

Part- I
Chapter-V
Special Conditions of Contract

PART-I

CHAPTER-V

SPECIAL CONDITIONS OF CONTRACT

SPECIAL CONDITIONS (SECTION-1)

Electrical, Mechanical & LV Items

Note: *The Special Conditions of contract (SCC) should be read in conjunction with the General Conditions of Contract (GCC). However, if there is any provision in the GCC, which is at variance with the provisions in SCC, the Specific Provisions/Special Conditions of Contract (SCC) shall take precedence. If there is any confusion regarding interpretation of these clauses of SCC, the decision of Engineer/DFCCIL shall be final and binding.*

- 1.1 (a)** As per the provisions of Make in India policy 2017 local component should be min. 50% of the Contract value in totality. Contractor shall provide a undertaking of the same along with the supporting documents.
- (b) The amended provisions for public procurement circulated by Ministry of Finance (MoF) – Dept of Expenditure – Public procurement Division **OM No. F No. 6/18/2019 – PPD dated 23-07-2020** would be applicable in this tender also. The copy of the same is enclosed herewith for ready reference.
- (c) If any issues not covered in this document, then relevant CPWD guidelines will be followed.

1.2 Electrical Contractor License

- 1.2.1 The Tenderer should have a valid Electrical Contractor License.

1.3 Warranty/Guarantee period for Specialized Items

For specialized works such as Lighting System (Luminaires and its components, LMS including Software & Hardware and its components, Façade Lighting and its control etc.), LV Items (CCTV, Displays, Audio Visual System, Access Control System, Active Network Components, IPPBX Exchange, IBS etc), the guarantee period shall be for a minimum period of 05 years, in which:

- 1.3.1 The contractor shall be fully responsible for and shall guarantee proper performance for a period of 05 (Five) years/ Manufacturer's guarantee period from the commissioning of equipment/completion date of building, whichever is later. For this, a specific 05 years written guarantee by the Contractor (*to be furnished in a non-judicial stamp paper of value not less than Rs.100/-*) in the prescribed proforma (**Form No.24A**) shall be submitted before final payment for the performance of the system and shall not in any way limit any other rights the Employer may have under the contract. Apart from this, along with completion of items, the Contractor shall furnish the Warranty/Guarantee Certificate from the OEMs in the name of DFCCIL, clearly specifying the period of Guarantee for 05 (Five Years) along with Description of item and its quantity and shall also furnish the OEM certificate for supplying maintenance spares, associated parts and any other support required for the period of codal

life or life as specified by OEM, whichever is longer (after warranty/guarantee period of 5 years).

- 1.3.2 In addition, 5% (*Five Per cent*) of the cost of these items shall be withheld from the payment for Testing, Commissioning & Training (Para 1.5.3 below) as guarantee to watch the performance of the work executed. However, if the performance is found satisfactory, then, 60% of this amount (*withheld*) would be released after three years from the date of completion of the work & the remaining withheld amount, shall be released after completion of Five years from the date of completion of work (*if the performance of the work is found satisfactory*).
- 1.3.3 However, if any defect is noticed during the maintenance period or warranty/guarantee period, it would need to be rectified by the contractor within seven days of issuing of notice by the Engineer / DFCCIL and, if not attended to, the same shall be got done through other agency at the risk and cost of the contractor and recovery (cost, plus 25%, plus GST) shall be effected from the amount retained towards guarantee as per Para '1.3.2' above. The decision of Engineer/DFCCIL regarding this shall be final and binding. In any case, the contractor, during the guarantee period, shall jointly inspect and examine the above works with DFCCIL once in every year and make good any defect observed and confirm the same in writing to DFCCIL.
- 1.3.4 The procurement of above Specilized items/equipments should be planned by the Contractor considering the lead time of the item, time for erection/ installation and date of commissioning/ handover of the building, i.e. it should neither be too early or too late (in consultation with the Engineer/DFCCIL). The decision of Engineer/DFCCIL shall be final and binding in this regard.
- 1.3.5 The specifications given in Bill of Quantities/Technical Specifications are bare minimum and to be adhered. If in case, the specialised item/equipment is out of production/upgradation of technology/discountiuned by the Company/OEM, the specialised item/equipment with latest/ upgraded specification/version may be installed with the prior approval of Engineer/DFCCIL. The decision of Engineer/DFCCIL shall be final and binding in this regard.

1.4 **Special Conditions for HVAC Works**

- (i) Memorandum of Understanding (MOU) with OEM of VRV/VRF shall be submitted by the Contractor at the time of supply of HVAC system, that OEM shall provide all spares and Technical supports required for maintenance of VRV/VRF to undertake the maintenance period/CAMC for the period of Contract (maintenance period+ minimum 7 years) and upto codal life of item/equipment. This MOU shall be signed by Authorized Representative of OEM.
- (ii) The Contractor shall have the option to get the CAMC of VRV/VRF HVAC system executed by the Contractor/OEM/Authorized channel partner of OEM of VRV/VRF. If it is by OEM/Authorised channel partner of OEM, it shall be the responsibility of the contractor to get the CAMC agreement executed between DFCCIL and the OEM/Authorized channel partner of OEM at the quoted rates of the Contractor and

as per Terms & Conditions related to CAMC mentioned in the Tender Document at least one month before completion of maintenance period. In case of CAMC agreement with Authorized channel partner of OEM, MOU with OEM as per clause (i) above has to be submitted by Authorized channel partner of OEM.

- (iii) For Comprehensive Annual Maintenance Contract (CAMC) work, the contractor shall ensure submission of Performance Guarantee in the form of irrevocable Bank guarantee @ 3% of accepted value of CAMC (BOQ item no. 9.0 of Schedule-IV (HVAC Works)). After submission of valid PG against CAMC, agreement for CAMC (as per Para 8.0 of Technical Specification for HVAC Work) shall be executed. Agreement for CAMC can be executed between Contractor/OEM/Authorised Channel Partner of OEM and DFCCIL. The submission of PG and Agreement for CAMC should be done at least one month before the commissioning of this work i.e. commissioning of complete work as per this tender. The PG of the main work shall be released only after the submission of PG and execution of Agreement of CAMC.

1.5 Payment terms

1.5.1 Payment for Items on Supply

75% of the items as per BOQ shall be paid on receipt of following materials at site:

A. Schedule of Electrical & HVAC Items:

- i. Luminaires (E&M Work, Schedule-III, A-7.0, B-1.1, 1.2, 2.0)
- ii. Armoured LT Cables (E&M Work, Schedule-III, B-5.1 & 5.3)
- iii. Fire Alarm System (E&M Work, Schedule-III, A-8.0, 9.0, B-11.0)
- iv. LT Panels (E&M Work, Schedule-III, B-7.0)
- v. Race way (E&M Work, Schedule-III, B-6.1)
- vi. Rising Main (E&M Work, Schedule-III, B-8.1-8.3)
- vii. Lift (E&M Work, Schedule-III, B-9.0)
- viii. UPS (E&M Work, Schedule-III, B-10.0)
- ix. PA System (E&M Work, Schedule-III, B-11.0)
- x. EV Chargers (E&M Work, Schedule-III, B-13.0)
- xi. HVAC Items (HVAC Work, Schedule-IV, A-4.1, 4.2, B-4.1, 4.2, 5.1)
- xii. PAC (HVAC Work, Schedule-IV, B-7.1a)
- xiii. BMS (HVAC Work, Schedule-IV, B-8.1, 8.3, 8.4, 8.5)

B. Schedule of LV Items

- i. CCTV (LV Works BOQ Item NS-I)
- ii. Displays (LV Works BOQ Item NS-II)
- iii. AV System (LV Works BOQ Item NS-III)
- iv. Access Control System (LV Works BOQ Item NS-IV)
- v. Networking Components (LV Works BOQ Item NS-V)
- vi. IPPBX Exchange (LV Works BOQ Item NS-VI)
- vii. IBS (LV Works BOQ Item NS-VIII)

The Payment against receipt of above items at site shall be made after successful inspection, due certification by Engineer-In-Charge/DFCCIL that item is in good condition and on submission of following documents:

- a. Suppliers delivery challan,
- b. Contractors material receipt note
- c. Suitable Indemnity Bond notarized by Notary Public shall be given by the contractor to safeguard DFCCIL's interest
- d. Dispatch clearance from DFCCIL as taken by Contractor.
- e. OEM warranty certificate and invoice wherever applicable.

Note: Luminaires which are to be controlled by LMS shall be compatible with LMS.

1.5.2 **Payment for Installation**

15% of item price for items as supplied under para 1.5.1 A & B above shall be paid after successful installation and due certification by DFCCIL.

1.5.3 **Payment for Testing, Commissioning & Training etc**

Remaining 10% of item price for all items under para 1.5.1 A & B above shall be paid after successful testing, commissioning & Training (if applicable) etc. of the works and on issue of provisional acceptance certificate from DFCCIL.

1.6 **Approved Makes/Brands**

- 1.6.1 The brands/makes of the items would be executed as per the “**List of Approved Makes**” provided in the Tender Document subjected to confirmation of Ministry of Finance (MoF) – Dept of Expenditure – Public procurement Division **OM No. F No. 6/18/2019 – PPD dated 23-07-2020** . However, colour coding, shade or design shall be at the discretion of the DFCCIL.
- 1.6.2 Submittals and samples must be approved from DFCCIL before supply.
- 1.6.3 The agency has to submit requisite catalogues and samples of the material to DFCCIL before approval and ensure that the supply would only be taken by agency after the materials are duly approved by DFCCIL.
- 1.6.4 The agency has to produce Manufacturer Test Certificates (MTC), Warranty Certificates/Invoices for material/equipment supplied for certification and approval.

1.7 **Co-ordination with other Contractors/Agencies/Sub-Contractors/Consultants during the execution of the works**

The contract for civil construction of DFCCIL Corporate Office Building (Framed Structure along with façade & glazing work) has already been awarded and construction of the same is under advance stage at site.

The Contractor for “Interior and Furnishing work” would be working in parallel with the agencies already working at site for contract awarded and agencies which will join in future for other work packages. Hence, proper co-ordination would be required with other agencies at site during execution of the works. Conflicting situations should be minimized and if any should be resolved amicably with the participation of PMC/DFCCIL. In any of such situations, the decision of Engineer /DFCCIL would be final and binding.

- 1.8 Before handover/commissioning of Electrical, HVAC including BMS and LV items, the contractor shall give all as erected/built drawings, manuals (maintenance and operation), spare part list with make, troubleshooting guidelines and other documents as required by DFCCIL as per OEM in three copies.
- 1.9 For major items like like Lifts, Fire Alarm System, Modular Switches, UPS, EV Chargers etc. along with supply of items, the Contractor shall furnish the Warranty/Guarantee Certificate from the OEMs in the name of DFCCIL, clearly specifying the period of Warranty/Guarantee and shall also furnish the OEM certificate for supplying maintenance spares, associated parts and any other support required for the period of codal life.

F.No.6/18/2019-PPD
Ministry of Finance
Department of Expenditure
Public Procurement Division

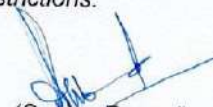
161, North Block,
New Delhi
23rd July, 2020

Office Memorandum

Subject: Insertion of Rule 144 (xi) in the General Financial Rules (GFRs), 2017

Rule 144 of the General Financial Rules 2017 entitled 'Fundamental principles of public buying', has been amended by inserting sub-rule (xi) as under:

Notwithstanding anything contained in these Rules, Department of Expenditure may, by order in writing, impose restrictions, including prior registration and/or screening, on procurement from bidders from a country or countries, or a class of countries, on grounds of defence of India, or matters directly or indirectly related thereto including national security; no procurement shall be made in violation of such restrictions.


(Sanjay Prasad)
Joint Secretary (PPD)
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Telephone: 011-23093882

To,
(1) Secretaries of All Ministries/ Departments of Government of India
(2) Chief Secretaries/ Administrators of Union Territories/ National Capital Territory of Delhi

F.No.6/18/2019-PPD
Ministry of Finance
Department of Expenditure
Public Procurement Division

161, North Block,
New Delhi
23rd July, 2020

Order (Public Procurement No. 1)

Subject: Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017

Attention is invited to this office OM no. 6/18/2019-PPD dated 23rd July 2020 inserting Rule 144 (xi) in GFRs 2017. In this regard, the following is hereby ordered under Rule 144 (xi) on the grounds stated therein:

Requirement of registration

1. Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority, specified in **Annex I**.
2. This Order shall not apply to (i) cases where orders have been placed or contract has been concluded or letter/notice of award/ acceptance (LoA) has been issued on or before the date of this order; and (ii) cases falling under **Annex II**.

