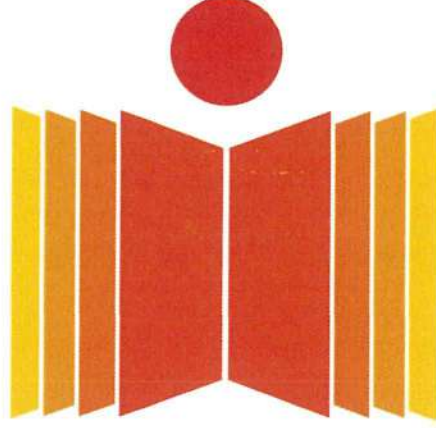


NIT No. IITH/CMD/CIV/NIT/2026-27/14

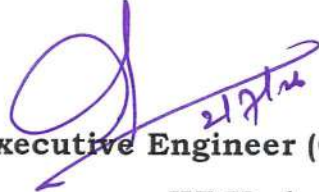


भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

Volume - 1

NOTICE INVITING TENDER AND SPECIAL CONDITIONS OF CONTRACT

Name of the work: Construction of Director's Residence cum Integrated Office Ancillary Buildings including Boundary wall at IIT Hyderabad, Kandi, Sangareddy.


Executive Engineer (Civil)
IIT Hyderabad

(This page Intentionally Left Blank)

VOLUME-01

INDEX

Sl. No.	Description	Page No
1	Notice Inviting Tender (NIT)	1
2	Instructions for online submission	2
3	Preparation of Bids	3
4	Submission of Bids	3
5	Eligibility Criteria	5-10
6	Proforma of Schedules A to F	11-12
7	Schedule F	13-22
8	Volume – 1 Section:01, NIT Form & Acceptance	23-26
9	Volume – 1 Section:02, Special Conditions of Contract	27-49
10	Volume – 1 Section:03, Mandatory Compliances to Achieve SVAGRIHA Certification	50-54
11	Volume – 1 Section:04, General Information	55-66
12	Volume – 1 Section:05, Technical Bid & Bid Forms	67-99
13	Schedule of Civil items with detailed nomenclature	100-132
14	Schedule of Electrical and Eletro-Mehanical work items with detailed nomenclature	133-162

INDEX

Sl. No.	Description	Page No
1	<u>Volume -01:</u> Notice Inviting Tender and Special Conditions of Contract	1-162
2	<u>Volume -02 (a):</u> Schedule of Sub-Heads (Financial Bids)	163
3	<u>Volume -02 (b):</u> Payment Schedule (Sub-head wise %break-up/Annexure to Financial Bid)	164-190
4	<u>Volume -03:</u> Technical Specifications - Civil Works	191-278
5	<u>Volume -04:</u> Scope of work and Technical Specifications for Electrical & Mechanical (E&M) Components	279-555
6	<u>Volume -05:</u> Architectural Structural Drawings	556-679
7	<u>Volume -06:</u> General Conditions of Contract for EPC Projects	680-799

INDIAN INSTITUTE OF TECHNOLOGY HYDERABAD

NOTICE INVITING TENDER

NIT Reference No. IITH/CMD/CIV/NIT/2026-27/14

Indian Institute of Technology Hyderabad invites on behalf of President of India online bids (**e-tendering**) Item rate/percentage rate-composite bids in **Two Bid System** on **Engineering, Procurement and Construction (EPC) in Mode III** basis from approved and eligible Composite Contractors of CPWD and those of appropriate list of M.E.S., BSNL, Railway and State P.W.D. (R&B) for the below mentioned work.

The enlistment of the Composite Contractors should be valid on the last date of submission of bid.

Copy of valid contractor's registration certificate, PAN card, GST Registration certificate & GSTIN should accompany the Technical Bid.

1.1	NIT No.:	IITH/CMD/CIVIL/NIT/2026-27/14
1.2	Name of Work:	<i>Construction of Director's Residence cum Integrated Office Ancillary Buildings including Boundary wall at IIT Hyderabad, Kandi, Sangareddy.</i>
1.3	Estimated Cost: (given merely as a rough guide)	<i>Rs. 5,03,15,679/- Civil Component: Rs. 3,50,13,818/- Electrical Component: Rs. 1,53,01,861/-</i>
1.4	Earnest Money Deposit (EMD):	<i>Rs. 10,06,400/-</i>
1.5	Period of Completion:	<i>300 days</i>
1.6	Date and time of Online Publication of Tender	<i>02/07/2026 1500hrs</i>
1.7	Date and time of Download of Tender	<i>02/07/2026 1530hrs</i>
1.8	Last Date and time for receiving of Pre-Bid Queries	<i>09/07/2026 0900 hrs</i>
1.9	Pre-Bid Meeting @ Conference Hall, CMD, IIT Hyderabad	<i>09/07/2026 1100hrs</i>
1.10	Last Date and time for Submission of Bids	<i>20/07/2026 1500hrs</i>
1.11	Date and time of Opening of Technical Bids	<i>21/07/2026 1530hrs</i>
1.12	Date and time of Opening of Financial Bids	<i>To be intimated later to the technically qualified bidders</i>
1.13	Cost of Bid Document:	<i>NIL</i>

Instructions to the Bidders 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 mobile numbers 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 valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g., Sify / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

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 required 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 document / 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 documents which are required to be submitted as a 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.

Note: *My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in My Documents space, this does not automatically ensure these Documents being part of Technical Bid.*

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 document.
- 3) Bidder has to select the payment option as "offline" to pay the tender fee / EMD as applicable and enter details of the instrument.
- 4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date and time of bid submission or as specified in the 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) ***Tenders without valid EMD will be summarily rejected. No exemption of EMD's or process fee for MSME/NSIC registered contractors.***
- 6) 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 been given as a standard BoQ format with the tender document, 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 online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

- 7) The server time (which is displayed on the bidders' 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.
- 8) 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 confidentiality 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 a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 9) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 10) 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.
- 11) 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 document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- 2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

NOTICE INVITING TENDER

NIT Reference No. IITH/CMD/CIV/NIT/2026-27/14

1. Bidders shall produce definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:-

Criteria of eligibility for submission of tender documents apart from basic eligibility:

Three similar works each of value not less than 40% of estimated cost put to tender (ECPT)

OR

Two similar works each of value not less than 60% of estimated cost put to tender (ECPT)

OR

One similar work of value not less than 80% of estimated cost put to tender (ECPT) (rounded to nearest Rs. 10 lac) in last 7 (Seven) years ending last day of the month previous to the one in which the tenders are invited.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of submission of tender.

Similar work shall mean "Construction of RCC framed structure buildings in which at least completion of one building of single storied including finishing's, internal & external electro-mechanical works, public health Engineering systems all completed executed under one agreement in India". (Godowns/ Ware houses/ factory Sheds shall not be considered as eligible similar works).

However, the similar work experience criteria for internal & external Electro-Mechanical works (i.e. Lifts, ELV, internal & external electrification works etc.,) shall be fulfilled by Main Contractor/Agency or their Specialized Agencies as per the Vol-1, Section-4 General Information @Sl.No.2.15

2. The bidder should have had average **annual financial turn over** (gross) of **Rs. 4.03 Crore** on construction works during the last three Consecutive years ending March 2025, Balance sheets should be duly audited by Chartered Accountant. Year in which no turnover is shown would also be considered for working out the average. (Scanned copy of Audited Balance Sheet to be uploaded).
3. Should not have incurred any loss (profit after tax should be positive) in more than two years during the last five consecutive years ending 31st March 2025, duly audited and certified by the Chartered Accountant.
4. Should have a **Net worth certificate of Rs. 50.32 Lakh** (Net worth certificate of **Rs. 50.32 Lakh** issued by certified Chartered Accountant with UDIN as per Format prescribed in Form B-1 of CPWD SOP 2024 at page No.214).

5. **Bidding Capacity:** Should have bidding capacity equal to or more than the estimated cost of the work put to tender. The bidding capacity shall be worked out by the following formula:

$$\text{Bidding Capacity} = \{[AxNx1.5]-B\} \geq \text{Total Estimated Cost Put to Tender}$$

Where,

A = Maximum turnover in construction works executed in any one year during the last seven years taking into account the completed as well as works in progress. The value of completed works shall be brought to current costing level by enhancing at a simple rate of 7% per annum. **(As per the attached Form - A1)**

N = Number of years prescribed for completion of work for which bids have been invited.

B = Value of existing commitments and ongoing works to be completed during the period of completion of work for which bids have been invited. **(As per the attached Form - C1)**

6. To become eligible, the tenderer shall have to furnish an affidavit as per Form 'M' of the NIT.
7. Agreement shall be drawn with the successful tenderer on prescribed Form which is as available in the enclosed General Conditions of the Contract, EPC Projects with up-to-date correction slips, if any. Tenderer shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
8. The time allowed for carrying out the work will be as stated at para 1 from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the tender documents.
9. The site for the work is available.
10. Tender documents consisting of plans, specifications, the schedule of quantities of the various classes of work to be done and the set of terms & conditions of contract to be complied with by the contractor whose tender may be accepted and other necessary documents can be seen for information at the above-mentioned website:
11. Applicants are advised to keep visiting the above-mentioned website from time to time (till the deadline for bid submission) for any updates in respect of the tender documents, if any. Failure to do so shall not absolve the applicant of his liabilities to submit the applications complete in all respects including updates thereof, if any. An incomplete application may be liable for rejection.

12. *The contractor whose tender is accepted, will be required to furnish PG shall be 5% of the Estimated cost put to tender (ECPT) or contract amount whichever is higher or as prescribed from time to time to be submitted in the form as prescribed in GCC. Performance Guarantee shall remain valid for a minimum period of six months beyond the date of completion of all contractual obligations as per GCC. In case of contracts where supplementary agreement is drawn, the fresh PG shall be obtained from the contractor @ 5% of the amount of the supplementary agreement or as prescribed from time to time. The PG received against the original work shall be released as per contract conditions.* This guarantee shall be in the form of Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any scheduled bank or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F'. including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor.

A bid will be treated as abnormally low if the quoted bid amount is lesser than 80% of the estimated cost put to tender.

Requirement of Additional Performance Guarantee (APG): In case of abnormally low bids as defined above, the bidder shall be required to submit Additional Performance Guarantee (APG) in addition to the standard Performance Guarantee (PG). The amount of Additional Performance Guarantee (APG) shall be equivalent to the difference between the 80% amount of ECPT and quoted amount. (e.g. if ECPT is A and quoted amount is 0.7A then the amount of APG shall be $0.8A - 0.7A$).

The Additional Performance Guarantee (APG) shall be in the prescribed format of Performance Guarantee and has to be submitted within the time frame prescribed for submission of Performance Guarantee. The other terms and conditions of release etc. of APG shall be same as that of PG.

13. The description of the buildings and work is as follows:

Sl. No.	Building Names	No. of Blocks	No. of Floors	Built up Minimum plinth area in sqm
1	Director's Residence	1	G+1	560 sqm

The proposed Director's Residence comprises a total built-up area of 560 sqm, accommodating 3 bedrooms, Living room, Dining room, Kitchen and prayer room including integrated office space with adequate washroom facilities and associated

servant quarter. The design includes provision for one staircase and one lift with compound wall all around the boundary of residence.

Copies of other drawing and documents pertaining to the works will be open for inspection by the tenderers at the office of above-mentioned officer.

Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

14. Tenders with any condition including that of conditional rebates shall be rejected forthwith.
15. Cost of Bid document and EMD may also be remitted to Institute's account number as per bank particulars given below:

Name of the Account Holder	: Indian Institute of Technology Hyderabad
Account Number	: 30412797764 (Current Account)
Name of the Bank	: State Bank of India
Address of the Bank	: IIT Kandi, IIT Hyderabad Campus, Kandi, Sangareddy, Telangana - 502285
Branch code	: 14182
IFSC code	: SBIN0014182
MICR code	: 502002528
SHIFT code	: SBININBB762

16. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.
17. Canvassing whether directly or indirectly, in connection with tenderers is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.

18. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
19. ***The contractor shall not be permitted to tender for works if his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Institute.***
20. No Engineer of gazette rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the previous permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the tender or engagement in the contractor's service.
21. *The tender for the works shall remain open for acceptance for a period of Ninety (90) days from the date of opening of Technical Bids.*
- (i) If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department within 7 days after last date of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 50% of earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
- (ii) If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department after expiry of 7 days after last date of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 100% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
22. (A) **All taxes, Labour Cess etc., as applicable shall be borne by the contractor himself. The contractor shall quote his rates considering all such taxes including GST on works 5th day prior to the deadline of bid submission. Any recovery towards GST is notified by the competent authority, the same shall be effected and subsequent amendment thereon, no claim what so ever shall be entertained by IITH. The contractor shall quote his rates accordingly.**
- (B) 2% as TDS amount of GST amount payable on the bills will be deducted as per the Govt. of India, Ministry of Finance, Department of Revenue notification vide No.65/39/2018-DOR, dtd: 14-09-2018 and subsequent amendment thereon.

23. ***GST registration certificate of the state in which the work is to be taken up, if already obtained by the bidder.***

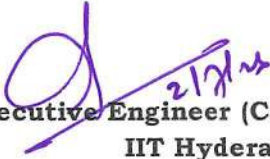
If the bidder has not obtained GST registration in the state in which the work is to be taken up or as required by GST authorities, then in such a case the bidder shall scan and upload following under taking along with other bid documents.

“If the work awarded to me, I/We shall obtain GST registration certificate of the state, in which work is to be taken up, within one month from the date of receipt of award letter or before release of any payment by IIT Hyderabad, whichever earlier, failing which I/We shall responsible for any delay in payments which will be due towards me/us on a/c of the work executed and/or for any action taken by IIT Hyderabad or GST department in this regard.”

24. ***Bidder has to submit Undertaking on their letter head pursuant to the Section 206AB (as applicable) of the Income Tax Act,1961 in prescribed format as enclosed at Annexure-A along with each and every bill submitted for payment.***

25. This notice inviting Tender shall form a part of the contract document. The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-

- a) The Notice Inviting Tender, all the volumes of document including Special conditions of contract, technical & particular specifications, Drawings, Pre-Bid replies etc., if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
- b) Standard Contract form (General Conditions of Contract, EPC Projects) as enclosed to this tender document. The bidder is deemed to have gone through and understood the Standard Contract Form and the General Conditions of Contract (EPC Projects).


Executive Engineer (Civil)
IIT Hyderabad

(Signature of bidder)

**1.3 PROFORMA OF SCHEDULES: A TO F
(Civil and Electrical Works)**

SCHEDULE "A"	: Schedule of quantity for quoting combined rates for Civil Works and Electrical works as per form page Vol-2(a) page_____ to _____
SCHEDULE "B" Schedule of material to be issued to the agency	: -Nil-
SCHEDULE "C" Tools and Plants to be hired to the agency.	: -Nil-
SCHEDULE "D" Extra schedule for specific requirements / documents for the work, if any	: Refer Part A, B & C
SCHEDULE "E" Extra schedule for specific requirements / documents for the work, if any	: General Conditions of Contract CPWD for EPC Works; GCC 2024 for EPC Projects and Standard Operating Procedures for CPWD Works Manual 2024 as amended / modified up to the last date of submission of Bid
Name of Work	: <i>Construction of Director's Residence cum Integrated Office Ancillary Buildings including Boundary wall at IIT Hyderabad, Kandi, Sangareddy.</i>
Estimated Cost of Work	: <i>Rs. 5,03,15,679/- [Civil Component: Rs. 3,50,13,818/- Electrical Component: Rs. 1,53,01,861/-]</i>
Earnest Money	: <i>Rs. 10,06,400/-</i>
Performance Guarantee	: (1) 5.00% of the accepted tendered value or ECPT whichever is higher (2) Requirement of Additional Performance Guarantee (APG): In case of abnormally low bids i.e. if the quoted bid amount is lesser than 80% of the estimated cost put to tender, then the bidder shall be

required to submit Additional Performance Guarantee (APG) in addition to the standard Performance Guarantee (PG). The amount of Additional Performance Guarantee (APG) shall be equivalent to the difference between the 80% amount of ECPT and quoted amount. (e.g. if ECPT is A and quoted amount is 0.7A then the amount of APG shall be $0.8A - 0.7A$).

Security Deposit

: 2.50% of bid amount + 50% of the Performance Guarantee (PG) amount shall be retained as Security Deposit for the Defect Liability Period (DLP) of 3 years from the actual date of completion.

SCHEDULE "F" (GENERAL RULES & DIRECTIONS)

- a) Officer inviting bid : Executive Engineer (Civil),
Construction and Maintenance Division (CMD),
IIT Hyderabad.
- b) Applicable mode of EPC Contract : **EPC Mode - III**
- c) **Mode of Technology to be adopted** : **RCC framed structure**
- d) **Maximum % of quantity of items of :** (i) **Civil, Horticulture, Road works....70%**
External & internal water supply,
Sanitary and Sewerage systems etc.,

(ii) **Electro-Mechanical works..... 30%**

Definitions:

- (i) **Engineer-in-charge for Major Component (which includes Civil, Horticulture, Road works, External & Internal Water Supply, Sanitary and Sewerage systems etc., all other than minor component).** : **Executive Engineer (Civil), IITH or successor thereof.**
(Mode of Operandi of major component of work shall be as mentioned @ Sl. No. (31) of Special Conditions of Contract)
- (ii) **Engineer-in-charge for Minor Component (Electro-Mechanical works)** : **Executive Engineer (Electrical), IITH or successor thereof.**
(Mode of Operandi of minor component of work shall be as mentioned @ Sl. No. (31) of Special Conditions of Contract)
- (iii) Accepting Authority : Director, IIT Hyderabad or successor thereof.
- (iv) Percentage on cost of materials and Labour cover all to overheads and profits : 15%
- (v) Standard Schedule of Rates
(i) Civil Work
(ii) Electrical work
(iii) Horticulture Work
Plinth Area Rates 2025 with modifications and correction slips up to date of submission of bids + Cost Index applicable.

Department : **Construction and Maintenance Division, IIT Hyderabad**

Standard Contract Form : **CPWD Form-8 & GCC for Works on EPC mode enclosed with this tender document.**

Clause 1:		
	Time allowed for submission of Performance Guarantee, programme chart (Time and Progress) and applicable labour licenses, registration with GST, EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance	: 15 days
	Maximum allowable extension with late fee (non-refundable) @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above	: 7 days with late fee @ 0.1% per day of PG amount
Clause 2:		
	Authority for fixing compensation under clause 2	: Superintending Engineer, Construction and Maintenance Division, IIT Hyderabad or successor thereof.
Clause 5:		
	Number of days from the date of issue of letter of acceptance for reckoning date of start	: 15 days from Letter of Acceptance or handing over of site, whichever is later.
	Contract Value	Recovery per week
	Up to Rs.10 Crores	Rs.25,000/-
	5.1.1 (a) Schedule of Handing over of site:	: 15 days from Letter of Acceptance (LoA)
	5.1.1.(b) Schedule of issue of Architectural & Structural Drawings	: 15 days from Letter of Acceptance (LoA)
	Clause 5.7: Recording of hindrances	: Hindrance Register only

Table of Mile stones for Construction of Director's Residence,
Time Period Allowed: 300 Days
(for Composite Major and Minor Components):

Sl. No.	Milestone Programme	Time Allowed (from date of start)	Amount to be withheld in case of non- achievement of milestone
1	25% of Total work in Financial Terms	90	1.50 % of total contract amount.
2	50% of Total work in Financial Terms	150	1.00 % of total contract amount.
3	75% of Total work in Financial Terms	225	1.00 % of total contract amount.
4	90% of Total work in Financial Terms	270	0.75 % of total contract amount.
5	All civil, electrical & mechanical and horticulture work completed in all aspects in Residential & non-residential buildings with services, clearances from local body/ completion certificates (as mentioned at Payment Schedule) etc., as required to declare buildings and campus authorized for occupation.	300	0.50 % of total contract amount.

NOTE:

1. Withheld amount shall be released if and when subsequent milestone is achieved within respective time specified. However, in case milestones are not achieved by the Contractor for the work, the amount shown against milestone shall be withheld without prior notice.
2. Intending bidder may submit phasing of activities/milestones based on their resources and methodology at the time of bidding corresponding to physical milestones/stages indicated in the above table. These shall be formed part of the agreement after approval of the accepting authority, otherwise it would be assumed that agency agrees with the above-mentioned physical milestones.

Time allowed for execution of this section of the work : 300 days

Authority to decide:			
	(i) Extension of time	:	Superintending Engineer, IIT Hyderabad or successor thereof.
	(ii) Rescheduling of mile stones	:	Superintending Engineer, IT Hyderabad or successor thereof.
	(iii) Shifting of date of start in Case of delay in handing over of site	:	Superintending Engineer, IIT Hyderabad or successor thereof.
Clause 6:		:	Applicable
Clause 7:			
	Gross work to be done together with net payment /adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment.	:	<p>As per Schedule of Stage Payment, the minimum amount eligible for interim payment for Civil Component of works is Rs. 30.00 Lakh for first three RA bills and Rs. 50.00 Lakh for subsequent RA bills. This value includes admissible amount of Secured Advance. In case of Electrical Component of works the minimum amount eligible for interim payment is Rs. 10 lakh for first three RA bills and Rs.20 lakh for subsequent RA bills.</p> <p>However, Engineer-in-charge (Major Component) and Engineer-in-Charge (Minor Component) at his discretion may release monthly payment even at a lesser amount but the contractor cannot claim as a matter of right and no interest is permitted.</p>
Clause 7A:		:	<p>Yes, Applicable</p> <p>No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with GST, EPFO, ESIC and BOCW Welfare Board, whatever applicable as submitted by the Bidder to the Engineer-in Charge.</p>
Clause 8A:			
	Authority to decide compensation on account if contractor fails to submit completion plans	:	Superintending Engineer, IIT Hyderabad

	This shall not apply for maintenance or upgradation contracts not involving any services For other works, the limit shall be as below:	:	
	Contact Value		Payment Liability Limit in case of failure
	Up to Rs.15 Crores		Rs.15.00 Lakhs
Clause 10A:			Applicable
	List of testing equipment to be provided by the agency at site lab	:	As per CPWD Specification 2019 and List attached as Appendix - I.
Clause 10 B (i):		:	Applicable
Clause 10 B (ii):		:	Applicable The 10% (i.e. 5% + 5%) of the tendered value shall be given as mobilization advance in Two (2) instalments within three (03) months of the order to commence the work.
Clause 10 B (iii):		:	Not Applicable
Clause 10 B (iv) & (v):		:	Applicable
Clause 10CC:		:	Not Applicable
Clause 10CC for Maintenance Period:		:	Not applicable
Clause 11:			
	Specifications to be followed for execution of work	:	Civil work: (1) CPWD Specifications 2019 Volume- I & II with corrections slips up to last date of submission of bid.

		<p>Electrical work:</p> <ol style="list-style-type: none"> 1. CPWD General Specification for Electrical Works Part I Internal – 2023. 2. CPWD General Specification for Electrical Works Part II External – 2023. 3. General Specification for Electrical Works (Part III Lifts & Escalators)- 2003. 4. CPWD General Specification for Electrical Works Part IV Substation – 2013. 5. CPWD General Specification for Electrical Works Part V wet riser & sprinkler systems – 2020. 6. General Specification for Heating Ventilation & Air- Conditioning- 2024. <p>Horticulture Work: CPWD Specification of Horticulture & Landscaping – 2025</p>
--	--	--

Note:

- (i) All above specifications shall be applicable along with all correction slips up to the last date of submission/uploading of Bid and subsequent amendments thereon.
- (ii) In case of discrepancy in mentioned items / description among any of the following two or more documents, the following order of preference shall be followed. If any item required for completing the work in any of the following documents but not in the order of preference below, shall be applicable and nothing extra shall be paid on this account. However, percentages mentioned in “Schedule of Building wise Sub-Heads” shall have precedence among all the following documents for payment purpose.
 - a) Detailed description as per the Scope of work, Technical & particular Specifications against BOQ item as mentioned at tender.
 - b) Architectural Drawings and Schedule of finishes.
 - c) CPWD Specifications, Civil, Electrical & Mechanical and Horticulture with up-to-date corrections as on last date of submission of Bid.
 - d) Manufacturer’s Specifications
 - e) Indian Standard Specifications of B.I.S.
 - f) National Building Code 2016
 - g) Sound Engineering practices.
 - h) Decision of Engineer-in-charge.

Note: A reference made to any Indian Standard Specifications in these documents, shall imply to the latest version of that standard, including such revisions/ amendments as issued by the Bureau of India Standards up to last date of submission of tenders. The Contractor shall keep at his own cost all such publications of relevant Indian Standard applicable to the work at site, with correction slips up to last date of submission of bids.

Clause 12:	:	Applicable only for the original construction work. Type of work: Project and original work
Clause 12.1:	:	Applicable
Overall Deviation/variation limit:	:	5%
Clause 12.2: Payment of deviations/variations beyond 0.25% of the accepted tendered amount.	:	In case there is any change in scope as defined in the contract, the contractor shall carry out the changes as per direction of Engineer- in Charge and nothing extra shall be payable to the contractor on account of same if the additional cost of such work is up to 0.25% (zero-point two five percent) of the accepted tendered amount and worked out as per sub-clause 12.3 of GCC 2024. Variations/ deviations up to 0.25% (zero-point two five percent) of the accepted tendered amount shall be deducted from overall variations/ deviation for making payment.
Clause 12.3 & Clause 12.4:	:	Applicable
Clause 16:		
Action in case Work not done as per Specifications	:	Superintending Engineer (Civil), IIT Hyderabad.
Clause 17:	:	<i>Defects liability period (DLP) shall be three (03) years after declaring the completion of the building by the Executive Engineer (Civil), IIT Hyderabad.</i>
Clause 19,19A,19B,19C,19D,19E,19F, 19G,19H,19I,19J,19K,19L	:	Applicable
Authority to decide penalty for each default under 19C, 19D, 19G & 19K	:	Executive Engineer (Civil)
<i>Labour Codes – the Code on Wages, 2019, the Industrial Relations Code, 2020, the Code on Social Security, 2020 and the Occupational Safety, Health and Working Conditions Code, 2020</i>		Applicable Applicable

<i>dated: 21.11.2025 and subsequent amendment thereon if any.</i>		
Clause 25: Settlement of disputes by Conciliation and Arbitration:		
Conciliator	:	Dean (Planning)
Authority to appoint arbitrator	:	Director, IIT Hyderabad
Place of Arbitration	:	Hyderabad
Venue of Arbitration	:	IIT Hyderabad
Type of Arbitration Tribunal	:	Sole Arbitrator
<i>Note: Provisions of Arbitration and Conciliation Act 1996 with latest amendments in force shall be applicable.</i>		
Clause 31:	:	Not Applicable

Clause 32:

The Requirement of Technical Representative(s) at Site execution and Recovery Rates at which recovery shall be made from the Contractor in the event of not fulfilling the provision of clause 32(i) are as below:

Sl. No.	Qualification	Discipline	Number	Minimum Experience (Years)	Designation	Rate at which recovery shall be made from the Contractor in the event of not fulfilling provision of clause 32(i)
1	Graduate Engineer	Civil Engg.	1	8	Project Manager Planning & Execution experience in Civil works	Rs.50,000/- per month
2	Diploma/ Graduate Engineer	Safety	1	4	Quality & Safety Engineer	Rs.30,000/- per month
3	Graduate Engineer	Electrical Engg./ Electrical & Electronics Engg.	1	6	Deputy Project Manager-Electrical -Planning & Execution	Rs.40,000/- per month
4	Diploma/ Graduate Engineer		1	4	Site Engineer- Electro-Mechanical Works for coordination and execution	Rs.30,000/- per month

Note:

1. The requirement shown above is the peak requirement. Deployment of personnel as per actual need shall be made by the Contractor as per the proportionate progress of the work and as directed by Engineer- in- Charge.
2. The specialized technical staff for execution for component such as plumbing, water proofing, fire-fighting, HVAC, Acoustic, landscaping etc. shall be deployed as per the requirement of work.
3. Assistant Engineers retired from Government services who are holding Diploma will be treated at par with Graduate Engineers. Diploma holder with minimum 10-years relevant experience with a reputed construction company can be treated at par with Graduate Engineers for the purpose of such deployment subject to that such diploma holder should not exceed 50% of requirement of degree engineers.
4. The bidder shall submit a certificate of employment of the technical representative(s) (in the form of copy of Form – 16 or CPF deduction issued to the Engineers employed by him) along with every account bill / final bill and shall produce evidence of regular physical availability of such engineers on the above project whenever required by the Engineer – in – charge.

Clause 38 **Applicable as given below**

	Schedule / statement for determining theoretical quantity of cement & bitumen based on Delhi Schedule of Rates.	Delhi Schedule of Rates 2023 with amendments up to the date of submission of bid.
	Variations permissible on theoretical quantities.	
	Cement	
	Cement for works with estimated cost put to tender more than Rs. 5	2% Plus/Minus
	Bitumen for all works.	2.5% Plus only and nil on minus side.
	Steel reinforcement and structural steel	2% Plus/minus side sections for each diameter, section and category.
	All other materials	Nil

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

S. No	Description of item	Rates in figure and words at which recovery shall be made from the contractor	
		Excess beyond permissible variation	Less use beyond the permissible variation
1	Cement (PPC)	Nil	6,800+10% per MT
2	Reinforcement bars (TMT) (a)Primary Producer	Nil	63,000+10% per MT
3	Structural steel	Nil	69,000+10% per MT

Volume 1:: Section 1

NIT FORM & ACCEPTANCE

NIT FORM

Indian Institute of Technology Hyderabad

ENGINEERING, PROCUREMENT AND CONSTRUCTION (EPC) (Turn Key) Bid

(Mode - III)

(A) **Tender for the work of:- Construction of Director's Residence cum Integrated Office Ancillary Buildings including Boundary wall at IIT Hyderabad, Kandi, Sangareddy.**

(i) To be submitted online by 15:00 Hours on **20-07-2026**

(ii) To be opened in presence of tenderers who may be present at 15.30 hours on **21-07-2026** in the office of The Executive Engineer (Civil), Construction and Maintenance Division, IIT Hyderabad.

BID

I/We have read and examined the notice inviting bid, schedule-A, B, C, D, E & F, Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract clauses of contract, Special conditions, Bill of Quantities & other documents and Rules referred to in the conditions of contract and all other contents in the bid document for the work.

I/We hereby bid for the execution of the work specified for the President of India **within the time specified in Schedule F, user requirement and approved drawings and** accordance in all respect with the specifications, designs, drawing and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract of 2019 with amendments up to the last date of submission of bids and with such materials as are provided for, by, and in respect of accordance with, such conditions so far as applicable.

We agree to keep the bid open for **Ninety (90) days** from the date of opening of technical bid and not to make any modification in its terms and conditions.

Earnest money **Rs. 10,06,400/-** in the shape of bank guarantee issued by[*name of the scheduled bank*] is submitted. If I/We, fail to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said Director or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that Director or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely, the said performance guarantee shall be a guarantee to execute all the works referred to in

the bid documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in clause 12.2 and 12.3 (as modified) of the bid form.

Further, I/We agree that in case of forfeiture of Earnest Money or Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-bidding process of the work.

I/we undertake and confirm that eligible similar work(s) has/have not been got executed through another agency on back-to-back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for bidding in IIT Hyderabad in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-charge shall be free to forfeit the entire amount of Earnest Money Deposited/Performance Guarantee.

I/We hereby declare that I/We shall treat the bid documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated:**

Signature of Contractor**

Witness: **

Address: **

Postal Address **

Occupation: **

[To be filled by Bidder]**

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the President of India for a sum of Rs..... (Rupee.....).

The letters referred to below shall form part of this contract agreement: -

(a) *

(b) *

For & on behalf of Director, IIT Hyderabad

Signature.....*

Dated:*

Designation.....*

* Blanks to be filled by EE

** To be filled by Contractor

Volume 1:: Section 2

Special Conditions of Contract

1.0 GENERAL:

- 1.1. Special Conditions of Contract shall be read in conjunction with the General Conditions of Contract, Schedule of Quantities, specifications of work, approved drawings and any other documents forming part of this contract wherever the context so requires. The order of precedence of the above documents shall be interpreted as per General Conditions of Contract.
- 1.2. Notwithstanding the sub-division of the document into these separate sections and volumes, every part of each shall be deemed to be supplementary of every other part and shall be read with and into the contract so far as it may be practicable to do so.
- 1.3. The materials, design and workmanship shall satisfy the relevant Indian Standards (Latest), the job specifications contained herein and other national / international codes (Latest) referred to. Where the job specifications, stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied. In the absence of any Standards/Specifications/Codes of practices for detailed specifications covering any part of the work covered in this tender, Contractor shall ensure that the work is executed as per the best and sound engineering practices and/or as per the instructions/ directions of Engineer- in-Charge. The decision of EIC as regards the specification to be adopted and their interpretation and the mode of execution of work shall be final and binding on the Contractor and no claim whatsoever shall be entertained on this account.
- 1.4. The Contractor shall execute the whole and every part of the Works in the most professional and workman-like manner and both as regards materials and in other respects in strict accordance with specifications and latest Indian and international codes.
- 1.5. Excavated good earth declared surplus or otherwise shall be disposed of at designated locations as per the directions of the Engineer – in - charge, which shall be different from the disposal site for black cotton soil.
- 1.6. For soil required for re-filling, if sufficient space is not available for stacking at site of excavation, the Contractor shall make his own arrangements for transporting and stacking the earth elsewhere and then bring it back for re-filling. Nothing extra shall be paid on this account for to and fro carriage.
- 1.7. Disposal of surplus excavated earth including mud, liquid mud, dismantled RCC, dismantled brick work etc. shall be made only in the dumping yard approved by local authority. It will be the responsibility of the contractor to get the permission for dumping yard from local authority as required. If any royalty /fees is payable to local authority, such royalty / fees shall also be borne by the contractor. Disposal shall be carried out strictly as per the regulations of local authority. However, the above materials shall not be removed out of owner's premises without prior written authorization of EIC.

