



INDIAN INSTITUTE OF ASTROPHYSICS

IIND BLOCK, SARJAPUR ROAD, KORAMANGALA,
BANGALORE-560 034

PUBLIC TENDER NOTICE NO:RFT/IND/064/14-15 DATED 10TH JULY 2014

The Director, Indian Institute of Astrophysics invites Quotations/Bids **Two bid system** (both Technical bid and Commercial bid) from reputed firms for the following.

Sl.No.	Description	Quantity	E.M.D (Refundable) Rs.	Tender Fee (Non-refundable) Rs.
1.	Class 1 lakh (FED STD 209E)/ISO Class 8 Clean room Structure and Filters for Thirty Meter Telescope (TMT) Project at Indian institute of Astrophysics, Bangalore as per the Specification / RFP enclosed. Vendor has to install and commission the Fan filter units supplied by IIA.	01 No.	19,375/-	300/-

Note: The Tender documents with Specification details are available on IIA website www.iiap.res.in/tenders.htm. Hence the interested tenderers may at their option down load the same from our website (as no hard copies of Tender documents is/are provided from this office) and submit their offer both Technical bid and Commercial bid along with EMD (refundable) & Tender fee (non-refundable) prescribed therein, only in the form of Demand Draft drawn in favour of Director, IIA. Those who are registered with NIC need not pay the EMD amount. Your offer with Technical bid and Commercial bid should be superscribed in different envelopes mentioning the tender notice no., Date of opening, and submit the Technical bid and Commercial bid in separate sealed envelopes addressed in favour of Director, Indian Institute of Astrophysics, Bangalore – 560 034.

02. The firms who fulfill the following requirements shall be eligible to submit their bid. Joint ventures are not acceptable.

(a) Tendering Company shall be professionally managed and equipped with facility for the supply and maintenance of tendered items / Job.

(b) The tenderers should have completed, the last 3 financial years (i.e., current year and two previous financial years) at least one similar single work for a minimum value of Rs.8 Lacs.

(c) The total contract amount received during the last 3 financial years, and the current financial year should be minimum of 150% of the above mentioned value. The tenderer should submit Audited Balance Sheet duly certified by the chartered accountant to this effect. They should also submit Bankers Solvency Certificate to a minimum of Rs.8 Lacs.

(d) The Private Body Contractor shall be required to produce the TDS Certificate indicating the Income Tax deducted by the client for the execution of similar items, completed individually of value not less than Rs.8 Lacs.

03. The Bids supported by the above information should be submitted in Sealed envelopes duly superscribed with the name of work/item. The completed Bids both Technical bid and Commercial bid will be received by this office **upto 15.00 Hrs. latest by 14th August 2014.**

04. If any information furnished by the tenderers is found incorrect at a later stage, the firm shall be liable to be debarred from tendering and taking up work in IIA. The Institute reserves the right to verify the particulars furnished by the tenderers.

05. The interested tenderers may contact Mr.P. K. Mahesh, Engineer 'E', Mechanical (Ph.No.080-22541379) to discuss Technical Clarification and Shri.Y.K.Raja Iyengar (Ph.No.080-22541244) for Commercial Clarifications, if any, on or before 8th August 2014 during office hours, before submitting bids.

06. The firms should submit the Technical bid superscribed along with EMD Demand Draft and Tender fee Demand Draft of prescribed amount and Commercial price / bid **upto 15.00 Hrs. Latest by 14th August 2014.** The Technical Bids will be opened in presence of the bidders or their authorized representatives **at 15.30 Hrs. on 14th August 2014.**

07. Incomplete bids are liable for rejection.

08. Late / delayed offer will not be considered.

09. IIA is not responsible for any delay / loss of documents in transit.

10. No bids will be considered if prescribed Tender Fee and EMD are not found with the Technical bid.

11. The offer should be valid for a minimum period of 120 days from the date of opening of bid.

12. The Commercial / Price bids will be opened in the presence of vendors or their representatives only for those vendors Quotes qualify in technical evaluation. The opening of Commercial bids date will be intimated later. However, the decisions for finalization shall be done by a technical evaluation committee being nominated for this purpose approved by the Head of the Institution.

13. IIA reserves the right to reject any or all tenders without assigning any reasons.

**Purchase Officer
For Director
IIA, Bangalore-34**

ANNEXURE - I

RFP for Class 1 lakh clean room for TMT Lab

PLACE: DETAILS OF REQUIREMENT OF CLASS 1 LAKH(FED STD 209E)/ISO CLASS 8 CLEAN ROOM STRUCTURE AND FILTERS FOR THIRTY METER TELESCOPE(TMT) PROJECT AT INDIAN INSTITUTE OF ASTROPHYSICS (IIAP), BANGALORE.

USE: THE PROPOSED CLASS 1 LAKH CLEAN ROOM WILL BE USED FOR WORK RELATED TO THE TMT PROJECT LIKE ASSEMBLING THE SEGMENT SUPPORT ASSEMBLY AND TESTS ON THE EDGE SENSORS.

1.1 Technical Specifications:

Internal Dimensions of the proposed class 1 Lakh clean room: 3000 x2500 x 2500 (H) mm.

1.1.1 Present Status:

- Existing room drawing with dimensions are attached. Room walls are 9 inch civil walls internally finished with emulsion paint.
- Floor is finished with ESD vinyl tile
- Total area will be air conditioned using a 2 ton capacity split air conditioner.
- Surrounding condition can be considered as general air conditioned area.

1.1.2 Work to be done to achieve class 1 lakh clean room:

- A structure for the class 100K shall be provided out of SS 304/Powder coated Aluminium /Powder coated mild steel. Concept level Structural details are given in the attached drawing. Different price options can be made in the offer with reference to the material selection.
- The structure shall be of re-assemble type. Please note that the final assembly should be at the proposed room inside only. Entry door dimensions for the proposed room are shown in the attached drawing.
- The assembly shall be done around a 2Mx2M metal table.
- Electrical connections and controls to the filter modules and light fittings to be provided.
- Detailed drawings for the re-assemble structure shall be attached along with the offer.
- Fabrication drawings shall be approved by IIA engineer before fabrication.
- Aluminium honeycomb (12mm) /EPS (40mm) panels may be used for ceiling panels.

- The technical details given are subjected to change with reference to the size of the clean room.

1.2 Clean room Ceiling Frame

The ceiling support frame to be fabricated by interlocking cross sections of ceiling members. Ceiling members are connected to T-bars/square sections, forming the 2' x 4' (approx) bays that support filters and lights. Corner reinforcement gussets shall ensure a rigid structure. Internal height measured from filter face to floor to be 8 feet. The bays which are not used for FFU mounting to be covered by ceiling panels. Ceiling panels may be either EPS or Aluminium honey comb panels.

