is notified.)

1.23. Levelling: All lift (S) shall be incorporated with suitable floor levelling devices. In case of lifts with automatic power operated doors and A.C. VVVF controller a separate level device for automatic levelling with levelling accuracy of + or – 5 mm shall be incorporated.

1.24. Counter Weight: The counter weight for lift cars shall be in accordance with clause 6 of IS 14665 (part 4- sec-3) 2001 and shall be designed to balance the weight of empty lift car approximately 50 per cent of the rated load. It shall consist of cast sections firmly secured in relative movement by at least two numbers steel tie rods having lock nuts/split pins at each end and passing through each section and Housed in a rigid steel frame work. Cracked and broken sub weights shall not be accepted

1.25. Counter Weight Guards: Guards of wire metal/mesh shall be provided in the lift pit to a suitable height above the pit floor to eliminate the possibility of injuries to the maintenance personnel

1.26. Guide Shoes: Two numbers of guide shoes at the two numbers at the bottom shall be provided on the lift car and counter –weight.

1.27. Type of Shoes:

1.27.1. For passenger lifts

1.27.2. For speed up to 1.5 mps sliding guide shoes shall be used. Sliding guide shoes for car shall be always flexible and for counter weight, solid shoes can be used up to 1.0 mps.

1.27.3. For speeds more than 1.5 mps roller guide shoes shall be used for car and counter weight.

1.27.4. For good lifts solid shoes can be used.

1.27.5. Flexible Type/Solid Type Sliding Guides Shoes.

1.28. The car shall be provided with solid or spring loaded swivelling guide shoes with renewable finer, where the lift car speeds are up to and including 1.0 MPS The cars with speeds beyond 1.0 MPS shall be provided with spring loaded guide shoes renewable liners or the guide shoes shall be of roller type.

1.29. Roller Type Guide Shoes: Each roller type shoe shall be of an approved type consisting of rollers assembled on a substantial metal base and mounted as to provide continuous contact of all rollers with the corresponding guide rail surfaces under all conditions of load and operation. The rollers shall run on the three finished guide rail surfaces and shall operate quietly.

1.30. Mounting of Guide Shoes: Guide shoes shall be provided with adjustable mountings & shall be rigidly secured in accurate alignment at the top and bottom on each side of the car sling and counter weight frame construction. When oil buffers attached to the bottom of counter weight are used, additional guide shoes shall be provided on each side of the buffer frame. The design of guide shoes and car safety device shall be coordinated so as to unsure the provision and installation of equipment with clearance specified in clause 5.7 of this chapter.

1.31. Lift Ropes – IS 14665 (Part 4 Sec 8)-2001: Round strand steel wires ropes made from steel wire ropes having a tensile strength not less than 12.5 tonnes/cm² and of good flexibility shall be used for lift. Lubrication between the strands shall be achieved by providing impregnated hemp core. The lift ropes shall confirm to IS 14665 (Part 4 Sec 8): 2001 and the following factor of safety shall be adhered to. The minimum diameter of rope for cars and counter weight of passenger and goods lift shall be 8 mm.

Rope Speed of Passenger & Goods Lifts (m/s)	**Factor of Safeties**
0.5 or less	8.0
Exceeding 0.5 to 1.0	8.6
Exceeding 1.0 to 2.0	10.0
Exceeding 2.0 to 3.5	11.0
Exceeding 3.5	12.0

1.32. Rope fastenings: The ends of lift rope shall be properly secured to the car and counter weight hitch plates as the case may be with adjustable rope shackles having individual tapers babbit sockets, or any other suitable arrangement. Each lift rope shackle shall be fitted with a suitable shackle spring, seat washer, shackle nut & lock & shackle nut split pin.

1.33. Guards for lift ropes: Where lift rope runs round a sheave or sheaves on the car and /or counterweight of geared/gearless machine suitable guards shall be provided to prevent injury to maintenance personnel.

1.34. Number & size of ropes: The contractor must indicate the number and size of lift ropes and governor ropes proposed to be used, their origin, type, ultimate strength and factor of safety. The contractor should furnish certificate of ropes from the rope manufacturers issued by competent authority.

1.35. Safety Equipments: Every lift installation shall necessarily be provided with the following safety features:

1.36. The safety gear shall be provided in accordance with IS 14665 (Part 4 Sec 4): 2001, each type of car safety shall be actuated by a speed governor.

1.37. Governor: The car safety shall be operated by speed governor rope suitably connected to the car and mounted on its own pulleys. The rope shall be maintained in tension by means of weighted or spring loaded tension sheaves located in the pit.. The governor rope shall be not less than 6 mm in dia and shall be made of steel or phosfobronze. These shall be in accordance with IS 14665 (Part 4 Sec 4): 2001. Governor for car safety gears shall be adjusted to actuate the safety gear at the following speeds: -

1.37.1. For rated speeds up to 1 m/s maximum governor tripping speed shall be either 140 percent of rated speed or 0.88 m/s, whichever is higher. For rated speed above 1 m/s maximum governor tripping speed shall be 115 percent of the rated speed plus 0.25 m/s.

1.37.2. Minimum governor tripping speed shall be 115 percent of the rated speed. The governor shall be of "V" groove wheel design and only wheel is stopped to actuate the car safety upon a pre-determined over speed downward damaging the rope.

1.37.3. The governor, rope and sheave shall be so located so as to minimize danger of accidental injury to the equipment.

1.37.4. The governor sheave and tension sheave shall be according to clause 2.4 and the sheave bearing shall be according to clause 2.7 of this Chapter.

1.37.5. The requirement for field-tests on car safely and governor and for drop tests to sliding type car safeties shall be as specified in section 4 of this specifications.

1.37.6. Terminal Limit switches

1.38. Terminal switches: These shall stop the car automatically at terminal floors within the

top and bottom permissible over travel. They shall act independently of the operating devices, the ultimate limits switches and the buffers. They shall be in accordance with clause 8 of IS: 14665 (Part 3 Sec 1): 2000.

1.38.1. Terminal stopping devices located in shaft or in the car and operated by cams shall be fitted with rollers having a rubber or other approved composition to provide silent operation when actuated by the cam. When the lift car cross head is 60 cm from the nearest obstruction above it, no projection on the car shall strike any part of the overhead structure.

1.38.2. Lifts with speeds over 1.25 meters/second shall have the normal terminal stopping device located on the car or on the guide rails or in the machine room.

1.39. Ultimate Terminal Switches: These shall be provided in accordance with the statutory requirements and standing practices. When provided these shall arrange to stop the car automatically within top and bottom clearances independently of the normal terminal switches but with the buffers operative. These shall be in accordance with clause 8 of IS: 14665 (Part 3 Sec 1)-2000.

1.40. Buffers – (IS 14665 (Part 4 Sec 1)-2001): Suitable spring buffers shall be installed to stop the car and counter weight at the extreme limits of travels. Buffer must be suitable for installation in the space available

1.41. Buffers shall be oil resistance rubber pad type for speeds up to 0.25 mps and spring / oil type for speeds up to 1.5 mps and only oil type for speeds higher than 1.5 mps.

1.42. Buffers shall be suitable for installation in the space available. Buffer anchorage at pit floors shall be installed avoiding puncturing of waterproofing.

1.43. Oil buffers of the car and counter weight shall be of the spring return type or of gravity type. The partial compression of spring return oil buffers when the car is in level with terminal landing will not be acceptable. All buffers shall be tested at manufacturer's works and a copy of the test report shall be submitted.

1.44. When the lift car rests on fully compressed buffers there shall be at least 60 cm clearance between the lowest point in its car frame and any obstruction in the pit exclusive of buffers and their supports. Similarly when the lift car crosses head is 60 cm from the nearest obstruction above it, no projection on the car shall strike any part of the overhead structure.

1.45. The contractor must indicate the name of buffer manufacturers, buffer stroke & certified maximum loads.

1.46. Door Locks: Electro – mechanical door lock shall be provided for the entire landing doors and they shall be such that the doors cannot open unless the car is at rest at the particular landing. It shall not be possible to move the car unless all the landing doors and the car door are closed and locked. This requirement however does not apply when the lift car is provided with automatic leveling devices and in such cases, it shall be

permitted to move the car with both the doors open in the leveling zone for the purpose of leveling. All the locks and contacts shall confirm to IS: 14665 (Part 1 Sec 6)-2001 shall be positive and pass the prescribed endurance and reliability test from a recognized testing laboratory. They shall be so located as to be inaccessible to un-authorized personnel. The electromechanical latch should be so designed that it is inaccessible or invisible to the passengers in the car.

1.47. Other Safeties: Besides these safety devices mentioned above, motor operated electro-mechanical brake (Clause 1.6) counter-weight guards (Clause 8.1) alarm bell, emergency door lock release operating key and associated safety and other safety requirements shall also be included.

1.48. Lift operations: The operation shall be duplex full collective-selective with or without attendant.

1.49. Automatic cum Attendant Operation: Single Automatic Push Button with/ without attendant – The operating devices for this operation shall incorporate in the car control panel, car buttons corresponding to the various landings served and single landing button at each landing, all electrically connected to controller governing floor selection, direction of travel, acceleration, retardation etc.

1.49.1. This system shall be so arranged that when the car is not in use, on pressing a landing call button the car shall start automatically provided all the doors are closed. During the movement of the car and also when car stops at floor landing, other landing call buttons are in operative for a predetermined time. The pressing of a car button shall automatically start the car and send it to the desired landing. In all the cases, the starting of the car is contingent on the establishment of landing door and car inter-lock circuits. To indicate the availability, or „in use" light shall be placed in the landing call button panel. When light shall be „OFF" the passenger shall be able to call the car. In case of manual operated door if the lift is standing at any landing with doors open (when not in use), the pressing of the landing call button shall ring a bell, fitted at the top of car to attract the attention of the people soliciting their help for closing the lift door if any one of the them happens to be near the lift.