- 1.8. The Contractor shall put in place a Vehicle Wash area to ensure that the vehicles exiting the construction work site are free from sediment to avoid dirtying the public roads.
- 1.9. The Contractor shall carefully protect and preserve all bench marks, site details, pegs and other things used in the setting out of the building for Construction. All preliminary works such as establishment of a set of bench marks, permanent DGPS, Total Station/theodolite stations, center line pillars, etc., including required materials, tools, plants, equipment, labour, etc. for performing such functions necessary and ancillary there to for the commencement and during the progress of the work and till physical completion of the work shall be carried out by the Contractor at his own cost. It shall be Contractor's responsibility to shift the existing benchmark to his work site to set out the necessary control points and alignment of the various works. The Contractor shall also provide DGPS instrument with other required precision Survey Instruments as per site requirement and/or as directed by EIC. The work of setting out shall be deemed to be a part of general works preparatory to the execution of the work and no separate payment shall be made for the same.
- 1.10. The work will be carried out in accordance with the architectural drawings and structural drawings as issued by the Engineer-in- Charge. The structural and architectural drawings shall have to be properly correlated before executing the work. Working/Good for Construction(GFC) drawings will be issued timely by the Institute in consultation with the consultant Architect on time to time progress of the work.
- 1.11. Shop drawings wherever applicable shall be submitted by the Contractor with complete information for the fabrication of the component parts including the location, type, size, length and details of connections. The same shall be reviewed by the Engineer-in-Charge or their consultant Architect and issued accordingly.
- 1.12. Approved Plumbing drawings shall be followed as closely as actual construction permits. Any deviations made shall be in conformity with the structural, architectural and other services drawings. Detailed drawings shall be prepared and issued by the consultant Architect of Institute.
- 1.13. Architectural drawings shall take precedence over plumbing or other services drawings in respect of overall dimensions unless and otherwise directed by EIC.
- 1.14. All temporary works, ancillary works, enabling works, including dewatering of surface and subsoil water, preparation and maintenance of temporary drains at the work site, preparation and maintenance of approaches to working areas, wherever required, for execution of the work, shall be the responsibility of the Contractor and all costs towards the same shall be deemed to have been included in the quoted prices.
- 1.15. The Contractor shall, at his own expense and without extra charges, make provision for all pumping, dewatering, dredging or bailing out water, if necessary, irrespective of the source of water. The water so pumped out shall be discharged as per local byelaws and as approved by

the Engineer-in-charge. The Contractor shall also take all necessary precautions in diverting channels and in discharging the drained water as not to cause damage to the works, crops or any other property within/outside the plot. Excavated area for the basement/ foundation trenches shall be kept free from water while all the works below Ground level are in progress. Nothing extra shall be paid on this account in terms of time and cost.

- 1.16. The Contractor shall at his own expense and without extra charges, take all precautions such as shoring for all depths or any other arrangement as approved by Engineer-in-Charge for ensuring that there shall be no sliding / collapsing of the excavated earth. The measurement for excavation shall be regulated as per the provisions of the CPWD / MORTH specification and Nothing extra shall be payable on account of shoring / other arrangements.
- 1.17. Earth work in excavation and filling for, building works shall be governed under provisions of latest CPWD Specifications and Delhi Analysis of Rates (DAR), Master Plan Road works and any other works not related to building works shall be governed by MORTH Specifications and MORTH Standard Data Book for Analysis of Rates.
- 1.18. Further contractor shall take all necessary precautions to protect and safe guard the foundation of the adjacent building / Structure / Overhead/Underground utilities. Nothing extra shall be payable on this account.
- 1.19. Contractor shall supply additional quantities of ceramic/ vitrified tiles used in the works. Minimum 10 sqm for each type and category shall be provided for using at a later stage during maintenance, so that the uniformity of colour is maintained. Nothing extra shall be payable for this supply.
- 1.20. For the building items covered by CPWD Specifications shall be executed accordingly. Where it is felt that the CPWD Specifications concerned does not reflect the full scope of work under any item, those items shall be executed as per the Indian Standards or any other relevant Specifications.
- 1.21. Should work be suspended by reason of rain, strike, lockouts or any other cause, Contractor shall take all precautionary measures for the protection of works and at his own cost and shall make good any damage arising from any of these causes to satisfaction of EIC.
- 1.22. Work shall normally be done in a single shift/day. However, if the work is required to be executed in more than one shift in a day for meeting the time lines, the Contractor with prior approval of the Engineer - in -charge, shall have to make necessary arrangements for the same and all costs towards the same shall be deemed to have been included in the quoted rates.
- 1.23. Defect liability period shall start from the date of taking over of completion of building after its completion in all respects as mentioned

in Schedule-F@clause-5 and as per the scope of the contract by the Engineer – in - charge.

1.24. After completion of the specific building as mentioned in Schedule-F of the contract, the building shall be taken over by the Institute and put to use. To ensure safety of the occupants and prevent from dust & debris, the contractor has to hard barricade the on-going buildings being constructed by them nearby.

1.25. Labour Camp:

IITH shall not permit the contractor to set up labour camp within its boundary. Contractor shall make his own arrangements to set up labour camps. The facilities like dwelling units, water supply, lighting arrangement, drainage and sanitation as stipulated in Clause- 19H of the contract shall be arranged by the Contractor and all costs towards the same shall be deemed to have been included in the quoted rates.

The Contractor shall put in place an arrangement for controlled entry and exit of labourers / workers / technicians with Gate Passes or Identification Badges with Colour photographs individually authorized by the Contractor or through Bio-metric system at entry & exit gates as required and all costs towards the same shall be deemed to have been included in the quoted prices.

1.28 Maintenance of Register of Tests: -

All the registers of tests carried out at Construction Site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-charge. Contractor shall be responsible for safe custody of all the test registers.

1.29. Method Statement:

The contractor shall submit a 'Methods statement' for the approval of the EIC soon after the award of work to him. The 'Methods statement' is a statement by which the construction procedures for important activities of construction are stated, checked, and approved. The 'Methods statement', should have a description of the item with elaborate procedures in steps to implement the same, the specifications of the materials involved, their testing and acceptance criteria, equipment to be used, precautions to be taken, mode of measurement, etc.

1.30. Floors & Levels:

- a) Floor 1 shall be the lowest floor above the average ground level of the main building to be constructed at site. The Floor above Floor 1 shall be numbered in sequence as Floor 2, Floor 3 and so on. The number shall increase upwards.
- b) Floor Level - Top level of structural slab shall be the floor level.
- c) Plinth Level - Floor 1 level shall be the plinth level.

1.31. Lowest Bid.

The Tender is divided in to two parts, which is as per Civil and Electrical items. The sum total of the quoted rates for the different parts shall be calculated for deciding the lowest tenderer for the purpose of awarding the work.

1.32. AMENDMENT OF TENDER DOCUMENT

Before the deadline for submission of tenders, the Tender Document may be modified by Indian Institute of Technology Hyderabad by issue of addenda/ corrigendum. Issue of addenda/ corrigenda will however be stopped 7 days prior to the deadline for submission of tenders as finally stipulated.

Addendum/ corrigendum, if any, will be hosted on e-procurement portal of Ministry of Education and IITH Website only and shall become a part of the tender document. All Tenderers are advised to see the website for addendum/ corrigendum to the tender document which may be uploaded up to 7 days prior to the deadline for submission of Tender as finally stipulated.

To give prospective tenderer reasonable time in which to take the addenda/ corrigenda into account in preparing their tenders, extension of the deadline for submission of tenders may be given as considered necessary by IITH.

- 1.34. ***The successful bidder shall be allowed to make the entry into the proposed construction site from the existing service road but the provision has to be made by the successful bidder to cross existing swale by laying 2 Nos. of 600mm dia NP2 hume pipes with required quantity of concrete for smooth movement of their construction materials, labour, vehicles etc. as per the directions of Engineer-in-Charge.***

2.0 WORK PROGRAMME:

- 2.1 The Contractor shall, within 15 days after the date of award of the work, submit his detailed work programme preferably in Microsoft Project (Level-3), detailed Project quality plan for works executable at site and also at manufacturer's place, safety plan, for the approval of the Engineer in - charge, which shall clearly set out his proposed schedule for the whole of the Works, the time for completing the major sections of the Works and his schedule for mobilizing the materials and equipment necessary for implementing the Works in a timely cohesive and efficient manner. The Contractor shall submit the above Resource Mobilization Plan on the basis of site /region prevalent labour constants/ productivity factors and separately a Project Material Procurement Plan clearly mentioning the procurement strategy for long lead items.

2.2 Project Review Meetings:

The contractor, immediately on award of work shall submit details of his key personnel to be engaged for the work at site. In addition, he shall

furnish the Engineer-in-Charge detailed organogram involved with the work.

The Contractor shall present the programme and status at various review meetings as required.

- i) Weekly Review Meetings: Shall be attended by Local Team headed by Project -in-Charge.

Agenda

- a) Weekly programme v/ s actual achieved in the past week and programme for next week.
- b) Remedial Actions and hold up analysis.
- c) Client query approval.

- ii) Monthly Review meetings: Shall be attended by Project -in- Charge and the Management Representative who can take independent decisions.

Agenda a) Progress Status/ Statistics.

- b) Completion Outlook.
- c) Major hold ups / slippages.
- d) Assistance required.
- e) Critical issues.
- f) Client query/ approval.
- g) Anticipated cash flow requirement for next two months

3.0 WATER AND POWER

3.1 Water: Contractor shall make his own arrangement for water, required and suitable for construction. This shall also include arrangement of adequate water for hydro-tests of liquid/water retaining structures or any other installations as directed by EIC.

3.2 Power: Contractor shall make his own arrangements for power required for construction of the Project. Alternately, he may apply for and arrange power at the project site. All associated activities for obtaining necessary approvals and sanctions for construction power shall be coordinated by the contractor, the cost of which shall be deemed to be included in the quoted rates under various items of work of the "Schedule of Building Wise Sub Heads (i.e. Schedule of Items)". However, the EIC shall provide all necessary documents / drawings for submission to the TSCPDC/ TRANSCO. All installations / fixtures & fittings / cabling for construction power shall be in the scope of the contractor without any additional cost to the Institute. The delay on part of the Contractor in timely getting the statutory clearances and establishing required installation for adequate power supply shall not be accounted for extension of time and also shall not absolve him of Contractual responsibilities.

4.0 MEASUREMENTS, BILLING & TERMS OF PAYMENT:

4.1 All works shall be measured as per the Building wise schedules and Sub-Head wise payment % Breakup provided on actual works done as per the terms and conditions of the tender document.

4.2 Contractor shall submit computerized bills as per Clause 6A of GCC.

4.3 Terms of Payment: Following shall be the terms of payments for the subject works: -

The above progressive payments are subject to deduction towards income tax and other recoveries as applicable as per the terms of the contract.

Note: The contractor shall prepare and submit a consolidated Bill for the Project. However, separate abstract shall be submitted for each subhead.

5.0 PROJECT OFFICE ACCOMMODATION:

The contractor shall provide, erect and maintain at his own cost separate temporary water tight, Puf insulated office accommodation in the form of one (1) No. Porta Cabin of size 20' X 10' at designated location for the Engineer- in-charge with the required facilities in the cabin. These shall be available till handing over of the project.

The contractor has to relocate the Porta Cabins if required as per the exigencies of the work and as directed by EIC without any extra cost. After completion of the Project the Contractor shall take away this material and the site shall be cleaned free from all construction debris.

6.0 CONTRACT DRAWINGS

The contractor shall keep mandatorily one copy each of approved drawings, conditions of contract, specifications, instructions and schedule of quantities at the site of works available for reference by any authorized representative of Owner/ Engineer- in-charge, at all times during the progress of the works. The drawings shall be displayed and arranged as directed by the Engineer- in- Charge.

7.0 WORK TO BE CARRIED OUT BY SPECIALISED AGENCIES:

7.1 Following specialized works should be got executed only through agencies specialized in the field and the contractor shall be required to submit the details of such agencies to the Engineer-in-Charge and obtain necessary approval prior to their engagement:-

- Anti-termite Treatment
- Water Proofing Work
- Fire-fighting / fire suppression / fire alarm systems
- Lifts

7.2 The specialized agency should have successfully completed at least one work of similar nature.

7.3 The contractor shall submit the following details of the specialized agency before execution of work as per the Terms and conditions of the Contract for approval of EIC:

List of similar works carried out by the agency during the last five years along with the name of work, name and address of clients, year of

execution, value of work done and brief specification of the work. The credentials for such completed works shall be obtained from the Project Manager / Executive Engineer concerned along with contact address.

- 7.4 Notwithstanding the approval of the Engineer-in-Charge for the specialized agencies, the services of the specialized agencies shall be removed wherever the Engineer-in-Charge is not satisfied with the performance of the specialized agency. Thereupon, the Contractor shall immediately arrange for an alternate specialized agency conforming to prescribed eligibility criteria. Nothing extra shall be payable on this account. Further, no extension of time shall be permissible on this account.

8.0 MATERIALS AND SAMPLES:

The Contractor shall arrange a sample room for displaying approved samples which shall be maintained till the completion of the work. No payment will be made to the contractor for the samples procured.

The sample approval shall be given in writing by EIC within 15 days after submission of the sample with supporting catalogues and other documents as required by EIC.

The delay in submittal of the samples by the Contractor and further cascading delay in subsequent approvals and procurement shall not attract any extra cost and time to the Contract.

9.0 RECOMMENDED MAKE OF MATERIALS:

- 9.1 A list of recommended makes of materials is placed at "Technical Specifications/Makes" of this tender document.

- 9.2 The order of preference amongst the various products/materials shall be as follows:

The products/materials shall be as per the Brand specified in the "Technical Specifications/Makes"

If the Brand is not specified, then the products/material shall be ISI marked and the same shall be got approved by the Engineer-in-Charge before execution.

If ISI marked product/material is not available, the same shall be as approved by the Engineer-in-Charge before execution.

- 9.3 In case of natural products such as Kota stone, Marble, Granite etc.,

- a) ***The stones used shall be of premium grade and they shall be homogenous in colour with consistency in pattern, texture, tone, marking and colour. No discolouration, spots, fissures or cracks and pocked surfaces shall be allowed.***

Contractor shall make all efforts to match the colour, shade, texture of the product with the approved sample. If in the opinion of the Engineer-in-Charge there is significant variation in properties, the Engineer-in-Charge shall direct the contractor to remove the same from the site immediately and replace with products matching the approved sample within reasonable period. The decision of

Engineer-in-Charge shall be final and binding. Nothing extra shall be paid on this account.

10.0 MEDIA RELEASES

The Contractor shall not issue any information, publication, document or article for publication concerning the project to the media without the express approval of Indian Institute of Technology Hyderabad.

11.0 COMPLETION CERTIFICATES/NOC FROM LOCAL STATUTORY BODIES

Contractor has to arrange at his own cost building/ work completion certificates or NOCs if required to be obtained, from the local statutory bodies of central and state govt. such as electrical, safety, Fire authority, Chief Controller of Explosives (CCOE), CEA etc. Any fees required for obtaining such NOCs shall be paid by IITH on production of relevant depository challans/ receipts from such Govt. authorities.

The application on behalf of IITH for submission to relevant authorities along with copies of required certificates complete in all respects shall be prepared and submitted by the Contractor well ahead of time so that the actual construction / commissioning of the work is not delayed for want of the approval / inspection by concerned authorities.

The inspection of the works by the authorities shall be arranged by the Contractor and necessary co-ordination and liaison work in this respect shall be the responsibility of the Contractor.

12.0 COMPLETION DRAWINGS & STANDARD MEASUREMENT BOOK (SMB)

12.1 During the execution of the Works a set of drawings shall be retained in the Contractor's Site Offices for the exclusive purpose of recording changes made to the Work as the construction proceeds. On completion of the Work, the Contractor shall submit required details and "Mark- up" of changes if any in all drawings of the project to the EIC. The Contractor shall render all required assistance in getting the "AS BUILT" drawings prepared by the Engineer-in-Charge. These drawings shall include and show all the changes / deviations made from the working drawings during the course of construction and also the other details as called for by the Engineer-in-Charge.

12.2 Along with the completion drawings the Contractor shall also prepare and submit to the Engineer-in-Charge the Standard Measurement Book (SMB) in the form of a bound book in two sets and a soft copy of the same in Excel. SMB shall incorporate the standard measurements of the all types of Painting works as per the completion / as built drawings in modules finalized in consultation with the Engineer-in-Charge. All the above to be done at no extra cost.

13.0 TOOLS, PLANTS AND MACHINERY

The Contractor shall provide and install at site, T &P as stipulated in Clause of the Contract. The deployment of T&P shall be planned as per work requirement to suit the nature, quantum and speed of the work for lifting/ hoisting construction materials/equipment etc. The T&P shall be maintained in good working condition throughout the progress of work. All adequate precaution regarding formal upkeep of valid Statutory/ Safety credentials of major construction equipment as directed by EIC, their installation, operation, maintenance, materials etc., shall be taken care of. The operating staff to be deployed shall be properly qualified and adequately trained and experienced. All safety precautions shall be taken during the project duration, against possible accident. The Contractor shall deploy his representative to effectively enforce the safety rules and regulations in this regard. Nothing extra shall be payable on this account for the above. The list of T&P as specified at "Technical Specifications/Tools & Plants" of this tender document.

Construction equipment & Mechanization of construction activities:

The list of Tools & Plants as mentioned above is only minimal and indicative. The contractor shall deploy all necessary tools and plants as per the requirement of the work.

The Contractor shall without prejudice to his overall responsibility to execute and complete the work as per specifications and Time Schedule, progressively deploy adequate equipment, and tools & tackles and augment the same as decided by Engineer-in-Charge depending on the exigencies of the work so as to suit the construction schedule.

The Contractor shall mechanize the construction activities to the maximum extent by deploying all necessary construction equipment/ machinery in adequate numbers and capacities.

14. CEMENT & STEEL:

14.1 For Cement and Steel and other materials, as prescribed, the quantities brought at site shall be entered in the respective material at site accounts and shall be treated as issued for maintenance of daily consumption.

The procurement of Cement and Reinforcement Steel, and, their issue and consumption shall be governed as per conditions laid down hereunder.

14.1.1 CEMENT

The Contractor shall procure 53 grade (Conforming to IS:8112) Ordinary Portland Cement, as required in the work, from reputed manufactures of cement, having a production- capacity of one million tonnes per annum or more, such as ACC, Ultratech, etc., as approved by Engineer-in-Charge. Samples of cement arranged by the Contractor shall be taken by

the Engineer-in-Charge, and got tested in accordance with provisions of the relevant BIS codes. In case test results indicate that the cement arranged by the Contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the Contractor at his own cost forthwith. Procurement of cement of other type and grade shall be on prior approval of the EIC for specific area of application. However, Portland Pozzolana Cement (PPC) may be allowed to use for non-structural cast-in-situ items of work.

The cement godowns of the capacity to store appropriate quantity of cement as decided by the Engineer-in-Charge shall be constructed by the Contractor at site of work for which no extra payment shall be made. The Contractor shall facilitate the inspection of the cement godowns by the Engineer-in-Charge at any time.

The Contractor shall mandatorily maintain records of the batch sheets in hard copies of all concrete supply on daily basis for monitoring the actual consumption of cement during complete tenure of the Project

Contractor may be allowed to use mineral admixtures as per the approved mix design and in line with relevant IS Codes keeping desired strengths of the concrete and timelines of the buildings/project intact.

14.1.2 STEEL

Reinforcement steel shall mean Fe-550D or more unless otherwise specified. The Contractor shall procure steel reinforcement TMT bars (of Fe 550 D grade or more conforming to IS: 1786 or latest / Structural steel conforming to IS:2062, from main producers of Steel like SAIL, TISCO etc., or as approved by the Engineer-in-Charge. The Contractor shall have to obtain and furnish test certificates to the Engineer-in-Charge in respect of all supplies of steel brought by him to the site of work. Samples shall also be taken and tested by the Engineer-in-Charge. In case the test results indicate that the steel arranged by the Contractor does not conform to the specification as above, the same shall stand rejected and shall be removed from the site of work forthwith

The structural steel, reinforcement steel shall be stored by the Contractor at site of work strictly on hard elevated bed or wooden sleepers enclosed within demarcated area (fabrication yard, reinforcement yard) in such a way as to prevent distortion, corrosion and nothing extra shall be paid on this account. Bars of different sizes (diameters) and lengths shall be stored separately away from the scraps to facilitate easy counting and checking.

Coefficient of weight i.e. the weight per unit length of the steel procured by the Contractor shall be ascertained at site before using it and certified by the Engineer-in-Charge. For this coefficient indicated in CPWD Specifications or any other BIS standards shall be adopted. The standard sectional weights referred to in standard table of the CPWD specifications are to be considered for conversion of length of various sizes of steel Reinforcement bars into weight and as per clause 6.2 of IS 1786.

- 14.2 The actual issue and consumption of steel and cement for the items of the works at site shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The Procurement and consumption

of Steel and Cement for the production of Precast Elements at Factory shall be monitored by maintaining proper registers/invoices/DCs/MTCs in line with extent possible as per the clause 10 by the QA & QC team of the Contractor/Agency as deployed and which shall be monitored & verified by the Institute time to time. The theoretical consumption of steel and cement shall be worked out as per procedure prescribed in clause 38 of the contract and shall be governed by conditions laid therein.

14.3 Steel and Cement brought to site and remaining unused shall not be removed from site without the written permission of the Engineer-in-Charge

15.0 ITEMS OP WORK REQUIRING PERFORMANCE GUARANTEE:

The following items of works require submission of Performance guarantee bond:

- Water proofing treatment systems

For the above works, the Contractor shall give a guarantee to the effect that the work shall remain structurally stable and shall guarantee against faulty design, workmanship, fabrication, erecting, installation, leakages etc. including defective material, if any. The Contractor shall furnish a Guarantee Bond, as per prescribed format. ***The Guarantee Period shall be for 5 (Five) years as specified in Technical Specifications*** of concerned item after completion of defect liability period.

16.0 REPORTS TO BE SUBMITTED

The contractor shall prepare and submit monthly progress report (including progress photographs) for the month to the EIC in three copies within 7 days of the following/next month. Reporting shall continue until the contractor has completed all works including the outstanding work as on the completion date as stated in the taking over certificate for the works. Each report shall include but shall not be limited to the following:

- 16.1.1 The status of supply and delivery of major materials
- 16.1.2 Records of personnel and Contractor's equipment on site;
- 16.1.3 Activities executed/ achievements during the month.
- 16.1.4 copies of quality assurance documents, test results and certificates of materials;
- 16.1.5 Safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and
- 16.1.6 Comparisons of actual and planned progress, with details of any aspects which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome such aspects.
- 16.1.7 Areas of concern/ problems/hold ups & its impact and action plans. And any other reports sought by the EIC.

17.0 QUARRY MATERIALS

The Contractor shall be wholly responsible to identify the suitable sources for quarry materials required for the Works, such as earth, sand, stone,

gravel, murrum, etc., and to make his own arrangements (within the contract price) for collection and transportation of the materials irrespective of the leads and lifts required. The party managing the quarry identified by the Contractor should have proper license from the Government of Telangana. All materials supplied by the Contractor shall satisfy the requirements set forth in the Specifications contained in this Bid and shall be subject to the approval of the EIC. The Contractor shall take this into account while offering his rates and no claims whatsoever shall be entertained for extra costs on this account. All the seignorage (royalty) charges, levies etc., payable to Government shall be paid by the Contractor and are deemed to be included in the quoted rates.

18.0 INTERFERENCE WITH TRAFFIC AND ADJOINING PROPERTIES/ BUILDINGS:

- 18.1 The Contractor shall prepare General Maintenance of Traffic Plan which will be subject to the approval of the EIC. In case any operation connected with the Works requires temporary diversion of the traffic, or obstruction or closure of any road, or any other 'right of way', the approval of the EIC and the respective competent authorities shall be obtained at least one week in advance.
- 18.2 The Contractor shall at all times during execution of the Works, ensure an uninterrupted flow of traffic/ students/ faculty/ Staff/occupants of completed buildings on the work locations.
- 18.3 The Contractor shall at all times during execution of the Works, provide convenient access to parts, steps, bridges or drives for all entrances to property abutting the work sites and maintain them clear, tidy and free from mud or objectionable matter.
- 18.4 If in order to avoid undue interference with the traffic and adjoining properties, the EIC instructs the Contractor to take special precautions or work within restricted Anne periods; the Contractor shall carry out the Works during such time and in such manner as directed by the EIC.
- 18.5 The Contractor shall not claim any extra cost or payment on account of all or any of the works specified in the above clauses 20.1 to 20.4.

19.0 CONTRACTOR TO CO-ORDINATE HIS WORK WITH OTHER CONTRACTORS:

Various other works may be progressing simultaneously in the project site. The Contractor shall co-ordinate with the other concerned Contractors and take into account the inter-relation with other works while planning his daily construction activities, so as to eliminate any hindrance to any work(s) and/or to avoid any damages to the work(s) already carried out by other Contractors. The Contractor shall co-ordinate with the other concerned Contractors for all such works as per the Engineer's directions at no extra cost and he shall provide unhindered access to the T&P and machinery of the other contractors as per the directions of EIC.

20.0 SHIFTING OF UTILITY LINES:

During the course of execution of the works under this contract, the contractor is bound to undertake shifting of any Utility line(s) that are required to complete the Works satisfactorily. However, the Institute reserves the option to get such work carried out by other agency, but this shall not relieve the Contractor of any of his responsibilities and obligations under this Contract implying that this shall not be treated as compensation event for extension of time unless otherwise consented by EIC.

21.0 MOBILISATION OF MEN, MATERIALS AND EQUIPMENTS:

All expenses towards mobilization at site and demobilization including bringing the equipment, work force, materials, dismantling the equipment, clearing the site etc. shall be deemed to be included in prices quoted and no separate payments on account of such expenses shall be entertained. The EIC shall have exclusive rights to accept or reject any material or equipment and also the manpower engaged by the Contractor during complete tenure of the Project. This can also lead to demobilization of the supervisory manpower including key persons of the Contractor/Specialized agency in case of their non-satisfactory performance.

22.0 LIGHTING & WATCH AND WARD:

22.1 The contractor shall at his own cost take all precautions to ensure safety of life and property by providing necessary barriers, area lighting, CCTV cameras with live feeding at the construction site and approaches, barrication, watchmen, necessary watch towers etc. during progress of work at all hours including night hours, if required, as directed by the Engineer-in-charge.

22.2 The Contractor shall be responsible for the watch and ward of the all-construction premises and buildings, safety of all fittings and fixtures including sanitary and water supply fittings and fixtures provided by him against pilferage and breakage during the period of installation till handing over of all the works to IITH. Nothing extra shall be payable on this account.

23.0 APPLICABLE PERMITS:

23.1 The contractor(s) shall give to the Municipality, police and other authorities all necessary notices etc. that may be required by law and obtain all requisite licenses for temporary obstructions, enclosures etc. and pay all fee, taxes and charges which may be levied on account of these operations in executing the contract. He shall make good any damage to the adjoining property whether public or private and shall supply and maintain lights either for illumination or for cautioning the public at night.

23.2 The Contractor shall ensure that applicable permits mandated by the local bodies are obtained as required under the Applicable Laws. An indicative but not exhaustive list of some of the applicable permits are mentioned below for the guidance of the Contractor.

23.3 Consequences on account of failure to obtain the mandatory permits shall be the sole responsibility of the contractor and no claim what so ever shall be entertained by the EIC. Any liability incurred by EIC on account of such failure shall be recovered from the amounts/ payments due to the Contractor.

- Permission of the State Government for extraction of boulders from quarry;
- Permission of Pollution Control Board for installation of crushers;
- License for use of explosives, if any required.
- Permission of the State Government for drawing water from river/reservoir;
- License from Inspector of factories or other competent authority for setting up Batching Plant;
- Clearance of Pollution Control Board for setting up Batching Plant;
- Clearance of Pollution Control Board for Asphalt Plant;
- Clearance of Pollution Control Board for installation of diesel generator sets;
- Fire safety clearance from fire authorities;
- Permission of State Government for cutting / relocation of existing trees;
- Permit for employing unskilled/ semiskilled labour during day/night;
- Permit for dismantling/ reconstruction/ underpinning/ strengthening of affected structures, disposal of solid waste / excess material or soil, setting up of temporary campus on government/ private/leased land;
- Clearance for any urban structure affecting the landscape/ environment from the concerned authority;
- Permission from Archaeological Survey of India for construction of any structure within the prescribed radius of protected monuments;
- Permissions from the public utilities for diversion of utilities including reinstatement/reconstruction to original specifications;
- Approvals for electric supply/ distributions;
- Approval of Traffic Police for diversions and running of vehicles on specified routes; and
- Any other permits or clearance required under the Applicable laws.

24.0 ADDITIONAL/EXTRA WORKS:

IITH reserves the right to execute any additional works/extra works, during the execution of work, either by themselves or by appointing any other agency, even though such works are incidental to and necessary for the completion of works awarded to the Contractor.

25.0 QUALITY ASSURANCE:

Detailed quality assurance programme to be followed for the execution of Contract under various divisions of works will be mutually discussed and agreed to. The Contractor shall establish document and maintain an effective quality assurance system in line with CPWD Quality Assurance Manual for Building Works 2022 and Quality Assurance Policy & Check List for E& M services vide CPWD CSQ(E) Lr. No. 51(4)/CE(E) CSQ/2018/252, dtd: 30.01.2018 and also as outlined in other

recognized codes and subsequent amendments thereon.

Quality Assurance System plans/procedures of the Contractor shall be furnished in the form of a QA manual. This document should cover details of the personnel responsible for the quality assurance, plans or procedures to be followed for quality control in respect of all the activities envisaged in the construction works. The quality assurance system should indicate organizational approach for quality control and quality assurance of the construction activities, at all stages of work at site.

IITH or their representative or any 3rd party for QA & QC approved by IITH shall reserve the right to inspect/witness, review any or all stages of work at site as deemed necessary for quality assurance and / or timely completion of the work.

The Contractor has to ensure the deployment of quality Assurance and Quality Control Engineer(s) depending upon the quantum of work. This QA/QC group shall be fully responsible to carry out the work as per standards and all codes' requirements. In case EIC feels that Contractor's QA/ QC Engineer(s) are insufficient, Contractor has to deploy other experienced Engineer(s) as per site requirement and to the full satisfaction of EIC.

26.0 INSURANCE:

Without limiting the Contractor's obligations and responsibilities stated elsewhere in the Contract, the Contractor shall at his own cost arrange, secure and maintain insurance in the joint names of IITH and the contractor with any of the subsidiary of the General Insurance Corporation of India in such a manner that IITH and the contractor are covered for all time during the period of contract i.e. the time period allowed for completion of work, extended period and the defect liability period. The insurance shall be effected in accordance with terms approved by IITH and the contractor shall submit the insurance policies to the Engineer-In-Charge within 15 (Fifteen) days of signing of the agreement along with the receipt of premium. The contractor shall timely pay and submit the receipts of payment of premiums for extensions of policies, if any. The insurance shall cover the following: -

27.0 CONTRACTOR'S ALL RISKS INSURANCE:

The contractor shall insure the work for a sum equivalent to the Contract value or such additional sums as specified and the interests of Indian Institute of Technology Hyderabad against ALL RISKS claims, proceedings, loss or damages, costs, charges and expenses from whatsoever cause arising out of OP in consequence of the execution and maintenance of the work for which the contractor is responsible under the contract.

28.0 Workman Compensation & Employers Liability Insurance:

All applicable labour codes as approved on 21.11.2025 by Government of India will be binding on to the contractor and subsequent amendments thereon.

This insurance shall be effected for all the contractor's employees

engaged in the performance of the contract. IITH shall not be liable in respect of any damages or compensation payable at law in respect of or in consequence of any accident or injury to any workman or any other person in the employment of the contractor and the contractor shall indemnify and keep indemnified the Indian Institute of Technology Hyderabad against all such damages and compensation and against all claims, demands, proceedings, costs, charges and expenses, whatsoever in respect or in relation thereof.

28.1 Third Party Insurance The contractor shall be responsible for making good to the satisfaction of the Engineer-in-Charge any loss or any damage to all structures and properties belonging to IITH or being executed or procured or being procured by IITH or of the other agencies within the premises of all work of IITH if such loss or damage is due to fault and or the negligence or willful acts or omissions of the contractor, his employees, agents, representatives.

The contractor shall take sufficient care in moving his plants, equipment and materials from one place to another so that they do not cause any damage to any person or to the property of IITH or any third party including overhead and underground cables and in the event of any damage resulting to the property of the IITH or to a third party during the movement of the aforesaid plant, equipment or materials, the cost of such damages including eventual loss of production, operation or services in any plant or establishment as estimated by the IITH or ascertained or demanded by the third party, shall be borne by the contractor.