Transitional cases

3. Tenders where no contract has been concluded or no LoA has been issued so far shall be handled in the following manner: -
 - a) *In tenders which are yet to be opened, or where evaluation of technical bid or the first exclusionary qualificatory stage (i.e. the first stage at which the qualifications of tenderers are evaluated and unqualified bidders are excluded) has not been completed:* No contracts shall be placed on bidders from such countries. Tenders received from bidders from such countries shall be dealt with as if they are non-compliant with the tender conditions and the tender shall be processed accordingly.
 - b) *If the tendering process has crossed the first exclusionary qualificatory stage:* If the qualified bidders include bidders from such countries, the

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entire process shall be scrapped and initiated *de novo*. The *de novo* process shall adhere to the conditions prescribed in this Order.

- c) As far as practicable, and in cases of doubt about whether a bidder falls under paragraph 1, a certificate shall be obtained from the bidder whose bid is proposed to be considered or accepted, in terms of paras 8, 9 and 10 read with para 1 of this Order.

Incorporation in tender conditions

- 4. In tenders to be issued after the date of this order, the provisions of paragraph 1 and of other relevant provisions of this Order shall be incorporated in the tender conditions.

Applicability

- 5. Apart from Ministries / Departments, attached and subordinate bodies, notwithstanding anything contained in Rule 1 of the GFRs 2017, this Order shall also be applicable
 - a. to all Autonomous Bodies;
 - b. to public sector banks and public sector financial institutions; and
 - c. subject to any orders of the Department of Public Enterprises, to all Central Public Sector Enterprises; and
 - d. to procurement in Public Private Partnership projects receiving financial support from the Government or public sector enterprises/ undertakings.
 - e. Union Territories, National Capital Territory of Delhi and all agencies/ undertakings thereof

Definitions

- 6. "Bidder" for the purpose of this Order (including the term 'tenderer', 'consultant' 'vendor' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in a procurement process.
- 7. "Tender" for the purpose of this Order will include other forms of procurement, except where the context requires otherwise.
- 8. "Bidder from a country which shares a land border with India" for the purpose of this Order means

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- a) An entity incorporated, established or registered in such a country; or
- b) A subsidiary of an entity incorporated, established or registered in such a country; or
- c) An entity substantially controlled through entities incorporated, established or registered in such a country; or
- d) An entity whose *beneficial owner* is situated in such a country; or
- e) An Indian (or other) agent of such an entity; or
- f) A natural person who is a citizen of such a country; or
- g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

9. "Beneficial owner" for the purpose of paragraph 8 above will be as under:

- (i) In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person(s), has a controlling ownership interest or who exercises control through other means.

Explanation—

- a. "Controlling ownership interest" means ownership of, or entitlement to, more than twenty-five per cent of shares or capital or profits of the company;
- b. "Control" shall include the right to appoint the majority of the directors or to control the management or policy decisions, including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
- (ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
- (iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
- (iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

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(v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

10. "Agent" for the purpose of this Order is a person employed to do any act for another, or to represent another in dealings with third persons.

Sub-contracting in works contracts

11. In works contracts, including turnkey contracts, contractors shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. The definition of "contractor from a country which shares a land border with India" shall be as in paragraph 8 above. This shall not apply to sub-contracts already awarded on or before the date of this Order.

Certificate regarding compliance

12. A certificate shall be taken from bidders in the tender documents regarding their compliance with this Order. If such certificate given by a bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law.

Validity of registration

13. In respect of tenders, registration should be valid at the time of submission of bids and at the time of acceptance of bids. In respect of supply otherwise than by tender, registration should be valid at the time of placement of order. If the bidder was validly registered at the time of acceptance / placement of order, registration shall not be a relevant consideration during contract execution.

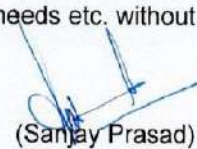
Government E-Marketplace

14. The Government E-Marketplace shall, as soon as possible, require all vendors/ bidders registered with GeM to give a certificate regarding compliance with this Order, and after the date fixed by it, shall remove non-compliant entities from GeM unless/ until they are registered in accordance with this Order.

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Model Clauses/ Certificates

15. Model Clauses and Model Certificates which may be inserted in tenders / obtained from Bidders are enclosed as **Annex III**. While adhering to the substance of the Order, procuring entities are free to appropriately modify the wording of these clauses based on their past experience, local needs etc. without making any reference to this Department.


(Sanjay Prasad)
Joint Secretary (PPD)
Email ID: js.pfc2.doe@gov.in
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To

- (1) Secretaries of All Ministries/ Departments of Government of India for information and necessary action. They are also requested to inform these provisions to all procuring entities.
- (2) Secretary, Department of Public Enterprises with a request to immediately reiterate these orders in respect of Public Enterprises.
- (3) Secretary DPIIT with a request to initiate action as provided under Annex I
- (4) Chief Secretaries/ Administrators of Union Territories/ National Capital Territory of Delhi

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Annex I: Competent Authority and Procedure for Registration

- A. The Competent Authority for the purpose of registration under this Order shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT)*.
- B. The Registration Committee shall have the following members*:
- i. An officer, not below the rank of Joint Secretary, designated for this purpose by DPIIT, who shall be the Chairman;
 - ii. Officers (ordinarily not below the rank of Joint Secretary) representing the Ministry of Home Affairs, Ministry of External Affairs, and of those Departments whose sectors are covered by applications under consideration;
 - iii. Any other officer whose presence is deemed necessary by the Chairman of the Committee.
- C. DPIIT shall lay down the method of application, format etc. for such bidders as stated in para 1 of this Order.
- D. On receipt of an application seeking registration from a bidder from a country covered by para 1 of this Order, the Competent Authority shall first seek political and security clearances from the Ministry of External Affairs and Ministry of Home Affairs, as per guidelines issued from time to time. Registration shall not be given unless political and security clearance have both been received.
- E. The Ministry of External Affairs and Ministry of Home Affairs may issue guidelines for internal use regarding the procedure for scrutiny of such applications by them.
- F. The decision of the Competent Authority, to register such bidder may be for all kinds of tenders or for a specified type(s) of goods or services, and may be for a specified or unspecified duration of time, as deemed fit. The decision of the Competent Authority shall be final.
- G. Registration shall not be granted unless the representatives of the Ministries of Home Affairs and External Affairs on the Committee concur*.
- H. Registration granted by the Competent Authority of the Government of India shall be valid not only for procurement by Central Government and its agencies/ public enterprises etc. but **also for procurement by State Governments and their agencies/ public enterprises etc. No fresh registration at the State level shall be required.**

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- I. The Competent Authority is empowered to cancel the registration already granted if it determines that there is sufficient cause. Such cancellation by itself, however, will not affect the execution of contracts already awarded. Pending cancellation, it may also suspend the registration of a bidder, and the bidder shall not be eligible to bid in any further tenders during the period of suspension.
- J. For national security reasons, the Competent Authority shall not be required to give reasons for rejection / cancellation of registration of a bidder.
- K. In transitional cases falling under para 3 of this Order, where it is felt that it will not be practicable to exclude bidders from a country which shares a land border with India, a reference seeking permission to consider such bidders shall be made by the procuring entity to the Competent Authority, giving full information and detailed reasons. The Competent Authority shall decide whether such bidders may be considered, and if so shall follow the procedure laid down in the above paras.
- L. Periodic reports on the acceptance/ refusal of registration during the preceding period may be required to be sent to the Cabinet Secretariat. Details will be issued separately in due course by DPIIT.

[*Note:

- i. In respect of application of this Order to procurement by/ under State Governments, all functions assigned to DPIIT shall be carried out by the State Government concerned through a specific department or authority designated by it. The composition of the Registration Committee shall be as decided by the State Government and paragraph G above shall not apply. However, the requirement of **political and security clearance as per para D shall remain and no registration shall be granted without such clearance.**
- ii. Registration granted by State Governments shall be valid only for procurement by the State Government and its agencies/ public enterprises etc. and shall not be valid for procurement in other states or by the Government of India and their agencies/ public enterprises etc.]

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Annex II: Special Cases

- A. Till 31st December 2020, procurement of medical supplies directly related to containment of the Covid-19 pandemic shall be exempt from the provisions of this Order.
- B. *Bona fide* procurements made through GeM without knowing the country of the bidder till the date fixed by GeM for this purpose, shall not be invalidated by this Order.
- C. *Bona fide* small procurements, made without knowing the country of the bidder, shall not be invalidated by this Order.
- D. In projects which receive international funding with the approval of the Department of Economic Affairs (DEA), Ministry of Finance, the procurement guidelines applicable to the project shall normally be followed, notwithstanding anything contained in this Order and without reference to the Competent Authority. Exceptions to this shall be decided in consultation with DEA.
- E. This Order shall not apply to procurement by Indian missions and by offices of government agencies/ undertakings located outside India.

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Annex III

Model Clause /Certificate to be inserted in tenders etc.

(While adhering to the substance of the Order, procuring entities and GeM are free to appropriately modify the wording of the clause/ certificate based on their past experience, local needs etc.)

Model Clauses for Tenders

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means: -
 - a. An entity incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - d. An entity whose *beneficial owner* is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The *beneficial owner* for the purpose of (iii) above will be as under:
 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.
Explanation—
 - a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;

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- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
 3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
- VI. *[To be inserted in tenders for Works contracts, including Turnkey contracts]* The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

Model Certificate for Tenders (for transitional cases as stated in para 3 of this Order)

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and is eligible to be considered."

Model Certificate for Tenders

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the

"/s/

Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

Model Certificate for Tenders for Works involving possibility of sub-contracting

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

Model Certificate for GeM:

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this vendor/ bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this vendor/ bidder fulfills all requirements in this regard and is eligible to be considered for procurement on GeM. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

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PART-I
CHAPTER-V
SPECIAL CONDITIONS OF CONTRACT
SPECIAL CONDITIONS (SECTION-2)

Note: *The Special Conditions of contract (SCC) should be read in conjunction with the General Conditions of Contract (GCC). However, if there is any provision in the GCC, which is at variance with the provisions in SCC, the provisions in the Special Conditions of Contract (SCC) shall take precedence.*

2.1 TEMPORARY WORKERS' HOUSING:

- 2.1.1** The bidder himself shall construct clean hygienic and well-ventilated labour housing with adequate water supply, electrical, sanitation facilities, etc as per "Model Rules for the Protection of Health and Sanitary Arrangement for the Workers Employed by the Contractors" of General Conditions of Contract, or applicable Labour Regulations.
- 2.1.2** The contractor has to arrange for the labour passes for entry and exit of labourers at the work site.
- 2.1.3** Adequate number of temporary housing units shall be constructed within two months of the date of start of work to the satisfaction of Engineer/DFCCIL.
- 2.1.4** Toilet blocks having WC, wash basin and bathing area @ one set for approximately 15 labours with arrangement for sewage disposal through ready to install adequate capacity septic tank units shall be made available along with the labour huts.
- 2.1.5** These housing units can be inspected by Engineer/DFCCIL and contractor will be allowed to take up main work only after satisfactory completion of these units.
- 2.1.6** *No extra payment shall be made by DFCCIL for construction of such temporary labour housing.*

2.2 Tool and Plants

The required T&P shall be brought to site well in advance so as to ensure the progress of the work as per the Contract Schedule.

2.3 Technical Staff:

The contractor shall submit the list of engineers / technical staff with charter of duties / responsibilities of each one related to execution of the work after issue of Letter of Acceptance (as given below) and deploy the same at work site according to the requirement and progress of work as decided by Engineer/DFCCIL. The decision of DFCCIL in this regard would be final and binding.

