No. MoES/06/04/2014-Genl.
Government of India/भारत सरकार
Ministry of Earth Sciences/पृथ्वी विज्ञान मंत्रालय

Prithvi Bhawan पृथ्वी भवन,
Lodi Road, New Delhi-3 लोदी रोड, नई दिल्ली -3
Dated दिनांक20Dec 2017

To,

1. Broadcast Engineering Consultants India Ltd. (BECIL) CMD, C-56, A/17, Sector-62, NOIDA, Uttar Pradesh-201307
2. Telecommunications Consultants India Ltd. (TCIL), 5th Floor, Greater Kailash-1 New Delhi-48
3. Electronic Corporation of India Ltd. (ECIL) B-2, Local Shopping Centre, DDA, B-2, `A' Block, Ring Road, Naraina, New Delhi-28
4. Indian Telephones industries Ltd. (ITI), Regional Office, 201-202, Rohit House, 3, Tolstoy Marg, New Delhi-01
5. Bharat Electronics Ltd. (BEL), Corporate Office, Outer Ring Road, Nagavara, Bangalore - 560045
6. Central Electronics Ltd. 4, Industrial Area, Sahibabad, Uttar Pradesh

Subject: Tender Document for installation of CCTV Surveillance System in Ministry of Earth Sciences at Prithvi Bhawan, Lodhi Road, New Delhi.

Online bids are hereby invited under Two-Bid System i.e. Technical Bid and Financial Bid from the 6 PSUs mentioned in Ministry of Home Affairs (MHA)'s O.M No. D-32018/33/2015-SSO dated 8 Dec 2015.

2. The bid will be accepted as E-tender only.

3. The tender document contains the following:

Annexure-I -- Instructions for Online Bid Submission
Annexure-II -- Details of CCTV to be installed
Annexure-III - Proforma for Financial Bid
Annexure-IV -- Minimum Technical specifications of CCTV surveillance system as per MHA guidelines

Rishi Kumar
Director (General Admn.)
Tel. 01124669509

No. MoES/06/04/2014-Genl.
Government of India/भारत सरकार
Ministry of Earth Sciences/पृथ्वी विज्ञान मंत्रालय

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6. Central Electronics Ltd. 4, Industrial Area, Sahibabad, Uttar Pradesh

[Tender Notice]

Subject: Tender Document for installation of CCTV Surveillance System in Ministry of Earth Sciences at Prithvi Bhawan, Lodhi Road, New Delhi.

1. **Scope of Work-** The Ministry of Earth Sciences is located in Prithvi Bhawan at Lodhi Road, New Delhi. The Prithvi Bhawan is a 5 storey building and one basement. It is spread over an area of 23590 square meters, out of which 2400 square meters makes its periphery.

This building is proposed to be put under CCTV surveillance system as per the specifications prescribed by the Ministry of Home Affairs (MHA) vide their O.M No. D-32018/3/2015/SSO(Pt.) 16 April 2015. Further, as per the above O.M of the MHA, the work is to be got done from one of the Public Sector Undertakings (PSU) of Government of India.

Accordingly, e- Tender is solicited from the 6 PSUs mentioned in MHA's O.M No. D-32018/33/2015-SSO dated 8 Dec 2015.

2. **Extended warranty -** This Ministry would like to have an extended warranty of the CCTV surveillance system, up to 5 years. Therefore, the firms are requested to quote their rates accordingly.

3. **Specifications of the CCTV system-** As is stated above, the specifications as given in MHA's letter O.M No. D-32018/3/2015/SSO(Pt.) dated 16 April 2015 are to be followed and the proposed installation system should not be of inferior to these specification in any way. However, the specifications can be superior to these specifications.

4. **Number of CCTV's to be installed-** This Ministry has carried out a survey of this building and accordingly, it is estimated that **88 CCTV's** would be required to be installed along with the other systems. The PSUs are to quote their rates as per the estimated number of CCTV camera and other material suggested in this Ministry's estimate at Annex II.

Other Terms & Conditions of the Tender

5. Minimum Eligibility Criteria-

Only the following 6 PSUs which are mentioned in the Ministry of Home Affairs' O.M No. D.32018/33/2015- SSO dated the 8th December, 2015 will be eligible to submit their bids for this Tender:

1. Broadcast Engineering Consultants India Ltd. (BECIL) CMD, C-56, A/17, Sector-62, NOIDA, Uttar Pradesh- 201307

2. Telecommunications Consultants India Ltd. (TCIL), 5th Floor, Greater Kailash-1 New Delhi-48

3. Electronic Corporation of India Ltd. (ECIL) B-2, Local Shopping Centre, DDA, B-2, 'A' Block, Ring Road, Naraina, New Delhi-28

4. Indian Telephones industries Ltd. (ITI), Regional Office, 201-202, Rohit House, 3, Tolstoy Marg, New Delhi-01

5. Bharat Electronics Ltd. (BEL), Corporate Office, Outer Ring Road, Nagavara, Bangalore – 560045

6. Central Electronics Ltd. 4, Industrial Area, Sahibabad, Uttar Pradesh

6. Two bid system

This is a Limited E- Tender and the bids are to be submitted on-line only under two cover system. One bid will be Technical Bid for which the information is to be submitted in the Technical Bid format. The other bid will be Financial Bid which should be submitted separately, with the tender.

First, the Technical bid will be opened and evaluated by the Tender Evaluation Committee. Based on the Technical Evaluation of the bids, the Financial bid of only those PSUs will be opened which meets to Technical eligibility criteria.

7. Last date & time for submission of the Bids-

The bids can be submitted up to 3:00 P.M on 22/01/2018. The responsibility to ensure timely submission of bids lies with the bidder. No request for late submission of the bid will be entertained.

8. Time and date for opening of bids-

The technical bid shall be opened at 3:30 P.M on 23/01/2018 and the PSUs can send their representatives for attending the Technical bid opening. The Financial bids of only those bidders will be opened who qualify the Technical Bid Evaluation criteria and such firms will be informed about the date & time for opening of the financial bids.

9. **Place of opening-**

The bids will be opened at this Ministry's office at Prithvi Bhawan, Lodhi Road, New Delhi

10. **Contact persons -**

I. Rishi Kumar, Director (GA),
Ministry of Earth Sciences, New Delhi- 110003
Ph. 24669509

II. Mrs. Manjula Daniel, Under Secretary (GA),
Ministry of Earth Sciences, New Delhi-110003,
Ph.24669558

11. **Payment Terms-** No advance payment shall be made. Only in exceptional case, on the request of the PSU concerned, up to 40% advance payment can be released against a Bank guarantee only.

Otherwise, the payment shall be released only after the whole work has been completed and on its working satisfactorily.

12. **Transportation-** The items are required to be transported at the risk and expenses of the seller.

13. **Arbritration-** All disputes or differences arising out or in connection with the contract shall be settled by bilateral discussions. If any dispute cannot be settled by mutual discussions within thirty days an independent arbitrator shall be appointed on consent of both parties. The arbitration proceedings shall be held under the provisions of the Arbitration and Conciliation Act 1996 and any of its subsequent amendments. The arbitration proceedings shall be in English and the venue of arbitration shall be Delhi.

14. **Force Majeure-**

14.1 Notwithstanding the provisions stated above, Service Provider shall not be liable for forfeiture of its performance security, penalty or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the contract is the result of an event of Force Majeure.

14.2 For purposes of this clause, —Force Majeure means an event beyond the control of the Service Provider and not involving Service Provider's fault or negligence and not foreseeable. Such events may include, but are not be limited to, acts of God, wars, revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

14.3 If a —Force Majeure situation arises, Service Provider shall promptly notify the Ministry in writing of such conditions and the cause thereof. Unless otherwise directed by the Ministry in writing, Service Provider shall continue to perform its obligations under the contract as far as is reasonably practical, and shall

seek all reasonable alternative means for performance not prevented by the —Force Majeure event.

14.4 Time for performance of the relative obligation suspended by —Force Majeure shall then stand extended by the period for which such cause lasts.

15. In case of any dispute the Jurisdiction of the case shall be in Delhi Court Only.

16. <u>Performance Security-</u>

16.1 The lowest Bidder will have to deposit a Performance Security of an amount of 5% of the Total Tender Value and this Performance Security shall be in the form of Bank Guarantee or FIXED DEPOSIT RECEIPT (FDR) drawn in favour of DDO, MoES and payable at New Delhi. The Performance Security should be valid beyond 60 days from the date on which all contractual obligations are over/completed.

16.2 This is an E-Tender and the Technical & Financial Bids are to be submitted On-Line only on http://eprocure.gov.in/eprocure/app. The Intended Firms (only 6 central PSUs in system integration areas) are to participate in E-tendering and such tenderer should have a Digital Signature for the purpose of participation in the E-Tender process. The "Instructions for online Bid Submission are given at Annexure I". The specifications of the items/number of items/other details is given in Annexure II & III.

