



**JHARKHAND URBAN INFRASTRUCTURE  
DEVELOPMENT COMPANY LTD., RANCHI  
(Government of Jharkhand Undertaking)**

**STANDARD BIDDING DOCUMENT  
FOR  
PROCUREMENT OF CIVIL WORKS**

**Construction (including structural design) of 440  
dwelling units in 22 number of G+3 blocks at  
Butberia, Mihijam under Pradhan Mantri  
Awas Yojana (Urban) (Package-L)**

2019-20

# **VOLUME-I**

**SECTION 1**  
**INVITATION FOR BID**  
**(IFB)**



**JHARKHAND URBAN INFRASTRUCTURE DEVELOPMENT COMPANY  
LIMITED**



झारखण्ड सरकार

(Govt. of Jharkhand Undertaking)  
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**NIT No:JUIDCO/PMAY/Vertical-III/2019/235 Date:30-05-2019**  
**e-procurement (Tender Notice)**

1.	(a) Name of the work	<b>Construction (including structural design) of 440 dwelling units in 22number of G+3 blocks at Butberiya, Mihijamunder Pradhan MantriAwasYojana (Urban) (Package-L)</b>
	(b) Scope of Work	Scope of work include Architectural Planning & Design, Engineering Procurement, preparation of detailed structural design & drawing project execution & Construction, after obtaining approval from municipal bodies including water supply and sanitation, sewer network, electrification work, storm water drainage, rain water harvesting, landscaping, barbed wire fencing, street lighting, construction of internal roads and parking area of Pradhan MantriAwasYojana at Butberiya, Mihijamon EPC cum Turnkey basis.
2.	Mode of Bid Submission	e-tendering ( <a href="http://jharkhandtenders.gov.in">http://jharkhandtenders.gov.in</a> )
3.	Estimated Cost (Rs.)	<b>Rs.25.76Crore</b> (RupeesTwenty FiveCroreSeventy SixLakh)only.
4.	Tender Fee and Bid Security	Tender document fee: <b>Rs.25,000/-</b> (Rupees Twenty- Five Thousand) only [ <b>Non-Refundable</b> ] Bid Security: <b>Rs.25,76,000/-</b> (Rupees Twenty Five Lakh Seventy Six Thousand) only.
5.	Date / Time of Publication of Tender on Website	<b>30.05.2019 17:00 Hrs</b>
6.	Last date of submission of pre-bid queries	<b>03.06.2019 17:00 Hrs</b>
7.	Date of Pre-bid meeting	<b>04.06.2019 11:00 Hrs</b>
8.	Last Date / Time of Bid Submission	<b>20.06.2019 17:00 Hrs</b>
9.	Last Date / Time of Submission of Tender Fee & EMD	<b>21.06.2019 17:00 Hrs</b>
10.	Date of Bid Opening	<b>21.06.2019 17:30 Hrs</b>
11.	Bid Submission Address	Jharkhand Urban Infrastructure Development Company Limited, 3 <sup>rd</sup> Floor, PragatiSadon, Kutchery Road, Ranchi – 834001
12.	Helpline No. of e-Procurement Cell	+91 651 2225878

**Note: Only e-Tenders shall be accepted.**

Further details are available on Jharkhand Government e-Procurement website and can be seen on the website  
<http://jharkhandtenders.gov.in>

Sd/-  
**Project Director (Technical)**  
**JUIDCO Limited, Ranchi**

# Instructions to Bidders for Online Submission of Bids

Detailed instructions & documents to be furnished for online bidding

1. Guidelines for online submission of bids can be downloaded from the website <https://jharkhandtenders.gov.in>
2. Interested bidders can download the bid from the website <https://jharkhandtenders.gov.in>
3. Bidders in order to participate in the online bidding process have to get 'Digital Signature Certificate (DSC)' as per Information Technology Act-2000. This Certificate will be required for digitally signing the bid. Bidders can get the above mentioned digital signature certificate from any vendor approved by Controller of Certifying Authorities (CCA). Bidders, who already possess valid Digital Certificates, need not procure new Digital Certificate.
4. Bidders should submit their bid online in electronic format with digital signature. Bid without Digital Signature will not be accepted. No proposal will be accepted in physical form.
5. Bids will be opened online as per time schedule mentioned in the Invitation for Bids (IFB).
6. Bidders should be ready with the scanned copies of cost of documents & bid security as specified in the tender document. Before submission of bid online, bidders must ensure that scanned copies of all the necessary documents have been attached with the bid.
7. Bidders should produce original Demand Draft towards tender fee & bid security as mentioned in the Invitation for Bids (IFB) to the JUIDCO Ltd. office during the period & time as mentioned in the IFB, failing which bid will not be accepted. The details of cost of documents, bid security as specified in the tender documents should be the same as submitted online (scanned copies), otherwise bid will summarily be rejected.
8. The Department will not be responsible for delay in online submission of bids due to any reason, whatsoever.
9. All required information for bid must be filled and submitted online.
10. Other details can be seen in the bid documents.
11. Only online withdrawal or modification of bids, if any, in pursuance of relevant clauses of the SBD is acceptable.
12. Details of documents to be furnished for online bidding :  
(Scanned copies of the following documents to be uploaded in pdf format on the website <https://jharkhandtenders.gov.in> in technical bid folder).
  - i. Demand Draft towards Tender fee.
  - ii. Bid security (Bank Guarantee) in the form specified in Section-9 of SBD.
  - iii. Qualification information and supporting documents, as specified in Section-3 of

SBD.

- iv. Certificates, undertakings, affidavits as specified in Section-3 of SBD.
  - v. Any other information pursuant to Clause-4.3 of Section-2 ITB.
  - vi. Undertakings that the bid shall remain valid for the period specified in Clause-15.1 of Section-2 ITB.
13. Scanned copies of the following documents are required to be uploaded on the website <http://jharkhandtenders.gov.in> in financial bid folder :
- i. Form of bid as specified in Section-7 of SBD in pdf format.
  - ii. Duly filled Price Bid.
14. Uploaded documents of successful bidder will be verified with the original before signing of the agreement. The successful bidder should provide the originals to the concerned authority on receipt of such a letter in this regard, which will be sent through registered post or speed post or by e-mail or delivered by hand.
15. Each uploading shall be digitally signed by the bidder.

Sd/-

**Project Director (Technical)**  
**JUIDCO Limited, Ranchi**





**JHARKHAND URBAN INFRASTRUCTURE DEVELOPMENT COMPANY  
LIMITED**

(Govt. of Jharkhand Undertaking)  
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**INVITATION FOR BIDS (IFB)**  
**NATIONAL COMPETITIVE BIDDING**

**e-Tender Referenceno.:JUIDCO/PMAY/Vertical-III/2019/235**

The undersigned, on behalf of the JUIDCO invites lump sum bids for the work mentioned in table below through e-Procurement from eligible and approved Contractors, registered in appropriate class with Urban Development & Housing Department, Government of Jharkhand. Those Contractors who are not registered with Urban Development and Housing Department, Government of Jharkhand are also permitted to take part in the tender process. In such case the Contractor should be registered in any State Government/ Central Government/ Public Sector Unit/undertaking in appropriate class in Building Construction. However, such Contractors in the event of award of work will perform have to get registered with Urban Development and Housing Department, Government of Jharkhand within a period of Two (2) months from date of Award of Contract. Any government owned entity incorporated under Indian Companies act or any appropriate law engaged in the construction of Housing project or any public sector undertaking either of central or of state engaged in construction activities specially building works can also participate. The bid shall be submitted online in the website <http://jharkhandtenders.gov.in>. The bidder(s) should have necessary portal enrolment with their own Digital Signature Certificate:

Sl. No.	Name of the work	Approximate value of work (Rs.)	Bid Security (Rs.)	Cost of Document (Rs)	Period of Completion
1	2	3	4	5	6
	<b>Construction (including structural design) of 440 dwelling units in 22 number of G+3 blocks at Butberiya, Mihijam under Pradhan Mantri Awas Yojana (Urban) (Package-L)</b>	<b>Rs. 25.76 Crore</b> (Rupees Twenty Five Crore Seventy Six Lakh) only.	<b>Rs.25,76,000/-</b> (Rupees Twenty Five Lakh Seventy Six Thousand) only.	Rs.25,000 /- (Rupees Twenty-five thousand) only.	18 months (Including monsoon & mobilization period)



2. Scope of Work:-This work under Pradhan Mantri Awas Yojana (Urban) under Vertical-III is formulated as per the requirements of affordable housing policy of Government of Jharkhand. The board scope of work to be carried out by the agency/contractor will include; preparation of Architectural Designs and Plans; preparation of Structural Design (in tune with the Affordable Housing Policy of Government of Jharkhand) and getting them vetted from IIT (ISM), Dhanbad or NIT, Deoghar or BIT, Sindri (Dhanbad); preparation of good for construction drawing as per PWD/CPWD approved specifications and relevant IS codes; getting required approvals from concerned Municipal Corporation at each stage, including carrying out of the following associated works:

- i. Water Supply and sanitation (internal as well as external) including overhead water tanks over roof top and sump at the ground level
- ii. Storm water drainage
- iii. Rainwater harvesting structures
- iv. Internal roads
- v. Landscaping with provision of park etc.
- vi. Development of vehicle parking area
- vii. Barbed wire fencing

3. Period of availability of tenders online/date & time of bidding on-line/last date of seeking clarification/date of opening of tender papers are as given below–

Sl. No.	Procurement Officer	Place of Opening	Availability of tender on-line for bidding		Date & Time of opening of technical bid
			From	To	
1	2	3	4	5	6
1	Project Director (Technical) JUIDCO Ltd., Ranchi, Jharkhand.	e-Procurement Cell JUIDCO Ltd., 3 <sup>rd</sup> Floor, Pragati Sadan, Kutchery Chowk, Ranchi.	<b>30.05.2019</b> <b>17:00Hrs</b>	<b>20.06.2019</b> <b>17:00Hrs</b>	<b>21.06.2019</b> <b>17:30Hrs</b>

4. Cost of bidding document for a non-refundable fee as indicated shall be in the form of Demand Draft of any **Nationalized or Scheduled Indian Bank**, payable at **Ranchi** in favour of **Managing Director JUIDCO Ltd., Ranchi, Jharkhand** or can be transferred online (Name of Account Holder – **Jharkhand Urban Infrastructure Development Company Limited, Account Number – 708202010001712, IFS Code UBIN0570826**, Bank and Branch Name – UBI, Argora, Ranchi ) (In case, of Online transfer, the bidder has to furnish the Transaction details.)
5. Bids must be accompanied by Security amount specified for the work in the table, payable at Ranchi and drawn in favour of Managing Director, JUIDCO Ltd., Ranchi, Bid Security will have to be in any one of the forms as specified in the bidding document and shall have to be valid for 45 days beyond the validity of the bid.

6. Cost of bidding document and Bid Security shall be deposited in the office of the Project Director (Technical), **JUIDCO Ltd., Ranchi, Jharkhand, on any working days between 30.05.2019 to 21.06.2019 during working hours from 10:00 Hrs to 17:00 Hrs** either by registered post /Speed post or by hand. Only those applications will be entertained whose cost of bidding document and bid security is received on or before **21.06.2019 17.00 Hrs**. JUIDCO will not be held responsible for postal delay, if any, in the delivery of the document or non-receipt of the same in JUIDCO Ltd.
7. Tenderer(s) shall upload Scanned copy in pdf format/Digitally Signed copy of his/her Valid DD, Bid Security, Credit Facility, GST, PAN, Five Years Audited Turnover, Character Certificate, Work Experience, Partnership Deed or Article of Association / Memorandum, Undertakings, Affidavits, E.P. Fetc., failing which the bid shall be rejected.
8. Uploaded documents of successful bidder will be verified with the original before signing the agreement. The successful bidder has to provide the originals to the concerned authority on receipt of such a letter, which can be sent through registered post or speed post or can be delivered by hand.
9. Bidders in order to participate in the bidding process have to get 'Digital Signature Certificate (DSC)' as per Information Technology Act-2000 to participate in online bidding. This certificate will be required for digitally signing the bid. Bidders can get the above mentioned digital Signature certificate from any approved vendors (CCA). Bidders, who already possess valid Digital Certificates, need not procure new Digital Certificate.
10. Bidders have to submit their bids online in electronic format with Digital Signature. Bids without Digital Signature will not be accepted. No proposal will be accepted in Physical Form.
11. The work shall have to be completed in time, failing which penalty for non-completion of work in time shall be imposed, as stated in the Bid Document.
12. Bidders who have rescind work in any department / PSU shall not be eligible to participate in the bidding process.
13. Bidders shall provide their Banker's contact details, so that JUIDCO Ltd can contact the Bank, if required.
14. If any work is awarded to a bidder after submission of bid to JUIDCO Ltd, his bid capacity shall be reduced by that bid amount as indicated in Para 1.4 of Qualification Information & Other Forms (Section-3 of ITB).
15. A pre-bid meeting will be held on **04.06.2019 at 11:00 am** in the office of JUIDCO Ltd., Ranchi, Jharkhand to clarify the issues and to answer questions on any matter

that may be raised at that stage as stated in “Clause 9.2: Pre-bid meeting” of the ‘Instructions to Bidders: Section-2’ of the bidding document.

16. Successful bidder will have to submit “As Built Layout Plan” in color print showing different building blocks, water supply and drainage details, external electrical supply, water harvesting details etc. after completion of the work in 5 hard (coloured) and 1 soft copy for reference in future, failing which the amount to be withheld from the final payment to supply "as built" drawings by the date required is Rs 10.00 lakhs for projects up to Rs 50 crores, and additional Rs 0.15 lakhs for every 1 crore increment in project cost thereafter, with upper limit of Rs 50 lakhs.
17. Other details can be seen in the bidding documents.

**Sd/-**  
**Project Director (Technical)**  
**JUIDCO Ltd., Ranchi**

# **SECTION 2**

## **INSTRUCTIONS TO BIDDERS**

**(ITB)**

## Instructions to Bidders

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## **A. GENERAL**

### **1. Scope of Bid**

1.1 The Employer (named in appendix to ITB) invites bids for the construction of works (as defined in these documents and referred to as “the works”) detailed in the table given in IFB. The bidders need to submit bids for entire work detailed in the table given in IFB as the work is to be executed in Engineering Procurement and Construction (EPC) Mode.

1.2 In this EPC project, the indicative cost of the project will be given and bidders should submit their bid amount with regard to the entire work including survey, investigation, collection of data, planning of dwelling units each to keep it within 29.4 sqm (carpet area), adopted under Affordable Housing Policy(2016) of Government of Jharkhand and subsequent amendments, design & drawing and approval of the same from competent authorities (JUIDCO Limited included) for the entire project and construction of the project according to approved design & drawing of buildings and associated premises, etc.

1.3 The successful bidder will be expected to complete the works by the intended completion date specified in the Contract data.

1.4 Throughout these bidding documents, the terms ‘bid’ and ‘tender’ and their derivatives (bidder/ tenderer, bidding/tendering, etc.) are synonymous.

### **2. Source of Funds**

The expenditure on this project will be met from Jharkhand Affordable Housing Development Fund (JAHDF) of Government of Jharkhand maintained by Urban Development and Housing Department, which is the Nodal department for implementing Affordable Housing Scheme under PMAY.

### **3. Eligible Bidders**

3.1 This invitation for Bids is open to all bidders as mentioned in IFB.

3.2 All bidders shall provide in Section 3, Forms of Bid and Qualification Information, a statement in para 1.11, that the Bidder is neither associated, nor has been associated, directly or indirectly, with the Consultant or any other entity that has prepared the tender design, specifications and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the works, and any of its affiliates, shall not be eligible to bid.

### **4. Qualification of the Bidder**

4.1 All bidders shall provide in Section 3, Forms of Bid and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary. The proposed methodology should include programme of construction backed with equipment planning and deployment

duly supported with broad calculations and quality assurance procedures proposed to be adopted justifying their capability of execution and completion of work as per technical specifications, within stipulated period of completion.

4.2 Please note that there will be No prequalification of potential bidders for this EPC contract.

4.3 All bidders shall include the following information and documents with their bids in Section3:

- a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit theBidder;
- b) total monetary value of construction work performed for each of the last five years.
- c) experience in similar works (which means any housing project or building works which consists of minimum G+3 building)for each of the last five completed financial years and the current financial year till date and details of works underway or contractually committed; and clients who may be contacted for further information on thesecontracts;
- d) major items of construction equipment proposed to carry out theContract;
- e) qualifications and experience of key site management and technical personal proposed forContract;
- f) reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past fiveyears;
- g) evidence of access to line (s) of credit and availability of other financial resources facilities (10% of contract value), certified by the approved Bankers (not more than 3 monthsold)
- h) undertaking that the bidder will be able to invest a minimum cash upto 25% of contract value of work, during implementation ofwork.
- i) authority to seek references from the Bidders' bankers;
- j) self-attested copy of information regarding any litigation, current orduring the last seven years, in which the Bidder is involved, the parties' concerned, and disputed amount;
- k) proposals for subcontracting components of the works amounting to more than 10 percent of the Bid Price shall not be permitted, except for specialized nature of work in which new emerging engineering methodology is proposed to be used with the prior approval of implementing agency. Use of such New technologies should be indicated while submitting the bid.
- l) the proposed methodology and programmeof construction, backed with equipment planning and deployment, duly supported with broad



calculations and quality control procedures proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion as per milestones. (for all contracts over Rs.2.5Crore).

#### **4.4 Joint ventures is acceptable.**

4.4.1 Joint Venture partners would be limited to **two** (including the leadpartner)

4.4.2 One of the partners, who is responsible for performing a key in contract management (Lead Partner of the JV) or is executing a major component of the proposed contract, shall be nominated as being in charge during Bidding periods and in the event of successful Bid, during contract execution. The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of the partner(s) of the Joint Venture. This authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all partners.

4.4.3 Both the partners of Joint Ventures shall be, jointly and severally liable, during the Bidding process and for the execution of the contract in accordance with the contract terms, and a statement of this affect shall be included in the authorization. The Bid shall be signed so as to legally bind all the partners, jointly and severally. Bid security and performance guarantee, as required, will be furnished by the Lead Partner and Joint Venture partner(s) out of their accounts in proportion to their participation in Joint Venture.

4.4.4 Qualifying criteria for Joint Venture – Joint venture will be permitted for projects costing any amount.

Joint Venture must comply with the following requirements: -

**a) The Joint Venture must satisfy collectively the criteria for this purpose. The following data of each member of the Joint Venture may be added together to meet the collective qualifying criteria.**

- (i) Annual Turnover (Cl. 4.5 (A) (a) of ITB Section-2)
- (ii) Particular Construction Experience. (Cl. 4.5 (A) (b) of ITB Section-2)
- (iii) Equipment Capabilities. (Annexure I of Section-2)
- (iv) Personal Capabilities. (Annexure II of Section-2)
- (v) Financial Capabilities [Cl.4.3(g) & Cl.4.3(h) of ITB Section-2]

**b) The Lead partner shall meet the following qualifying criteria in proportion to the partnership in JV but not less than 51%.**

- (i) Annual Turnover. (Cl. 4.5 (A) (a) of ITB Section-2)
- (ii) Particular Construction Experience. (Cl. 4.5 (A) (b) of ITB Section 2)
- (iii) Financial Capabilities. [Cl. 4.3 (g) & 4.3 (h) of ITB Section 2]

**c) Other partner shall meet the following qualifying criteria in proportion to the partnership in JV but not less than 25%.**

- i. Annual Turnover. (Cl. 4.5 (A) (a) of ITB Section 2)
- ii. Particular Construction Experience. (Cl. 4.5 (A) (b) of ITB Section 2)
- iii. Financial Capabilities. [Cl. 4.3 (g) & 4.3 (h) of ITB Section 2]

4.4.5 A copy of the Joint Venture Agreement (JVA) entered into between the partner shall be submitted with the application. Alternatively, a letter of Intent to execute a JVA in the event of a successful Bid shall be signed by all partner(s) and submitted with the application together with a copy of the proposed agreement. The JVA shall include among other things a Joint Venture's objectives and proposed management structure, the contribution of each partner to the Joint Venture operation, the commitment of the partner to Joint Venture in the event of the default or withdrawal of any partner and an arrangement for providing the required indemnities:

- (i) Stepping into the shoes of the existing partner(s) of JV with all liabilities of the existing partners from the beginning of the contract.
- (ii) With the prior approval of the employer.
- (iii) Notwithstanding demarcation or allotment of work between two JV partner(s), JV shall be liable for non-performance of the whole contract irrespective of their demarcation or shared work.