Requirement of technical representative(s)					
S.N.	Minimum Qualification of	Designation of Technical Staff	Minimum experience	Number	Deduction per month on
1.	Graduate Engineer	Project Manager/Civil/Interior	15 years (and having experience of similar nature of work)	1 No.	Rs. 75,000/-
2.	Graduate Engineer	Dy. Project Manager/Interior	10 years (and having experience of similar nature of work)	1 No.	Rs. 50,000/-
3.	Graduate Engineer/Electrical	Dy. Project Manager/Electrical	10 years (and having experience of similar nature of work)	1 No.	Rs. 50,000/-
4.	Graduate Engineer or Diploma Engineer	Project/Site Engineer (Interior/Electrical/Mechanical/IT)	5 Years or 10 Years respectively	6 Nos.	Rs. 30,000/-
5.	Graduate Engineer	Project Planning/Billing Engineer	10 Years	1 No.	Rs. 30,000/-

2.4 Compliance with GRIHA Guidelines

Agency is advised to note that entire work shall be carried out in such a manner so as to satisfy Green building parameters / GRIHA guidelines. Conditions of Contract specific to Green Building Practices have been narrated in Special Conditions for Green Building Practices (*Part-I, Chapter-V, Section-4 & 5*).

2.5 Maintenance Period

2.5.1 Maintenance period shall be taken as **12 (Twelve) months** from the date of completion of the work for building as a whole, wherein all the defects shall be rectified by the contractor at his own cost.

For specialized works such as water proofing etc, the maintenance period shall be for a minimum period of 10 years, in which:

- The contractor shall be fully responsible for and shall guarantee proper performance of the entire waterproofing system for a period of 10 (Ten) years from the final completion of works. For this, a specific 10 years written guarantee (*to be furnished in a non-judicial stamp paper of value not less than Rs.100/-*) in the prescribed proforma (**Form No.24**) shall be submitted for the performance of the system before final payment and shall not in any way limit any other rights the Employer may have under the contract. All water-proofing work shall be carried out through specialized agency as per method of working approved by the Engineer. However, the contractors shall be solely responsible for waterproofing treatment until the expiry of the above guarantee period.
- In addition, **10% (ten percent) of the cost of these items of water proofing under this sub head shall be retained as guarantee to watch the performance of the work executed.** However, if the performance of the waterproofing works is found satisfactory, then, half of this amount (*withheld*) would be released after five years from the date of completion of the work & the remaining withheld amount, shall be released after completion of ten years from

the date of completion of work (*if the performance of the waterproofing work is found satisfactory*).

However, if any defect is noticed during the guarantee period, it would need to be rectified by the contractor within seven days of issuing of notice by the Engineer / DFCCIL and, if not attended to, the same shall be got done through other agency at the risk and cost of the contractor and recovery shall be effected from the amount retained towards guarantee. In any case, the contractor and the specialized agency, during the guarantee period, shall inspect and examine the treatment once in every year and make good any defect observed and confirm the same in writing to DFCCIL.

- 2.5.2 Defects of serious nature causing inconvenience such as leakage, reverse floor slopes affecting the drainage (*ponding of water*), *warping and opening of joints in doors and window shutters, etc.*, shall be undertaken by the contractor immediately on receipt of the complaint but not exceeding one week time, failing which, the defects will be got removed at his risk and **cost plus 25% + GST extra** as supervision and establishment charges.
- 2.5.3 All other defects notified to the contractor during the maintenance period shall be rectified to the entire satisfaction of Engineer/DFCCIL or item replaced as soon as possible but not beyond one month failing which, Engineer/DFCCIL shall get it done at his **cost plus 25% + GST extra** as supervision and establishment charges. **The decision of Engineer/DFCCIL regarding a defect being of serious nature or otherwise shall be final and binding.**
- 2.5.4 Contractor shall undertake the comprehensive maintenance for **18 (Eighteen) months** after the certified date of completion of the buildings constructed or services provided in the building and shall include all labour material, T&P etc., required to attend any complaint lodged by the Engineer/DFCCIL. The contractor shall make all the arrangement for receiving and recording the complaints through a maintenance cell & land for construction of site office and storage of material shall be provided by DFCCIL in the campus.

2.6.1 Other Conditions

- (a) The execution of items shall be carried out in accordance to relevant CPWD specifications (*amended upto date of receipt of tenders*). For the items which are not covered under CPWD specifications, the Technical Specifications provided in the Tender document / B.I.S. Specifications shall have to be followed. The decision of Engineer/DFCCIL shall be final in this regard.
- (b) Wherever any reference is made to any Indian Standard, it shall be taken as reference to the latest edition with all amendments / revision issued thereto upto the date of receipt of tenders.
- (c) Unless otherwise specified, the agreement rates for all items of work of the Schedule of Quantities are for all heights, depths, leads and lifts involved in the execution of work.
- (d) The contractor shall make his own arrangement of water required for the work.
- (e) The contractor shall make his own arrangements for obtaining electric connection for carrying out any activity and make necessary payment to the department concerned. In the

absence of electric connection or failure of power supply, the contractor shall make his own arrangements of generators etc..

- (f) Other agencies working at site will also simultaneously execute the work. The contractor shall offer necessary cooperation to other agencies wherever required.
- (g) On account of security consideration, there could be some restrictions on the working hours, movement of vehicles for transportation of materials, etc. The contractor shall be bound to follow all such restrictions and adjust the programmes for execution of works accordingly.
- (h) The work shall be carried out in a manner complying in all respects with the requirements of any prevalent statutory laws enacted either by Central Govt. as well as State Govt./Authority.
- (i) Any malba / building rubbish generated is to be removed from the site within 24 hours and to be stacked at a pre-designated place. The malba / building rubbish so stacked shall be disposed off as soon as one truck load is accumulated (*approx 5 cum*) from such designated place.
- (j) This malba / building rubbish has to be disposed off to the dumping ground as approved by the Engineer in consultation with DFCCIL. ***The rates quoted by the contractor are inclusive of all operations, labour, leads and lifts from site of work to the dumping ground.***
- (k) Maintenance Engineer/Supervisor shall carry mobile telephone (s) to enable the Engineer- in-Charge to have easy and quick communication. ***Nothing extra shall be paid to the contractor on this account and his quoted rates for various items under this contract will be inclusive of this obligation.***
- (l) The replaced materials used shall have same or richer specifications to the original materials and compatible to the work.
- (m) The staff employed by the contractor should be well behaved and any complaint of misbehaviour shall be taken very seriously and such staff will have to be removed by the contractor immediately from the site.
- (n) The dismantled materials shall be taken away and disposed off by the contractor at his cost. ***Nothing extra shall be paid*** / recovered on account of this.
- (o) The contractor shall make all safety arrangements required for the labour engaged by him at his cost. All consequences due to negligence on behalf of security / safety or otherwise shall be on the contractor. The department shall not be responsible for any mishap, injury, accident or death of the contractor's staff. No claim in this regard shall be entertained / accepted by the department.
- (p) Contractor shall be fully responsible for any damages caused to government property or allottee's property by him or his labour in carrying out the work and shall be rectified by the contractor at his own cost.
- (q) Chases, holes, etc. shall be done using power operated tools.

2.7 Safety measures

2.7.1 The issue of construction safety & standards has gained utmost importance in recent times. This subject is to be dealt with, in an overall manner with an approach to developing and establishment a safety culture at work sites. Broadly, its components are:

- a Creating an awareness
- b Education
- c Training
- d Implementation
- e Enforcement measures

All workers of contractor and associate agencies, invariably and at all the times, must follow all safety norms, adopt safe construction practices and use all required safety gadgets in their working, throughout the project duration.

2.7.2 The **contractor** shall be primarily responsible for developing safety programs, training, implementation and propagating safety culture.

2.7.3 The contractor shall issue **Photo Identity Cards** with unique numbers containing salient information of workers. Further the contractor shall establish a **Time Office** at the entry to demarcate area of site.

2.8 Insurance:

Before commencing of works, it shall be obligatory for the Contractor to obtain, **at his own cost, insurance cover** in the **joint name of the Contractor and Employer (DFCCIL)** from reputed companies for the following requirements:

- a) Contractor's All Risk (CAR) Policy.
- b) Liability for death of or injury to any person or loss of or damage to any property (*other than the work*) arising out the performance of the contract.
- c) Construction Plant, Machinery and Equipment brought to site by the Contractor.
- d) Workmen Compensation Policy
- e) Any other insurance cover as may be required by the law of the land.
- f) The Contractor, if required, will engage a suitable Engineer to liaise with Insurer Company in the interest of realization of insurance claims at no cost to Employer.
- g) Contractor/Insurance Company shall have to indemnify DFCCIL for all losses. Claims if any given by insurance company to be given directly to DFCCIL. Decision of DFCCIL will be binding on Contractor to distribute claim in part or full.

All insurance covers referred to in the Contract shall be affected with an Indian Insurance Company incorporated and registered in India.

2.9 SECURITY

- 2.9.1 Contractor shall take all measures and precautions relating to security of the construction site. He shall ***barricade the construction site*** / designated area of construction through the barriers and as approved by the Engineer/DFCCIL. No material shall be stored / dumped outside the designated area.
- 2.9.2 The movement of the construction vehicles and the labours shall be restricted to the designated routes which will be decided by the Engineer/DFCCIL.
- 2.9.3 All the vehicles carrying the material to the work site shall be subject to check and entries to be made at the gates. No material shall be taken out without proper gate pass.
- 2.9.4 Any labour engaged by the contractor shall be in possession of photo ID card failing which they are liable to be disengaged from the work and shall not be allowed to enter into the construction site.
- 2.9.5 In case of any nuisance caused by activities attributed to contractors' staff, workmen and movement of vehicle, and reported to Engineer/DFCCIL, a suitable action will be taken by the Engineer/DFCCIL.
- 2.9.6 The movement of the labour shall be restricted to the barricaded work site area only.

2.10 CONSTRUCTION VEHICLES TYRE WASHING FACILITIES

All the vehicles leaving the site shall be loaded in such a manner that the excavated materials, mud or debris will not be deposited on roads. All such loads shall be covered or protected to prevent dust being emitted. The wheels of all vehicles shall be washed properly before leaving the site to avoid the deposition of mud and debris on the roads. Also, the contractor shall make necessary arrangements for sweeping and removal of mud from roads if it is deposited even after washing of wheels of vehicles leaving site. ***Nothing extra shall be paid*** for providing and maintaining this facility.

2.11 BARRICADING OF SITE

The contractor shall make adequate arrangement for new barricading as directed by the Engineer/DFCCIL to cover the entire construction site including all T&P and materials. The requirement of providing and fixing new barricading at site shall be decided as per the direction and approval of Engineer/DFCCIL. The barricading shall be provided continuously during the execution of the entire work till completion and shall not be removed at any stage without prior approval of the Engineer/DFCCIL. The barricading shall be provided and shall be the property of the contractor after completion of the work.

2.12 WATER SUPPLY

Contractor shall be responsible for the arrangement to obtain supply of water necessary for the works at his own cost.

2.13 ELECTRIC SUPPLY

Contractor shall be responsible for the arrangement to obtain supply of electric power necessary for the works at his own cost.

2.14 COMPLIANCE TO ENVIRONMENTAL LAWS

The contractor shall comply the directives of Hon'ble National Green Tribunal dated 04.12.2014 & 10.04.2015 and EIA Guidance Manual issued in February 2010 and Construction & Demolition

Waste Management Rules, 2016. The compliance of the contractor shall not be limited to the following:

1. The contractor shall not store/dump construction material or debris on metalled road.
2. The contractor shall get prior approval from Engineer/DFCCIL for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
3. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and/or other similar material to ensure that no construction material dust fly outside the plot area.
4. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precaution that the vehicle is properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air/contaminate air.
5. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
6. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.
7. The contractor shall ensure that C&D waste is transported to the approved C&D waste site of local authority only as per Construction & Demolition Waste Management Rules, 2016 and due record shall be maintained by the contractor.
8. The contractor shall compulsorily use jet in grinding and stone cutting.
9. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF Guidelines, 2010.
10. The contractor shall carry out On-Road-Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
11. The contractor shall ensure that the DG sets comply emission norms notified by MoEF.
12. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.
13. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.