16.3 The bidders are required to visit Prithvi Bhavan to see the actual installations to assess the quantum of work involved before submitting the tender. Once the tender is submitted, it will be deemed that the bidder has seen and understood the complete work involved for each of the systems.

16.4 Technical Bid will be opened first and Financial Bid of only those firms will be opened by the Tender Committee which will be found eligible as per Technical Bid.

16.5 The Ministry reserves the right to reject any or all the tenders with or without assigning any reason.

16.6 Terms and Conditions for the contract/quotations and details of the documents are attached which will required to be signed by the respective PSU.

Rishi Kumar
Director (General Admn.)

Copy to:

1. NIC, Ministry of Earth Science for posting the tender document on Ministry of Earth Science's Website.
2. All Ministries/Department for broad publicity.
3. Central Public Procurement Portal website.

Rishi Kumar
Director (General Admn.)

Open Tender No. MoES/06/04/2014-Genl.

Document Control Sheet

Open Tender No.	MoES/06/04/2014-Genl.
Name of Organization	MINISTRY OF EARTH SCIENCES
Last date and time for downloading Tender document	22/01/2018 (15:00 Hrs)
Last Date and Time online submission of Bid & submission of FIXED DEPOSIT RECEIPT (FDR) and tender fee in original (in tender box at this Ministry)	22/01/2018 (15:00 Hrs)
Date and Time of Opening of Technical Bid	23/01/2018(15:30 Hrs)
Address for Communication	Director (General Admn.) Ministry of Earth Sciences Prithvi Bhawan, Lodhi Road, New Delhi –110003 Tel. 01124669509

In case, any holiday is declared by the Government on the day of opening, the tenders will be opened on the next working day at the same time. The Ministry reserves the right to accept or reject any or all the tenders without assigning any reason thereof.

17. Terms & Conditions

I. PSU will ensure that the items will be provided and installed successfully within the stipulated period of time of 3 months (90 Days) of award of work order.

II. PSU will bear the responsibility to bring the items and installing the same in the office.

III. Ministry of Earth Science reserves the right to reject any quotation completely or partially without assigning any reason.

IV. Ministry of Earth Science also reserves the right to cancel the contract before installation, if the items of the PSU are not found satisfactory.

18. Documents to be enclosed with Technical Bid

I. Manufacture Authorization Letter required to be submitted confirming that bidder is authorized to quote the products of OEM & Product should comply with the requirement of this Ministry as per specifications given to the PSU.
II. Brochure of each item in respect of which rates are quoted should also be attached.
III. Compliance sheet should also be attached from bidder's end giving undertaking that the items to be provided by them comply with the specifications provided.
IV. Bidder should clearly mention if there is any deviation from the specifications or else no deviation certificate may be enclosed.

Signature of the Authorized Person/Officer of PSU

_____

Name & Address of the PSU

_____

Phone Number:

_____

ANNEXURE-I

Instructions for Online Bid Submission

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal. More information useful for submitting online bids on the CPP Portal may be obtained at: https://eprocure.gov.in/eprocure/app.

REGISTRATION

1. Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: https://eprocure.gov.in/eprocure/app.) by clicking on the link "Online Bidder Enrollment" on the CPP Portal which is free of charge.
2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
3. Bidders are advised to register their valid email address and mobilenumbers as part of the registration process. These would be used for any communication from the CPP Portal.
4. Upon enrolment, the bidders will be required to register their validDigital Signature Certificate (Class II or Class III Certificated with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g.Sify/TCS/nCode/eMudhra etc.), with their profile.
5. Only one valid DSC should be registered by a bidder. Please notethat the bidders are responsible to ensure that they do not lend their DSC's to other which may lead to misuse.
6. Bidder than logs on to the site through the secured long-in by entering their user ID/password and the password of the DSC/ eToken.

SEARCHING FOR TENDER DOCUMENTS

1. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
2. Once the bidders have selected the tenders they are interested in,they may download the requirement documents/ tender schedules. These tenders can be moved to the respective 'My Tenders' folder.
   This would enable the CPP Portal to intimate the bidders through SMS/e-mail in case there is any corrigendum issued to the tender document.
3. The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification/help from the Helpdesk.

PREPARATION OF BIDS

1. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents- including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
3. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender documents/schedule and generally, they can be in PDF/XLS/RAR/DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
4. To avoid the time and effort required in uploading the same set of standard document which are required to be submitted as part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or "Other important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS

1. Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender documents.
3. Bidder has to select the payment option as "offline" to pay the tender fee/FIXED DEPOSIT RECEIPT (FDR) as applicable and enter details of the instrument.
4. Bidder should prepare the IMD as per the instructions specified in the tender documents. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in their tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
5. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has given as a standard BoQ format with the tender documents, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it only online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
6. The server time (which is displayed on the bidder's dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

7. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentially of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using buyers/bid opener public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
8. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
9. Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
10. The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

1. Any queries relating to the tender documents and the terms and conditions contained therein should be addressed to the Tender inviting Authority for a tender or the relevant contract person indicated in the tender.
2. Any queries relating to the process of online bid submission or queries relating to CCP Portal in general may be directed to the 24×7 CPP Portal Helpdesk. The contact number for the helpdesk is 180030702232.