1.49.2. Incase of power operated doors, the landing and car doors shall be arranged to open automatically when the car is parked at landing after all the calls are served and the lift is parked at any landing. The doors can remain open or alternatively if desired, the car shall be arranged to close after a pre-determined time unless closing is prevented or interpreted by the car doors re-opening device or the door open button.

1.49.3. The lift shall be suitable for dual operation with or without attendant by the provision of key operated transfer switch indicating „attendant" and „automatic" positions. During attendant" operations the landing call shall be disconnected from the control system and shall be connected to an enunciator in the lift car. The attendant shall then operate the carto answer the registered calls. This operation is recommended for single speed control lift for low rising having a single lift installation.

1.50. Simplex Selective Collective Operation with / without Attendant: Automatic operation by means of one button in the car for each landing level served and by up-and-down

buttons at the landings, wherein all stops registered by the momentary actuation of the car made as defined under non-selective Automatic Operation but where in the stops registered by the momentary actuation of the landing buttons are made in the order in which the landings are reached in each direction of travel (irrespective of the sequence in which the buttons have been actuated). With this type of operation, all „up" landing calls are answered when the car is traveling in the up direction and all „down" landing calls are answered when the car is traveling in the down direction, except in the case of the uppermost or lowermost calls which are answered as soon as they are reached in-respective of the direction of travel of the car.

1.51. Duplex collective selective operation with/without Attendant: The control system for this operation shall be similar to the one described under simplex selective-collective operation except that in this system there shall be two lift cars in adjacent wells. It shall be arranged to co-ordinate both cars for efficient service and prevent them from answering the same calls by the provisions of only one set of landing call button fixtures. It shall automatically assign each call to the car that will be in the best position to answer promptly. The system shall be so arranged that when the cars idle, normally one car will be parked at the lower main landing with its doors closed or open and the other car shall be free car parked with the doors closed or open to the landing where it answered its last call, and shall be the one to attend to the nearest call.

Each car shall always respond to calls registered by its own car call buttons. When either car parked out of service for any reasons the other car shall function as single car (simplex) selective collective. Besides the control system shall also be arranged for independent service from inside the car.

A by-pass button (non-stop button) shall also be provided inside the car to enable the attendant to by-pass any landing if the car is full or if otherwise so required.

The two lifts shall be arranged with or without attendant operation and shall function as described using single car selective-collective operation. When the transfer switch is in the attendant position the operation of the cars shall be identical with that described for automatic operations except that:

(j) Closing of doors and starting of cars shall be initiated by the car buttons only;

(k) Buzzers and directional lights in the car are operative, and

(l) Landing by-pass shall be effective.

The pressing of an up or down landing call shall illuminate appropriate direction indicator in the car panel, which is to answer that call and if the doors are open shall also sound buzzers as a signal to the attendant. If both cars are parked at the lower landing the above signals shall be given to the car, which has been at the floor for longest time.

a. Automatic group supervisory control

1.52. General operating principle: The calls registered inside the car as well as the landings are answered in the sequence in which the floors are reached irrespective of the sequence in which the buttons have been pressed. Only one car will stop in response to any one landing call and will be the nearest car traveling in the corresponding direction of the call. While this car is stopping at this landing, the call will be automatically cancelled to prevent other cars stopping against the same call.

b. Automatic selection of traffic programme

The group supervisory control continuously examines traffic conditions in the building and automatically puts into operation the programme that can best cope with the demand at any particular time. This is fully automatic and requires no supervision or attendant. To suit the traffic demand in the building, suitable traffic programmes can be selected for inclusion in this control. The following are the traffic programmes available:

e. Up Peak Programme,

f. Down Peak Programme,

main landing last will retain the „Leave First‟ Signal. Thereby, the service is practically confined to one lift alone and motor generator sets of the remaining lifts remain switched off. If no calls are registered for some time, the motor generator of the stand by lift also automatically is switched off. The motor generators will start up again, the moment the call is received. The number of lifts going into action is automatically regulated to just so many as are necessary to cope with the occasional traffic surge.

If any of the cars in the group develops any defect it shall be automatically disconnected from the group control until it is rectified.

In the event of failure of automatic dispatch system the lifts shall function by auxiliary means to avoid any disruption of service.

Audio-visual indication shall be provided to bring such failures to notice.

1. The lifts shall be designed for attendant operation as described under (simplex) selective collective operation car except as follow: -

2. The indicating lights in car shall be operative to inform the attendant when to start loading a car at a terminal and when to leave the terminal.

3. Landing call by pass switch and car reversal switch and switches shall be effective and load-weighing devices shall be inoperative.

4. Call above signal shall be illuminated whenever a call is registered at a landing above the car location indicating to attendant that car is to proceed upwards. When the highest call has been answered the light shall be extinguished indicating to the attendant that when the car is started it will proceed downward.

1.53. Controlling Equipment: The movement of the car shall be electrically controlled by means of a controller located at the terrace floor stop, in absence of machine room.

1.54. Control circuits: The control circuit shall be designed to the type of lift specified for safety operation. It shall not be possible to start the car unless all the car and landing doors are fully closed and landing doors locked. The circuit shall have an independent fuse protection for fault and over loads and be arranged so that earth fault or an open circuit shall not create unsafe condition. The circuit shall be so arranged that for the stoppage of the car at specified landing or for action of a contactor by emergency switches or operation of safety gears the system shall not depend upon the completion or maintenance of an electrical circuit to cut off power supply and apply the brakes. This requirement is not applicable to dynamic braking and speed control devices.

1.55. Terminal Boards: All wiring external control circuits shall be bought to a terminal board with means of identification of each wire. Metallic / plastic identification tags shall invariably by provided. All connections of wires to terminal boards shall be adequately clamped or screwed.

1.56. Auxiliary Switches

1.56.1. Emergency Stop Switches: On top of the lift car an emergency stop switch shall be provided for use by maintenance personnel. Stop switch shall be provided in the machine room. Operation of these switches/buttons shall cancel all the registered calls and landing calls for that particular lift.

1.1.2. Maintenance Switch on Top of the Car For purpose of inspection and maintenance, maintenance switch shall be provided on top of the car. The control circuitry shall be so arranged that in the event of the operation of this switch:

1.1.3. The car speed shall be less than the rated speed not exceeding 0.85 meters/sec.

1.1.4. The car movement shall be possible only on the application of the continuous pressure on a button. It shall be so mounted to prevent any inadvertent operation.

1.1.5. Fireman Switch :Fireman switch with glass to break for access shall be provided at ground or main floor for all the lifts. The operation of this switch shall isolate/ or cancels all calls to all the lifts and the lift will stop at the next nearest landing if traveling upward. The doors will not open at this landing and the lifts will start traveling to ground floor. If these were already traveling down, they will go straight to ground floor direct without stopping enroute.

1.1.6. Inspection Facility: An inspector’s change over switch and set of test buttons shall be provided in the controller. Operation of the inspector‟s change over switch shall make both the car and landing buttons inoperative and permit the lift to be worked in either direction from machine room for test purposes by pressing corresponding test button in the controller. It shall not however interfere with the emergency stop switches inside the car or on the top of the car.

1.1.7. Safety Line Indicators: If specified visual tell tale lights may be provided to monitor the conditions of faults in the safety line of the lift for easier fault finding. These indicators will remain lit when safety circuits are normal. One indicator shall be provided for each safety on the controller. If any indicators fail to light up as the lift proceeds in its sequence of operation, there shall be visual indication of the safety line open circuit and also its location for easier fault finding.

1.57. Control Wiring

1.57.1. Wiring in Machine Room: Power wiring between the controller and main board controller to various landings shall be done in heavy gauge conduit or metal duct & shall confirm to I.E. Rules 1956 and General Specifications for electrical works. Following gene ral principles shall be followed in wiring:

1.57.1.1. Control cables carrying DC and power cable carrying AC shall not be run in the same conduit or metal duct and they shall be laid as per I.E. Rules.

1.57.1.2. Metal duct with removable inspection cover shall be preferred.

1.57.1.3. In case of control cables also the harness shall be separate as far as feasible for separate functions and laid separately in suitably dimensioned metal duct or in a separate conduit such as the signalling, lamp indication and safeties. Control cables for different voltages in the lift installation works should be laid as per I.E. Rules.

1.57.1.4. At least 5 percent with a minimum of 5 unconnected spare wires shall be available out of all the lines to be provided in the wiring harness from the midway junction box to the machine room.

1.57.1.5. There shall be master isolating switch Fuse associated with the controller heavy duty load break, quick make quick break type TP&N preferably interlocked with controller cabinet door. Isolator handle shall have provision for external locking in off position.

1.57.1.6. All relays shall be suitable for lift service and shall in operate adequate contact wipe for reliable operation. Relays shall operate satisfactorily "Between" 80 percent to 100 percent of their voltage.

1.57.1.7. Main motor contactors shall be suitable for A.C. duty. Tenderer shall be required to furnish full details of make, type, applicable standard, voltage and current rating, duty class, type and routine test done etc., on contactors and relays. Copies of type test certificates and other test certificates shall also be furnished by the successful tenderer.

1.57.1.8. All cables shall be with copper conductors and flame retardant or PVC insulated of appropriate size. The cables feeding motor and in heavy current flow paths shall be so selected that the size matches the protecting fuses and will not result in more than 2 percent voltage drop from the main board to the terminals of motor. Control cable shall not be less than 0.5 sq.mm. or equivalent if stranded; where installation of heavy gauge conduits present difficulties, short lengths of flexible conduits will be permitted but effective electrical continuity and earth bonding shall be ensured. Ferrules shall be slipped at the

ends of all cables as per standard control wiring practice. All terminal Up Down Inter floor Programme, and Night Programme.