2.15 *Nothing extra shall be paid on the account of above Special Conditions as stated above in Section-2 of Part-I, Chapter-V.*

- 2.16** Tenderer is advised to visit the site before submitting their bid. *Nothing extra shall be payable on this account.*
- 2.17** Tenderer is advised to visit the site before submitting their bid to access the actual working conditions and quote rate accordingly. *Nothing extra shall be payable on this account.*
- 2.18** The Contractor shall furnish for approval, with reasonable promptness, samples of all materials and workmanship. The Engineer shall check and confirm in consultation with Architect / Consultants, approval of such samples with reasonable promptness only to confirm with the design concept of the Works and for compliance with the information given in the contract documents. The work shall be in accordance with approved samples. The procedure for submission and approval of samples shall be as follows; -
- a) All material samples in duplicate shall be delivered to the Engineer office at the Contractor's cost. Samples shall be properly labeled with.
 - Name of Project
 - Name of Contractor
 - Name Product
 - Name of Manufacturer
 - Reference No of Schedule of Quantities (BOQ)
 - Date of Submission
 - Date of fabrication / casting – if applicable
 - b) Samples shall be accompanied with technical specification / manufacturer's catalogue
 - c) In case the Contractor intends to keep an approved sample in his possession he shall submit one additional samples for the Architect/Engineer approval.
 - d) Samples shall be furnished well in advance to give the Architect/Engineer reasonable time for their consideration.

2.19 SETTING OUT THE WORKS

The Contractor shall arrange necessary instruments, equipments and personnel and shall establish lines and elevations at the site as required for completion of the Works as per architectural drawings. The proposed layout showing all grid lines and exterior wall locations and setting-out points, lines etc. shall be got checked from the Engineer.

All setting-out points / levels shall be protected during construction by the Contractor and he shall also be responsible for any intermediate setting-out points / levels required for the work.

2.20 SUBMITTALS

2.20.1 SAMPLES

The Contractor shall submit to Engineer samples of all materials for approval and no work shall commence before such samples are duly approved by Engineer. Samples of aluminium finishes, 300 mm square samples of each type of glass required, range of tinted / reflective glasses,

glazing sealants, locking arrangements, hinges, hardwares and other accessories and every other work requiring samples in the opinion of the Architect/Engineer shall be supplied to him by the Contractor and these samples will be retained as standards of materials and workmanship. The cost of the samples shall be borne by the Contractor.

2.21 SHOP /INSTALLATION DRAWINGS

Contractor's shall submit full scale fabrication and /or installation and/or assembly drawings for each type of works and for all parts of the work in sufficient detail to enable the Engineer to verify conformity with the intent of Contract. Drawing shall identify materials and show the details and dimensions of all component parts including plan and elevation, cross section and details. Documents showing conformance with specified sound rating. Design analysis and calculation include design calculations for review of design loads and member profile. Design parameter adopted and their sources.

PART-I

CHAPTER-V

SPECIAL CONDITIONS OF CONTRACT

ADDITIONAL SPECIAL CONDITIONS (SECTION-3)

3. GENERAL

- a. Where there is any conflict between the various documents in the contract, the following order of priority shall be followed i.e. a document appearing earlier shall override the document appearing subsequently. However, the ***decision of Engineer/DFCCIL would be final & binding*** in this regard.

Order of Priority of Documents:

- a. Letter of Award
- b. Schedule of items, Rates & Quantities.
- c. Special Conditions of Contract.
- d. Technical Specifications as given in tender documents.
- e. Drawings, if any.
- f. General Conditions of Contract.
- g. Relevant BIS Codes

Note: Unless otherwise specified, CPWD Specifications with corrections slips till the last date of tender submission shall be followed in general.

- b. The work shall be carried out in accordance with the Architectural drawings and Interior drawings, to be issued from time to time, by the Architect/Engineer. Before commencement of any item of work, the contractor shall correlate all the relevant Architectural and Interior drawings issued for the work and satisfy himself that the information available from there is complete and unambiguous. The discrepancy, if any, shall be brought to the notice of the Engineer /DFCCIL before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and or incomplete information.
- c. The contractor shall be responsible for the watch and ward / guard of the buildings, till the building is physically handed over to the DFCCIL. ***No extra payment*** shall be made on this account.
- d. For works below ground level, the contractor shall keep that area free from water. If, dewatering or bailing out of water is required, the contractor shall ***do it at his cost*** and ***nothing extra shall be paid*** except otherwise provided in the items of schedule of quantities.
- e. The Contractor shall make all necessary arrangements for protecting from rains, fog or likewise extreme weather conditions, the work already executed and for carrying out the further work, during monsoon including providing and fixing temporary shelters, protections etc. ***Nothing extra***

shall be payable on this account. Also, no claims for hindrance shall be entertained on this account.

- f. In case of flooding of site on account of rain or any other cause and any consequent damage, whatsoever, ***no claim financially or otherwise*** shall be entertained notwithstanding any other provisions elsewhere in the contract agreement. Also, the Contractor shall make good, at his own cost, the damages caused, if any. Further, no claims for hindrance shall be entertained on this account.
- g. The contractor will take reasonable precautions to prevent his workmen and employees from removing and damaging any flora (*plant/vegetation*) from the project area.

h. Emergency Work:

In the event of any action or failure occurring in on or about the work or arising out of or in connection with the construction, completion or maintenance of the work which in the Engineer/DFCCIL opinion requires immediate attention, Engineer/DFCCIL may by its own workmen or other agency execute or partly execute the necessary work or carry out repairs if the Engineer/DFCCIL considers that the contractor is not in a position to do in time and to charge the cost thereof to the contractor as determined by the Engineer/DFCCIL.

i. Protection & Care of Works:

- a. The works are to be protected as asked by the Engineer/DFCCIL. Protection is required for all hazardous works and during installation, testing & commissioning of work. The cost of safety measures & other gadgets etc. shall be deemed to be included in the quoted rates and ***nothing extra*** shall be paid for the same.
- b. ***Care of the building:***
 - (i) Care shall be taken by the contractor during execution of the work to avoid damage to the building and adjacent buildings.
 - (ii) They shall also be responsible for repairing all such damages and restoring the same to the original finish at their cost.
 - (iii) They shall also remove all unwanted and waste materials arising out of the execution of work from the site from time to time.

j. TOOLS AND PLANTS

- (i) The bidder should arrange construction equipments required for the proper and timely execution of the work. ***Nothing extra shall be paid*** on this account.
- (ii) No tools and plants including any special T&P etc. shall be supplied by the Department and the contractor shall have to make his ***own arrangements at his own cost***. No claim of hindrance (*or any other claim*) shall be entertained on this account.

- (iii) The contractor shall do proper sequencing of the various activities by suitably staggering the activities within various floors of the buildings, so as to achieve the early completion. The agency may deploy adequate equipment, machinery and labour as required for the completion of the entire work within the stipulated period specified. Also, ancillary facilities shall be provided by contractor commensurate with requirement to complete the entire work within the stipulated period. ***Nothing extra shall be payable*** on this account. Adequate number/sets of equipment in working condition, along with adequate stand-by arrangements, shall be deployed during entire construction period. It shall be ensured by the Contractor that all the equipment, Tools & Plants, machineries etc. provided by him are maintained in proper working conditions at all times during the progress of the work and till the completion of the work. Further, all the constructional tools, plants, equipment and machineries provided by the contractor, on site of work or his work shop for this work, shall be exclusively intended for use in the construction of this work and they shall not be shifted / removed from site without the permission of the Engineer/DFCCIL.

k. ROYALTY

- (i) Royalty at the prevalent rates shall be paid by the contractor for any such item or the RMC supplier as per the terms of supply between them, on all materials such as boulders, metals, all sizes stone aggregates, brick aggregates, coarse and fine sand, moorum, river sand, gravels and bajri etc. collected by him for the execution of the work, directly to the revenue authority of the state government concerned. Further, contractor needs to submit proof of submission of full royalty to the state government or local authority. ***Nothing extra shall be payable*** on this account.

l. PRESERVATION AND CONSERVATION MEASURES

- (i) Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services encountered in the course of the execution of work shall be protected against the damage by the contractor, ***at his own expense***, for which ***nothing is payable***. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.
- (ii) All fossils, coins, articles of value of antiquity, structures and other remains or things of geological or archaeological interest discovered on project location during excavation/construction shall be the property of the Government, and shall be dealt with as per provisions of the relevant legislation. The contractor will take reasonable precaution to prevent his workmen or any other persons from removing and damaging any such article or thing. He will, immediately upon discovery thereof and before removal acquaint the Engineer/DFCCIL of such discovery and carry out the official instructions of Engineer/DFCCIL for dealing with the same, till then, all work shall be carried out in a way so as not to disturb/ damage such article or thing.

m. RESPONSIBILITY

- (i) The Contractor shall keep himself fully informed of all relevant acts and laws of the Central & State Governments, orders, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye-laws laid down by District Collector /Noida Authority and any other statutory bodies shall be adhered to, by the contractor, during the execution of work. The Contractor shall also adhere to all traffic restrictions notified by the local authorities. ***The water charges (for municipal water connection as well as tanker water) shall be borne by the contractor.*** Also, if the contractor obtains water connection for the drinking purposes from the municipal authorities or any other statutory body, the consequent ***sewerage charges shall be borne by the contractor.*** All statutory taxes, levies, charges *(including water and sewerage charges, charges for temporary service connections and / or any other charges)* payable to such authorities for carrying out the work, ***shall be borne by the Contractor.*** The Contractor shall arrange to give all notices as required by any statutory / regulatory authority and shall pay to such authority all the fees that is required to be paid for the execution of work. He shall protect and indemnify the DFCCIL and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. ***Nothing extra shall be payable*** on these accounts.

- (ii) The fee payable to statutory authorities for obtaining the ***various permanent service connections*** and Building Use Certificate for the building ***shall be borne by the DFCCIL.*** The contractor shall assume all liability, financial or otherwise in connection with this contract and shall protect and indemnify DFCCIL from any and all damages and claims that may arise on any account.

The Contractor shall indemnify against all claims in respect of patent rights, royalties, design, trademarks of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the DFCCIL in all respect from such actions, costs and expenses. ***Nothing extra shall be payable*** on this account.

- (iii) The contractor shall keep himself fully informed of all acts and laws of the Central Government and Government of U.P., all local bye laws, ordinances, rules and regulations and all orders and decree of bodies or, tribunals having any jurisdiction or authority which in any manner affect those engaged or employed on the work or which in any way affect the conduct of the works. Contractor shall at all times, observe and comply with all such laws, ordinances, rules, regulations, orders and decrees, and shall give all notices and ***pay out of his own money any fees or charges to which he may be liable.*** He shall protect and indemnify the DFCCIL and its officers and employees against any claim or liability arising out of violations of any such law, ordinances, legislations, order or decree, whether by himself or by his employees & authorized representatives.

n. CO-OPERATION WITH OTHER CONTRACTORS/SPECIALIZED AGENCIES/SUB-CONTRACTORS

- (i) The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupants of the adjacent properties and to the public in general. The Contractor shall take all care, as not to damage any other adjacent property or other services running adjacent to the plot. If any damage is done, the same shall be made good by the contractor **at his own cost** and to the entire satisfaction of the Engineer. The contractor shall use such methodology and equipment for execution of the work, so as to cause **minimum environmental pollution** of any kind during construction, to have minimum construction time and minimum inconvenience to road users and to the occupants of the buildings on the adjacent plot and public in general, etc. He shall make good **at his own cost** and to the entire satisfaction of the Engineer any damage to roads, paths, cross drainage works or public or private property whatsoever caused, due to the execution of the work or by traffic brought thereon, by the Contractor. Further, the contractor shall take all precautions to abide by the environmental related restrictions imposed by U.P. state Pollution control board, Govt. of U.P. as well as prevent any pollution of streams, ravines, river bed and waterways. All waste or superfluous materials shall be transported by the Contractor, entirely to the satisfaction of the Engineer. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of adjoining buildings. No claim what so ever on account of site constraints mentioned above or any other site constraints, such as distance from Noida city as approximately 20 km, lack of public transport, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts and any other constraints not specifically stated here, shall be entertained from the contractor. Therefore, the Tenderers are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. **Nothing extra shall be payable** on this account.
- (ii) The contractor shall cooperate with and provide the facilities to the sub-contractors and other agencies working at site for smooth execution of the work. The contractor shall indemnify the DFCCIL against any claim(s) arising out of such disputes. The contractor shall:
1. Allow use of scaffolding, toilets, sheds etc.
 2. Properly co-ordinate their work with the work of other Contractors.
 3. Provide control lines and benchmarks to his Sub-Contractors and the other Contractors.
 4. Provide electricity and water at mutually agreed rates.
 5. Provide hoist and crane facilities for lifting material at mutually agreed rates.
 6. Co-ordinate with other contractors for leaving inserts, making chases, alignment of services etc. at site.
 7. Adjust work schedule and site activities in consultation with the Engineer and other contractors to suit the overall schedule completion.
 8. Resolve the disputes with other contractors / sub-contractors amicably and the Engineer shall not be made intermediary or arbitrator.