In case of a successful Bid being accepted by the employer the payments under the contract will only be made to the JV not to the individual partner(s).

4.4.6 Joint Venture Agreement shall contain a Clause to the effect that there shall be a separate JV Bank Account (distinct from the Bank Account of the individual partners) to which the individual partner shall contribute their share / or working capital.

Joint Venture Agreement shall also contain a Clause to the effect that the financial obligations of the JV shall be discharged through the said JV Bank Account only and also all the payments received or paid by the employer by the JV shall be through that Account alone.

**4.5 A To qualify for award of the contract, each bidder in its name must have in the last five years as referred to in Appendix.**

- (a) The contractor/ firm must have achieved a minimum annual financial equal to **100% of estimated cost** (in all classes of Civil engineering construction works only) in any one financial year during last five completed financial years (turnover presently between 2013-14 and 2017-18).
- (b) The contractor/firm must have satisfactorily completed as a prime contractor at least one similar work of value not less than **50% of estimated value of contract during last five completed financial years** between 2013-14 and 2017-18 (work of 90% or more of contract value executed will be taken as completed work) or upto the time of submission of bid in the current financial year.

*Similar works means any housing project or building works which consists of minimum G+3 building.*

**Even though the bidder meets the above qualifying criteria, he is subject to be disqualified, if he has made a misleading or false representation(s) in the forms, statements and attachments in proof of the qualifying requirements.**

(c) The contractor or his identified sub-contractor should possess required valid electrical license for executing the building electrification works and should have executed similar electrical works for a minimum amount (6% of total civil work) as indicated in Appendix to ITB (Section-2) in any one year.

(d) The contractor or his identified sub-contractor should possess required valid license for executing the water supply/sanitary Engineering works and should have executed similar water supply/sanitary Engineering works for a minimum amount (6% of total civil work) as indicated in Appendix to ITB (Section-2) in any one year.

(e) If the work is of specialized nature of work or if a new type of Engineering methodology is proposed to be adopted, the contractor or his identified sub-contractor or Experienced Vendor of that particular field shall produce Experience Certificate for executing the similar nature of work for the minimum amount as indicated in Appendix to ITB in any one year.

For the purpose of this Bid, New and Emerging Technologies shall mean any structure conforming to New and Emerging Technology approved by Building Material and Technology Promotion Council (BMTPC), Ministry of Housing and Urban Poverty Alleviation, Government of India as set out/described or updated and approved by BMTPC. The approved technology list can be referred to by visiting BMTPC site ([www.bmtpc.org](http://www.bmtpc.org)). Any subsequent changes/modification brought out by BMTPC till the date of submission of bid will be accepted.

The proposed alternate technology/system must have been used in a residential project in India or abroad. It shall be suitable to geo-climatic and hazard conditions of the region, having design compatibility & flexibility to suit the requirements of the structure to be built and minimum design life of 50 years. All the walls / roof in the dwelling units shall be with concrete finish (Mandatory).

The Bidder shall submit a certified copy of such certification. The certification should include:

- i. Structural safety (Strength & Serviceability) of the system against vertical and lateral load (wind & seismic loads as applicable) as per relevant Indian Standards, including performance of joints, as applicable.
- ii. Fire safety as per National Building Code (latest version) and / or provisions in the local Bye-laws.
- iii. Resistance against water and moisture penetration.- As per any recognised international standard/practice like ASTM/Agreement South Africa.
- iv. Thermal behavior-Comparing the thermal transmission losses of the system with that of traditional construction (refer IS 3792:1978) Thermal Performance should there be comparable or better than conventional.
- v. Acoustic behavior – Minimum sound transmission loss of 40 dB as per IS 1950:1962
- vi. Durability –to be evaluated considering the following:
  - Expected service life of the system compared to conventional

- Evidence of building(s) sustained for at least 10 years.
- Performance under accelerated tests like alternate wetting and drying, salt spray test etc.

All the materials used shall conform to Indian / International Standards and must be accepted by the agency providing certification for performance criteria.

**B. Each bidder should further demonstrate**

a) availability (either owned or leased or by procurement against mobilization advances) of the key and critical equipment for this work given in Annexure-I of section-2 which is indicated for this EPC work based on the studies, carried out by client equipment to attain the completion of works in accordance with the prescribed construction schedule.

The bidders should, however, undertake their own studies and furnish with their bid, a detailed construction planning and methodology supported with layout and necessary drawings and calculations (detailed) as per their experience provided in clause 4.3(C) above in order to allow the employer to review their proposals. The numbers, types and capacities of each plant/equipment shall be shown in the proposals along with the cycle time for each operation for the given production capacity to match the requirements.

b) Availability of personnel for this work with adequate experience as required; as per Annexure-II of Section-2.

c) liquid assets and/or availability of credit facilities of no less than amount indicated in para 9 of Appendix to ITB (Section-2) (credit lines/letter of credit/certificates from Banks for meeting the funds requirements etc.-usually the equivalent of the estimated cash flow for 3 months in peak construction period.)

**C. To qualify for a package of contracts made up of this and other contracts for which bids are invited in the IFB, the bidder must demonstrate having experience and resources sufficient to meet the aggregate of the qualifying criteria for the individual contracts.**

4.6 Sub-contractors' experience and resources shall not be taken into account in determining the bidder's compliance with the qualifying criteria.

4.7 Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated as under:

$$\text{Available Bid Capacity} = (A * N * 2.5 - B)$$

where,

A=Maximum value of civil engineering works executed in any one year during the last five financial years between 2013-14 and 2017-18 (updated to the price level of the year indicated in para 18 of Appendix to ITB) taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the works for which bids are invited upto two place of decimals.

B =Value (updated to the price level of the year as indicated in para 18 of Appendix to ITB) of existing commitments and ongoing works to be completed during the next 2 years (period of completion of the works for which bids are invited)

**Note:**

1. The statements showing the value of existing commitments and ongoing works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the engineer in charge not below the rank of Executive Engineer or equivalent.

2. Escalation factors (for computing common base value for works completed) is given in Appendix to ITB.

4.8 Even though the bidders meet the above qualifying criteria, they are subject to be disqualified, if they have:

- made misleading or false representations in the forms, statements and attachments in proof of the qualification requirements; and/or
- record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.

**5. One Bid per Bidder**

5.1 Each bidder shall submit only one bid for one package. A bidder who submits or participates in more than one Bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.

**6. Cost of Bidding**

6.1 The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.

**7. Site Visit**

7.1 The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the works. The costs of visiting the Site shall be at the Bidder's own expense.

## B. BIDDING DOCUMENTS

### 8. Content of Bidding Documents

1.1 The set of bidding documents comprises the documents listed below and addenda issued in accordance with Clause 10:

Section	Particulars	Volume No.
1	Invitation for Bids (IFB) including Instructions to Bidders for Online Submission of Bids	I
2	Instruction to Bidders	
3	Qualification Information and other forms	
4	Conditions of contract – General and Special Conditions of contract	
5	Contract Data	
6	Technical Specifications	II
7	Form of bid	III
8	Price Bid	
9	Securities and other forms	
10	Drawings ( Concept or otherwise)	IV
11	Documents to be furnished by bidder	V

1.2 One copy of each of the Volumes I, II, III and IV will be issued to the bidder. Documents to be furnished by the bidder in compliance to Section 2 will be prepared by him in two parts viz Part 1 – Technical Bid, Part 2- Financial Bid and furnished as Volume- V in two parts (refer clause 12).

1.3 The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms/ terms, technical specifications, price bid form, Annexes and drawings in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk. Pursuant to clause 26 hereof, bids which are not substantially responsive to the requirements of the Bid Documents shall be rejected.

### 9. Clarification of Bidding Documents

#### 9.1 Clarification of Bidding Documents

- i. A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing or by cable (hereinafter "cable" includes telex, facsimile and e-mail) at the Employer's address indicated in the invitation to bid. The Employer will respond to any request for clarification which he received earlier than 15 days prior to the deadline for submission of bids. Copies of the Employer's response will be forwarded to all purchasers of the bidding documents, including a description of the enquiry but without identifying its source.
- ii. Bidding document is available on Internet on official website of Government

of Jharkhand ([www.jharkhandtenders.gov.in](http://www.jharkhandtenders.gov.in)). It can be downloaded and submitted to the competent authority with the cost of document in the shape of Demand Draft or transferred online as stated in IFB along with Bid Security money in time (Name of Account Holder – Jharkhand Urban Infrastructure Development Company Limited, Account Number – 708202010001712, IFS Code UBIN0570826, Bank and Branch Name – UBI, Argora, Ranchi) (In case, of Online transfer, the bidder has to furnish the Transaction details.)

## **9.2 Pre-bidmeeting**

9.2.1 In case of projects of more than 25 crores the bidder or his official representative is invited to attend a pre-bid meeting which will take place at the address, venue, time and date as indicated in appendix.

9.2.2 The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

9.2.3 The bidder is requested to submit all questions in writing or by cable to reach the Employer not later than one week before the meeting.

9.2.4 Minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be transmitted without delay to all purchasers of the bidding documents. Any modification of the bidding documents listed in sub-Clause 8.1 which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 10 and not through the minutes of the pre-bid meeting.

9.2.5 Non-attendance at the pre-bid meeting will not be a clause for disqualification of a bidder.

## **10. Amendment of Bidding Documents**

10.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda/corrigenda.

10.2 Any addendum/corrigendum thus issued shall form part of the bidding documents and shall be communicated in writing or by cable to all the purchasers of the bidding documents. Prospective bidders shall acknowledge receipt of each addendum in writing or by cable to the Employer. The Employer will assume no responsibility for postal delays.

10.3 To give prospective bidders reasonable time to take appropriate action in accordance to the addendum/corrigendum while preparing their bids, the Employer may, at his discretion, extend as necessary the deadline for submission of bids, in accordance with Sub-Clause 20.2 below.

## **C. PREPARATION OF BIDS**

### **11. Language of the Bid**

11.1 All documents relating to the bid shall be in English language.

### **12. Documents Comprising the Bid**

12.1 The bid to be submitted by the bidder will be as Volume V of the bid document (refer Clause 8.1) and shall be in two separate parts viz part I and part II detailed below:

**Part I shall be named “Technical Bid” and shall comprise**

- i. Bid security (Bank Guarantee) in the form specified in Section 9.
- ii. Qualification Information and supporting documents as specified in Section 3.
- iii. Certificates, undertaking, affidavits as specified in Section 3.
- iv. Any other information pursuant to Clause 4.3 of these instructions.
- v. Undertakings that the bid shall remain valid for the period specified in Clause 15.1.
- vi. Form of Bid as specified in Section 7.

**Part II shall be named “Financial Bid” and shall comprise**

- i. Priced Bid for whole work as specified in Section 8, read together with clause 19.

12.2 The bidder shall submit bid online in the correct slot prescribed in the e-Procurement website by using digital signature.

12.3 Following documents, which are not submitted with the bid, will be deemed to be part of the bid.

Section	Particulars	VolumeNo.
1.	InvitationforBids(IFB)	I
2.	InstructiontoBidders	
3.	QualificationInformationandotherforms	
4.	ConditionsofContract (General and Special Conditions of Contract)	
5.	ContractData	
6.	Technical Specifications	II
7.	Form of Bid	III
8.	Price Bid	
9.	Securities and other forms	IV
10.	Drawings	

**13. BidPrices**

13.1 The contract shall be for the whole works as described in Sub-Clause 1.1. and table given in IFB (Section-1) as per the price bid.

13.2 The bidder shall fill in rates both in figure and words. In case of any difference, the rate quoted in words will be taken as the quoted rate.

13.3 All GST, labourcess and other taxes and levies payable by the contractor under the contract, or for any other cause shall be included in the rates/ prices and total Bid Price submitted by theBidder.

13.4 The rates and prices quoted by the bidder shall be fixed for the entire duration of



the Contract and shall not be subject to adjustment on any account as this is a lumpsum contract to be completed in a time bound manner.

#### **14. Currencies of Bid and Payment**

14.1 The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees. All payment shall be made in Indian Rupees.

#### **15. Bid Validity**

15.1 Bids shall remain valid for a period not less than 120 days after the deadline date for bid submission specified in Clause 20. A bid valid for a shorter period shall be rejected by the Employer as non-responsive. In case of discrepancy in bid validity period between that given in the undertaking pursuant to clause 12.1 (indicated as sl.no v of Part 1- Technical Bid) and the Form of Bid submitted by the bidder, the latter shall be deemed to stand corrected in accordance with the former and the bidder has to provide for any additional security that is required.

15.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his bid security for a period of the extension, and in compliance with Clause 16 in all respects.

15.3 Bid evaluation will be based on the bid prices.

#### **16. Bid Security**

16.1 The Bidder shall furnish, as part of his Bid, a Bid security in the amount as shown in column 4 of the table of IFB for this particular work. This bid security shall be in favour of Employer as named in Appendix and may be in one of the following forms:

- a) Receipt in challan of cash deposit in the Government Treasury in India.
- b) Deposit-at-call receipt from any Nationalized/ Scheduled Indian Bank from any of the branches Nationalized / Scheduled Bank situated **within India, approved by the Reserve Bank of India.**
- c) Indian Post Office/Fixed Deposit/National Savings Certificates duly endorsed by the competent Postal Authority in India.
- d) Bank Guarantee from any from any Scheduled Indian Bank from any of the branches Nationalized / Scheduled Bank situated **within the territory of India** in the form given in Section 9.
- e) Fixed deposit receipt, a certified cheque or an irrevocable letter of credit, issued

by any Nationalized/ Scheduled Indian Bank approved by the Reserve Bank of India.

16.2 Bank guarantees (and other instruments having fixed validity) issued as surety for the bid shall **be valid for 45 days beyond the validity of the bid.**

16.3 Any bid not accompanied by an acceptable Bid Security and not secured as indicated in Sub-Clauses 16.1 and 16.2 above shall be rejected by the Employer as non-responsive.

16.4 The Bid security of unsuccessful bidders will be returned within 28 days of the end validity period specified in sub-Clause 15.1.

16.5 The Bid security of the successful bidder will be discharged when the bidder has signed the Agreement and furnished the required Performance Security.

16.6 The Bid security may be forfeited

- a) if the Bidder withdraws the Bid after Bid opening during the period of Bid validity;
- b) if the Bidder does not accept the correction of the Bid Price, pursuant to Clause 27; or
- c) in the case of a successful Bidder, if the Bidder fails within the specified time limit to
  - i) sign the Agreement; or
  - ii) furnish the required Performance Security.

#### **17. Alternative Proposals by Bidders**

17.1 Bidders shall submit offers that fully comply with the requirements of the bidding documents, including the conditions of contract (including mobilization advance or time for completion), basic technical design as indicated in the drawing and specifications. **Conditional offer or alternative offers will not be considered further in the process of tender evaluation.**

#### **18. Format and Signing of Bid**

18.1 The bidder shall submit the bids as per "Instructions to Bidders for Online Submission of Bids".

18.2 Instruction to Bidders to be followed. Bids submitted online should be digitally signed by the bidder.

18.3 Bidders shall follow the Method of submission of bid as mentioned in Instruction to Bidders and Instructions to Bidders for Online Submission of Bids.

### **D. SUBMISSION OF BIDS**

19. Bidders shall follow the Method of submission as per Instructions to Bidders for Online Submission of Bids given in Section-1 (IFB) in so far as this bid is considered whose identification is given in item no. 14 Appendix to ITB.

## **20. Deadline for Submission of the Bids**

- 20.1 Bidders shall follow the Method of online submission of bid as mentioned in Instruction to Bidders (for EPC contract) in section-1 and the bid should be submitted online latest by the date and time given also at item 15 Appendix to ITB.
- 20.2 The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

## **21. Late Bids**

- 21.1 Any Bid received by the Employer after the deadline prescribed in Clause 20 will be returned to the bidder.

## **22. Modification and Withdrawal of Bids**

- 22.1.1 Bidders may modify or withdraw their bid(s) by giving notice in writing before the deadline prescribed in Clause 20 or pursuant to Clause 23.
- 22.1.2 Bidders shall follow the Method of submission modification & withdrawal of bid as mentioned in Instruction to Bidders (for SBD contract)
- 22.1.3 No bid may be modified after the deadline for submission of Bids except in pursuance of Clause 23.
- 22.1.4 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 15.1 above or as extended pursuant to clause 15.2 may result in the forfeiture of the Bid security pursuant to Clause 16.

# **E. BID OPENING AND EVALUATION**

## **23. Bid Opening**

- 23.1 The Employer will open all the Technical Bids submitted online including modification made pursuant to Clause 22, in the manner specified in Clause 20 and 23.3. In the event of the specified date of Bid opening being declared a holiday for the Employer, the Bids will be opened at the appointed time and location on the next working day. A notice for the same shall be posted on the website.

## **23.2 Evaluation of Bid**

- i. Subject to confirmation of the bid security by the issuing bank, the bids accompanied with valid security will be taken up for evaluation with respect to the Qualification Information and other information furnished in Part I of the bid pursuant to ITB clause 12.1.
- ii. After receipt of confirmation of the bid security, the bidder will be asked in

writing/e-mail (usually within 10 days of opening of the Technical Bid) to clarify his technical bid, if necessary, with respect to any rectifiable defects.

- iii. The bidders will respond by e-mail in not more than 7 days of issue of the clarification letter, which will also indicate the date, time and venue of opening of the Financial Bid (usually on the 21st day of opening of the Technical bid)
- iv. Immediately (usually within 3 or 4 days), on receipt of these clarifications the Evaluation Committee will finalize the list of responsive bidders whose financial bids are eligible for consideration.

23.3 After the technical evaluation, these will be put to the Employer, which will find technically responsive bids. The financial of those bids will be opened who are found technically responsive. The financial bids of remaining bidders will remain unopen.

23.4 In case bids are invited in more than one package, the order for opening of the “Financial Bid” shall be that in which they appear in the “Invitation for Bid”.

23.5 The Employer shall prepare disclose information regarding bid opening to those present.

23.6 The Employer shall open the bid and the information regarding bid opening may be disclosed to those present as representative of the bidder.

#### **24. Process to be Confidential**

24.1 Information relating to the examination, clarification, evaluation and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by a Bidder to influence the Employer’s processing of bids or award decisions may result in the rejection of his Bid.

#### **25. Clarification of Financial Bids**

25.1 To assist in the examination, evaluation and comparison of bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, justification, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, but no change in the price of substance of the Bid shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids in accordance with ITB Clause -27.

25.2 Subject to ITB sub-clause 25.1, no Bidder shall contact the Employer on any matter relating to his bid from the time of the bid opening to the time the contract is awarded. If the bidder wishes to bring additional information to the notice of the Employer, it should do so in writing.

25.3 Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidders' bid.

## **26. Examination of Bids and Determination of Responsiveness**

26.1 During the detailed evaluation of 'Technical Bids', the Employer will determine whether each Bid:

26.1.1 meets the eligibility criteria defined in ITB Clause 3 and 4;

26.1.2 has been properly signed digitally;

26.1.3 is accompanied by the required securities; and

26.1.4 is substantially responsive to the requirements of the bidding documents.