1.58. Up Peak Programme: The group supervisory control responds to the increasing influx of passengers at the main landing in the morning hours, at the start of work, by automatically switching on the up peak programme. The cars are dispatched from the main landing automatically at a pre- determined interval after the previous dispatched car. The „Leaves First" signal is transferred instantaneously from the car dispatched to another car at the main landing. The car answers the registered calls in the natural sequence of the floors and returns directly to the main landing after last passenger has been discharged. At the main landing they are kept for a predetermined time for taking new passengers. However, a car starts it"s up travel the moment it becomes fully loaded, without waiting for the dispatch interval to lapse.

1.59. Down Peak Programme**:** An intense traffic flow from the upper floors towards main landing will automatically switch on the down peak programme. The cars, when fully loaded at upper floors, travel directly to the main landing and after discharging the passenger, immediately start up to answer further down landing calls. The down landing call, which has by-passed gets a priority over other down calls, which ensures equal service to all floors.

1.60. Up-down Inter floor Programme: A steady traffic between main floor and upper floor, and between floor-to-floor causes automatic switching on of the Inter floor programme. Specific cars are assigned to answer specific calls by traffic analyser so that the calls are handled most efficiently. The cars are so well distributed that every call gets equal service with short waiting intervals. As soon as the number of calls drops to occasional calls only such as at night, the cars get automatically parked in their assigned zones to give personalized service with minimum lift travel. If no calls are registered for some time the motor generator sets are automatically switched off.

1.61. Night Programme: When the traffic ceases to occasional call only, the supervisory control automatically switches over to night programme. All cars remain parked at the main landing with doors closed, but are at all times ready for operation. One of the lifts has its „Leave First" signal lighted. On pressing of call button at the main landing, the doors of this particular lift open and the passenger can travel with the lift. The same lift also responds to landing calls from above. The moment this car leaves the main landing „Leave First" signals is transferred to a second lift. Further passengers entering main lobby will take this second lift. This second lift also responds to landing calls from above if one lift can no longer cope with the demand. After these lifts have answered their calls, the one reaching the blocks shall be suitably marked.

1.62. Trailing Cables: A single trailing cable for lighting control and signal circuit is permitted, if all the conductors of this trailing are insulated for maximum voltage running through any one conductor of this cable. The lengths of the cables shall be adequate to prevent any strain due to movement of the car. All cables shall be properly tagged by metallic/plastic tags for identification. No intermediate jointing shall be permissible in the trailing cable.

1.62.1. Trailing cables shall run from a junction box on the top of the car to a junction box located in the near midpoint of travel and from these junction boxes conductors shall be run to the various locations.

1.62.2. Trailing cables exceeding 30 meters in length shall run so that the strain on individual cable conductors will be reduced to a minimum and the cables are free from contact with the car counterweight, shaft walls or other equipment.

1.62.3. Trailing cables exceeding 30 meters in length shall have steel supporting fillers and shall be suspended directly by them without rubbing over other supports.

1.62.4. Cables less than 30 meters in length shall have no-metallic fillers and shall be suspended by looping cables around supports of porcelain spools type or equivalent.

1.62.5. 5 percent of the total capacity subject to a minimum of 5 wires shall be available unutilized in the trailing cable everywhere suitably distributed between various functions.

1.63. Earthing: Metal frames and all metal work of the lift controller frame etc. shall be earthed with double earth leads taken to the earth bar. Looping shall be permitted if such routing is feasible all other individual metallic framework of components etc., shall be loop earthed.

1.64. Miscellaneous: Principle of segregation function wise shall be accepted as far as possible in the general arrangement of components. All terminal blocks shall be of 650 V grade.

1.65. Controller Casing: The controller unit comprising of the main circuit breaker adjustable overload and phase reversal and phase failure protection all the circuit elements transformer, rectifier for D.C. control supply, inverter power pack, terminal blocks etc., shall be enclosed in an insect proof, sheet steel floor or wall mounted cabinet with hinged doors at front or at both front and rear. Proper warning boards and danger plates shall be provided on both sides of the controller casing. Sheet steel used for controller cabinet shall not be less than 18 gauges and shall be properly braced where necessary. Suitable gland plate shall be provided for cable entry. The battery for the charger unit shall be suitably placed in the machine room. All sheet steel work shall be painted with two coats of synthetic enamel paint of suitable shade both inside and outside over two coats of zinc primer.

1.66. CONTROL PANEL: Each lift shall be provided with one control panel. Control lift panel shall have MCCBs of adequate rating to receive owners 415 V, 50hz,3-ph,4 wire A.C power supply and if required 240 V AC single phase supply also.

1.66.1. Control panel shall be provided with ammeter, voltmeter and selector switches on incoming side.

1.66.2. The panel shall be complete with Thyristorstacho generators, transducers with fuses, over load relays, single phasing preventor, phase reversal protection relay, timer, relay, auxiliary relay, push button, pilot lamp, control components etc.

1.66.3. Power contactors for A.C circuit shall be triple pole electromagnetic A.C 4 duty with minimum 2NO+2NC auxiliary contacts and for DC circuit there shall be of double pole electric type DC-3 duty with 2NO+2NC auxiliary contacts.

1.66.4. Electronic components contact system shall be free from false alarm operation due

to vibration and mechanical shocks. All electrical contacts shall be of silver or other similar cadmium metallic alloy, and shall be capable of withstanding 10,000 operations.

1.66.5. Electronic card facilities shall be of modular design using electronic printed circuit boards to facilitate easy replacement of faulty circuit with spare cards.

1.66.6. Electronic components and cards shall be compatible and suitable for conditioned environment for satisfactory operation. All components shall be clearly and unambiguously marked for proper identification to facilitate maintenance.

1.66.7. Ready accessible and clearly marked test points shall be provided in all important modules and circuits.

1.66.8. Heat dissipation components shall not be mounted on PCBs to avoid damage to PCBs and loosening of soldered connections due to heat.

1.67. Lift Rope Compensation: The lift rope compensation for lift travel shall be provided for lift travels beyond 40m in all cases.

1.68. Quality Assurance; Quality assurance shall follow the requirements of owner/consultant as applicable. Quality assurance involvement will commence at enquiry follow through to completion and acceptance thus ensuring total conformity to purchasers‟ requirements.

1.69. Deviation: Deviation from specification must be stated in writing at the quotation stage. In absence of such statement, it will be assumed that the requirements of the specification are met without exception.

1.70. Automatic Rescue Devices (ARD) – (Mandatory)

The ARD shall have the following specifications:

1.70.1. ARD should move the elevator to the nearest landing in case of power failure during normal operation of elevator.

1.70.2. ARD should monitor the normal power supply in the main controller and shall activate rescue operation within 10 seconds of normal power supply failure. It should bring the elevator to the nearest floor at a slower speed than the normal run. While proceeding to the nearest floor the elevator will detect the zone and stop. After the elevator has stopped, it automatically opens the doors and parks with door open. After the operation is completed by the ARD the elevator is automatically switched over to normal operation as soon as normal power supply resumes.

1.70.3. In case the normal supply resumes during ARD in operation the elevator will continue to run in ARD mode until it reaches the nearest landing and the doors are fully opened. If normal power supply resumes when the elevator is at the landing, it will automatically be switched to normal power operation.

1.70.4. All the lift safeties shall remain active during the ARD mode of operation.

1.70.5. The battery capacity should be adequate so as to operate the ARD at least seven times a day provided the duration between usages is at least 30 minutes.

C. TESTING AND INSTALLATION

1. Test at Site:

1.1. Levelling Test: Accuracy of the floor levelling shall be tested with the lift empty, fully loaded. The lift shall be run to each floor while traveling both in upward and downward directions and the actual distance of car floor above/ below landing floor shall be measured. In each case there shall not be any appreciable difference in these measurements for levelling at the floors when the car is empty and when it is fully loaded..

1.2. Safety Gear Tests: Instantaneous safety gear controlled by a governor should be tested with contract load and a contract speed, the governor being operated by hand. Two tests should be made, however, with wedge clamp or flexible clamp safeties, one with contract load in the car and the other with 68 kg (equivalent to one person) in the car. The stopping distance obtained should be compared with the specified figures and the guides, car platform, and safety gear should be carefully examined afterwards for signs of permanent distortion.

1.3. Counterweight safety gear should be tripped by the counter weight governor and the stopping distance noted. In this case, however the governor tripping speed should exceed that of the car safety governor but by not more than 10 percent.

1.4. During the safety gear tests, car speed (from the governor or the main sheave) should be determined at the instant or tripping speed with that stated in IS. The governor jaws and rope should be examined for any undue wear.

2. Contract Speed: This should be measured with contract load in the car, with half load with no load, and should not vary from the contract speed by more than 10 percent. The convenient method is by counting the number of revolutions, made by the sheave or drum in a known time, Chalk mark on the sheave or drum and a stop switch will facilitate timing but care must be exercised to ensure that no acceleration or retardation periods are included. If the roping is 2 to 1 the sheave speed is twice the car speed. Alternatively, the speed can be measured by a tachometer applied directly to shaft immediately below the sheave.

3. Lift Balance: After the above test, some of the weight shall be removed until the remaining weights represent the figures specified by the tendered. With this condition car at half way travel the effort required to move the lift car in either direction with the help of winding wheel shall be as nearly as can be judged by the same.

4. Car and Landing Doors Interlocks: The lift shall not move with any door open. The car door relay contact and the retiring release cam must be tested. The workings of the door operation and the safety edges and light equipment if any provided shall also be examined.

5. Controllers: The operation of the contactors and the interlocks shall be examined and it shall be ascertained whether all the requirements have been met.