1.3 Soft Wall Clean room Panels & Strip Shields

Soft wall panels/curtain shall be fabricated from heavy-duty, blur-free 40 mil material—double the industry standard—ensuring enhanced tear resistance and eliminating the need for unsightly sewn sash weights.

Panels/curtain and strips shall be clear appearance.

Soft panels shall be made from inherently static-dissipative PVC that Provides permanent, humidity-independent ESD protection for sensitive assembly conditions.

Soft wall clean room panels and strip shields shall be attached to the support frame by means of non contaminating Grip-Trac mounting system that eliminates cracks and seams where germs or particles can collect.

T-Grid Mounting System/channels to be provided to suspend the curtains or strip shields from existing clean room T-grids.

1.4 Gap between Soft Wall or Strip Shields and Floor

All sides of soft wall clean room require some gap between the soft wall and the floor to allow air to escape. If this gap is too small to accommodate the flow of air generated by the ceiling filter fans, then panels and strips will billow outward. If it is too large, the clean room will not maintain adequate positive pressure. Gap may be approximately 1 foot (TBC) from the floor to maintain the conditions.

1.5 Soft Wall Clean room Strip Shield Doors

5 feet wide PVC strip shield door to be provided for access for the proposed 1 lakh clean room on two sides as shown in the drawing.

1.6 Clean room Lighting

Here applications require FFU & panel ceiling coverage, LED fixtures/teardrop/flow-through lighting modules are essential. These lights shall be mounted to the ceiling grid below the FFU. Their design & mounting shall not interfere with the laminar airflow.

Light intensity shall be 400 foot candles at work surface which is 850mm from the floor level. No

of light fittings shall be decided based on this factor.

Power : 220V-50Hz- single phase

1.7 Vendor has to install & commission the fan filter units supplied by IIA.

1.8 Control Panels and Power Distribution Modules:

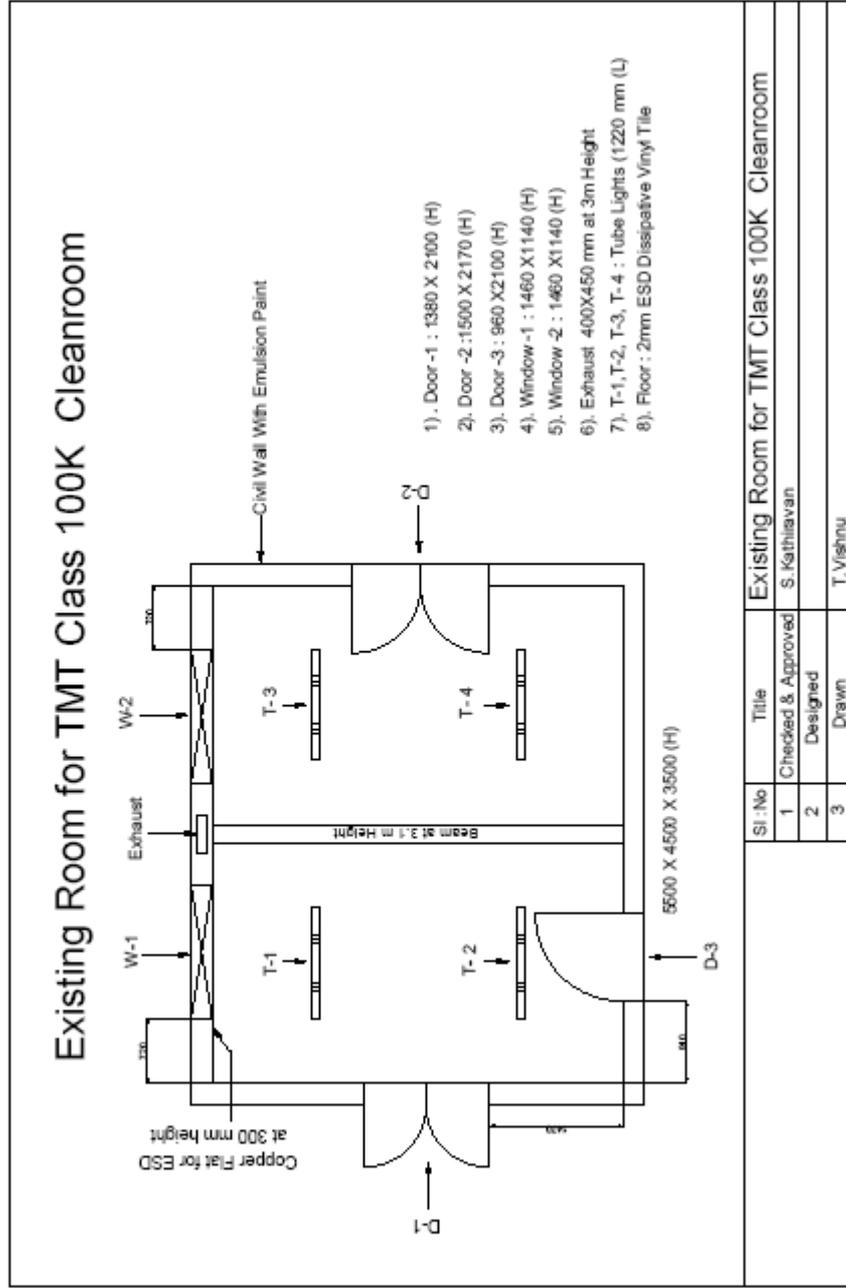
Control panel shall provide the connection of ceiling lights and FFU's and shall allow the operation from a single panel.