28.2 Before commencing the execution of the work, the contractor, shall insure and indemnify and keep IITH harmless of all claims, against the contractor's liability for any materials or physical damage, loss or injury which may occur to any property, including that of IITH or to any person including any employee of IITH, or arising out of the execution of the work or in the carrying out of the contract, otherwise than due to the matters referred to in the provision to (a)above. Such insurance shall be effected for an amount sufficient to cover such risks. The terms shall include a provision whereby, in the event of any claim being brought or made against IITH the insurer shall indemnify IITH against such claims and any costs, charges and expenses in respect thereof.

28.3 The contractor shall also at times indemnify IITH against all claims, damages or compensation under the provisions of Payment or Wages Act, 1936, Minimum Wages Act, 1948, Employer's Liability Act, 1938, the Workman's Compensation Act, 1947, Industrial Disputes Act, 1947 and Maternity Benefit Act, 196 1, or any modification thereof or any other law relating thereof and rules made there under from time to time.

28.4 Contractor shall also at his own cost carry and maintain any and all other insurance(s) which he may be required to take out under any laws or regulation from time to time. He shall also carry and maintain any other insurance, which may be required by the Engineer-in-Charge.

28.5 The Contractor shall prove to the Engineer-in-charge from time to

time he has taken out all the insurance policies referred to above and has paid the necessary premiums for keeping the policies alive till expiry of the Defects Liability Period.

28.6 The aforesaid insurance policies shall provide that they shall not be cancelled till the Engineer-in-charge has agreed for cancellation.

28.7 Remedy on the contractor's Failure to insure If the contractor shall fail to effect and keep in force the insurance referred to above or any other insurance which he /they may be required to effect under the terms of the contract then and in any such case Engineer-in-charge may without being bound to, effect and keep in force any such insurance and pay such premium or premiums, as may be necessary for that purpose and from time to time deduct the amount so paid by the Engineer-in-charge from any moneys due or which may become due to the contractor or recover the same as a debt due from the contractor.

29.0 INDEMNITIES:

The Contractor shall indemnify and hold harmless the IITH, the IITH's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

a) bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying any defects, unless attributable to any negligence, willful act or breach of the Contract by the IITH, the IITH's Personnel, or any of their respective agents, and damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless and to the extent that any such damage or loss is attributable to any negligence, willful act or breach of the Contract by the IITH, the IITH's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

30. Project Management Consultancy (PMC)/ Third Party Quality Assurance (TPQA):

1. In order to achieve a high standard of quality, it may be required to go for Project Management Consultancy /Third Party Quality Assurance. For this purpose, a separate agency may be appointed by the IITH who will carry out independent testing of materials and checking and ensure overall quality procedures. The Contractor shall be required to fully cooperate with the agency and facilitate them in taking samples, transportation and examination of various activities including documentation at no extra time and cost. In case of any adverse findings by the agency, the Contractor shall do the needful rectifications at no extra time and cost. The Engineer-in charge shall be at liberty for ensuring quality work done through agencies like IITs/ Govt. Engineering College or Institute of repute. The successful Bidder shall include the provisions of Quality Assurance while

framing the proposed methodology for tests. The expenditure towards engaging PMC/TPQA team shall be borne by IIT Hyderabad.

2. The Contractor shall allow access to Project Management Consultancy (PMC)/ Third Party Quality Assurance (TPQA) engaged by Engineer-in-charge to have a control on quality and methodology of execution. At least 10% Samples of materials for testing including Cement Concrete Cubes shall be taken jointly by Contractor and PMC/TPQA / Engineer-in-charge or his authorized representative. PMC/TPQA agency shall conduct independently at least 10% of the total tests as required as per mandatory tests /contract specifications/ BIS/ IRC /MORTH requirements. All the arrangements required for sampling, transporting and getting them tested including testing charges shall be borne by the Contractor for which nothing extra shall be payable. The Contractor shall extend full cooperation to Project Management Consultancy/ Third Party Quality Assurance Agencies engaged by the department for the Project during their field visits for arranging the necessary quality assurance tests for materials and the construction works.

31. Mode of Operandi of Engineers-in-Charge (EIC) of the work:

- (a) Executive Engineer (Civil), Construction and Maintenance Division, IIT Hyderabad shall act as Engineer-in-Charge of Major Component which includes Civil, Horticulture and Road works.
- (b) Executive Engineer (Electrical), Construction and Maintenance Division, IIT Hyderabad shall be act as Engineer-in-Charge of Minor Component which pertaining to all Electrical and Mechanical works.
- (c) Other than minor component, all other purpose shall be dealt by Engineer-in-charge of Major component.
- (d) Running payment for the major component shall be made by Engineer-in-Charge of major component to the main contractor.
- (e) Running payment for the minor component shall be made by Engineer-in-Charge of minor component directly to the main contractor.
- (f) In case the main contractor intends to change any agency/agencies during the operation of the contract, he shall obtain prior approval of respective Engineer-in-Charge of the agreement. The new agency/agencies shall also have to satisfy the laid down eligibility criteria. In case Engineer-in-Charge of respective major/minor component is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.
- (g) Final bill of whole work shall be finalized and paid by the Engineer-in-Charge of major component i.e. Executive Engineer (Civil). Other Engineer-in-Charge of minor component i.e. Executive Engineer (Electrical) will prepare and pass the final bill for their component of

work and pass on the same to the Engineer-in-charge of major component, for including in the final bill for composite work. This model may do be adopted for running bills at the discretion of the Institute.

- (h) Levy of Compensation under Clause 2, if any, and rescheduling of milestones as stipulated under clause 5, will be decided by Superintending Engineer on receipt of required information in this regard from Engineer-in-Charge of major discipline as well as concerned Engineer-in-Charge of minor discipline.
- (i) Milestones mentioned at Schedule-F are applicable for composite major and minor components of the work. The sequence of the major and minor component Activities shall happen as the actual flow of the work. But as the milestones are mentioned in Financial quantum, which will be reviewed RA bills wise of combined Major & Minor Components of work, the amount to be withheld under Clause 5 of the contract will be decided by the Engineer-in-Charge of the respective component and to that extent on passing of every RA bill by E in C of minor component will intimate the value of RA bill to E in C of major component for taking necessary action in the event of not achieving the necessary milestones as assessed from milestone bar chart, specified percentage of the tendered value of work will be withheld for failure of each milestone.
- (j) The composite work is treated as complete when all the components of the work are complete. The Completion Certificate of the composite work is recorded by Engineer-in-charge of major component after record of completion certificate by the Engineer-in-Charge of minor components.
- (k) Other than technical & contractual issues pertaining to minor component (i.e. E& M works) for all other purposes of contractual agreement like Arbitration case/Court case, if any, such shall be handled with main contractor by the Engineer-in-Charge of the major component with the support of Engineer-in-Charge of the minor component.

32. FACTORY ACCEPTANCE TESTING (FAT):

The Contractor shall facilitate and make all arrangements like transportation, lodging and boarding for IIT Hyderabad personnel who are nominated for the items which are mandatorily required FAT inspections by Engineer-in-charge.

33. PRO-RATA BASIS PAYMENTS:

The Sub-Head wise Percentage weightages of payment schedule of items mentioned at Financial Bid Document Vol.2(a) and 2(b) are indicative and the payment may be released on Pro-rata basis against progressive quantum of work executed/procured materials as the case applicable to enable the cash flow to the Contractor as per the directions of Engineer-in-Charge.

34. The successful bidder shall plan the interior works well in advance so that, upon completion of the finishing works, the interior works can be executed simultaneously and in parallel without affecting the overall project schedule.
35. As the contract is being executed under the Mode-III system, any discrepancy, ambiguity, omission, or conflict noticed in the construction drawings issued by the Engineer-in-Charge shall be brought to the notice of the concerned Engineers of the Construction and Maintenance Division (CMD), IIT Hyderabad, within 24 hours from the date of issuance of such drawings. The discrepancies shall be examined and clarified by IIT Hyderabad, and wherever necessary, revised/corrected drawings shall be issued within 48 hours thereafter.
36. The intending bidders shall carefully study all architectural, structural, and service drawings, including special architectural features such as semi-circular dome-type structures and other non-standard geometrical elements, before submitting their bids. No extra payment, compensation, or claim shall be entertained on account of the execution of such architectural features, as the same shall be deemed to have been considered by the bidder while quoting.
37. The tender document contains an item-wise Bill of Quantities (BoQ) indicating nomenclature and tentative quantities. The BoQ is provided solely for guidance and to enable bidders to make an approximate assessment of the scope of work while submitting their bids.
38. The quantities indicated in the BoQ are tentative and may vary during actual execution based on the approved construction drawings and site requirements. The successful bidder shall not be entitled to any additional claim or compensation for quantities executed in excess of those indicated in the BoQ. Likewise, no recovery or deduction shall be made by IIT Hyderabad for quantities executed less than those indicated in the BoQ, provided the work is completed in accordance with the approved drawings, specifications, and functional requirements.
39. The BoQ attached to the tender document may not explicitly cover the entire scope of work required for the completion of the project. The successful bidder shall execute and complete the building and all associated works in all respects, including all incidental, ancillary, and complementary items necessary to render the facility structurally sound, functionally operational, and aesthetically complete, in accordance with the approved drawings, technical specifications, and directions of the Engineer-in-Charge.
40. The drawings enclosed with the tender document are intended primarily for bidding purposes. During the course of execution, the drawings may be reviewed, modified, refined, or supplemented as deemed necessary by

IIT Hyderabad, and the successful bidder shall execute the work as per the latest approved drawings issued from time to time.

41. The successful bidder shall identify all long-lead materials and equipment at the planning stage and shall ensure their timely procurement, manufacture, delivery, and storage at site well before commencement of the respective activities, so as to avoid any delay in project completion.
42. To ensure completion of the project within the stipulated contract period, the successful bidder shall execute external development works, boundary wall works, utility infrastructure, landscaping components, and all other ancillary constructions in parallel with the main building works.
43. The semi-circular dome-type architectural features shown in the drawings shall be constructed using Reinforced Cement Concrete (RCC) along with suitable cladding and finishing materials as approved by the Engineer-in-Charge. The finished surfaces shall be smooth, uniform, and aesthetically pleasing, achieved through the use of specially designed centring, shuttering, moulds, and formwork systems capable of producing the required geometry and finish.
44. For construction of RCC dome structures and curved architectural elements, the contractor shall submit scheme/methodology of its execution and materials such as composite shuttering boards, flexible plywood sheets, black boards, MS steel sheets, or other approved formwork materials may be used, supported by adequately designed MS steel-framed centring and staging systems as required to achieve the specified profile, shape, and finish, which as approved by the Engineer-in-charge.
45. All water bodies and similar structures proposed at various locations within the project shall be constructed with an approved crystalline waterproofing system. The waterproofing treatment shall be done in accordance with the detailed drawings, manufacturer's specifications and as approved by the Engineer-in-Charge, to ensure long-term watertightness and durability.
46. **INSPECTION VEHICLE:**

Contractor shall, at his own cost, deploy for the exclusive use of the EIC and his team, a minimum of 01 (One) no. SEDAN inspection vehicle, Four (4) Passenger capacity, Model not older than year 2024 with driver and fuel with average monthly ceiling of 2500Km within 15 days of issue of award letter. The operation and maintenance cost of the vehicle has to borne by the contractor and the Vehicle is to be at the exclusive disposal of EIC till the completion of the whole Project. In the event contractor fails to arrange the vehicle in satisfactory condition, the Engineer-in-charge shall make alternate arrangement at the cost of the contractor.

Volume 1:: Section 3

**Mandatory Compliances to
achieve SVAGRIHA
Certification**

The project is aimed to achieve 3-star SVAGRIHA Rating. To achieve this objective, the Contractor shall adhere to the mandatory stipulations of GRIHA Council. These stipulations and guidelines are placed as Appendix to the Special Conditions of Contract. Nothing extra shall be payable towards adherence to these stipulations and guidelines and all costs towards the same shall be deemed to have been included in the quoted prices.

1. ADDITIONAL SPECIFIC CONDITIONS OF CONTRACT FOR SVAGRIHA RATING SYSTEM:

1.1 The contractor is required to adhere to the various environment friendly and SVAGRIHA compliant aspects of construction as well as documentation w.r.to use of Materials, Manpower, Machinery and other relevant mandatory requirements. All sanitary and plumbing fixtures shall be of low flow category and shall comply requirements to achieve SVAGRIHA certification. Nothing extra shall be payable over and above the quoted rates for complying with these requirements

1.2 To achieve the above, the contractor shall adhere to the following during construction:

- a) Provide adequate level of sanitation and safety facilities for construction workers.
- b) Plan utilities efficiently and optimize on-site circulation efficiency
- c) Efficient use of available water
- d) Reduce air and noise pollution due to storage / use of materials and machinery.
- e) Reduction in waste of construction materials
- f) Proper storage and disposal of wastes. Dedicated place within the site to be earmarked for sorting and sorting construction waste.
- g) Implement recycling programme as far as possible to recycle construction waste materials during construction
- h) Suitable arrangement for preventing dust and debris entering duct work and working areas.
- i) Create physical barriers between work and non- work areas.
- j) Protection of materials and equipment against moisture, dust etc.
- k) Keeping work area clean and dry.
- l) Shall take safety measures to avoid damage to existing plants and trees.

1.3 Use of low emitting adhesives and sealants to-

- a) reduce/ avoid use of materials, which are irritating and naturally cause health problems to the construction workmen and occupants.
- b) Achieve specified Volatile Organic Compounds (VOC) limits as per the requirements given in Table - 1 & Table - 2 below

**TABLE-1
LIST OF ADHESIVES AND SEALANTS**

Sl. No	Types of Applications	Maximum VOC
1.	Laminate Adhesive	30
2.	Wood Flooring Adhesive	10
3.	Ceramic Tile Adhesive	65
4.	Rubber Flooring Adhesive	60
5.	Sub Floor Adhesive	50
6.	Structural Glazing Adhesive	10
7.	Architectural Seal Non	25
8.	Indoor Carpet Adhesive	50

TABLE-2

LOW EMITTING MATERIAL PAINTS

Interior paints (walls, ceiling, wood polish etc.) should conform to the following criteria

Sl. No	Type of Applications	VOC Limit(g/L)
1.	Flats	50
2.	Non-flat	50
3.	Anti-rust paints	250
4.	Varnish	350
5.	Lacquer	550
6.	Floor Coatings	100
7.	Water proofing sealers	250

1.4 Use only those materials which conform to the SVAGRIHA Rating System criteria.

1.5 The contractor shall maintain proper record of all the materials/equipment procured w.r.to their source & specifications with details of their manufacturing and recycled content etc. and submit along with all supporting documents to the Engineer-In-Charge.

1.6 Construction waste management plan:

The broad intent of this credit is to avoid materials going to landfills, during construction. It is required to develop a plan to recycle all possible waste generated during construction. Typical items would include land clearing debris, concrete, steel, duct work, clean dimensional wood, paperboard and plastic used in packing, etc.

The plan should include where these materials will be sent to and the mode of transportation also. Donation of construction waste to other buildings for use, is also deemed as having addressed the intent of this credit. The contractor should have a system to document the disposal of construction waste.

1.7 Indoor Air Quality (IAQ) Management Plan

The contractor shall be required to take the specific measures during construction w.r.to following main areas of concern:

a) HVAC System Protection:

When performing construction activities that produce dust, such as drywall sanding, concrete cutting, masonry work, wood sawing or additional insulation, seal off the supply diffusers and return air system openings completely for the duration of the task. Shut down and seal off the supply diffusers and return air ducts during any demolition operation.

Till the HVAC system is put into use, seal-off the supply diffusers and return air system openings to prevent the accumulation of dust and debris in the duct system during construction.

Do not use the mechanical rooms to store construction or waste materials. Keep rooms clean and neat.

Provide periodic duct inspections during construction; if the ducts become contaminated due to inadequate protection, clean the ducts as per requirements and directions of Engineer-In-Charge.

b) Contaminant Source Control:

- Use low VOC products as indicated by the specifications to reduce potential problems.
- Restrict traffic volume and avoid idling of motor vehicles as their emissions could be drawn into the building.
- Utilize electric or natural gas alternatives for gasoline and diesel run equipment where possible and practical. Use low Sulphur diesel in lieu of regular diesel
- Cycle equipment off when not being used or needed
- Exhaust pollution sources to the outside with portable fan systems
- Prevent exhaust from re-circulating back into the building
- Keep containers of wet products closed as much as possible. Cover or seal containers of waste materials that can release odor or dust.
- Protect stored on site or installed absorptive building materials, for instance, Cement, Gypsum/ POP etc. from weather and moisture; wrap with plastic and seal tight to prevent moisture absorption.

c) Pathway interruption:

- Provide dust curtains or temporary enclosures to prevent dust from migrating to other areas, where applicable.
- Locate pollutant sources as far away as possible from areas occupied by workers when feasible
- During construction, isolate areas of work to prevent contamination of clean or occupied areas. Pressure differentials may be utilized to prevent contaminated air from entering clean areas.
- Depending on weather, ventilation using 100% outside air will be used to exhaust contaminated air directly to the outside during use of VOC emitting materials.

d) Housekeeping:

- Provide regular cleaning concentrating on HVAC equipment and building space to remove contaminants from the building prior to occupancy.

- All coils, air filters, fans & ducts shall remain clean during installation and, if required, will be cleaned prior to performing the testing, adjusting and balancing of the system.
- Schedule high pollution activities that utilize high VOC level products (including paints, sealers, insulation, adhesives, caulking and cleaners) to take place prior to installing highly absorbent materials (such as ceiling tiles, gypsum wall board, fabric furnishings, carpet and insulation, for example).
- Suppress and minimize dust with wetting agents or sweeping compounds. Utilize efficient and effective dust collection methods such as a damp cloth, wet mop, or vacuum with particulate filters, or wet scrubber.
- Remove accumulations of water inside the building. Protect porous materials such as insulation and ceiling tile from exposure to moisture.
- Thoroughly clean all interior surfaces prior to replacing filters and running HVAC system for system balancing, commissioning and building flush-out.

1.8 Scheduling and construction activity sequence

1.9 Schedule high pollution activities that utilize high VOC level products (including paints, sealers, insulation, adhesives, caulking and cleaners) to take place prior to installing highly absorbent materials (such as ceiling tiles, gypsum wall board, fabric furnishings, carpet and insulation, for example).

1.10 Photographs during various stages of construction shall be taken by contractor and submitted to the Engineer- In-Charge, showing details of specific requirements/ measures being taken by the contractor towards above.

1.11 Provide photographs of the above activities during construction for documentary compliance and records.

1.12 Contractor shall coordinate with suppliers of various materials and equipment to be procured by him for use in works and provide all required details w.r.to their manufacturing facilities; raw materials etc. as per requirements of SVAGRIHA Certification guidelines. Preference should be given to SVAGRIHA compliant products/ materials.

Volume 1:: Section 4

GENERAL INFORMATION

GENERAL INFORMATION TO BIDDERS FOR SUBMISSION OF BIDS

- 2.1 The tenderers should read all the instructions, terms & Conditions, contract clauses, nomenclature of items, specifications etc. contained in the tender documents very carefully, before quoting the rates. The tenderer should also read the General Conditions of Contract for works on EPC mode attached along with the tender documents which will be part of the agreement.
- 2.2 The agency shall quote the rate for complete scope of work in both words and figures in the financial bid.
- 2.3 The bidder shall quote his rates keeping in mind the scope of work, specifications, terms & conditions, additional conditions and special conditions etc. and nothing shall be payable extra whatsoever unless otherwise specified.
- 2.4 The contractor shall also furnish Performance Guarantee of 5% as mentioned in Schedule-F (50% of Performance Guarantee shall be retained as security deposit which will be returned after successful completion of defect liability period) in addition to the other deposits mentioned elsewhere in the contract for proper performance of the agreement. The Performance Guarantee shall be in the shape of Bank guarantee as per Performa given in **GCC for EPC Projects Volume – VI**.
- 2.5 In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so. Such power of attorney should be produced with the tender and it must be disclosed that the firm is duly registered under the Indian partnership act, 1952.
- 2.6 The bidder shall quote their rates considering all prevalent taxes/ cess like GST, Workers Cess or any other tax on material /work as applicable and nothing extra shall be paid to the contractor on this account. IIT Hyderabad (the Institute) shall deduct Workers Cess, Royalty or any other tax as applicable, from the R/A bills & final bill. However, the contractor shall pay GST to the concerned authorities directly as per prevailing rules.
- 2.7 TDS as applicable shall be deducted from all bills of contractor.
- 2.8 The tender which is not duly signed by authorized signatory or with conditions shall be treated as non-responsive and shall be summarily rejected.

INFORMATION AND INSTRUCTIONS FOR BIDDERS:

- 2.9 Contractors who fulfil the following requirements shall be eligible to apply. **Joint ventures/Consortium and Special Purpose Vehicles (SPV) are not accepted.**
- 2.10 The enlistment of the contractors should be valid on the last date of submission of bids. In case the last date of submission of bid is extended, the enlistment of contractor should be valid on the original date of submission of bids.

2.11 Eligibility criteria for work experience -

To become eligible for participating in the bid process, all the bidders shall satisfy the following work experience criteria.

- (a) *The bidder should have satisfactorily completed the following works in last 7 (seven) years ending previous day of last date of submission of bid. For this purpose, cost of work shall mean gross value of the completed work: -*
- (i) *Three similar completed works each of value not less than 40% of estimated cost put to tender (ECPT) i.e., Rs. 2.02 Crore.*

OR

Two similar completed works each of value not less than 60% of estimated cost put to tender (ECPT) i.e., Rs. 3.02 Crore.

OR

One similar completed work of value not less than 80% of estimated cost put to tender (ECPT) i.e., Rs. 4.03 Crore.

Similar work shall mean "Construction of RCC framed structure buildings in which at least completion of one building of single storied including finishing's, internal & external electro-mechanical works, public health Engineering systems all completed executed under one agreement in India". (Godowns/ Ware houses/ factory Sheds shall not be considered as eligible similar works)

Components of work executed other than those included in definition of similar work shall be deducted while calculating the cost of similar work. RCC framed structure shall be of RCC slab, beams & columns. The bidder shall submit abstract of cost of work along with supporting documents and certificate issued by the experience issuing authority in support of this.

2.12 The value of executed works shall be brought to current costing level by enhancing the actual value of work done at simple rate of 7% per annum; calculated from the date of completion to previous day of last date of submission of bids.

2.13 Qualified similar works may be physically inspected by officers/ Expert Committee of IIT Hyderabad to ascertain the completion, performance and quality of works for finalizing technical bids.

2.14 Eligibility criteria for financial eligibility -

To become eligible for participating in bid process, the bidder shall satisfy the following financial eligibility criteria. However, CPWD registered contractors enlisted in composite category Class - I (AAA) and Class - I (Super), need not submit financial eligibility documents. However, all intending bidders including CPWD Registered contractors shall be submitted the following financial documents as mentioned at Form 'K' for the technical evaluation of the bids submitted by them.

- a) *The bidder should have had average annual financial turn over (gross) of Rs. 4.03 Crore on construction works during the last three consecutive years ending March, 2025, balance sheets should be duly audited by Chartered Accountant. Year in which no turnover is shown would also be considered for working out the average. (copy of Audited Balance Sheet to be submitted).*
- b) *Should not have incurred any loss (profit after tax should be positive) in more than two years during the last five consecutive years ending 31st March 2025, duly audited and certified by the Chartered Accountant.*
- c) *Should have a Net worth certificate of Rs. 50.32 Lakh (copy of original Net worth certificate issued by Bankers, not older than six months from the last date of submission of bids, to be submitted).*

2.15 For specialized Electrical-Mechanical (E & M) works component, the eligibility criteria of associated agency for Specialized works shall be as detailed below (Components of work executed other than specialized work shall be deducted while calculating the cost) -

ELIGIBILITY CRITERIA FOR SPECIALIZED E& M WORKS:

For specialized components of E & M works (Components of work for particular specialized work shall only be considered while calculating the cost of specialized work). The specialized agency should have satisfactorily completed the said specialized work of amount as mentioned below during the last 07 (seven) years. The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to previous day of last date of submission of tenders.

The bidder should either himself meet the eligibility conditions as mentioned in the table below or otherwise he will have to associate with an agency meeting the eligibility requirements for specialized work. The bidder shall submit details of such agency(s) as given below to the Engineer in Charge of minor component at least one month in advance from taking up specific component.

The main contractor has to submit the following documents for association of specialized agencies /associated contractor within one month of award of work:

(i) In support of the eligibility conditions of the proposed associated Contractor, copy of their registration documents, Electrical License issued by Telangana State Electrical Licensing Board, GST Documents duly attested by the applicants (Main Contractor) shall be submitted to the Engineer-In- Charge for deciding the eligibility. Each such Associated Contractor will certify that they are not debarred from any Central Govt./State Govt., Central/State Govt. PSU/Autonomous bodies as on the day of application of tender. Proposal for associating agency for minor components of work shall be submitted in Form- "N" of this tender document from each associate independently for all electrical and mechanical components.

(ii) The main contractor will submit the true copy of MOU signed with eligible associated agency. The MOU in the enclosed Form Q shall be signed by both the parties" main contractor i.e., as 1st party and associated contractor as 2nd party. Independently for all electrical and mechanical components.

- 1) Name of Firm
- 2) List of works as given in table below
- 3) Performance certificate from the Client
- 4) Availability of manpower and machineries

(a) Eligibility Criteria for associate specialized Agencies for E & M services/works components.

Sl. No	Name of the specialized E&M Component	Eligibility criteria	Definition of Similar Work
1.	Internal and External Electrical Installations, DG set, UPS System, Illuminated Signage's, street lighting, compound and Foot Path Lighting etc. External Electrical Service connections, Main MV/LT Panels in Bldg. and substations, MV/LT	One similar completed works costing each of value not less than Rs.86.33/-lacs OR Two similar completed works costing each of value not less than Rs.64.74/-lacs	<i>Similar work shall mean the work of Supply, Installation, Testing & Commissioning (SITC) of Internal and External Electrification works in any residential/ Commercial or Office buildings i/c SITC of DG Set and associated works , SITC of Fire Alarm</i>

	<p>cabling, Earthing system, Lightning Protection system and also systems as follows:</p> <p>Automatic Fire Alarm System, Fire Extinguishers,</p> <p>Water supply pumping system</p> <p>LAN, Networking system</p> <p>IP Based EPABX System (for Telephones),</p>	<p>OR</p> <p>Three similar completed works costing each of value not less than Rs.43.16/-lacs</p>	<p><i>System/ Fire Fighting System, SITC of LAN/ WI-FI and Networking System, SITC of IP Based EPABX System and allied works.</i></p>
2	<p>VRV/VRF Air-conditioning system, Toilets Exhaust, ventilation system, LIFT well Pressurization system</p>	<p>One similar completed works costing each of value not less than Rs.14.90/-lacs</p> <p>OR</p> <p>Two similar completed works costing each of value not less than Rs.11.17/-lacs</p> <p>OR</p> <p>Three similar completed works costing each of value not less than Rs.7.45/-lacs</p>	<p><i>Similar work shall mean the work of Supply, Installation, Testing & Commissioning (SITC) of VRV/ VRF Air-conditioning system, Toilet Exhaust systems, LIFT/ Stairways Pressurization system in any Residential/ Commercial or Office buildings.</i></p> <p>NOTE; <i>The associate agency shall obtain & submit an Authorization certificate from any of Approved List of Manufacturer for VRV/ VRF system SITC works.</i></p>

3	Roof Top Solar PV Power Generation System	<p>One similar completed works costing each of value not less than Rs.7.01/-lacs</p> <p>OR</p> <p>Two similar completed works costing each of value not less than Rs.5.26/-lacs</p> <p>OR</p> <p>Three similar completed works costing each of value not less than Rs.3.5/-lacs</p>	<p><i>Similar work shall mean the work of Supply, Installation, Testing & Commissioning (SITC) of Roof Top/ Ground Mounted Solar PV system of minimum capacity of 10kWp in any Residential/ Commercial or Office buildings.</i></p>
4	LIFTS	<p>The Main contractor shall associate with the one of the Approved Lift manufacturers of Preferred/approved Makes List satisfying NIT conditions. No other Associated Agency shall be eligible to execute the work.</p> <p>For lift works, the approved manufacturer only shall carry out the original work.</p>	

(b) Eligibility Criteria of Specialized Agency for Lifts:

A. The lift manufacturer shall comply with BIS standards, duly certified by the manufacturer itself.

B. The manufacturer shall be compliant to the Public Procurement (Preference to Make in India). Order 2017 (as amended from time to time) issued by the Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry. The lift manufacturer shall

furnish an undertaking regarding availability of spares for the entire expected life of the lift. i.e., 15 to 20 years.

C. The complete lift installation including its components, safety devices, various types of controls etc. testing inspection, operation & maintenance shall conform to relevant codes, Standards, code of practices, guidelines, safety rules, inspection manual(s), rules issued by Bureau of Indian Standards, as amended up to the last date of receipt of tender.

D. Quality standards shall confirm to latest IS/ISO-9001:2015

The down time of installed lifts being maintained by the manufacturer shall not more than 8 hours (average) in case of minor faults and 7 days (average) in case of major faults during the last one financial year. The manufacturer shall provide undertaking regarding the same.

NOTE: The Main Contractor shall arrange rates from the LIFT OEM for the subsequent 5 years of Comprehensive AMC after completion of DLP.

(c) Eligibility criteria for specialized agency for Medium Voltage (MV) works:

The specialized associate agency shall comply the eligibility conditions mentioned in S. No. (1) above.

The Main contractor is also being eligible to carry out himself/ herself any or all of these works without associating any specialized agency provided:

He fulfils the prescribed eligibility criteria respectively for these work(s)

OR

He directly procures the equipment of approved make from manufacturer and gets it installed from authorized agency/service provider of the manufacturer or specialized agency as per criteria mentioned in NIT.

The Main Contractor and the associated specialized agencies give required affidavit to confirm their association.

Engineer in Charge of minor component approves the change of Sub-Agency in case it is required during the currency of the contract.

- All the above mentioned Electrical, Mechanical, ELV, and allied services design/drawings, Electrical load calculations, DBRs etc. prepared by the Architect (Consultant) are being provided by IITH. Based on these drawings, the shop drawings should be prepared and submitted by the Main contractor and the same shall be get vetted (including Proof checking) from the Architect(consultant). After vetting (including proof checking) of the design/drawings, the Main contractor shall submit the vetted design/drawings to Engineer-in-charge for final approval of the same.
- The payment to the Third-Party consultant (if any) shall be made by IITH directly from due payments/running bill payments of the Main contractor.

- 2.16 The intending bidder must read the terms and conditions carefully. He should submit his bid if he considers himself eligible and he is in possession of all the documents required
- 2.17 Intending Bidders are advised to keep visiting the above-mentioned web-site from time to time (till the last time and date for submission of bids) for any updates in respect of the tender documents, if any. Failure to do so shall not absolve the applicant of his liabilities to submit the applications complete in all respect including updates thereof, if any. An incomplete application may be liable for rejection.
- 2.18 The eligibility (Technical) bid shall be opened first on due date and time as mentioned above. The time and date of opening of financial bids of bidders qualifying the eligibility (Technical) bid shall be communicated to them at a later date.
- 2.19 Pre-bid conference shall be held with the eligible and intending bidders in the office of Superintending Engineer, Construction & Maintenance Division, IIT Hyderabad, Kandi, Sangareddy- 502 284, Telangana State at **11:00 Hrs. on 09-07-2026** to clear the doubts of intending bidders, if any. Bidders should send by email all their queries, prior to the date of pre-bid conference i.e. on or before **09-07-2026 09.00 Hrs,**

Email id- ee.civil@iith.ac.in

- 2.20 After pre-bid conference, modifications if required in the bidding documents and clarifications to the queries raised by intending bidders will be issued to all participating bidders by e-mail. Same will also be posted on the website. If further pre-bid conferences are required for complete and effective interactions, the date and time of same will be communicated at the end of 1st pre-bid meeting or later. All modifications/addendums/corrigendum issued regarding this bidding process, shall be posted on website only and shall not be published in any Newspaper.
- 2.21 IIT Hyderabad reserves the right to reject any prospective application without assigning any reason thereof and to restrict the list of qualified bidders to any number deemed suitable by it, if too many bids are received satisfying the minimum laid down criteria.
- 2.22 Contractor must ensure to quote rate of each item.
- 2.23 Intending bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra claims / payments consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity, access, facilities for workers and all other services required for executing the work unless

otherwise specifically provided for in the contract documents. Submission of bid implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and local conditions and other factors having a bearing on cost and on the execution of the work.

- 2.24 If any information furnished by the applicant is found incorrect at a later stage, he shall be liable to be debarred from tendering/taking up of works in IIT Hyderabad. The Institute reserves the right to verify the particulars furnished by the applicant independently.
- 2.25 This work required engaging more than 20 nos. of labourers / workers and therefore all necessary licenses/ registrations such as labour license, EPFO, ESI, BOCW welfare registration etc., shall be taken by contractor within the time limit prescribed in clause 1 of Schedule – F.
- 2.26 The bid submitted shall become invalid if:
- a The bidder is found ineligible.
 - b The bidder does not deposit EMD as per NIT.
 - c The bidder does not submit the documents as stipulated in the bid document.
- 2.27 List of Documents to be submitted within the period of bid submission.
1. EMD in Bank Guarantee of any Scheduled Bank
 2. Letter of Transmittal in **Form-A**
 3. Certificate of Financial Turnover from CA in **Form -A1**.
 4. The bidder should have a Banker's certificate from a Commercial Bank certified by his Bankers (**Form - B**) or the bidder should submit Net worth Certificate of minimum 10% of ECPT issued by the certified Chartered Accountant in (**Form-B1**)
 5. List of eligible similar nature of works completed during the last seven years' previous day of last date of submission of bid in **Form -C**.
 - a. If private works are shown in support of eligibility, certified copy of the tax deducted at source certificate (TDS) shall be submitted along with the experience certificate and the TDS amount shall tally with the actual amount of work done).
 - b. Works executed outside India shall not be considered as eligible works.
 6. List of projects under execution or awarded **Form - C1**
 7. Performance report of works (mentioned in Form-C) may suggested to submit all the details as mentioned at **Form-D**.
 8. Affidavit for Execution of similar works in **Form-E**.
 9. Structure and Organization of the bidder in **Form-F**
 10. Copy of CPWD enlistment order under composite category Class – I (Super), Class – I (AAA) to be submitted ONLY by CPWD contractors enlisted in composite category Class – I (Super), Class – I (AAA).
 11. GST registration certificate of the state in which the work is to be taken up, if already obtained by the bidder.