4. Normal Terminal Stopping Switches: These shall be tested by letting the car run to each terminal landing in turn, first with no load and then with contract load by taking measurements, top and bottom over travels can be ascertained.

5. Final Terminal Stopping Switches; The normal terminal stopping switches shall be

disconnected for this test. It shall be ensured that these switches operate before the buffers are engaged.

6. Insulation Resistance: This shall be measured (after removing the electronic PCB‟s and their connection) between power and control lines and earth and shall not be less than 5 mega-ohms when measured with D.C. voltage of 500 volts. The test shall be carried out with contactors so connected together as to ensure that all parts of every circuit are simultaneously tested.

7. Earthing: All conduits, switches, casing and similar metal work shall have earthing continuity.

8. Ropes: The size, number construction and fastenings of the ropes should be carefully examined and recorded.

9. Buffers: The car should be run on to its buffers at contract speed and with contract load in the car to test whether there is any permanent distortion of the car or buffers. The counter weight buffers should be tested similarly.

10. Tests at Manufacturer's work:

    10.1. High Voltage Test: The dielectric of electrical apparatus (excluding motors, generators and instruments which are tested in accordance with the appropriate Indian Standards wherever they exist) shall be capable of withstanding a test voltage of ten times the working voltage with a maximum of 2000 volts when applied.

    10.2. Between the live parts and case of frame with all circuits completed.

    10.3. Between main terminals or equivalent parts with all circuits open, and

    10.4. Between any live parts of independent circuits.

    Note: Owning to the impracticability of applying tests (ii), (iii) mentioned above on controllers and similar apparatus after controller wiring has been completed, these tests may be made at convenient stages of manufacture.

    10.5. High Voltage Testing

    - Method of Applying High Voltage: The test shall be made with alternating voltage of any convenient frequency, preferably between 49 and 60 cycles per second. The test voltage shall be of approximately sine wave form and during the application of voltage with peak value, as would be determined by spark gap by oscillograph or by any other approved method shall not be more than 1.45 times the RMS value. The RMS values of the applied voltage shall be measured by means of a volt meter used with a suitably calibrated potential transformer or by means of voltmeter used in connection with a special calibrated voltmeter winding or testing transformer by any other suitable voltmeter connected to the output side of the testing transformer.

- Duration of High Voltage Test: The test shall be commenced at a voltage of about one third of the test voltage which shall be increased to the full test voltage as rapidly as is consistent

with the value being indicated by the measuring instrument. The full test voltage shall be maintained for one minute. At the end of this period, the test voltage shall be rapidly diminished to one third of its full value before switching off. The oil buffers are examined after the above tests have been made to determine if there has been any oil leakage or distortion and to ensure that buffers return to their normal positions.

2. Buffer test: A copy of the test report shall be intimated after testing at works.

11. Performance Test: This test if meant for passenger lift and is conducted to watch the performance of lift installation in terms of passenger handling capacity and waiting interval as obtained at site vis-à-vis design, data and conducted as below;

12. Waiting interval: (T)-This can be worked out by taking the average of several round trip times as observed physically and then dividing it by the number of lifts in that bank.

12.Handling capacity $H = \frac{300 \times Q \times 100}{T \times P}$

Where,

H = Handling capacity as the percentage of the peak population handled during 5 minutes.

P = Total population to be handled during peak morning period. (It is related to the area for which particular bank of lifts serves).

Q = Average number of passenger carried in a car.
T = Waiting interval.

13. Service temperature Test: A continuous run of one hour should be made with number of starts and stops to reproduce as nearly as practical the anticipate duty in service. (The standard duty cycle is for 90 to 180 start per hour). It is very difficult in practice to carry out test with alternate starts at full load and no load and it is necessary therefore to simulate these cycles. A suitable test for all motors except squirrel cage motors is to run the car up from the bottom landing with contract load and stop at each floor. From the top floor a nonstop run is made to the lowest floor and the upward journey with stop is then repeated. The time intervals between stops and starts at the floors should be uniform and such as to give about 150 starts in one hour. At the end of this run the temperatures of the armatures and fields of the motor and generator are recorded. The temperature rise should, not exceed 55 deg C or 75 deg C for classes A or B insulation respectively.

Section 16

Air Conditioning System

SECTION 16

TECHNICAL SPECIFICATION FOR HVAC

1. Scope

The scope of this section comprises the Design, Engineering, supply, erection testing and commissioning of Variable Refrigerant Flow (VRF)/Variable Refrigerant Volume(VRV) System conforming to these specifications and in accordance with the requirements of Drawing and Schedule of Quantities.

The proposal in drawings of tender is indicative. Contractor shall submit along with tender complete design proposal for VRV/VRF system including load calculation, single line diagram, location of IDU, ODCU and all other equipments, along with any deviation in the BOQ.

1.1. List of bureau of Indian standards codes

IS : 554 – 1985 (Reaffirmed 1996) Dimensions for pipe threads where pressure tight joints are required on the threads.
IS: 659-1964 (Reaffirmed 1991) Air Conditioning (Safety Code)
IS:660-1963 (Reaffirmed 1991) Mechanical Refrigeration (Safety Code) IS : 732-1989 Code of practice for electrical wiring
IS : 822-1970 (Reaffirmed 1991) Code of procedure for inspection of welds.
IS : 1255-1983 Code of Practice for installation and maintenance of Power Cables upto and including 33KV rating (Second Revision)
IS : 1554 – 1988 (Part – I) PVC insulated (Heavy Duty) electric cables for working voltages upto and including 1100 volts
IS : 2379 – 1990 Colour code for the identification of pipelines. IS : 2551 – 1982 Danger notice plate
IS : 3043 – 1987 Code of practice for earthing
IS : 3103 – 1975 (Reaffirmed 1999) Code of practice for Industrial Ventilation
IS : 3837 – 1976 (Reaffirmed 1990) Accessories for rigid steel conduit for electrical wiring
IS : 4736-1986 (Reaffirmed 1998) Hot-dip zinc coatings on steel tubes
IS : 5133-1969 (Part-I) (Reaffirmed 1990) Boxes for the enclosure of electrical accessories. IS : 5424-1989 (Reaffirmed 1994) Rubber mats for electrical purposes.
IS : 5578 & 11353-1985 Marking and identification of conductors
IS : 6392-1971 (Reaffirmed 1988) Steel pipe flanges. IS : 13947-1993 (Part – V) Control Circuit Devices
BS : EN:779-1993 Filters
ASHRAE Hand Books American Society of Heating Refrigeration & Airconditioning Application 1999 Fundamentals 1997 Systems & Equipment 1996
ASHRAE Indoor air quality Standard 62-1982 IEC Relevant Sections

Air-cooled Variable Refrigerant Flow/Variable Refrigerant Volume System Units

2. TYPE

2.1. Units shall be air cooled, variable refrigerant volume air conditioner consisting of one or more outdoor units and multiple indoor units. Each indoor units having capability to cool or heat independently for the requirement of the rooms.
2.2. The indoor units on any circuit can be of different type and also controlled individually. Ceiling mounted cassette type (Multi flow), ceiling mounted ductable type of indoor units shall be connected to the system:
2.3. Compressor installed in each modular outdoor unit shall be equipped with minimum 2 inverter compressors for higher reliability, improved life, better backup and duty cycling purpose. The system shall be capable of changing the rotating speed of inverter compressor by inverter controller to follow variations in cooling and heating load.
2.4. Outdoor unit shall be suitable for mix match connection of all types of indoor units.
2.5. The refrigerant piping between indoor units and outdoor unit shall be possible to extend up to 175m with maximum 50m level difference without any oil traps.
2.6. Both indoor units and outdoor unit shall be factory assembled, tested and filled with first charge of refrigerant before delivering at site.

3. OUTDOOR UNIT

3.1. The outdoor unit shall be factory assembled, weather proof casing, constructed from heavy gauge mild steel panels and coated with baked enamel finish. The unit should be completely factory wired, tested with all necessary controls. Each modular inverter outdoor shall be DC twin rotary/scroll hermetic compressor.
3.2. The outdoor units shall have multiple compressors with multi step capacity control and shall be able to operate in case of failure of one of the compressors. The outdoor units shall be capable of connecting all types of indoor units. They shall be provided with duty cycling and starting sequence changing facility for multiple inverter compressor and multiple outdoor units working in one system. The outdoor units shall be of modular construction and should be able to install side by side and shall be provided with microprocessor based control panel with provision for integration with Building Management System using BACNET/MODBUS protocol. The outdoor units should have anti-corrosion paint free galbarium base plate for easy mounting of unit.
3.3. The outdoor unit shall be compatible for three phase 415V 50 Hz AC supply. All outdoor units shall have minimum two compressors so that in the event of failure of one compressor, other can work. The outdoor unit shall be delivered with first charge of refrigerant.
3.4. The outdoor unit should be fitted with low noise, aero spiral design fan with aero fitting grill for C spiral discharge airflow to reduce pressure loss and should be fitted with DC fan motor inverter type for better efficiency.
3.5. The condensing unit shall be designed to operate safely when connected to multiple cassette units.
3.6. Note: The Outdoor machines shall be preferably compact machines for Purpose of space saving and smaller foot print shall be preferred

4. COMPRESSOR

4.1. The compressor shall be highly efficient hermetic scroll type with DC inverter control capable of changing the speed in accordance with load requirements inside the building. The refrigerant used shall be R 410a. All parts of the compressor shall be lubricated and shall have oil separator for stable operation. Oil heater also shall be provided. Forced lubrication may also be employed. Oil heater shall be provided in the compressor casing.