During the detailed evaluation of the 'Financial Bid' the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e. price bid, technical specifications, and drawings.

26.2 A substantially responsive 'Financial Bid' is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the works; (b) which limits in any substantial way, inconsistent with the bidding documents, the Employer's rights or the bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

26.3 If a 'Financial Bid' is not substantially responsive, it will be rejected by the Employer and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

## **27. Correction of Errors**

27.1 'Financial Bids' determined to be substantially responsive will be checked by the Employer for any arithmetical errors. Errors will be corrected by the Employer as follows:

(a) where there is a discrepancy between the rates in figures and in word, the rate in words will govern; and

(b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

27.2 The amount stated in the 'Financial Bid' will be corrected by the Employer in accordance with the above procedure and the bid amount adjusted with the concurrence of the Bidder in the following manner:

- i. If the Bid price increases as a result of these corrections, the amount as stated in the bid will be the 'bid price' and the increase will be treated as rebate;
- ii. If the bid price decrease as a result of the corrections, the decreased amount will be treated as the 'bid price'. Such adjusted bid price shall be considered as binding upon the bidder. If the Bidder does not accept the corrected amount the Bid will be rejected, and the Bid Security shall be forfeited in accordance with ITB Sub-clause 16.6(b).

## **28. Evaluation and Comparison of Financial Bids**

28.1 The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Sub-Clause 26.2.

28.2 In evaluating the Bids, the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:

- a) making any corrections for errors pursuant to clause 27; or
- b) making appropriate adjustments for any other acceptable variations, deviations

28.3 In case lowest quote is made by more than one bidder of appropriate class, then the bidder who has successfully completed and attached completion certificate while submitting online bid for more number of similar housing projects worth Rs.30 Crores or more in the last 3 years would be awarded the work. In case of Joint Venture / Consortium, although the qualifying criteria is satisfied collectively by the joint venture for which the number of similar works attributed to each member of the joint venture is added; the computation for number of housing projects for award of work to the joint venture in case of lowest quote would be computed on pro-rata basis of their participation in the JV and not by simply summing arithmetically, the number of similar housing projects worth Rs 30 Crore or more.

Still if there is a tie, the bidder who has got himself registered earlier as a contractor in appropriate class in any state Government/Central Government department in building construction will be given preference. In case the tie still remains the preference will go in favour of bidder who has got himself registered in UD&HD, Government of Jharkhand.

## **F. AWARD OF CONTRACT**

### **29. Award Criteria**

- 29.1 Subject to Clause 30, the Employer will award the Contract to the Bidder whose Bid has been determined
- i. to be substantially responsive to the bidding documents and who has offered the lowest evaluated Bid Price; and
  - ii. to be within the available bid capacity adjusted to account for his bid price which is evaluated the lowest in any of the packages opened earlier than the one under consideration. In no case, the contract shall be awarded to any bidder whose available bid capacity is less than the evaluated bid price, even if the said bid is the lowest evaluated bid. The contract will in such cases be awarded to the next lowest bidder at his evaluated bid price.

### **30. Employer's Right to Accept or Reject any Bid**

30.1 Notwithstanding Clause 29, the Employer reserves the right to accept or reject any Bid, to cancel the bidding process and reject all bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

30.2 After Award of contract, if the Bidder is found to have concealed any fact relevant to projects, the employer may blacklist the Bidder or Bidders within 180 days, with due process as-

- i. 3 Years Blacklisting for the Project Cost Rs.2.50 Crore to Rs.10.00 Crore
- ii. 5 Years Blacklisting for the Project Cost above Rs.10.00 Crore to Rs.100.00 Crore
- iii. 10 Years Blacklisting for the Project Cost above Rs.100.00 Crore

### **31. Notification of Award and Signing of Agreement**

31.1 The Bidder whose Bid has been accepted will be notified of the award by the employer prior to expiration of the Bid validity period by cable, telex or facsimile confirmed by letter. This letter (hereinafter and in the Conditions of Contract called the "Letter of Acceptance") will state the sum that the Employer will pay the contractor in consideration of the execution, completion, and maintenance of the Works by the contractor as prescribed by the contract (hereinafter and in the contract called the "Contract Price").

31.2 The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 32.

31.3 The Agreement will incorporate all agreements between the Employer and the successful Bidder. This agreement will be signed only after furnishing of the performance security by the successful bidder but within 14 days of issue of Letter of

Acceptance. The Employer will promptly notify the other bidders that their Bids have been unsuccessful.

### **32. Performance Security**

32.1 Within 14 days of receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance security in any of the forms given in 32.2 for an amount equivalent to 2% of the Contract price

32.2 A bank guarantee from any of the branches of Nationalized/Scheduled Bank situated within territory of India in the form given in Section 9; or Certified Cheque / Bank Draft payable to employer as indicated in item no. 17 Appendix to ITB.

32.3 If the performance security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be issued from any of the branches of Nationalized/Scheduled Bank situated within the territory of India.

32.4 Failure of the successful Bidder to comply with the requirements of Sub-Clause 32.1 shall constitute grounds for cancellation of the award and forfeiture of the Bid Security.

32.5 The validity of the performance security is 28 days beyond the defect liability period.

### **33. Advance Payment and Security**

33.1 The Employer will provide contractor an interest bearing mobilization advance (as per CVC guidelines in this regard) on the Contract Price in two stages of 5 % each as stipulated in the Conditions of Contract clause no 51(Mobilization Advance), subject to maximum amount of 10% of contract price (also indicated in section 5 – Contract Data item no. 32).

### **34. Corrupt or Fraudulent Practices**

34.1 The Employer will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question and will declare the firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract with JUIDCO Ltd., UD & HD, Government of Jharkhand, and any other state agencies, if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for the contract, or in execution of the work related to contract.

### **35. Dispute Resolution**

35.1 The dispute arising between the employer and the contractor, if not resolved amicably shall be referred to appointed expert mediator of Jharkhand State Legal Services Authority (JHALSA). If the matter does not get resolved it will finally go for arbitration. Arbitration in such a case will be done in accordance to Indian Arbitration and Conciliation Act, 1996 and amended provisions thereof. The place of arbitration shall be Ranchi and the language of arbitration shall be English. This may be read in conjunction with clause 20.2 of Condition of Contract.



## APPENDIX to ITB

S. No.	Description	Clause Reference with respect to Section- 2
1.	Name of the Employer is Managing Director, Jharkhand Urban Infrastructure Development Company Ltd., Government of Jharkhand	[C1. 1.1]
2.	The last five years	[Cl. 4.5 A (a)]
	2013 -2014	
	2014 -2015	
	2015 -2016	
	2016 - 2017	
	2017 - 2018	
3.	Minimum annual financial turnover amount is <b>Rs. 25.76 Crore(100% of work Value</b> all class of civil engineering construction work in last five years)	[C1.4.5A(a)]
4.	Minimum work Completion Experience 50% of Work Value is <b>Rs.12.88Crore.</b>	[C1.4.5A(b)]
5.	The cost of minimum amount of electric work executed is 6% of civil works in any one financial year which comes to <b>Rs. 1.55Crore.</b>	[C1. 4.5A(d)]
6.	The cost of minimum amount of water supply/sanitary works executed is of 6% of civil works in any one financial year which comes to <b>Rs.1.55Crore</b>	[C1.4.5A(e)]
7.	The cost of specialized nature/ new type of engineering methodology proposed to be adopted.	[C1. 4.5A(e)]
8.	Liquid assets and/or availability of credit facilities is <b>Rs.6.44 Crore(25% of Project Cost)</b>	[C1.4.5B(c) & Cl. 4.3 (h)]
9.	Price level of the financial year <u>2018-19</u>	[C1. 4.7]
10.	The pre-bid meeting will take place at – JUIDCO Ltd., 3 <sup>rd</sup> floor, PragatiSadon, KutcheryChowk, Ranchi. on 04.06.2019at <u>11:00hrs</u>	[C1.9.2.1]



## ANNEXURE – I

### List of Key Plant & Equipment to be deployed on Contract work

[Reference C1. 4.5 (B) (a)]

Sl.	Type of Equipment (leased or owned)	Maximum age as on 01.01.2019 (In Years)	Minimum no. of Equipment required
1	Dozer	5	1
2	Front end Loader	5	2
3	Smooth Wheeled Roller	5	1
4	Vibratory Roller	5	1
5.	Water Tanker	5	20
6.	Concrete Mixes with Integral Weigh Batching facility	5	1
7.	Concrete Batching and Mixing Plant (Minimum Capacity – 30 m <sup>3</sup> /hour)	5	8
8.	Acrow Truss	5	0
9.	Steel Propping	5	1000
10.	Tower Crane (20 MT capacity)	5	-
11.	Concrete pump	5	2
12.	Builder Hoist	5	8
13.	Excavator	5	8
14.	Transit Mixer	5	8
15.	Tipper or Truck (or 2 times Tractor)	5	12

<b>Sl.</b>	<b>Type of Equipment</b>	<b>Maximum age as on 01.01.2019 (Years)</b>	<b>Equipment required min</b>
16.	Generator	5	2
17.	Bar Cutting Machine	5	10
18.	Bar Bending Machine	5	2
19.	Welding Machine	5	12
20.	Plate Compector	5	10
21.	Vibrator (Needle)	5	30
22.	Vibrator (Surface)	5	20
23.	Concrete Mixer Machine with Hooper (1 bag)	5	18
24.	Steel Plate with fitting	5	5000sq.m
25.	Staging Pipe (Acrow) with fitting	5	10000 Nos.
26.	Cube Testing Machine (Universal Testing Machine)	5	2
27.	Cube Mould	5	60
28.	Pump 5 HP	5	4
29.	Well-equipped Laboratory facility for quality test		One

## ANNEXURE – II

### List of Minimum Key Personal to be deployed on Contract Work

[Reference C1.4.5 (B) (b)]

Sl. No.	Personnel	Qualification	No. of Person
1	Project Manager	B.E. Civil + 15 Years Exp. (5 years as Manager)	1
2.	Site Engineer	B.E. Civil + 10 Years Exp. (including 5 years in BuildingConstruction) or Diploma Civil with 15 Years Exp. (including 10 years in Building Construction)	4
3.	Plant Engineer	B.E. Mech. + 10Years Exp. Or Dip. Mech. +15 years Exp.	1
4.	Quantity Surveyor	B.E. Civil + 7Years Exp. Or Dip. Civil + 10 years Exp.	2
5	Soil & Material Engineer and Quality Control Engineer	B.E. Civil + 10 Years Exp ( including 5Years in Quality Control works)	1
6	Survey Engineer/ Surveyor	B.E. Civil + 5Years Exp.( with atleast 2 years' experience in survey works). Or Dip. Civil + 8 years Exp.	2
7	Architecture	B.Arch/BE Civil/Bachelor in Town or Regional Planning with 3 years'Experience.	1
8	Electrical Engineer	B.E. Electrical + 5Years Exp. Or Dip. Electrical + 10 years Exp	1
	<b>Total</b>		<b>13</b>

# **SECTION 3**

**QUALIFICATION INFORMATION**

**&**

**OTHER FORMS**

## QUALIFICATION INFORMATION

The information to be filled in by the bidder in the following pages will be used for purposes of post qualification as provided for in Clause 4 of the Instructions to Bidders. This information will not be incorporated in the Contract.

**1. For Individual Bidders**

1.1. Constitution or legal status of Bidder

[Attach copy]

Place of registration: \_\_\_\_\_

Principal place of business: \_\_\_\_\_

Power of attorney of signatory of Bid [Attach]

1.2. Total value of Civil Engineering construction

work performed in the last five financial years\*\*

(in Rs. Lakhs)

₹

2013-2014

2014-2015

2015-2016

2016- 2017

2017- 2018

1.3.1 Work of similar nature performed as prime contractor, work performed in the past as a nominated sub- contractor will also be considered provided the sub-contract involved execution of all main item of works which comes under housing projects, provided further that all other qualification criteria are satisfied (in the same name) on works of a similar nature over the last five financial years (2013-14 to 2017-18) and the current financial year till date.

Project Name	Name of the Employer*	Description of Work	Contract No.	Value of Contract (Rs. Crore)	Date of issue of work order	Stipulated Period of completion	Actual date of completion*	Remarks Explaining Reasons for delay & work Completed

\* Attach certificate(s) from the Engineer(s)-in-Charge/EE/Employer

β Attached certificate from Chartered Accountant (CA)

*In case lowest quote is made by more than one bidder of appropriate class, then the bidder who has successfully completed and attached completion certificate while submitting online bid for more number of similar housing projects worth Rs 30 Crores or more in the last 3 years would be awarded the work. In case of Joint Venture /Consortium, although the qualifying criteria is satisfied collectively by the joint venture for which the number of similar works attributed to each member of the joint venture is added; the computation for number of housing projects for award of work to the joint venture in case of lowest quote would be computed on pro-rata basis of their participation in the JV and not by simply summing arithmetically, the number of similar housing projects worth Rs 30 Crore or more.*

*Still if there is a tie, the bidder who has got himself registered earlier as a contractor in appropriate class in any state Government/Central Government department in building construction will be given preference. In case the tie still remains the preference will go in favour of bidder who has got himself registered in UD&HD, Government of Jharkhand.*

1.3.2. Quantities of work executed as prime contractor, work performed in the past as a nominated sub-contractor, will also be considered provided the sub-contract involved execution of all main items of work described in the bid document, provided further that all other qualification criteria are satisfied (in the same name and style) in the last five financial years and the current financial year till date:\*\*

Year	Name of the work	Name of the Employer*	Quantity of work performed (cum) @		Remarks* (indicate contract Ref)
			Cement Concrete (including RCC & PCC)	Earth Works	
2013-14					
2014-15					
2015-16					
2016-17					
2017-18					
2018-19					
(till date)					



1.4 Information on Bid capacity (works for which bids have been submitted and works which are yet to be completed) as on the date of this bid.

(A). Existing commitments and on-going works:

Description of works	Place & State	Contract No.	Name & Address of Employer	Value of Contract (Rs. Lakh)	Stipulated Period of Completion	Value of Works* remaining To be completed (Rs. Lakh)	Anticipated date of completion
1	2	3	4	5	6	7	8

\* Attach certificate(s) from the Engineer(s)-in-Charge/EE/Employer

@ the item of work for which data is requested should tally with that specified in ITB clause 4.7.

(B). Works for which bids already submitted:

Description Of work	Place & State	Name & Address of Employer	Estimated value of works (Rs. Lakh)	Stipulated period of completion	Date when decision is expected	Remarks If any
1	2	3	4	5	6	7

1.5 Availability of key items of Contractor's Equipment essential for carrying out the Works [ref. Clause 4.5(B)(a). The Bidder should list all the information requested below. Refer also to Sub Clause 4.3(d) of the Instructions to Bidders.

Item of Equipment	Requirement		Availability Proposals			Remarks (from whom to be purchased)
	No.	Capacity	Owned / Leased to be procured	Nos. / Capacity	Age/ Condition	

--	--	--	--	--	--	--

1.6 Qualifications and experience of key personnel required for administration and execution of the Contract [Ref. Clause 4.5(B)(b)]. Attach biographical data. Refer also to sub Clause 4.3 (e) of Instructions to Bidders and Sub Clause 6.9 of the Conditions of Contract.

Position	Name	Qualification	Years of Professional Experience	Years of experience in Proposed position

1.7 Proposed sub-contracts and firms involved. [Refer ITB Clause 4.3(k)]

Sanctions of the works	Value of Sub-contract	Sub-contractor (Name & Address)	Experience in similar Work

Attach copies of certificates on possession of valid license for executing water supply/ sanitary work/ building electrification /Specialized or New Technical works [Reference Clause 4.5A(d), Clause 4.5A(c), Clause 4.5A (e)].

1.8 Financial reports for the last five financial years: balance sheets, profit and loss statements, auditors' reports (in case of companies/corporation), etc. List them below and attach copies. (Attach certificate from Chartered Accountant)

1.9 Evidence of access to financial resources to meet the qualification requirements:

Cash in hand, lines of credit, etc. List them below and attach copies of support documents.

1.10 Name, address, and telephone, telex, and fax numbers of the Bidders' bankers who may provide references if contacted by the Employer.

1.11 Information on litigation history of Past 7 financial years starting 2011-12 in which the Bidder is involved.

Other Party(ies)	Employer	Cause of Dispute	Amount involved	Remarks showing Present Status

1.12 Statement of compliance under the requirements of Sub Clause 3.2 of the Instructions to Bidders. (Name of Consultant engaged for project preparation is)

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1.13 Proposed work methods and schedule. The Bidder should attach descriptions, drawings and charts as necessary to comply with the requirements of the Bidding documents. [Refer ITB Clause 4.1 & 4.3(1)]

1.14 Programme

1.15 Quality Assurance Programme

**2. Additional Requirements.**

2.1. Affidavit as provided in Section 3 of ITB

2.2. Undertaking as provided in Section 3 of ITB

2.3. Bidders should provide any additional information required to fulfill the requirements of Clause 4 of the Instructions to the Bidders, if applicable.

2.4. Copy of letter of association in the form of agreement with subcontractor for the work defined or for any specialize / new PM/Engineering methodology work.

**Note: Even though the bidder meets the above qualifying criteria, he is subject to be disqualified, if he has made a misleading or false representation(s) in the forms, statements and attachments in proof of the qualifying requirements.**

**SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY  
OF CREDIT FACILITIES**

**(Clause 4.3 (g) OFITB)**

**BANKCERTIFICATE**

This is to certify that M/s. \_\_\_\_\_ is a reputed  
Company with a good financial standing.

If the contract for the work, namely \_\_\_\_\_ is  
awarded to the above firm, we shall be able to provide overdraft/credit facilities  
to the extent of Rs. \_\_\_\_\_ To meet their working capital requirements for  
executing the above contract during the contact period.

\_\_\_\_\_  
(Signature) Name of Bank

Senior Bank Manager Address of the Bank

**AFFIDAVIT**

**Also refer qualification information format para 2.1 in the same Section**

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.
  
2. The undersigned also hereby certifies that neither our firm M/S \_\_\_\_\_ have abandoned any work of **Jharkhand Urban Infrastructure Development Company Ltd., Ranchi, Jharkhand** or any contract awarded to us for such work have been rescinded, during last seven years prior to the date of this bid.
  
3. The undersigned hereby authorize(s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding my (our) competence and general reputation.
  
4. The undersigned understand and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the Department/Project implementing agency.

\_\_\_\_\_  
(Signed by an authorized Officer of the Firm)

\_\_\_\_\_  
Title of officer

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Date

## UNDERTAKING

**Also refer qualification information format para 2.2 in the same  
Section**

I, the undersigned do hereby undertake that our firm M/s \_\_\_\_\_  
\_\_\_\_\_ would invest a minimum cash up to 25% of the value  
of the work during implementation of the Contract.

\_\_\_\_\_  
(Signed by an authorized Officer of the Firm)

\_\_\_\_\_  
Title of officer

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Date

# **SECTION 4**

## **CONDITIONS OF CONTRACT**

# **Conditions of Contract**

## **INDEX**

1. General Provisions
2. The Employer
3. The Engineer
4. The Contractor
5. Nominated Subcontractors
6. Staff and Labour
7. Plant, Materials and Workmanship
8. Commencement, Delays and Suspension
9. Tests on Completion
10. Employer's Taking Over
11. Defects Liability
12. Measurement and Evaluation
13. Variations and Adjustments
14. Contract Price and Payment
15. Termination by Employer
16. Suspension and Termination by Contractor
17. Risk and Responsibility
18. Insurance
19. Force Majeure
20. Claims, Disputes and Arbitration
21. Bonus



## **1. General Provisions**

### **1.1 Definitions**

In the Conditions of Contract (“these Conditions”), which include Particular Conditions, and these General Conditions, the following words and expressions shall have the meanings stated. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.