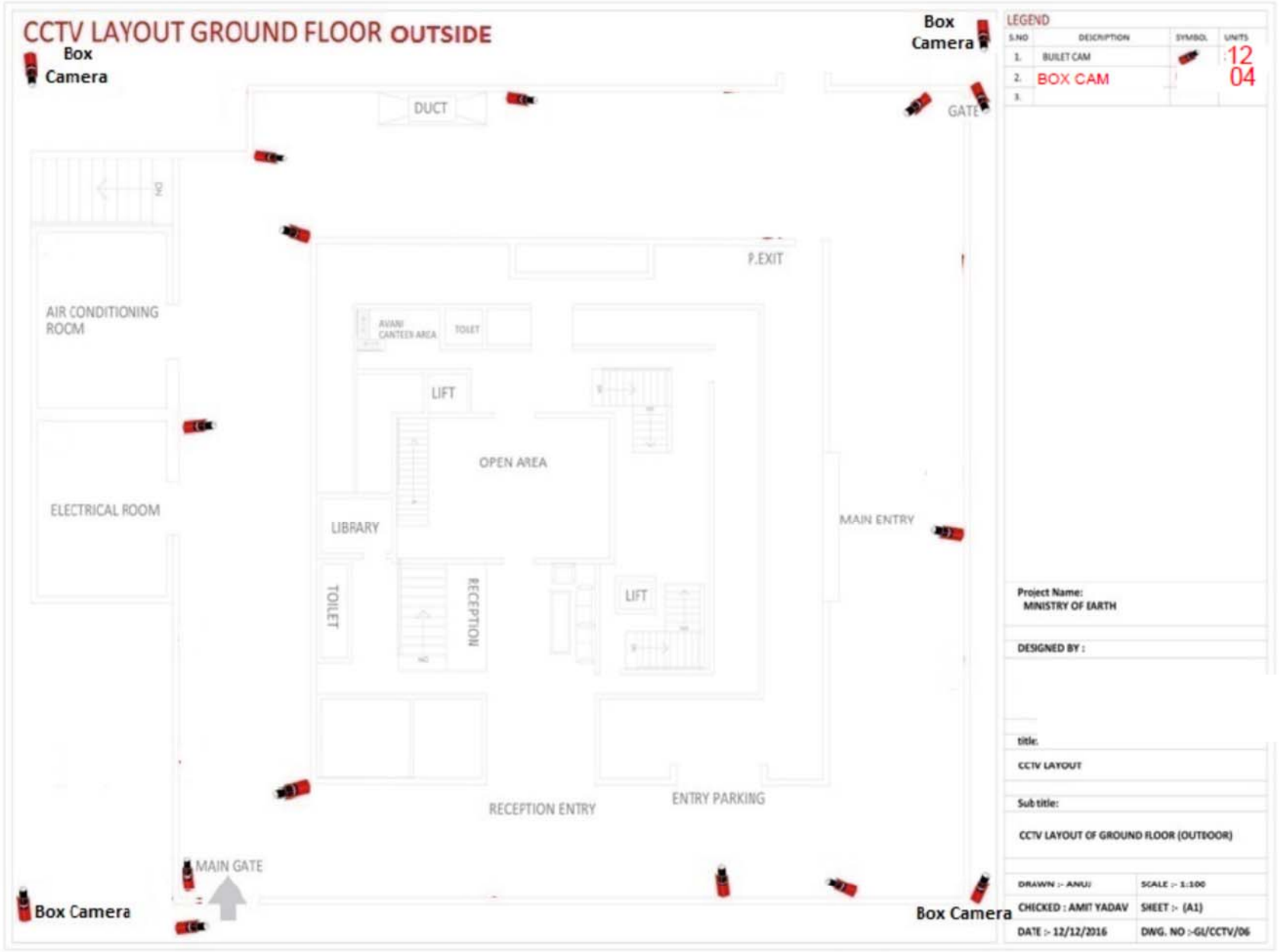
ANNEXURE II

Details of CCTV to be installed

S. No.	Location	HD IP Bullet	HD IP Dome	HD IP Box Cameras	ANPR Camera	Remarks
1	Main Gate Entry				2	ANPR Camera with software.
2	Main Gate Entry / Exit	2				
3	Entry Boundary Wall	2				
4	Electric Sub Station Room	1				
5	AC Plant	1				
6	Main Gate Corner (Box Camera)			1		Automated Varifocal Box Camera 5-50mm Lens
7	IMD Corner (Fire Box View)	1				
8	IMD Corner Boundary Wall	1				
9	IMD Corner Boundary Wall (Box Camera)			1		Automated Varifocal Box Camera 5-50mm Lens
10	IMD Back Gate Entry	1				
11	IMD Office Exit Gate	1				
12	Lodhi Road Corner (Box Camera)			1		Automated Varifocal Box Camera 5-50mm Lens
13	Lodhi Road Office / Goods Entry	1				
14	Habitat Center Road Boundary Wall Corner (Box Camera)	1		1		Automated Varifocal Box Camera 5-50mm Lens
15	Parking Exit					
16	Parking Entry	1				
17	Basement Parking Stairs (Near Car Exit)	2				
18	Near Car Exit Lan	2				
19	Parking Lan 1	2				
20	Basement Staircase Gate 2		1			
21	Basement Staircase (Near Fire Station)		1			
22	Fire Station Entry	1				

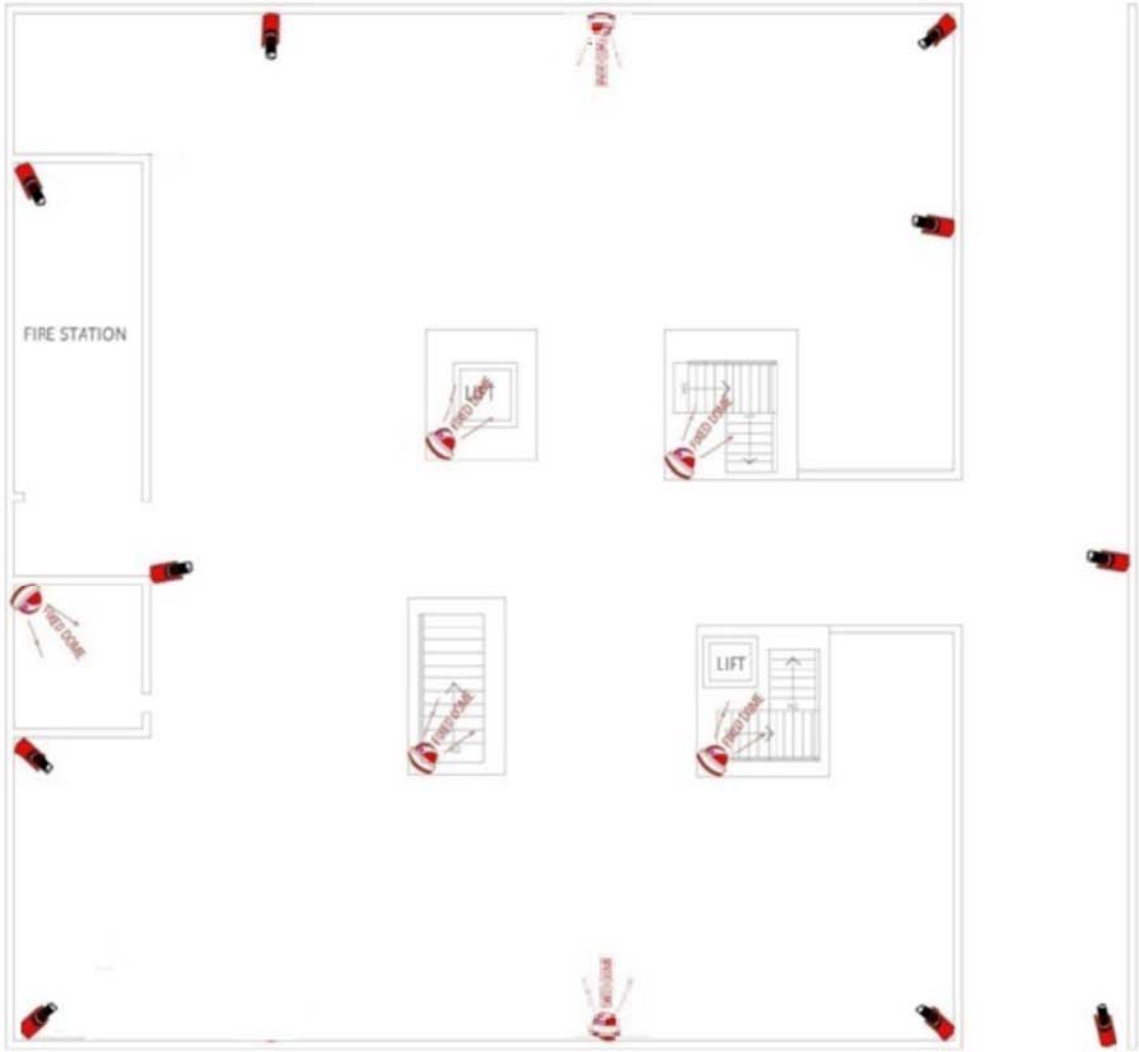
23	Parking Lan 2	2				
24	Staircase (Near Wash Room)		1			
25	Parking Lan 3	2				
26	Basement Lift		1			
27	Basement Parking Staircase 2		1			
28	IMD Corner Office Gate Entry (Inside)	2				
29	Avani Dining Hall		1			
30	Room No. 15 Gallery	2				
31	Room No. 6 opposite Gallery	2				
32	Reception Area	1	1			
33	Room 01 / Library	1				
34	Ground Lift Main Entry		1			
35	Mahika Entry	1	1			
36	Arnav Dinning Area	1	1			
37	Mahika Entry Auditorium	2	1			
38	Room No. 101 to 104 Gallery	1				
39	Room No. 118 Gallery	1	0			
40	All Second Floor as per the diagram	5	1			
41	Room No. 208 Gallery	1	1			
42	Room No. 309 Gallery	2	1			
43	Room No. 301 Gallery	2	1			
44	Room No. 304 Gallery	2				
45	Outside of all Lifts		6			
46	Fourth Floor	5	4			
47	Fifth Floor	2	2			
Total No. Cameras:		**55**	**27**	**4**	**2**	
TOTAL CAMERAS					**88 Nos.**	

CCTV Site Survey Plan Floor Wise



Bullet Camera-16

CCTV LAYOUT BASEMENT FLOOR



LEGEND

S.NO	DESCRIPTION	SYMBOL	UNITS
1.	BULLET CAM		10
2.	DOME CAM		07

Project Name:
MINISTRY OF EARTH

DESIGNED BY :