- (iii) The work should be planned in a systematic manner so as to ensure proper co-ordination of various disciplines.
- (iv) The contractor shall leave recesses, holes, openings trenches etc. as may be required for the related works and ***nothing extra shall be payable*** on this account.
- (v) The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer and shall as far as possible arrange his work and shall place and dispose of the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and in a proper co-ordination manner and shall perform it in proper sequence to the complete satisfaction of others.
- (vi) **Specialized Agencies**
 - 1. The tenderer must associate with himself, agencies of the appropriate eligibility to tender for each of specialized nature of items / work. Such works shall be got executed only through associated agencies specialized in these fields.
 - 2. It shall be the responsibility of main contractor to sort out any dispute / litigation with the Specialized Agencies without any time & cost overrun to the DFCCIL. The main contractor shall be solely responsible for settling any dispute / litigation arising out of his agreement with the Specialized Agencies. The contractor shall ensure that the work shall not suffer on account of litigation/ dispute between him and the specialized agencies / sub- contractor(s). No claim of hindrance in the work shall be entertained from the Contractor on this account. ***No extension of time*** shall be granted and ***no claim*** what so ever, of any kind, shall be entertained from the Contractor on account of delay attributable to the selection/rejection of the Specialized Agencies.

vii. RATES

The rates quoted by the contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location etc. and any other unforeseen but essential incidental works required to complete this work. ***Nothing extra shall be payable*** on this account and ***no extension of time*** for completion of work shall be granted on these accounts.

- (viii) No foreign exchange shall be made available by the DFCCIL for importing (*purchase*) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. ***No delay and no claim*** of any kind shall be entertained from the Contractor, on account of ***variation in the foreign exchange rate***.
- (ix) All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity,

telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (*for execution of work and as directed by Engineer*), **shall be deemed to be included in rates quoted by the Contractor**, for various items in the schedule of quantities. **Nothing extra shall be payable** on these accounts. Before start of the work, the Contractor shall submit to the Engineer, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement and other storage, steel fabrication yard, site laboratory, water tank, etc. **DFCCIL shall provide rent free piece of land** for construction of these facilities at construction site for the duration of this work.

- (x) For completing the work in time, the contractor might be required to work in two or more shifts (*including night shifts*). **No claim** whatsoever shall be entertained on this account, notwithstanding the fact that the contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the contractor with them.
- (xi) All material shall only be brought at site as per program finalized with the Engineer/DFCCIL. **Any pre-delivery of the material** not required for immediate consumption shall not be accepted and **thus not paid for**.

o. SAFETY PRACTICES

- (i) **WARNING / CAUTION BOARDS:** All temporary warning / caution boards / glow signage display such as "Construction Work in Progress, "Keep Away", "No Parking", Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer. These glow signages and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also, he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Engineer. **Nothing extra shall be payable** on this account.
- (ii) **SIGN BOARDS:** The contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, client / owner, architects, structural consultants etc. besides providing space for names of other Contractors, Sub-Contractors and specialized agencies. **Nothing extra shall be payable** on this account.
- (iii) Necessary protective and safety equipment shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor by the contractor **at his own**

cost and to be used at site.

- (iv) No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules/instructions issued by the relevant authorities and as per the direction of Engineer in this regard. Also, all precautions and safety measures shall be taken by the contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L ***shall be borne by the Contractor.***

p. QUALITY ASSURANCE

- (i) The proposed building is a prestigious project of DFCCIL and quality of work is of paramount importance. Contractor shall have to engage well-experienced skilled labour and deploy modern T&P and other equipment to execute the work. Many items like exposed finish form work, specialized flooring work, Polysulphide/P.U. sealant and backer rod fixing in expansion joints, factory made door- window shutters, proper slope maintaining in toilet units, sanitary- water supply installation, textured finishing, grit plastering with aluminium channel insertions, water proofing treatment, Extruded Polystyrene insulation boards, façade works and chemical treatment in toilet drops will specially require engagement of skilled workers having experience particularly in execution of such items.
- (ii) The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material/work beyond set out tolerance limit ***shall be summarily rejected*** by the Engineer & contractor shall be bound to replace / remove such sub-standard/defective work immediately. If any material, even though approved by Engineer/DFCCIL is found defective or not conforming to specifications shall be replaced/removed by the contractor ***at his own risk & cost.***
- (iii) The contractor shall submit, a detailed and complete method statement for the execution, testing and Quality Assurance, of such items of works, as directed by the Engineer /DFCCIL. All the materials to be used in the work, to give the finished work complete in all respects, shall comply with the requirements of the specifications and shall pass all the tests required as per specifications as applicable or such specifications / standards as directed by the Engineer/ DFCCIL. However, keeping the Quality Assurance in mind, the Contractor shall submit, on request from the Engineer/ DFCCIL, his own Quality Assurance procedures for basic materials and such items, to be followed during the execution of the work, for approval of the Engineer/ DFCCIL.
- (iv) All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer which shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Engineer/DFCCIL. Wherever brand/quality of material is not specified in the item of work, the contractor shall submit the samples as per suggested list of brand names given in the tender document/SCC for approval of Engineer/DFCCIL. For all other items, materials and fittings of ISI Marked shall be used with the approval of Engineer.
- (v) Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant specifications or IS codes and use the same only after getting the approval of Engineer.

- (vi) The contractor shall procure and provide all the materials from the manufacturers / suppliers as per the list attached with the tender documents/SCC, as per the item description of the work. The equivalent brand for any item shall be permitted to be used in the work, only after approval of Engineer/Employer. **No claim**, whatsoever, of any kind **shall be entertained** from the contractor on this account and **Nothing extra shall be payable** on this account.
- (vii) All materials whether obtained from Govt. stores or otherwise shall be got checked by the Engineer or his authorized supervisory staff on receipt of the same at site before use.
- (viii) The tests, as necessary, shall be conducted in the laboratory approved by the Engineer/DFCCIL. The samples shall be taken for carrying out all or any of the tests stipulated in the specifications and as directed by the Engineer/DFCCIL or his authorized representative.
- (ix) All the registers of tests carried out at Construction Site or in outside laboratories and all material at site (MAS) registers including cement register shall be maintained by the contractor. All the entries in the registers will be made by the designated Engineering Staff of the contractor and same should be regularly reviewed by Engineer/Employer. Contractor shall be responsible for safe custody of all the test registers.
- (x) The contractor shall at his own risk and cost make all arrangements and shall provide all such facilities including material and labour, the Engineer/DFCCIL may require for collecting, preparing, forwarding the required number of samples for testing as per the frequency of test stipulated in the contract specifications or as considered necessary by the Engineer/DFCCIL, at such time and to such places, as directed by the Engineer/DFCCIL. **Nothing extra shall be payable** for the above.
- (xi) The contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case he or his authorized representative is not present or does not associate him, the result of such tests and consequences thereon shall be binding on the contractor. The contractor or his authorized representative shall remain in contact with the Engineer or his authorized representative associated for all such operations. No claim of payment or claim of any other kind, whatsoever, shall be entertained from the contractor.
- (xii) **All the testing charges shall be borne by the contractor.**
- (xiii) All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested as per the design conditions before covering and their measurements in computerized measurement book duly test checked shall be deposited with Engineer or his authorized representative, prior to hiding these items.
- (xiv) Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should conform to byelaws and municipal body / Corporation/Authority where CPWD Specifications are not available.
- (xv) The contractor shall give performance test of the entire installation(s) as per the standing specifications before the work is finally accepted and **nothing extra** whatsoever **shall be payable** to the contractor for the test.

- (xvi) ***The contractor shall have to execute guarantee bonds in respect of water proofing / anti termite treatment works as per Proforma enclosed.***
- (xvii) The contractor shall depute Site Engineer & skilled workers as required for the work. He shall submit organization chart along with details of Engineers and supervisory staff. It shall be ensured that all decision-making powers shall be available to the representatives of the contractor at site itself to avoid any likely delays on this account. The contractor shall also furnish list of persons for specialized works to be executed for various items of work. The contractor shall identify and deploy key persons having qualifications and experience in the similar and other major works, as per the field of their expertise. If during the course of execution of work, the Engineer is of the opinion that the deployed staff is not sufficient or not well experienced; the Contractor shall deploy more staff or better- experienced staff at site to complete the work with quality and in stipulated time limit.
- (xviii) The contractor shall maintain all the work in good condition till the completion of entire work. The contractor shall be responsible for and shall make good, all damages and repairs, rendered necessary due to fire, rain, traffic, floods or any other causes. The Engineer shall not be responsible for any claims for injuries to person/workmen or for structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the contractor or of any other of his representatives, in his employment during the execution of the work. The compensation, if any, shall be paid directly to the Department / authority / persons concerned, by the Contractor ***at his own cost.***
- (xix) The contractor shall ***arrange electricity at his own cost*** for testing of the various electrical installations as directed by Engineer and for the consumption by the contractor for executing the work. Also, all the ***water required*** for testing various electrical installations, fire pumps, wet riser / fire-fighting equipment, fire sprinklers etc. and also testing water supply, sanitary and drainage lines, water proofing of underground sump, overhead tanks, water proofing treatment etc. shall be arranged ***by the contractor at his own cost. Nothing extra shall be payable*** on this account.

q. SUBMISSION AND DOCUMENTATION

- (i) The contractor shall display all permissions, licenses, registration certificates, bar charts, other statements etc. under various labour laws and other regulations applicable to the works, at his site office.
- (ii) The contractor shall make available four (04) sets of computerized Standard Measurement Books (SMBs) having measurement of all the permanent standing in a building.
- (iii) The contractor will submit computerized measurement sheet for the work carried out by him for making payment. For casting of RCC members and other hidden items the corrected and duly test checked measurement sheets of reinforcement or that of other hidden items shall be deposited with Engineer or his authorized representative, before casting of RCC or other hidden items. The delay in submission of corrected and duly checked measurement sheet may, therefore, delay casting of RCC or execution of hidden item for which no hindrance shall be recorded.
- (iv) To avoid delay, contractor should submit all samples well in advance so as to give timely orders for procurement.

r. CLEANLINESS OF SITE

- (i) The contractor shall not stack building material / malba / muck on the land or road of the local development authority or on the land owned by the others, as the case may be. So, the muck, rubbish etc. shall be removed periodically as directed by the Engineer, from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the contractor. ***Nothing extra shall be payable*** on this account.

In case, the contractor is found stacking the building material / malba as stated above, the ***contractor shall be liable to pay*** the stacking charges / ***penalty*** as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. ***The Engineer shall be at liberty to recover***, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.

- (ii) The contractor shall take instructions from the Engineer regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed.
- (iii) The site of work shall be always kept clean due to constraints of space and to avoid any nuisance to the users of buildings in the adjacent plots. The contractor shall take all care to prevent any water- logging at site. The waste water, slush etc. shall not be allowed to be collected at site. It may be directly pumped into the creek with prior approval of the concerned authorities. For discharge into public drainage system, necessary permission shall be obtained from relevant authorities after paying the necessary charges, if any, directly to the authorities. The work shall be carried out in such a way that the area is kept clean and tidy. ***All the fees/charges in this regard shall be borne by the Contractor. Nothing extra shall be payable*** on this account.

s. INSPECTION OF WORK

- (i) In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by the Chief General Manager, and other senior officers of DFCCIL in addition of the Architect, Engineer and his authorized representative. The contractor shall at times during the usual working hours and at all times at which reasonable notices of the intention of the Architect/Engineer/DFCCIL or other officers as stated above to visit the works shall have been given to the contractor, either himself be present to receive the orders and instructions or have a responsible representative duly accredited in writing, to be present for that purpose.

t. SETTING OUT

- (i) The contractor shall carry out ***survey*** of the work area, ***at his own cost, setting out*** the layout of building in consultation with the Engineer & proceed further. Any discrepancy between the architectural drawings and actual layout at site shall be brought to the notice of the Engineer. It shall be responsibility of the contractor to ensure correct setting out of alignment. Total station survey instruments only shall be used for layout, fixing boundaries, and center lines, etc., along with theodolites. ***Nothing extra shall be***

payable on this account.