#### **1.1.1 The Contract**

1.1.1.1 “Contract” means the Contract Agreement, the Letter of Acceptance, the Letter of Tender, these Conditions, the Specification, the Drawings, the Schedules, and the further documents (if any) which are listed in the Contract Agreement or in the Letter of Acceptance.

1.1.1.2 “Contract Agreement” means the contract agreement referred to in Sub-Clause 1.6 [Contract Agreement].

1.1.1.3 “Letter of Acceptance” means the letter of formal acceptance, signed by the Employer, of the Letter of Tender, including any annexed memoranda comprising agreements between and signed by both Parties. If there is no such letter of acceptance, the expression “Letter of Acceptance” means the Contract Agreement and the date of issuing or receiving the Letter of Acceptance means the date of signing the Contract Agreement.

1.1.1.4 “Letter of Tender” means the document entitled letter of tender or letter of bid, which was completed by the Contractor and includes the signed offer to the Employer for the Works.

1.1.1.5 “Specification” means the document entitled specification, as included in the Contract, and any additions and modifications to the specification in accordance with the Contract. Such document specifies the Works.

1.1.1.6 “Drawings” means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract.

1.1.1.7 “Schedules” means the document(s) entitled schedules, completed by the Contractor and submitted with the Letter of Tender, as included in the Contract. Such document may include the Price Bid, data, lists, and schedules of rates and/or prices.

1.1.1.8 “Tender” means the Letter of Tender and all other documents which the Contractor submitted with the Letter of Tender, as included in the Contract.

1.1.1.9 “Price Bid”, mean the documents so named (if any) which are comprised in the Schedules.

## **1.1.2 Parties and Persons**

1.1.1.10 “Contract Data” means the pages completed by the Employer entitled contract data which constitute the Particular Conditions.

1.1.2.1 “Party” means the Employer or the Contractor, as the context requires.

1.1.2.2 “Employer” means the person named as employer in the Contract Data and the legal successors in title to this person.

1.1.2.3 “Contractor” means the person(s) named as contractor in the Letter of Tender accepted by the Employer and the legal successors in title to this person(s).

1.1.2.4 “Engineer” means the person appointed by the Employer to act as the Engineer for the purposes of the Contract and named in the Contract Data, or other person appointed from time to time by the Employer and notified to the Contractor under Sub-Clause 3.4 [Replacement of the Engineer].

1.1.2.5 “Contractor’s Representative” means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3 [Contractor’s Representative], who acts on behalf of the Contractor.

1.1.2.6 “Employer’s Personnel” means the Engineer, the assistants referred to in Sub-Clause 3.2 [Delegation by the Engineer] and all other staff, labour and other employees of the Engineer and of the Employer; and any other personnel notified to the Contractor, by the Employer or the Engineer, as Employer’s Personnel.

1.1.2.7 “Contractor’s Personnel” means the Contractor’s Representative and all personnel whom the Contractor utilises on Site, who may include the staff, labour and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

1.1.2.8 “Subcontractor” means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works; and the legal successors in title to each of these persons.

## **1.1.3 Dates, Tests, Periods and Completion**

1.1.3.1 “Base Date” means the date 14 days prior to the latest date for submission of the Tender.

1.1.3.2 “Commencement Date” means the date notified under Sub-Clause 8.1 [Commencement of Works].

1.1.3.3 “Time for Completion” means the time for completing the Works or a Section (as the case may be) under Sub-Clause 8.2 [Time for Completion], as stated in the Contract Data (with any extension under Sub-Clause 8.4 [Extension of Time for Completion]), calculated from the Commencement Date.

1.1.3.4 “Tests on Completion” means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [Tests on Completion] before the Works or a Section (as the case may be) are taken over by the Employer.

1.1.3.5 “Taking-Over Certificate” means a certificate issued under Clause 10 [Employer’s Taking Over].

1.1.3.6 “Tests after Completion” means the tests (if any) which are specified in the Contract and which are carried out in accordance with the Specification after the Works or a Section (as the case may be) are taken over by the Employer.

1.1.3.7 “Defects Notification Period” means the period for notifying defects in the Works or a Section (as the case may be) under Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects], which extends over twelve months except if otherwise stated in the Contract Data (with any extension under Sub-Clause 11.3 [Extension of Defects Notification Period]), calculated from the date on which the Works or Section is completed as certified under Sub-Clause 10.1 [Taking Over of the Works and Sections].

1.1.3.8 “Performance Certificate” means the certificate issued under Sub-Clause 11.9 [Performance Certificate].

1.1.3.9 “day” means a calendar day and “year” means 365 days.

#### **1.1.4 Money and Payments**

1.1.4.1 “Accepted Contract Amount” means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.

1.1.4.2 “Contract Price” means the price defined in Sub-Clause 14.1 [The Contract Price], and includes adjustments in accordance with the Contract.

1.1.4.3 “Cost” means all expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.

1.1.4.4 “Final Payment Certificate” means the payment certificate issued under Sub-Clause 14.13 [Issue of Final Payment Certificate].

1.1.4.5 “Final Statement” means the statement defined in Sub-Clause 14.11 [Application for Final Payment Certificate].

1.1.4.6 “Foreign Currency” means a currency in which part (or all) of the Contract Price is payable, but not the Local Currency.

1.1.4.7 “Interim Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment], other than the Final Payment Certificate.

1.1.4.8 “Local Currency” means the currency of the Country.

1.1.4.9 “Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment].

1.1.4.10 “Provisional Sum” means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under Sub-Clause 13.5 [Provisional Sums].

1.1.4.11 “Retention Money” means the accumulated retention moneys which the Employer retains under Sub-Clause 14.3 [Application for Interim Payment Certificates] and pays under Sub-Clause 14.9 [Payment of Retention Money].

1.1.4.12 “Statement” means a statement submitted by the Contractor as part of an application, under Clause 14 [Contract Price and Payment], for a payment certificate.

### **1.1.5 Works and Goods**

1.1.5.1 “Contractor’s Equipment” means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor’s Equipment excludes Temporary Works, Employer’s Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.

1.1.5.2 “Goods” means Contractor’s Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.

1.1.5.3 “Materials” means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.

1.1.5.4 “Permanent Works” means the permanent works to be executed by the Contractor under the Contract.

1.1.5.5 “Plant” means the apparatus, machinery and other equipment intended to form or forming part of the Permanent Works, including vehicles purchased for the Employer and relating to the construction or operation of the Works.

1.1.5.6 “Section” means a part of the Works specified in the Contract Data as a Section (if any).

1.1.5.7 “Temporary Works” means all temporary works of every kind (other than Contractor’s Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.

1.1.5.8 “Works” mean the Permanent Works and the Temporary Works, or either of them as appropriate.

#### **1.1.6 Other Definitions**

1.1.6.1 “Contractor’s Documents” means the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract.

1.1.6.2 “Country” means Jharkhand, India where the Permanent Works are to be executed.

1.1.6.3 “Employer’s Equipment” means the apparatus, machinery and vehicles (if any) made available by the Employer for the use of the Contractor in the execution of the Works, as stated in the Specification; but does not include Plant which has not been taken over by the Employer.

1.1.6.4 “Force Majeure” is defined in Clause 19 [Force Majeure].

1.1.6.5 “Laws” means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.

1.1.6.6 “Performance Security” means the security (or securities, if any) under Sub-Clause 4.2 [Performance Security].

1.1.6.7 “Site” means the places where the Permanent Works are to be executed including storage and working areas and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.

1.1.6.8 “Unforeseeable” means not reasonably foreseeable by an experienced contractor by the Base Date.

1.1.6.9 “Variation” means any change to the Works, which is instructed or approved as a variation under Clause 13 [Variations and Adjustments].

## **1.2 Interpretation**

In the Contract, except where the context requires otherwise:

- (a) words indicating one gender include all genders;
- (b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- (c) provisions including the word “agree,” “agreed” or “agreement” require the agreement to be record in writing;
- (d) “written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record; and
- (e) the word “tender” is synonymous with “bid”, and “tenderer” with “bidder” and the words “tender documents” with “bidding documents”

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

## **1.3 Communications**

Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices, requests and discharges, these communications shall be:

- (a) in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission as stated in the Contract Data; and
- (b) delivered, sent or transmitted to the address for the recipient’s communications as stated in the Contract Data. However:
  - (i) if the recipient gives notice of another address, communications shall thereafter be delivered accordingly; and
  - (ii) if the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued.

Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed. When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a notice is issued to a Party, by the other Party or the Engineer, a copy shall be sent to the Engineer or the other Party, as the case may be.

#### **1.4 Law and Language**

The Contract shall be governed by the law of Union of India or other jurisdiction stated in the Contract Data.

The ruling language of the Contract shall be that stated in the Contract Data.

The language for communications shall be both Hindi and English or that stated in the Contract Data. If no language is stated there, the local language for communications shall be the ruling language of the Contract.

#### **1.5 Priority of Documents**

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

- (a) the Contract Agreement (if any),
- (b) the Letter of Acceptance, notice to proceed with the works
- (c) Contractor's Bid
- (d) Contract Data / Particular conditions of contract
- (e) Conditions of Contract including Particular Conditions of Contract
- (f) the Specification,
- (g) Price Bid
- (h) the Drawings,
- (i) Relevant Codes and
- (j) the Schedules and any other documents forming part of the Contract.

If an ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.

#### **1.6 Contract Agreement**

The Parties shall enter into a Contract Agreement within 14 days after the Contractor receives the Letter of Acceptance, unless the Particular Conditions establish otherwise. The Contract Agreement shall be based upon the form annexed to the Particular Conditions. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Contractor.

### **1.7 Assignment**

Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party.

### **1.8 Care and Supply of Documents**

The Specification and Drawings shall be in the custody and care of the Employer. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawing shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.

Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Engineer six copies of each of the Contractor's Documents.

The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.

If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.

### **1.9 Delayed Drawings or Instructions**

The Contractor shall give notice to the Engineer whenever the Works are likely to be delayed or disrupted if any necessary drawing or instruction is not approved & re-issued to the Contractor within a particular time, which shall be reasonable. The notice shall include details of the necessary drawing or instruction, details of why and by when it should be issued, and the nature and amount of the delay or disruption likely to be suffered if it is late.

If the Contractor suffers delay and/or incurs Cost as a result of a failure of the Engineer to issue the notified drawing or instruction within a time which is reasonable and is specified in the notice with supporting details, the Contractor shall give a further notice to the Engineer and shall be entitled to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and



### **1.10 Employer's Use of Contractor's Documents**

As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

The Contractor shall be deemed (by signing the Contract) to give to the Employer a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:

(a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,

(b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and

(c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.

The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause.

### **1.11 Contractor's Use of Employer's Documents**

As between the Parties, the Employer shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) the Employer. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.

### **1.12 Confidential Details**

The Contractor's and the Employer's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify the Contractor's compliance with the Contract and allow its proper implementation.

Each of them shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.

### **1.13 Compliance with Laws**

The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Particular Conditions:

(a) the Employer shall have obtained (or shall obtain) the planning, zoning, building permit or similar permission for the Permanent Works, and any other permissions described in the Specification as having been (or to be) obtained by the Employer; and the Employer shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and

(b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the Laws in relation to the execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so, unless the Contractor is impeded to accomplish these actions and shows evidence of its diligence.

### **1.14 Joint and Several Liability**

If the Contractor constitutes (under applicable Laws) a joint venture or other unincorporated grouping of two or more persons:

(a) these persons shall be deemed to be jointly and severally liable to the Employer for the performance of the Contract;

(b) these persons shall notify the Employer of their leader who shall have authority to bind the Contractor and each of these persons; and

(c) the Contractor shall not alter its composition or legal status without the prior consent of the Employer.

### **1.15 Inspections and Audit by the Employer**

The Contractor shall permit JUIDCO or ULB and/or persons appointed by the JUIDCO or ULB to inspect the Site and/or the accounts and records of the Contractor and its subcontractors relating to the performance of the Contract, and to have such accounts and records audited by auditors appointed by JUIDCO or ULB if required by JUIDCO / ULB.

## **2. The Employer**

### **2.1 Right of Access to the Site**

The Employer shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the Contract Data. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Employer is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Employer shall do so in the time and manner stated in the Specification. However, the Employer may withhold any such right or possession until the Performance Security has been received.

If no such time is stated in the Contract Data, the Employer shall give the Contractor right of access to, and possession of, the Site within such times as required to enable the Contractor to proceed without disruption in accordance with the programme submitted under Sub-Clause 8.3 [Programme].

If the Contractor suffers delay as a result of a failure by the Employer to give any such right or possession within such time, the Contractor shall give notice to the Engineer and shall be entitled to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

However, if and to the extent that the Employer's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time.

### **2.2 Permits, Licenses or Approvals**

The Employer shall provide, at the request of the Contractor, such reasonable assistance as to allow the Contractor to obtain properly:

(a) copies of the Laws of the Country which are relevant to the Contract but are not readily available, and

(b) any permits, licences or approvals required by the Laws of the Country:

- (i) which the Contractor is required to obtain under Sub-Clause 1.13 [Compliance with Laws],
- (ii) for the delivery of Goods, including clearance through customs, and
- (iii) for the export of Contractor's Equipment when it is removed from the Site.

### **2.3 Employer's Personnel**

The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's other contractors on the Site:

- (a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [Co-operation], and
- (b) take actions similar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].

### **2.4 Employer's Financial Arrangements**

The Employer may submit, before the Commencement Date and thereafter within 14 days after receiving any request from the Contractor, reasonable evidence that financial arrangements have been made and are being maintained which will enable the Employer to pay the Contract Price punctually (as estimated at that time) in accordance with Clause 14 [Contract Price and Payment].

### **2.5 Employer's Claims**

If the Employer considers himself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Employer or the Engineer shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub-Clause 4.20 [Employer's Equipment and Free-Issue Material], or for other services requested by the Contractor.

The notice shall be given as soon as practicable and no longer than 28 days after the Employer became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.

The particulars shall specify the Clause or other basis of the claim, and shall include substantiation of the amount and/or extension to which the Employer considers himself to be entitled in connection with the Contract. The Engineer shall then proceed to determine (i) the amount (if any) which the Employer is entitled to be paid by the Contractor, and/or (ii) the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3 [Extension of Defects Notification Period].

This amount may be included as a deduction in the Contract Price and Payment Certificates. The Employer shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.

### **3. The Engineer**

#### **3.1 Engineer's Duties and Authority**

The Employer shall appoint the Engineer who shall carry out the duties assigned to him in the Contract. The Engineer's staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties.

The Engineer shall have no authority to amend the Contract.

The Engineer may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract. If the Engineer is required to obtain the approval of the Employer before exercising a specified authority, the requirements shall be as stated in the Particular Conditions. The Employer shall promptly inform the Contractor of any change to the authority attributed to the Engineer.

However, whenever the Engineer exercises a specified authority for which the Employer's approval is required, then (for the purposes of the Contract) the Employer shall be deemed to have given approval.

Except as otherwise stated in these Conditions:

(a) whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Engineer shall be deemed to act for the Employer;

(b) the Engineer has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract; and

(c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances.

Any act by the Engineer in response to a Contractor's request except otherwise expressly specified shall be notified in writing to the Contractor within 28 days of receipt.

The following provisions shall apply:

The Engineer shall obtain the specific approval of the Employer before taking action under the following Sub-Clauses of these Conditions:

- (a) Sub-Clause 4.12 [Unforeseeable Physical Conditions]: Agreeing or determining an extension of time and/or additional cost.
- (b) Sub-Clause 13.1 [Right to Vary]: Instructing a Variation, except;
  - (i) in an emergency situation as determined by the Engineer, or
  - (ii) if such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the Contract Data.
- (c) Sub-Clause 13.3 [Variation Procedure]: Approving a proposal for Variation submitted by the Contractor in accordance with Sub Clause 13.1 [Right to Vary] or 13.2 [Value Engineering].
- (d) Sub-Clause 13.4 [Payment in Applicable Currencies]: Specifying the amount payable in each of the applicable currencies

Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 [Variations and Adjustments] and shall notify the Contractor accordingly, with a copy to the Employer.

### **3.2 Delegation by the Engineer**

The Engineer may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. These assistants may include a resident engineer, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties.

Assistants shall be suitably qualified persons, who are competent to carry out these duties and exercise this authority, and who are fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language].

Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorised to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer. However:

(a) any failure to disapprove any work, Plant or materials shall not constitute approval, and shall therefore not prejudice the right of the Engineer to reject the work, Plant or materials;

(b) if the Contractor questions any determination or instruction of an assistant, the Contractor may refer the matter to the Engineer, who shall promptly confirm, reverse or vary the determination or instruction.

### **3.3 Instructions of the Engineer**

The Engineer may issue to the Contractor (at any time) instructions and additional or modified Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

The Contractor shall comply with the instructions given by the Engineer or delegated assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Engineer or a delegated assistant:

(a) gives an oral instruction,

(b) receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and

(c) does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation,

then the confirmation shall constitute the written instruction of the Engineer or delegated assistant (as the case may be).

### **3.4 Replacement of the Engineer**

If the Employer intends to replace the Engineer, the Employer may, give notice to the Contractor of the name, address and relevant experience of the intended replacement Engineer. If the Contractor considers the replacement Engineer to be unsuitable, he has the right to raise objection against him within 14 days by notice to the Employer, with supporting particulars, and the Employer shall give full and fair consideration to this objection.

## **4. The Contractor**

### **4.1 Contractor's General Obligations**

The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Engineer's instructions, and shall remedy any defects in the Works.

The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.

The Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction. Except to the extent specified in the Contract, the Contractor (i) shall be responsible for all Contractor's Documents, Temporary Works, and such design of each item of Plant and Materials as is required for the item to be in accordance with the Contract, and (ii) shall not otherwise be responsible for the design or specification of the Permanent Works.

The Contractor shall, whenever required by the Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.

If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the Particular Conditions:

(a) the Contractor shall submit to the Engineer the Contractor's Documents for this part in accordance with the procedures specified in the Contract;

(b) these Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Sub-Clause 1.4 [Law and Language], and shall include additional information required by the Engineer to add to the Drawings for co-ordination of each Party's designs;

(c) the Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and

(d) prior to the commencement of the Tests on Completion, the Contractor shall submit to the Engineer the "as-built" documents and, if applicable, operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until these documents and manuals have been submitted to the Engineer.

#### **4.2 Performance Security**

The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount and currencies stated in the Contract Data. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.

The Contractor shall deliver the Performance Security to the Employer within 14 days after receiving the Letter of Acceptance, and shall send a copy to the Engineer. The Performance Security shall be issued by an entity (schedule commercial bank in India) and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.



The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.

The Employer shall not make a claim under the Performance Security, except for amounts to which the Employer is entitled under the Contract.

The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Employer was not entitled to make the claim.

The Employer shall return the Performance Security to the Contractor within 21 days after receiving a copy of the Performance Certificate.

Without limitation to the provisions of the rest of this Sub-Clause, whenever the Engineer determines an addition or a reduction to the Contract Price as a result of a change in cost and/or legislation or as a result of a Variation amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Engineer's request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.

#### **4.3 Contractor's Representative**

The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract.

Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Engineer for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked in terms of Sub-Clause 6.9 [Contractor's Personnel], or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.

The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.

The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable replacement person shall be appointed, subject to the Engineer's prior consent, and the Engineer shall be notified accordingly.

The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].

The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Engineer has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.

The Contractor's Representative shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language]. If the Contractor's Representative's delegates are not fluent in the said language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer.

#### **4.4 Sub-contractors**

The Contractor shall not subcontract the whole of the Works.