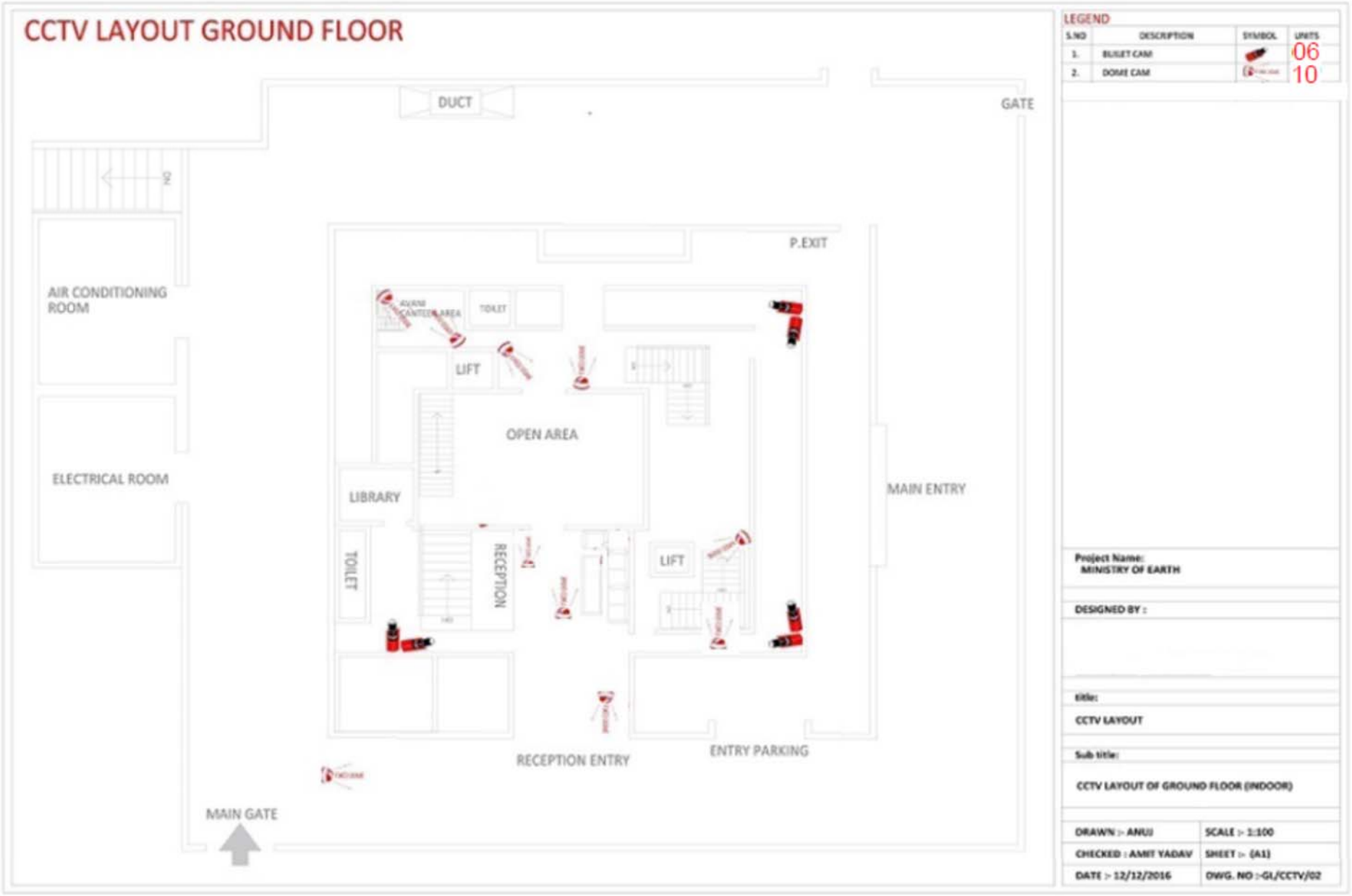
title:
CCTV LAYOUT

Sub title:
CCTV LAYOUT BASEMENT FLOOR

DRAWN :- ANUJ	SCALE :- 1:100
CHECKED : AMIT YADAV	SHEET :- (A1)
DATE :- 12/12/2016	DWG. NO :-GL/CCTV/01

Bullet Camera-10
Dome Camera- 7

CCTV LAYOUT GROUND FLOOR



LEGEND

S.NO	DESCRIPTION	SYMBOL	UNITS
1.	BULLET CAM		06
2.	DOME CAM		10

Project Name:
MINISTRY OF EARTH

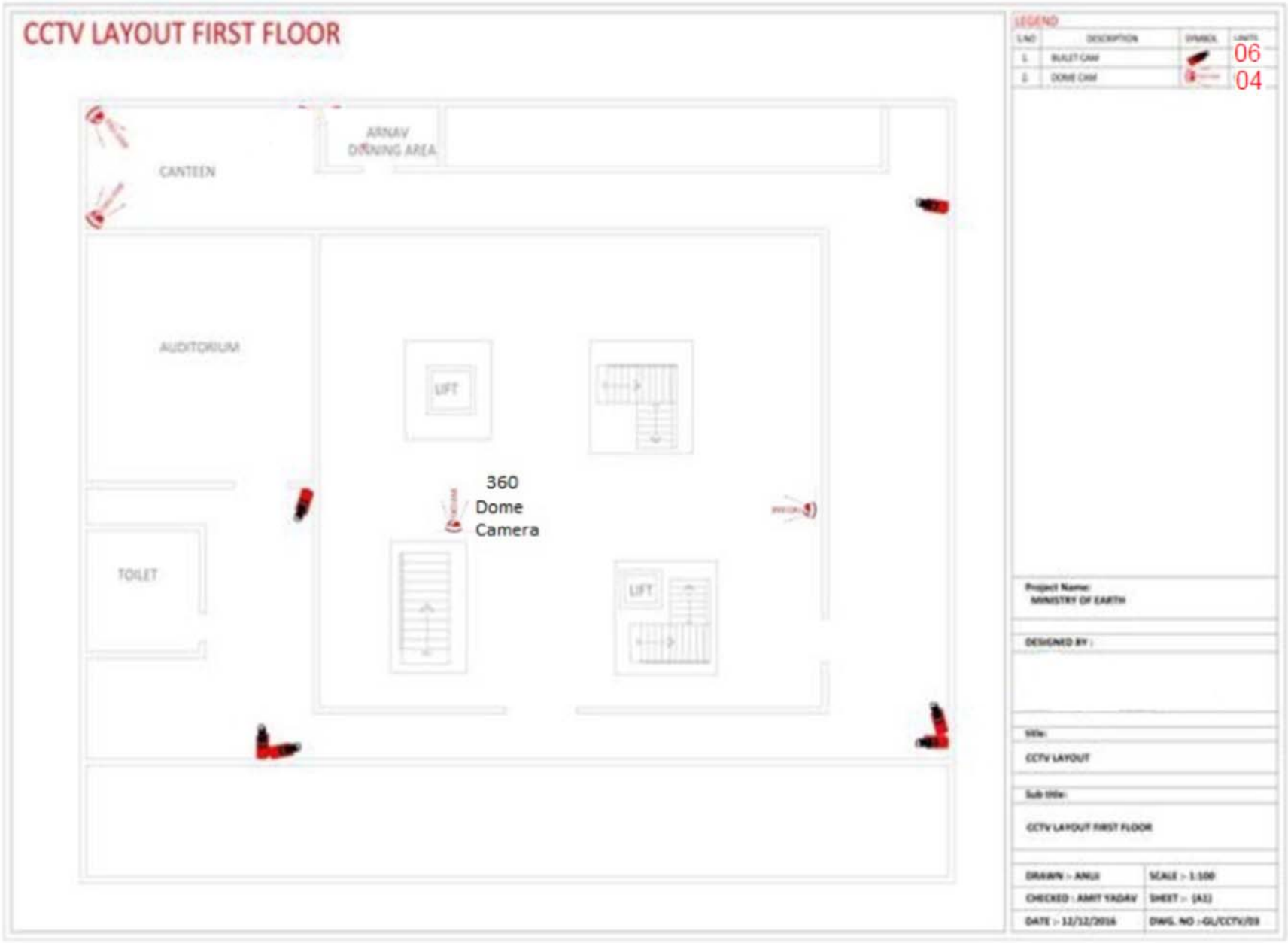
DESIGNED BY :

Title:
CCTV LAYOUT

Sub title:
CCTV LAYOUT OF GROUND FLOOR (INDOOR)

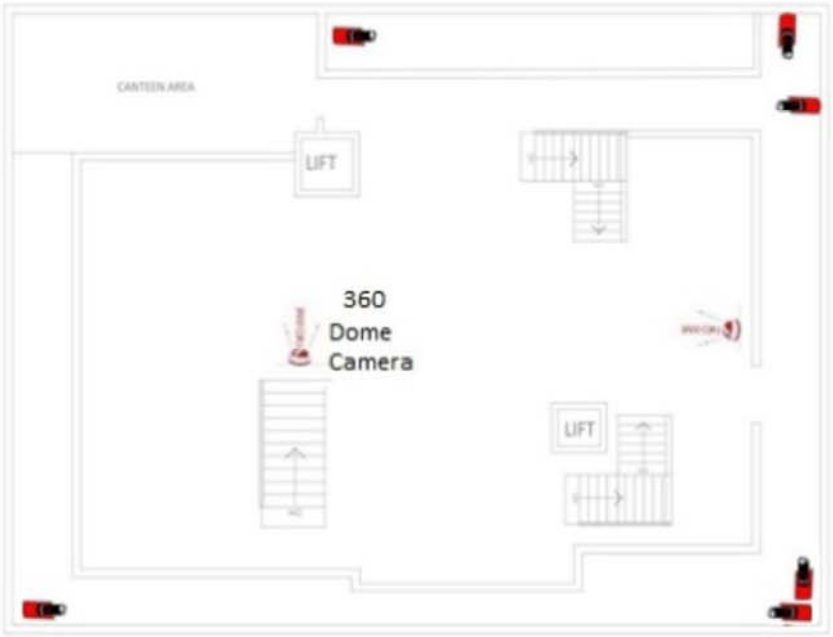
DRAWN :- ANUJ	SCALE :- 1:100
CHECKED : AMIT YADAV	SHEET :- (A1)
DATE :- 12/12/2016	DWG. NO :-GL/CCTV/02