If the bidder has not obtained GST registration in the state in which the work is to be taken up, or as required by GST Authorities, then in such a case the bidder shall submit following undertaking along with other bid document

“If work is awarded to me, I/We shall obtain GST registration certificate of Telangana state within one month from the date of receipt of award letter or before release of any payment by IITH, whichever is earlier, failing which I/We shall be responsible for any delay in payments which will be due towards me/ us on a/c of the work executed and/or for any action taken by IITH or GST department in this regard”.

- 12 Permanent Account Number (PAN) as issued by the Income Tax Department.
- 13 Undertaking pursuant to Section 206AB of the Income Tax Act, 1961 – **Form G**
- 14 Declaration of Local Content – **Form H**
- 15 Integrity Agreement in **Form- J**
- 16 Affidavit of Non- Black Listing **Form 'M'**

NOTE:

1. All affidavits shall be made in current date after the date of invitation of tender.

2.28 The bid document will include following Six Volumes:

Volume-1

Technical Bid:

**Notice Inviting Tender (NIT),
Instructions to Bidders,
Schedules A to F for the major component (Civil) of the work,
NIT Form and Acceptance
Special Conditions and Additional Conditions of the Contract
Schedule of Items**

Volume-2

Financial Bid

2 (a) Schedule of sub-heads – Civil & Electrical Component and intending bidder have to quote (Financial Bid)

2 (b) PAYMENT SCHEDULE – Civil & Electrical Component (Sub-head wise % Break-up/ Annexure to Financial Bid)

Volume-3

Technical Specifications for Civil Works

Volume-4

Technical specifications for Electrical and Mechanical (E&M) works

Volume-5

Architectural and Structural Drawings

Volume-6

General Conditions of Contract EPC Projects

- 2.29 If the main contractor fails to associate agency/agencies for execution of specialized/minor components of work within prescribed time or furnishes incomplete details or furnishes details of negligible agencies even after the tenderer is given due opportunity, the entire scope of such component of works shall be withdrawn from the tender and the same shall be got executed by the Engineer-in-charge at the risk and cost of the main contractor.
- 2.30 In case the main contractor intends to change any of the above agency/ agencies during the operation of the contract, he shall obtain prior approval of respective Engineer-in- charge. The new agency/ agencies shall also have to satisfy the laid down eligibility criteria. In case Engineer-in- charge of respective discipline is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.
- 2.31 The main contractor has to enter into agreement with contractor(s) associated by him for execution of specialized/minor component(s). Copy of such agreement shall be submitted to Engineer in-charge. In case of change of associate contractor, the main contractor has to enter into agreement with the new contractor associated by him.
- 2.32 In case main contractor fails to make the payment to the contractor associated by him within 15 days of receipt of each running account payment then on the written complaint of contractor associated for such specialized/minor component, Engineer-in -charge shall serve the show cause to main contractor and after considering the reply of the same he may make the payment directly to the contractor associated for specialized/minor component as per the terms & conditions of the agreement drawn between main contractor and associate contractor fixed by him, if reply of main contractor either not received or found unsatisfactory. Such payment made to the associate contractor shall be recovered by Engineer-in-Charge from the next RA/final bill due to main contractor as the case may be.

Volume 1:: Section 5

Technical Bid and Bid Forms

BRIEF PARTICULARS OF THE WORK

SCOPE:

IIT Hyderabad started functioning since August 2008 from its temporary campus located in Sangareddy district. IIT Hyderabad wishes to make a dream campus, a campus that is built on state-of-the-art professional strategies of planning, architecture, design and construction, with equal emphasis on aesthetics, safety and comfort. It must stand befitting the status of a premier institute, offering a role model for other campuses to emulate. The infrastructure of the campus shall be so developed that it allows natural opportunities for interaction between academics of different disciplines to come together and undertake research on cutting edge interdisciplinary domains.

IIT Hyderabad is planned as a residential campus built on an area of around 600 acres to eventually accommodate a total population of 30,000, including 20,000 students with a total built up area of 2.1 million square meters. The campus consists of academic area, residential area for students, residential area for faculty and staff and other support facilities.

The growth of the campus is planned in phases with a corresponding increase in the physical infrastructure and support facilities to accommodate an increase in the number of students in established programs and new programs of the future. IIT Hyderabad campus is envisioned as township that will be self-contained and based on concepts of sustainable development and living.

The master plan for IIT Hyderabad campus has been developed with modular flexibility for expansion to accommodate the future growth.

Phase-1 Campus Construction was started in January 2012 and completed in April 2019 and Phase-2 Campus Construction has been started in March 2019 and completed in October 2025. Now, IIT Hyderabad intends to start the construction activities for Director's Residence and appoint the contractor for the same.

- 5.1 The rates quoted shall be deemed to be inclusive for all the **statutory payments or fees shall be reimbursed by the Institute** and nothing extra shall be payable on this account. The work is to be executed on **ENGINEERING, PROCUREMENT AND CONSTRUCTION (EPC) (Turn Key) basis in Mode III**. The cost of labour, material, tools and plants and machinery required for execution of the whole project as per Layout plan & detailed design and drawings to be approved, specifications etc. is within the scope of this work. The buildings are to be planned and executed to meet 3 STAR SVAGRIHA.

Note: "Plinth Area" shall have the meaning as given in the code IS: 386

Note:

- i) The total plinth area of a building shall be sum of plinth area at every floor including basement, if any.
- ii) The mumty and machine room will not be counted as storey and shall not be considered for plinth area calculation.
- iii) Internal sanitary shafts shall not be included in the plinth area in the case of a residential building at any floor level.
- iv) In case of non-residential buildings, plinth area shall not include shafts open to sky. However, the shafts/lift wells covered at top shall be counted at one floor level only.
- v) The area of the mumty at terrace level shall not be included in the plinth area. If a Barsati is provided jointly with mumty then the area of the Barsati excluding mumty at the terrace level shall be included in the plinth area.
- vi) Payment for pergolas, approach ramps, external staircases and space frames shall not be made separately and to be considered in the rate of the building.
- vii) For porticos 50% of the plinth area shall be considered for payment.
- viii) Column projections, slab projections & chajjas beyond wall face shall not be considered in plinth area for payment.
- ix) 50 % of plinth area of Uncovered/ unprotected balcony/ verandah shall be considered for payment.
- x) No separate payment shall be made for any lofts provided.

5.1 Schematic layout plan, preliminary architectural concept plan of building, topographical survey and soil test report in the nearby plot are attached with bidding documents. These are only indicative just to give idea regarding works.

5.2 All works have to be executed as per specifications provided in the bid document, CPWD Specifications 2019 Vol-I & Vol-II with correction slips / additions up to date of submission of bids and National Building Codes 2016 with correction slips / additions up to date of submission of bids (in case of difference if any, stringent / higher specification of the two shall be followed). In absence of CPWD Specification, IS Codes, MoRTH Specifications, National Building Code 2016 Specifications, and sound engineering practices shall be adopted as per order of precedence defined in the contract.

5.3 The scope of works & specifications are given in general but they are not exhaustive i.e., does not mention all the incidental works required to be carried out for complete execution of the item of work. Since this is an EPC contract, the work shall be carried out, all in accordance with true intent and meaning of the specifications and the drawings taken together, regardless of whether the same may or may not be particularly shown on the drawings and/ or described in the specifications, provided that the same can be reasonably inferred there from. There may be several incidental works, which are not mentioned in the contract document/specifications but will be necessary to complete the item in all respect. All these incidental works/ costs which are not mentioned, but are necessary to complete the work shall be deemed to have been included in the overall amount quoted by the contractor for various components of work. No

adjustment of rates shall be made for any variation in quantum of incidental works due to variation/change in actual working drawings. Also, no adjustment of rates shall be made due to any change in incidental works or any other deviation in such element of work (which is incidental to the items of work and are necessary to complete such items in all respects) subject to the provision under clause 12.3 of the contract on account of the directions of Engineer-in-charge.

5.4 In case, some of items are missing in the scope of work or specifications in the bidding documents same shall be taken from the specification mentioned in similar type of items mentioned for similar type of buildings in the scope of work or shall be executed as given in the CPWD Specifications, NBC-2016, IS Codes or according to sound engineering practices so as to make the building including related services fully functional. No claim what so ever may be entertained at later stage. All cost of providing and making buildings with services, landscape and horticulture works to the extent specified, fully complete in all aspect unless specifically mentioned in the contract document and making buildings with services fully functional are deemed to be included in the cost tendered for this work.

5.5 Tap off locations for drawing the services like water supply, electricity and disposal of sewage will be made available to the contractor. These locations are shown in the masterplan enclosed with the bid documents. the contractor shall execute all works necessary for these services as per required engineering design. Nothing extra shall be payable.

Note:

1. All works has to be executed as per specifications provided in the bid document, CPWD Specifications and National Building Codes 2016 (in case of difference, if any, stringent / higher specification of the two shall be followed). In absence of CPWD Specification, IS Codes, National Building Code 2016 or sound engineering practices and directions of the Engineer in Charge shall be adopted as per order of precedence defined in the contract.
2. All the equipment/ components for sub-station, DG sets, MV/LT panels, Solar Hot water system , LIFTS, Multi-function meters, Radiant Cooling system/BTU meters, HVAC Chillers and other associated plant room equipment's, Cooling Towers, VFDs, Chiller Plant Manager, CCTV, LAN/Wi-Fi networking system, EPABX, Fire Alarm system, Fire-fighting system, Water pumping system, Stairways/LIFT well Pressurization system etc. shall be compatible with third party BMS (BMS is not part of this contract). All the needful interface devices shall be considered under scope of this contract. Nothing extra shall be paid on this account.

5.6 Brief Description of activities: -

The work shall be executed on **Turnkey basis** involving constructions & commissioning of buildings & services and obtaining completion in accordance with layout plan and architectural / structural drawings. Scope of work contained in the paras mentioned below is **only indicative and not exhaustive**.

- (1) The Works shall include all Civil, Electrical, Mechanical, HVAC, all Safety Aspects and any other Works required for the Construction and Completion of the Works in all respects and to the Satisfaction of the Engineers – in – charge of major component and minor component.
- (2) **Local Body Approval: -**
 - i. Agency shall get the requisite approvals from the local bodies wherever required before start of the work and Fire NOC & Occupancy Certificates after completion of the work also. The contractor shall incorporate any modifications that may become necessary by any of the local bodies, the same shall be carried out by the contractor at his own cost.
 - ii. The contractor shall obtain all mandatory approval and No Objection Certificate / Consent for Establishment from local body authorities like local Fire department, local town planning authority, local ground water authority, local electricity supply authority, local pollution control board, Forest department, Environment clearance, Lift inspectorate, Central Electricity Authority etc., as may be necessary for the construction and occupancy of the building.
 - iii. The contractor has to prepare all the documents as required and submit as per the prescribed rules to the local statutory bodies.
 - iv. The contractor shall at his own cost collect field samples and carry out all necessary tests required for submission of necessary applications.
 - v. The contractor has to comply and, if necessary, resubmit applications are required by the local bodies.
 - vi. If required, the contractor has to appoint at his own liaison consultants for obtaining local body approvals.
 - vii. **The statutory payments or fees shall be reimbursed by the Institute on Production of Proof of remittance.**
 - viii. Three final copies of the documents prepared shall be submitted to Engineer – in – charge for record. He shall also submit the soft copies in editable format.
 - ix. All the documents created out of the assignment will become the sole property of the Institute.
3. Water supply: Water supply lines shall be laid as per scheme prepared, submitted by the contractor and approved by Engineer – in – charge. The same would be implemented as per approval given along with construction of overhead tanks on top of the building.

- (1) Planning, designing and construction / installation of underground reservoirs, water gallery, its pump houses for water supply, for firefighting tank including installing of pumps, stand by pumps, DG Sets, as per approved drawings / specifications or as directed by Engineers – in – charge.
- (2) Connection charges / fee, if any to be paid to the local bodies or any other agency shall be borne by the institute. The cost of restoration of any services damaged by the contractor during execution shall be borne by him.
- (3) Complete levelling / dressing including filling of earth, its supply, disposal of surplus earth as the case may be, is to be completed as directed by the Engineer – in – charge.
- (4) Taking all precautionary measures to safeguard against any accident for the contractors' employees, general public, supervisory staff of IIT Hyderabad by providing necessary safety equipment e.g. MS sheet barricading etc and personnel's equipment e.g. helmets, safety shoes etc; at work site.
- (5) The site has to be kept clean of all debris, rubbish and dirt & surplus / waste material all the time. It also includes maintenance, cleaning & de-silting the drains, pipe lines laid by the agency for all services etc. executed by the agency to the entire satisfaction of the Engineer – in – charge during the construction period. **Deep Cleaning and de-silting** shall also be done by the agency before handing over the completed building to the Institute. All machines, equipment and labour for this purpose shall be arranged by the contractor.
- (6) **The Electrical work** as per specifications and scope of work given in the bid document & as per the approved drawings and direction of Engineer-in-charge which includes internal electrical installations fittings, lifts, firefighting, fire alarm system etc; shall be implemented along with civil work in proper coordination.
- (7) **Maintenance / defect liability period** would be uniformly **three (3) years** from the date of handing over the building complete in all respects & fit for occupation. During this period, the defects noticed in the work carried out by the contractor shall be removed at his cost. In case he fails to do so after intimation to him in writing by the Engineer – in – charge, the same shall be carried out at his cost.
- (8) The **final plinth level** will be decided soon after actual start of work at site. However, the plinth level of the building shall be generally minimum of **450 mm** above the crown of finished road. Changes, if any, in the plinth height would not affect the agreed rate and no claim on this account shall be entertained.
- (9) Planning, designing and providing required electrical installations for the proposed building shall be as per latest NBC norms, CPWD specifications and shall include obtaining approval of local bodies wherever required.

- (10) Providing lift of specified capacity as per NBC norms and as specified in the Architectural drawings and standby genset in case of power failure. The scope includes getting the requisite permission of lift from the concerned authority before commissioning of the same.
- (11) Planning designing and providing required firefighting system, for proposed building as per NBC norms and Chief Fire Officer approval including the provision for required capacity underground water tank, overhead tank, pumps, hydrant, extinguisher, sprinklers, provision of refuge area, fire stair case etc; all to the entire satisfaction of the nodal authorities of the Govt. of Telangana.
- (12) **Total stipulated period shall be for completion of entire work of respective structures fit for habitation as given in the table of milestones for completion.**
- (13) Development of Work shall include following items:
- i. Planning, designing, construction, testing and commissioning of manholes including connection of external drainage pipelines up to first manhole/ tap off location.
 - ii. Complete levelling up to required setback of a building including disposal of excess soil and / or filling with good earth under OMC. If excavated soil is insufficient or of inferior quality then good earth shall be supplied by the contractor at his own cost and nothing extra shall be payable.
 - iii. Planning, design, construction of retaining walls if required for levelling purposes including storm water catch drains for proper drainage of rain water to the rain water harvesting system.
 - iv. Cement concrete approach road up to as per architectural drawings and direction of Engineer – in – charge. The concrete to be used shall be vacuum dewatered CC pavement of minimum grade M-30 or as designed and approved by EIC.
 - v. Planning, design and construction of underground sump of required capacity for fire and domestic requirement, pump set, water supply main riser complete as per architectural drawings and direction of Engineer – in – charge. Separate pump sets including standby is to be provided for each block.
 - vi. Electrical services cable laying up to feeder pillar or tap off location.
- (14) The above scope of work includes cost of all materials, manpower, equipment, T&P, fixtures, accessories, royalties, taxes, watch & ward and all other essential elements for completion and maintenance of works as aforesaid whatsoever. The approval accorded by IIT Hyderabad before acceptance of tender is only for tender evaluation. Any changes, modifications, revisions etc; required to be done in

accordance with applicable standards shall have to be done at contractor's cost and nothing extra shall be payable.

(15) **GENERAL:**

- i. Letter of transmittal and forms for deciding eligibility are given in Section -5.
- ii. References, information and certificates from the respective clients certifying suitability, technical knowledge or capability of the bidder should be signed by an officer not below the rank of Executive Engineer or equivalent.
- iii. The bidder may furnish any additional information which he thinks is necessary to establish his capabilities to successfully complete the envisaged work. He is, however, advised not to furnish superfluous information. No information shall be entertained after uploading of eligibility criteria document unless it is called for by the Employer.
- iv. If private works are shown in support of eligibility, certified copy of the tax deducted at source certificate (TDS) shall be submitted along with the experience certificate and the TDS amount shall tally with the actual amount of work done or the bidder may submit such certificate from his Chartered Accountant.

(16) **DEFINITIONS:**

- i. In this document the following words and expressions have the meaning hereby assigned to them:
- ii. **EMPLOYER/ Institute/ Department:** Means the Director, IIT Hyderabad, acting through the **Executive Engineer (Civil), Construction & Maintenance Division, IIT Hyderabad.**
- iii. **User / Client / Owner:** Means Director, IIT Hyderabad, acting through the **Executive Engineer (Civil), Construction & Maintenance Division, IIT Hyderabad.**
- iv. **Engineer-in-Charge of Major Component** will be the Executive Engineer (Civil), IIT Hyderabad
- v. **Engineer-in-Charge of Minor Component** will be the Executive Engineer (Electrical), IIT Hyderabad
- vi. **BIDDER:** Means the individual, proprietary firm, firm in partnership, limited company (private or public) or corporation.
- vii. "Year" means "Financial Year" unless stated otherwise.

(17) **METHOD OF APPLICATION:**

- i. If the bidder is an individual, the application shall be signed by him above his full type written name and current address.
- ii. If the bidder is a proprietary firm, the application shall be signed by the proprietor above his full type written name and the full name of his firm with its current address.

- iii. If the bidder is a firm in partnership, the application shall be signed by all the partners of the firm above their full type written names and current address, or, alternatively, by a partner holding power of attorney for the firm. In the later case a certified copy of the power of attorney should accompany the application. In both cases a certified copy of the partnership deed and current address of all the partners of the firm should accompany the application.
- iv. If the bidder is a limited company or a corporation, the application shall be signed by a duly authorized person holding power of attorney for signing the application accompanied by a copy of the power of attorney. The bidder should also furnish a copy of the Memorandum of Articles of Association duly attested by a Public Notary.

(18) **FINAL DECISION MAKING AUTHORITY**

The employer reserves the right to accept or reject any bid and to annul the process and reject all bids at any time without assigning any reason or incurring any liability to the bidders. The decision of IITH in respect of all documents and interpretations of rules thereon will be final and binding on to the bidder.

(19) **PARTICULARS PROVISIONAL**

The particulars of the work given in Section A are provisional. They are liable to change and must be considered only as advance information to assist the bidders.

(20) **SITE VISIT**

The bidder is advised to visit the site of work, at his own cost and examine it and its surroundings to himself collect all information that he considers necessary for proper assessment of the prospective assignment before bidding.

(21) **EVALUATION CRITERIA FOR TECHNICAL QUALIFICATION**

The details submitted by the bidders will be evaluated in the following manner.

- i. *The initial criteria for eligibility prescribed in para Vol-I, Part D Section 4 above in respect of experience of similar class of works completed, bidding capacity and financial turn over etc. will first be scrutinized and the bidder's eligibility for the work be determined.*
- ii. ***The bidders qualifying the initial criteria for eligibility as set out in above paras, will be evaluated by scoring method detailed below on the basis of details furnished by them:***

(a)	Financial strength (Form "A"&B)	Maximum 20 Marks
	i. Turnover	16 Marks
	ii. Solvency	4 Marks

(b)	Experience in eligible similar nature of work during last Seven years (Form "C")	Maximum 20 Marks
	<i>A site visit to the project(s) specified in technical bid may be undertaken by an expert committee to assess the quality of the work.</i>	

(c)	Performance on work (Form "D")- Time over run	Maximum 20 Marks
-----	---	-------------------------

(d)	Performance on work (Form "D") Quality	Maximum 40 Marks
-----	--	-------------------------

Total 100 Marks

NOTES:

1. *Criteria for evaluation of performance of the contractor is given in Form "K".*
2. *To become eligible for qualification in technical bid evaluation, the bidder must secure at least fifty percent marks in each attribute (Section a, b, c & d) and sixty percent marks in aggregate.*
3. *The department, however, reserves the right to restrict the list of bidders in technical bid evaluation to any number, as deemed suitable by it.*
4. *The average value of performance of works for time overrun and quality shall be taken on the basis of performance report of the eligible similar works.*

iii. Even though any bidder may satisfy the above requirements, he would be liable to disqualification if he has:

- (a) made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the eligibility criteria document.
- (b) record of poor performance such as abandoning work, not properly completing the contract, or financial failures/weaknesses etc.

(22) **FINANCIAL INFORMATION**

Bidder should furnish the following financial information

- I. Annual Financial Statement for the last five years (in Form "A1")
- II. Solvency Certificate (in Form "B").

(23) **EXPERIENCE IN CIVIL WORKS HIGHLIGHTING EXPERIENCE IN SIMILAR WORKS**

- i. Bidder should furnish the following:
 - (a) List of all works of similar nature successfully completed during the last seven years (in form "C").
 - (b) List of the projects under execution or awarded (in Form "C1"). This information should be complete and no work should be left out.
 - (c) (a) Particulars of completed works and performance of the applicant duly authenticated/certified by an officer not below the rank of Executive Engineer or equivalent should be furnished separately for each work completed or in progress (may suggested to submit all the details as mentioned at Form "D").

- ii. ***If required IITH Officer (s) may inspect the eligible works as submitted by the agency. The bidder shall coordinate such inspections and provide all necessary documents, information as desired by the visiting officer (s).***

(24) **ORGANISATION INFORMATION**

Bidder is required to submit the following information in respect of his organization (in form "F").

The bidder should have sufficient number of Technical and Administrative employees for the proper execution of the contract. The bidder should submit a list of these employees stating clearly how these would be involved in this work with 15 days of award of work.

(25) **CONSTRUCTION PLANT & EQUIPMENT**

Bidders should furnish the list of construction plant and equipment including steel shuttering, centring and scaffolding to be used in carrying out the work. Details of any other plant & equipment required for the work not included in agreement and available with the bidder may also be indicated.

(26) **LETTER OF TRANSMITTAL**

The bidder should submit the letter of transmittal attached with the document.

(27) **OPENING OF THE FINANCIAL BID**

After evaluation of applications, a list of short-listed agencies qualified in technical evaluation will be prepared. Thereafter, the financial bids of only the qualified and technically acceptable bidders shall be opened at the notified time, date and place in the presence of the qualified bidders or their representatives. The validity of the tenders shall be **90 days** and shall be reckoned from the date of opening of the Technical Bid.

(28) **AWARD CRITERIA**

- i. The employer reserves the right, without being liable for any damages or obligation to inform the bidder, to:
 - (a) Amend the scope and value of contract to the bidder.
 - (b) Reject any or all of the applications without assigning any reason.
- ii. Any effort on the part of the bidder or his agent to exercise influence or to pressurize the employer would result in rejection of his bid. Canvassing of any kind is prohibited.

Eligibility and Evaluation Criteria**Criteria for Evaluation of the Performance of Bidder for Pre-Eligibility**

Sl. No	Attributes	Marks	Evaluation			
(a)	Financial Strength (Maximum Marks) 20	16 Marks 04 Marks	(i) 60% marks for minimum eligibility criteria			
	(i) Average annual Turnover		(ii) 100% marks for twice the minimum eligibility criteria or more.			
	(ii) Solvency Certificate		(iii) In between (i) & (ii)- on pro-rata basis			
(b)	Experience in similar class of work (Maximum Marks) 20	20 marks	(i) 60% marks for minimum eligibility criteria			
			(ii) 100% marks for twice the minimum eligibility criteria or more.			
(c)	Performance on works [Time Over Run (TOR)]: Maximum 20 marks					
	Parameter	Calculation for points	Score		Maximum Marks	
	If TOR =		1.00	2.00	3.00	>3.50
	(i) Without levy of compensation		20	15	10	10
	(ii) With levy of compensation		20	5	0	-5
	(iii) Levy of compensation not		20	10	0	0
	TOR = AT / ST, where AT = Actual Time; ST = Stipulated Time.					
	Time in the Agreement plus (+) justified period of extension of time. Note: Marks for value in between the stages indicated above is to					
(d)	Performance of works (Quality): Maximum 40 Marks					
	(i) Outstanding		40			
	(ii) Very Good		30			
	(iii) Good		20			
	(iv) Poor		0			

Note: Performance of work (Quality) certified as "satisfactory" will be treated as good.

1. **Criteria for evaluation of performance of the contractor is given in Form "K".**
2. **To become eligible for qualification in technical bid evaluation, the bidder must secure at least fifty percent marks in each attribute (Section a, b, c & d) and sixty percent marks in aggregate.**
3. **The department, however, reserves the right to restrict the list of bidders in technical bid evaluation to any number, as deemed suitable by it.**
4. **The average value of performance of works for time overrun and quality shall be taken on the basis of performance report of the eligible similar works.**

LETTER OF TRANSMITTAL

From:

XXXX

To **The Executive Engineer (Civil),
Construction and Maintenance
Division,
IIT Hyderabad.**

Subject:- **Construction of Director's Residence cum Integrated Office Ancillary
Buildings including Boundary wall at IIT Hyderabad, Kandi,
Sangareddy.**

Sir,

Having examined the details given in **NIT and Bid** document for the above work, I/we hereby submit the relevant information.

1. I/We hereby certify that all the statement made and information supplied in the enclosed forms A to J and accompanying statement are true and correct.
2. I/We have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
3. I/We submit the requisite certified solvency certificate and authorize the Executive Engineer (Civil), , IIT Hyderabad to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/We also authorize Executive Engineer (Civil), IIT Hyderabad to approach individuals, employers, firms and corporation to verify our competence and general reputation.
4. I/We submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following works:

Sl. No.	Name of work	Amount	Certificate issued by
1			
2			
3			

Certificate

It is certified that the information given in the enclosed eligibility bid are correct. It is also certified that I/We shall be liable to be debarred, disqualified/ cancellation of enlistment in case any information furnished by me/us found to be incorrect. Enclosures:

Date of submission

**Seal of bidder &
Signature(s) of bidder(s)**

FINANCIAL INFORMATION

Name of the firm/ Bidder.....:

- I. Financial Analysis-Details to be furnished duly supported by figures in balance sheet / profit & loss account for the last five years duly certified and audited by the Chartered Accountants, as submitted by the applicant to the Income Tax Department (Copies to be attached).

Fig in Lakhs Rs.

Sl. No.	Particulars	Financial Years				
		2020-21	2021-22	2022-23	2023-24	2024-25
i)	Turnover of construction Works					
ii)	Profit / Loss					

- II. Financial arrangements for carrying out the proposed work.
- III. Solvency Certificate from Bankers of bidder in the prescribed Form "B"

SIGNATURE OF BIDDER(S)

Signature of Chartered Accountant with Seal

BANKER'S CERTIFICATE FROM A COMMERCIAL BANK

To
The Executive Engineer (Civil),
Construction and Maintenance Division,
IIT Hyderabad.

This is to certify that to the best of our knowledge and information that M/s./Shri..... having marginally noted address, a customer of our bank are/is respectable and can be treated as good for any engagement up to a limit of Rs.....(Rupees.....).

This certificate is issued without any guarantee or responsibility on the bank or any of the officers. This certificate is valid for six month from the issued of this letter.

(Signature of Branch Manager)
For the Bank

NOTE:

- (1) Banker's Certificates should be on letter head of the Bank, addressed to tendering authority.
- (2) In case of partnership firm, certificate should include names of all partners as recorded with the Bank.

FORM FOR CERTIFICATE OF NET WORTH FROM CHARTERED ACCOUNTANT

"It is to certify that as per the audited balance sheet and profit & loss account during the financial year , the Net Worth of M/s (Name & Registered Address of individual/firm/ company), as on (the relevant date) is Rs..... after considering all liabilities. It is further certified that the Net Worth of the company has not eroded by more than 30 % in the last three years ending on (the relevant date)."

Unique Document Identification Number (UDIN)

Signature of Chartered Accountant

Name of Chartered Accountant

Membership No. of ICAI

Date and Seal

FORM "C"

**DETAILS OF ELIGIBLE SIMILAR NATURE OF WORKS COMPLETED DURING THE
LAST SEVEN YEARS ENDING PREVIOUS DAY OF LAST DATE OF SUBMISSION OF
TENDER**

Sl. No.	Name of work/ project and Location	Owner or sponsoring Organization	Cost of work (in Crores)	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation / Arbitration pending / in progress with details*	Name and address (Postal & email)/ contact no of officer	Whether the work was done on back-to-back basis. yes/ No
1	2	3	4	5	6	7	8	9	10

***Indicate gross Amount Claimed and Amount Awarded by the Arbitrator.**

SIGNATURE (S) OF BIDDER (S) (WITH STAMP)

LIST OF THE PROJECTS UNDER EXECUTION OR AWARDED

Sl. No.	Name of work/ project and Location	Owner or sponsoring Organization	Cost of work (in Crores)	Date of commencement as per contract	Stipulated date of completion	Present Progress (Financial & Physical)	Litigation/ arbitration pending / in progress with details*	Name and address (Postal & email)/ contact no of officer	Whether the work being done on back-to-back basis. Yes/No

***Indicate gross Amount Claimed and Amount Awarded by the Arbitrator.**

SIGNATURE (S) OF BIDDER (S) (WITH STAMP)

**PERFORMANCE REPORT OF WORKS REFERRED IN FORM - C:
(Bidder may suggested to submit the Performance Report with the details covering
in this Form-D)**

1.	Name of work / Project & Location	
2.	Agreement No.	
3.	Estimated Cost	
4.	Tendered Cost	
5.	Actual Value of work done.	
6.	Date of Start	
7.	Date of completion i) Stipulated Date of Completion (as mentioned in work order)	
8.	ii) Actual Date of Completion i) Whether case of levy of compensation for delay has been decided or not	Yes / No.
9.	ii) If decided, amount of compensation levied for delayed completion, if any.	Yes / No.
10.	Whether internal water supply is part of the agreement?	Yes / No.
11.	Whether sanitary installation is part of the agreement?	Yes / No.
12.	Whether drainage is part of the agreement?	Yes / No.
13.	Whether internal electrical installation is part of the agreement?	Yes / No.
14.	Whether lift is part of the agreement?	Yes / No.
15.	Whether fire-fighting is part of the agreement?	Yes / No.
16.	Whether HVAC is part of the agreement?	Yes / No.
	Performance Report	
	1) Quality of Work	Outstanding / Very Good / Good / Poor
	2) Financial Soundness	Outstanding / Very Good / Good / Poor
	3) Technical Proficiency	Outstanding / Very Good / Good / Poor
	4) Resourcefulness	Outstanding / Very Good / Good / Poor
	5) General Behaviour	Outstanding / Very Good / Good / Poor
	Dated:	Executive Engineer or Equivalent with office stamp

FORM "E"

PROFORMA OF AFFIDAVIT FOR EXECUTION OF SIMILAR WORKS

I/We undertake and confirm that eligible similar works(s) has/have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for bidding in IIT Hyderabad in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

NOTE: Affidavit to be furnished on a 'Non-Judicial' stamp paper worth Rs.100/-

Signature of Bidder(s) or an
authorized Officer of the firm with
stamp

Signature of Notary with seal

STRUCTURE & ORGANISATION

1. Name & Address of the bidder
2. Telephone No. / Telex No. / Fax No.
3. Legal status of the bidder (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 photo- copy).

<u>Organization/Place of registration</u>	<u>Registration No.</u>
a)	
b)	
c)	
5. Names and Titles of Directors & Officers with designation to be concerned with this work.
6. Designation of individuals authorized to act for the organization.
7. Has the bidder, or any constituent partner in case of partnership firm, ever been convicted by a court of law? If so, give details.
8. In which field of Civil Engineering Construction the bidder has specialization and interest?
9. Any other information considered necessary but not included above.

SIGNATURE OF BIDDER(S)

On Contractor/ Agency's Letter Head

Undertaking pursuant to Section 206AB (as applicable) of the Income Tax Act, 1961

To,
Registrar
IIT Hyderabad
Kandi, Sangareddy- 502284

Dear Sir/Madam,

Subject: Declaration confirming filing of Income Tax Return for immediate two preceding years.