5. HEAT EXCHANGER

5.1. The heat exchanger shall be constructed with copper tubes mechanically bonded to aluminum fins to form a cross fin coil. The aluminum fins shall be covered by anti-corrosion resin film. The unit should be with e-pass heat exchanger to optimize the path of heat exchanger and for better efficiency of condenser. The unit shall be provided with necessary number of direct driven low noise level propeller type fans arranged for vertical discharge. Each fan shall have a safety guard.

6. REFRIGERANT CIRCUIT

6.1. The refrigerant circuit shall include liquid & gas shut-off valves and a solenoid valves at condenser end. The equipment must have in built refrigerant stabilization control for proper refrigerant distribution. All necessary safety devices shall be provided to ensure the safely operation of the system.

6.2. Refrigerant should be R410a Only. The refrigerant piping between indoor and outdoor units shall be constructed from soft seamless up to 19.1mm and hard drawn copper pipes above 19.1 mm with copper fittings and silver soldered joints. All joints in copper piping shall be sweat joints using low temperature brazing and or silver solder. After the installation, the piping shall be pressure tested using nitrogen at 20kg/cm2 and 10 kg/cm2 for low side. The sizing and flow of refrigerant shall be designed as specified by the manufacturer. All refrigerant pipelines shall be properly supported and anchored to the building structure using steel supports/brackets/clamps of adequate size to support the load.

7. SAFETY DEVICES

7.1. All necessary safety devices shall be provided to ensure safe operation of the system. The out door units shall be equipped with the following safety devices.

7.2. High pressure switch, over load relay Fusing plug, Overload protector for inverter, Over load protector for Fan, drive Oil recovery system.

8. OIL RECOVERY SYSTEM

Unit shall be equipped with an oil recovery system to ensure stable operation with long refrigeration piping lengths. The system must be provided with oil balancing circuit to avoid poor lubrication

9. INDOOR UNIT

9.1. This section deals with supply, installation, testing, commissioning of indoor units confirming to general specification and suitable for the duty selected. The type, capacity and size of indoor units shall be as specified in detailed Bill Of Quantities.

9.2. CEILING MOUNTED CASSETTE TYPE UNIT (MULTI FLOW TYPE)

9.2.1. The indoor units shall be ceiling mounted cassette type with multi flow. It shall have electronic expansion control valve which controls refrigerant flow rate in respond to load variations of the room. The fan shall be of the dual suction multi blade type statically and dynamically balanced to ensure low noise and vibration free operation. The cooling coil shall be made out of seamless copper tubes and have continuous aluminum fins.

9.2.2. For ceiling mounted cassette unit it shall include pre filter fan section and DX coil section. The housing of the unit shall be powder coated galvanized steel. The body shall be light in weight and shall be able to suspend in four corners. The unit shall have external attractive panel for supply and return air. Unit shall have four way supply air grille on sides and return air grille in the centre. Each unit shall be provided with a high lift drain pump. All the indoor units, regardless of their difference in capacity should have same decorative panel size for uniform aesthetic view

9.3. CEILING MOIUNTED DUCTABLE TYPE UNIT

9.3.1. Unit shall be suitable for ceiling mounted type. The unit shall include pre filter, fan section & DX coil section .The housing of unit shall be light weight powder coated galvanized steel. The unit shall have high static fan for Ductable arrangement.

9.3.2. The address of the indoor unit shall be set automatically in case of individual and group control. In case of centralized control, it shall be set by liquid crystal display remote controller. The fan shall be dual suction, aerodynamically designed turbo, multi blade type, statically & dynamically balanced to ensure low noise and vibration free operation of the system. The fan shall be direct driven type, mounted directly on motor shaft having supported from housing.

9.3.3. The cooling coil shall be made out of seamless copper tubes and have continuous aluminum fins. The fins shall be spaced by collars forming an integral part. The tubes shall be staggered in the direction of airflow. The tubes shall be hydraulically/ mechanically expanded for minimum thermal contact resistance with fins. Each coils shall be factory tested at 21kg/sqm air pressure under water.

9.3.4. Unit shall have cleanable type filter fixed to an integrally moulded plastic/aluminium frame. The filter shall be easily serviceable.

9.3.5. Each indoor unit shall have computerized PID control for maintaining

design room temperature. Each unit shall be provided with microprocessor thermostat for cooling or cooling and heating. Each unit shall be with wired LCD type remote controller. The remote controller shall memorize the latest malfunction code for easy maintenance. The controller shall have self-diagnostic features for easy and quick maintenance and service. The controller shall be able to change fan speed and angle of swing flap individually as per requirement.

10. CENTRALIZED TYPE REMOTE CONTROLLER

A multifunctional compact centralized controller with provision for integration to BMS shall be provided with the system.

It shall be able to control up to 64 groups of indoor units with the following functions: -

- Starting/stopping of Air-conditioners as a zone or group or individual unit.
- Temperature settling for each indoor unit or zone.
- Switching between temperature control modes, switching of fan speed and direction of airflow, enabling/disabling of individual remote controller operation.
- Monitoring of operation status such as operation mode & temperature setting of individual indoor units, maintenance information, and trouble shooting information.
- Display of air conditioner operation history.
- Daily management automation through yearly schedule function with possibility of various schedules.

The controller shall have wide screen user friendly display and can be wired

11. FIELD TEST AND INSPECTION

11.1. Inspection: Materials, equipment and the completed installation will be inspected by Engineer. Equipment, materials or work rejected because of defects or non-conformance with Drawings and Specifications shall be replaced or corrected by as directed by Engineer.

11.2. Start-up air conditioning system, in accordance with manufacturer's start-up instructions, and in presence of the manufacturer's technical representative. Test

controls and demonstrate compliance with requirements. Replace damaged or malfunctioning controls and equipment, and retest.

11.3. Tests: Provide materials and equipment required to perform the tests. Defects disclosed by the test shall be corrected at no cost to Owner.

11.4. Tests after installation and prior to acceptance shall be performed in the presence of Engineer and subject to his Approval.

11.5. Equipment and material certified as having complied with referenced Specifications and Standards will not require retesting before installation. Equipment and materials not tested at place of manufacture will be tested before and after installation, as applicable, where necessary to determine compliance with referenced specifications and Standards.

12. ROOM THERMOSTATS:

12.1. Thermostats shall be compatible in design and appearance and shall be of modern, compact design with option of key locking type conversant concealed temperature set point adjustment. No room thermostat shall operate on Voltage in excess 24 Volt unless the thermostat is controlling a 240V fan or unit heater or unless specifically noted otherwise. Thermostat shall have on/off switch, three speed fan switch and LED's.

12.2. REEZE PROTECTION THERMOSTATS:

12.3. Sensing element shall be fixed to the front of the coil or wrapped around the pipe to guard against freezing at any point. If the capillary is damaged the thermostat shall cut- out to the safety side.

12.4. REMOTE SETTING UNITS:

12.5. Remote setting unit shall have tough non-flammable plastic case on back plate suitable for surface or conduit box mounting. This unit shall enable control adjustments to be from a position remote from the controller.

12.6. OUTSIDE TEMPERATURE SENSOR:

12.7. Sensing element of sensor shall have a negative temperature coefficient thermistor and housing shall be sealed aluminum tube, alloy head, with plastic cover.

12.8. ROOM HUMIDITY SENSOR:

12.9. The sensing element shall be foil dielectric coated both sides with gold to form a capacitor, sensor shall have 0-10V dc output

13. SUBMITTALS

13.1. Product Data: Submit manufacturer's technical data for air distribution equipment, including capacity ratings, fan performance curves with operating point clearly indicated, Finishes of materials, dimensions, weights, furnished accessories, and installation and instructions.

13.2. Shop Drawings: Submit manufacturer's assembly type shop drawings indicating dimensions, required clearances, installation details and field connection details.

13.3. Wiring Diagrams: Submit the manufacturer's electrical requirements for power supply wiring to the units.

13.4. Operation and Maintenance Data: Submit maintenance and lubrication instructions, motor and drive replacement instructions, and spare parts list for each unit.

13.5. Spare Parts List: Submit the manufacturer's spare parts list for ventilation equipment for a period of 2 years for the Engineer's review and approval.

14. TRANSPORTATION, HANDLING AND STORAGE

14.1. Transportation, handling and storage of materials shall be in accordance with manufacturer's recommendations regarding transportation, handling and storage of materials.

14.2. Deliver materials to the site in manufacturer's original factory wrappings and containers, clearly labeled for identification of manufacturer, brand name and contents. Store materials off ground in original undamaged packages and containers, inside well-ventilated area protected from weather, moisture, soiling, extreme temperatures, and humidity. Follow manufacturer's instructions regarding transportation, handling and storage of materials.

15. WARRANTY

15.1. Materials shall be provided of standard products of specialist manufacturers who have long experience of manufacturing and installing control equipment specified in this section. The system shall be installed by competent personnel, regularly employed by the Controls manufacturer with full responsibility for proper operation of the Controls including debugging and proper calibration of each component in the entire system. Supplier shall have in-place support facility within 30 km of the site with technical staff, spare parts inventory and all necessary test and diagnostic equipment. Submit a written guarantee signed by manufacturer, contractor, and installer agreeing to replace partitions which fail in material or workmanship within a period of 1 year from the date of handing over.

16. QUALITY ASSURANCE

A. Motors and electrical accessories shall comply with the applicable Indian Standards.

B. Electrical components and installation shall comply with National Electrical Code.

C. Test, adjust and balance air conditioning systems during hot season.

D. Training

1. Train Owner's maintenance personnel on the troubleshooting procedures and testing, adjusting, and balancing procedures. Review with Owner's personnel, the information contained in the Operating and Maintenance Data specified in Division 1.