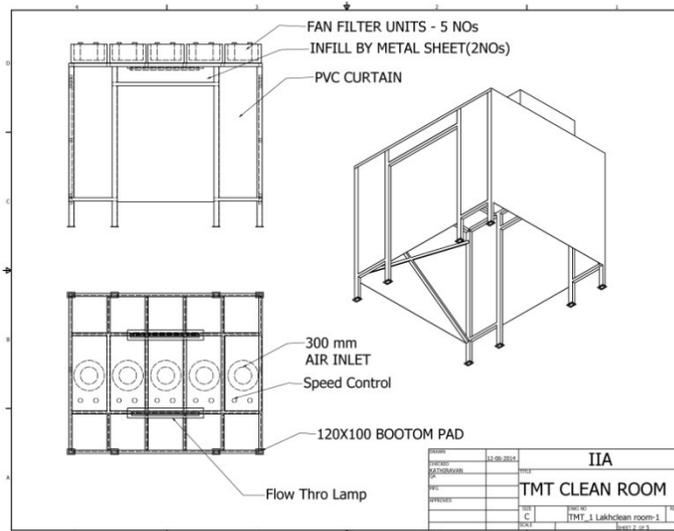
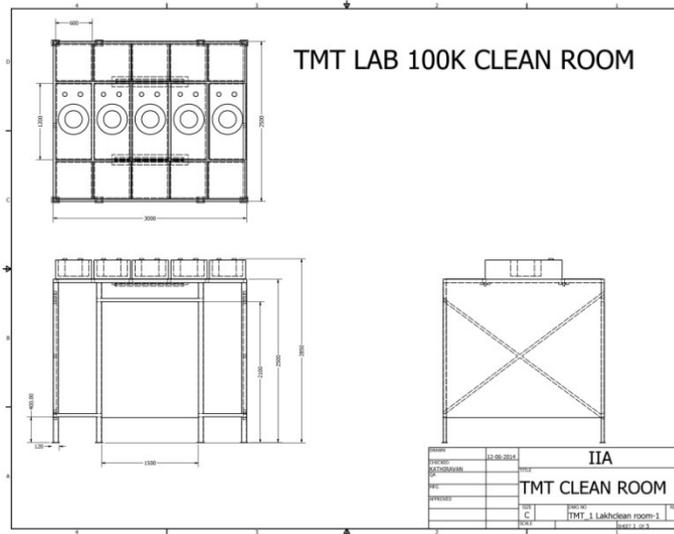
1.9 Site Visit

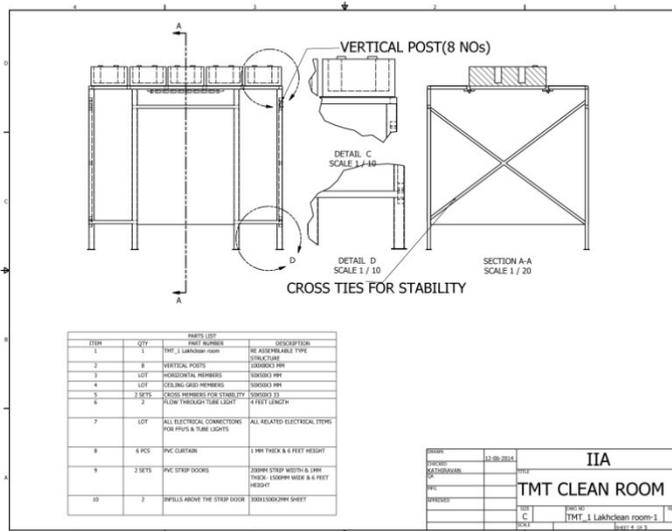
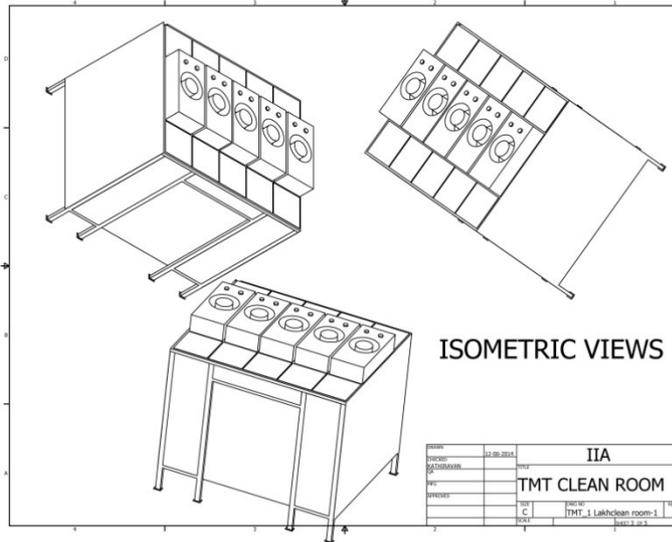
All the bidders are requested to visit the site before quoting the rates. The document shall be read and understood in all respect. If any clarifications are required, the same may got cleared before submitting their offers in writing.

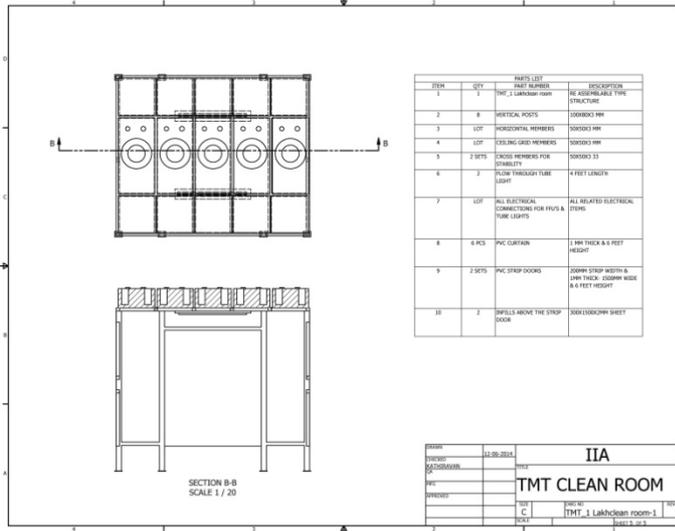
2.0 Fabrication Drawings

A detailed drawing to be submitted with technical details like cross section of the structural members, make and model number of all the electrical fittings, specifications of the PVC soft wall curtain etc.,









Phone: 25530672-76 **Fax:** 25534043

Email: purchase@iiap.res.in **Website:** www.iiap.res.in



INDIAN INSTITUTE OF ASTROPHYSICS

IIND BLOCK, SARJAPUR ROAD, KORAMANGALA,
BANGALORE-560 034

No.RFT/IND/064/14-15

Dated: 10th July 2013

M/s.

Dear Sirs,

The Director, Indian Institute of Astrophysics, Bangalore invites Sealed Tenders for the supply of Stores detailed in the Tender Form hereto annexed. The Tender Terms and conditions enclosed are also may be noted carefully. If you are in a position to quote for the supply in accordance with the requirement, please submit your quotation in the attached Tender Form also.

Your Tender must reach this office on or before the date and time indicated in the Tender Schedule.

Thanking you,

Yours faithfully,

Encl: as above.

Y K Raja Iyengar
Purchase Officer
For Director

INDIAN INSTITUTE OF ASTROPHYSICS

BANGALORE-560 034

PUBLIC TENDER NOTICE NO:RFT/IND/064/14-15
DATED 10TH JULY 2014.

TENDER FORM

No.RFT/IND/064/14-15

Dated: 10th July 2014

FROM:

TO

THE DIRECTOR,
Indian Institute of Astrophysics.,
Bangalore-560 034.