- (ii) The contractor shall establish, maintain and assume responsibility for grades, lines, levels and benchmarks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions etc. to the Engineer before commencing work. Commencement of work shall be regarded as the Contractor's acceptance of such grades, lines, levels, and dimensions and no claim shall be entertained at a later date for any errors found.
- (iii) If at any time, any error appears due to grades, lines, levels and benchmarks during the progress of the work, the contractor shall, at his own expense rectify such error, if so required, to the satisfaction of the Engineer. ***Nothing extra shall be payable*** on this account.
- (iv) Though the site levels are indicated in the drawings the contractor shall ascertain and confirm the site levels with respect to benchmark from the concerned authorities. The contractor shall protect and maintain temporary/permanent benchmarks at the site of work throughout the execution of work. These benchmarks shall be got checked by the Engineer or his authorized representatives. The work at different stages shall be checked with reference to bench marks maintained for the said purpose. ***Nothing extra shall be payable*** on this account.
- (v) The approval by the Engineer/DFCCIL, of the setting out by the contractor, shall not relieve the contractor of any of his responsibilities and obligation to rectify the errors/defects, if any, which may be found at any stage during the progress of the work or after the completion of the work.
- (vi) The contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignments, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the contractor ***at his own cost*** to the entire satisfaction of the Engineer.

u. RECESS, HOLES, OPENINGS, ETC

The contractor shall leave such recesses, holes, openings, etc. as may be required for the electric, air-conditioning and other related works for which inserts, sleeves, brackets, conduits, base plates, clamps etc. and the contractor shall fix the same at the time of casting of concrete, stone work & brick work or at any similar location if required, and ***nothing extra shall be payable*** on this account.

v. JURISDICTION OF COURT

Courts at Delhi/Noida alone shall have the jurisdiction to decide any dispute arising out of or in respect of this contract.

w. ALL HEIGHTS, LIFTS, LEADS AND DEPTHS

Unless otherwise provided in the Schedule of quantities or in CPWD Specifications or in tender document, the rates tendered by the contractor shall be ***all inclusive (except GST)*** and shall apply to all heights, lifts, leads and depths of the building and nothing extra shall be payable to him on this account.

x. PREVENTION OF NUISANCE AND POLLUTION CONTROL

The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public in general and to prevent any damage to such properties from pollutants like smoke, dust, noise. The contractor shall use such methodology and equipment so as to cause minimum environmental pollution of any kind during and minimum hindrance to road users and to occupants of the adjacent properties or other services running adjacent/near vicinity. The contractor shall make good at his cost and to the satisfaction of the Engineer, any damage to roads, paths, cross drainage works or public or private property whatsoever caused due to the execution of the work or by traffic brought thereon by the contractor. All waste or superfluous materials shall be carried away by the contractor, without any reservation, entirely to the satisfaction of the Engineer.

y. SCAFFOLDING

Wherever required for the execution of work, all the scaffolding shall be provided and suitably fixed by the contractor. It shall be provided strictly with steel double scaffolding system, suitably braced for stability, with all the accessories, gangways, etc. with adjustable suitable working platforms to access the areas with ease for working and inspection. It shall be designed to take all incidental loads. It should cater to the safety features for workmen. ***Nothing extra shall be payable*** on this account. It shall be ensured that no damage is caused to any structure due to the scaffolding.

z. PRODUCT DELIVERY, STORAGE AND HANDLING OF CHEMICALS

- (i) The contractor shall construct storage space for Chemicals materials to ensure that the storage conditions are as recommended by the manufactures.
- (ii) All the materials shall be procured and delivered in sealed containers with labels legible and intact.
- (iii) All the chemicals {polymers, epoxy, water proofing compound, plasticizer, Polysulphide, SBR based elastomeric, APP (Atactic Polypropylene Polymer), all exterior and interior paints, polish etc.} shall be procured in convenient packs say 20 litres/Kgs. capacity packing only or as approved by the Engineer, and not in bigger capacity containers, say 200 litre (Kgs.) drums unless otherwise specifically permitted by the Engineer. One sample from each lot of the chemical procured by the contractor shall be tested in a laboratory as approved by the Engineer.
- (iv) All material required for the execution of the work shall be got approved, procured and deposited with the Contractor's supervisory staff. The watch and ward of such material shall, however, remain to be the responsibility of the contractor and no claim, whatsoever, on this account shall be entertained. Different containers of each chemical shall be serially numbered on packing and also consumed in that order. Day- to-Day account of receipt, issue and balance shall be regulated by the Contractor and proper account shall be maintained at site of work in the prescribed form as per the standard practice.
- (v) All the chemicals shall be procured by the contractor directly from the manufacturer. In exceptional circumstances, the contractor may be allowed to procure the materials from the authorized dealers of the manufacturers.
- (vi) The original copies of challan/cash memos towards the quantity of various chemicals procured shall be made available by the contractor at the request from the Engineer-and a copy of the same shall be kept in record.

- (vii) The Name of manufacturers, manufacturer's product identification, manufacturer's mixing instructions, warning for handling and toxicity and date of manufacturing and shelf life shall be clearly and legibly mentioned on the labels of each container.
- (viii) The contractor shall submit for the chemicals procured, manufacturer's and / or authorized dealer's certificate regarding supplying and verifying conformance to the material specifications, as specified.
- (ix) All filled containers shall be handled in safe manner and in a way to avoid breaking container seals.
- (x) All arrangements for measuring, dosing and mixing of material / chemicals at site have to be made by the contractor.
- (xi) Contractor shall suitably advise his site Engineer and all the workers as regards safe handling of chemicals. Necessary protective and safety equipment in form of hand gloves, goggles etc. shall be provided by the contractor and be also used at site.
- (xii) All incidental charges of any kind including cartage, storage and wastage and safe custody of material etc. shall be borne by the contractor and no claim, whatsoever, shall be entertained on this account.
- (xiii) The chemicals shall be tested in an independent laboratory as approved by the Engineer at the frequency as specified. If required, more samples may have to be tested as per the directions of the Engineer. ***Nothing extra shall be payable*** on this account.

PART-I CHAPTER-V

SPECIAL CONDITIONS OF CONTRACT

METHODOLOGIES FOR GREEN BUILDINGS (SECTION-4)

- 4.1 To secure at least **5-Star GRIHA** ratings, a high degree of responsibility and cooperation is necessary from the contractor employed.
- 4.2 The following guideline provides the general concept of green, green building rating and the expectations from each one of those involved in this project:

4.3 GENERAL NOTE ON GREEN BUILDING PRACTICES

All materials and systems used in the project are intended to maximize energy efficiency for operation of Project throughout service life (*substantial completion to ultimate disposition – reuse, recycling, or demolition*) with an emphasis on top quality. Materials and systems are to maximize environmentally-benign construction techniques, including construction waste recycle, reusable delivery packaging, and reusability of selected materials. All vendors / contractors must adhere to best practices related to Green Buildings. Other than the particular specifications / methodologies for green buildings outlined here, all vendors / contractors will be furnished with a supplementary set of guidelines more specific to their nature of service/product.

4.4 GREEN BUILDING PRACTICES:

- 4.4.1 Ensure healthy indoor air quality in final Project.
- 4.4.2 Maximize use of products with low embodied energy (*harvesting, mining, manufacturing, transport, installation, use, operations, recycling and disposal*). Exceptions might include materials that result in net energy conservation during their useful life in building and building's life cycle.
- 4.4.2.1 Where possible, select materials harvested and manufactured regionally, within a 800-km radius of the project site.
- 4.4.2.2 Maximize use of durable products.
- 4.4.2.3 Maximize use of products easy to maintain, repair, and that can be cleaned using non-toxic substances.
- 4.4.2.4 Maximize recycled content in materials, products, and systems.
- 4.4.2.5 Maximize use of reusable and recyclable packaging.
- 4.4.2.6 Where possible and feasible, provide for non-destructive removal and re-use of materials after their service life in this building.
- 4.4.3 Re-use existing building materials to extent feasible within design concept expressed in Contract Documents. Provide materials that utilize recycled content to maximum degree possible without being detrimental to product performance or indoor air quality.

- 4.4.4 Use construction practices such as material waste reduction and dimensional planning that maximize efficient use of resources and materials.
- 4.4.5 Provide or contribute to O&M Manuals wherever applicable.
- 4.4.6 Be conversant with the Site Waste Management Program Manual and actively contribute to its compilation. Assist the Engineer by estimating the nature and volume of waste generated by the process/installation in question.
- 4.4.7 Minimize pollution: Select materials that generate least amount of pollution during mining, manufacturing, transport, installation, use, and disposal.
 - 4.4.7.1 Avoid materials that emit greenhouse gases
 - 4.4.7.2 Avoid materials that require energy intensive extraction, manufacturing, processing, transport, installation, maintenance, or removal.
 - 4.4.7.3 Avoid materials that contain ozone-depleting chemicals (*e.g. CFCs or HCFCs*).
 - 4.4.7.4 Avoid materials that emit potentially harmful volatile organic chemicals (VOCs).
 - 4.4.7.5 Employ construction practices that minimize dust production and combustible by-products.
 - 4.4.7.6 Avoid materials that can leach harmful chemicals into ground water; do not allow potentially harmful chemicals to enter sewers or storm drains.
 - 4.4.7.7 Protect soil against erosion by wind or storm-water and topsoil depletion.
 - 4.4.7.8 Minimize noise generation during construction; screen mechanical equipment to block noise.
 - 4.4.7.9 Select materials that can be reused or recycled and materials with significant percentage of recycled content; conform with or exceed specified Project recycled content percentages for individual materials; avoid materials difficult to recycle. Protect natural habitats; restore natural habitats where feasible within scope of Project.

PART-I CHAPTER-V

SPECIAL CONDITIONS OF CONTRACT

CONDITIONS OF CONTRACT SPECIFIC TO GREEN BUILDING PRACTICES (SECTION-5)

- 5.0** The contractor shall strictly adhere to the following conditions as part of his contractual obligations as the project is targeted to get **5-Star GRIHA** ratings certification:
- 5.1 SITE**
- 5.1.1 The contractor shall ensure that adequate measures are taken for the prevention of erosion of the top soil during the construction phase. The contractor shall implement the Erosion and Sedimentation Control Plan (ESCP) provided to him by the GRIHA Consultant / Architect / Engineer/DFCCIL as part of the larger Construction Management Plan (CMP). The contractor shall obtain the Erosion and Sedimentation Control Plan (ESCP) Guidelines from the Architect/Engineer and then prepare “working plan” for the following month’s activities as a CAD drawing showing the construction management, staging & ESCP. At no time, soil should be allowed to erode away from the site and sediments should be trapped where necessary.
- 5.1.2 The contractor shall ensure that all the top soil excavated during construction works is neatly stacked and is not mixed with other excavated earth. The contractors shall take the clearance of the Engineer/DFCCIL before any excavation. Top soil should be stripped to a depth of approximately 20 cm (*centimetres*) from the areas to be disturbed, for example proposed area for buildings, roads, paved areas, external services and area required for construction activities etc. It shall be stockpiled within the plot area only to a maximum height of 40 cm in designated areas, covered or stabilized with temporary seeding for erosion prevention. This stockpiled soil in the end shall be reapplied to site during plantation of the proposed vegetation. Top soil shall be separated from subsoil, debris and stones larger than 50 mm (*millimetre*) diameter.
- 5.1.3 The contractor shall carry out the recommendations of the soil test report for improving the soil under the guidance of the landscape consultant who would also advise on the timing of application of fertilizers and warn about excessive nutrient levels.
- 5.1.4 The contractor shall carry out post-construction placement of topsoil or other suitable plant material over disturbed lands to provide suitable soil medium for vegetative growth. Prior to spreading the topsoil, the sub-grade shall be loosened to a depth of 50mm to permit bonding. Topsoil shall be spread uniformly at a minimum compacted depth of 50mm on grade 1:3 or steeper slopes, a minimum depth of 100mm on shallower slopes. A depth of 300mm is preferred on relatively flatter land.
- 5.1.5 The Contractor should follow the construction plan as proposed by the architect / Engineer/DFCCIL to minimize the site disturbance such as soil pollution due to spilling. Use staging and spill prevention and control plan to restrict the spilling of the contaminating material on site. Protect top soil from erosion by collection storage and reapplication of top soil, constructing sediment basin, contour trenching, mulching etc.
- 5.1.6 The barricading by sheets of the construction area shall be done as per direction of Engineer/DFCCIL.
- 5.1.7 The contractor shall not change the natural gradient of the ground unless specifically instructed

by the architects/ Engineer. This shall cover all natural features like water bodies, drainage gullies, slopes, mounds, depressions, rocky outcrops, etc. Existing drainage patterns through or into any preservation area shall not be modified unless specifically directed by the Architect/ Engineer.