The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Unless otherwise stated in the Particular Conditions:

(a) the Contractor shall not be required to obtain consent to suppliers solely of Materials, or to a subcontract for which the Subcontractor is named in the Contract;

(b) the prior consent of the Engineer shall be obtained to other proposed Subcontractors;

(c) the Contractor shall give the Engineer not less than 28 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site; and

(d) each subcontract shall include provisions which would entitle the Employer to require the subcontract to be assigned to the Employer under Sub-Clause 4.5 [Assignment of Benefit of Subcontract] (if or when applicable) or in the event of termination under Sub-Clause 15.2 [Termination by Employer].

The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Subcontractor.

Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from the Country to be appointed as Subcontractors.

#### **4.5 Assignment of Benefit of Subcontract**

If a Subcontractor's obligations extend beyond the expiry date of the relevant Defects Notification Period and the Engineer, prior to this date, instructs the Contractor to assign the benefit of such obligations to the Employer, then the Contractor shall do so. Unless otherwise stated in the assignment, the Contractor shall have no liability to the Employer for the work carried out by the Subcontractor after the assignment takes effect.

**4.6 Co-operation** The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to:

- (a) the Employer's Personnel,
- (b) any other contractors employed by the Employer, and
- (c) the personnel of any legally constituted public authorities,

who may be employed in the execution on or near the Site of any work not included in the Contract.

Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to suffer delays and/or to incur Unforeseeable Cost. Services for these personnel and other contractors may include the use of Contractor's Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor.

If, under the Contract, the Employer is required to give to the Contractor possession of any foundation, structure, plant or means of access in accordance with Contractor's Documents, the Contractor shall submit such documents to the Engineer in the time and manner stated in the Specification.

**4.7 Setting Out** The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contract or notified by the Engineer. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.

The Employer shall be responsible for any errors in these specified or notified items of reference, but the Contractor shall use reasonable efforts to verify their accuracy before they are used.

If the Contractor suffers delay from executing work which was necessitated by an error in these items of reference, and an experienced contractor could not reasonably have discovered such error and avoided this delay, the Contractor shall give notice to the Engineer and shall be entitled subject to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

After receiving this notice, the Engineer shall agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described above related to this extent.

**4.8 Safety Procedures** The Contractor shall:

- (a) comply with all applicable safety regulations,
- (b) take care for the safety of all persons entitled to be on the Site,
- (c) use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons
- (d) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 10 [Employer's Taking Over], and

(e) provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land.

**4.9 Quality Assurance**

The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Engineer shall be entitled to audit any aspect of the system.

Details of all procedures and compliance documents shall be submitted to the Engineer for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval by the Contractor himself shall be apparent on the document itself.

Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

**4.10 Site Data**

The Employer shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Employer's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Employer shall similarly make available to the Contractor all such data which come into the Employer's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.

To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):

- (a) the form and nature of the Site, including sub-surface conditions,
- (b) the hydrological and climatic conditions,
- (c) the extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects,
- (d) the Laws, procedures and labour practices of the Country, and
- (e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

**4.11 Sufficiency of the Accepted Contract Amount**

The Contractor shall be deemed to:

- (a) have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount, and

(b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [Site Data].

Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper execution and completion of the Works and the remedying of any defects.

**4.12  
Unforeseeable  
Physical  
Conditions**

In this Sub-Clause, "physical conditions" means natural physical conditions and man-made and other physical obstructions and pollutants, which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions.

If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give notice to the Engineer as soon as practicable.

This notice shall describe the physical conditions, so that they can be inspected by the Engineer, and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Engineer may give. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a notice, and suffers delay due to these conditions, the Contractor shall be entitled to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

Upon receiving such notice and inspecting and/or investigating these physical conditions, the Engineer shall proceed to agree or determine (i) whether and (if so) to what extent these physical conditions were Unforeseeable, and (ii) the matters described above related to this extent.

The Engineer shall take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Tender, which shall be made available by the Contractor, but shall not be bound by the Contractor's interpretation of any such evidence.

**4.13 Rights of  
Way and  
Facilities**

Unless otherwise specified in the Contract the Employer shall provide free of charge unrestricted access to and possession of the Site including special and/or temporary rights-of-way which are necessary for the Works. The Contractor shall obtain, at his risk and cost, any additional rights of way or facilities outside the Site which he may require for the purposes of the Works.

**4.14 Avoidance  
of Interference**

The Contractor shall not interfere unnecessarily or improperly with:

- (a) the convenience of the public, or
- (b) the access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Employer or of others.

The Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

#### **4.15 Access Route**

The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.

Except as otherwise stated in these Conditions:

- (a) the Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
- (b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;
- (c) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route;
- (d) the Employer does not guarantee the suitability or availability of particular access routes; and
- (e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.

#### **4.16 Transport of Goods**

Unless otherwise stated in the Particular Conditions:

- (a) the Contractor shall give the Engineer not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;
- (b) the Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and
- (c) the Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods, and shall negotiate and pay all claims arising from their transport.

- 4.17 Contractor's Equipment** The Contractor shall be responsible for all Contractor's Equipment. When brought on to the Site, Contractor's Equipment shall be deemed to be exclusively intended for the execution of the Works. The Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the Engineer. However, consent shall not be required for vehicles transporting Goods or Contractor's Personnel off Site.
- 4.18 Protection of the Environment** The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.
- The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws.
- 4.19 Electricity, Water and Gas** The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services he may require for his construction activities and to the extent defined in the Specifications, for the tests.
- The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details and prices are given in the Specification. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.
- The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.5 [Employer's Claims]. The Contractor shall pay these amounts to the Employer.
- 4.20 Employer's Equipment and Free-Issue Materials** The Employer shall make the Employer's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Specification. Unless otherwise stated in the Specification:
- (a) the Employer shall be responsible for the Employer's Equipment, except that
  - (b) the Contractor shall be responsible for each item of Employer's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.
- The appropriate quantities and the amounts due (at such stated prices) for the use of Employer's Equipment shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.5 [Employer's Claims]. The Contractor shall pay these amounts to the Employer.

#### **4.21 Progress Reports**

The Employer shall supply, free of charge, the “free-issue materials” (if any) in accordance with the details stated in the Specification. The Employer shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them and shall promptly give notice to the Engineer of any shortage, defect or default in these materials. Unless otherwise agreed by both Parties, the Employer shall immediately rectify the notified shortage, defect or default.

After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor’s obligations of inspection, care, custody and control shall not relieve the Employer of liability for any shortage, defect or default not apparent from a visual inspection.

Unless otherwise stated in the Particular Conditions, monthly progress reports shall be prepared by the Contractor and submitted to the Engineer in six copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates.

Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

Each report shall include:

- (a) charts and detailed descriptions of progress, including each stage of design (if any), Contractor’s Documents, procurement, manufacture, delivery to Site, construction, erection and testing; and including these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
- (b) photographs showing the status of manufacture and of progress on the Site;
- (c) for the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of:
  - (i) commencement of manufacture,
  - (ii) Contractor’s inspections,
  - (iii) tests, and
  - (iv) shipment and arrival at the Site;
- (d) the details described in Sub-Clause 6.10 [Records of Contractor’s Personnel and Equipment];
- (e) copies of quality assurance documents, test results and certificates of Materials;
- (f) list of notices given under Sub-Clause 2.5 [Employer’s Claims] and notices given under Sub-Clause 20.1 [Contractor’s Claims];
- (g) safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and



(h) comparison of actual and planned progress, with details of any events or circumstances which may jeopardise the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

**4.22 Security of the Site**

Unless otherwise stated in the Particular Conditions:

- (a) the Contractor shall be responsible for keeping unauthorised persons off the Site, and
- (b) authorised persons shall be limited to the Contractor's Personnel and the Employer's Personnel; and to any other personnel notified to the Contractor, by the Employer or the Engineer, as authorised personnel of the Employer's other contractors on the Site.

**4.23 Contractor's Operations on Site**

The Contractor shall confine his operations to the Site, and to any additional areas which may be obtained by the Contractor and agreed by the Engineer as additional working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.

During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction and shall store or dispose of any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.

Upon the issue of a Taking-Over Certificate, the Contractor shall clear away and remove, from that part of the Site and Works to which the Taking-Over Certificate refers, all Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave that part of the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Notification Period, such Goods as are required for the Contractor to fulfil obligations under the Contract.

**4.24 Fossils**

All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care and authority of the Employer. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

The Contractor shall, upon discovery of any such finding, promptly give notice to the Engineer, who shall issue instructions for dealing with it. If the Contractor suffers delay from complying with the instructions, the Contractor shall give a further notice to the Engineer and shall be entitled subject to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

After receiving this further notice, the Engineer shall proceed to agree or determine these matters.

## **5. Nominated Subcontractors**

- 5.1 Definition of “nominated Subcontractor”** In the Contract, “nominated Subcontractor” means a Subcontractor:
- (a) who is stated in the Contract as being a nominated Subcontractor, or
  - (b) whom the Engineer, under Clause 13 [Variations and Adjustments], instructs the Contractor to employ as a Subcontractor subject to Sub-Clause 5.2 [Objection to Notification].
- 5.2 Objection to Nomination** The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Engineer as soon as practicable, with supporting particulars. An objection shall be deemed reasonable if it arises from (among other things) any of the following matters, unless the Employer agrees in writing to indemnify the Contractor against and from the consequences of the matter:
- (a) there are reasons to believe that the Subcontractor does not have sufficient competence, resources or financial strength;
  - (b) the nominated Subcontractor does not accept to indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Subcontractor, his agents and employees; or
  - (c) the nominated Subcontractor does not accept to enter into a subcontract which specifies that, for the subcontracted work (including design, if any), the nominated Subcontractor shall:
    - (i) undertake to the Contractor such obligations and liabilities as will enable the Contractor to discharge his obligations and liabilities under the Contract;
    - (ii) indemnify the Contractor against and from all obligations and liabilities arising under or in connection with the Contract and from the consequences of any failure by the Subcontractor to perform these obligations or to fulfil these liabilities; and
    - (iii) be paid only if and when the Contractor has received from the Employer payments for sums due under the Subcontract referred to under Sub-Clause 5.3 [Payment to nominated Subcontractors].
- 5.3 Payments to nominated Subcontractors** The Contractor shall pay to the nominated Subcontractor the amounts shown on the nominated Subcontractor’s invoices approved by the Contractor which the Engineer certifies to be due in accordance with the subcontract. These amounts plus other charges shall be included in the Contract Price in accordance with sub-paragraph (b) of Sub-Clause 13.5 [Provisional Sums], except as stated in Sub-Clause 5.4 [Evidence of Payments].

#### **5.4 Evidence of Payments**

Before issuing a Payment Certificate which includes an amount payable to a nominated Subcontractor, the Engineer may request the Contractor to supply reasonable evidence that the nominated Subcontractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. Unless the Contractor:

(a) submits this reasonable evidence to the Engineer, or

(b)

(i) satisfies the Engineer in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and

(ii) submits to the Engineer reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement,

then the Employer may (at his sole discretion) pay, direct to the nominated Subcontractor, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Subcontractor and for which the Contractor has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Contractor shall then repay, to the Employer, the amount which the nominated Subcontractor was directly paid by the Employer.

### **6. Staff and Labour**

#### **6.1 Engagement of Staff and Labour**

Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, feeding, transport, and, when appropriate, housing.

The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labour with appropriate qualifications and experience from sources within the Country.

#### **6.2 Rates of Wages and Conditions of Labour**

The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.

The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of the Country for the time being in force, and the Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.

#### **6.3 Persons in the Service of Employer**

The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.

**6.4 Labour Laws**

The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.

The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

**6.5 Working Hours**

Work shall normally not be carried out on the Site on locally recognised days of rest, or outside the normal working hours stated in the Contract Data, unless:

- (a) otherwise stated in the Contract,
- (b) the Engineer gives consent, or
- (c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer.

**6.6 Facilities for Staff and Labour**

Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in the Specification.

The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

**6.7 Health and Safety**

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

The Contractor shall send, to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Engineer may reasonably require.

**6.8 Contractor's Superintendence**

Throughout the execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.

Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [Law and Language]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents), for the satisfactory and safe execution of the Works.

**6.9 Contractor's Personnel**

The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Engineer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable within 7 (seven) days, who:

- (a) persists in any misconduct or lack of care,
- (b) carries out duties incompetently or negligently,
- (c) fails to conform with any provisions of the Contract, or
- (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment.

If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

**6.10 Records of Contractor's Personnel and Equipment**

The Contractor shall submit, to the Engineer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Engineer, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

**6.11 Disorderly Conduct**

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

**6.12 Foreign Personnel**

The Contractor may bring in to the Country any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. The Employer will, if requested by the Contractor, use his best endeavours in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national, or government permission required for bringing in the Contractor's personnel.

The Contractor shall be responsible for the return of these personnel to the place where they were recruited or to their domicile. In the event of the death in the Country of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

<b>6.13 Supply of Foodstuffs</b>	The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.
<b>6.14 Supply of Water</b>	The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.
<b>6.15 Measures against Insect and Pest Nuisance</b>	The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce their danger to health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.
<b>6.16 Alcoholic Liquor or Drugs</b>	The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift barter or disposal thereto by Contractor's Personnel. Personnel to do so.
<b>6.17 Arms and Ammunition</b>	The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's
<b>6.18 Festivals and Religious Customs</b>	The Contractor shall respect the Country's recognized festivals, days of rest and religious or other customs.
<b>6.19 Funeral Arrangements</b>	The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of his local employees who may die while engaged upon the Works.
<b>6.20 Prohibition of Forced or Compulsory Labour</b>	The contractor shall not employ "forced or compulsory labour" in any form. "Forced or compulsory labour" consists of all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.
<b>6.21 Prohibition of Harmful Child Labour</b>	The Contractor shall not employ any child to perform any work that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.
<b>6.22 Employment Records of Workers</b>	The Contractor shall keep complete and accurate records of the employment of labour at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the Engineer, and these records shall be available for inspection by Auditors during normal working hours. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment].

## **7. Plant, Materials and Workmanship**

<b>7.1 Manner of Execution</b>	The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:
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- (a) in the manner (if any) specified in the Contract,
- (b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and
- (c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

## **7.2 Samples**

The Contractor shall submit the following samples of Materials, and relevant information, to the Engineer for consent prior to using the Materials in or for the Works:

- (a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost, and
  - (b) additional samples instructed by the Engineer as a Variation.
- Each sample shall be labelled as to origin and intended use in the Works.

## **7.3 Inspection**

The Employer's Personnel shall at all reasonable times:

- (a) have full access to all parts of the Site and to all places from which natural Materials are being obtained, and
- (b) during production, manufacture and construction (at the Site and elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.

The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

The Contractor shall give notice to the Engineer whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Engineer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Engineer does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Engineer, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.

## **7.4 Testing**

This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).

Except as otherwise specified in the Contract, the Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Engineer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

The Engineer may, under Clause 13 [Variations and Adjustments], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.

The Engineer shall give the Contractor not less than 24 hours' notice of the Engineer's intention to attend the tests. If the Engineer does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Engineer, and the tests shall then be deemed to have been made in the Engineer's presence.

If the Contractor suffers delay from complying with these instructions or as a result of a delay for which the Employer is responsible, the Contractor shall give notice to the Engineer and shall be entitled to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

(a) .

After receiving this notice, the Engineer shall proceed to agree or determine these matters.

The Contractor shall promptly forward to the Engineer duly certified reports of the tests. When the specified tests have been passed, the Engineer shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Engineer has not attended the tests, he shall be deemed to have accepted the readings as accurate.

## **7.5 Rejection**

If, as a result of an examination, inspection, measurement or testing, any Plant, Materials or workmanship is found to be defective or otherwise not in accordance with the Contract, the Engineer may reject the Plant, Materials or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.

If the Engineer requires this Plant, Materials or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Employer's Claims] pay these costs to the Employer.

## **7.6 Remedial Work**

Notwithstanding any previous test or certification, the Engineer may instruct the Contractor to:

- (a) remove from the Site and replace any Plant or Materials which is not in accordance with the Contract,
- (b) remove and re-execute any other work which is not in accordance with the Contract, and
- (c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise.



The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c).

If the Contractor fails to comply with the instruction, the Employer shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.5 [Employer's Claims] pay to the Employer all costs arising from this failure.

**7.7 Ownership of Plant and Materials**

Except otherwise specified in the Contract, each item of Plant and Materials shall, to the extent consistent with the Laws of the Country, become the property of the Employer at whichever is the earlier of the following times, free from liens and other encumbrances:

- (a) when it is incorporated in the Works;
- (b) when the Contractor is paid the corresponding value of the Plant and Materials under Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension].

**7.8 Royalties**

Unless otherwise stated in the Specification, the Contractor shall pay all royalties, rents and other payments for:

- (a) natural Materials obtained from outside the Site, and
- (b) the disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal areas within the Site are specified in the Contract.

**8. Commencement, Delays and Suspension**

**8.1 Commencement of Works**

Except otherwise specified in the Particular Conditions, the Commencement Date shall be the date at which the following precedent conditions have all been fulfilled and the Engineer's instruction recording the agreement of both Parties on such fulfilment and instructing to commence the Works is received by the Contractor:

- (a) signature of the Contract Agreement by both Parties, and if required, approval of the Contract by relevant authorities;
- (b) delivery to the Contractor of reasonable evidence of the Employer's Financial arrangements (under Sub-Clause 2.4 [Employer's Financial Arrangements])

(c) except if otherwise specified in the Contract Data, possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works; and

(d) receipt by the Contractor of the interest bearing Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor.

If the said Engineer's instruction is not received by the Contractor within 180 days from his receipt of the Letter of Acceptance, the Contractor shall be entitled to terminate the Contract under Sub-Clause 16.2 [Termination by Contractor].

The Contractor shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date and shall then proceed with the Works with due expedition and without delay.

## **8.2 Time for Completion**

The Contractor shall complete the whole of the Works, and each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including:

- (a) achieving the passing of the Tests on Completion, and
- (b) completing all work which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections].

## **8.3 Programme**

The Contractor shall submit a detailed time programme to the Engineer within 28 days after receiving the notice under Sub-Clause 8.1 [Commencement of Works]. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:

- (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design (if any), Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing,
- (b) each of these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
- (c) the sequence and timing of inspections and tests specified in the Contract, and
- (d) a supporting report which includes:
  - (i) a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and
  - (ii) details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.

Unless the Engineer, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Employer's Personnel shall be entitled to rely upon the programme when planning their activities.

The Contractor shall promptly give notice to the Engineer of specific probable future events or circumstances which may adversely affect the work or delay the execution of the Works. The Engineer may require the Contractor to submit an estimate of the anticipated effect of the future event or circumstances, and/or a proposal under Sub-Clause 13.3 [Variation Procedure].

If, at any time, the Engineer gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Engineer in accordance with this Sub-Clause.

#### **8.4 Extension of Time for Completion**

The Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [Taking-Over of the Works and Sections] is or will be delayed by any of the following causes:

- (a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract,
- (b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,
- (c) exceptionally adverse climatic conditions,
- (d) unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or
- (e) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors.

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer in accordance with Sub-Clause 20.1 [Contractor's Claims]. When determining each extension of time under Sub-Clause 20.1, the Engineer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

#### **8.5 Delays Caused by Authorities**

If the following conditions apply, namely:

- (a) the Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in the Country,
- (b) these authorities delay or disrupt the Contractor's work, and
- (c) the delay or disruption was unforeseeable,

then this delay or disruption will be considered as a cause of delay under sub-paragraph (b) of Sub-Clause 8.4 [Extension of Time for Completion].