Sir,

I/We hereby offer to supply the stores indicated below at the price hereunder quoted and agree to hold this offer open till _____. I/We shall be bound to supply the store hereby offered upon the issue of the Purchase Order communicating to the acceptance thereof on or before the expiry of the last mentioned date. You are at liberty to accept any one or more of the items of such stores. I/We not withstanding that the offer in this tender has not been accepted in whole, shall be bound to supply such items and such portion or portions of one or more of the items as may be specified in the said Purchase Order communicating the acceptance.

Sl.No.	Description of the item(s)	Quantity	Unit	Rate	Dely.	Period
1.	Class 1 Lakh (FED STD 209/E)/ISO Class 8 Clean Room Structure and Filters for Thirty Meter Telescope (TMT) Project at Indian Institute of Astrophysics, Bangalore as per the specification / RFP	01 No.				

Place at which the Delivery is required : At IIA, 2nd Block Koramangala,
Bangalore – 560 034.

Date by which the supplies are required : Within 30 days from the date of receipt of Purchase order.

2. I/We have understood the items / job of the tender annexed to the invitation to this Public Tender and have thoroughly examined the specifications/drawing and /or pattern quoted or referred to herein and/are fully aware of the nature of the stores required and my/our offer is to supply the stores strictly in accordance with the requirements subject to the terms and conditions contained in the Purchase Order, if communicated on the acceptance of this tender either in whole or in part.

Date:

Signature and seal of Tenderer

TERMS AND CONDITIONS OF CONTRACT

1. DEFINITIONS :

a.) The terms 'Purchaser' shall mean the Director, Indian Institute of Astrophysics, Bangalore -560 034.

b.) The term 'Contractor' shall mean, the person, firm or company with whom or with which the order of stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the contract.

c.) The 'Stores' shall mean that contractor agrees to supply under the contract as specified in the Purchase Order including erection Plants and machinery and subsequent testing, should such as condition be included in the Purchase Order.

d.) The terms 'Work Order' shall mean the communication signed on behalf of the Purchaser by an Officer duly authorized intimating the acceptance on behalf the Purchaser on the terms and conditions mentioned or referred to in the said communications accepting the tender or offer of the contractor for supply of stores or plant or job, machinery or equipment or part thereof.

2. PRICES :

Tenders, offering firm prices will be preferred, where a price variation clause is insisted upon by tenderer, quotations with a reasonable ceiling should be submitted. Such offers should variably be supported by the base price taken into account at the time of tendering and also the formula for any such variations.

3. DUTY EXEMPTION :

(a.) Excise duty exemption certificate will be provided if considered against the categories of items tendered, under the Govt. of India Notification No. 10/97 valid till 2016.

4. SECURITY DEPOSIT:

On acceptance of Tender, the Contractor shall, at the option of the Purchaser and within the period specified by him deposit with him in cash or any other form as the Purchaser may determine, Security deposit not exceeding ten percent of the value of the contract as the Purchaser shall specify. If the contractor is called upon by the purchaser to deposit 'Security' and the contractor fails to provide the security within the period specified, such failure shall constitute a breach of the contract and purchase shall be entitled to make other arrangements for the re-purchase of the stored contracted for at the risk of contractor in terms of sub-clause (ii) and (iii) of clause 10 (b) hereof and/or to recover from the contractor damages arising from such cancellation.

5. GUARANTEE AND REPLACEMENT :

a.) The contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material workmanship and performance.

b.) For a period of (12) twelve months or as per Company norms after the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use arising from faulty stores, design or workmanship, contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 14 months from the date of acceptance thereof by the purchaser who shall state in writing in what respect the store or any part thereof are faulty.

c.) If in the opinion of the purchaser, it becomes necessary to replace or renew any defective stores such replacement or renewal shall be made by the Contractor free of all costs to the purchaser provided the notice informing the contractor of the defect is given by the purchaser in this regard within the said 14 months from the date of acceptance thereof.

d.) Should the contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the contractor the whole or any portion of the defective stores.

e.) The decision of the purchaser, notwithstanding any prior approval of acceptance or inspection thereof on behalf of the purchaser, as to whether or not the stores supplied by the contractor are defective or any defects has developed within the said period of 12 months or as to whether the nature of the defectives required renewal or replacement shall be final, conclusive and binding on the contractor.

f.) To fulfill guarantee conditions outlined in Clause 5(a) to (d) above, the contractor shall, at the option of the purchaser, furnish a Bank Guarantee (as prescribed by the purchaser) from a Bank approved by the purchaser for an amount equivalent to 10% of the value of the contract along with first shipment documents. On the performance and completion of the contract in all respects, the Bank Guarantee will be returned to the contractor without any interest.

g.) All the replacement stores shall also be guaranteed for a period of 12 months from the date of arrival of stores at Purchaser's site.

h.) Even while the 12 months guarantee applied to all stores in case where a greater period is called forth by our specifications then such a specification shall apply; in such cases the period of 14 months referred to in Para 5(b) and (c) shall be 'asked for' guarantee period plus two months.

6. PACKAGING, FORWARDING AND INSURANCE :

The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air, to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packing shall be done by and at the expenses of the contractor. The Purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the contractor and the Purchaser shall pay only for such stores as are actually received in good condition, in accordance with contract.

7. TEST CERTIFICATE :

Wherever required Test Certificate should be sent along with the relevant dispatch documents.

8. ACCEPTANCE OF STORES :

a) The Stores shall be tendered by the contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expenses and cost.

b) It is expressly agreed that the acceptance of stores, contracted for is subject to final approval by the Purchaser, whose decision shall be final.

c) If, in the opinion of the Purchaser all or any of the stores that do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at the price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the contractor.

d) If the whole or any part of the store supplied are rejected in accordance with Clause No.8(c) above, the Purchaser shall be at the liberty, with or without notice to the Contractor, to purchase in the open market at the expenses of the Contractor, stores meeting the necessary performance and quality contracted for in place of these rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

9. REJECTION OF STORES :

Rejected stores will remain at the destination at the Contractor's risk and responsibility, if instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice or rejection, the Purchaser or his representative has, at his discretion the right to scrap or seal or consign the rejected stores to the Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

10. DELIVERY PERIOD :

a.) The delivery period of the stores stipulated in the purchase order shall be deemed to be the essence of the Contract, and delivery must be completed on or before the specified dates/period.

b.) Should the Contractor fails to deliver the stores or any consignment thereof within the period prescribed for such delivery, the Purchaser shall be entitled at his option either.

i) to recover from the Contractor as agreed liquidated damages and not by way of penalty, a sum of 2% of the price of any stores which the contractor has failed to deliver as aforesaid for each month or part of a month, during which the delivery of such stores may in arrears, or

ii) to purchase elsewhere, without notice to the Contractor on the account and at the risk of the contractor, the stores not delivered or others of similar description (where other exactly complying with the particulars are not, in the opinion of the purchaser readily procurable, such opinion being final) without canceling the Contract in respect of the consignment(s) not yet due for delivery or,

iii) to cancel the contract or a portion thereof, and, if so desired to purchase or authorize the purchase of stores not so delivered or others of similar description (where other exactly complying with the particulars are not, in the opinion of the purchaser readily procurable, such opinion final) at the risk and cost of the Contractor.