I, Ms./Mrs./Mr. _____ in capacity of Authorized Signatory of _____ having PAN _____ and registered office at _____ do hereby declare that _____ has filed Income Tax Returns for immediately last 2 preceding Financial Years as mentioned below per due dates under Section 139 (1) of the Income Tax Act, 1961 ('the Act') and details of which are as given under:

Financial Year for which Income Tax Return was due as per Section 139(1)	Acknowledgement no. of ITR filed under Section 139(1)	Date of Filing
2024-25 <i>(if applicable on date of this declaration)</i>		
2023-24		
2022-23		

Further, I confirm that _____ has linked the above PAN with Aadhaar number as on this date.

I also undertake that _____ hereby indemnify ***Indian Institute of Technology Hyderabad*** for any loss/liability (including any Tax, interest, penalty, etc.) that may arise due to incorrect reporting of above information.

For _____

Signature: _____

Name of person:

Designation:

Place:

Date:

Declaration for Local Content

(To be given on Company Letter Head - For tender value below Rs.10 Crores)

(To be given by Statutory Auditor/Cost Auditor/Cost Accountant/CA for tender value above Rs.10 Crores)

Date: _____

To,
The Director,
Indian Institute of Technology Hyderabad,
Kandi, Sangareddy 502284.

Sub: Declaration of Local content

Tender Reference No: _____

Name of Tender / Work: _____

1. Country of Origin of Goods being offered: _____
2. We hereby declare that items offered has _____% local content.
3. Details of location at which local value addition will be made / made: (Complete address to be mentioned) _____

"Local Content" means the amount of value added in India which shall, be the total value of the item being offered minus the value of the imported content in the item (including all customs duties) as a proportion of the total value, in percent.

*"*False declaration will be in breach of Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law."*

Yours Faithfully,

(Signature of the Bidder, with Official Seal)

**To,
The All Bidders**

Dear Sir,

It is hereby declared that IIT HYDERABAD is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer/bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the IIT Hyderabad.

Yours faithfully

Executive Engineer (Civil)

To
Executive Engineer (Civil),
IIT Hyderabad

Sub: Construction of Director's Residence cum Integrated Office Ancillary Buildings including Boundary wall at IIT Hyderabad, Kandi, Sangareddy.

Dear Sir,

I/We acknowledge that IIT Hyderabad is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by IIT Hyderabad. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, IIT Hyderabad shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid in accordance with terms and conditions of the tender/bid.

Yours faithfully

(Duly authorized signatory of the Bidder)

To be signed by the bidder and same signatory competent / authorized to sign the relevant contract on behalf of IIT Hyderabad.

INTEGRITY AGREEMENT

This Integrity Agreement is made at on this..... day of 20.....

BETWEEN

Director, Indian Institute of Technology Hyderabad represented through the Executive Engineer, IITH, (Hereinafter referred as the 'Principal/Owner', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....
Represent
ed through
(Hereinafter referred to as the (Details of duly authorized signatory) Bidder/Contractor and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal / Owner has floated the Tender No.....
.....*(hereinafter referred to as Tender/Bid)* and intends to award, under lai down organizational procedure, contract for.....
..... hereinafter referred to as the contract.

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/ transparency in its relation with its Bidder(s) and Contractor(s). AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as Integrity Pact or Pact), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties. NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

Article 1: Commitment of the Principal/Owner

1. The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - (a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or

immaterial benefit which the person is not legally entitled to.

- (b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
 - (c) The Principal/Owner shall endeavor to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
2. If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/Contractor(s)

- 1. It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of fraud or corruption or Coercion or Collusion of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- 2. The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
 - (a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owners employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
 - (b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
 - (c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/ PC Act. Further the Bidder(s)/ Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/ Owner as part of the business relationship,

regarding plans, technical proposals and business details, including information contained or transmitted electronically.

- (d) The Bidder(s)/ Contractor(s) of foreign origin shall disclose the names and addresses of agents/ representatives in India, if any. Similarly, Bidder(s)/ Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/ representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/ parallel tender for the same item.
 - (e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose (with each tender as per proforma enclosed) any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
3. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
 4. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.
 5. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

Without prejudice to any rights that may be available to the Principal/ Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/ Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal/Owners absolute right:

1. If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/ determine the Contract, if already executed or exclude the Bidder/ Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of

transgression and determined by the Principal/Owner. Such exclusion may be forever or for a limited period as decided by the Principal/Owner.

2. Forfeiture of EMD/ Performance Guarantee/ Security Deposit: If the Principal/ Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/ determined the Contract or has accrued the right to terminate/ determine the Contract according to Article 3(1), the Principal/ Owner apart from exercising any legal rights that may have accrued to the Principal/ Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/ Contractor.
3. Criminal Liability: If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

1. The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anti-corruption approach or with Central Government or State Government or any other Central /State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
3. If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors

1. The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/ Pact by any of its Sub- contractors/sub-vendors.
2. The Principal/ Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
3. The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.
- 4.

Article 6- Duration of the Pact

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is dis- charged/determined by the Competent Authority, IIT HYDERABAD.

Article 7- Other Provisions

1. This Pact is subject to Indian Law, place of performance and jurisdiction is the Head- quarters of the IITH of the Principal/Owner, who has floated the Tender.
2. Changes and supplements need to be made in writing. Side agreements have not been made.
3. If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
4. Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
5. It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.

Article 8- LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

..... (For and on behalf of
Principal/Owner)

..... (For and on behalf of

Bidder/Contractor)

WITNESSES:

- 1 (signature, name and address)
- 2 (signature, name and address)

Place:

Date:

FORM "M"

PROFORMA OF AFFIDAVIT FOR NON - BLACK LISTING

I/we undertake and confirm that our firm/partnership firm has not been blacklisted by any state/Central Departments/PSUs/Autonomous bodies during the last 7 years of its operations. Further that, if such information comes to the notice of the department, then I/we shall be debarred for bidding in IIT Hyderabad in future forever. Also, if such an information comes to the notice of department on any day before date of start of work, the Engineer-in-charge shall be free to cancel the agreement and to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee (Scanned copy of this notarized affidavit to be submitted at the time of submission of bid)

NOTE: Affidavit to be furnished on a 'Non-Judicial' stamp paper worth Rs.100/-

Signature of Bidder(s) or an
authorized Officer of the firm with
stamp

Signature of Notary with seal

SCHEDULE OF CIVIL ITEMS WITH DETAILED NOMENCLATURE

Sl. No.	DSR /Non DSR	PARTICULARS	UNIT
1		EARTH WORKS	
1.1	DSR	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including getting out and disposal of excavated earth up to 50 m and lift up to 1.5 m, as directed by Engineer-in- Charge:	
1.1.1		All kinds of soil	Sqm
1.1.2	DSR	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead up to 50 m and for all lift, as directed by Engineer-in-charge.	
1.1.2.1		All kinds of soil.	
1.1.2.2		Depth up to 1.5m	Cum
1.1.1.3	DSR	Depth from 1.5m to 3.0m	Cum
1.2	DSR	Excavation work by mechanical means (Hydraulic excavator)/ manual means in foundation trenches or drains (not exceeding 1.5m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soils as directed, within a lead of 50 m.	
1.2.1		Ordinary Rock / Hard rock	
1.2.1.1		Depth up to 1.5m	Cum
1.2.1.2		DSR	Depth from 1.5m to 3.0m
1.3	DSR	Extra for Carting away surplus excavated earth / rock (beyond initial lead of 50 m) to approved designated locations within IITH Campus, leads as mentioned below using mechanical Transport including loading, unloading and stacking as directed by Engineer In Charge.	
1.3.1		A) Earth	
		i) Beyond initial lead 50mt and up to 1.05 Km	Cum
		B) Excavated Rock	
1.3.5		i) Beyond initial lead 50mt and up to 1.05 Km	Cum
1.4	DSR	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, carting the available excavated earth by mechanical means from below mentioned leads and filling for all depth. (Quoted rate to include cost of compaction to achieve at least 95% Proctor Density of refilled excavated earth.)	
1.4.1		i) Lead up to 50mt	Cum
1.4.2		DSR	ii) Lead beyond 50mt and up to 1.05 Km

1.5	DSR	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, for all lift, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.	
1.5.1		All kinds of soil	Cum
1.6	DSR	Excavating trenches by mechanical / manual means of required width for pipes, cables, etc., including excavation for sockets, and dressing of sides, ramming of bottoms, for all depth, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m:	
		All Kind of Soil	
1.6.1		Pipes, cables etc., not exceeding 80 mm dia	Meter
1.6.2		Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia	Meter
1.7	DSR	Supplying chemical emulsion in sealed containers including delivery as specified.	
1.7.1		Chlorpyriphos emulsifiable concentrate of 20%	Litre
1.8	DSR	Diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti-termite treatment (excluding the cost of chemical emulsion):	
1.8.1		Along external wall where the apron is not provided using chemical emulsion @ 7.5 litres / sqm of the vertical surface of the substructure to a depth of 300mm including excavation channel along the wall & rodding etc. complete:	Meter
2		PLAIN CEMENT CONCRETE	
2.1	DSR	Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	
2.1.1		All works up to plinth level :	
2.1.1.1		Concrete of M15 grade with minimum cement content of 240 kg /cum	Cum
3		REINFORCED CEMENT CONCRETE	

3.1	DSR	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	
3.1.1		All works up to plinth level	
3.1.1.1		Concrete of M25 grade with minimum cement content of 350 kg /cum	Cum
3.1.2		All works above plinth level up to floor V level	
3.1.2.1	DSR	Concrete of M25 grade with minimum cement content of 330 kg /cum	Cum
4		REINFORCEMENT WORK	
		Note: Contractor to prepare bar bending schedule.	
4.1	DSR	Providing and fixing steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding with two strands annealed steel wire of 1mm twisted tight etc all complete up to plinth level.	
4.1.1		Thermo-Mechanically Treated bars of grade Fe-550D. Note - TMT bars of FE 550D shall be procured at the approval and discretion of Engineer-in-charge prior to procurement.	Kg.
4.2	DSR	Providing and fixing steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding with two strands annealed steel wire of 1mm twisted tight etc all complete above plinth level.	
4.2.1		Thermo-Mechanically Treated bars of grade Fe-550D. Note - TMT bars of FE 550D shall be procured at the approval and discretion of Engineer-in-charge prior to procurement.	Kg
5		FORM WORK	
5.1	DSR	Centering and shuttering including strutting, propping etc. and removal of form for	
5.1.1		Foundations, footings, bases of columns, etc. for mass concrete	Sqm
5.1.2	DSR	Walls (any thickness) including attached pilasters, butresses, plinth and string courses etc.	Sqm
5.1.3	DSR	Suspended floors, roofs, landings, balconies and access platform	Sqm
5.1.4	DSR	Lintels, beams, plinth beams, girders, bressumers and cantilevers	Sqm
5.1.5	DSR	Columns, Pillars, Piers, Abutments, Posts and Struts	Sqm
5.1.6	DSR	Stairs, (excluding landings) except spiral-staircases	Sqm
5.1.7	DSR	Arches, domes, vaults up to 6m span	Sqm

5.2	DSR	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured).	
		Suspended floors, roofs, landings, beams and balconies (Plan area to be measured)	
5.2.1		For Floor height 3.50 to 4.50 m	Sqm
6		MASONRY WORK	
6.1	Non DSR	Providing and laying solid concrete blocks masonry with block of M7.5 grade cement concrete of required thickness as per drawing in sub & superstructure above plinth level up to V level with RCC band and mullion as per structural detail in cement mortar 1:4 (1 cement : 4 coarse sand) all complete as per direction of Engineer	Cum
7		WATERPROOFING WORK	
		Toilet, Balcony, Terrace, water bodies ,Water Tank and Lift Pits	
7.1		Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck, all inner surface of floor trenches etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI - 212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the Engineer-in-charge. The product performance shall carry guaranteed for 10 years against any leakage.	
		Horizontal Protection & Slope Making Layer:Providing & laying of protective screed of M20 grade by keeping minimum 50mm thickness at drainage point with slope 1:100 containing 12 mm, 100% virgin polypropylene fibers @ 0.9 Kg/Cu.m with a broom finish, well compacted, curing for 7 days etc. complete. The screed shall be raised to the wall in the form of vatta to achieve a smooth corner. The screed shall be divided into panels of 1 mtr X 1 mtr with 6 mm wide x 10 mm deep construction joint and filling the same with polyurethane/polysulphide/hybrid sealant.	
7.1.1	DSR	For vertical surface two coats @0.70 kg per sqm per coat	Sqm
7.1.2	DSR	For horizontal surface one coat @1.10 kg per sqm.	Sqm
8		FLOORING WORK	

8.1	DSR	Providing and fixing 18 mm thick gang saw cut, mirror polished, Premoulded and prepolished, machine cut for kitchen platforms, vanity counters , coping, tread, landscaping, window sills, facias, parapet top and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels, as per sample approved by Engineer in-charge. Necessary MS/ SS frame structure for fixing the stone counter shall be paid in relevant tender item.	
8.1.1		Polished Granite (Jet black)	
8.1.1.1		Area of slab up to 0.50 sqm	Sqm
8.1.1.2	DSR	Area of slab above 0.50 sqm	Sqm
8.2	DSR	Providing edge moulding to 18 mm thick marble stone counters, Vanities etc., including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.	
8.2.1		Granite work	Rmt
8.3	DSR	Extra for fixing marble/ granite stone over and above corresponding in facia and drops of width up to 150mm with epoxy resin based adhesive including cleaning etc complete. Facia shall be match with shade of counter or platform.	Rmt
8.4	DSR	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/ Granite/ stone work including necessary holes for pillar taps etc. including rubbing and polishing of cut edges etc. complete.	Each
8.5	DSR	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.	
8.5.1		Polished Granite stone slab of colour Black, Cherry/Ruby Red or equivalent (F1)	Sqm
8.6	DSR	Providing and laying flamed finish Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge :	
8.6.1		Flamed finish granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent. (F1C)	Sqm
8.7	Non DSR	Providing and laying flamed finish Granite stone flooring / treads in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 50	

		mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. rate shall also inclusive of creating 3 nos. of anti-skid grooves as shown in the drawing etc. all complete as specified and as directed by the Engineer-in-Charge :	
8.7.1		50mm thick Flamed finish granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent. (F4C)	Sqm
8.8	Non DSR	Providing and laying flamed finish Granite stone flooring / treads in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. rate shall also inclusive of creating 3 nos. of anti-skid grooves as shown in the drawing etc. all complete as specified and as directed by the Engineer-in-Charge :	
8.8.1		18mm thick Honed finish granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent. (F4A)	Sqm
8.9	Non DSR	Providing and laying flamed finish Granite stone flooring / treads in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge :	
8.9.1		18mm thick Honed finish granite stone slab flooring with 300mm wide slat pattern in Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent. (F6)	Sqm
8.10	DSR	Extra for pre finished nosing in treads of steps of Kota stone/ sand stone / Granite stone slab.	Rmt
8.11	Non DSR	Providing and fixing machine cut, honed finished, 18mm thick Granite stone work for wall lining (vener work) including dado, skirting, risers of steps etc., in required design and pattern (if required with marble stone slab pieces of different shapes, sizes & texture but of even thickness) on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with white cement slurry @ 3.3 kg/sqm including pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing, polishing etc. all complete as per Architectural drawings, and as directed by the Engineer-in-Charge. (F4A)	Sqm

8.12	DSR	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) relevant ISO standards, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @ 3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.	
8.12.1		Anti-skid / Matt Vitrified tile size of 600 x 1200 mm x 8.5mm (F9B)	Sqm
8.12.2	Non DSR	Glossy Vitrified tile size of 1200 x 1800 mm x 9mm (F51)	Sqm
8.12.3	Non DSR	Vitrified tile size of 198 x 198 mm x 8.5mm in mosaic / carpet tile pattern (F52)	Sqm
8.13		Providing and laying Vitrified tiles in different sizes (thickness to be specified by the manufacturer), relevant ISO standards, of approved brand & manufacturer, in all colours and shade, in skirting, riser of steps, laid with cement based high polymer modified quick set tile adhesive (water based) conforming to IS: 15477, in average 6 mm thickness, including grouting of joints having joints of 3 mm width, using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg of resin per kg), including filling / grouting and finishing complete as per direction of Engineer-in-charge.	
8.13.1	Non DSR	Matt Vitrified tile size of 100 x 100 mm in plain solid colours (WL6D)	Sqm
8.13.2	Non DSR	Matt Vitrified tile size of 300 x 300 mm Moroccan design tile (WL6E)	Sqm
8.14	Non DSR	Providing and installing about 30mm thick approved Solid Teak wood flooring / treads / risers (1200mm x 300mm) of approved specie, shade and make with tongue and groove joint system as shown in drawings and instruction of approved manufacturer / Engineer in charge; fixed over 12mm thick approved marine ply surface fixed to damp proof dry harden IPS. Ply shall be chemically treated, seasoned and anti-termite treated including cleaning, treating base concrete screed, treating ply with a thin coat of polyurethane prior to being screwed down to concrete floors prior to fixing and making groove/joint around edges as specified in drawing and by the manufacturer etc. Also to include two coats of wood primer and melamine polish of approved shade and make etc. all as detailed in technical specification, drawings and that of approved flooring manufacturer etc. to entire satisfaction of the Engineer in charge. (F4D)	Sqm
9		WOOD & PVC WORK	
9.1	DSR	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).	
9.1.1		Second class teak wood	Cum

9.2	DSR	Providing 40x5 mm flat iron hold fast 400 mm long including fixing to frame with 10 mm diameter bolts, nuts and wooden plugs and embedding in cement concrete block 300x100x150 mm 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size).	Each
9.3	DSR	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.	
9.3.1		35mm thick including ISI marked Stainless Steel butt hinges with necessary screws	Sqm
9.4	DSR	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	Sqm
9.5	DSR	Providing & Fixing decorative high pressure laminated sheet of plain /wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality.	
9.5.1		1.0 mm thick	Sqm
9.6	Non DSR	Providing & Fixing decorative Veneer sheet of approved design and make, including cost of adhesive of approved quality.	
9.6.1		4.0mm thick	Sqm
9.7	Non DSR	Providing & fixing of specified height (minimum rod size shall be 10mm) SS 304 SSS finish Tower bolt (barrel type) of approved make in wooden doors with necessary screws etc complete as approved by Engineer-in-charge.	
9.71		a) 300 mm x10 mm rod size	Each
9.72		b) 450 mm x10 mm rod size	Each
9.73		c) 600 mm x10 mm rod size	Each
9.8	Non DSR	Providing & fixing Mortice dead lock with 55mm backset, 20mm square for end and prepared for euro profile cylinder including strike plate in SSS Finish of approved make with necessary fittings etc. complete as recommended by manufacturer and as directed by Engineer In Charge.	Each
9.9	Non DSR	Providing & fixing euro profile cylinder about 60mm with key in satin stainless steel with necessary fittings etc. complete of approved make and as directed by Engineer In Charge.	Each
9.10	Non DSR	Providing and fixing lever Handle with roses, escutcheons, 8mm spindle with fixing screws in SS 304 with SSS finish including necessary fittings etc. complete of as recommended by manufacturer and as directed by Engineer In Charge.	Pair
9.11	Non DSR	Providing and fixing approved surface mounted magnetic door stopper with fixing accessories, in satin chrome finish etc. complete as recommended by manufacturer and as directed by Engineer In Charge.	Each

9.12	Non DSR	Providing, making, and fixing Wooden Architraves (100mm x 25mm size) made of approved quality teak wood, chemically treated, kiln-seasoned, anti-termite treated, shaped, grooved, mitered joint arrangement, including use of approved water repellent adhesive, SS screws, fasteners, pins, finish with melamine polish of approved shade and make etc. complete to the entire satisfaction of the Architect / Engineer in charge.	Rmt
9.13	Non DSR	Providing and fixing glazed wooden partition with pivoted 40mm thick flush Door shutter with matching veneer finish and fixed partition made of approved quality teak wood, kiln seasoned, anti-termite treated, shaped, grooved rebated with required mating styles, joined with tongue and grooved mitered joints arrangement including top rail, middle rail, bottom rail and beading with use of approved water repellent exterior quality adhesive, G.I. screws, pins, etc. Also to include two coats of wood primer and melamine polish of approved shade and make. Rate shall also include providing and fixing 6mm thick clear toughened glass of approved make as detailed, SS pivot of approved make with damper control and latch control, hold open at 90 degree, SS finish, wooden handle etc. complete as shown in the drawing.	
		a) Door WGL1A with Structural opening size of 4000mm x 2400mm	No.
	Non DSR	b) Door WGL1B with Structural opening size of 4000mm x 2400mm	No.
	Non DSR	c) Door WGL1C with Structural opening size of 1500mm x 2400mm	No.
	Non DSR	d) Door WGL1D with Structural opening size of 5500mm x 2400mm	No.
9.14		Providing and fixing Door and Window shutters out of approved quality teak wood, kiln seasoned, anti-termite treated, shaped, grooved rebated with required mating styles, joined with tongue and grooved mitered joints arrangement including top rail, middle rail, bottom rail and beading with use of approved water repellent exterior quality adhesive, G.I. screws, pins, etc. Also to include two coats of wood primer and melamine polish of approved shade and make. Rate shall also include providing and fixing 6mm thick clear toughened glass of approved make, wooden handles, SS ball bearing butt hinges etc. as detailed etc. complete as shown in the drawing. (Main Wooden frame shall be paid in separate item)	
	Non DSR	d) Window SF1A with Structural opening size of 2800mm x 2400mm	No.
	Non DSR	e) Door SF1E with Structural opening size of 3700mm x 2400mm	No.
	Non DSR	g) Door SF1D with Structural opening size of 4700mm x 2400mm	No.
	Non DSR	i) Door SF1J with Structural opening size of 1800mm x 2400mm	No.
	Non DSR	j) Fixed Glass Window GB01A with Structural opening size of 2905mm x 2400mm	No.
	Non DSR	k) Glass Casement Window GB01A with Structural opening size of 2540mm x 2400mm	No.
	Non DSR	l) Fixed Glass Window WF01A with Structural opening size of 3700mm x 2260mm	No.
	Non DSR	m) Fixed Glass Window WF01B with Structural opening size of 1800mm x 2260mm	No.
	Non DSR	n) Glass Window WF01C with Structural opening size of 650W-2700mmD x 1500mm	No.
	Non DSR	o) Glass Window WF01D with Structural opening size of 650W-2700mmD x 900mm	No.

		WF02A :- Rough opening:- 5100X2550 & Finished Opening :- 5080x2515	No.
		WF02B :- Rough opening:- 3700X1850 & Finished Opening :- 3680x1830	No.
		WF02C :- Rough opening:- 2900X1450 & Finished Opening :- 2880x1430	No.
9.15		Providing and fixing factory made uPVC glazed/wire mesh windows/doors comprising of lead free uPVC multi-chambered frame, sash and mullion/coupler (where ever required) extruded profiles having minimum wall thickness of 1.70 mm for Series R1 and R2 profiles and 2.10 mm for Series R3 and R4 profiles conforming to EN: 12608 in any shape, colour and design duly reinforced with galvanized mild steel section made of required shape & size as per CPWD Specification, uPVC extruded glazing beads, interlocks and Inline sash adaptor (where ever required) of appropriate dimension, EPDM gasket, hardware, SS 304 grade fasteners of minimum 8 mm dia with countersunk head, comprising of matching polyamide PA6 grade sleeve for fixing frame to finished wall as per IS 1367 : Part 1 to 14, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame, sash & mullion (if required) shall be mitred cut and fusion welded/mechanically jointed duly sealed at all corners, including drilling of holes for fixing hardware and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of approved size and quality, all complete as per approved drawing conforming to CPWD specification & direction of Engineer-in-Charge. Section of steel reinforcement and cross sections of uPVC profiles to be as per design approved by Engineer-in-Charge.	
		Wire mesh / Glazing of plain/ toughened/ laminated/ double glass unit with / without high performance coatings as per design requirements and conforming to IS: 3548 & IS: 16231 shall be paid separately.	
		Note:- Structural design proof checked from a Government Engineering Institute, to be provided by the manufacturer for : (i) Sites with basic wind speed > 45 m/sec as per IS 875 – Part 3 (ii) Sites with structure height more than 20m for all wind speeds	
9.15.1	DSR	Three track three panels sliding door with two glazed & one wire mesh panels with Aluminium channel for roller track, wool pile, zinc alloy (zamak) powder coated handle on two panels along with multi-point locking system, adjustable nylon rollers with SS 304 body.	
		Using R3 series with frame (98mm & above) x (40mm & above) & both glazed and fly screen sash (30mm & above) x (74mm & above). (Height up to 2.5 metre).(WU3A)	Sqm
9.15.2	DSR	Ventilator Casement window single panel with or without fixed panel with S.S. 304 friction hinges as per size and weight of sash, single point locking zinc alloy (zamak) powder coated handles.	
	DSR	Using R2 series with frame (39mm & above) x (39mm & above) & sash /mullion (39mm & above) x (60mm & above). (Height up to 1.2 metre) WU2C & WU2B	Sqm

	DSR	Using R3 series with frame (55mm & above) x (45mm & above) & sash /mullion (55mm & above) x (65mm & above). (Height above 1.2 metre) WU2A	Sqm
9.15.3	DSR	Casement window single panel with S.S. 304 friction hinges as per size and weight of sash, multi-point locking system, zinc alloy (zamak) powder coated handles.	
	DSR	Using R2 series with frame (39mm & above) x (39mm & above) & sash (39mm & above) x (60mm & above). (Height up to 1.2 metre) WU1C & WU1D	Sqm
	DSR	Using R3 series with frame (55mm & above) x (45mm & above) & sash (55mm & above) x (65mm & above). (Height up to 1.8 metre) WU1B	Sqm
	DSR	Using R4 series with frame (64mm & above) x (50mm & above) & sash (64mm & above) x (70mm & above). (Height above 1.8 metre) WU1A	Sqm
9.16		Providing and fixing glazing in uPVC door, window, ventilator shutters and partitions etc. complete as per the architectural drawings and the directions of Engineer-in-charge.	
9.16.1	Non DSR	With 6mm thick clear toughened glass	Sqm
9.16.2	Non DSR	With 6mm thick frosted glass	Sqm
9.17	Non DSR	Providing and installing of pleated Mesh system (mosquito screen) with aluminium frames. The system shall be manufactured from Jindal Aluminium Alloy 6063-T6 or equivalent, with powder coating by Akzo Nobel or equivalent in approved shade. The mesh shall be polyester mesh with German technology, woven in 20×20 holes per square inch, configuration using Monofilament Polyester strong yarn(Coated Yarn Thickness: 0.27 ± 3%, Wire Diameter: 0.185 × 0.135 mm, Weight of Mesh:47 ± 5% g/m ²),Weave type Warp Knitting, providing 400 holes per square inch (Mesh Density: 20×20 holes per square inch, Colour: Black) and ensuring high transparency. The system shall carry a warranty for a period of 12 months against manufacturing defects from the date of delivery. Installation to be carried out complete as per manufacturer's specifications and approved shop drawings.	Sqm
10		STEEL WORK	
10.1	DSR	Structural steel work in single section, fixed with or without connecting plate, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg.
10.2		Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer and finished with two or more coats of epoxy paint of approved make etc. as required.	
10.2.1	DSR	a) Gill Gate with frame and side supports including aluminium slats (GG2A)	Kg.
10.2.2	Non DSR	In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete	Kg
10.2.3	Non DSR	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	Kg
10.4		Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.	

10.3.1	DSR	M.S. tube	Kg
10.4	DSR	Providing and fixing stainless steel (Grade 304) railing, gratings, frames, guard bar, brackets, corner guard, kick plate, and similar works made of Hollow tubes, channels, angles, flats, plates etc. including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete i.e. fixing the railing with necessary accessories & stainless steel 304 dash fasteners of approved make, stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge. (for payment purpose only weight of stainless-steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.) Contractor shall submit shop drawing as per tender drawing for all structural elements. Contractor shall get approval from Engineer In Charge of shop drawing before execution of work.	Kg
10.5		Providing and fixing carbon steel galvanised (minimum coating 5 micron) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm ²), counter sunk head, comprising of 10 mm dia polyamide PA 6 grade sleeve, including drilling of hole in frame, concrete/ masonry, etc. as per direction of Engineer-in-charge.	
10.5.1	DSR	10 x 60 mm	Each
10.5.2	DSR	10 x 80 mm	Each
10.5.3	DSR	10 x 120 mm	Each
10.6	Non DSR	Providing and installing SS-304 Grade Stainless Steel @ 1050mm high Modular railing system comprising 75x50mm Wooden Handrail of approved quality teak wood with melamine polish, fixed on 25 x 50 mm square SS Pipe with 30x4mm SS Flat. Further 38mm dia SS baluster with glass holding accessories (including top bracket to hold hand railing), along with 10mm thick clear toughened glass of approved make along with glass holding fixtures. The balustrade shall be fixed onto floor with SS circular caps with approved anchor fasteners. Anchor fasteners shall not be visible after installation. Wall thickness of all Pipes shall be taken as 1.5mm along with all visible components developed in High Grade SS etc. complete as shown in the drawing. (Location : Balconies)	Rmt
10.7	DSR	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	Nos.
11		ROOFING & CEILING	

11.1	DSR	<p>Providing and Fixing 15 mm thick densified tegular edged eco friendly light weight calcium silicate false ceiling tiles of approved texture of size 595 x 595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanised steel sections (galvanising @ 120 grams per sqm including both side) consisting of main 'T' runner suitably spaced at joints to get required length and of size 24x38 mm made from 0.33 mm thick (minimum) sheet, spaced 1200 mm center to center, and cross "T" of size 24x28 mm made out of 0.33 mm (Minimum) sheet, 1200 mm long spaced between main'T' at 600 mm center to center to form a grid of 1200x600 mm and secondary cross 'T' of length 600 mm and size 24 x28 mm made of 0.33 mm thick (Minimum) sheet to be inter locked at middle of the 1200x 600 mm panel to form grid of size 600x600 mm, resting on periphery walls /partitions on a Perimeter wall angle pre-coated steel of size(24x24X3000 mm made of 0.40 mm thick (minimum) sheet with the help of rawl plugs at 450 mm center to center with 25 mm long dry wall screws @ 230 mm interval and laying 15 mm thick densified edges calcium silicate ceiling tiles of approved texture in the grid,</p>	Sqm
		<p>including, cutting/ making opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc., wherever required. Main 'T' runners to be suspended from ceiling using G.I. slotted cleats of size 25x35x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm G.I. adjustable rods with galvanised steel level clips of size 85 x 30 x 0.8 mm, spaced at 1200 mm center to center along main 'T', bottom exposed with 24 mm of all T sections shall be pre-painted with polyster baked paint, for all heights, as per specifications, drawings and as directed by Engineer-in-Charge.</p>	
		<p>Note :- Only calcium silicate false ceiling area will be measured from wall to wall. No deduction shall be made for exposed frames/opening (cut outs) having area less than 0.30 sqm. The calcium silicate ceiling tile shall have NRC value of 0.50 (Minimum), light reflection > 85%, non- combustible as per B.S. 476 part IV, 100% humidity resistance and also having thermal conductivity <0.043 w/mK.</p>	

11.2		<p>Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size</p> <p>25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm center to center, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm center to center, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm center to center, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm center, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering up to 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with :</p>	
11.2.1	DSR	12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- (Part I) :2011 (Board with BIS certification marks)	Sqm
11.3	Non DSR	Providing and installing WPC composite false ceiling with made of WPC red wood colour boards (having Density of 1.425 g/cum and Tensile strength of 29 Mps) of approved make fitted on a hollow aluminium joist 50x25x1.5mm as shown in the drawing. The framework shall be anchored to the ceiling / wall at intervals not exceeding 350mm center-to-center using Fischer N8/80 screws. False ceiling boards shall be fixed on the aluminium joists with Corroshield 7x25CSK screws. All exposed aluminium frames shall be covered with powder coated Aluminium L angle, as per the approved drawings etc. all complete as shown in the drawing and as per specifications of approved manufacturer.	Sqm
11.4	Non DSR	Providing & fixing on roof pressed clay tile (Mangalore tile) of 20 mm nominal thickness and of approved size and as per approved pattern laid on 20 mm thick cement sand mortar in the ratio of 1:4 (1 cement : 4 coarse sand) complete.	Sqm
12		FINISHING WORK	
12.1	DSR	12 mm cement plaster finished with a floating coat of neat cement of mix :	
12.1.1		1:4 (1 cement: 4 fine sand)	Sqm

12.2	DSR	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement : 5 coarse sand) finished with a top layer 6 mm thick cement plaster 1:6 (1 cement : 6 fine sand).	Sqm
12.3	DSR	Extra for plastering exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.	Sqm
12.4		6 mm cement plaster of mix :	
12.4.1	DSR	1:3 (1 cement : 3 fine sand)	Sqm
12.5	DSR	Extra for addition of synthetic Polyester triangular fibre of length 6mm, effective diameter 10-40 microns and specific gravity of 1.34 to 1.40 in cement plaster/mortar by using 125 gms. of synthetic Polyester triangular fibre for 50 Kgs. cement used in cement mortar as per directions of Engineer-in-Charge.	per bag of 50 kg of cement
12.6	Non DSR	Providing and applying 12mm thick POP punning (in single / double coat as per directions of the PM) as detailed in drawing, including making level beads, cutting, scrapping and finishing smooth to perfect line and level corners, jams, sills sharp / pencil rounded and perfect 90° angles; including touching, finishing adjoining surfaces such as grooves, pattas, drips, cornices, etc.; when checked with 3 m long edge of straight aluminium section there shall be no gap what so ever and no light should pass, etc. all complete as directed and approved by the PM at all locations marked in drawings.	Sqm
12.7		Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ liter of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.	
12.7.1	DSR	Two coats	Sqm
12.8		Finishing walls with water proofing cement paint of required shade :	
12.8.1	DSR	New work (Two or more coats applied @ 3.84 kg/10 sqm) (Location : Shafts)	Sqm
12.9		Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :	
12.9.1	DSR	Two or more coats on new work	Sqm
12.10	Non DSR	Providing and applying 6 mm thick (average) premixed formulated one coat gypsum lightweight plaster having additives and light weight aggregates as vermiculite/ perlite respectively conforming to IS: 2547 (Part - 1 & II) 1976, applied on hacked / uneven background such as bare brick/ block/ RCC work on walls & ceiling at all floors and locations, finished in smooth line and level etc. complete.	Sqm
12.11		Applying priming coats with primer of approved brand and manufacture, having low VOC (Volatile Organic Compound) content.	
12.11.1	DSR	With ready mixed pink or grey primer on wood work (hard and soft wood) having VOC content less than 50 grams/ litre	Sqm
12.12	DSR	Melamine polishing on wood work (one or more coat).	Sqm
12.13	DSR	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. (on steel work)	Sqm

12.14	DSR	Finishing walls with ready mixed Premium acrylic emulsion paint (Company Depot Tinted) having VOC less than 50 gm/litre and UV resistance as per IS 15489:2004, Alkali & fungal resistance, dirt resistance exterior paint of required shade with silicon additives	
	DSR	New work (Two or more coats applied @ 1.43 litre/ 10 sqm over and including priming coat of exterior primer applied @ 0.90 litre/10 sqm.	Sqm
12.15	DSR	Providing and applying white cement-based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete	Sqm
12.16	DSR	Finishing walls with textured exterior paint of required shade :a) Surface Preparation : Surface to be allowed to cure properly, all repair work of all surface imperfections - cracks, leakages & undulations are undertaken.b)One / two Coats of exterior grade primer c) Exterior grade Texture coat in approved design and patternc) Two / three coats of Acrylic emulsion paint of approved shade and finishAll above as per manufacturers' specification along with minimum Ten years warranty	Sqm
13		MODULAR KITCHEN	
13.1	Non DSR	Fabricating, Supplying, Installation, Fixing & Placing in position the entire Modular Kitchen as a Single unit of size as per drawing. The unit comprises of Cabinets, shutters, Handles, Accessories, Hardware, Glass etc all as per drawing resting on 100 mm Civil work Cill. Basic structural framing with BWR plywood & HDF as per mentioned thickness, as mentioned in the drawing, edge binding to match the color of selected laminate, including all necessary fixing arrangement, welding, grinding, nails, glues, screws, magnetic catchers, handles, G section handles of required lengths as per the width of the Drawer, Shutter, Cabinet, hinges, telescopic sliding channel for drawers, fixing the furniture to the wall or to the floor as required. All works like fixing the unit to the floor or wall, laminates of specified thickness complete, other required hardware are included. All framework intermittently for support and strength, All details to be followed as per the drawings and design provided and any addition required in detail should be incorporated in the shop drawing to ensure complete functionality and durability as intended. Glass will be 8 mm thickness toughened Glass in the entire Kitchen. All plywood and Board will be both sides laminate. Inside laminate thickness will be 0.8 mm and will be plain color as per the selection, while the outside laminate surface will be 1.0 mm thick and of wooden pattern as per selection. Nothing extra will be paid. All coordination works based on civil dimensions, integration of various appliances for the purpose of electrical wiring are to be considered in this item. Appliances like microwave, electric oven, dishwasher, hob and Chimney to be paid separately. Natural stone counter top stone will be provided by the client and fixing will be done by the client appointed agency. However, coordination will be the responsibility of this contractor. Approx dimension of the furniture is as per drawings	No.