- 5.1.8 The contractor shall not carry out any work which results in the blockage of natural drainage.
- 5.1.9 The contractor shall ensure that existing grades of soil shall be maintained around existing vegetation and lowering or raising the levels around the vegetation is not allowed unless specifically directed by the architect/Engineer.
- 5.1.10 Contractor shall reduce pollution and land development impacts from automobiles use during construction.
- 5.1.11 Overloading of trucks is unlawful and creates erosion and sedimentation problems, especially when loose materials like stone dust, excavated earth, sand etc. are moved. Proper covering must take place. No overloading shall be permitted.

5.2 CONSTRUCTION PHASE AND WORKER FACILITIES

- 5.2.1 The contractor shall specify and limit construction activity in pre-planned/designated areas and shall start construction work after securing the approval for the same from the Engineer/DFCCIL. This shall include areas of construction, storage of materials, and material and personnel movement.
- 5.2.2 Preserve and Protect Landscape during Construction
- 5.2.3 The contractor shall ensure that no trees, existing or otherwise, shall be harmed and damage to roots should be prevented during trenching, placing backfill, driving or parking heavy equipment, dumping of trash, oil, paint, and other materials detrimental to plant health. These activities should be restricted to the areas outside of the canopy of the tree, or, from a safe distance from the tree/plant by means of barricading. Trees will not be used for support; their trunks shall not be damaged by cutting and carving or by nailing posters, advertisements or other material. Lighting of fires or carrying out heat or gas emitting construction activity within the ground, covered by canopy of the tree is not to be permitted.
- 5.2.4 The contractor shall take steps to protect trees or saplings identified for preservation within the construction site have to be protected using tree guards as per Engineer/DFCCIL. ***Nothing extra shall be payable*** on this account.
- 5.2.5 The contractor shall conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity. Contractor should limit all construction activity within the specified area as per the Construction Management Plan (CMP) proposed by the architect Engineer. All the existing trees should be preserved, if not possible than compensate the loss by re-planting trees in the proportion of 1:3.
- 5.2.6 The contractor shall avoid cut and fill in the root zones, through delineating and fencing the drip line (*the spread limit of a canopy projected on the ground*) of all the trees or group of trees. Separate the zones of movement of heavy equipment, parking, or excessive foot traffic from the fenced plant protection zones.

- 5.2.7 Maintenance activities shall be performed as needed to ensure that the vegetation remains healthy. The preserved vegetated area shall be inspected by the Architect / Engineer/DFCCIL at regular intervals so that they remain undisturbed.
- 5.2.8 Contractor shall be required to develop and implement a waste management plan, quantifying material diversion goals. He shall establish goals for diversion from disposal in landfills and incinerators and adopt a construction waste management plan to achieve these goals. A project-wide policy of “Nothing leaves the Site” should be followed. In such a case when strictly followed, care would automatically be taken in ordering and timing of materials such that excess doesn’t become “waste”. The Contractor’s ingenuity is especially called towards meeting GRIHA 5 Star Rating requirement.
- 5.2.9 Consider recycling cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation. Designate a specific area(s) on the construction site for segregated or collection of recyclable material, and track recycling efforts throughout the construction process. Identify construction haulers and recyclers to handle the designated materials. Note that diversion may include donation of materials to charitable organizations and salvage of materials on-site.
- 5.2.10 Contractor shall collect all construction waste generated on site. Segregate these wastes based on their utility and examine means of sending such waste to manufacturing units which use them as raw material or other site which require it for specific purpose. Typical construction debris could be broken bricks, steel bars, broken tiles, spilled concrete and mortar etc.
- 5.2.11 The contractor shall comply with the safety procedures, norms and guidelines (*as applicable*) as outlined in the document Part 7, Constructional Management Practices and Safety, National Building Code of India (NBC) 2016 issued by Bureau of Indian Standards which has safety measures for different construction activities.
- 5.2.12 The contractor shall provide clean drinking water for all workers
- 5.2.13 The contractor shall provide the minimum level of sanitation and safety facilities for the workers at site. The contractor shall ensure cleanliness of workplace with regard to the disposal of waste and effluent; provide clean drinking water and latrines and urinals as per applicable standard. Adequate toilet facilities shall be provided for the workman within easy access of their place of work. The total no. to be provided shall not be less than 1 per 30 employs in any one shift. Toilet facilities shall be provided from the start of building operations, connection to a sewer shall be made as soon as practicable. Every toilet shall be so constructed that the occupant is sheltered from view and protected from the weather and falling objects. Toilet facilities shall be maintained in a sanitary condition. A sufficient quantity of disinfectant shall be provided. Natural or artificial illumination shall be provided.
- 5.2.14 The contractor shall ensure that air pollution due to dust/generators is kept to a minimum, preventing any adverse effects on the workers and other people in and around the site. The contractor shall ensure proper screening, covering stockpiles, covering brick and loads of dusty materials, wheel-washing facility, gravel pit, and water spraying. Contractor shall ensure the following activities to prevent air pollution during construction:
- 5.2.14.1 Clear vegetation only from areas where work will start right away

- 5.2.14.2 Vegetate / mulch areas where vehicles do not ply.
- 5.2.14.3 Apply gravel / landscaping rock to the areas where mulching / paving is impractical
- 5.2.14.4 Identify roads on-site that would be used for vehicular traffic. Upgrade vehicular roads (*if these are unpaved*) by increasing the surface strength by improving particle size, shape and mineral types that make up the surface & base. Add surface gravel to reduce source of dust emission. Limit amount of fine particles (*smaller than 0.075mm*) to 10 – 20%
- 5.2.14.5 Water spray, through a simple hose for small projects, to keep dust under control. Fine mists should be used to control fine particulate. However, this should be done with care so as not to waste water. Heavy watering can also create mud, which when tracked onto paved public roadways, must be promptly removed. Also, there must be an adequate supply of clean water nearby to ensure that spray nozzles don't get plugged. Water spraying can be done on:
- 5.2.14.6 Any dusty materials before transferring, loading and unloading
- 5.2.14.7 Area where demolition work is being carried out
- 5.2.14.8 Any un-paved main haul road
- 5.2.14.9 Areas where excavation or earth moving activities are to be carried out
- a) The contractor shall ensure that the speed of vehicles within the site is limited to 10 km/hr.
 - b) All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust / particulate emissions.
 - c) Spills of dirt or dusty materials will be cleaned up promptly so the spilled material does not become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained / cleaned up immediately before they can infiltrate into the soil / ground or runoff in nearby areas
 - d) Provide hoardings of not less than 3m high along the site boundary, next to a road or other public area
 - e) Provide dust screens, sheeting or netting to scaffold along the perimeter of the building
 - f) Cover stockpiles of dusty material with impervious sheeting
 - g) Cover dusty load on vehicles by impervious sheeting before they leave the site
- 5.2.15 Contractor shall be required to provide an easily accessible area that serves the entire building and is dedicated to the separation, collection and storage of materials for recycling including (*at a minimum*) paper, corrugated cardboard, glass, plastics, and metals. He shall coordinate the size and functionality of the recycling areas with the anticipated collections services for glass, plastic, office paper, newspaper, cardboard, and organic wastes to maximize the effectiveness

of the dedicated areas. Consider employing cardboard balers, aluminum can crushers, recycling chutes, and collection bins at individual workstations to further enhance the recycling program.

- 5.2.16 The contractor shall ensure that no construction leachate (*Ex: cement slurry*), is allowed to percolate into the ground. Adequate precautions are to be taken to safeguard against this including, reduction of wasteful curing processes, collection, basic filtering and reuse. The contractor shall follow requisite measures for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels, perimeter dike/swale, etc. shall be constructed to carry the pollutant-laden water directly to the treatment device or facility (*municipal sewer line*).
- 5.2.17 Staging (*dividing a construction area into two or more areas to minimize the area of soil that will be exposed at any given time*) should be done to separate undisturbed land from land disturbed by construction activity and material storage.
- 5.2.18 Comply with the safety procedures, norms and guidelines (*as applicable*) as outlined in the document Part 7 Constructional Management Practices and Safety, NBC 2016 issued by Bureau of Indian Standards. A copy of all pertinent regulations and notices concerning accidents, injury and first-aid shall be prominently exhibited at the work site. Depending upon the scope & nature of work, a person qualified in first-aid shall be available at work site to render and direct first-aid to casualties. A telephone may be provided to first-aid assistant with telephone numbers of the hospitals displayed. Complete reports of all accidents and action taken thereon shall be forwarded to the competent authorities.
- 5.2.19 Adopt additional best practices, prescribed norms as in Doc No. CED 46(6086), July 2003: NBC 2016: Part 7 Constructional Management Practices and Safety issued by Bureau of Indian Standards
- 5.2.20 The storage of material shall be as per standard good practices as specified in Part 7, Section 2 - Storage, Stacking and Handling practices, NBC 2016 and shall be to the satisfaction of the Engineer to ensure minimum wastage and to prevent any misuse, damage, inconvenience or accident. Watch and ward of the Contractor's materials shall be his own responsibility. There should be a proper planning of the layout for stacking and storage of different materials, components and equipment with proper access and proper maneuverability of the vehicles carrying the materials. While planning the layout, the requirements of various materials, components and equipment at different stages of construction shall be considered. The Employer/Engineer/DFCCIL shall not take any responsibility on any account.
- 5.2.21 The contractor shall ensure the following activities for construction workers safety, among other measures:
- 5.2.21.1 Guarding all parts of dangerous machinery.
 - 5.2.21.2 Precautionary signs for working on machinery
 - 5.2.21.3 Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.
 - 5.2.21.4 Durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.
 - 5.2.21.5 Ensuring that walking surfaces or boards at height are of sound construction and are provided with safety rails or belts.