In the event of action being taken under sub-clause (ii) and (iii) of clause 10 above, the Contractor shall be liable for any loss which the Purchaser may sustain on that account, provided that the re-purchase, or if there is an agreement to re-provide shall made within (6) six months from the date of such failure. But the Contractor shall not be entitled to any gain on such re-purchase made against default. It shall not be necessary for the purchaser to serve a notice of such re-purchase on the defaulting Contractor. This right shall without prejudice to the right of the purchase to recover damages for breach of contract by the Contractor.

11. EXTENSION OF DELIVERY TIME :

As soon as it is apparent that Contractor delivery period/dates cannot be adhered to, an application shall be sent by the Contractor to the Purchaser. If failure, on the part of the Contractor to deliver the stores in proper time shall have arisen from any cause which the Purchaser may admit as reasonable ground for an extension of the time (and his decision shall be final he may allow such additional time as he considers it to be justified by the circumstances of the case without prejudice to the Purchaser's rights to recover liquidated damages under clause 10(i)(ii) and (iii).

12. PAYMENT :

Contractor's bill will be passed only after the stores have been received, inspected and accepted / installed by the Purchaser / completed the job satisfactorily for payment.

13. RECOVERY OF SUMS DUE :

Whenever there is breach of contract whether liquidated or not, money arising out of or under this contract against the contract, the Purchaser shall be entitled to recover such sum by appropriating, in part or whole, the security deposited by the Contractor, if a Security is taken against the contract. In the event of the Security being insufficient or if no security has been taken from the Contractor, then the balance or the total sum recoverable as the case may be shall be deducted from any sum then due or which at any time thereafter may become due to the contractor under this or any other contract with the Purchaser. Should this sum be not sufficient to cover the full amount recoverable, the Contractor shall pay to the Purchaser on demand the remaining balance due. Similarly, if the purchaser has or makes any claims, whether liquidated or not, against the Contractor under any other contract with the purchaser, the payment of all moneys payable under the contract to the Contractor including the Security Deposit shall be withheld till such claims of the Purchaser are finally adjudicated upon and paid by the Contractor.

14. INDEMNITY :

The Contractor shall warrant and be deemed to have warranted that all stores supplied against this contract are free and clean of infringement of any patent, copy right or trade mark, and shall at all time indemnify the purchaser against all claims which may be made in respect of the stores for infringement of any right protected by patent, registration of design or trade mark and shall take all risk of accidents of damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for sufficiency of all the means used by him for the fulfillment of contract.

15. ARBITRATION:

In the event of any question, dispute or difference arising under these conditions contained in the purchase order in connection with this contract, (except as to any matters the decision of which is specially provided for by these conditions), the same shall be referred to the sole arbitration of the Head of the Institution or of some other person appointed by him. It will be no objection that the arbitrator is a Government Servant, that he has to deal with matter to which the Contract relates or that in the course of his duties as Government Servant he has expressed views on all or any of the matters in dispute binding on the parties of this Contract.

(a) IT IS TERMS OF THIS CONTRACT:

If the Arbitrator be the Head of the Institution.,

i) in the event of his being transferred or vacating his office by resignation or otherwise, it shall be lawful for his successor-in-office either to proceed with the reference himself, or to appoint another person as arbitrator, or,

ii) in the event of his being unwilling or unable to act for any reason, it shall be lawful for the Head of the Institution, to appoint another person as arbitrator or,

(b) If the Arbitrator be a Person appointed by the Head of the Institution:-

In the event of his death, neglecting or refusing to act, or resigning or being unable to act for any reason, it shall be lawful for the Institution either to proceed with reference himself or to appoint another person as arbitrator in place of the outgoing arbitrator. Subject as aforesaid the Arbitration Act, 1940 and the rules there under and any statutory modifications thereof for the time being in force shall be deemed to apply to the arbitration proceedings under this clause. The Arbitrator shall have the power to extend with the consent of the Purchaser and the Contractor the time for making a publishing the award. The venue of Arbitration shall be the place as the Purchaser. In his absolute discretion may determine. Work under the contract shall if reasonably possible, continue during Arbitration proceedings.

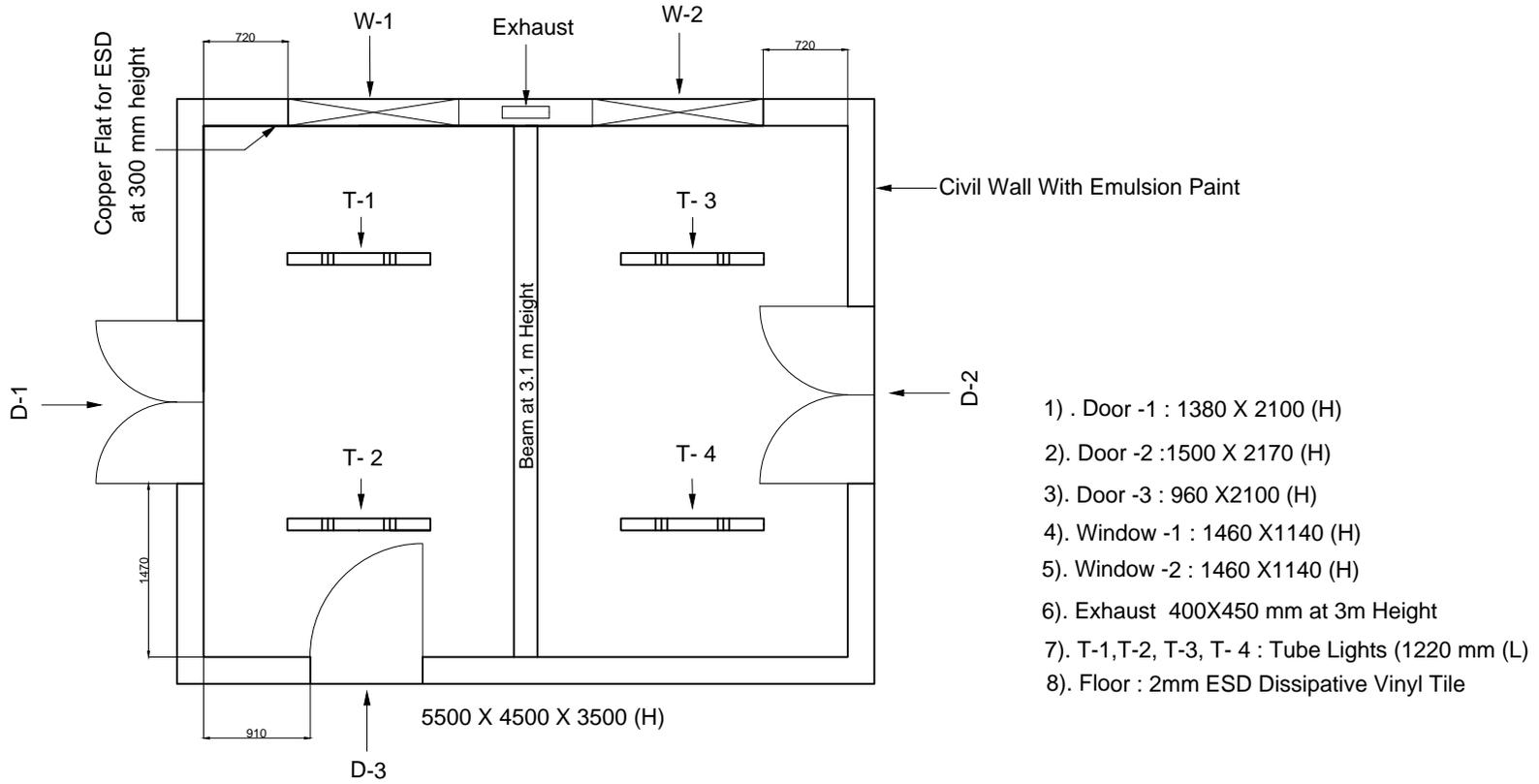
16. COUNTER TERMS AND CONDITIONS OF SUPPLIERS :