Bullet Camera-6
Dome Camera- 10



Bullet Camera-6
Dome Camera-4

CCTV LAYOUT SECOND FLOOR



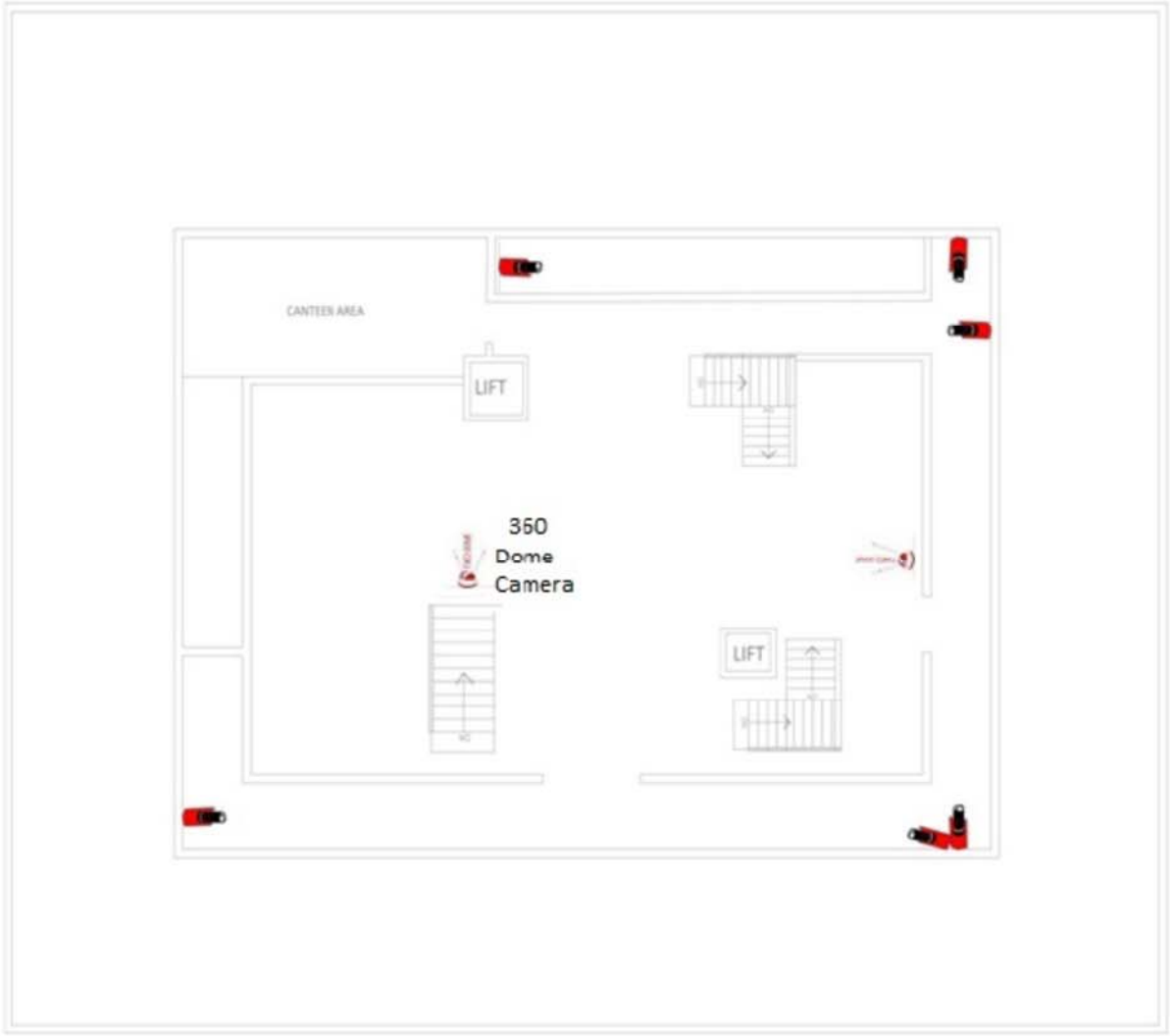
LEGEND

S.NO	DESCRIPTION	SYMBOL	UNITS
1.	BULET CAM		06
2.	DOME CAM		02

Project Name: MINISTRY OF EARTH	
DESIGNED BY :	
title:	
CCTV LAYOUT	
Sub title:	
CCTV LAYOUT SECOND FLOOR	
DRAWN :- ANUJ	SCALE :- 1:100
CHECKED : AMIT YADAV	SHEET :- (A1)
DATE :- 12/12/2016	DWG. NO :-GL/CCTV/04

Bullet Camera-6
Dome Camera-2

CCTV LAYOUT THIRD FLOOR



LEGEND

S.NO	DESCRIPTION	SYMBOL	UNITS
1.	BULET CAM		06
2.	DOME CAM		02

Project Name:
MINISTRY OF EARTH

DESIGNED BY :

title:

CCTV LAYOUT

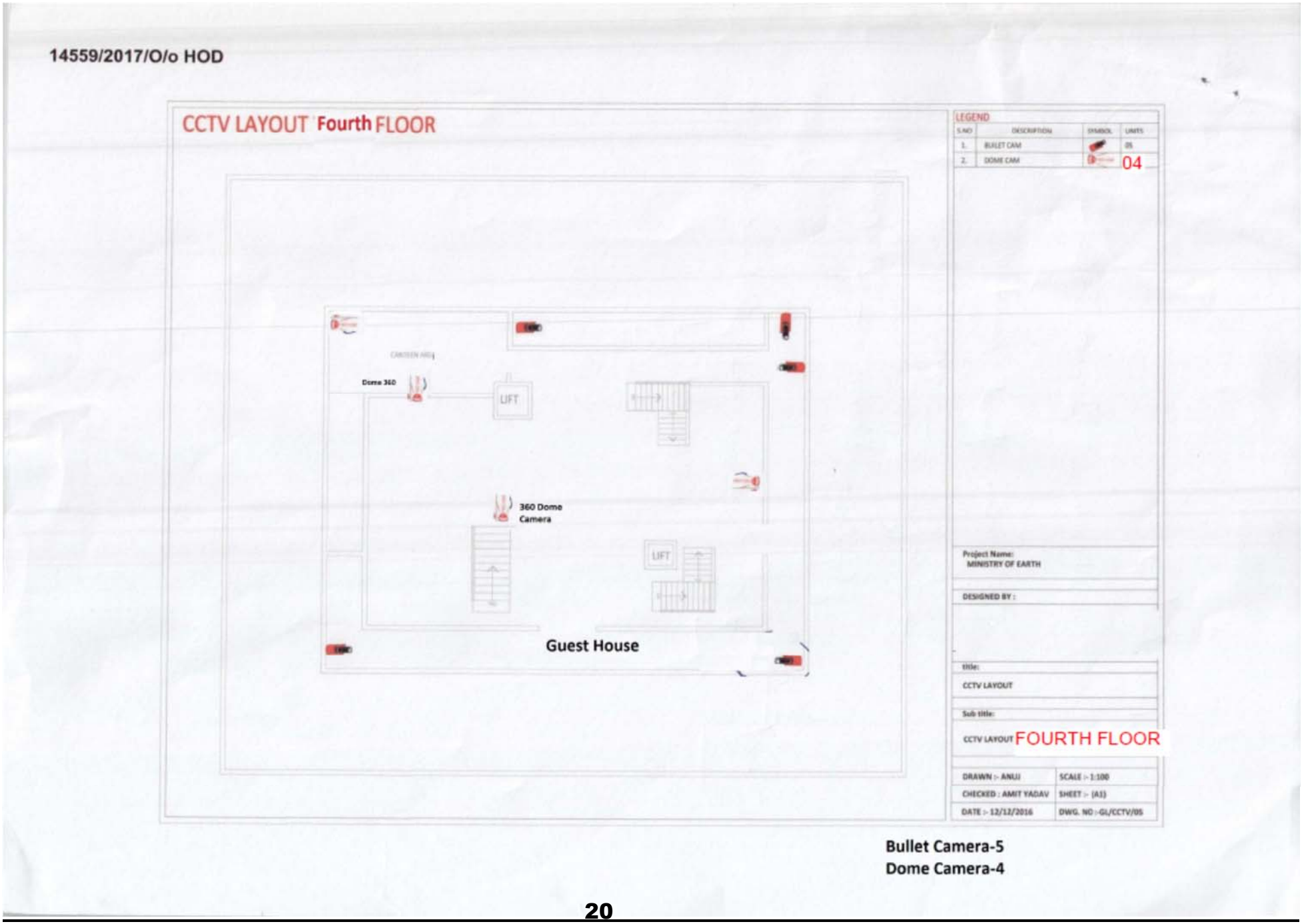
Sub title:

CCTV LAYOUT THIRD FLOOR

DRAWN :- ANUJ	SCALE :- 1:100
CHECKED : AMIT YADAV	SHEET :- (A1)
DATE :- 12/12/2016	DWG. NO :-GL/CCTV/05

Bullet Camera-6
Dome Camera-2

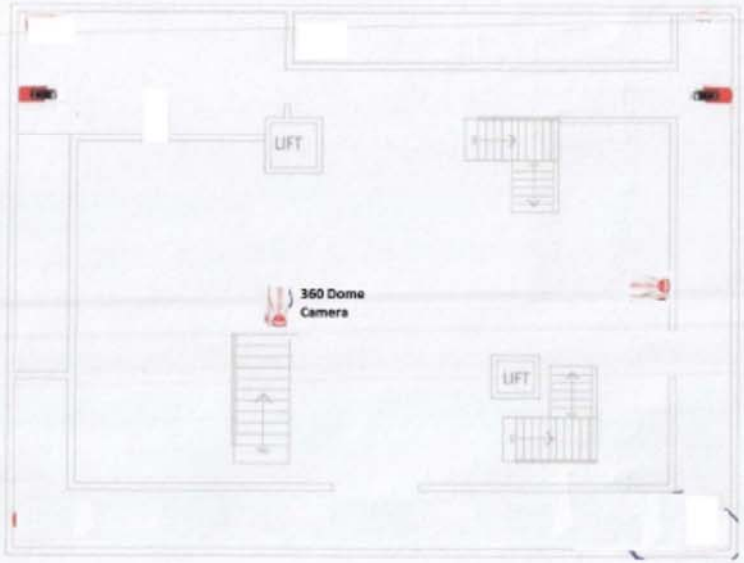
14559/2017/O/o HOD



Bullet Camera-5
Dome Camera-4

14559/2017/O/o HOD

CCTV LAYOUT FIFTH FLOOR



LEGEND

S.NO	DESCRIPTION	SYMBOL	UNITS
1.	BULLET CAM		02
2.	DOME CAM		02

Project Name:
MINISTRY OF EARTH

DESIGNED BY :

title:
CCTV LAYOUT

Sub title:
CCTV LAYOUT FIFTH FLOOR

DRAWN :- ANUJ	SCALE :- 1:100
CHECKED : AMIT YADAV	SHEET :- (A1)
DATE :- 12/12/2016	DWG. NO :-GL/CCTV/05

Bullet Camera-2
Dome Camera-2

FORM FOR FINANCIAL BID

ANNEXURE III

Tender Inviting Authority : Ministry of Earth Sciences	
Name of Work: Installation of CCTV Surveillance System in Ministry of Earth Sciences at Prithvi Bhawan	
Contract No: MoES/6/4/2014-Genl.	
Bidder Name	

PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bid is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

S. No.	Model : Description	Unit	Qty.	Unit Price	Total Amount
1.	IP Based HD CCTV Bullet Camera (Specifications as per MHA Guidelines) – **Annexure-A** (Preferred Make/Models: Pelco, Axis, Samsung, Bosch or Equivalent)	Nos.	55		
2.	IP Based HD CCTV Fixed Dome Camera (Specifications as per MHA Guidelines) **Annexure –B** (Preferred Make/Models: Pelco, Axis, Samsung, Bosch or Equivalent)	Nos.	27		
3.	IP Based HD CCTV Camera- Fixed outdoor Box Camera (Specifications as per MHA Guidelines) **Annexure –B** (Preferred Make/Models: Pelco, Axis, Samsung, Bosch or Equivalent)	Nos.	4		
4.	IP Based ANPR Camera (Preferred Make/Models: Vantage, Vintron, Hikvision or Equivalent)	Nos.	2		
5.	5 to 50 mm varifocal lens C/CS Mountable for Fixed Camera	Nos.	4		
6.	Installation Charges for Indoor Cameras	Nos.	64		
7.	Installation charges for outdoor cameras	Nos.	24		
8.	Network Video Management Software (NVMS) (Preferred Make/Models: Genetee, Myrais, Kritikal or Equivalent)	Nos.	2		
9.	Layer-2 Modular PoE Ethernet Switch with 24 ports, 10/100/1000 Gbit and 4 SFP ports (Multi Mode) (Preferred Make/Models: Cisco/Dlink or Equivalent) For detail specifications see **Annexure- E**	Nos.	12		
10.	Layer-2 Modular PoE Ethernet Switch with 24 ports, 10/100/1000 Gbit and 4 SFP ports (Single Mode) (Preferred Make/Models: Cisco/Dlink or Equivalent) For detail specifications see **Annexure- E**	Nos.	4		
11.	Single Mode SFP module	Nos.	8		
12.	Multi Mode SFT module		24		
13.	Installation Charges for Layer-2 Modular PoE Ethernet Switch with 24 ports	Nos.	16		
14.	6 core multi mode Fibre Optic Cable	Meter	500		
15.	Layer-3 Gigabit Ethernet Cisco Switch For detail specifications see **Annexure- D**	Nos.	1		

16.	6 core single mode Fibre optic Cable	Meter	1000		
17.	Laying and fixing of Fibre optic cables	Meter	1500		
18.	Wall mounted Network Rack – 9U/6U	Nos.	16		
19.	Installation and Fixing of 9U/6U Racks	Nos.	16		
20.	Server Network Rack (Tower) 19 U with power and Fans	Nos.	1		
21.	CAT-6 UTP Cable (Preferred Make/Models: Dlink, Tyco, Digilink or Equivalent)	Meter	6000		
22.	Laying and fixing of CAT-6 UTP Cable	Meter	6000		
23.	Laying Conduits/Channels	Meter	2000		
24.	Pole and installation for CCTV Camera- Fixed outdoor Box Camera	Nos.	4		
25.	Digging and refilling with Soft/Hard	Mtr.	150		
26.	I/O Box with Modules	Nos.	88		
27.	Installation and fixing of I/O Box and modules	Nos.	88		
28.	24 Ports Jack Panels	Nos.	16		
29.	UTP Cable Manager	Nos.	16		
30.	UTP CAT-6 Patch Card 7Ft.	Nos.	88		
31.	UTP CAT-6 Patch Card 3Ft.	Nos.	88		
32.	Ferules (1 to 10 & A to Z)	Nos.	10		
33.	**Rack Mounted Servers**: Intel based 2*8 Core latest Zeon Processor, 32GB DDR4 RAM, 2TB SATA HDD, 4 Gigbit LAN Ports with 400Mb/sec aggregate , DVD, USB Ports (Preferred Make/Models: HP, Lenovo or Equivalent)	Nos.	2		
34.	Microsoft Windows Server 2012 R2 with License	Nos.	2		
35.	**Network Storage Servers**: SAN system with 20 TB 7.5K RPM SATA 3.5 HS HDD, Controller node should support 1TB, 4TB & 6TB 3.5 Hot swap disk drives, and RAID 5 support, System scalability/expansion, System Redundancies, Data Access Protocol support NFSv3, CIFS/SMB Storage system should distribute/load balance video files across all nodes in the system, storage system should be scalable from single node to 256 nodes. For detail specifications please (Preferred Make/Models: Hitachi, Netapp, Dell, HP or Equivalent)	Nos.	1		
36.	**Network Storage Servers**: SAN system with 20 TB 10K RPM SATA 3.5 HS HDD, Controller node should support 1TB, 4TB & 6TB 3.5 Hot swap disk drives, and RAID 5 support, System scalability/expansion, System Redundancies, Data Access Protocol support NFSv3, CIFS/SMB	Nos.	1		

	Storage system should distribute/load balance video files across all nodes in the system, storage system should be scalable from single node to 256 nodes. For detail specifications see **Annexure- D** (Preferred Make/Models: Hitachi, Netapp, Dell, HP or Equivalent)				
37.	**Desktop/Workstation**: Intel I7 7th Generation or above processor, 1TB SATA HDD 500 RPM, 8GB DDR4 RAM with 4 GB Dedicated RAM with HD Graphics card, DVI,HDMI,VGA Ports,2*Giga Bit LAN Ports, Keyboard, Mouse, 3XUSB. 3.0, 17" Full HD LED Monitor with Windows 10 Professional/Premium Version. (Preferred Make/Models: HP, DELL, Lenovo or Equivalent)	Nos.	4		
38.	Installation and Configuration Charges for Storage Servers	Nos.	2		
39.	**LED TV 40" or abvoe:** 40" or above Professional LED Smart TV with Full HD, HDMI, LAN, USB WiFi Ports. (Preferred Make/Models: LG, Samsung, Panasonic, Sony or Equivalent) For detail specifications please see **Annexure –F**	Nos.	5		
40.	**5 KVA** online UPS with Min. 30 Minutes Backup. (Preferred Make/Models:Emerson, Tritonics, Hitachi or Equivalent)	Nos.	1		
41.	**TOTAL (INC. TAXES)**				
	QUOTED RATE IN WORDS INR ONLY				