2. Schedule training through the Project Manager with at least 7 days prior notice.

17. MODE OF MEASUREMENT

THE FOLLOWING MEASUREMENT CODE SHALL APPLY TO THIS

CONTRACT:-

17.1. Piping with/without insulation

a) Piping with insulation shall be measured in running length (meters) for each size of pipe.

b) The length of piping including accessories and fittings shall be measured along the center line of piping.

c) No separate measurement of flanges, bends, elbows, reducer, expanders, tees, cross pipe supports, hangers, anchors, sockets for thermometer, pressure gauge, etc. shall be made. All such fittings / accessories shall be treated as normal piping.

d) All accessories and finishes connected with insulation work shall be deemed to form part of insulation, and no separate measurement shall be made for such items.

17.2. Equipment Insulation:

No separate measurement for insulation of any equipment shall be made. Insulation of equipment shall be deemed to form part of the equipment. Insulation on equipment shall be done as per specifications provided.

17.3. Sheet Metal Work Ducting:

17.3.1. All sheet metal ducting work will be measured in terms of final sheet area installed in SQ. METERS.

17.3.2. No measurement of vanes, splitters, duct dampers, deflectors, access doors, etc. which are required to be installed in the duct work shall form part of the duct work.

17.3.3. Duct fittings such as bends, elbows, tap-offs, collars, transformation pieces etc. shall be treated as ordinary duct pieces with their length measured along their Centerline.

17.3.4. No duct supports, stiffening, members, etc. shall be measured separately. All such supports/hangers shall form part of ductwork.

17.3.5. Equipment connections such as canvas/asbestos/Rexene shall be deemed to be part of the ductwork and no separate measurement will be allowed.

18. Grilles: All grilles will be measured in terms of effective area (e.g. 600mm x 150mm grille will be measured as 0.09 Sq. metre

19. Diffusers: Diffusers will be measured in terms of diameter of each diffuser in centimetres.

20. Dampers**:** All duct dampers shall form part of ductwork, no separate measurement will be made for duct dampers. Fire dampers will be measured in terms of effective area in Sq. metre.

21. Ducting Insulation: Ducting insulation will be measured on the basis of centerline of insulation and not the outer line of insulation.

Example: Measurement 25 mm thick insulation on 600 mm x 300 mm duct 1 metre length. [(600 + 25) + (300 + 25] 2 x 1 metre

No special measurement shall be made for insulation of bends, transformation pieces, tap offs, elbows etc. All such insulation shall be treated as standard duct insulation. Insulation item shall include all accessories and finishes as specified. No separate measurement will be made for such items.

22. ASSOCIATED CIVIL WORKS

The rate shall include all civil works associated with HVAC installation executed in accordance with approved shop drawings under direct supervision of the Project Manger such as PCC foundation blocks for all OUT DOOR UNITS/wall openings etc.

23. PERFORMANCE GUARANTEE

The contractor shall carry out the work in accordance with the Drawings, Specifications, Schedule of Quantities and other documents forming part of the Contract. The Contractor shall be fully responsible for the performance of each equipment installed by him at the specified parameters and for the efficiency of the installation to deliver the required end result. The Contractor shall guarantee that the HVAC system as installed shall maintain the inside conditions in the air-conditioned spaces as described under “Basis of Design” included in the specifications. The guarantee shall be submitted in the proforma given in Appendix I.

The contractor shall also guarantee that the performance of various equipment individually, shall not be less than the quoted capacity; also actual power consumption shall not exceed the quoted rating, during testing and commissioning, handing

24. BYE-LAWS AND REGULATIONS

The installation shall be in conformity with the Bye-laws, Regulations and Standards of the local authorities concerned, in so far as these become applicable to the

installation. But if these Specifications and drawings call for a higher standard of materials and / or workmanship than those required by any of the above regulations and standards, then these specifications and drawings shall take precedence over the said regulations and standards.

However, if the drawings and specifications require something which violates the Bye-laws and Regulations, then the Bye-laws and Regulations shall govern the requirement of this installation.

25. FEES AND PERMITS

The contractor shall obtain all permits / licenses and pay for any and all fees required for the inspection, approval and commissioning of the installation It shall be reimbursed by the owner o n submission documentary evidence.

26. DRAWINGS.

Various systems and extent of work covered in the contract. These drawings indicate the points of supply and of termination of services and broadly suggest the routes to be followed. Under no circumstances shall dimensions be scaled from these Drawings. The architectural/interiors drawings and details shall be examined for exact location of equipment, controls, grilles and diffusers. The Contractor shall follow the tender drawings for preparing his shop drawings, and for subsequent installation work. He shall check the drawings of other trades to verify spaces in which his work will be installed. Maximum headroom and space conditions shall be maintained at all points. Where headroom appears inadequate, the contractor shall notify the Architect/ Consultant/ Owner's site representative before proceeding with the installation. In case installation is carried out without notifying, the work shall be rejected and contractor shall rectify the same at his own cost. The contractor shall examine all architectural, structural, plumbing, electrical and other services drawings and check the as-built works before starting the work, report to the Owner's site representative any discrepancies and obtain clarification. Any changes found essential to coordinate installation of this work with other services and trades, shall be made with prior approval of the Architect/ Consultant/ Owner's site representative without additional cost to the Owner. The data given in the Drawings and Specifications is as exact as could be procured, but its accuracy is guaranteed.

27. TECHNICAL DATA

Each tenderer shall submit along with his tender, the technical data for all items Failure to furnish complete technical data with tenders may result in rejection of the tender. Manufacturers drawings, catalogues and other documents submitted for approval shall be in four sets. Each item in each set shall be properly labelled, indicating the specific services for which material or equipment is to be used, giving reference to the governing section and clause number and clearly identifying in ink the items and the operating characteristics. Data of general nature shall not be accepted.

Samples of all materials like grilles, diffusers, controls, insulation, premoulded pipe section, control wires etc shall be submitted to the Owner's site representative prior to procurement. These will be submitted in for approval and retention by Owner's site representative and shall be kept in their site office for reference and verification till the completion of the project.

Wherever directed a mockup or sample installation shall be carried out for approval before proceeding for further installation.

Where the contractor proposes to use an item of equipment other than that specified or detailed on the drawings, which requires any redesign of the structure, partitions, foundation, piping, wiring or any other part of the mechanical, electrical or architectural layouts; all such re-design, and all new drawings and detailing required therefore, shall be prepared by the contractor at his own expense and gotten approved by the Architect/ Consultant/ Owner's site representative. Delay on such account shall be at the cost of and consequence of the Contractor.

Where the work of the contractor has to be installed in close proximity to, or will interfere with work of other trades, he shall assist in working out space conditions to make a satisfactory adjustment. If so directed by the Owner's site representative, If the contractor installs his work before coordinating with other trades, or so as to cause any interference with work of other trades, he shall make all the necessary changes without extra cost to the Owner.

28. QUIET OPERATION AND VIBRATION ISOLATION

All equipment shall operate under all conditions of load without any sound or vibration which is objectionable in the opinion of the Owners site representative. In case of rotating machinery sound or vibration noticeable outside the room in which it is installed, or annoyingly noticeable inside its own room, shall be considered objectionable. Such condition shall be corrected by the contractor at his own expense. The contractor shall guarantee that the equipment installed shall maintain the specified NC levels.

29. ACCESSIBILITY

The contractor shall verify the sufficiency of the size of the shaft openings, clearances in cavity walls and suspended ceilings for proper installation of his ducting and piping. His failure to communicate insufficiency of any of the above shall constitute his acceptance of sufficiency of the same. The contractor shall locate all equipments which must be service, operated or maintained in fully accessible positions. The exact location and size of all access panels, required for each concealed damper, valve or other devices requiring attendance shall be finalized and communicated in

sufficient time, to be provided in the normal cause of the work. Failing this, the contractor shall make all the necessary repairs and changes at his own expense. Access panel shall be standardized for each piece of equipment / device / accessory and shall be clearly nomenclatured / marked.

30. MATERIALS AND EQUIPMENT

All materials and equipment shall conform to the relevant Indian Standards and shall be of the approved make and design. Makes shall be strictly in conformity with list of approved manufacturer's.

31. MANUFACTURER'S INSTRUCTIONS

A Manufacturer has furnished specific instruction, relating to the material and equipment used in this project, covering points not specifically mentioned in these documents, such instructions shall be followed in all cases.

32. ELECTRICAL INSTALLATION

The electrical work related to air conditioning services shall be carried out in full knowledge of and with complete coordination of the contractor. The electrical installation shall be in total conformity with the control wiring drawings prepared by the contractor and approved by the Architect/Consultant. All air conditioning equipment shall be connected and tested in the presence of an authorized representative of the contractor. The air conditioning system shall be commissioned only after the contractor has certified in writing that the electrical installation work or air conditioning services has been thoroughly checked, tested and found to be totally satisfactory and all in full conformity with contract drawings, specifications, and manufacturer's instructions. It is to be clearly understood that the final responsibility for the sufficiency, adequacy and conformity to the contract requirements, of the electrical installation work for air conditioning services, lies solely with the contractor.

33. COMPLETION CERTIFICATE

On completion of the Electrical installation for air conditioning, a certificate shall be furnished by the contractor, counter signed by the licensed supervisor, under whose direct supervision the installation was carried out. This certificate shall be in the prescribed form as required by the local authority. The contractor shall be responsible for getting the entire electrical installation for air conditioning system duly approved by the local authorities concerned, and shall bear expenses in connection with the same.

34. OPERATING INSTRUCTION & MAINTENANCE MANUAL

Upon completion and commissioning of HVAC system the contractor shall submit a draft copy comprehensive operating instructions, maintenance schedule and log sheets for all systems and equipment included in this contract. This shall be supplementary to manufacturer's operating and maintenance manuals. Upon approval of the draft, the contractor shall submit four (4) complete bound sets of typewritten operating instructions and maintenance manuals; one each for retention by Consultant and Owner's site representative and two for Owners Operating Personnel. These manuals shall also include basis of design, detailed technical data for each piece of equipment as installed, spare parts manual and recommended spares for 4 year period of maintenance of each equipment.