**8.6 Rate of Progress**

If, at any time:

(a) actual progress is too slow to complete within the Time for Completion, and/or

(b) progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [Programme],

other than as a result of a cause listed in Sub-Clause 8.4 [Extension of Time for Completion], then the Engineer may instruct the Contractor to submit, under Sub-Clause 8.3 [Programme], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Engineer notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Employer to incur additional costs, the Contractor shall subject to notice under Sub-Clause 2.5 [Employer's Claims] pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 8.7 [Delay Damages] below.

Additional costs of revised methods, including acceleration measures, instructed by the Engineer to reduce delays resulting from causes listed under Sub-Clause 8.4 [Extension of Time for Completion] shall be paid by the Employer, without generating, however, any other additional payment benefit to the Contractor.

**8.7 Delay Damages (including liquidated damage for not adhering to milestones)**

If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], or to complete the work at identified milestones the Contractor shall be subject to notice under Sub-Clause 2.5 [Employer's Claims], pay liquidated damage/delay damages to the Employer for this default. These delay damages shall be the sum stated in the Contract Data, which shall be paid for every day, which shall elapse between the relevant milestone date and/ or the Time for Completion and the date stated in the Taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of liquidated damage/delay damages (if any) stated in the Contract Data.

These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [Termination by Employer] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.

**8.8 Suspension of Work**

The Engineer may at any time instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage.

The Engineer may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9 [Consequences of Suspension], 8.10 [Payment for Plant and Materials in Event of Suspension] and 8.11 [Prolonged Suspension] shall not apply.

**8.9  
Consequences of  
Suspension**

If the Contractor suffers delay from complying with the Engineer's instructions from resuming the work, the Contractor shall give notice to the Engineer and shall be entitled to: an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

After receiving this notice, the Engineer shall proceed to agree or determine these matters.

The Contractor shall not be entitled to an extension of time for making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.8 [Suspension of Work].

**8.10 Payment  
for Plant and  
Materials in  
Event of  
Suspension**

The Contractor shall not be entitled to payment of the value (as at the date of suspension) of Plant and/or Materials which have not been delivered to Site.

**8.11 Prolonged  
Suspension**

If the suspension under Sub-Clause 8.8 [Suspension of Work] has continued for more than 84 days, the Contractor may request the Engineer's permission to proceed. If the Engineer does not give permission within 28 days after being requested to do so, the Contractor may, by giving notice to the Engineer, treat the suspension as an omission under Clause 13 [Variations and Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [Termination by Contractor].

**8.12 Resumption  
of Work**

After the permission or instruction to proceed is given, the Contractor and the Engineer shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension after receiving from the Engineer an instruction to this effect under Clause 13 [Variations and Adjustments].

**9. Tests on Completion**

**9.1 Contractor's  
Obligations**

The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4 [Testing], after providing the documents in accordance with sub-paragraph (d) of Sub-Clause 4.1 [Contractor's General Obligations].

The Contractor shall give to the Engineer not less than 21 days' notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Engineer shall instruct.

In considering the results of the Tests on Completion, the Engineer shall make allowances for the effect of any use of the Works by the Employer on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed any Tests on Completion, the Contractor shall submit a certified report of the results of these Tests to the Engineer.

## **9.2 Delayed Tests**

If the Tests on Completion are being unduly delayed by the Employer, Sub-Clause 7.4 [Testing] (fifth paragraph) and/or Sub-Clause 10.3 [Interference with Tests on Completion] shall be applicable.

If the Tests on Completion are being unduly delayed by the Contractor, the Engineer may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Engineer.

If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Employer's Personnel may proceed with the Tests at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.

## **9.3 Retesting**

If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [Rejection] shall apply, and the Engineer or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.

## **9.4 Failure to Pass Tests on Completion**

If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [Retesting], the Engineer shall be entitled to:

- (a) order further repetition of Tests on Completion under Sub-Clause 9.3;
- (b) if the failure deprives the Employer of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event the Employer shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 11.4 [Failure to Remedy Defects]; or
- (c) issue a Taking-Over Certificate, if the Employer so requests.

In the event of sub-paragraph (c), the Contractor shall proceed in accordance with all other obligations under the Contract, and the Contract Price shall be reduced by such amount as shall be appropriate to cover the reduced value to the Employer as a result of this failure. Unless the relevant reduction for this failure is stated (or its method of calculation is defined) in the Contract, the Employer may require the reduction to be (i) agreed by both Parties (in full satisfaction of this failure only) and paid before this Taking-Over Certificate is issued, or (ii) determined and paid under Sub-Clause 2.5 [Employer's Claims].

## **10. Employer's Taking Over**

### **10.1 Taking Over of the Works and Sections**

Except as stated in Sub-Clause 9.4 [Failure to Pass Tests on Completion], the Works shall be taken over by the Employer when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [Time for Completion] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.

The Contractor may apply by notice to the Engineer for a Taking-Over Certificate not earlier than 14 days before the Works will, in the Contractor's opinion, be complete and ready for taking over. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.

The Engineer shall, within 28 days after receiving the Contractor's application:

- (a) issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied); or
- (b) reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.

If the Engineer fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of 28 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.

### **10.2 Taking Over of Parts of the Works**

The Engineer may, at the sole discretion of the Employer, issue a Taking-Over Certificate for any part of the Permanent Works.

The Employer shall not use any part of the Works (other than as a temporary measure which is either specified in the Contract or agreed by both Parties) unless and until the Engineer has issued a Taking-Over Certificate for this part. However, if the Employer does use any part of the Works before the Taking-Over Certificate is issued:

- (a) the part which is used shall be deemed to have been taken over as from the date on which it is used,
- (b) the Contractor shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the Employer, and
- (c) if requested by the Contractor, the Engineer shall issue a Taking-Over Certificate for this part.

After the Engineer has issued a Taking-Over Certificate for a part of the Works, the Contractor shall be given the earliest opportunity to take such steps as may be necessary to carry out any outstanding Tests on Completion. The Contractor shall carry out these Tests on Completion as soon as practicable before the expiry date of the relevant Defects Notification Period.

**10.3  
Interference  
with Tests on  
Completion**

If the Contractor is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which the Employer is responsible, the Employer shall be deemed to have taken over the Works or Section (as the case may be) on the date when the Tests on Completion would otherwise have been completed.

The Engineer shall then issue a Taking-Over Certificate accordingly, and the Contractor shall carry out the Tests on Completion as soon as practicable, before the expiry date of the Defects Notification Period. The Engineer shall require the Tests on Completion to be carried out by giving 14 days' notice and in accordance with the relevant provisions of the Contract.

If the Contractor suffers delay as a result of this delay in carrying out the Tests on Completion, the Contractor shall give notice to the Engineer and shall be entitled to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

After receiving this notice, the Engineer shall proceed to agree or determine these matters.

**10.4 Surfaces  
Requiring  
Reinstatement**

Except as otherwise stated in a Taking-Over Certificate, a certificate for a Section or part of the Works shall not be deemed to certify completion of any ground or other surfaces requiring reinstatement.

**11. Defects Liability**

**11.1 Completion  
of Outstanding  
Work and  
Remedying  
Defects**

In order that the Works and Contractor's Documents, and each Section, shall be in the condition required by the Contract (fair wear and tear excepted) by the expiry date of the relevant Defects Notification Period or as soon as practicable thereafter, the Contractor shall:



(a) complete any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as is instructed by the Engineer, and

(b) execute all work required to remedy defects or damage, as may be notified by (or on behalf of) the Employer on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).

If a defect appears or damage occurs, the Contractor shall be notified accordingly, by (or on behalf of) the Employer.

**11.2 Cost of Remedying Defects**

All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:

(a) any design for which the Contractor is responsible,

(b) Plant, materials or workmanship not being in accordance with the Contract, or

(c) failure by the Contractor to comply with any other obligation.

If and to the extent that such work is attributable to any other cause, the Contractor shall be notified promptly by (or on behalf of) the Employer and Sub-Clause 13.3 [Variation Procedure] shall apply.

**11.3 Extension of Defects Notification Period**

The Employer shall be entitled subject to Sub-Clause 2.5 [Employer's Claims] to an extension of the Defects Notification Period for the Works or a Section if and to the extent that the Works, Section or a major item of Plant (as the case may be, and after taking over) cannot be used for the purposes for which they are intended by reason of a defect or by reason of a damage attributable to the Contractor. However, a Defects Notification Period shall not be extended by more than two years.

If delivery and/or erection of Plant and/or Materials was suspended under Sub-Clause 8.8 [Suspension of Work] or Sub-Clause 16.1 [Contractor's Entitlement to Suspend Work], the Contractor's obligations under this Clause shall not apply to any defects or damage occurring more than two years after the Defects Notification Period for the Plant and/or Materials would otherwise have expired.

**11.4 Failure to Remedy Defects**

If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be fixed by (or on behalf of) the Employer, on or by which the defect or damage is to be remedied. The Contractor shall be given reasonable notice of this date.

If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Employer may (at his option):

- (a) carry out the work himself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.5 [Employer's Claims] pay to the Employer the costs reasonably incurred by the Employer in remedying the defect or damage;
- (b) require the Engineer to agree or determine a reasonable reduction in the Contract Price; or
- (c) if the defect or damage deprives the Employer of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use. Without prejudice to any other rights, under the Contract or otherwise, the Employer shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor.

**11.5 Removal of Defective Work**

If the defect or damage cannot be remedied expeditiously on the Site and the Employer gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Security by the full replacement cost of these items, or to provide other appropriate security.

**11.6 Further Tests**

If the work of remedying of any defect or damage may affect the performance of the Works, the Engineer may require the repetition of any of the tests described in the Contract. The requirement shall be made by notice within 28 days after the defect or damage is remedied.

These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [Cost of Remedying Defects], for the cost of the remedial work.

**11.7 Right of Access**

Until the Performance Certificate has been issued, the Contractor shall have such right of access to the Works as is reasonably required in order to comply with this Clause, except as may be inconsistent with the Employer's reasonable security restrictions.

**11.8 Contractor to Search**

The Contractor shall, if required by the Engineer, search for the cause of any defect, under the direction of the Engineer. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Cost of the search plus profit shall be agreed or determined by the Engineer and shall be included in the Contract Price.

- 11.9 Performance Certificate** Performance of the Contractor's obligations shall not be considered to have been completed until the Engineer has issued the Performance Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract.
- The Engineer shall issue the Performance Certificate within 28 days after the latest of the expiry dates of the Defects Notification Periods, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. A copy of the Performance Certificate shall be issued to the Employer.
- Only the Performance Certificate shall be deemed to constitute acceptance of the Works.
- 11.10 Unfulfilled Obligations** After the Performance Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.
- 11.11 Clearance of Site** Upon receiving the Performance Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.
- If all these items have not been removed within 28 days after receipt by the Contractor of the Performance Certificate, the Employer may sell or otherwise dispose of any remaining items. The Employer shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.
- Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Employer's costs, the Contractor shall pay the outstanding balance to the Employer.

## **12. Measurement and Evaluation**

- 12.1 Works to be Measured** The Works shall be measured, and valued for payment at various milestones, in accordance with this Clause. The Contractor shall show in each application under Sub-Clauses 14.3 [Application for Interim Payment Certificates], 14.10 [Statement at Completion], and 14.11 [Application for Final Payment Certificate] the quantities and other particulars detailing the amounts which he considers to be entitled under the Contract.
- Whenever the Engineer requires any part of the Works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:
- (a) promptly either attend or send another qualified representative to assist the Engineer in making the measurement, and
  - (b) supply any particulars requested by the Engineer.

If the Contractor fails to attend or send a representative, the measurement made by (or on behalf of) the Engineer shall be accepted as accurate.

Except as otherwise stated in the Contract, wherever any Permanent Works are to be measured from records, these shall be prepared by the Engineer. The Contractor shall, as and when requested, attend to examine and agree the records with the Engineer, and shall sign the same when agreed. If the Contractor does not attend, the records shall be accepted as accurate.

If the Contractor examines and disagrees the records, and/or does not sign them as agreed, then the Contractor shall give notice to the Engineer of the respects in which the records are asserted to be inaccurate. After receiving this notice, the Engineer shall review the records and either confirm or vary them and certify the payment of the undisputed part. If the Contractor does not so give notice to the Engineer within 14 days after being requested to examine the records, they shall be accepted as accurate.

## **12.2 Method of Measurement**

Except as otherwise stated in the Contract and notwithstanding local practice:

- (a) measurement shall be made of the net carpet area of each dwelling unit of the houses constructed under PMAY, and
- (b) the method of measurement shall be in accordance with the unit mentioned in price bid or other applicable Schedules.

## **12.3 Evaluation**

Except as otherwise stated in the Contract, the Engineer shall proceed to agree or determine the Contract Price by evaluating each item of work, applying the measurement agreed or determined in accordance with the above Sub-Clauses 12.1 [Works to be Measured] and 12.2 [Method of Measurement] and the appropriate rate or price for the item.

For each item of work, the appropriate rate or price for the item shall be the rate or price specified for such item in the Contract or, if there is no such item, specified for similar work.

Any item of work included in the Price bid for which no rate or price was specified shall be considered as included in other rates and prices in the Price bid and will not be paid for separately.

However, a new rate or price shall be appropriate for an item of work if:

- (a)
  - (i) the measured quantity of the item is changed by more than 25% from the quantity of this item in the price bid or other Schedule,
  - (ii) this change in quantity multiplied by such specified rate for this item exceeds 0.25% of the Accepted Contract Amount,
  - (iii) this change in quantity directly changes the Cost per unit quantity of this item by more than 1%, and

(iv) this item is not specified in the Contract as a “fixed rate item”;

Or

(b)

(i) the work is instructed under Clause 13 [Variations and Adjustments],

(ii) no rate or price is specified in the Contract for this item, and

(iii) no specified rate or price is appropriate because the item of work is not of similar character, or is not executed under similar conditions, as any item in the Contract.

Each new rate or price shall be derived from any relevant rates or prices in the Contract, with reasonable adjustments to take account of the matters described in sub-paragraph (a) and/or (b), as applicable. If no rates or prices are relevant for the derivation of a new rate or price, it shall be derived from the reasonable Cost of executing the work, together with profit, taking account of any other relevant matters.

Until such time as an appropriate rate or price is agreed or determined, the Engineer shall determine a provisional rate or price for the purposes of Interim Payment Certificates as soon as the concerned Works commences.

#### **12.4 Omissions**

Whenever the omission of any work forms part (or all) of a Variation, the value of which has not been agreed, if:

(a) the Contractor will incur (or has incurred) cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount;

(b) the omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and

(c) this cost is not deemed to be included in the evaluation of any substituted work;

then the Contractor shall give notice to the Engineer accordingly, with supporting particulars. Upon receiving this notice, the Engineer shall proceed to agree or determine this cost, which shall be included in the Contract Price.

### **13. Variations and Adjustments**

#### **13.1 Right to Vary**

Variations may be initiated by the Engineer at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal. Any variation in carpet area arising out of increase or decrease of dwelling units or housing blocks shall be paid at the agreed rate only. However this change would not be more than 25% in normal circumstances.

The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Engineer stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, or (ii) such Variation triggers a substantial change in the sequence or progress of the Works. Upon receiving this notice, the Engineer shall cancel, confirm or vary the instruction.

Each Variation may include:

- (a) changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation),
- (b) changes to the quality and other characteristics of any item of work,
- (c) changes to the levels, positions and/or dimensions of any part of the Works,
- (d) omission of any work unless it is to be carried out by others,
- (e) any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work, or
- (f) changes to the sequence or timing of the execution of the Works.

The Contractor shall not make any alteration and/or modification of the Permanent Works, unless and until the Engineer instructs or approves a Variation.

## **13.2 Value Engineering**

The Contractor may, at any time, submit to the Engineer a written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Employer of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Employer of the completed Works, or (iv) otherwise be of benefit to the Employer.

The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].

If a proposal, which is approved by the Engineer, includes a change in the design of part of the Permanent Works, then unless otherwise agreed by both Parties:

- (a) the Contractor shall design this part,
- (b) sub-paragraphs (a) to (d) of Sub-Clause 4.1 [Contractor's General Obligations] shall apply, and
- (c) if this change results in a reduction in the contract value of this part, the Engineer shall proceed to agree or determine a fee, which shall be included in the Contract Price. This fee shall be half (50%) of the difference between the following amounts:
  - (i) such reduction in contract value, resulting from the change, excluding adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost], and

(ii) the reduction (if any) in the value to the Employer of the varied works, taking account of any reductions in quality, anticipated life or operational efficiencies.

However, if amount (i) is less than amount (ii), there shall not be a fee.

### **13.3 Variation Procedure**

If the Engineer requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:

(a) a description of the proposed work to be performed and a programme for its execution,

(b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and

(c) the Contractor's proposal for evaluation of the Variation.

The Engineer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response.

Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Engineer to the Contractor, who shall acknowledge receipt.

Each Variation shall be evaluated in accordance with Clause 12 [Measurement and Evaluation], unless the Engineer instructs or approves otherwise in accordance with this Clause.

### **13.4 Payment in Applicable Currencies**

If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.

### **13.5 Provisional Sums**

Each Provisional Sum shall only be used, in whole or in part, in accordance with the Engineer's instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Engineer shall have instructed. For each Provisional Sum, the Engineer may instruct:

(a) work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [Variation Procedure]; and/or

(b) Plant, Materials or services to be purchased by the Contractor, from a nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]) or otherwise; and for which there shall be included in the Contract Price:

(i) the actual amounts paid (or due to be paid) by the Contractor, and

(ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the appropriate Schedule. If there is no such rate, the percentage rate stated in the Contract Data shall be applied.

The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

### **13.6 Daywork**

For work of a minor or incidental nature, the Engineer may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the Daywork Schedule included in the Contract, and the following procedure shall apply. If a Daywork Schedule is not included in the Contract, this Sub-Clause shall not apply.

Before ordering Goods for the work, the Contractor shall submit quotations to the Engineer. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.

Except for any items for which the Daywork Schedule specifies that payment is not due, the Contractor shall deliver each day to the Engineer accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work:

- (a) the names, occupations and time of Contractor's Personnel,
- (b) the identification, type and time of Contractor's Equipment and Temporary Works, and
- (c) the quantities and types of Plant and Materials used.

One copy of each statement will, if correct, or when agreed, be signed by the Engineer and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Engineer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [Application for Interim Payment Certificates].

### **13.7 Adjustments for Changes in Legislation**

The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.

If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to

an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and



After receiving this notice, the Engineer shall proceed to agree or determine these matters.

Notwithstanding the foregoing, the Contractor shall not be entitled to such an extension of time if the relevant delay has already have been taken into account in determining an extension and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the table of adjustment data in accordance with the provisions of Sub-Clause 13.8 [Adjustments for Changes in Cost].

**13.8  
Adjustments for  
Changes in Cost**

In this Sub-Clause, “table of adjustment data” means the completed table of adjustment data for local and foreign currencies included in the Schedules. If there is no such table of adjustment data, this Sub-Clause shall not apply. In this EPC contract for Affordable Housing, no change is acceptable and the agreed upon price will always prevail.

**14. Contract Price and Payment**

**14.1 The  
Contract Price**

Unless otherwise stated in the Particular Conditions:

(a) the Contract Price shall be agreed or determined under Sub-Clause 12.3 [Evaluation] and be subject to adjustments in accordance with the Contract;

(b) the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs except as stated in Sub-Clause 13.7 [Adjustments for Changes in Legislation];

(c) any quantities which may be set out in the Price bid or other Schedule are estimated quantities and are not to be taken as the actual and correct quantities:

(i) of the Works which the Contractor is required to execute, or

(ii) for the purposes of Clause 12 [Measurement and Evaluation];  
and

(d) the Contractor shall submit to the Engineer, within 28 days after the Commencement Date, a proposed breakdown of each lump sum price in the Schedules. The Engineer may take account of the breakdown when preparing Payment Certificates, but shall not be bound by it.