13.2	Non DSR	Supply, Installation and Testing, Commissioning of Microwave oven including all electrical works required for complete operations. Coordination and ensuring the dimensions of the equipment match with space provided in the new fabricated furniture's is the responsibility of the contractor. Microwave Oven - Sleek - Gavino Black - APIMGAVB60 or Faber - FBIMWO 20 L SG BK	No.
13.3	Non DSR	Supply, Installation and Testing Commissioning of Electric Oven including all electrical works required for complete operations. Coordination and ensuring the dimensions of the equipment match with space provided in the new fabricated furniture's is the responsibility of the contractor Harry star built in electric oven - Sleek - APLOHARRYSTAR or Faber - FBIO 801 8F BK	No.
13.3	Non DSR	Supply, Installation and Testing Commissioning of dishwasher including all electrical works required for complete operations. Coordination and ensuring the dimensions of the equipment match with space provided in the new fabricated furniture's is the responsibility of the contractor Platinum Plus Dishwasher - Sleek - APIDPLATPLUS or Faber - FSID 8PR 14S	No.
13.5	Non DSR	Supply, Installation and Testing Commissioning of Chimney including all electrical works required for complete operations. Coordination and ensuring the dimensions of the equipment match with space provided in the new fabricated furniture's is the responsibility of the contractor. Chimney exhaust duct will be connected to the external wall cutout provided. The approximate length to be considered is up to 4 meters for the duct part. Coordination with the installation of the wood work to be included in the scope. MAPLE + 90 CHIMNEY - Sleek - APICMAPLBL90 or Faber - Hood Zenith FL SC AC BK90	No.
13.6	Non DSR	Supply, Installation and Testing Commissioning of Hob including all electrical works required for complete operations. Coordination and ensuring the dimensions of the equipment match with space provided in the new fabricated furniture's is the responsibility of the contractor LIBRA 80 CM HOB - Sleek - APIHZC4BR or Faber - HOB SUPERIA HT764 BR AI	No.
14		ARCHITECTURAL ELEMENTS AND TERRACOTTA TILES FIXING ETC..	
14.1	Non DSR	Providing and installing Glass blocks of size (190mm x 190mm x 80mm) with readymade glass block mortar of approved make including spacers (L and T shaped) between two blocks and corners, also providing and placing anchors horizontally across the top of the blocks at every other course etc. complete as shown in the drawing and as per approved manufacturer's specifications.	Sqm

14.2	Non DSR	<p>Providing and fixing Jaali Screen using 2-Hole Round terracotta Bricks, specially manufactured for this work, of size 195 x 60 x 50 mm as per drawing, having average compressive strength 4.12 N/mm², NABL approved, baked at 1050°C with natural gas in automatic kiln. Bricks shall be all weather resistant, 100% asbestos free, termite free, fire resistant, with water absorption not exceeding 20% as per IS 1077. The 2-hole round brick Jaali shall be installed on 16 mm dia MS rods (painted with black enamel paint), arranged in various patterns such as zig-zag, curve, straight, square or rectangular modes as per drawings. The top of the Jaali/screen shall be secured with MS strip 3 mm thick and 40 mm wide (painted with black enamel paint), fabricated with 18 mm dia holes at required locations to receive the 16 mm rods. The rods shall pass through these holes and be welded in position with the strip.</p>	Sqm
		<p>At the bottom, the MS strip shall be embedded in PCC for anchorage. 16 mm dia MS rods shall be welded onto an MS strip laid along the span of the brick jaali. The base shall be prepared clear and flat, with rods installed using suitable adhesive around the rod seating for firm fixing. Special Terracotta Adhesive, premium grade, which is same as jaali colour specially made for jaalis , Bricks & cladding shall be used. For heights exceeding 2.4 m, an intermediate MS strip of 10 mm thickness shall be introduced to break the load and ensure structural stability of the jaali. Scaffolding wherever required shall be included. The complete Jaali system shall be designed and executed to resist wind loads as per IS 875 for the relevant zone. Work shall be carried out strictly in accordance with drawings, specifications, and instructions of the Engineer-in-Charge.</p>	
14.3	Non DSR	<p>Providing and fixing Jaali Screen using Terracotta Jaali Screen using Jaali Screen Module of size 220x220x60 -70 MM in various patterns & combinations using like Flower Jaali / Inigma Jaali or other designs based on drawings, having average compressive strength 4.12 N/mm², Jaali Breaking Load 35.0 N/mm to 40.8 N/mm, NABL approved, baked at 1050°C with natural gas in automatic kiln. Bricks shall be all weather resistant, 100% asbestos free, termite free, fire resistant, with water absorption not exceeding 20% as per IS 1077. Each Jaali is been sorted and check the sound quality and durability for its strength & quality. The Jaali screen is executed / installed /assembled using special Terracotta Adhesive which is same as Jaali color specially made for Jaali, Bricks & cladding. For Spans and heights exceeding 3.0 m, an intermediate MS Frame of 60 x40x3.2 mm shall be introduced to break the load and ensure structural stability of the Jaali, both vertically and horizontally. The MS Frame shall be painted with enamel paint to match the colour of the Jaali and conceal the frame. Cost of the frame and scaffolding if required will be inclusive in this item. The complete Jaali system shall be designed and executed to resist wind loads as per IS 875 for the relevant zone. Work shall be carried out strictly in accordance with drawings, specifications, and instructions of the Engineer-in-Charge.</p>	Sqm

14.4	Non DSR	Providing and fixing 60-75mm high profiled anodized Aluminium skirting profile as shown in the drawing. Aluminium profile shall be made of aluminium alloy & temper 6063-T6 as per BS: 1474 – 1987 with wooden finish powder coating (with coating thickness of 70 microns, average). Aluminium profile skirting shall be fixed with Clip on type OR with screw with capping strip along with PVC/PP corners and end caps etc. complete as shown in the drawing. (S4)	Rmt
15		WARDROBE	
15.1	Non DSR	WARDROBE TYPE 01(FF1A) - CF Fabricating, Supplying, Fixing & Placing in position Wardrobe as a Single unit of size as per drawing. The unit comprises of multiple drawers in two sizes, SS hanger rods and various compartments for storage. Basic structural framing (if shown) of Hard wood or MS Section with plywood finished with laminate as specified in the drawings. Wooden beading/ lipping with polish to match the colour of the selected laminate. All necessary fixing arrangement such as nails, glue, anchor fasteners, screws, magnetic catches, self-closing hinges, handles, flush handles for drawers, soft closing telescopic channels for drawers, rubber leg lowers. Anchor fasteners for fixing the furniture to the wall or to the floor as required. Mirror Screw (Screw with Caps) for creating openable panels in the furniture as shown for maintenance purpose and fixing the unit to the floor or wall. Entire framework to be fixed intermittently for support and strength. All details to be followed as per the drawings and design provided. Any additional details required should be incorporated in the shop drawing to ensure complete functionality and durability as intended. Nothing extra will be paid. Approx dimension of furniture is 2680 x 600 x 2725 (Size as per drawings in case of variation).	No's
15.2	Non DSR	WARDROBE TYPE 02- (FF1B)- CF Fabricating, Supplying, Fixing & Placing in position Wardrobe unit with open shelves as a Single unit of size as per drawing. The unit comprises of two drawers, showcase shelves and various compartments for storage. Basic structural framing (if shown) of Hard wood or MS Section with plywood finished with laminate as specified in the drawings. Wooden beading/ lipping with polish to match the colour of the selected laminate. All necessary fixing arrangement such as nails, glue, anchor fasteners, screws, magnetic catches, self-closing hinges, handles, flush handles for drawers, soft closing telescopic channels for drawers, rubber leg lowers. Anchor fasteners for fixing the furniture to the wall or to the floor as required. Mirror Screw (Screw with Caps) for creating openable panels in the furniture as shown for maintenance purpose and fixing the unit to the floor or wall. Entire framework to be fixed intermittently for support and strength. All details to be followed as per the drawings and design provided. Any additional details required should be incorporated in the shop drawing to ensure complete functionality and durability as intended. Nothing extra will be paid. Approx dimension of furniture is 1040 x 600 x 2725 (Size as per drawings in case of variation).	No's

15.3	Non DSR	<p>COUNTER WASHBASIN- (FF25A)- CF Fabricating, Supplying, Fixing & Placing in position Counter Wash Basin as a Single unit of size as per drawing. The unit comprises of compartments for storage. Basic structural framing (if shown) of Hard wood or MS Section with plywood finished with laminate as specified in the drawings. Wooden beading/lipping with polish to match the colour of the selected laminate. All necessary fixing arrangement such as nails, glue, anchor fasteners, screws, magnetic catches, self-closing hinges, handles, flush handles for drawers, soft closing telescopic channels for drawers, SS support legs. Anchor fasteners for fixing the furniture to the wall or to the floor as required. Mirror Screw (Screw with Caps) for creating openable panels in the furniture as shown for maintenance purpose and fixing the unit to the floor or wall. Entire framework to be fixed intermittently for support and strength. All details to be followed as per the drawings and design provided. Any additional details required should be incorporated in the shop drawing to ensure complete functionality and durability as intended. Nothing extra will be paid. Approx dimension of furniture is 1990 x 580 x 850 (Size as per drawings in case of variation).</p>	No's
15.4	Non DSR	<p>COUNTER WASHBASIN (FF25B)- CF Fabricating, Supplying, Fixing & Placing in position Counter Wash Basin as a Single unit of size as per drawing. The unit comprises of compartments for storage. Basic structural framing (if shown) of Hard wood or MS Section with plywood finished with laminate as specified in the drawings. Wooden beading/lipping with polish to match the colour of the selected laminate. All necessary fixing arrangement such as nails, glue, anchor fasteners, screws, magnetic catches, self-closing hinges, handles, flush handles for drawers, soft closing telescopic channels for drawers, SS support legs. Anchor fasteners for fixing the furniture to the wall or to the floor as required. Mirror Screw (Screw with Caps) for creating openable panels in the furniture as shown for maintenance purpose and fixing the unit to the floor or wall. Entire framework to be fixed intermittently for support and strength. All details to be followed as per the drawings and design provided. Any additional details required should be incorporated in the shop drawing to ensure complete functionality and durability as intended. Nothing extra will be paid. Approx dimension of furniture is 1750 x 580 x 850 (Size as per drawings in case of variation).</p>	No's

15.5	Non DSR	COUNTER WASHBASIN (FF25C)- CF Fabricating, Supplying, Fixing & Placing in position Counter Wash Basin as a Single unit of size as per drawing. The unit comprises of compartments for storage. Basic structural framing (if shown) of Hard wood or MS Section with plywood finished with laminate as specified in the drawings. Wooden beading/lipping with polish to match the colour of the selected laminate. All necessary fixing arrangement such as nails, glue, anchor fasteners, screws, magnetic catches, self-closing hinges, handles, flush handles for drawers, soft closing telescopic channels for drawers, SS support legs. Anchor fasteners for fixing the furniture to the wall or to the floor as required. Mirror Screw (Screw with Caps) for creating openable panels in the furniture as shown for maintenance purpose and fixing the unit to the floor or wall. Entire framework to be fixed intermittently for support and strength. All details to be followed as per the drawings and design provided. Any additional details required should be incorporated in the shop drawing to ensure complete functionality and durability as intended. Nothing extra will be paid. Approx dimension of furniture is 1480 x 580 x 850 (Size as per drawings in case of variation).	No's
16		INTERNAL WATER SUPPLY SYSTEM	
16.1		Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.	
		Internal work - Exposed on wall	
16.1.1	DSR	15 mm dia nominal bore	Mtr
16.1.2	DSR	20 mm dia nominal bore	Mtr
16.1.3	DSR	25 mm dia nominal bore	Mtr
16.1.4	DSR	32 mm dia nominal bore	Mtr
16.1.5	DSR	40 mm dia nominal bore	Mtr
16.2		Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.	
		Concealed work, Including cutting , chases and making good the walls	
16.2.1	DSR	15 mm nominal outer dia. Pipes.	Mtr
16.2.2	DSR	20 mm nominal outer dia. Pipes.	Mtr
16.2.3	DSR	25 mm nominal outer dia. Pipes.	Mtr
16.2.4	DSR	32 mm nominal outer dia. Pipes.	Mtr
16.3		Providing and fixing ball valve (brass) of approved quality, high or low pressure, with plastic floats complete:	
16.3.1	DSR	15mm dia	Each
16.3.2	DSR	20mm dia	Each
16.3.3	DSR	25mm dia	Each

16.3.4	NS-26	32 mm dia	Each
16.3.5	Non DSR	40 mm dia	Each
16.4		Supplying, fixing, testing and commissioning of butterfly valve of PN 16 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required :	
16.4.1	Non DSR	50 mm dia	Each
16.5		Providing and fixing gunmetal single acting air release valve with screwed inlet tested for 10Kg/Cm ² .	
16.5.1	Non DSR	25 mm dia	Each
16.6		Providing, fixing, testing and commissioning electronic water meter with direct reading dial in KL with all necessary fitting such as flanged/ socketed tail pieces, nuts, bolts, washers, reducers, etc. with all necessary testing charges and obtaining test certificates from municipal authorities, on following size pipe lines. The meter shall comply to ISO 4064 standard, feasible for class B or Class A installation.	
16.6.1	Non DSR	25mm dia	No.
16.7		Providing and fixing motorized butterfly valve with float type sensors suitable for 240 volts with working pressure rating of not less than 5kg/cm ² with control panel and sensors to open valve when water level is low in tanks and to close when water level is high in water tanks necessary cables (4CX1.5 Sqmm or 3C X1.5 sqmm), conduits, Up to junction box (Up to 6 mt qty approx.) etc. complete.	
16.7.1	Non DSR	50 mm dia	Each
16.8		Providing and fixing M.S fabricated hot dipped galvanized coating puddle flange comprising of 600 mm dia long M.S class 'C' pipe (screwed end up to 50 mm & flange for more than 50 mm dia) with 6 mm thick M.S plates of required size including cutting holes in Centre of plate, inserting pipe & making welded (Arc) joint complete. Same shall be installed with TEC welded joint in position with reinforcement bars of RCC tank wall/slab including making cutout in shuttering during concrete casting of tank of following diameter. (For underground tank)	
16.8.1	Non DSR	80 mm nominal bore	Each
16.8.2	Non DSR	50 mm nominal bore	Each
16.8.3	Non DSR	25 mm nominal bore	Each
		Pressure Reducing Station:	
16.9		Providing and fixing Pressure Reducing station for cold water supply comprising of 2 Nos. of brass ball valves on outlet and bye-pass and 1 No. ball with "Y" strainers on inlet line and a PRV (Diaphragm type) unit with out going pressure gauge with flanged or union connection including safety valve. The complete system is tested to a pressure not less than 10 Kg/Cm ² and suitable to reduce the pressure of 2.5 to 3 Kg/Cm ² (Or as desired at site) including flanges/unions, nuts, bolts and washers complete as required for applications. (Horizontal or vertical as applicable).	
16.9.1	Non DSR	15 mm dia	Each
16.9.2	Non DSR	20 mm dia	Each
16.9.3	Non DSR	25 mm dia	Each

16.9.4	Non DSR	32 mm dia	Each
16.9.5	Non DSR	40 mm dia	Each
16.9.6	Non DSR	100 mm dia	Each
16.10		Providing & Fixing Gun Metal Non Return Valve of Approved Quality (Screwed end)	
16.10.1	DSR	50 Dia (Horizontal)	Nos.
17		INTERNAL SANITARY PIPE LINE AND RAIN WATER PIPE LINE	
17.1		Providing and fixing uPVC SWR (Type - 'B') for soil, waste and vent pipes conforming to IS 13592-1992 including all SWR moulded fittings conforming to IS: 14735 i.e bends, tees, junctions, cowls, offsets, crosses with or without access doors etc, and with Ring Fit / approved solvent cement including angle supports with clamps, G.I bat holder and clamps including cutting holes in walls and wherever required and making good the same as directed by the Engineer-in-Charge.	
17.1.1	Non DSR	110 mm O.D type "B" for soil/waste	Mtr
17.1.2	DSR	110 mm O.D type "A" for RWP (Vertical and horizontal)	Mtr
17.2		Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m	
17.2.1	DSR	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia	Mtr
17.3		Supply, Installation, Jointing, testing & commissioning in position the following UPVC pipes confirming to IS 4985 of 6 Kg / Sq.cm for drainage system cut to required length. Pipe to be laid below ground level in trenches up to required depth including excavation in all kind of soil (hard rock), dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required. Cost shall be Inclusive of providing protection to pipe all round / haunches as per specification.	
17.3.1	Non DSR	40 mm OD dia	Mtr
17.3.2	Non DSR	63 mm OD dia	Mtr
17.4		Providing and fixing UPVC, P or S trap of self cleaning design with / without vent arm setting in cement concrete 1:2:4 mix complete including cost of cutting & making good the wall and wherever required / supports as required at site according to flat slab underslung pipe.	
17.4.1	Non DSR	110x110 mm 'P' trap	Each
17.5	Non DSR	Providing and fixing PVC inlet fitting with one or more inlets fabricated from 110 mm outer dia UPVC pipe and solvent welded sockets and fixed to UPVC Trap and set in cement concrete as per drawing complete.	Each
17.6		Providing & fixing UPVC reducer socket /Bend including cutting and shaping to required size.	
17.6.1	Non DSR	110 x 63 mm	Each

17.7	Non DSR	Providing and fixing SS grating of approved quality including cutting and making good the walls and floors wherever required complete as per directions of Engineer-In-charge. (for FT & FD) (100mm dia).	Each
17.8	Non DSR	Providing and fixing roof parapet drain for rain water pipe cast iron, power coated body finish. The diameter / size should be based on the RWP pipes and should match with the same.	Each
17.9	Non DSR	Providing and fixing Dome Type Roof Drain Cast Iron Body with Aluminium Dome. The diameter / size should be based on the RWP pipes and should match with the same	Each
17.10	Non DSR	Providing and fixing End plug of approved quality including cutting and making good the walls and floors wherever required complete in all respects . (110mm)	Each
18		SANITARY FIXTURES AND FITTINGS	
18.1	Non DSR	Providing and fixing Vitreous China floor mounting type European water closet with 'S' trap with flush tank, solid plastic seat cover with lid, C.P. brass/ABS hinges and rubber buffers, EPDM/Teflone sealed WC connector, wall bracket/anchoring arrangement complete including cutting and making good the walls and floors wherever required. Ref. Model: Model ref. No: SLS-WHT-6851S220PP of Jaquar Make or equivalent	Each
18.2	Non DSR	Providing and fixing White coloured glazed vitreous China rectangular wash basin with adjustable C.I. brackets painted white, C.P. brass waste, C.P. cast brass bottle trap and union, 32 mm dia C.P. pipe of required length to wall and C.P. wall flange complete including cutting and making good the walls wherever required. Ref.Model: CNS - WHT - 801 of Jaquar Make or equivalent.(PEDESTAL BASIN FLORA)	Each
18.3	Non DSR	Providing and fixing Stainless steel single bowl sink with drain board of required size, brackets painted, waste and flexible pipe to trap, with necessary union complete including cutting and making good the walls wherever required . Ref: Model: Domingo (24x18x9) of Nirali	Each
18.4	Non DSR	Providing and fixing C.P single lever concealed Divertor with bath spout, head shower, shower arm and C.P Brass wall flanges complete including cutting and making good the wall where required. Refer Model details below.(Flow rate:<=7LPM). Head shower: Model No:OHS - CHR - 1663 of Jaquar Make or equivalent. Shower arm: Model No: SHA - 477P of Jaquar Make or equivalent.	Each
18.5		Head shower: Model No:OHS - CHR - 1663 of Hindware Italian	
18.6		Shower arm: Model No: SHA - 477P of Hindware Italian	
18.7		Concealed mixer Model: FUS - CHR - 29273UPR of Jaquar make or equivalent.	
18.8	Non DSR	Providing and fixing Health Faucet with 900 to 1200mm long Chrome plated flexible pipe and wall hook complete including screws SS sleeves. Model: ALD CHR 565 of Jaquar Make or equivalent.(Flow rate: <=4LPM)	Each
18.9	Non DSR	Providing and fixing C.P. Pillar tap auto closing Type on wash basin with S.S braided flexible connector, nuts and washers including cutting hole complete. in all respects. Ref. Model: ARI - CHR - 39011GE of Jaquar Make or equivalent. (Flow rate:<=4LPM)	Each

18.10	Non DSR	Providing and fixing C.P. brass Sink cock with regular swinging spout with SS braided flexible connectors, nuts & washers complete including cutting and making good. Ref. Model: FLR - CHR - 5347SD of Jaquar Make or equivalent. (Flow rate: <=4LPM)	Each
18.11	Non DSR	Providing and fixing 15 mm dia C.P. brass angle valves with S.S wall flange including cutting and making good. AQTCHR - 3057P of Jaquar or equivalent.	Each
18.12	Non DSR	Providing and fixing C.P brass/ SS coat hook including PVC sleeves and C.P brass screws complete in all respects. Ref.ACN-CHR-1161N of Jaquar Make or equivalent.	Each
18.13	Non DSR	Providing and fixing S.S / CP brass towel ring 15 mm dia and complete in all respect. Ref. Model: ACN CHR - 1121BN of Jaquar Make or equivalent.	Each
18.14	Non DSR	Providing and fixing 600mm Long Stainless-Steel towel rail. Ref. ACN-CHR-1111SM of Jaquar Make or equivalent.	Each
18.15	Non DSR	Providing and fixing S.S / CP brass toilet paper holder with concealed screws and rawl plug complete. Ref. Model: ACN-CHR-1153N of Jaquar	Each
18.16	Non DSR	Providing and fixing S.S soap holder of approved make with concealed screws and rawl plugs complete in all respect. Ref. Model: ACN - 1177N of Jaquar Make or equivalent.	Each
18.17	Non DSR	Supplying, installing, testing and commissioning Geyser of 25 liter capacity as per technical specification	Each
18.18	Non DSR	Supplying, installing, testing and commissioning Geyser of 50 liter capacity as per technical specification	Each
19		EXTERNAL WATER SUPPLY	
19.1		Excavating trenches of required width for pipes, cables, etc. including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :	
19.1.1		All kind of soil	
19.1.1	DSR	Pipes, cables etc., exceeding 80mm dia but not exceeding 300 mm dia	Metre
19.2		Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work	
		External work	
19.2.1	DSR	25 mm dia nominal bore	Metre
19.2.2	DSR	40 mm dia nominal bore	Metre
19.3		Making connection of G .I. distribution branch with G .I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete :	
19.3.1	DSR	25 to 40 mm nominal bore	Each

19.4		Providing and filling sand of grading zone V or coarser grade, all round the G .I. pipes in external work :	
19.4.1	DSR	25 mm diameter pipe	Metre
19.4.2	DSR	40 mm diameter pipe	Metre
19.5		Providing and fixing gunmetal gate valve with CI wheel of approved quality (Screwed end) (PN16 Rating)	
19.5.1	DSR	25mm nominal bore	Each
19.6		Constructing masonry Chamber 90x90x100 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :	
19.6.1	DSR	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each
19.7		Constructing masonry Chamber 60x45x50 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for water meter complete with C.I. double flap surface box 400x200x200 mm (inside) with locking arrangement and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand:10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :	
19.7.1		With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each
19.7.1.1	DSR	Extra for depth for Chamber	
19.7.1.1.1		Size 90x90 cm	
19.8	DSR	With common burnt clay F .P .S. (non modular) bricks of class designation 7.5	Meter
19.8.1		Supply and painting GI pipe with two coat of bitumastic paint wrapping with one layer of polyethene tape of 400 micron thickness and applying a final coat of bitumastic paint.	
19.8.1.1.	Non DSR	40 mm diameter pipe	Metre
20		EXTERNAL SEWERAGE SYSTEM	
20.1		Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :	
20.1.1		All kind of soil	
20.1.1.1	DSR	Pipes, cables etc, exceeding 80mm dia but not exceeding 300 mm	Metre

		dia	
20.2		Extra for excavating trenches for pipes, cables, etc. in ordinary/hard rock exceeding 1.5 m in depth but not exceeding 3 m. (Rate is over corresponding basic item for depth up to 1.5 metre).	
20.2.1		All kind of soil	
20.2.1.1	DSR	Pipes, cables etc., exceeding 80mm dia but not exceeding 300mm dia	Metre
20.3		Providing, laying and jointing double wall corrugated (DWC) HDPE pipe including testing of joints etc. complete conforming to IS 16908 . DWC Pipe SN-8 with Coupler.	
20.3.1	Non DSR	150 mm diameter	Metre
20.3.2	Non DSR	300 mm diameter	Metre
20.4		Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) up to all round of DWC pipes including bed concrete as per standard design :	
20.4.1	DSR	150 mm diameter	Metre
20.4.2	DSR	300 mm diameter	Metre
20.5.		Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :	
20.5.1		Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg):	
20.5.1.1.	DSR	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each
20.6		Extra for depth for manholes :	
20.6.1		Size 90x80 cm	
20.6.1.1	DSR	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Meter
20.7		Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :	

20.7.1		0.91 mm deep with SFRC Cover and frame (heavy duty , HD- 20 grade designation) 560 mm internal dia confirming of to I.S 12592 total weight of cover and frame not less than 182.Kg. fixed in cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering shuttering all complete.(Excavation, foot rest and 12 mm thick plaster at the external surface shall be paid for separately)	
20.7.1.1.	DSR	with common burnt clay F.P.S.(non module) brick of class designation 7.5	Each
20.8		Extra depth for circular type manhole 0.91m internal dia (at bottom) beyond 0.91 m to 1.67 m.	
20.8.1	DSR	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Meter
20.9	DSR	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	Each
20.9.1		Providing sand cast iron drop connection externally for 60 cm drop from branch sewer line to main sewer manhole including inspection and cleaning eye with chain and lid, sand cast iron drop pipe and bend encased all-round with cement concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) with all centering and shuttering required, cutting holes in walls and making good with brick work in cement mortar 1:4 (1 cement : 4 coarse sand) plastered with cement mortar 1:3 (1 cement : 3 coarse sand) on inside of the manhole wall, lead caulked joints between sand cast iron pipes and fittings, stiff cement mortar 1:1 (1 cement : 1 fine sand) joints between sand cast iron tee and S.W . pipe, making required channels complete as per standard design and specifications:	
20.9.1.1	DSR	150 mm dia sand cast iron drop connection	each
20.10		Extra for depths beyond 60 cm of sand cast iron drop connection complete:	
20.10.1	DSR	For 150 mm dia sand cast iron drop connection	metre
20.11		Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :	
20.11.1	DSR	with common burnt clay F.P.S.(non modular) bricks of class designation 7.5	Each
20.12		Extra for depth beyond 45 cm of brick masonry chamber :	
20.12.1		For 455x610 mm size	

20.12.1.1	DSR	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre
21		EXTERNAL STORM WATER DRAINS	
21.1		Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :	
211.1		All kind of soil	
21.1.1.1	DSR	Pipes, cables etc, exceeding 80mm dia but not exceeding 300 mm dia	Metre
21.2		Extra for excavating trenches for pipes, cables, etc. in ordinary/hard rock exceeding 1.5 m in depth but not exceeding 3 m. (Rate is over corresponding basic item for depth up to 1.5 metre).	
21.2.1		All kind of soil	
21.2.1.1.	DSR	Pipes, cables etc., exceeding 80mm dia but not exceeding 300mm dia	Metre
21.3		Providing, laying and jointing double wall corrugated (DWC) HDPE pipe including testing of joints etc. complete conforming to IS 16908 . DWC Pipe SN-8 with Coupler.	
21.3.1	Non DSR	150 mm diameter	Metre
21.4		Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round DWC pipes including bed concrete as per standard design:	
21.4.1	DSR	150 mm dia pipe	Metre
21.5		Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight D.I. cover with frame of 300 x300 mm size (inside) weight of cover & frame to be not less than 4.5 and 2.7 kg respectively as per standard design.	
21.5.1	DSR	100X100 mm p type With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Nos.
21.6		Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :	
21.6.1		Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg):	
21.6.1.1.	DSR	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each
21.6.1.1.		Extra for depth for manholes:	

1			
21.7		Size 90x80 cm	
21.7.1	DSR	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Meter
21.8		Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :	
21.8.1		0.91 mm deep with SFRC Cover and frame (heavy duty , HD- 20 grade designation) 560 mm internal dia confirming of to I.S 12592 total weight of cover and frame not less than 182.Kg. fixed in cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering shuttering all complete.(Excavation, foot rest and 12 mm thick plaster at the external surface shall be paid for separately)	
21.8.1.1	DSR	with common burnt clay F.P.S. (non module) brick of class designation 7.5	Each
21.9		Extra depth for circular type manhole 0.91m internal dia (at bottom) beyond 0.91 m to 1.67 m.	
21.9.1	DSR	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Meter
21.10		Constructing brick masonry circular manhole 1.22 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement :4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :	
21.10.1		1.68 m deep with SFRC Cover and frame (heavy duty HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately) :	
21.10.1.1	DSR	with common burnt clay F.P.S. (non module) brick of class designation 7.5	Each
21.11		Extra depth for circular type manhole 1.22 m internal dia (at bottom) beyond 1.68 m to 2.29 m :	
21.11.1	DSR	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Meter