Where Counter Terms and Conditions/printed or cyclostyled conditions have been offered by the Supplier, the same shall not be deemed to have been accepted by the Purchaser, unless specific written acceptance thereof is obtained.

17. SECURITY FOR PURCHASER'S MATERIAL(S) :

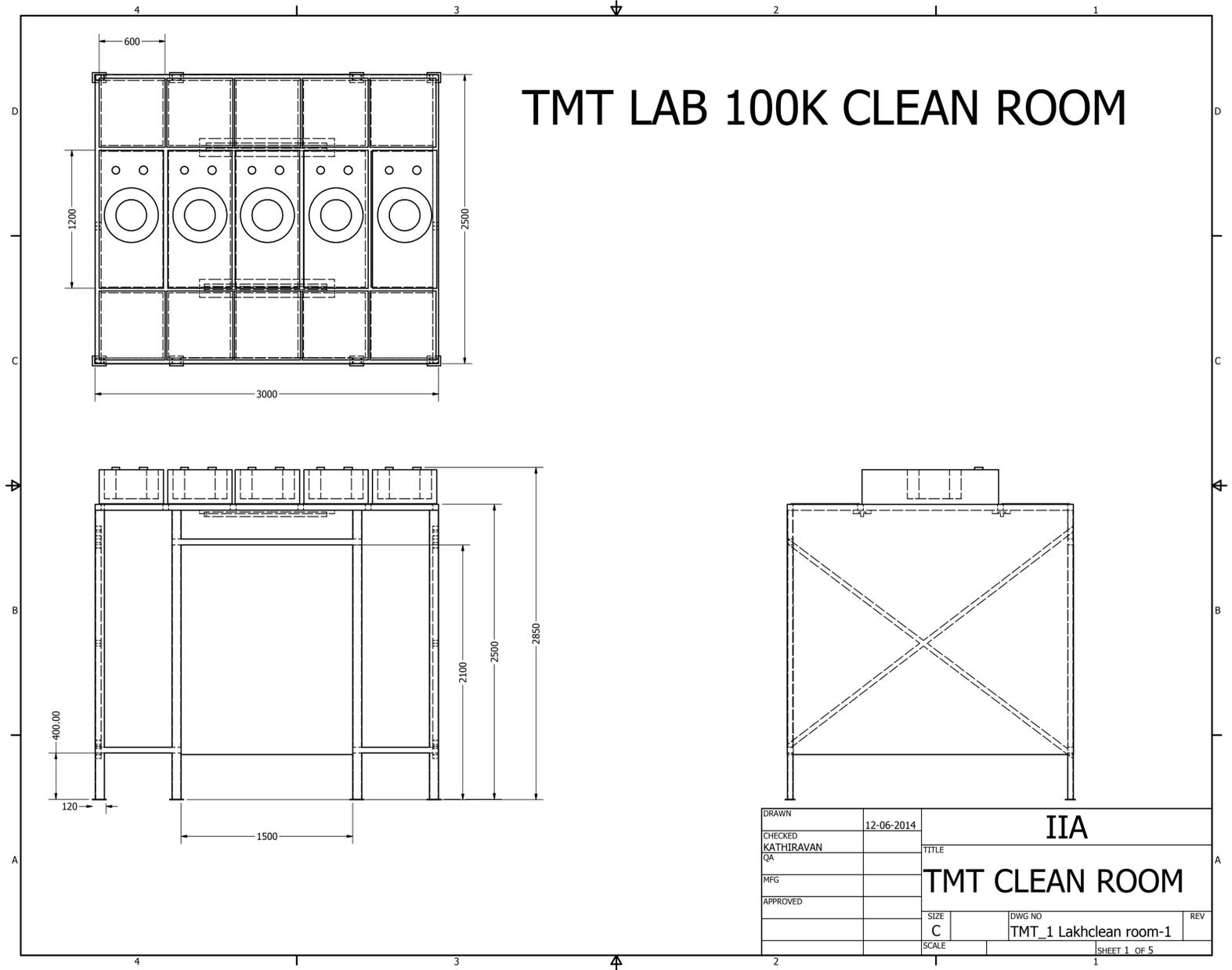
Successful Tenderer will have to furnish in the form of a Bank Guarantee or any other form as called for by the Purchaser towards adequate security for the materials/property by the Purchaser for the due execution of the Contract.