35. ON SITE TRAINING

Upon completion of all work and all tests, the Contractor shall furnish necessary operators, labour and helpers for operating the entire installation for a period of fifteen (15) working days of twelve (12) hours each, to enable the Owner's staff to get acquainted with the operation of the system. During this period, the contractor shall train the Owner's personnel in the operation, adjustment and maintenance of all equipment installed.

36. MAINTENANCE DURING LIABILITY PERIOD

Complaints: The contractor shall receive calls for any and all problems experienced in the operation of the system under this contract, attend to these within 10 hours of receiving the complaints and shall take steps to immediately correct any deficiencies that may exist.

Repairs: All equipment that requires repairing shall be immediately serviced and repaired. Since the period of Mechanical Maintenance runs concurrently with the defects liability period, all replacement parts and labour shall be supplied promptly free-of charge to the Owner.

37. UPTIME GUARANTEE

The contractor shall guarantee for the installed system an uptime of 98%. In case of shortfall in any month during the defects liability period, the Defects Liability Period shall get extended by a month for every month having shortfall. In case of shortfall beyond the defects liability period, the contract for Operation and Maintenance shall get extended by a month for every month having the shortfall and no reimbursement shall be made for the extended period.

The Contractor shall provide log in the form of diskettes and bound printed comprehensive log book containing tables for daily record of all temperatures,

pressures, humidity, power consumption, starting and stopping times for various equipment, daily services rendered for the system alarms, maintenance and record of unusual observations etc. Contractor shall also submit preventive maintenance.

Schedule: Each tenderer shall submit along with the tender, a detailed operation assistance proposal for the Owner's site representatives/ Consultant's review. This shall include the type of service planned to be offered during the Defects Liability Period and beyond. The operation assistance proposal shall give the details of the proposed monthly reports to the management.

38. OPERATION AND MAINTENANCE

Contractor may be required to carry out the operation of the HVAC installation for the defects liability period. Further, he may also be required to carry out operation and all inclusive maintenance of the entire system for a period of three years beyond the defects liability period.

GUARANTEE PERFORMA

GUARANTEE FOR HVAC INSTALLATION

We hereby guarantee the year round Air Conditioning System which we have installed in the LIC Building as per details given below

Location: Yangon, Myanmar

Owner: Embassy of India, Yangon, Myanmar

For a period of Two Years from the date of acceptance of the total installation, we agree to repair or replace to the satisfaction of the Owner, any or all such work that may prove defective in workmanship, equipment or materials within that period, ordinary wear and tear and unusual abuse or neglect excluded, together with any other work, which may be damaged or displaced in so doing. In the event of our failure to comply with the above mentioned conditions within a reasonable time, after being notified in writing, we collectively and separately, do hereby authorize the Owner to produce to have the defects repaired and made good at our expense, and we shall pay the cost and charges thereof, immediately upon demand.

WE ALSO HEREBY UNDERTAKE to test the entire installation in first SUMMER, AND MONSOON on following the completion of installation, to check and do everything necessary to ensure that the specified indoor conditions in all spaces are maintained, that all water and air systems are properly balanced, that all controls are calibrated accurately, and all units are functioning satisfactorily.

SIGNATURE OF HVAC CONTRACTOR

For ----------

DATE

SEAL

Section 17

External Façade Treatment

The external façade are having damages like carbonation. These damages are caused mainly due to extensive rain. Because of this various parts of façade has become black in color. Some other damages found in the exterior façade are development of vegetation and cracks in non-structural elements. These cracks in non-structural elements are caused mainly due to growth of vegetation. Following is the suggested method to restore façade of LIC building:

1) Cleaning with water: The carbonation causes on external façade of LIC building can be removed by use of low to medium pressure non-ionic water. Such water cleaning shall be carefully done without damaging any part of the building. This work shall be carried out with skilled workmen by using metal scaffolding on external façade of the building.

2) Removal of Vegetation: In various places of external façade, small size vegetation is developed due to rain. This vegetation is causing cracks in non-structural elements of the building like canopy and chajjas. It is recommended that root systems of this vegetation are dealt thoroughly, preferably by removing them, as re-growth and compressible decay may result in damage. Also, localized chemical treatment of root systems shall also be done to reduce any further increase of vegetation. 1 % of solution of ammonia and non-ionic detergent are recommended to clean off algae and lichens. The small *Peepla* plants can be eradicated by use of spray of Glyphosate with 1% solution of Sodium Arsenate. These chemicals are very toxic and trained person should undertake such jobs with accurate scaffolding with protective wears like mask, gloves, spectates and apron. Once the plants are dead, it should be carefully removed and gaps should be filled and repaired with epoxy as suggested below.

3) Epoxy filling in cracks: All the cracks shall be shall be cleaned of all loose materials. These cracks shall be filled with Epoxy by pressure grouting or gunting. Finishing shall be done with lime plaster and two to three coats of paint.

4) Damp proof coating on external surface: The external surfaces will be applied with clear wall coating that penetrates into the wall materials. This material blocks the complex capillary network and prevents moisture entering into the wall.

5) External Paint: Two to Three Coats of Exterior Grade Paint: The external surface shall be painted with two to three coats of exterior grade water resistant and repellent pain

LIST OF RECOMMENDED MAKES/ MANUFACTURERS/BRANDS

The list shown below shall be preferably used for the make, manufacturers or brands. If the same is not available or the manufacturer has changed trade name or manufacturer discontinued brand, then equivalent brand can be used after approval of architect or engineer. Also for any item not shown in the list, contractor shall approve from architect or engineer. In terms of material approval discussion of architect or engineer will be final. If any of the makes are not available in Yangon or it is time consuming and difficult to import the product, equivalent make can be provided by contractor after approval from architect or engineer.

Civil Works

S/N	Description	Standard make / brand names
1	Chlorpyriphos (For anti-termite treatment)	Termisac of M/s.Bayer International Ltd., Sahakar of M/s.Karnataka Co-op. Marketing Fed. Ltd., , Bhagiradha Chemicals Ltd, Hyderabad
2	Water proofing compound	Dr. Fixit, Pidilite Industries, CICO No. 1, SCOTT No.1, Accoproof, Fosroc chemicals
3	Cement	ACC, Birla cements , L&T, Ultra Tech Cement, Ambuja
4	Ready Mix Cement Concrete (RMC)	Ultra Tech Concrete, ACC Concrete, L&T Concrete /approved equivalent
5	Reinforcement Steel	TISCO, SAIL, RINL
6	Flush door shutter	Kutty Flush doors, Chennai / KSFIC, Bangalore / Anand Wood Crafts, Hyderabad /Anchor flush doors
7	Hydraulic door closers	Dorma, Hafle/approved equivalant
8	Structural Steel, MS pipes	TISCO, SAIL, RINL (For Misc requirement like railings, grills etc procurement can be made from local market if the materials are not available with main producers as decided by the architect or engineer)
9	Aluminium sections	Hindalco, Jindal/approved equivalant
10	Glass	Modi glass, Saint Gobain
11	Floor springs	Dorma, Haflle, CNR, ENOX
12	Silicon sealants	Dow corning. Other Brand if any shall be as per advice of architect
13	Wall putty	Birla putty, JK putty, Asian putty
14	Patch Fittings	Dorma, Nexus,Hafle, CNR, ENOX
15	GI plaster mesh	Arpitha Building products, Bangalore , National Wire Products , Pune

16	Frosted film	Garware films, 3 M films
17	Epoxy leveling topping	Epoxy.com, Arcoy Industries, MRF
18	LOW VOC paints	Asian Paints, Nerolac paints, Alconoble(ICI)
19	Adhesives	Pidilite Industries, Fosroc chemicals, Sika India Ltd

Plumbing and Sanitation

S/N	Description	Standard make / Brand names
1	Wash basin	Jaquar, ToTo, American Standard
2	Indian type water closets	Jaquar, ToTo, American Standard
3	European type water closets	Jaquar, ToTo, American Standard
4	Flushing cisterns	Jaquar, ToTo, American Standard
5	Urinals	Jaquar, ToTo, American Standard
6	Pillar cock, health faucets, angle cocks, bib cocks, Toilet paper holders, Towel rings and other fixtures	Jaguar, Kohler
7	Valves	Leader, HAWA, Globe, Zoloto
8	Stainless Steel kitchen Sink	Jaguar, ToTo
9	UPVC pipes,	Finolex, Supreme, Prince,Kissan
10	CPVC pipes	Ashirwad Flow Guard, Prince, Astral
11	Pumps	Kirloskar, Suguna, Texmo
12	Solar PV panels	TATA BP Solar, Racold

Fire Fighting

S/N	Description	Standard make / Brand names
1	Fire Pumps	Kirloskar / Mather & Platt
2	Electrical Motors	Kirloskar/Seimens/Ngef/Crompton
3	Booster Pump	Kirloskar / Mather & Platt