Note: If any of the above items is required to be reduced in number or to be increased in number, the amount on pro-rata basis will be decreased or increased

Annexure-IV

MINIMUM TECHNICAL SPECIFICATIONS OF CCTV SURVEILANCE SYSTEM AS PER MHA GUIDELINES

Annexure-A

MINIMUM TECHNICAL SPECIFICATIONS OF VARIOUS COMPONENTS OF THE CCTV SURVEILANCE SYSTEM RECOMMENDED FOR GOVERNMENT BUILDING UNDER MHA SECURITY COVER FOR AREAS INSIDE THE BUILDING

1(a) IP Based Fixed Box Camera

2.1 Mega Pixel Full HD1080 Fixed (BOX) Camera Specifications

Sr. No	Specification	Description
1	Image sensor	1/3" Progressive scan CMOS sensor with WDR
2	Resolution	1920x1080p
3	Mega Pixel	2.1 Mega Pixel Full HD.
3a.	Lens	5-50mm varifocal,
4	Minimum Illumination	Colour- 0.5 Lux @30IRE, Black & White- 0.05 Lux @30IRE,
5	Signal to Noise Ratio	>= 50dB, Back light compensation ON/OFF selectable
6	Compression	Dual H.264 compression standards.
7	Lens mount	CS/ C type
8	Day/Night Camera	Auto day/night configuration
9	FPS	Min 25 Frames per second for both the streams with Full HD @ 25FPS @ H.264 + D1 @ 25FPS @ H.264 on two streams respectively
10	Shutter speed	1 s to 1/10,000 or better
11	Tamper Detection	ON/Off
12	Bit Rate	64Kbps to 8Mbps. Camera should able to give stream in both CBR and VBR. With CBR maximum of @2Mbps bit rate. Shall work on less than 3Mbps average for Full HD @ 25FPS @ VBR
13	Streaming	Camera should support unicast and multicast streams
14	Web interface	Camera should have web interface to configure and control
15	Text superimposing	Super imposing the title and date & time on the video
16	Alarm input	One Dry alarm input & Output
17	Edge Storage	Provision for 64GB SD Card.
18	Ethernet, Network protocols	10/100 Tx Auto sensing(half/full duplex), 802.3af class 3 PoE , IPv4/v6, Unicast, Multicast, RTP, TCP, UDP, HTTP, IGMP, ICMP, DHCP, DNS, ONVIF
19	Discovery Interface	OEM interface to detect the cameras automatically and configure network settings.
20	Housing	vandal resistant Aluminum enclosure with IP66, Sunshield, built in Heater & Blower
21	Power requirement	PoE and Local power supply for camera, Heater and Blower as per manufacturer standard.
22	Operating Temperature	0 to 50 C Degrees
23	Operating Humidity	20 to 80% RH non- condensing

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Annexure-B

24	Regulatory Approvals	FCC,CE, RoHS, UL/EN

MINIMUM TECHNICAL SPECIFICATIONS OF VARIOUS COMPONENTS OF THE CCTV SURVEILANCE SYSTEM RECOMMENDED FOR GOVERNMENT BUILDING UNDER MHA SECURITY COVER FOR AREAS INSIDE THE BUILDING

1(b) IP Based Fixed Dome Camera

2.1 Mega Pixel Full HD1080 Fixed Dome Camera Specifications		
Sr. No	Specification	Description
1	Image sensor	1/3" Progressive scan CMOS sensor, WDR.
2	Mega Pixel	2.1 Mega Pixel Full HD.
3	Resolution	1920 x 1080 or better and camera resolution can be configurable in all standards resolutions like VGA, 4CIF/D1, HD 720p
4	Illumination	Colour-0.5 Lux @30IRE, Black & White- 0.05 Lux @30IRE, IR sensitive , Back light compensation ON/OFF selectable
5	Signal to Noise Ratio	>= 50dB
6	Compression	Dual H.264 compression standards.
7	Varifocal lens	Focal length: 5mm - 50mm
8	Lens mount	Integrated
9	Day/Night Camera	Should have auto day/night configuration, with auto AGC.
10	FPS	Min 25 Frames per second for both the streams with Full HD @ 25FPS @ H.264 + D1 @ 25FPS @ H.264 on two streams respectively
11	Shutter speed	1 s to 1/10,000 s or better
12	Digital Zooming	Up to 4 X digital zoom the live video.
13	streams	Camera should have minimum dual stream, and each stream can be individually configurable, and can able to choose stream for live and recording.
14	Streaming	Camera should support unicast and multicast streams
15	Bit Rate	Camera should able to give stream in both CBR and VBR. With CBR maximum of @2Mbps bit rate. Shall work on less than 3Mbps average for Full HD @ 25FPS @ VBR
16	Web interface	Camera should have web interface to configure and control
17	Alarm input	One Dry alarm input & Output
18	Text superimposing	Camera should support the super impose the title and date & time on the video
19	Ethernet, Network protocols	10/100 Tx Auto sensing(half/full duplex), 802.3af PoE , IPv4/v6, SNMP, IGMP, DHCP.
20	Housing	vandal resistant Aluminum enclosure with IP66,IK 10 Indoor Housing
21	Power Requirement.	PoE and local power supply for camera, Heater and Blower as per manufacturer standard.
22	Operating Temperature	0 to 50 Degrees C
23	Operating Humidity	20 to 80% RH non- condensing
24	Regulatory Approvals	FCC,CE, RoHS, UL/EN

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Annexure-C

NIMUM TECHNICAL SPECIFICATIONS OF VARIOUS COMPONENTS OF THE CCTV URVEILANCE SYSTEM RECOMMENDED FOR GOVERNMENT BUILDING UNDER MHA ECURITY COVER FOR AREAS INSIDE THE BUILDING

2 (c) Storage: - Video Management Storage

Storage	Specification (Video Management Storage Min 30 Days Backup with 24*7)
System Architecture	Storage system should be based on a symmetric and fully distributed grid / scale-out architecture, with linear scalability of performance and capacity
	Storage system should support nodes with multiple CPU architectures (x86, RISC) in the same grid & namespace to ensure future scalability
	Storage system should support node controllers of different generations to participate in the same grid and namespace
Hard Disk Type	Controller nodes should support 1TB, 4TB & 6TB , 7200RPM 3.5 SATA Hot swap disk drives , Raid 5
Disk drives	Each node should contain a maximum 12 disk drives, to minimize hot-spots
Storage Nodes	Storage system should scale from single node to 256 nodes
	System should support capacity / performance enhancement with additional nodes without downtime to production
	Storage system should distribute / load-balance video files across all nodes in the system
	In the event of addition / removal of nodes, the system should automatically rebalance existing across remaining / all nodes
Controller Memory	Each storage node should support minimum 16GB, and should be scalable to at least 32GB
Network Connectivity	Each storage node should support min. 4Gbps aggregate Gigabit Ethernet ports and 400MB/sec aggregated network bandwidth for video streams
System Scalability/Expansion	Capacity: The storage system should support scaling to 4TB under a single global namespace
	Performance: The system should support automatic scaling of performance with every addition of capacity to the namespace
System Redundancies	Individual nodes should support configuration for single or two disk failures, as required
	Storage node should support network port bonding and sustain port / link failures without connection loss
System management	System should support management of all nodes / controllers through a single window / dashboard
Data Access Protocol	NFSv3, CIFS/SMB
Access Control	Folder and File Level access control security for users and groups which enables only authorised user to access the video files
System Alerts	Integrated error logging and automatic email forwarding of error alerts and error display on web management console
Archiving support	Support for optional tape archiving module with drag and drop feature
Licensing	All above features (except optional tape archiving module) should be enabled and available on the storage system by default
Power Supply	Redundant power supply (230VAC, 50Hz)

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...UM TECHNICAL SPECIFICATIONS OF VARIOUS COMPONENTS OF THE CCTV ...VEILANCE SYSTEM RECOMMENDED FOR GOVERNMENT BUILDING UNDER MHA ...CURITY COVER FOR AREAS INSIDE THE BUILDING

2. (d & e)

Power Backup: - Online UPS for cameras and server with min 30 mint. Backup.
Display:-LED Display 42 Inch. No is dependent on cameras