Existing Room for TMT Class 100K Cleanroom

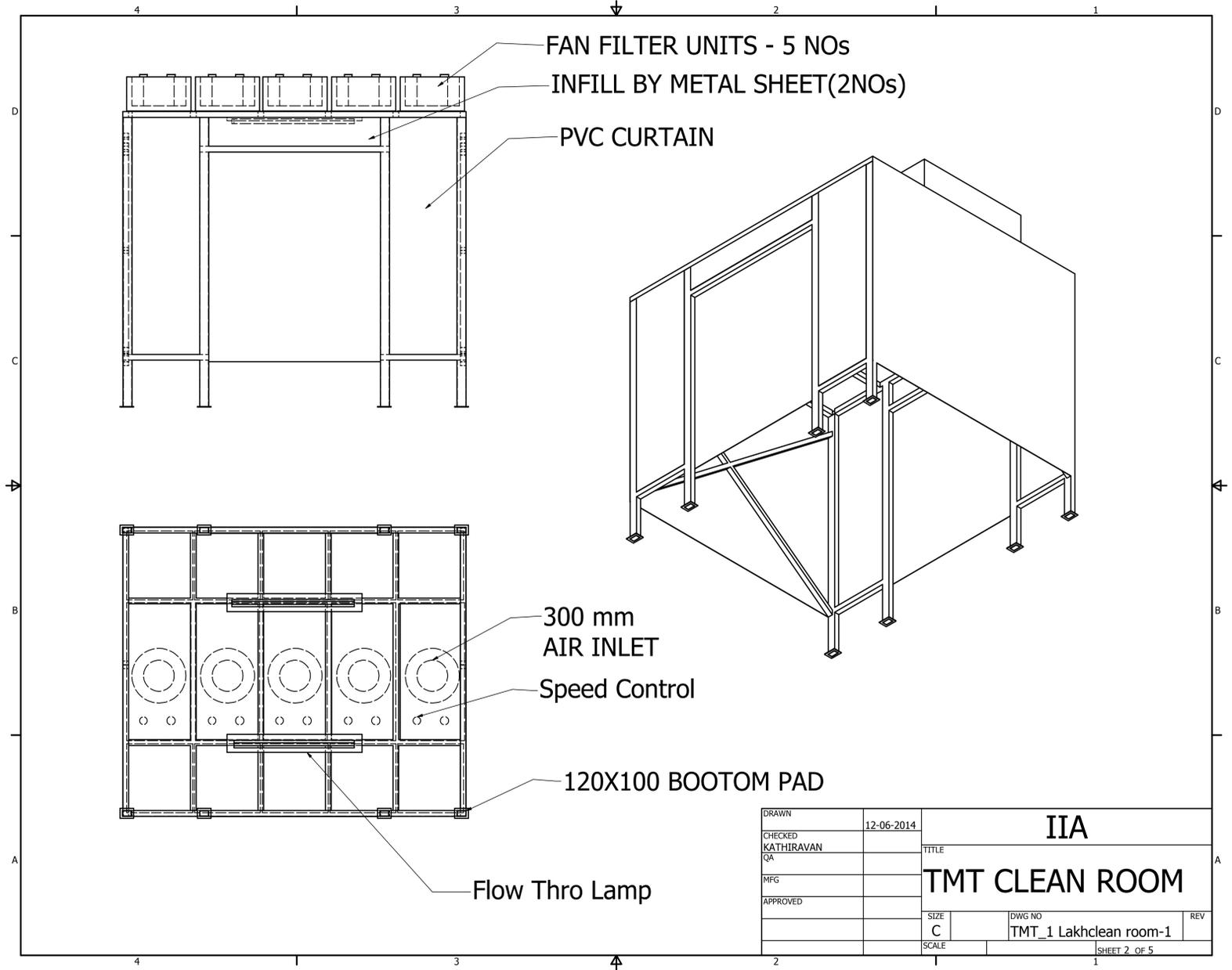


- 1). Door -1 : 1380 X 2100 (H)
- 2). Door -2 :1500 X 2170 (H)
- 3). Door -3 : 960 X2100 (H)
- 4). Window -1 : 1460 X1140 (H)
- 5). Window -2 : 1460 X1140 (H)
- 6). Exhaust 400X450 mm at 3m Height
- 7). T-1,T-2, T-3, T- 4 : Tube Lights (1220 mm (L))
- 8). Floor : 2mm ESD Dissipative Vinyl Tile

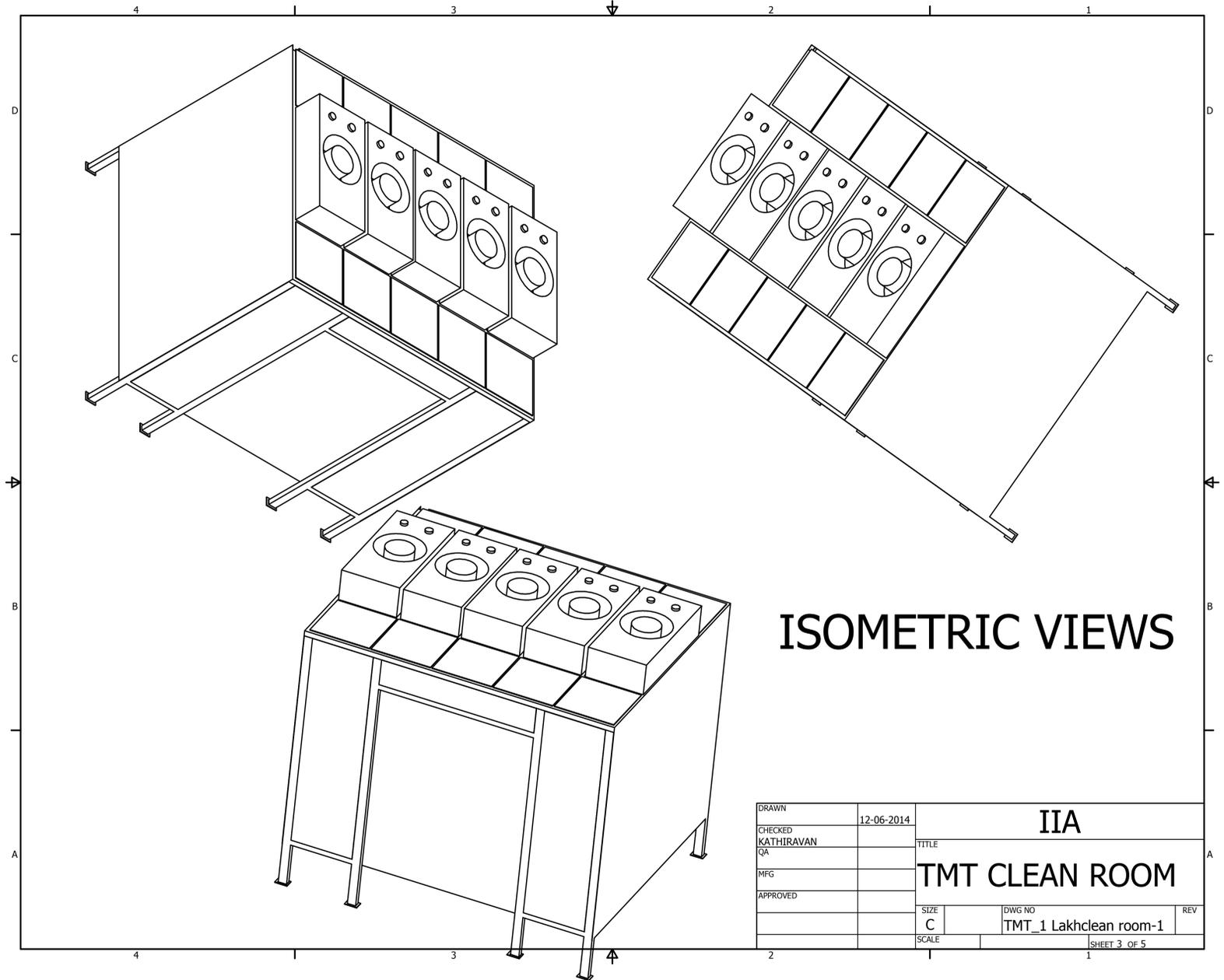
Sl :No	Title	Existing Room for TMT Class 100K Cleanroom
1	Checked & Approved	S.Kathiravan
2	Designed	
3	Drawn	T.Vishnu