4	Gi / Ms. Pipes (`C' Class)	Jindal/ (Hissar)
5	Ms Fittings	Unik
6	Butterfly Valves	Hawa / Zoloto / Audco
7	BALL VALVE (15-40mm Dia)	Zoloto / Hawa/ Vb
8	Sluice Valves	Kirloskar / Vb / Zoloto
9	Non - Return Valve - Flap Type Cast Iron	INTERVALVE /ZOLOTO/ VB
10	Canvass Hose	Jayshree / Newage / Minimax
11	Fire Extinguisher	Safex / Minimax / Alert
12	Pressure Guage	H – Guru
13	Pressure Switch	Danfoss / Indfoss
14	Pvc Insulated Copper Wires	Finolex / Universal / Cci
15	Cables	Finolex / Universal / Cci
16	Over Load Relays	Ee / L&T
17	Single Phase Preventor	L&T / Seimens
18	Indicating Lamps & Push Buttons	L&T / Seimens
19	Sprinkler Head	Tyco / Reliable / Spraysale
20	Sprinkler Icv	Wormald / Reliable
21	Gun Metal Branch Pipe	Newage / Winco
22	Gun Metal Nozzel	Newage / Winco
23	Air Release Valve	Rb / Tbs / Vb
24	Rubber Hose Reel	Ever Safe / Minimax
25	Fire Buckets	Safex / Minimax
26	Suction Strainer 'Y'	Anil / Upadyaya/Local in Yangon
27	Flow Switch	Notifier

Public Address System, Projectors, Audio System, Projection Screen

S/N	Description	Standard make / Brand names
1	Speaker (Line Array Speaker, Subwoofer, Line Array Suspending Frame, Stage Monitor, Surround Speaker) and Accessories	: BOSE/Philips/Qsc/EV/Martin Audio
2	Surround Sound Processor	: Denon/Harmon Kardon/Lexicon
3	Amplifier	: Crown/Qsc/EV/Martin Audio
4	Manual Mixer	: Soundcraft/Allen & Heath/Yamaha
5	Speaker Management system	: Qsc/Dbx/Lexicon
6	Graphic Equalizer	: dbx/Lexicon/Qsc/Bosch
7	Digital Signal Processor	: BSS, Biamp, Clearone
8	Equipment Rack	: MiddleAtlanttic/Valrack
9	Microphone and Accessories	: Extron/Kramer/Crestron
10	Projector	: SONY/Panasonic/ Christie/Barco
11	Projection Lens	: SONY/Panasonic/ Christie/Barco
12	Motorized Screen	: Draper/Dalite/DNP
13	Scalar	: Extron/Kramer/Crestron
14	Video Data Switcher	: Crestron/Extron
15	DVD Recorder	: Denon/Tascam/Sony/Samsung
16	Presentation Points	: Extron/Kramer/Crestron

Interior

S/N	Description	Standard make / Brand names
1	Acoustic Mineral Fibre	: USG - Radar, Armstrong, 21st Century
2	Synthetic Enamel Paint	: Asian, Berger, Nerolac
3	Anchor Fastener	:Hiliti, Bosch, Fisher

4	Plywood	: Duro, Greenply, Century, kitply
5	Laminates	: Decolam, Century, Greenlam
6	Auditorium Chairs	: Herman Miller/Godrej/Vitra/Steelcase
7	Acoustical False Ceiling/Wall Panels	: Armstrong, Nittobo, Durlum India
8	Fans	: Crompton/ Bajaj/ Orient
9	Glass wool	: Owens Corning/ UP Twiga/DNV
10	Gypsum Board	: Saint Gobain/ Lafarge / India Gypsum
11	Metal Frame	: Saint Gobain/ Lafarge

Electricals

S/N	Description	Standard make / Brand names
1	General Lighting	: Philips/Decon/Modern Stage Services
2	PVC Conduit	: BEC/ AKG/ Polycab
3	MS Conduit	: BEC/ AKG/Polycab
4	PVC insulated multi-stranded copper conductor of 1.1 KV grade	: Polycab/ KEI/ Batra Hanelay
5	Modular type switch and sockets	: MK/ Legrand/ Clipsal/ Crabtree
6	Distribution boards	: Schneider Electric/ ABB/ SIEMENS/ Legrands
7	Telephone wire	: Delton/Finolex
8	Coaxial TV Antenna cable	: Comscope or equivalent
9	Telephone Tag Block	: KRONE or equivalent
10	Stage Lighting (Spot Light, Halogen Profile Light, Halogen Fresnel Light, Halogen Light with mash & barndoor, Planoconvex spot light, PAR Sealed Beam Light, Cyclorama Flood Lights, CMY Moving Head, Dimmer Rack, Control Panel, Cross Connecting panel)	: Modern Stage Service/Nemetschek-Vectorworks/Leonardo

HAVC System

S/N	Description	Standard make / Brand names
1	VRV System	Daikin/Mitsubishi/Toshiba/Panasonic/Samsung
2	Inline Fans	Kanalflakt/Ostberg/Caryaire
3	Propeller Fans	GEC Alstom/Khaitan/Crompton
4	Electric Motors	ABB/Crompton/Kirloskar/Siemens/Bharat Bijlee
5	CPVC Pipes	Astral
6	GI Sheet	Sail/TATA
7	GrillesIDiffuser	Caryaire/Ravistar/Mapro/Tristar
8	MS Dampers ILouvres	Tristar/Mapro/Servex
9	Control Cables	Polycab/Grandlay/Henlay/Kalinga
10	Power Cable	ICC/Skytone/Polycab/Kalinga
11	Nitrile rubber Insulation for pipe insulation	Eurabatax/Aeroflex/Totaline
12	Flexible Duct Connection Gaskets	Airflow/Pyroguard
14	Adhesives	Fevicol/Superlon
15	Vibration isolator	Resistoflex/Dunlop
16	Filters	Thermadyne/Anfilco
17	Refrigerant	Brassomatic/Totaline
18	Polyethylene for duct insulation	Supreme I Paramount
19	Fan Sections	Caryaire/Zeco/Vikram Hitech
20	Refrigerant Pipes	Rajco/Parasmani/Shrishyam
21	HRV/ERV units	DRI/Daikin/Mitsubishi/Toshiba/Panasonic

Electricals

S/N	Description	Standard make / Brand names
1	Steel Conduit	BEC / AKG / PRECISION / ATUL
2	PVC Conduit	BEC / AKG / PRECISION / ATUL
3	PVC Insulated CU. Conductor FRLS Wires/Cables	Skytone / RR Kabel / NICCO / L&T / Havells / National / Ecko / KET / Findex / Delton
4	Modular Type Switches and Socket Outlet - 6/16 A	Clipsal / Legrand / Anchor / Crabtree (Havell's) / Wipro / MK.
5	Step Type Electronic Regulators	Clipsal / Legrand / Anchor / WI PRO
6	Single Phase Industrial Type Socket Outlet	Legrand / Siemens / GE / ABB
7	LT Panel / M.V. Cubicles Boards	L&T/Siemens/Scheneider/ Tricolite/ Milestone / Madhu Electrical/Advance Control
8	Air Circuit Breaker	Siemens / ABB / Schneider (M&G) / L&T
9	MCB, MCB DB (Pre-wired type)	ABB / Legrand / Siemens
10	MCCB	Siemens / ABB / Schneider (M&G) / L&T (DSIN) / SENTRON
11	Protection Relays	L&T/Areva/ABB/Siemens
12	Fuse Disconnector Switch/ SFU/Fuse	L&T/Siemens/ABB
13	Ammeters, Voltmeters, CT's	Enercon / AE / IMP
14	Thimbles / Lugs	Dowells / Jainsons
15	Cables Gland	Comet / NMI / Jainsons
16	M.S. Cable Tray	Stelco / Steelways / Slotco / Pilco / Patny
17	PVC Insulated PVC Sheathed AL. Conductor 1.1 KV Grade Armoured Cable	Skytone / Universal / Gloster / Asian / Havells / CCI
18	Rising Mains	Tricolite / L&T / Zeta / C & S
19	Acoustic Enclosure	UP Twiga / FGP / Reared Sell.
20	Anti Vibration Mountings	Jakson / Sudhir / Super Nova / Reliable / Equivalent/Dunlop / Resistoflex
21	Response Indicator	Minimax / Agni
22	Exit Signs	Hilite / Legrand
23	Light Fittings	Philips / Bajaj / Crompton / Wipro

24	Ceiling fans	Bajaj/Orient / Crompton / Khaitan / Polar / Usha
25	Exhaust fans	Areva / Crompton / Kaitan / Almonard
26	Poles	Reputed (As per IS and subject to approval from Engineer – in – Charge
27	Motor	Siemens / ABB / BB / Crompton
28	Data and Voice Networking Cable	Polycab/AMP / Systimax
29	Patch Panel	Polycab/AMP / Systimax
30	Information Outlets	AMP / Systimax
31	Patch Cords	AMP / Systimax
32	Pipes	Jindal Hissar / Tata / BST
33	Polymeric Corrosion (Protection Tape 4 MM X 500 MM Wide)	Pypkote / Equiv.

FireFighting System

S/N	Description	Standard make / Brand names
1	Fire Hose	Firechief / Newage / Vijay
2	Sluice & Non-Return Valves	Kirloskar/Zoloto/Leader/Crescent
3	Terrace Pumps (Electric and Diesel Driven)	Kirloskar / Beacon / KSB / M&P
4	Pumping Set	Kirloskar / Beacon / KSB / M&P
5	Butterfly Valves	Audio / Crescent / Fouress
6	Single Headed Hyderant Valves, Four Way Fire Brigade Inlet	Minimax / New age / Steelage / Tyco
7	Branch Pipe	New age / Steelage / Minimax
8	Pressure Gauges	Manometer / H Guru / GIC / AN Instrument
9	Pressure Switch	Indfoss / Switcher / Vexma Trafag
10	First aid Hose Reel Drum	Newage / Minimax / Vijay
11	20MM Dia Rubber Pipe for Hose Reel	Steelage / Dunlop newage
12	Starters	Group Schneider / L&T / BCH / SIEMENS

13	Flow Switches	TRAC / Levecon / Switchgear
14	Fire Extinguishers	Minimax / Excel / Newage/ Vijay/ Cease fire / Superax / Safex

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