(e) Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts therefor, imported by the Contractor for the sole purpose of executing the Contract shall be exempt from the payment of import duties and taxes upon importation.

**14.2 Advance  
Payment  
(Mobilization  
Advance)**

The Employer shall make an advance payment, as an interest-bearing loan at 10% per annum for mobilisation and cash flow support, when the Contractor submits a guarantee of 110% of the advance payment amount in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the Contract Data.

Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the Contract Data, this Sub-Clause shall not apply.

The Engineer shall deliver to the Employer and to the Contractor an Interim Payment Certificate for the advance payment or its first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Employer receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.

The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount shall be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

Unless stated otherwise in the Contract Data, the advance payment shall be repaid through percentage deductions from the interim payments determined by the Engineer in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates], as follows:

(a) deductions shall commence in the next interim Payment Certificate following that in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds Twenty percent (20%) of the Accepted Contract Amount less Provisional Sums; and

(b) deductions shall be made at the amortisation rate stated in the Contract Data of the amount of each Interim Payment Certificate (excluding the advance payment and deductions for its repayments as well as deductions for retention money) in the currencies and proportions of the advance payment until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid prior to the time when Ninety per cent (90%) of the Accepted Contract Amount less Provisional Sums has been certified for payment.

If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Employer], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause 15 [Termination by Employer] and Sub-Clause 19.6 [Optional Termination, Payment and Release], payable by the Contractor to the Employer.

**14.3 Application  
for Interim  
Payment  
Certificates**

The Contractor shall submit a Statement in six copies to the Engineer after the end of each milestone, in a form approved by the Engineer, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents which shall include the report on the progress during this milestone in accordance with Sub-Clause 4.21 [Progress Reports].

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- (a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (g) below);
- (b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost];
- (c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Contract Data to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Contract Data;
- (d) any amounts to be added for the advance payment and (if more than one instalment) and to be deducted for its repayments in accordance with Sub-Clause 14.2 [Advance Payment];
- (e) any amounts to be added and deducted for Plant and Materials in accordance with Sub-Clause 14.5 [Plant and Materials intended for the Works];
- (f) any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and
- (g) the deduction of amounts certified in all previous Payment Certificates.

**14.4 Schedule of  
Payments and  
Payment  
Certificates**

If the Contract includes a schedule of payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this schedule:

- (a) the instalments quoted in this schedule of payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates];
- (b) Sub-Clause 14.5 [Plant and Materials intended for the Works] shall not apply; and
- (c) if these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less or more than that on which this schedule of payments was based (which is not the case in present instant), then the Engineer may proceed to agree or determine revised instalments, which shall take account of the extent to which progress is less or more than that on which the instalments were previously based.

If the Contract does not include a schedule of payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

In case of present EPC contract for Affordable housing under PMAY in Jharkhand, the payment milestones have been elaborated and is given in tabular form below (however, these may not be taken as stages of construction and are sub divisions only for effective payment)

<b>Milestone Number and Description of Each Milestone</b>	<b>Payment %age</b>	<b>Cumulative Payment %</b>	<b>Milestones to be achieved with 18 months completion</b>
1 <sup>st</sup> a) Preparation, vetting & approval of design & drawings.	10	10	2 Months
b) Completion of Foundation works and R.C.C and/or Masonry work up to Plinth Level complete in all respect.			2 Months
2 <sup>nd</sup> Completion of R.C.C. frame and/or masonry work in walls etc. Payment will be divided on pro-data basis of number of roof slabs if required.	30	40	8 Months
3 <sup>rd</sup> Internal Flooring including skirting, dado in all type of rooms, passage and stairs. Payment will be divided on pro-data basis of number of floor slabs if required.	7	47	10 Months
4 <sup>th</sup> Providing/Fixing Door Shutters, Balcony railing, S/C railing window grills and other steel work along with fittings	7	54	11Months
5 <sup>th</sup> Internal water supply, Sanitary Work & Electrification works	6	60	13Months
6 <sup>th</sup> Internal & external Painting	10	70	14Months

7 <sup>th</sup> External campus Water supply, Storm water Drain, Sewerage i/c covers, Pathways, roads, Parks etc. to complete in all respect.	10	80	15Months
8 <sup>th</sup> Boundary wall with necessary gate, Horticulture work i/c plantation and landscaping i/c water Supply etc.	5	85	16 Months
9 <sup>th</sup> Completion of all remaining items of work i/c handing over of flats defect free in all respects and testing of all services to the satisfaction of engineer-in-charge and handing over of services JUIDCO including external electrification and street lighting etc to complete.	7	92	17 Months
10 <sup>th</sup> Modifications/alterations (as per the monitoring agency) and after handing over the DUs to JUIDCO	5	97	18 Months
11 <sup>th</sup> After Defect Liability Period	3	100	
These payment milestones would be considered for entire building at particular location in one ULB/Smart City, i.e if first milestone after Completion of foundation work and RCC work and/ or masonry work upto plinth level is to be paid, all buildings needs to be completed upto plinth level in that particular ULB. In case in one ULB buildings of different heights/stories are constructed then these different buildings at one location will be taken as separate entity while making payment under different milestones.			
<b>Payment Certificates</b>			
The Contractor shall submit to the Engineer milestone bills of the estimated value of the work completed less the cumulative amount certified previously.			
The Engineer shall check the Contractor's milestone bills within 14 days and certify the amount to be paid to the Contractor.			
The value of work executed shall be determined by the Engineer.			
The value of work executed shall comprise the value of the works completed as per payment milestones			
The value of work executed shall include the valuation of Variations if any.			

**14.5 Plant and Materials intended for the Works**

If this Sub-Clause applies, Interim Payment Certificates shall include, under sub-paragraph (e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates].

If the lists referred to in sub-paragraphs (b)(i) or (c)(i) below are not included in the Schedules, this Sub-Clause shall not apply.

The Engineer shall determine and certify each addition if the following conditions are satisfied:

- (a) the Contractor has:
  - (i) kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and
  - (ii) submitted a statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence;

and either:

- (b) the relevant Plant and Materials:
  - (i) are those listed in the Schedules for payment when shipped,
  - (ii) have been shipped to the Country, en route to the Site, in accordance with the Contract; and
  - (iii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Engineer together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Employer in amounts and currencies equal to the amount due under this Sub-Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [Advance Payment] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration;

Or

- (c) the relevant Plant and Materials:
  - (i) are those listed in the Schedules for payment when delivered to the Site, and
  - (ii) have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration, and appear to be in accordance with the Contract.

The additional amount to be certified shall be the equivalent of eighty percent of the Engineer's determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.

The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in the same currencies and proportions as, this additional amount for the relevant Plant and Materials.

#### **14.6 Issue of Interim Payment Certificates**

No amount will be certified or paid until the Employer has received and approved the Performance Security. Thereafter, the Engineer shall, within 28 days after receiving a Statement and supporting documents, deliver to the Employer and to the Contractor an Interim Payment Certificate which shall state the amount which the Engineer fairly determines to be due, with all supporting particulars for any reduction or withholding made by the Engineer on the Statement if any.

However, prior to issuing the Taking-Over Certificate for the Works, the Engineer shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated in the Contract Data. In this event, the Engineer shall give notice to the Contractor accordingly.

An Interim Payment Certificate shall not be withheld for any other reason, although:

(a) if anything supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or

(b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Engineer may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Engineer's acceptance, approval, consent or satisfaction.

#### **14.7 Payment**

The Employer shall pay to the Contractor:

(a) the first instalment of the advance payment within 42 days after issuing the Letter of Acceptance or within 21 days after receiving the documents in accordance with Sub-Clause 4.2 [Performance Security] and Sub-Clause 14.2 [Advance Payment], whichever is later;

(b) the amount certified in each Interim Payment Certificate within 56 days after the Engineer receives the Statement and supporting documents or, at a time when the Bank's loan or credit (from which part of the payments to the Contractor is being made) is suspended, the amount shown on any statement submitted by the Contractor, within 14 days after such statement is submitted, any discrepancy being rectified in the next payment to the Contractor; and

(c) the amount certified in the Final Payment Certificate within 56 days after the Employer receives this Payment Certificate or, at a time when the Government's loan or credit (from which part of the payments to the Contractor is being made) is suspended, the undisputed amount shown in the Final Statement, within 56 days after the date of notification of the suspension in accordance with Sub-Clause 16.2.

Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (for this currency) specified in the Contract.

**14.8 Delayed Payment**

If the Contractor does not receive payment within stipulated time period without any cause or reason attributable to him, the contractor will not be entitled to receive financing charges. No request for payment interest will be entertained. However, JUIDCO will make all effort to make timely payment and any delay in payment made intentionally by any in JUIDCO can be brought to the notice of the employer or employer's representative

**14.9 Payment of Retention Money**

When the Taking-Over Certificate has been issued for the Works, the first half of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate is issued for a Section or part of the Works, a proportion of the Retention Money shall be certified and paid. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section or part, by the estimated final Contract Price.

Promptly after the latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, a proportion of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section by the estimated final Contract Price.

However, if any work remains to be executed under Clause 11 [Defects Liability], the Engineer shall be entitled to withhold certification of the estimated cost of this work until it has been executed.

When calculating these proportions, no account shall be taken of any adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost].



Unless otherwise stated in the Particular Conditions, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a guarantee, in the form annexed to the Particular Conditions or in another form approved by the Employer and provided by an entity approved by the Employer, for the second half of the Retention Money. The Contractor shall ensure that the guarantee is in the amounts and currencies of the second half of the Retention Money and is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects, as specified for the Performance Security in Sub-Clause 4.2. On receipt by the Employer of the required guarantee, the Engineer shall certify and the Employer shall pay the second half of the Retention Money. The release of the second half of the Retention Money against a guarantee shall then be in lieu of the release under the second paragraph of this Sub-Clause. The Employer shall return the guarantee to the Contractor within 21 days after receiving a copy of the Performance Certificate.

If the Performance Security required under Sub-Clause 4.2 is in the form of a demand guarantee, and the amount guaranteed under it when the Taking-Over Certificate is issued is more than half of the Retention Money, then the Retention Money guarantee will not be required. If the amount guaranteed under the Performance Security when the Taking-Over Certificate is issued is less than half of the Retention Money, the Retention Money guarantee will only be required for the difference between half of the Retention Money and the amount guaranteed under the Performance Security.

**14.10 Statement at Completion**

Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Engineer six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates], showing:

(a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,

(b) any further sums which the Contractor considers to be due, and

(c) an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

The Engineer shall then certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates].

**14.11 Application for Final Payment Certificate**

Within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Engineer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Engineer:

(a) the value of all work done in accordance with the Contract, and

(b) any further sums which the Contractor considers to be due to him under the Contract or otherwise.

If the Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer may reasonably require within 28 days from receipt of the said draft and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Engineer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

However if, following discussions between the Engineer and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Engineer shall deliver to the Employer (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [Obtaining Dispute Board's Decision] or Sub-Clause 20.5 [Amicable Settlement], the Contractor shall then prepare and submit to the Employer (with a copy to the Engineer) a Final Statement.

#### **14.12 Discharge**

When submitting the Final Statement, the Contractor shall submit a discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the outstanding balance of this total, in which event the discharge shall be effective on such date.

#### **14.13 Issue of Final Payment Certificate**

Within 28 days after receiving the Final Statement and discharge in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Engineer shall deliver to the Employer and to the Contractor, the Final Payment Certificate which shall state:

(a) the amount which he fairly determines is finally due, and

(b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance (if any) due from the Employer to the Contractor or from the Contractor to the Employer, as the case may be.

If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Engineer shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 28 days, the Engineer shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

#### **14.14 Cessation of Employer's Liability**

The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

- (a) in the Final Statement and also
- (b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [Statement at Completion].

However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.

#### **14.15 Currencies of Payment**

The Contract Price shall be paid in the currency or currencies named in the Schedule of Payment Currencies. If more than one currency is so named, payments shall be made as follows:

(a) if the Accepted Contract Amount was expressed in Local Currency only:

(i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Schedule of Payment Currencies, except as otherwise agreed by both Parties;

(ii) payments and deductions under Sub-Clause 13.5 [Provisional Sums] and Sub-Clause 13.7 [Adjustments for Changes in Legislation] shall be made in the applicable currencies and proportions; and

(iii) other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [Application for Interim Payment Certificates] shall be made in the currencies and proportions specified in sub-paragraph (a)(i) above;

(b) payment of the damages specified in the Contract Data, shall be made in the currencies and proportions specified in the Schedule of Payment Currencies;

(c) other payments to the Employer by the Contractor shall be made in the currency in which the sum was expended by the Employer, or in such currency as may be agreed by both Parties;

(d) if any amount payable by the Contractor to the Employer in a particular currency exceeds the sum payable by the Employer to the Contractor in that currency, the Employer may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and

(e) if no rates of exchange are stated in the Schedule of Payment Currencies, they shall be those prevailing on the Base Date and determined by the central bank of the Country.

### **15. Termination by Employer**

#### **15.1 Notice to Correct**

If the Contractor fails to carry out any obligation under the Contract, the Engineer may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time.

#### **15.2 Termination by**

The Employer shall be entitled to terminate the Contract if the Contractor:

## Employer

(a) fails to comply with Sub-Clause 4.2 [Performance Security] or with a notice under Sub-Clause 15.1 [Notice to Correct],

(b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,

(c) without reasonable excuse fails:

(i) to proceed with the Works in accordance with Clause 8 [Commencement, Delays and Suspension], or

(ii) to comply with a notice issued under Sub-Clause 7.5 [Rejection] or Sub-Clause 7.6 [Remedial Work], within 28 days after receiving it,

(d) subcontracts the whole of the Works or assigns the Contract without the required agreement,

(e) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or

(f) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:

(i) for doing or forbearing to do any action in relation to the Contract, or

(ii) for showing or forbearing to show favour or disfavour to any person in relation to the Contract,

or if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination.

In any of these events or circumstances, the Employer may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub-paragraph (e) or (f), the Employer may by notice terminate the Contract immediately.

The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer, under the Contract or otherwise.

The Contractor shall then leave the Site and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him, to the Engineer. However, the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any subcontract, and (ii) for the protection of life or property or for the safety of the Works.

After termination, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

The Employer shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site. The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this time the Contractor has failed to make a payment due to the Employer, these items may be sold by the Employer in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

**15.3 Valuation at Date of Termination**

As soon as practicable after a notice of termination under Sub-Clause 15.2 [Termination by Employer] has taken effect, the Engineer shall proceed to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract.

**15.4 Payment after Termination**

After a notice of termination under Sub-Clause 15.2 [Termination by Employer] has taken effect, the Employer may:

- (a) proceed in accordance with Sub-Clause 2.5 [Employer's Claims],
- (b) withhold further payments to the Contractor until the costs of execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by the Employer, have been established, and/or
- (c) recover from the Contractor any losses and damages incurred by the Employer and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [Valuation at Date of Termination]. After recovering any such losses, damages and extra costs, the Employer shall pay any balance to the Contractor.

**15.5 Employer's Entitlement to Termination for Convenience**

The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 28 days after the later of the dates on which the Contractor receives this notice or the Employer returns the Performance Security. The Employer shall not terminate the Contract under this Sub-Clause in order to execute the Works himself or to arrange for the Works to be executed by another contractor or to avoid a termination of the Contract by the Contractor under Sub-Clause 16.4 [Payment on Termination].

After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release].

**15.6 Corrupt or Fraudulent Practices**

If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days' notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of Clause 15 shall apply as if such expulsion had been made under Sub-Clause 15.2 [Termination by Employer].

Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with Sub-Clause 6.9 [Contractor's Personnel].

**16.1 Contractor's Entitlement to Suspend Work**

**16. Suspension and Termination by Contractor**

If the Engineer fails to certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] or the Employer fails to comply with Sub-Clause 2.4 [Employer's Financial Arrangements] or Sub-Clause 14.7 [Payment], the Contractor may, after giving not less than 21 days' notice to the Employer, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment Certificate, reasonable evidence or payment, as the case may be and as described in the notice.

The Contractor's action shall not prejudice his entitlements to termination under Sub-Clause 16.2 [Termination by Contractor].

If the Contractor subsequently receives such Payment Certificate or evidence (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.

If the Contractor suffers delay as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

After receiving this notice, the Engineer shall proceed to agree or determine these matters.

**16.2 Termination by Contractor**

The Contractor shall be entitled to terminate the Contract if:

- (a) the Employer fails to comply with Sub-Clause 1.6 [Contract Agreement] or Sub-Clause 1.7 [Assignment],
- (b) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [Prolonged Suspension], or
- (c) the Contractor does not receive the Engineer's instruction recording the agreement of both Parties on the fulfilment of the conditions for the Commencement of Works under Sub-Clause 8.1 [Commencement of Works].

The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract or otherwise.

**16.3 Cessation of Work and Removal of Contractor's Equipment**

After a notice of termination under Sub-Clause 15.5 [Employer's Entitlement to Termination for Convenience], Sub-Clause 16.2 [Termination by Contractor] or Sub-Clause 19.6 [Optional Termination, Payment and Release] has taken effect, the Contractor shall promptly:

(a) cease all further work, except for such work as may have been instructed by the Engineer for the protection of life or property or for the safety of the Works,

(b) hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and

(c) remove all other Goods from the Site, except as necessary for safety, and leave the Site.

**16.4 Payment on Termination**

After a notice of termination under Sub-Clause 16.2 [Termination by Contractor] has taken effect, the Employer shall promptly:

(a) return the Performance Security to the Contractor,

(b) pay the Contractor in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release], and

(c) pay to the Contractor the amount of any loss or damage sustained by the Contractor as a result of this termination.

**17. Risk and Responsibility**

**17.1 Indemnities**

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

(a) bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and

(b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless and to the extent that any such damage or loss is attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

The Employer shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, which is attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [Insurance Against Injury to Persons and Damage to Property].

**17.2  
Contractor's  
Care of the  
Works**

The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Employer. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Employer.

After responsibility has accordingly passed to the Employer, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.

If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Employer's Risks], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.

The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

**17.3 Employer's  
Risks**

The risks referred to in Sub-Clause 17.4 [Consequences of Employer's Risks] below, insofar as they directly affect the execution of the Works in the Country, are:

(a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,

(b) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war, within the Country,

(c) riot, commotion or disorder within the Country by persons other than the Contractor's Personnel,



- (d) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, within the Country, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity,
- (e) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,
- (f) use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract,
- (g) design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible, and
- (h) any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventative precautions.

**17.4  
Consequences of  
Employer's  
Risks**

If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Engineer and shall rectify this loss or damage to the extent required by the Engineer.

If the Contractor suffers delay from rectifying this loss or damage, the Contractor shall give a further notice to the Engineer and shall be entitled to an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

After receiving this further notice, the Engineer shall proceed to agree or determine these matters.

**17.5 Intellectual  
and Industrial  
Property Rights**

In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works; and "claim" means a claim (or proceedings pursuing a claim) alleging an infringement.

Whenever a Party does not give notice to the other Party of any claim within 28 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.

The Employer shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:

- (a) an unavoidable result of the Contractor's compliance with the Contract, or
- (b) a result of any Works being used by the Employer:
  - (i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
  - (ii) in conjunction with anything not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.

The Contractor shall indemnify and hold the Employer harmless against and from any other claim which arises out of or in relation to (i) the manufacture, use, sale or import of any Goods, or (ii) any design for which the Contractor is responsible.

If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.

**17.6 Limitation of Liability**

Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than as specifically provided in Sub-Clause 8.7 [Delay Damages]; Sub-Clause 11.2 [Cost of Remedying Defects]; Sub-Clause 15.4 [Payment after Termination]; Sub-Clause 16.4 [Payment on Termination]; Sub-Clause 17.1 [Indemnities]; Sub-Clause 17.4 (b) [Consequences of Employer's Risks] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights].