- 5.2.21.6 Provide protective equipment; helmets etc.
- 5.2.21.7 Provide measures to prevent fires. Fire extinguishers and buckets of sand to be provided in the fire-prone area and elsewhere.
- 5.2.21.8 Provide sufficient and suitable light for working during night time.
- 5.2.22 The contractor shall provide for adequate number of garbage bins around the construction site and the workers facilities and will be responsible for the proper utilization of these bins for any solid waste generated during the construction. The contractor shall ensure that the site and the workers facilities are kept litter free. Separate bins should be provided for plastic, glass, metal, biological and paper waste and labelled in both Hindi and English.
- 5.2.23 The contractor shall prepare and submit 'Spill prevention and control plans' before the start of construction, clearly stating measures to stop the source of the spill, to contain the spill, to dispose the contaminated material and hazardous wastes, and stating designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners, and petroleum products.
- 5.2.24 Contractor shall collect the relevant material certificates for materials with high recycled (*both post-industrial and post-consumer*) content.
- 5.2.25 Contractor shall collect the relevant material certificates for rapidly renewable materials such as bamboo, wool, cotton insulation, agrifiber, linoleum, wheat board, strawboard and cork.
- 5.2.26 The contractor shall ensure that a flush out of all internal spaces is conducted prior to handover. This shall comprise an opening of all doors and windows for 14 days to vent out any toxic fumes due to paints, varnishes, polishes, etc.
- 5.2.27 Contractor shall make efforts to reduce the quantity of indoor air contaminants that are odorous or potentially irritating harmful to the comfort and well-being of installer and building occupants. Contractor shall ensure that the VOC (*Volatile Organic Compounds*) content of paints, coatings and primers used must not exceed the VOC content limits mentioned below:

Paints

Anti-corrosive/ anti rust - 250 g/L
Coatings / Clear wood finishes Varnish - 350 g/L
Lacquer - 550 g/L
Floor coatings - 100 g/L Stains - 250 g/L Sealers
Waterproofing sealer - 250 g/L
Sanding sealer - 275 g/L
Other sealants - 200 g/L

The VOC (*Volatile Organic Compounds*) content of adhesives and sealants used must be less than VOC content limits mentioned:

Architectural Applications VOC Limit (g/l less water)
Indoor Carpet adhesives - 50
Pad Adhesives - 50
Wood Flooring Adhesives - 100
Floor Adhesives - 60
Sub Floor Adhesives - 50

Ceramic Tile Adhesives - 65
VCT and Asphalt Tile adhesive - 50
Dry Wall and Panel Adhesives - 50

Structural Glazing Adhesives - 100
Multipurpose Construction Adhesives - 70
Substrate Specific Application VOC Limit (g/l less water) Metal to Metal - 30
Plastic Foams - 50
Porous material (except wood) - 50 Wood – 30
Fiber Glass – 80

- 5.2.28 Wherever required, Contractor shall meet and carry out documentation of all activities on site, supplementation of information, and submittals in accordance with GRIHA LD program standards and guidelines. Towards meeting the aforementioned building environmental rating standard(s) expert assistance shall be provided to him up on request.
- 5.2.29 Contractor shall provide quantities, manufacturer's data, O&M manuals, and Certificates required from manufacturer in accordance with GRIHA LD program requirement for all equipment and materials.

5.2.30 Water Use during Construction

Contractor should spray curing water on concrete structure and shall not allow free flow of water. After liberal curing on the first day, all the concrete structures should be painted with curing chemical to save water. Areas on which the curing compound is to be used shall be decided by Engineer (*as on some areas water may also be used for curing*) for water curing nothing shall be paid extra. Concrete structures should be kept covered with thick cloth/gunny bags and water should be sprayed on them. Contractor shall do water ponding on all sunken slabs using cement and sand mortar.

- 5.2.31 The Contractor shall remove from site all rubbish and debris generated by the Works and keep Works clean and tidy throughout the Contract Period. All the serviceable and non- serviceable (*malba*) material shall be segregated and stored separately. The malba obtained during construction shall be collected in well- formed heaps at properly selected places, keeping in a view safe condition for workmen in the area.

Materials which are likely to cause dust nuisance or undue environmental pollution in any other way, shall be removed from the site at the earliest in the plot elsewhere and ***nothing extra shall be paid*** for cartage within the campus and till then they shall be suitable covered. Glass & steel should be dumped or buried separately to prevent injury. The work of removal of debris should be carried out during day. In case of poor visibility artificial light may be provided. Debris shall be disposed in the campus within a lead of 2 kms by digging a well and properly covering the same with soil. ***Nothing extra shall be paid*** for this.

5.3 MATERIALS & FIXTURES FOR THE PROJECT

- 5.3.2 All materials sourced specifically for construction at this project, shall be strictly sourced from a distance (*as specified in GRIHA guidelines*) from the project site. Contractor shall collect the relevant material certificates to prove the same

- 5.3.2.1 Any material that is to be sourced from outside the prescribed radius shall be done after

securing the necessary approval from the Engineer/DFCCIL.

- 5.3.2.2 All cement used at site for mortar, plaster, building blocks, etc. shall be PPC (*Portland Pozzolana Cement*) unless otherwise specifically mentioned in the tender documents. The PPC must meet the requirements of IS 1489: 1991.
- 5.3.2.3 As a measure to reduce wastage and water consumption during construction, the contractor shall source or set up the infrastructure for a batch mix concrete.
- 5.3.2.4 The contractor has to comply as per MoEF issued notification 8.0.763(E) dated 14th Sept.1999 containing directive for greater fly ash utilization, where it stipulates.
- 5.3.2.5 The contractor shall ensure that all paints, polishes, adhesives and sealants used both internally and externally, on any surface, shall be Low VOC products. The contractor shall get prior approval from the Engineer/DFCCIL before the application of any such material.
- 5.3.2.6 All plumbing and sanitary fixtures installed shall be as per the prescription of the Engineer/DFCCIL and shall adhere to the minimum LPM and LPF mentioned.
- 5.3.2.7 The contractor shall employ 100% zero ODP (*ozone depletion potential*) insulation; HCFC (*hydro-chlorofluorocarbon*)/ and CFC (*chlorofluorocarbon*) free HVAC and refrigeration equipment and/halogen-free fire suppression and fire extinguishing systems.
- 5.3.2.8 The contractor shall ensure that all composite wood products/agro-fibre products used for cabinet work, etc. do not contain any added urea formaldehyde resin.

5.4 RESOURCES CONSUMED DURING CONSTRUCTION

- a) The contractor shall ensure that the least amount of water and electricity is wasted during construction. The Engineer/DFCCIL can bring to the attention any such wastage and the contractor will have to ensure that such bad practices are corrected.
- b) The contractor shall install necessary meters and measuring devices to record the consumption of water, electricity and diesel on a monthly basis for the entire tenure of the project.
- c) The contractor shall ensure that all run-off water from the site, during construction is collected and reused to the maximum.
- d) The contractor shall use treated recycled water of appropriate quality standards for construction, if available.
- e) No lights shall be turned on during the period between 6:00 AM to 6:00 PM, without the permission of the Engineer/DFCCIL.
- f) The contractor is encouraged to use bio-diesel in place of petroleum diesel for the running of generators during construction.

5.5 CONSTRUCTION WASTE

- a) Contractor shall ensure that wastage of construction material is kept to a maximum of 3%.
- b) All construction debris generated during construction shall be carefully segregated and stored in a demarcated waste yard. Clear, identifiable areas shall be provided for each waste type.

Employ measures to segregate the waste on site into inert, chemical, or hazardous wastes.

- c) All construction debris shall be used for road preparation, back filling, etc., as per the instructions of the Engineer/DFCCIL, with necessary activities of sorting, crushing, etc. and surplus shall be disposed of in a well after digging a well for this purpose and suitably covered with soil within the 2 kms lead in the plot. ***Nothing extra shall be paid*** for this.
- d) No construction debris shall be taken away from the site, without the prior approval of the Engineer.
- e) The contractor shall recycle the unused chemical/hazardous wastes such as oil, paint, batteries, and asbestos.
- f) If and when construction debris is taken out of the site, after prior permissions from the Engineer then, the contractor shall ensure the safe disposal of all wastes and will only dispose of any such construction waste in approved dumping sites.
- g) Inert waste to be disposed of by Municipal Corporation/ local bodies at landfill sites.
- h) The facility for cleaning the tyres of trucks/ dumpers carting the material shall be provided at the entry points and sedimentation trap shall be made. ***Nothing shall be extra payable*** on this account.

5.6 Documentation

- a) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer/DFCCIL on a monthly basis:
 - i) Water consumption in litres
 - ii) Electricity consumption in 'kwh' units
 - iii) Diesel consumption in litres
 - iv) Quantum of waste generated at site and the segregated waste types divided into inert, chemical and hazardous wastes.
 - v) Digital photo documentation to demonstrate compliance of safety guidelines.
- b) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer/DFCCIL on a weekly basis:
 - i) Quantities of material brought into the site
 - ii) Quantities of construction debris (*if at all*) taken out of the site
 - iii) Digital photographs of the works at site, the workers facilities, the waste and other material storage yards, pre-fabrication and block making works, etc. as guided by the Engineer/DFCCIL.
- c) The contractor shall submit one document after construction of the buildings, a brief description along with photographic records to show that other areas have not been disrupted during construction. The document should also include brief explanation and photographic records to show erosion and sedimentation control measures adopted. Document CAD drawing showing site plan details of existing vegetation, existing buildings, existing slopes and site drainage pattern, staging and spill prevention measures, erosion and sedimentation control measures and measures adopted for top soil preservation during construction

- d) The contractor shall submit to the Engineer after construction of the buildings, a detailed as built quantification of the following:
 - i) Total materials used,
 - ii) Total top soil stacked and total reused
 - iii) Total earth excavated,
 - iv) Total waste generated,
 - v) Total waste reused,
 - vi) Total water used,
 - vii) Total electricity, and
 - viii) Total diesel consumed.
- e) The contractor shall submit to the Engineer, as built drawings after construction of the buildings as detailed.
- f) The contractor shall submit to the Engineer/DFCCIL, before the start of construction, a site plan along with a narrative to demarcate areas on site from which top soil has to be gathered, designate area where it will be stored, measures adopted for top soil preservation and indicate areas where it will be reapplied after construction is complete.
- g) The contractor shall submit to the Engineer/DFCCIL, a detailed narrative (*not more than 250 words*) on provision for safe drinking water and sanitation facility for construction workers and site personnel.
- h) Provide supporting document from the manufacturer of the cement specifying the fly- ash content in PPC used in reinforced concrete/ in other works.
- i) Provide supporting document from the manufacturer of the pre-cast building blocks specifying the fly ash content of the blocks used in an infill wall system.
- j) The contractor shall, at the end of construction of the buildings, submit to the Engineer, submit following information, for all material brought to site for construction purposes, including manufacturer's certifications, verifying information, and test data, where Specifications sections require data relating to environmental issues including but not limited to:
 - i) Source of products: Supplier details and location of the supplier.
 - ii) Project Recyclability: Submit information to assist Employer/Engineer and Contractor in recycling materials involved in shipping, handling, and delivery, and for temporary materials necessary for installation of products.
 - iii) Recycled Content: Submit information regarding product post industrial recycled and post consumer recycled content. Use the "Recycled Content Certification Form", to be provided by the Commissioning Authority appointed for the Project.
 - iv) Product Recyclability: Submit information regarding product and product's component's recyclability including potential sources accepting recyclable materials.
 - v) Provide certification for all wood products provided by a Forest Stewardship Council (*FSC - or equivalent organization*) accredited certifier.

- vi) Provide final certification of well-managed forest of origin to provide final documentation of certified sustainably harvested status: Acceptable wood “certified sustainably harvested” certifications shall include:
 - a) Wood suppliers’ certificate issued by one of the Forest Stewardship Council-accredited certifying agencies;
 - b) Suppliers’ invoice detailing the quantities of certified wood products for project;
 - c) Letter from one of a certifying agency corroborating that the products on the wood supplier’s invoice originate from certified well-managed forests.
- k) Clean tech: Provide pollution clearance certificates from all manufacturers of materials
- l) Indoor Air quality and Environmental Issues: Submit emission test data, sourced from the manufacturers, produced by acceptable testing laboratory listed in Quality Assurance Article for materials as required in each specific Specification section.
 - a. Certifications from manufacturers of Low VOC paints, adhesives, sealant and polishes used at this particular project site.
 - b. Certification from manufacturers of composite wood products/agro fibre products on the absence of added urea formaldehyde resin in the products supplied to them to this particular site.
 - c. Submit environmental and pollution clearance certificates for all diesel generators installed as part of this project.
- m) Provide total support to the Architects / Engineer / Green Building Consultants appointed by the DFCCIL in completing all Green Building Rating related formalities, including signing of forms, providing signed letters in the contractor’s letterhead.

5.7 EQUIPMENT

- a) To ensure energy efficiency during and post construction all pumps, motors and engines used during construction or installed, shall be subject to approval and as per the specifications.
- b) All lighting installed by the contractor around the site and at the labour quarters during construction shall be CFL bulbs of the appropriate illumination levels. This condition is a must, unless specifically prescribed.

The contractor is expected to go through all other conditions of the GRIHA ratings stipulations, which can be provided to him by the Engineer/DFCCIL. Failure to adhere to any of the above mentioned items, without necessary clearances from the Engineer/DFCCIL shall be deemed as a violation of contract and the contractor shall be held liable for ***penalty as determined by the Engineer/DFCCIL.***