DRAWN	12-06-2014	IIA	
CHECKED	KATHIRAVAN	TITLE	
QA		TMT CLEAN ROOM	
MFG		SIZE	DWG NO
APPROVED		C	TMT_1 Lakhclean room-1
		SCALE	REV
			SHEET 1 OF 5

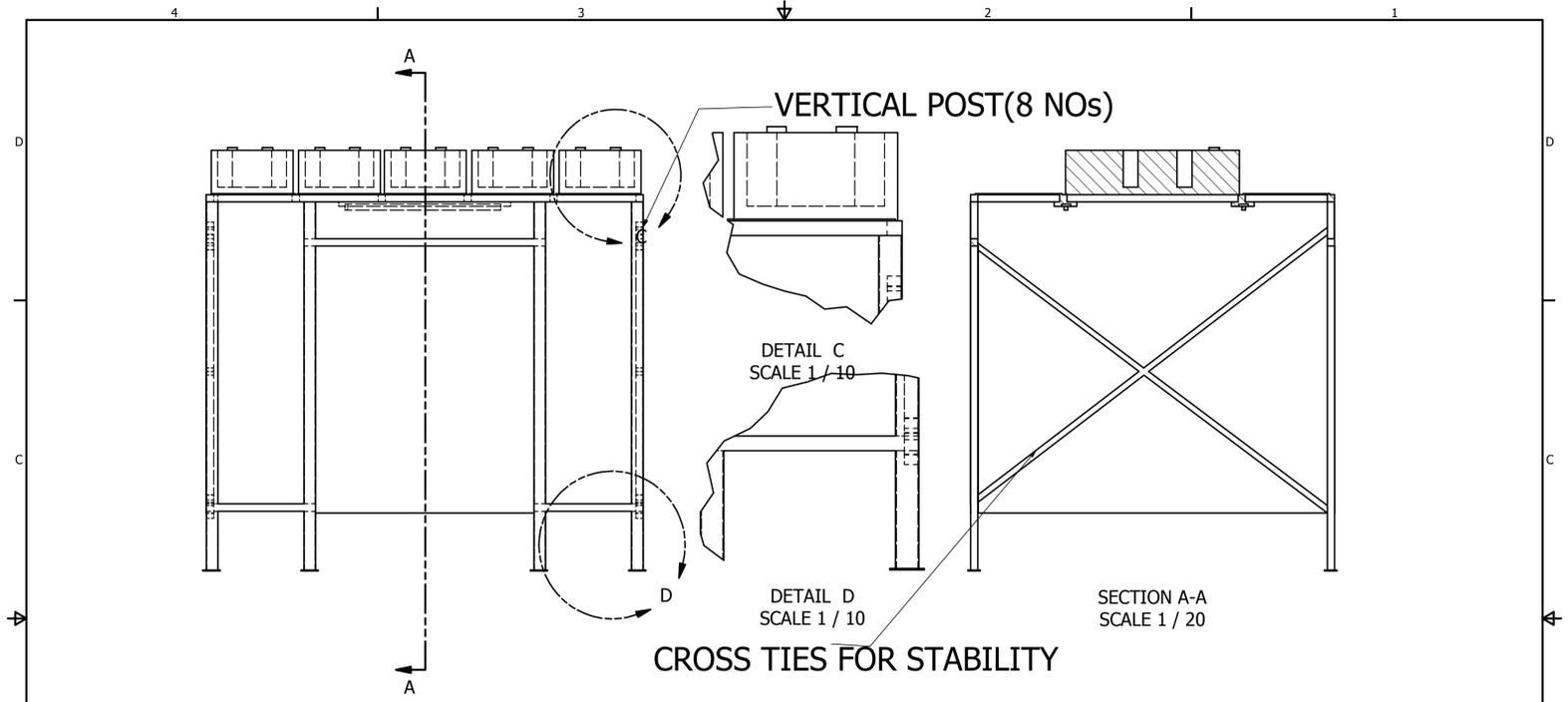


DRAWN	12-06-2014	IIA	
CHECKED	KATHIRAVAN	TITLE	
QA		TMT CLEAN ROOM	
MFG		SIZE	DWG NO
APPROVED		C	TMT_1 Lakhclean room-1
		SCALE	REV
			SHEET 2 OF 5



ISOMETRIC VIEWS

DRAWN	12-06-2014	IIA	
CHECKED		TITLE	
KATHIRAVAN		TMT CLEAN ROOM	
QA			
MFG			
APPROVED		SIZE	DWG NO
		C	TMT_1 Lakhclean room-1
		SCALE	REV
			SHEET 3 OF 5



PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	TMT_1 Lakhclean room	RE ASSEMBLABLE TYPE STRUCTURE
2	8	VERTICAL POSTS	100X80X3 MM
3	LOT	HORIZONTAL MEMBERS	50X50X3 MM
4	LOT	CEILING GRID MEMBERS	50X50X3 MM
5	2 SETS	CROSS MEMBERS FOR STABILITY	50X50X3 33
6	2	FLOW THROUGH TUBE LIGHT	4 FEET LENGTH
7	LOT	ALL ELECTRICAL CONNECTIONS FOR FFUS & TUBE LIGHTS	ALL RELATED ELECTRICAL ITEMS
8	6 PCS	PVC CURTAIN	1 MM THICK & 6 FEET HEIGHT
9	2 SETS	PVC STRIP DOORS	200MM STRIP WIDTH & 1MM THICK- 1500MM WIDE & 6 FEET HEIGHT
10	2	INFILLS ABOVE THE STRIP DOOR	300X1500X2MM SHEET

DRAWN	12-06-2014	IIA	
CHECKED KATHIRAVAN			
QA		TMT CLEAN ROOM	
MFG		SIZE	DWG NO
APPROVED		C	TMT_1 Lakhclean room-1
		SCALE	REV
			SHEET 4 OF 5