21.12		Providing sand cast iron drop connection externally for 60 cm drop from branch sewer line to main sewer manhole including inspection and cleaning eye with chain and lid, sand cast iron drop pipe and bend encased all-round with cement concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) with all centering and shuttering required, cutting holes in walls and making good with brick work in cement mortar 1:4 (1 cement : 4 coarse sand) plastered with cement mortar 1:3 (1 cement : 3 coarse sand) on inside of the manhole wall, lead caulked joints between sand cast iron pipes and fittings, stiff cement mortar 1:1 (1 cement : 1 fine sand) joints between sand cast iron tee and S.W . pipe, making required channels complete as per standard design and specifications :	
21.12.1	DSR	150 mm dia sand cast iron drop connection	each
21.13.		Extra for depths beyond 60 cm of sand cast iron drop connection complete:	
21.13.1	DSR	For 150 mm dia sand cast iron drop connection	metre
21.14	DSR	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	Each
22.1	DSR	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including getting out and disposal of excavated earth up to 50 m and lift up to 1.5 m, as directed by Engineer-in- Charge:	
22.1.1		All kinds of soil	Sqm
22.2		Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	
22.2.1	DSR	With material conforming to Grade-II (size range 53 mm to 0.075 mm) having CBR Value-25	Cum
22.3	DSR	Providing, laying, spreading and compacting graded stone aggregate (size range 53 mm to 0.075 mm) to wet mix macadam (WMM) specification including premixing the material with water at OMC in for all leads & lifts, laying in uniform layers with mechanical paver finisher in sub- base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	Cum

22.4	Non DSR	Providing and fixing 100x100x80 mm Granite Cobble stone of approved shade, for paving in floors, drains etc. laid over 45mm thick sand bed, filling the joints with sand as per required size and pattern including ruled pointing etc. complete as per direction of Engineer-In Charge. (F41)	Sqm
22.5	DSR	Providing and laying 500x500x40 mm thick Turf paver (Turf pave XD) on 150 mm thick sub grade of compacted bed of 20 mm thick nominal size stone aggregate and base course and filling with 150 mm thick jamuna sand, including spreading, well ramming, consolidating and finishing smooth etc. all complete as per direction of Engineer-in-charge.	Sqm
23		SOFTSCAPE WORKS	
23.1	DSR	Supplying and stacking of good earth at site including royalty and carriage up to 5 km lead complete (earth measured in stacks will be reduced by 20% for payment).	cu.m
23.2	DSR	Supplying and stacking at site dump manure from approved source, including carriage up to 5 km lead complete (manure measured in stacks will be reduced by 8% for payment):	cu.m
23.3	DSR	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge	cu.m
23.4	Non DSR	Supplying and stacking of fertilizers at site including royalty and carriage.	kg
23.5	DSR	Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling the excavated earth after breaking clods and mixing with sludge or manure in the ratio of 8:1 (8 parts of stacked volume of earth after reduction by 20%: one part of stacked volume of sludge or manure after reduction by 8%), flooding with water, filling with earth if necessary, watering and finally fine dressing, leveling etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading and leveling as directed, within a lead of 50 m, lift up to 1.5 m complete (cost of sludge, manure or extra earth to be paid for separately)	Nos.
23.5		Excavating to a depth of 0.30m removing all foreign bodies over 50 mm dia, refilling with the mix of earth and manure in ratio 3:1, grade surface to finish levels, as indicated on grading plans. All finished areas shall slope to drain. Where no grades are shown, the areas shall have a smooth and continual grade between existing or fixed controls (such as walks, curbs, catch basins, elevations at steps or building) and levels shown on plans. Roll, scarify, rake and level as necessary to obtain true, even grassing surfaces. All finish grades shall meet approval of the Project Engineer before grassing is done.	Sqm
		Grassing with selection No. 1/ Doob grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn, free from weeds and fit for mowing including supplying good earth, if needed (the grass and good earth shall be paid for separately).	
	DSR	With grass Turf (Mexican grass) Carpet	
24		Supply & Plantation of Shrubs	

		Supply & Plantation of Shrubs and Groundcovers as mentioned below rates includes Taxes, Supply at site and transportation	
24.1	Non DSR	Botanical Name - <i>Ixora coccinea</i> Height - 450mm Spread - 300 mm	No's
24.2	Non DSR	Botanical Name - <i>Callistemon citrinus</i> Height - 900mm Spread - 600 mm	No's
24.3	Non DSR	Botanical Name - <i>Clerodendrum inerme</i> Height - 450mm Spread - 300 mm	No's
24.4	Non DSR	Botanical Name - <i>Duranta erecta</i> Height - 450mm Spread - 300 mm	No's
24.5	Non DSR	Botanical Name - <i>Hibiscus rosa-sinensis</i> Height - 750mm Spread - 450 mm	No's
24.6	DSR	<i>Lolium</i> species (Mexican grass)	Sqm
25		Supply & Plantation of Trees	
		Supply & Plantation of Trees as mentioned below rates includes Taxes, Supply at site and transportation	
25.1	Non DSR	Botanical Name - <i>Bauhinia variegata</i> Girth - 300 mm Height - 1000 mm	No's
25.2	Non DSR	Botanical Name- <i>Butea monosperma</i> Girth - 200 Height - 2000mm	No's
25.3	Non DSR	Botanical Name - <i>Cassia fistula</i> Girth - 80 mm Height - 1800mm	No's
25.4	Non DSR	Botanical Name - <i>Plumeria alba</i> Girth - 150 mm Height - 3000mm	No's
25.5	Non DSR	Botanical Name - <i>Samanea saman</i> Girth - 100 mm Height - 3500mm	No's
25.6	Non DSR	Botanical Name - <i>Syzygium cumini</i> Girth - 200 mm Height - 250mm	No's
25.7	Non DSR	Botanical Name - <i>Tabebuia rosea</i> Girth - 80 mm Height - 2150 mm	No's
25.8	Non DSR	Botanical Name - <i>Terminalia mentaly</i> Girth - 15 mm Height - 3000 mm	No's

**SCHEDULE OF ELECTRICAL AND ELECTRO-MECHANICAL WORKS ITEMS WITH
DETAILED NOMENCLATURE**

Sl. No.	DSR / NDSR	Description	Unit
		Sub-Head I - Wiring /Switches & Sockets/Modular Boards	
1		Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.	
1.1	DSR	Group A	Each
2		Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable in surface/ recessed PVC conduit, and earthing the point with 1.5 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable etc. as required.	
2.1	DSR	Group A	Each
3	DSR	Wiring for light/ power plug with 2X4 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit along with 1 No. 4 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable for loop earthing as required.	Meter
4	DSR	Wiring for light/ power plug with 4X4 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit along with 2 Nos. 4 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable for loop earthing as required.	Meter
5		Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required	
5.1	DSR	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Meter
5.2	DSR	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Meter
5.3	DSR	2 X 10 sq. mm + 1 X 6 sq. mm earth wire	Meter
5.4	DSR	4 X 6 sq. mm + 2 X 6 sq. mm earth wire	Meter
5.5	DSR	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Meter
6		Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.	
6.1	DSR	3x1.5 Sq.mm	Meter
7		Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.	
7.1	DSR	25mm	Meter

8		Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.	
8.1	DSR	20mm	Meter
8.2	DSR	25mm	Meter
8.3	DSR	32mm	Meter
8.4	DSR	50mm	Meter
9		Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.	
9.1	DSR	5/6 A switch	Each
9.2	DSR	15/16 A switch	Each
9.3	DSR	3 pin 5/6 A socket outlet	Each
9.4	DSR	6 pin 15/16 A socket outlet	Each
9.5	DSR	Telephone Socket outlet	Each
10	DSR	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Each
11	DSR	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	Each
12		Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.	
12.1	DSR	1 Module	Each
12.2	DSR	3 Module	Each
12.3	DSR	4 Module	Each
12.4	DSR	6 Module	Each
12.5	DSR	12 Module	Each
13	DSR	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable etc. as required.	Each
Sub-Head II - DBs, MCBs, RCCBs, MCCBs, Industrial Sockets, EarthPits, Cable Trays & Cable glands			
14		Providing and fixing following rating and breaking capacity MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.	
14.1	DSR	4Pole, MCCB, 125A, 36 KA	Each

15		Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/ Isolator)	
15.1	DSR	4 way (4 + 12), Double door	Each
15.2	DSR	6 way (4 + 18), Double door	Each
15.3	DSR	8 way (4 + 24), Double door	Each
16		Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 volts, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 amps tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCB's (but without MCB's and incomer) as required . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.)	
16.1	DSR	12 way (4+36), double door	Each
17		Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.	
17.1	DSR	Single pole	Each
17.2	DSR	Double pole (25A/32A)	Each
17.3	DSR	Triple pole (16A/25A/32A)	Each
17.4	DSR	Triple Pole and Neutral (32A)	Each
18	DSR	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each
19		Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.	
19.1	DSR	25 A	Each
19.2	DSR	40A	Each
20	DSR	Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top alongwith 20 amps "C" curve, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Each
21	DSR	Supplying and fixing 30 amps, 415 volts, TPN industrial type, socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 30 amps "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required	Each
22		Supplying and installing following size of perforated painted with powder coating GI cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with GI suspenders including bolts & nuts, painting suspenders etc. as required.	
22.1	DSR	150 mm width X 50 mm depth X 1.6 mm thickness	Meter

22.2	DSR	300 mm width X 50 mm depth X 1.6 mm thickness	Meter
22.3	DSR	450 mm width X 50 mm depth X 2 mm thickness	Meter
23	DSR	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt as required.	Set
24	DSR	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Set
25	DSR	Supplying and laying 25 mm X 5 mm Copper strip at 0.50 meter below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50 mm)	Metres
26	DSR	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 meter below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50 mm)	Meter
27	DSR	Providing and fixing 25 mm X 5 mm Copper strip on surface or in recess for connections etc. as required	Meter
28	DSR	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required	Meter
29	DSR	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	Meter
30		Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size in the existing RCC/ HUME/ METAL pipe as required.	
30.1	DSR	Upto 35 sq. mm	Meter
30.2	DSR	Above 35 sq. mm and upto 95 sq. mm	Meter
30.3	DSR	Above 95 sq. mm and upto 185 sq. mm	Meter
31		Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required.	
31.1	DSR	Above 95 sq. mm and upto 185 sq. mm	Meter
32		Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size on wall surface as required.	
32.1	DSR	Upto 35 sq. mm (clamped with 1mm thick saddle)	Meter
32.2	DSR	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	Meter
32.3	DSR	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp)	Meter
33		Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required.	

33.2	DSR	Upto 35 sq. mm (clamped with 1mm thick saddle)	Meter
33.2	DSR	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	Meter
33.2	DSR	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp)	Meter
34		Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 kV grade as required.	
34.1	DSR	3½ X 25 sq. mm (28mm)	Each
34.2	DSR	3½ X 35 sq. mm (32mm)	Each
34.3	DSR	3½ X 70 sq. mm (38mm)	Each
34.4	DSR	3½ X 120 sq. mm (45mm)	Each
34.5	DSR	4 X 10 sq. mm (25 mm)	Each
34.6	DSR	4 X 16 sq. mm (28 mm)	Each
Sub-Head III - Hume Pipes, Cable Chambers			
35		Providing, laying and fixing following dia RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) and refilling etc. as required.	
35.1	DSR	100 mm dia	Meter
35.2	DSR	150 mm dia	Meter
35.3	DSR	300 mm dia	Meter
36		Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc.direct in ground (75 cm below ground level) including excavation and refilling the trench but excluding sand cushioning and protective covering etc., complete as required.	
36.1	DSR	63 mm dia (OD-63mm & ID-51 mm nominal)	Meter
37	DSR	Cutting holes of required size in brick masonry wall for fixing of exhaust fan including providing and fixing 300 mm dia PVC pipe conforming BIS-12818 and making good the same etc. complete as per direction of Engineer-in-charge.	Each
38		Constructing masonry Chamber 60x60x75 cm, inside in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for fire hydrants, with C.I. surface box 350x350 mm top and 165 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand:10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :	
38.1	DSR	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	Each

Sub-Head IV - BLDC Ceiling Fans and Exhaust Fans			
39		Brush Less Direct Current (BLDC) Fan with Remote: Supply, Installation, Testing and Commissioning of ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. metal(Aluminium alloy) blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, steel/Al body. Power Factor not less than 0.9, Service Value(CM/M/W) minimum as below, 350 RPM (tolerance as per IS : 374-2019), THD (Total Harmonic Distortion) less than 10%, remote (preferably mobile app based) for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 0C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC supply Ceiling Fan compliant to IS 374:2019 fan i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required.	
39.1	DSR	1200mm, service value ≥ 6.0 CM/Min/Watt, air delivery 210 CM/Min (Minimum)	Each
40	NDSR	Supply, Installation, Testing and Commissioning of 250mm Sweep of BLDC exhaust fan in the existing opening including making good the damages, connections, etc. with ISI mark as required. (Make : Atomberg/ Havells/Usha)	Each
Sub-Head V - MV Power Cables			
41		Supply, loading, Transportation, unloading at site, storage st site, shifting from storage place to site of following size of XLPE Insulated PVC Sheathed, FRLS, Aluminium Conductor armoured power cable of 1.1 KV grade conforming to IS : 7098 (Part-1) 1988 amended upto date and as per specifications.	
41.1	NDSR	3.5C x 25 Sq.mm	Meter
41.2	NDSR	3.5C x 35 Sq.mm	Meter
41.3	NDSR	3.5C x 70 Sq.mm	Meter
41.4	NDSR	3.5C x 120 Sq.mm	Meter
42		Supply, loading, Transportation, unloading at site, storage st site, shifting from storage place to site of following size of XLPE Insulated PVC Sheathed, FRLS, Copper Conductor armoured power cable of 1.1 KV grade conforming to IS : 7098 (Part-1) 1988 amended upto date and as per specifications.	
42.1	NDSR	4 Core x 4 sq. mm	Meter
42.2	NDSR	4 Core x 6 sq. mm	Meter
42.3	NDSR	4 Core x 10 sq. mm	Meter
42.4	NDSR	4 Core x 16 sq. mm	Meter
43	NDSR	Supplying and fixing of 63A rating, TPN, 415V, 10 kA, "C" curve, miniature circuit breaker (MCB) suitable for inductive load of following poles along with GI enclosure with complete connections including all necessary accessories, testing and commissioning etc. as required.	Each
Sub-Head VI - LED Light Fixtures			

44	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 3_L_SURFACE_1	Each
45	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 3_L_SURFACE_5	Each
46	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 3_L_SURFACE_11	Each
47	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 3_L_SURFACE_16 Construction Material: Aluminium Anodized Extruded 1) Dimensions (mm): 1190 X 40 X 45 2) System Lumen O/P: $\geq 3000\text{lm}$ 3) CCT: 5700K 4) Minimum System Efficacy: $\geq 150\text{lm/w}$ 5) Mounting Type: Surface/Wall 6) CRI ≥ 80 7) THD $\leq 10\%$ 8) IP Rating: IP40 9) IK:06 10) Internal Surge Protection 4KV	Each
48	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 3_L_SURFACE_20	Each

49	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 3_L_RECESSED-1	Each
50	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 3_L_RECESSED-2	Each
51	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 3_L_RECESSED-2 Emg.	Each
52	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 3_WALL_FLOODLIGHT	Each
53	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 Floor Surface Light	Each
54	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 3_WALL_FOOTLIGHT	Each

55	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 Floor Light	Each
56	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 Buzzer	Each
57	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 Chandelier	Each
58	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 3_L_STEPLIGHT	Each
59	NDSR	Supply, Installation, Testing and Commissioning of LED Luminaire with aluminium extruded profile finished in white powder coating, snap fit high translucent frosted PMMA diffuser and high reflective aluminium reflector complete with electronic driver, Power factor ≥ 0.95 , THD $\leq 10\%$, rated life of L-70@50000 hrs with system lumen output \geq lumen and system luminous efficacy $\geq 95\text{lm/W}$. The Luminaire shall have a CRI ≥ 80 3_WALL_FLOODLIGHT	Mtr

Sub-Head VII - UPS

60	<p>Online UPS- Input supply: Three Phase, Output supply: Three Phase. Supplying, installation, Testing & Commissioning of following capacity at full load (Unity Power Factor) at operating temperature 0 to 40 °C, Relative humidity 0 to 95%, Online double conversion true sine wave Uninterrupted hot swappable (allow for the replacement or addition of battery modules without shutting down the entire system) modular Power Supply (UPS) system with N+1 modules (N denotes total number of modules required for rated capacity). The UPS shall include a Rectifier, inverter, battery bank suitable for 30 minutes back up (Battery VAH capacity shall not be less than 1600 VAH per KVA of UPS rating per Hour backup time) on full load (Battery shall be VRLA, SMF in ABS Container) and Static Bypass switch along with provision for manual bypass, suitable isolation transformer for additional protection against neutral faults etc. UPS shall have inbuilt phase sequence correction. The UPS systems offered are to be of the latest technology with Digital Control Microprocessor based for reliable operation using Insulated Gate Bipolar Transistor (IGBT)'s both for the rectifier & inverter (3 Level) with PWM (Pulse Width Modulation). The quality of design, manufacturing and inspection process should confirm to the relevant International standards such as IEC/EN/VDE. The operating efficiency of the UPS systems shall be >96% while operating on battery mode and delivering quality power to the 100% non-linear loads.</p>	
	<p>Current total harmonic effect (ITHD) on the input grid shall be < 5% at 50 % load. (The required LC (inductor (L) and a capacitor (C)) filters shall be included in UPS cost), extreme power factor kit to be included to limit the input power factor (PF) to 0.99 and output power factor shall be unity (i.e. kw rating of the UPS shall be kva rating x 1), however UPS shall be suitable to take load at 0.7 lagging to 0.7 leading power factor loads. UPS shall be suitable for incoming supply AC : 3Phase 400V +/-20%, 50 Hz +/-5 Hz, AC Output voltage: 3Phase 415 Volt, 50 Hz +/- 0.2Hz, Overload capacity of 120% for 10 mins, Sine wave output. Non condensing, noise level less than 60db at 1 meter distance, protections: Input Under voltage over voltage, abnormal out voltage, battery over charging, output over current, short circuit protection, battery deep discharge protection, 10KV surge. UPS must comply with low voltage electromagnetic compatibility (EMC) achieved as per EN 6204, EN6204 Part I and Part 2, it shall be a Voltage and Frequency Independent (VFI)-type UPS. . Communication RS232/RS485/SNMP port open protocol for BMS integration, all hardware & software for IoT Communication as per approved by Engineering in charge. Required battery racks and interconnecting copper conductor cables of suitable size and connectors and all required accessories are inclusive of the cost). This system must provide a means for logging and alarming of all monitored points plus email notification. Forced air-cooling with integral inbuilt fans with redundancy (if one fan fail UPS should be</p>	

		able to handle at least 80% of the load, Noise Level 65 DB at 1 meter distance.	
		The system shall be in compliance IEC 62040- 1,2 & 3, IS: 16242 and CPWD Specification. Display Panel (minimum) (In-built 5 inch or more LC Display / LED) to display : a) Input: Voltage, current, Frequency. b) Bypass: Voltage, Frequency. c)Output: Voltage, frequency, Current. d) Battery: Voltage, Capacity. e) Load: KVA, KW, Percentage. f) Temperature: STS, Inverter, PFC. g) Event Logging & Statistical Data (On LCD/LED): UPS should capture and display up to 3000 events like: Over temperature / DC Bus Fail / Fan Fail / Fuse Fail / Overload / Short-circuit / Device Fail / Inverter Fail / Rectifier Fail / Bypass Fail, etc. h) Statistical Data: No. of power failures / Transfers to Bypass / Total Running time, etc. i) Mains Mode of Operation /Battery Mode of Operation / Bypass feeding the load / UPS Fault /Battery charging and discharging, overload, battery voltage and battery capacity. j) Audible Alarms : Mains Failure, Battery Low Alarm, UPS Overload, Fault, Shutdown, Input Over, Under Voltage, Output Over, Under Voltage, Battery Over, Under Voltage, Over Load and short circuit, Over Temperature. The UPS should have QR code which should contain drawing, test report OEM manual, Geo- Tag of manufacturing location etc.	
60.1	DSR	15KVA	Each
60.2	DSR	5kVA	Each
Sub-Head VIII - Passenger Lift			
61		<p>Supplying, installation, testing & commissioning of 8(eight) Passenger, Machine Room Less, havingspeedof1m/s in the existing lift shaft as per detailed specificationsenclosedandasfollows:(incoordinationwitharchitectas required.)</p> <p>(i) Speed: 1 m/s (ii) Floors: G + 1 (iii) Travel: 8 mtrs (approx.) (iv) Stops & opening: 2/2 v) Number of Landing Entrance - 2 (G+1) (vi) Number and position of Car Entrances - 1 (One), In front only vii) Position Of Machinery - Machine Roomless - Gearless viii) Size of Lift Well - 1800 mm (W) X 1550mm (D) ix) Lift Car Inside Size - 1100 mm (W) X 1200 mm (D) X 2300 mm (H) x) Type or Design of Lift Car - Stainless Steel (1.5 Mm) – Honeycomb xi) Car Ceiling - Car Floor - Ceiling - SS Honeycomb Finish -20 mm Recess Granite Flooring in GC Scope xii) Car Fittings - LED LIGHTS & CROSS FLOW - FAN xiii) Type Of Car Front Entrance Protection - Power Operated centre opening sliding door – stainless steel (1.5 mm) – honeycomb xiv) Land Entrance Protection - Centre Opening Sliding Door -</p>	

		Stainless Steel (1.5 Mm) – Honeycomb xv) Landing Door Frame - Stainless Steel (1.5 mm) – Honeycomb	
		xvi) Type Of Control System - Microprocessor Based Duplex Selective Collective Control With / Without Attendant xvii) Car Display - Orange Square Dot-Matrix Schrolling Display- Vertical xviii) Floor Display - Orange Square Dot-Matrix Schrolling Display Vertical ix) Automatic rescue device complete with dry maintenance free batteries i/c voice announcement system as two languages etc. complete as required. (xx) LED downlight fitting inside car capable of providing more than 150 Lux. (xxi) Full height Infra Red protection is to be provided for landing/ car doors. (xxii) Provision of Toe guards, Fireman's switch etc. (xxiii) Clear Opening & Lintel Height - 1000mm X 1200mm X 2300 mm (xxiv) Lift should be divyang Friendly, and should included all provisions like Grab Bars, Emergency Systems, etc. he control panel is placed at a reachable height (800-1000 mm) for wheelchair users. Center opening sliding door A Stainless steel hand rail not less than 600 mm long at 900 mm above floor level to be fixed in the lift car. Button in car operating panel & landing operating panel shall be having Braille Inscription & shall be fixed for the handicaped.Voice announcement system in the car to announce the position of the elevator in the hoistway as the car passes or stops at a floor served by the elevator.Lift installation shall include all safety & control features as specified in the specifications.	
61.1	NDSR	08 Passenger Lift	Set
		Sub-Head IX - LT Electrical Panels	
62	NDSR	Design, fabricate Supply, Installation, Testing and Commissioning of Dust proof , vermin proof cubical Type LT electrical panel board INDOOR type suitable for 415 Volts 3 phase 4 wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet of 2 mm thick for frame work and covers 3 mm thick for gland plates and top cover double door hinged type panels with heavy duty locks and keys including cleaning and finishing completed 7 tanking process of power coating in approved shade having 400 Amps capacity extendable type TPN Aluminium alloy bus bar of high conductivity, DMC/SMC bus bar support with short circuit withstand current capacity of 1 second for 50 KA and bottom base channel of MS section not less than 75 mm X 40 MM x 5 mm thick , fabrication shall be done transportable sections entire panel shall have a common copper earth bar of size 25 mm X 5 mm at the rear with 2 nos. of earth studs , solid connections from main bus bar to switch gears with required size of aluminium bus bar and control wiring PVC insulated copper conductor single core cable alloy , cables glands plates in two sections with multi-function digital meters (consisting of Voltage,	Set

Amps, KWH, KW, PF parameters) on Incoming and Breaker ON/Off/Trip indicating lamps with push buttons, control MCBs, set of RYB phase indicating lamps with 2 A control MCBs on each out going to be provided with the following switch gears connected interconnected with control wiring of size 2.5 sq mm single core copper stranded conductor / wire all as directed by Engineer-in-charge. Source-I: Incoming

- a) 400A, FP, 50KA MCCB with micro processorc Based OC & SC Releases (MTX 1.0) - 1 No. As Incomer
- b) Rotaray operating mechanism for 400 A -01 No.
- c) 400 A Spreader links -01 No
- d) Multifunction meter with RS 485 -01 No.
- e) 400/5A CT Coils - 03 Nos

Source-II : Electrical and Mechanical Locking

- 1) 250A, FP, 36KA MCCB with micro processorc Based OC & SC Releases (MTX 1.0) - 1 No.
- 2) Rotaray operating mechanism for 250 A -01 No.
- 3) 250 A Spreader links -01 No
- 4) Electrical and Mechanical interlocking - 01 No.
- 5) Multifunction meter with RS 485 -01 No.
- 6) 250/5A CT Coils - 06 Nos
- 7) 6A SP 10 KA Control MCB (C curve) -06 Nos
- 8) RYB indication lamps -06 Nos
- 9) ON/OFF/Trip Indication lamps -03 Nos
- 10) Auxilliary Contactors - 03 Nos
- 11) CT Short Links - 03 Nos
- 12) Neutral Links-as required

- 13) SPD+MCB - 01 No.
- 12) 125A FP36KA MCCB with thermal magnetic Based OC & SC Releases - 01 No.
- 13) Rotary Handle-1 No.
- 14) Speder Links- 01 No.
- 15) Mechanical interloacking locks - 03 Nos.

OUTGOING Feeders

- 125 Amps, FP, 36 KA MCCB with Thermal Magnetic based OC & SC releases (DY125U) -03 Nos
- Rotary Handle - 03 Nos
- Spreader links- 03 Nos
- Multifunction meter with RS 485 -03 Nos
- 125/5A CT Coils - 09 Nos
- 6A SP Control MCB - 18 Nos
- Indication lamps (R,Y,B) - 09 Nos
- ON/OFF/Trip Indication lamps -09 Nos
- Auxiallary Contactors -03 Nos

63		<p>Design, fabricate Supply, Installation, Testing and Commissioning of Augmentation Panel in AC Plant-5: Dust proof , vermin proof cubical Type LT electrical panel board INDOOR type suitable for 415 Volts 3 phase 4 wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet of 2 mm thick for frame work and covers 3 mm thick for gland plates and top cover double door hinged type panels with heavy duty locks and keys including cleaning and finishing completed 7 tanking process of power coating in approved shade having 300 Amps capacity extendable type TPN Aluminium alloy bus bar of high conductivity, DMC/SMC bus bar support with short circuit withstand current capacity of 1 second for 50 KA and bottom base channel of MS section not less than 75 mm X 40 MM x 5 mm thick , fabrication shall be done transportable sections entire panel shall have a common copper earth bar of size 25 mm X 5 mm at the rear with 2 nos. of earth studs , solid connections from main bus bar to switch gears with required size of aluminium bus bar and control wiring PVC insulated copper conductor single core cable alloy , cables glands plates in two sections with multi-function digital meters (consisting of Voltage, Amps, KWH ,KW , PF parameters) on Incoming and Breaker ON/Off/ Trip indicating lamps with ,push buttons, control MCBs , set of RYB phase indicating lamps with 2 A control MCBs on each out going to be provided with the following switch gears connected interconnected with control wiring of size 2.5 sq mm single core copper stranded conductor / wire all as directed by Engineer-in-charge.</p>	
63.1	NDSR	<p>OUTGOING Feeder 250A, FP, 36KA MCCB with micro processorc Based OC & SC Releases (MTX 1.0) - 1 No. Rotaray operating mechanism for 250 A -01 No. 250 A Spreader links -01 No.</p>	Set
Sub-Head- X : New 100 kVA DG Set along with AMF Panel and LT Distribution Panel			
64		<p>Supplying, Installation, Testing & Commissioning of 'Silent Type Diesel Generating set as per CPCB IV + or better norms along with having Prime Power Rating of KVA as below, 415 volts at 1500 RPM, 0.8 lagging power factor at 415 V suitable for 50 Hz, 3 phase system & for 0.85 Load Factor, including testing at factory and site with fuel, load for test and other necessary arrangements Complete as per CPWD specifications, should have QR code which should contain drawing, test report OEM manual, Geo- Tag of manufacturing location, rating plate as per relevant IS Code etc. and consisting of the followings:</p>	

	<p>(a) Diesel Engine: Tourbo charged Diesel engine 4 stroke water cooled, multi cylinder, dynamically balanced fly wheel, electric start of suitable BHP at 1500 RPM suitable for above output of alternator at 40 °C, 50% RH & at 1000 Meter MSL , capable of taking 10% over loading for one hour after 12 hours of continuous operation. The engine will be with Electronic governor, Dry type Air filter with service indicator, first filling of engine fuel (after commissioning) lubricating Oil, Coolant and other consumables complete with all the required accessories, the Electronic governor shall be as per ISO 8528.The engine shall comply to the latest CPCB norms (CPCB IV + or better) and Conforming to BS 5514, BS 649, IS 10000, IS 10002, IS 13018 and as per CPWD specifications. Make : Kirloskar / Cummins/ Greaves Cotton/ Leyland/ Ruston/ Caterpillar.</p> <p>(b) Engine mounted Instrument Panel fitted with and having digital disPlate for following: (i) Start-stop switch with key (ii) Water temperature indication (iii) Lubrication oil pressure indication (iv) Lubrication oil temperature indication (v) Battery charging indication and Voltage indication (vi) RPM indication(vii) Over speed indication (viii) Low lubrication Oil trip indication(ix) Engine Running Hours indication (x) Fuel Level. Make : Kirloskar Electric / Jyoti / NGEF / Crompton / Standard / Cumins / Stamford / Leroy Somer / Perkins (Catterpillar) /Stamford</p> <p>(C) Alternator: Synchronous alternator rated of appropriate KVA, 415 volts at 1500 RPM, 3 phase 50 Hz, AC supply with 0.8 lagging power factor at 40 Degree C, 50% RH & at 1000 Meter MSL. The alternator shall be having Screen Protected Drip Proof (SPDP) enclosure IP23, brushless, continuous duty dynamically balanced rotor, capable of taking 10% over loading for one hour after 12 hours of continuous operation, self cooled,self-excited and self-regulated through AVR conforming to IS13364(Part 2)/IS: 4722/BS 2613 suitable for tropical conditions and with class- H insulation.</p> <p>(d) Base Frame & Foundation: Both the engine and alternator shall be mounted on suitable base frame made of MS channel with necessary reinforcement which shall be installed on suitable cement concrete foundation and vibration isolation arrangement as per recommendations of manufacturer.</p> <p>(e) FUEL TANK :Daily service fuel tank of suitable liters capacity as per CPWD Specifications, fabricated out of 3 mm thick M.S. sheet complete with all standard accessories and fuel piping between fuel tank and diesel engine with MS class 'C' pipes of suitable dia. Complete with valves, level indications & accessories as required as per specifications.</p> <p>(f) Exhaust System: Dry exhaust manifold with hospital type exhaust silencer and catalytic convertor.</p>	
--	---	--

	<p>(g) Starting System: 12V/24V DC starting system comprising of starter motors: voltage regulator and arrangement for initial excitation complete with suitable numbers of batteries (180 AH capacity lead acid SMF type) as required as per specifications. The battery shall be housed inside the acoustic enclosure of DG Set.</p>	
	<p>(h) Acoustic and weather proof enclosure with arrangement for fresh air intake for cooling of the engine & alternator, extraction, discharging hot air in to the atmosphere and the temperature rise inside the enclosure, noise level outside enclosure. The acoustic enclosure should be suitable for cable connection/connection through bus-trunking. Such arrangements on acoustic enclosure should be water proof & dust-proof conforming to IP-65 protection. The enclosure shall be as per CPCB IV + or better norms etc. and as per CPWD specifications.</p>	
	<p>(i) AMF Panel: Free standing floor mounted IP 42 automatic mains failure control panel including auto by-pass, suitable for KVA as below for silent type DG set complete with relays, timers, set of CTs for metering & protection and energy analyser to indicate currents, phase and line voltages, frequency, power factor, KWH, Kilo Volt Ampere Reactive Hour (KVARH), KVA (Phase & Total), KW & provision for overload, short circuit, restricted earth fault, under frequency, power (aluminium) and control (copper) cabling of suitable size upto 15 meter between AMF panel, LT Panel and DG Set including connection interconnection etc. as required, all complete and inter locking and communication/ Ethernet /RS485/SNMP port open protocol for BMS integration including suitable software, the panel shall be of DG Set OEM make etc. as per approved by Engineering in charge and including the following:</p> <ol style="list-style-type: none"> 1. Suitable numbers and appropriate capacity 4 pole motorised electrically operated draw out with cradle type 3 position ACB/ MCCB with electronic release for O/C & E/F and shunt trip. 2. Auto/Manual/Test/Off selector switch 3. Protection for under and over voltage phase reversal (2 nos Over voltage relay, 2 Nos. reverse power relay and 2 Nos. under voltage relay). 4. 3 Sets of current transformers 15 P 10 accuracy for protection and 15 VA class-I for metering 5. Energy analyser unit to indicate current, Voltage(L-N & L_L), kW, kVA (Phase & Total), Frequency, KWH, PF 6. LED Indicating lamps for load on mains and load on set 7. Fuse/ MCB for instruments 8. Battery charger, complete with transformer/ rectifier, D.C. voltmeter and ammeter, selector switch for trickle, off and boost and current adjustment. 9. Main supply failure monitor 10. Supply failure timer 11. Restoration timer 12. Control unit with three impulse automatic engine start/stop and failure to start lockout. 	