MINIMUM TECHNICAL SPECIFICATIONS OF VARIOUS COMPONENTS OF THE CCTV SURVEILANCE SYSTEM RECOMMENDED FOR GOVERNMENT BUILDING UNDER MHA SECURITY COVER FOR AREAS INSIDE THE BUILDING

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3. ACTIVE NETWORK COMPONENTS

3 (a) Layers 3 Switch (Core Switch)

Layers 3 Switch (Core Switch)	Specification
	Architecture The switch shall be non-blocking in architecture and should have stand alone/stack/chassis. Shall be 19" Rack Mountable. Shall have dual, hot-swappable AC power supplies Shall have 16 RJ-45 autosensing 10/100/1000 ports and 24 SFP fixed Gigabit Ethernet SFP ports Shall have 4 x fixed 1G/10G SFP+ ports Shall have 1 RJ-45 serial console port Shall have 1 GB SDRAM and 512 MB flash Shall have switching capacity of 208 Gbps Shall have up to 155 million pps switching throughput Resiliency Shall have the capability to extend the control plane across multiple active switches making it a virtual switching fabric, enabling interconnected switches to perform as single Layer-2 switch and Layer-3 router Shall support virtual switching fabric creation across nine switches using 10G Ethernet Links IEEE 802.1D Spanning Tree Protocol, IEEE 802.1w Rapid Spanning Tree Protocol and IEEE 802.1s Multiple Spanning Tree Protocol IEEE 802.3ad Link Aggregation Control Protocol (LACP) Ring protocol support to provide sub-100 ms recovery for ring Ethernet-based topology Virtual Router Redundancy Protocol (VRRP) to allow a group of routers to dynamically back each other up to create highly available routed environments Graceful restart for OSPF, IS-IS and BGP protocols Bidirectional Forwarding Detection (BFD) for OSPF, IS-IS and BGP protocols Layer 2 Features Shall support up to 4,000 port or IEEE 802.1Q-based VLANs Shall support GARP VLAN Registration Protocol or

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	equivalent feature to allow automatic learning and dynamic assignment of VLANs Shall have the capability to monitor link connectivity and shut down ports at both ends if uni-directional traffic is detected, preventing loops Shall support IEEE 802.1ad QinQ and Selective QinQ to increase the scalability of an Ethernet network by providing a hierarchical structure Shall support Jumbo frames on GbE and 10-GbE ports Internet Group Management Protocol (IGMP) Multicast Listener Discovery (MLD) snooping IEEE 802.1AB Link Layer Discovery Protocol (LLDP) Multicast VLAN to allow multiple VLANs to receive the same IPv4 or IPv6 multicast traffic Layer 3 Features (any additional licenses required shall be included) Shall have Static Routing for IPv4 and IPv6 Shall have RIP for IPv4 (RIPv1/v2) and IPv6 (RIPng) Shall have OSPF for IPv4 (OSPFv2) and IPv6 (OSPFv3) Shall have IS-IS for IPv4 and IPv6 (IS-ISv6) Shall have Border Gateway Protocol 4 with support for IPv6 addressing Shall have Policy-based routing Shall have Unicast Reverse Path Forwarding (uRPF) Shall support IPv6 tunneling to allow IPv6 packets to traverse IPv4-only networks by encapsulating the IPv6 packet into a standard IPv4 packet Dynamic Host Configuration Protocol (DHCP) client, Relay and server PIM Dense Mode (PIM-DM), Sparse Mode (PIM-SM), and Source-Specific Mode (PIM-SSM) for IPv4 and IPv6 multicast applications MPLS capability including MPLS VPNs and MPLS Traffic Engineering (MPLS TE) VPLS for data center to data center communication at Layer 2; provides support of hierarchical VPLS for scalability Shall provide support of hierarchical VPLS (H-VPLS) for scalability QoS and Security Features Access Control Lists for both IPv4 and IPv6 for filtering traffic to prevent unauthorized users from accessing the network Port-based rate limiting and access control list (ACL) based rate limiting Congestion avoidance using Weighted Random Early Detection (WRED) Powerful QoS feature supporting strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), weighted deficit round robin (WDRR)

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	and weighted random early discard (WRED) IEEE 802.1x to provide port-based user authentication with multiple 802.1x authentication sessions per port Media access control (MAC) authentication to provide simple authentication based on a user's MAC address Dynamic Host Configuration Protocol (DHCP) snooping to prevent unauthorized DHCP servers Port security and port isolation Management Features Configuration through the CLI, console, Telnet, SSH and Web Management SNMPv1, v2, and v3 and Remote monitoring (RMON) support sFlow (RFC 3176) or equivalent for traffic analysis Management security through multiple privilege levels with password protection FTP, TFTP, and SFTP support Port mirroring to duplicate port traffic (ingress and egress) to a local or remote monitoring port. RADIUS/TACACS+ for switch security access administration Network Time Protocol (NTP) or equivalent support Shall have Ethernet OAM (IEEE 802.3ah) management capability Environmental Features Shall provide support for RoHS and WEEE regulations Shall be capable of supporting both AC and DC Power inputs Operating temperature of 0°C to 45°C Safety and Emission standards including UL 60950-1; IEC 60950-1; VCCI Class A; EN 55022 Class A

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Annexure-E

24 Port PoE Switch (Layer 2+)	
Architecture	Switch Should have minimum 20 10/100/1000BASE-T ports, 4 Combo 10/100/1000BASE-T/SFP ports, support minimum 4-Port 10 Gigabit SFP+.
	The switch should have console port for out of band management & external SD card memory slot
Network Media	SFP's 1000 BaseSX,1000BaseLX,1000BaseTX
Performance	The Switch shall have Non-blocking wire speed switch fabric of 128 GBPS with Min 95.24Mpps or higher
	The Switch shall support Min. 16K Mac address and Switch shall have dedicated ports for stacking of 12 switches with a minimum of 40 Gbps dedicated stacking bandwidth
	The switch should have support for redundant power supply.
Layer 2 Features	Switch shall support IGMP snooping V-1, 2 & 3, FTP & TFTP and NTP / SNTP for synchronization of date and time from central NTP Server.
	The Switch should have Port Mirroring One to one/Many to One
VLAN	The LAN switch shall have IEEE 802.1Q VLAN encapsulation. Up to 255 VLANs per switch with Management VLAN, Asymmetric VLAN, Voice VLAN, Auto Surveillance VLAN
Quality of Service	It shall support 802.1p Priority Queues (8 Queues)
	Queue Handling mode: WRR & Strict Mode
	Class of service shall be based on DSCP,802.1p queues
L3 Features	Switch shall support 256 static routing entries for IPv4, 128 entries for IPv6 with support RIP V1/V2, RIPng
	Switch shall support DHCP Auto-Configuration, DHCP Relay Option 60; 61, 82 and DHCP Server.
	Switch shall support 802.3ah Ethernet Link OAM, IEEE1588 Precision Time Protocol (PTP), Cable Diagnostics, Connectivity Fault Management (CFM) and *f*ITU-T Y.1731.
Management	Switch shall support IPv6 MLDv1 & v2 Snooping, IPv6 Host support (- IPv6 support: Addressing; IPv6: ICMPv6, TCP/UDP over IPv6; Applications: Ping/Traceroute/TY/SSH/TFTP, SNMP for IPv6 objects), HTTP and HTTP(s) over IPv6, Syslog over IPv6) from Day 1.
	Switch shall have full-featured console port providing complete control of the switch with a familiar command-line interface (CLI).
	Switch shall be SNMP manageable with support for SNMP Version 1, 2 and 3.
	Switch shall support Multiple privilege levels to provide different levels of access on console port and telnet sessions.
Certification	Switch should be CE,FCC,cUL,VCCI certified

Annexure –F

40 inch Full HD or Higher LED Monitor

Sl. No.	Functionality/ Description	Minimum Specifications
1	Type of Monitor	40” LED Professional Colour Monitor (Flat panel design)
2	Panel	LED/OLED
3	Aspect ratio	16:9
4	Response time	9ms or better
5	View Angle	178° or better
6	Contrast ratio	5000: 1 or better
7	Display Colors	16 million (1080)
8	Indicators/ Controls	User friendly on-screen menus & front panel controls, indicators
9	Speakers	Integrated
10	Input Voltage	230 V+/- 10% AC, 50 Hz
11	Input Signal & Connections	DVI,HDMI, Composite/Component, USB
12	Mount	Suitable mounting arrangement for installing the monitor on wall/ ceiling/ Floor to be provided
13	Operating temperature	0° to 40°C or better
14	Operating Humidity	20% to 80%, non-condensing
15	Accessories	All required cables and connectors, Documentation: Installation guide, Operation & Maintenance Manuals, Installation CDs for driver software
16	Make	SAMSUNG, PANASONIC, LG or EQUIVALENT