		<p>13. Impulse counter with locking and reset facility.</p> <p>14. ON/OFF/Control circuit switch with indicator</p> <p>15. Audio/Video annunciation for</p> <p>(i) High water temperature</p> <p>(ii) Low lubricating oil pressure</p> <p>(iii) Engine over speed</p> <p>(iv) Engine fails to start</p> <p>(v) Full load/maximum load warning</p> <p>16. Protection for over/under Frequency, Loss of AC sensing, Over Current, Unbalancing load with suitable number of relays and accessories</p> <p>17. Maintenance notification based on Engine Run Hour & due date.</p> <p>18. Load Management through PLC to achieve auto opening and closing of incomer breakers, bus coupler switching of essential panel, interlocking providing signal to AMF Panel for load status and AMF shall give command to DG Set to auto start / auto stop depending upon load status and requirement etc. and necessary hardware and software required to perform the operation shall be provided by the contractor including all control wiring.</p>	
64.1	NDSR	100 KVA along with LT AMF Panel (200A)	Set
65	NDSR	<p>Supplying, installation, testing & commissioning of floor mounted cubical type Panel suitable for 415 V, 3 Phase, 4 Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2 mm thick for frame work and covers, 3 mm thick for gland, plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having following capacity extensible type TPN aluminium alloy bus bars of high conductivity, DMC / SMC bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 25 KA for 1 Sec., bottom base channel of MS section not less than 100 mm x 50 mm x 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 25 mm x 5 mm at the rear with 2 Nos. earth stud, solid connections from main bus bar to switch gears, switch gears to cable alley with required size of Al. bus bars and control wiring with 2.5 .sq. mm. PVC insulated copper conductor S/C cable, cable alleys, cable gland plates in two half, i/c providing following switch gears confirming IEC 61439 :- Configuration Detail as below.</p> <p>INCOMING</p> <p>1 No. 200 amp 25 kA TPN MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with extended rotary Handle complete with</p> <p>Digital Multifunctional Meter to record demand (KVA), energy (KWH & KVAH), power factor, current (in each phase and the neutral), voltage (between phases and between each phase and neutral), Total harmonic distortion (THD) as a percentage of total current, comprising of suitable communication port for connection to IBMS. and 1 set of 3 Nos. CT of 200 A/5 A Class 1 accuracy and 10 VA burden.</p> <p>-- 1 Set</p>	Set

		3 Nos. LED Phase Indication Lamp	
		2 Nos. LED Indication Lamp (Red for ON and GreenOFF)	
		BUSBAR	
		Electrolytic high conductivity aluminium three phase and neutral busbars rated at 250 amps having interleaving design throughout having a maximum current density as per IEC 61439 suitable to withstand symmetrical fault level of 25 kA at 415 volts. The neutral busbar is to be of 50% capacity.	
		OUTGOING UNITS	
		2 Nos. 125 amp 10 kA 4P MCCB with thermal over load and magntic short circuit release	
		4 Nos. 63 amp 10 kA 4P MCCB with thermal over load and magntic short circuit release	
		7 Nos. 63 amp 10 kA TPN MCB with thermal over load and magntic short circuit release	
		2 Nos. 40 amp 10 kA TPN MCB with thermal over load and magntic short circuit release	
		1 No. 32 amp 10 kA DP MCB with thermal & magnetic release	
		The Panel complete with all interconnections, risers, internal wiring, labels etc. as required as per above	
66		Supply, Installation, Testing and Commissioning of Outdoor type Lighting panel along with Digital Timer arrangement with Automation system associated with suitable wiring as follows:	Set
		A) Incomer Feeder :	
		1) 63A FP, 25KA, MCCB with TM O/C, S/C - 01 No.	
		2) Extended Rotary Handle - 01 No.	
		3) Auxilary + Alaram Contact Block - 01 No.	
		4) RYB Phase Indication Lamps - 01 No.	
		5) ON, OFF, Trip, Indication Lamps - 01 No.	
		6) 6A SP, 10KA, MCB, C Curve - 04 Nos	
		7) Neutral Link (Make : Reputed) - 02 No's	
		A) Outgoing Feeder - 01 :	
		1) 40A FP, 100mA, RCBO - 01 No.	
		2) 40A FP Power Contactor AC-1 - 01 No.	
		3) 2NO+2NC Add on Aux Contact Block - 01 No.	
		4) 24 Hours Digital Timer - 01 No.	
		5) ON, OFF, Indication Lamps - 01 No.	
		6) Start, Stop Push buttons - 01 No.	
		7) Auto /Manual Selector Switch - 01 No.	
		8) 6A SP, 10KA, MCB, C Curve - 01 No.	
		9) Neutral Link (Make : Reputed) - 01 No. - 01 No.	
		10) 32A DP, 10KA, MCB, C Curve - 02 No's	
		11) 16A SP, 10KA, MCB, C Curve - 03 No's	
		B) Outgoing Feeder - 02 :	
		1) 40A FP, 100mA, RCBO - 01 No.	
		2) 40A FP Power Contactor AC-1 - 01 No.	

		3) 2NO+2NC Add on Aux Contact Block - 01 No.	
		4) 24 Hours Digital Timer - 01 No.	
		5) ON, OFF, Indication Lamps - 01 No.	
		6) Start, Stop Push buttons - 01 No.	
		7) Auto /Manual Selector Switch - 01 No.	
		8) 6A SP, 10KA, MCB, C Curve - 01 No.	
		9) Neutral Link (Make : Reputed) - 01 No.	
		10) 16A TP, 10KA, MCB, C Curve - 02 No's	
		11) 16A SP, 10KA, MCB, C Curve - 03 No's	
		C) Outgoing Feeders	
		1) 16A DP, 10KA, MCB, C Curve - 03 No's	
		Sub-Total of Sub-Head-X Amount (Rs.):	
Sub-Head XI : Lightning Protection :			
67		Supply, Laying, Installation, testing and commissioning of the following Items:	
67.1	NDSR	Parallel Connectors for (500mm air terminal) connecting two conductors in parallel manner. Material- StSt, with clamping range- Rd / Rd 7-10 mm & Complied as per Standard EN 62561-1.	Each
67.2	NDSR	Universal connector of Material- StSt, with clamping range- 8-10mm, with truss head screw M 10x35 mm & Complied as per Standard EN 62561-1.,	Each
67.3	NDSR	Roof Conductor of Diameter Ø- 8 mm, Cross-section- 50 mm ² , of Material- AlMgSi & Complied as per Standard EN 62561-2.,	meter
67.4	NDSR	Conductor holder for Parapet wall/Side wall of Material- StSt, for Rd 8-10 mm Fl 20 mm, Height- 20 mm & Complied as per Standard EN 62561-4 With accessories Screw and Gitty, Material SS (M5 x 50mm),	Each
67.5	NDSR	Roof Conductor of Diameter Ø- 8 mm, Cross-section- 50 mm ² , of Material- AlMgSi & Complied as per Standard EN 62561-2.,	meter
67.6	NDSR	Conductor holder for Parapet wall/Side wall of Material- StSt, for Rd 8-10 mm Fl 20 mm, Height- 20 mm & Complied as per Standard EN 62561-4 With accessories Screw and Gitty, Material SS (M5 x 50mm),	Each
67.7	NDSR	UNI Disconnecting Clamps with intermediate plate for round and flat conductor of Material- StSt, Material thickness- 2.5 mm, with clamping range- Rd / Fl 8-10 / 30 mm, & Complied as per Standard EN 62561-1.	Each
67.8	NDSR	GI flat (30x3.5mm) Strip. Having width- 30mm, Thickness- 3.5mm, Material- Hot dipped Galvanized Iron, Cross Section- 105mm ² Coating thickness- Avg. 50 microns. & Complied as per IEC 62561-2.,	meter
67.9	NDSR	GI strip holder of material- GI, having height- 19mm, Slot Size- 25x6 mm.,	Each
67.10	NDSR	Copper bonded rod with Low carbon steel, high tensile strength copper bonded rod with min 254 microns of copper plating, UL listed with company name marked on rod. Diameter- 17.2 mm, Length- 3 meters, Material- Copper Bonded, Coating thickness- 250 microns, min, Approvals- Tested acc. IEC / EN 62561-2, UL 467.,	nos.

67.11	NDSR	Environment friendly, RoHS certified, low resistivity Ground Enhancement material in 22.6 Kg pack to fill the bore area around the rod,	nos.
67.12	NDSR	StSt 316 grade clamp to terminate the load on earth electrode. Dimension- 160x35x3 mm.,	nos.
67.13	NDSR	Poly plastic pit cover of material- Polymer Body & Cover, Product Code- HEP, Dimensions- 308 mm (L) x 308 mm (W) X 214 mm (H), Weight 2.5 kg (5.50 LBS),	nos.
67.14	NDSR	GI flat (30x3.5mm) Strip. Having width- 30mm, Thickness- 3.5mm, Material- Hot dipped Galvanized Iron, Cross Section- 105mm ² Coating thickness- Avg. 50 microns. & Complied as per IEC 62561-2.,	meter

Sub-Head XII : Fire Alarm System (FAS) :

68	NDSR	Supplying and Installation of Control Panel for Addressable Fire Alarm System as required. (Make : Honeywell Morley IAS)	Each
69	NDSR	Supplying and Installation of Addressable MCP as required. (Make : Honeywell Morley IAS)	Each
70	NDSR	Supplying and Installation of Addressable sounder as required. (Make : Honeywell Morley IAS)	Each
71	NDSR	Supplying and Installation of Addressable Multi detector as required. (Make : Honeywell Morley IAS)	Each
72	NDSR	Supplying, Laying and Installation of 2CRx1.5sqmm, FRLS PVC insulated, Armoured Copper conductor Cable for FAS as required. (Make : Polycab)	meter

Sub-Head XIII : HVAC & VRF Based AIRCONDITIONING SYSTEM

		SECTION "A" : High Side System	
		BOQ Shall be read thoroughly by the Contractor before Bidding. All Technical conditions shall be complied with, ambiguities shall be raised before bidding. Contractor is also required to make shop drawing & submit for approval to consultant before execution.	
		All kind of supports required for installation of HVAC equipment covered under the scope shall be planned using GI slotted Channels, Bracket, Angle brace, channel connector, Pipe ring saddle, Bored plate, channel end cap, clamping bow, beam clamp, rail support, hole base plate, wing nut, Pipe ring, Galvanized Iron Rods, Nuts, Bolts, Washers etc. as per the reqmt/ approval of Engineer In charge and cost of such supports shall be included in the Contract. All Stationery/ Dynamic Equipment shall be supplied with Proper Insulation, Anti Vibration, spacers, supports and cost of the same shall be included in the Contract.	
		The quoted price should includes lifting,shifting,positioning at site of all the equipment fittings, remote controls, vibration isolators, ancilliary materials as specified and all such item required to fullfill the intent and purpose as laid down in specifications and drawings	
		Contractor to provide proper shop drawings with quantity sheets (on drawing itself) for approval from consultant before execution and procurement. Any execution/ procurement should start after approved shop drawings only.	
		VARIABLE REFRIGERANT FLOW SYSTEM	

73		Supply of Variable Refrigerant Flow type multi unit air-conditioning system complete with indoor and outdoor units with individual controller for cooling application as per the specifications and drawings. The quoted price should include freight.	
		OUTDOOR UNITS	
		Supply of VRF/VRV Variable Refrigerant Flow Outdoor units comprising of Energy efficient Inverter Scroll compressors (100% inverter compressors), Heat Pump Type (Heating+Cooling) suitable for Eco Friendly R-410 refrigerant, Variable Speed Condenser fan motor, Air Cooled Condenser, etc. All compressors shall be inverter type. The condensing units shall be suitable to work on cooling as well as heating mode. The condensing units shall be suitable for operation on 415 ±10% volts, 50Hz, 3 phase AC power supply and complete with auto check function for connection error, auto address setting, etc. The outdoor units shall be low noise type. outdoor units shall be of following capacities: (min. BEE3)	
		VRV ODU INDICATIVE CONFIGURATION	
		(Circuit to be divided as required as per actual load distribution and accordingly the ODU combination needs to derived by Vendor.)	
73.1	NDSR	20 HP DAIKIN MODEL NO. RXYQ20ARY6	Each
73.2	NDSR	10 HP DAIKIN MODEL NO. RXYQ18ARY6	Each
		INDOOR UNITS	
74		Supply of VRV indoor air-conditioning unit of below mentioned capacity suitable to operate from 230+10% volt, 50 Hz, 1/3 phase power supply, with air-cooled evaporator with coil, fan, and fan motor, air-cooled condenser with thermetically sealed scroll/rotary type compressor condenser coil, propeller fans controls, control panel, drain pan. The charging of ref/oil if required shall be included in the cost. The Unit should be 3 Star rated (on the date of procurements the minimum EER value of the units should be as per BEE Standard) with suitable electrical starter, etc. of the following capacities. DAIKIN MODEL NO. as per below or Equivalent	
74.1	NDSR	Wall Mounted Type (2.0TR) (FXAQ63ARVE6)	Each
74.2	NDSR	Wall Mounted Type (1.6TR) (FXAQ40ARVE6)	Each
		REMOTE CONTROLS	
75		Supply of remote controls for indoor units.	
75.1	NDSR	Cassette and Hi wall unit (cordless)	Each
		CENTRALISED I TOUCH CONTROLLER	
76	NDSR	Supply of main centralised controller as per specifications to hook up indoor units as mentioned above.	Each
		FITTINGS	
77		Supply, testing & Commissioning of following imported copper fittings to be provided in refrigerant pipe line.	
77.1	NDSR	Refnet Joints (Y- Joints)	nos
77.2	NDSR	ODU CONNECTION KIT	nos
		Sub Total of High Side System	
		SECTION "A" : Low Side System	

78		Installation of air cooled variable refrigerant volume modular type Cooling Only & Heating application, each comprising of energy efficient multiple scroll compressors, full charge of R-410a refrigerant gas . All compressors shall be inverter type. The condensing units shall be suitable to work on cooling as well as heating mode. The condensing units shall be suitable for operation on 415 ±10% volts, 50Hz, 3 phase AC power supply and complete with auto check function for connection error, auto address setting, etc. The outdoor units shall be low noise type. outdoor units shall be of following capacities :	
		Installation charge included with full charge of R-410a refrigerant gas nitrogen gas testing. Complete with anti-corrosive treatment on ODU & IDU as required. Lifting, shifting and placing at terrace level should also be included in the cost.	
		VRV ODU INDICATIVE CONFIGURATION	
78.1	NDSR	20 HP DAIKIN MODEL NO. RXYQ20ARY6	nos
78.2	NDSR	10 HP DAIKIN MODEL NO. RXYQ18ARY6	nos
		INDOOR UNITS (INSTALLATION)	
79		Installation of variable refrigerant flow modular type indoor units . The indoor units shall be suitable to work on cooling as well as heating mode.	
		Wall Mounted Type	
79.1	NDSR	Wall Mounted Type (2.0TR) (FXAQ63ARVE6)	nos
79.2	NDSR	Wall Mounted Type (1.6TR) (FXAQ40ARVE6)	nos
		REMOTE CONTROLS	
80		Installation, Testing & Commissioning of remote controls for indoor units.	
80.1	NDSR	Cassette and Hi wall unit (cordless)	nos
		CENTRALISED I TOUCH CONTROLLER	
81	NDSR	Installation, Testing & Commissioning of main centralised controller as per specifications to hook up indoor units as mentioned above.	No
		FITTINGS	
82		Installation, Testing & Commissioning of following imported copper fittings to be provided in refrigerant pipe line.	
82.1	NDSR	Refnet Joints (Y- Joints)	nos
82.2	NDSR	ODU CONNECTION KIT	nos
		COPPER REFRIGERANT PIPING	

83		Supply, installation, testing and commissioning of High Pressure Interconnecting refrigerant pipe (Type K) work for VRF System with (19mm / 13mm thick) closed cell elastomeric nitrile rubber tubular insulation with reinforced aluminum foil, Thermal conductivity max. 0,037 W/(m*K) @ +20 Deg C shall be considered for selection of insulation material. Density 40-55 Kg/ Cum between indoor & outdoor units as per specifications, all piping inside the room shall be properly supported on GI Hangers and PVC sleeves shall be provided wherever pipe is crossing the wall etc. as required. Along with GI hangers, raceways must be provided for smaller dia copper pipes to avoid any sag, and same should be included in cost. "All necessary arrangements, including wrapping, quoting, and mechanical protection for outdoor and buried copper pipes, should be included in the cost." (vendor to verify the size of ref. pipe as/ site and OEM before execution) Complete with anti-corrosive treatment as required.		
		STRICTLY AS PER OEM STANDARDS.		
		Pipe Size		
		(O.D.)	Insulation	
83.1	NDSR	22.2 mm	19 mm	Mtr.
83.2	NDSR	19.1 mm	13 mm	Mtr.
83.3	NDSR	15.9 mm	13 mm	Mtr.
83.4	NDSR	12.7 mm	13 mm	Mtr.
83.5	NDSR	9.5 mm	13 mm	Mtr.
83.6	NDSR	6.4 mm	13 mm	Mtr.
		CONDENSATE DRAIN PIPING -uPVC		
84		Supply, Installation and Testing in position the following UPVC condensate drain pipe (suitable for minimum 6kg/sq cm working pressure) insulated with 6 mm thick insulation as required .		
84.1	NDSR	40mm dia		Mtr.
84.2	NDSR	32mm dia		Mtr.
84.3	NDSR	25mm dia		Mtr.
84.4	NDSR	20mm dia		Mtr.
85	NDSR	Supply, Installation, Testing & Commissioning of drain pump for Hi-wall split units complete with all accessories as required. Drain Pump shall be suitable for operation on 220+6 % volts 50 Hz, 1 phase AC power supply.		Nos.
86		Supply, laying, affecting connections and Testing of the following sizes of 1.1 KV armored PVC insulated aluminium/ copper conductor cables. Cables shall be inclusive of all clamps, saddles, screws, cable identification tags, cable terminal joints including terminal lugs, insulating tapes, affecting terminal connections to the equipment as per the specifications and as required. (for vrv and non vrv inverter ductable units)		
86.10	NDSR	3 C x 10 Sqmm cable (Copper)		Mtr.
86.20	NDSR	3 C x 2.5 Sqmm cable (Copper)		Mtr.
86.30	NDSR	4 C x 1.5 Sqmm cable (Copper Control cabling)		Mtr.

86.40	NDSR	32mm PVC Conduit	Mtr.
87	NDSR	Supply, Installation & Testing of TPN RCBO in weather proof enclosure near Vrv ODU.	No
88	NDSR	Supply, laying, fixing and connections of ladder type GI covered cable trays for external piping. (Size- 450mm wide and 100mm deep)	Mtr.
89	NDSR	Supply, laying, fixing and connections of ladder type GI covered cable trays for external piping. (Size- 450*75*50)	Mtr.
90	NDSR	Supply, laying, fixing and connections of perforated type GI cable trays for internal piping. (Size- 300mm wide and 100mm deep)	Mtr.
91	NDSR	Supply, laying, fixing and connections of perforated type GI cable trays for internal piping. (Size- 150*75*50)	Mtr.
92	NDSR	Supply, laying, fixing and connections of perforated type GI cable trays for internal piping. (Size- 100*75*50)	Mtr.
		MS FRAME FOR ODUs	
93	NDSR	Supply and Erection of MS base frame duly applied with red-oxide primer & followed by black enamel paint for mounting of outdoor units. (for Vrv outdoor units)	Set
		Sub Total of Low Side Works	
		VENTILATION FANS	
		Propeller Fan	
94		Supplying, installing, testing and commissioning of Fixed Speed Propeller Fans. The scope of supply includes all accessories including flanges, supports, Baffles, Weather protection louvres, vibration mountings etc.	
94.1	NDSR	200 CFM @ 5mm static pressure	each
94.2	NDSR	150 CFM @ 5mm static pressure	each
94.3	NDSR	Liftwell Pressurisation Fan including duct, Accessories, etc.	each
		Sub Total of Propeller Fans	
Sub-Head XIV : SITC of PASSIVE, ACTIVE & TELEPHONY NETWORKING COMPONENTS			
		A: PASSIVE FOR DATA	
95	NDSR	SITC of ETL Verified Category 6A/UTP Cable, low smoke zero halogen (IEC 60332-3-22), 4 pair count, 1000 ft (305 m) length	Boxes
96	NDSR	SITC of 24 Port Loaded Straight Patch panels CAT6A(1U) /UTP	Nos.
97	DSR	Supplying, Installation, Testing and commissioning of CAT6A Copper Information Outlet (IO) with face plate of color as per site requirement, should have ETL/UL verification program certificate for compliance with ANSI/TIA-568.2-D. All copper Cable and Components should be from same OEM to maintain compatibility and interoperability etc. complete as required. Data Nodes (at User Side) and also for Wireless AP's and Camera +Voice Nodes (at User Side)	Nos.
98		Supplying, Installation, Testing and commissioning of following CAT6A Patch Cord should have ETL/UL verification program certificate for compliance with ANSI/TIA-568.2-D etc. complete as required.	

98.1	NDSR	Copper Patch Cords of length 1m (3ft) Data Nodes (at Rack Side)+ Voice Nodes	Each
98.2	NDSR	Copper Patch Cords of length 3m (10ft) Data Nodes (at User Side)	Each
		B: PASSIVE FOR VOICE	
99	NDSR	SITC of 24 Port Loaded Straight Patch panels CAT6A (1U) U/UTP	Nos.
		C: FIBER BACKBONE CABLE	
100	NDSR	SITC of 12F, Singlemode (OS2), Bend Insensitive Fiber, Outdoor Corrugated Steel tape armor, Gel free, Outdoor Stranded Loose Tube Cable with 2 Rip Cords, MDPE Jacket	Mtr.
101	NDSR	SITC of 24-fiber LC-Style, Singlemode, 19-inch, 1U Rack mount Patch Panel loaded with LC duplex SM OS2, 24F Pigtail Cartridge with Splice tray.	Nos.
102	NDSR	SITC of LC-LC Single Mode 9/125 micron Duplex, Bend Insensitive Fiber, LSZH Sheath, OS 2 Patch Cord, 3 Meter	Nos.
		D: COAXIAL	
103	NDSR	SITC of Dual Port face plate(For fixing of RJ-45 I/O & RG6 Coaxial Connector Outlet) with suitable size of GI box and all accessories required (At TV End).	Mtr.
104	NDSR	SITC RG-06 Coaxial Cable	Mtr.
105	NDSR	SITC RG-06 Coaxial Outlet (Should be compatible with the faceplate given)	Nos.
		E: NETWORK RACKS	
106	NDSR	SITC of 24U (W 600mm / D 600mm) Close rack 19" Floor Stand :	Nos.
		Front Door S12C 19" / 24U AC Distribution Box + H/W (5 Points of 5/15 AMP sockets - (Horizontal)X2 19" 1U Cable Manager PVC with duct fingers x 10 Fan housing unit 4 Fan POSN Fans 90 CFM 230 VAC Mounting Hardware (Pack of 10) x 10	
		F: FACEPLATE	
107	NDSR	SITC of Single port faceplate having spring shutter of steel, stainless.(At User End) with suitable size of GI box and all accessories required.	Nos.
108	NDSR	SITC of Dual port faceplate having spring shutter of steel, stainless.(At User End) with suitable size of GI box and all accessories required.	Nos.
		G: PROJECT MANAGEMENT	
109	NDSR	Consumable items (velcro tap, tie, tag etc.) Pentascanning and OTDR Testing alongwith 25 years of product performance assurance warranty	Lot
		TOTAL SUB HEAD FOR PASSIVE	
		SUB HEAD : ACTIVE	
		EDGE SWITCHS	

110	NDSR	SITC 08 Port 10/100/1000Mbps PoE+ & 2 ports for optional SFP/ SX & SFP+/SR Modules supporting 1G & 10G respectively, layer 2 switch with Stacking cable (Non blocking switch fabric, IPv6 ready), supports IGMPv2/3 & Multicasting (Should have per port power budget of 30W, when fully populated) switch should be provided as per given technical specification.	Nos
111	NDSR	SITC 48 Port 10/100/1000Mbps PoE+ & 2 ports for optional SFP/ SX & SFP+/SR Modules supporting 1G & 10G respectively, layer 2 switch with Stacking cable (Non blocking switch fabric, IPv6 ready), supports IGMPv2/3 & Multicasting (Should have per port power budget of 30W, when fully populated) switch should be provided as per given technical specification	Nos
112	NDSR	SITC 24 Port 10/100/1000Mbps & 2 ports for optional SFP/ SX & SFP+/SR Modules supporting 1G & 10G, layer 2 switch (Non blocking switch fabric, IPv6 ready), supports IGMPv2/3 & Multicasting switch should be provide as per given technical specification	Nos
113	NDSR	SITC Multi Mode SFP /LR (LC Type) transreceivers supporting 10G	Nos
114	NDSR	SITC Stack Cables Supporting 10G	Nos
B		WIRELESS ACTIVE COMPONENTS	
		INDOOR ACCESS POINTS	
115	NDSR	SITC Dual-band (5 GHz and 2.4 GHz concurrent) Mid-Range 802.11x, 2x2 MU-MIMO, Dual Polarized Wireless Access Point with PoE (802.3af) support/capability. These AP's should be capable of being used with inline & external power source (Thin & thick AP), with Mounting brackets. Wi-Fi AP should be compatible with the central wireless controller.	Nos
		SUB HEAD III: TELEPHONY	
		A: Voice Media Gateway (Should be compatible with the central PBX system)	
116	NDSR	Media Gateway 24 Port (24 Analog Licences)	Nos
		TOTAL SUB HEAD FOR ACTIVE AND TELEPHONY	
		Sub-Total of Sub-Head XIV Amount (Rs.):	
		SUB HEAD XV: IP BASED CCTV SYSTEM	
117	NDSR	Supply, Installation, Testing & Commissioning of 2MP, Full HD, 1/2.8 type CMOS image sensor, fixed lens 2.8 / 3.6 mm, H.265 / H.264 & MJPEG triple-stream encoding, 25/30fps@1080P (1920 ×1080), Max IR LEDs length 30 m, IP65 rated, Fixed Dome Camera.	Nos.
118	NDSR	Supply, Installation, Testing & Commissioning of 2MP, Full HD, 1/2.8 type CMOS image sensor, Vari Focal : 2.8 mm to 12 mm, H.265 / H.264 & MJPEG triple-stream encoding, Max. IR LEDs length 30 m , IP66 rated, 25/30fps@1080P (1920 ×1080), Support ICR for day time and night time operation Vari Focal Bullet Camera.	Nos.
119	NDSR	Supply, installation, testing and commissioning of UL Listed Network Video Recording System (in multiple of 64 channels) should be capable of recording 64 cameras at 1080P resolution @ 25 FPS @ 100% recording for 30 days with RAID 5 Configuration. Required HDD for the same to be considered.	Nos.

120	NDSR	Supply , Laying , Testing & Commissioning of 55" LED Display with necessary connectors , inter linking cords etc. complete as required	Nos.
SUB HEAD XVI: Water Pumping System			
		Variable Speed Hydropneumatic System for Domestic Water Supply	
121		Supply, Installation, fixing, testing and commissioning of packaged type skid mounted factory fitted and factory assembled hydropneumatic system with variable frequency drive (on all Pumps) type comprising of :-	
	LMR	<p>(i) Vertical, inline multistage centrifugal pumping set with stainless steel SS-304 stage casing and SS-304 impellers with stainless steel SS-316L shaft as per IEC standards and GJL250 cast iron suction & discharge casing, connected to TEFC ventilated induction motor of 2 pole, 2900rpm, suitable for 400/440 Volts, 3 phase, 50 Hz A.C. supply, complete factory fitted and factory assembled</p> <p>(ii) Pressure vessel of non corrosive FRP composite construction lined with NSF and/or FDA listed material, like high density polyethylene with fully replaceable polyurethane. Air cell burst pressure of minimum of 5 times the vessel operating pressure and cycle tested for 2,50,000 cycles.</p> <p>(iii) Control Panel with programmable logic controller (PLC) for cyclic operation of pumps. Pump working sequence should change after every operation. Contractor overload relays and MCBs should confirm to IEC 898 – 1995/ specifications. Blinking indications for pumps start, trip, low level trip, health supply should be provided in the panel along with the ammeter & voltmeter. Control panel should also consist of cooling fan.</p> <p>(iv) Pressure switches bellow type fitted with micro switch and having maximum pressure and differential scale should confirming BS-6134 standards and IP55 protection class.</p> <p>(v) Ball valves to be used should be Hot Pressed brass OT-58 with stainless steel ball and P.T.F.E seal and O-Ring. NRVs to be used should be with Springs and O-Ring arrangement.</p> <p>Complete set system to be mounted on a common base frame and shall follow following duty.</p> <p>Make : Grundfos</p> <p>Hydropneumatic Pumping System (For Main House)</p> <p>Flow Rate = 100-200 LPM</p> <p>Head = 25-55 M</p> <p>1 Set includes 2 Pumps - 1W+1S</p> <p>Location: Pant Room</p> <p>Motor Efficiency Class - IE5</p> <p>Make: Grundfoss</p>	Set
121.10			
121.11		Supply, Installation, Testing and Commissioning of Street Lights & Post Top Lights, landscape lighting & Bollard Lights & Illuminated Sinages and Removal of the old existing Lights from the Plot Area (If any)	set

121.12		Supply, installation, testing and commissioning of Horizontal Type 25ltrs. Capacity Electric water heaters (Geysers)	each
122	NDSR	Supply, Installation, Testing & Commissioning of Submersible pump: 1W+1S (2no's), Rating: 3phase 3 HP	Set
123	NDSR	Supply, Installation, Testing & Commissioning of PVC/FRP panel, PLC Automatic starter panel for 3 Phase 3 HP Pumps suitable for 1W+1S pumps(2no's), with all required flood switch, dry run, single phase and over load protection with all required accessories. Suitable for Similar Kirloskar Make: suitable starter panel.	Set
124	DSR	Supplying Installation, Testing and Commissioning of 15kWp Capacity on-grid Solar Photovoltaic Power Plant conforming to various applicable standards BIS, IEC, MNRE guidelines, the Central Electricity Authority Regulations and CPWD Specifications as amended up to date, consisting of Mono/Poly Crystalline silicon solar cells module, net metering facility, necessary control, protections, earthing, cabling, mounting structure, junction boxes, power conditioning units, Real time online web interfaced Data Monitoring System, Distribution panels, grid connecting arrangement, conduits, pipes, cable trays and other accessories etc. as required. a) High Energy Efficiency Solar Photovoltaic Module of capacity 330 Wp or above, manufactured in India, conforming to IS 14286/IEC 61215, IS/IEC 61730-Part-1, IS/IEC 61730-Part-2. Solar Photovoltaic Module conversion efficiency shall not be less than 23% at STC with temperature coefficient of Pmax better than -0.30% per °C. PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. Solar Modules shall be designed to operate in relative humidity upto 100% with temperature between -10 °C and +85 °C. Further, each PV module used in any solar power project must have Radio frequency identification tag with information such as name of manufacturer, month and year of manufacturing, country of origin (separately for Solar cell and module), I-V curve, Unique Serial No and Model No of the module, Wattage, Im, Vm and FF, name of test lab issuing IEC certificate. b) Power Conditioning Unit (PCU) of 350- 800 V DC Input voltage range and 415 V AC, three phase, 4 wire, 50Hz +/- 2.5 Hz, output voltage suitable to generate AC with a variation of 10% at nominal voltage.	kWp

	<p>Power with efficiency not less than 97%, total harmonic distortion less than 3% and suitable for ambient temperature from 0 to 50 °C, Minimum IP-65 for outdoor and Minimum IP 21 for indoor, Built-in meter and data logger, MPPT, switching devices IGBT/MOSFETs and controller Microprocessor /DSP. PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown. The PCU shall be able to withstand unbalanced load conforming to IEC standard with shutdown/standby mode. . It must be provided with grid islanding along with manual disconnect pole isolation switch besides automatic disconnection. Minimum protections: Mains Under / Over Voltage, Over current, Over/Under grid frequency, Over temperature, Surge voltage induced at output due to external source, Short-circuit, Lightning, Anti Islanding (for grid synch. Mode) and other protections as per applicable standards. LCD/LED display of minimum parameters: DC input voltage, DC current, AC Voltage and current (all 3 phases, in case of 3 phase), Instantaneous & cumulative AC output power, Daily DC energy produced and other parameters applicable standard. Communication interface RS 485 / RS 232.c) Module mounting structure: The roof top solar plant generation units shall be installed by using supporting Aluminium/Galvanized MS structure (mass of zinc coating shall be as per IS4759) having minimum head room clearance of 2.4 meter above the terrace level / ground level. The mounting structure would be designed to sustain wind load and seismic parameter of the site of installation. All the structure shall be design as per applicable BIS code and the material shall also confirm the applicable BIS Code.</p>
	<p>Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. The suitable arrangements for maintenance and cleaning shall be provided.d) Real time online web interfaced Data Monitoring System complete with accessories for various parameters such as Solar Irradiance, temperature, AC Output Voltage and current, Output Power, Power factor, DC Input Voltage and Current, Time Active, Time disabled, Time Idle, Power produced and other parameters as per standard practices. e) Array junction box & Main junction box with IP 65 protection and termination arrangement for incoming and outgoing cable along with glands, lugs and other accessories etc. as required. Each junction box shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement with High quality Suitable capacity Metal Oxide Varistors(MOVs) (semiconductor diode with resistant applied voltage)/ surge arrestors and suitable Reverse Blocking Diodes, isolation switches isolate the DC input to Inverter, copper bus bar etc.f) Lightning, surge voltage protection, earthing protection and grid islanding.g) Cables: Connections & Interconnections by required size IR/UV protected XLPE insulated copper conductor 1.1 kV grade armored power and control cables(ISI Marked) along with supplying & fixing of necessary channel/conduit,</p>

		GI cable trays, supports, lugs, thimble and other accessories etc. as required	
--	--	--	--