The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Employer's Equipment and Free-Issue Material], Sub-Clause 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as stated in the Contract Data, or (if such multiplier or other sum is not so stated), the Accepted Contract Amount.

This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

**17.7 Use of Employer's Accommodation/Facilities**

The Contractor shall take full responsibility for the care of the Employer provided accommodation and facilities, if any, as detailed in the Specification, from the respective dates of hand-over to the Contractor until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works).

If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Employer is liable, the Contractor shall, at his own cost, rectify the loss or damage to the satisfaction of the Engineer.

**18. Insurance**

## **18.1 General Requirements for Insurances**

In this Clause, “insuring Party” means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.

Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.

Wherever the Employer is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.

If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause, (i) the Contractor shall act under the policy on behalf of these additional joint insured except that the Employer shall act for Employer’s Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.

Each policy insuring against loss or damage shall provide for payments to be made in the currencies required to rectify the loss or damage. Payments received from insurers shall be used for the rectification of the loss or damage.

The relevant insuring Party shall, within the respective periods stated in the Contract Data (calculated from the Commencement Date), submit to the other Party:

- (a) evidence that the insurances described in this Clause have been effected, and
- (b) copies of the policies for the insurances described in Sub-Clause 18.2 [Insurance for Works and Contractor’s Equipment] and Sub-Clause 18.3 [Insurance against Injury to Persons and Damage to Property].

When each premium is paid, the insuring Party shall submit evidence of payment to the other Party. Whenever evidence or policies are submitted, the insuring Party shall also give notice to the Engineer.

Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.

Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.

If the insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contract, or fails to provide satisfactory evidence and copies of policies in accordance with this Sub-Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums due. The insuring Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.

Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Employer, under the other terms of the Contract or otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Employer in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.

Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [Employer's Claims] or Sub-Clause 20.1 [Contractor's Claims], as applicable.

The Contractor shall be entitled to place all insurance relating to the Contract (including, but not limited to the insurance referred to Clause 18) with insurers from any eligible source country.

## **18.2 Insurance for Works and Contractor's Equipment**

The insuring Party shall insure the Works, Plant, Materials and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Works.

The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of any other operations (including those under Clause 11 [Defects Liability]).

The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. For each item of Contractor's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Contractor's Equipment.

Unless otherwise stated in the Particular Conditions, insurances under this Sub-Clause:

(a) shall be effected and maintained by the Contractor as insuring Party,

(b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated to the Party actually bearing the costs of rectifying the loss or damage,

(c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [Employer's Risks],

(d) shall also cover, to the extent specifically required in the bidding documents of the Contract, loss or damage to a part of the Works which is attributable to the use or occupation by the Employer of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g) and (h) of Sub-Clause 17.3 [Employer's Risks], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated in the Contract Data (if an amount is not so stated, this sub-paragraph (d) shall not apply), and

(e) may however exclude loss of, damage to, and reinstatement of:

(i) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),

(ii) a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,

(iii) a part of the Works which has been taken over by the Employer, except to the extent that the Contractor is liable for the loss or damage, and

(iv) Goods while they are not in the Country, subject to Sub-Clause 14.5 [Plant and Materials intended for the Works].

If, more than one year after the Base Date, the cover described in sub-paragraph (d) above ceases to be available at commercially reasonable terms, the Contractor shall (as insuring Party) give notice to the Employer, with supporting particulars. The Employer shall then (i) be entitled subject to Sub-Clause 2.5 [Employer's Claims] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [General Requirements for Insurances].

**18.3 Insurance against Injury to Persons and Damage to Property**

The insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment]) or to any person (except persons insured under Sub-Clause 18.4 [Insurance for Contractor's Personnel]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.

This insurance shall be for a limit per occurrence of not less than the amount stated in the Contract Data, with no limit on the number of occurrences. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.

Unless otherwise stated in the Particular Conditions, the insurances specified in this Sub-Clause:

(a) shall be effected and maintained by the Contractor as insuring Party,

(b) shall be in the joint names of the Parties,

(c) shall be extended to cover liability for all loss and damage to the Employer's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and

(d) may however exclude liability to the extent that it arises from:

(i) the Employer's right to have the Permanent Works executed on, over, under, in or through any land, and to occupy this land for the Permanent Works,

(ii) damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects, and

(iii) a cause listed in Sub-Clause 17.3 [Employer's Risks], except to the extent that cover is available at commercially reasonable terms.

**18.4 Insurance for Contractor's Personnel**

The Contractor shall effect and maintain insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel.

The insurance shall cover the Employer and the Engineer against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel.

The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Subcontractor's employees, the insurance may be effected by the Subcontractor, but the Contractor shall be responsible for compliance with this Clause.

## **19. Force Majeure**

### **19.1 Definition of Force Majeure**

In this Clause, "Force Majeure" means an exceptional event or circumstance:

- (a) which is beyond a Party's control,
- (b) which such Party could not reasonably have provided against before entering into the Contract,
- (c) which, having arisen, such Party could not reasonably have avoided or overcome, and
- (d) which is not substantially attributable to the other Party.

Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

- (i) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- (ii) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war,
- (iii) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel,
- (iv) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and
- (v) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

### **19.2 Notice of Force Majeure**

If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.

The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.

Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

### **19.3 Duty to Minimise Delay**

Each Party shall at all times use all reasonable endeavours to minimise any delay in the performance of the Contract as a result of Force Majeure.

A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

**19.4  
Consequences of  
Force Majeure**

If the Contractor is prevented from performing its substantial obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

(b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [Definition of Force Majeure] and, in the case of sub-paragraphs (ii) to (iv), occurs in the Country, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment].

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

**19.5 Force  
Majeure  
Affecting  
Subcontractor**

If any Subcontractor is entitled under any contract or agreement relating to the Worksto relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under this Clause.

**19.6 Optional  
Termination,  
Payment and  
Release**

If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment].

Upon such termination, the Engineer shall determine the value of the work done and issue a Payment Certificate which shall include:

(a) the amounts payable for any work carried out for which a price is stated in the Contract;

(b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer's disposal;



(c) other Costs or liabilities which in the circumstances were reasonably and necessarily incurred by the Contractor in the expectation of completing the Works;

(d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and

(e) the Cost of repatriation of the Contractor's staff and labour employed wholly in connection with the Works at the date of termination.

**19.7 Release from Performance**

Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance:

(a) the Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and

(b) the sum payable by the Employer to the Contractor shall be the same as would have been payable under Sub-Clause 19.6 [Optional Termination, Payment and Release] if the Contract had been terminated under Sub-Clause 19.6.

**20. Claims, Disputes and Arbitration**

**20.1 Contractor's Claims**

If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.

If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.

The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Engineer. Without admitting the Employer's liability, the Engineer may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Engineer to inspect all these records, and shall (if instructed) submit copies to the Engineer.

Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Engineer, the Contractor shall send to the Engineer a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

- (a) this fully detailed claim shall be considered as interim;
- (b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Engineer may reasonably require; and
- (c) the Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer.

Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Engineer and approved by the Contractor, the Engineer shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within the above defined time period.

Within the above defined period of 42 days, the Engineer shall proceed to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

Each Payment Certificate shall include such additional payment for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

If the Engineer does not respond within the timeframe defined in this Clause, either Party may consider that the claim is rejected by the Engineer and any of the Parties may refer it to the Dispute Review Expert in accordance with Sub-Clause 20.2.

## **20.2 Dispute Resolution**

(i) The Employer and the Contractor shall make every effort to resolve amicably by direct negotiations, any disagreement or dispute, arising between them under agreement.

(ii) If after thirty (30) days from the commencement of such direct negotiations, the dispute is not resolved, it shall be referred to appointed Expert Mediator of Jharkhand State Legal Services Authority (JHALSA) which will also be known as Dispute Review Expert.

(iii) Pending the submission of and / or decision on a dispute, difference or claim or until the matter is decided by Expert Mediator of JHALSA, the Contractor shall continue to perform all its obligations under this agreement without prejudice of final adjustment in accordance with such award.

(iv) The Employer may terminate this agreement, by giving a written notice of termination of minimum 60 days to the Contractor, if the Contractor fails to comply with terms of settlement of mediation of the Dispute Review Expert i.e. the Expert Mediator of JHALSA.

In the case of dispute arising upon or in relation to or in connection with the contract between the Employer and the Contractor, which has not been settled amicably either by direct negotiation or mediation, any party can refer the dispute for arbitration under the Arbitration and Conciliation Act 1996 and amended provisions thereof. The place of arbitration shall be Ranchi and language of arbitration shall be English.

## **21. Bonus**

Even if the contractor achieves completion of the whole of the works prior to the Intended Completion date prescribed in Contract Data the Employer is not bound to pay to the contractor any sum as bonus whatsoever as sufficient time has been provided for this flagship work known as Pradhan Mantri Awas Yojana in which the employee is not interested in receiving request for extension of time for completion of work and does not want to waste its valuable time.

## **SPECIAL CONDITIONS OF CONTRACT**

### **22. Labour**

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer may require.

### **23. Compliance with labour regulations**

During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central

Government or the local authority. Salient features of some of the major laws that are applicable to construction industry are given below. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/ byelaws/ Acts/ Rules/ regulations including amendments, if any, on the part of the Contractor, the Engineer/Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer. The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

#### **SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK**

**a) Workmen  
Compensation  
Act 1923: -**

The Act provides for compensation in case of injury by accident arising out of and during the course of employment.

**b) Payment of  
Gratuity Act  
1972: -**

Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more on death, the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.

**c) Employees P.F.  
and  
Miscellaneous  
Provision Act  
1952:**

**The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:**

- i. Pension or family pension on retirement or death, as the case may be.
- ii. Deposit linked insurance on the death in harness of the worker.
- iii. Payment of P.F. accumulation on retirement/death etc.

**d) Maternity  
Benefit Act 1951:**

The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.

**e) Contract  
Labour  
(Regulation &  
Abolition) Act  
1970: -**

The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Employer, if they employ 20 or more contract labour.

**f) Minimum  
Wages Act 1948: -**

The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act, if the employment is a scheduled employment. Construction of Buildings, Roads, and Runways are scheduled employments.

- g) Payment of Wages Act 1936: -** It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- h) Equal Remuneration Act 1979: -** The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- i) Payment of Bonus Act 1965: -** The Act is applicable to all establishments employing 20 or more employees.
- j) Industrial Disputes Act 1947: -** The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.3500/-per month or less. The bonus to be paid to employees getting Rs.2500/- per month or above up to Rs.3500/- per month shall be worked out by taking wages as Rs.2500/- per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- k) Industrial Employment (Standing Orders) Act 1946: -** The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- l) Trade Unions Act 1926: -** It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.
- m) Child Labour (Prohibition & Regulation) Act 1986: -** The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: -** The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.
- o) The Building and Other Construction workers (Regulation of Employment and**
- The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.
- All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First-

**Conditions of Service) Act 1996 and the Cess Act of 1996: -**

Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies should obtain a registration certificate from the Registering Officer appointed by the Government.

**p) Factories Act 1948: -**

The Act lays down the procedure for approval of plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.

## **SECTION 5**

## **CONTRACT DATA**



## CONTRACT DATA

Clause Reference With respect to section 4.

Items marked “N/A” do not apply in this contract.

1.	The Employer is Name: <b>JUIDCO Ltd Ranchi.</b> Address: <b>3rd Floor, PragatiSadan, Kutchery road, Ranchi</b> Name of Employer’s Representative: - <b>Managing Director, JUIDCO Ltd Ranchi</b>		[GCC Cl.1.1.2.2]
2.	The Engineer is: - To be Informed Later.		GCC Cl 1.1.2.4
3.	The Dispute Review Expert will be Expert Mediator of JHALSA.		[GCC Cl. 20.2]
4.	The Defects Liability Period is 365 days (i.e. 1 year) from the date of completion.		[GCC CL 11]
5.	The Commencement Date shall be from the issue of letter of Notice to Proceed (NTP).		[GCC Cl 1.1.3.2and 8.1}
6.	The Intended Completion Date for the whole of the Works is after start of work is <b>18</b> months  For detail refer <u>Important Milestone and Key Time periods under Contract Section-4 (Conditions of Contract)</u> and reproduced below:		[GCC Cl 14.4]
	Milestone One- Completion of Foundation works and R.C.C and/or Masonry work up to Plinth Level complete in all respect.	Four Months	
	Milestone Two- Completion of R.C.C. frame and/or masonry work in walls etc. <i>Payment will be divided on pro-rata basis of number of roof slabs if required.</i>	Eight Months	
	Milestone Three- Internal Flooring including skirting, dado in all type of rooms, passage and stairs. <i>Payment will be divided on pro-rata basis of number of floor slabs if required.</i>	Ten Months	
	Milestone Four- Providing/Fixing Door Shutters, Balcony railing, S/C railing window grills and other steel work along with fittings	Eleven Months	
	Milestone Five- Internal water supply, Sanitary Work & Electrification works	Thirteen Months	
	Milestone Six- Internal & external Painting	Fourteen Months	

	Milestone Seven- External campus Water supply, Storm water Drain, Seweragei/c covers, Pathways, roads, Parks etc. to complete in all respect.	Fifteen Months	
	Milestone Eight- Boundary wall with necessary gate, Horticulture work i/c plantation and landscaping i/c water Supply etc.	Sixteen Months	
	Milestone Nine- Completion of all remaining items of work i/c handing over of flats defect free in all respects and testing of all services to the satisfaction of engineer-in-charge and handing over of services JUIDCO including external electrification and street lighting etc to complete.	SeventeenMonths	
	Milestone Ten- Modifications/alterations (as per the monitoring agency) and after handing over the DUs to JUIDCO	<b>Eighteen Months</b>	
	Physical works to be completed	<b>18 Months</b> from the start date of work	
7.	The Site is located atButberia, Mihijam		[GCC Cl 1.1.6.7]
8.	The name and identification number of the Contract is: <b>JUIDCO/PMAY/Vertical-III/2019/235</b>		[ITB CL 1.1]
9.	The work consists of “ <b>Construction (including structural design) of 440 dwelling units in 22 number of G+3 blocks at Butberiya, Mihijam under Pradhan MantriAwasYojana (Urban) (Package-L)</b> ”; thework shall <i>inter alia</i> , include the Civil, Electrical, Plumbing, Municipal, , fencing, water harvesting, etc. as specified or as directed.		[Cl. 1.1 of section 4]
10.	The following documents also form part of the Contract:		[GCC CL 1.5]
11.	The law which applies to the Contract is the law of Union of India		[GCC CL 1.4]
12.	The language of the Contract documents is English		[GCC Cl 1.4]
13.	Limit of subcontracting; 10% of the Initial Contract Price only for peripheral works but major works like foundation, superstructure shall not be sub contracted unless until New and Emerging technology is proposed by the contractor which is approved by JUIDCO/Employer		[GCC CL 4.4]

14.	Co-operation with the Schedule of other Contractors		[GCC Cl 4.6]
15.	The Schedule of Key Personnel		[Cl.9 of section 4]
16.	The minimum insurance cover for physical property, injury and death is Rs.5 lakhs per occurrence with the number of occurrences limited to four. After each occurrence, contractor will pay additional premium necessary to make insurance valid for four occurrences always till Defect Liability Period of the Project.		[Cl.13 of section 4]
17.	Site investigation report.		[GCC Cl.4.10]
18.	The Site Possession Dates shall be 10 days after the issue of LoA.		[GCC Cl.2.1]
19.	The period for submission of the programme for approval of Engineer shall be 21 days from the issue of Letter of Acceptance.		[GCC Cl.8.3]
20.	The period between programme updates shall be 90 days		[GCC Cl.8.3]
21.	The amount to be withheld for late submission of an updated programme shall be Rs.3.00 lakhs		[GCC Cl.8.3]
22.	The currency of the Contract is Indian Rupees		[GCC Cl. 1.1.4.6]
23.	The proportion of payments retained (retention money) shall be 9 % from each bills subject to a maximum of 10% of final contract price)including 2% of Performance Security money).		[GCC Cl. 14.3]
24.	Amount of liquidated damages for delay in completion of works For whole work: (1/2000) of the Initial Contract Price, rounded off to the nearest hundred, per day.		[GCC CL 8.7]
25.	Maximum limit of liquidated damages for delay in completion of work.	10 per cent of the Initial Contract Price rounded off to the nearest thousand.	[Cl. 8.7 of section 4]

26	Amount of Bonus for early completion of whole of the works	There is no provision for bonus.	[GCC Cl. 8.7]
27.	The amounts of the advance payment are:		[GCC Cl 14.2]
	<b>Nature of Advance</b>	<b>Amount (Rs.)</b> <b>Conditions to be fulfilled</b>	
	i. Mobilization (Interest bearing) – 10% of the Contract price On submission of unconditional Bank Guarantee (to be drawn before the end of 20% of the contract period). The contractor shall furnish part 'Bank Guarantee' of 110% of amount of advance taken as Mobilization.	The mobilization advance shall be released in two equal installments of 5% each.	
28.	Repayment of advance payment for mobilization and equipment: The advance loan shall be repaid with percentage deductions from the interim payments certified by the Engineer under the Contract. Deductions shall commence in the next Interim Payment Certificate following that in which the total of all such payments to the Contractor has reached not less than 20 per cent of the Contract Price or 6 (six) months from the date of payment of first installment of advance whichever period concludes earlier, and shall be made at the rate of 20 per cent of the amounts of all Interim Payment Certificates until such time as the loan has been repaid, always provided that the loan shall be completely repaid prior to the expiry of the original time for completion pursuant to Clauses 8.2 and 8.4 (Condition of Contract). In case non-achievement of milestone and accordingly non-production of running bills and consequently non-recovery of mobilization advance, the part Bank Guarantee (BG) against the Mobilization advance to that extent shall be forfeited.		[GCC Cl. 14.2]
29.	The Securities shall be for the following minimum amounts equivalent as a percentage of the Contract Price:		[Cl. 32 of section 2]
	Performance Security for 2 per cent of contract price		

	plus Rs. (to be decided after evaluation of the bid) as additional security in terms of ITB Clause 29.5.		
30.	The date by which "as-built" drawings (in scale as directed and in color print) in 5 sets of Hard copy (coloured) and 1 set of soft copy are required within 28 days of issue of certificate of completion of whole or section of the work, as the case may be.		GCC CL 4.1 (d)
31.	The amount to be withheld for failing to supply "as built" drawings in color print by the date required is Rs.10.00 lakhs for projects up to Rs.50 crores, and additional Rs.0.15 lakhs for every Rs.1.00crore increment in project cost thereafter, with upper limit of Rs.50 lakhs.		GCC CL 4.1 (d)
32.	Contravention to the sub clause herein shall also be taken as fundamental breach of contract		GCC Cl 6.9
33.	The percentage to apply to the value of the work not completed representing the Employer's additional cost for completing the Works shall be 20 per cent.		GCC Cl 19.7

# **VOLUME-II**

## **SECTION 6**

### **TECHNICAL SPECIFICATION**

***Disclaimer: The technical specifications provided herein for Pradhan Mantri Awas Yojana (Urban) (PMAY(U)) are as per NBC, IS 456, IS 800 and other relevant IS codes. In the absence of any definite provisions on any particular issue in the aforesaid specifications, reference may be made to the specifications of Affordable Housing Policy of Government of Jharkhand which provides the specifications of various items of works which may be taken as minimum and any item of lower specifications shall not be allowed. The Government of Jharkhand is committed to provide specification in line with the aforementioned policy, if not better, as indicated in the technical specifications given herein.***

*The successful bidder shall carry out appropriate geo-technical surveys and investigations and thereafter, provide proposed foundation design to be used on approval. They are also required to prepare architectural planning and design in which the carpet area per dwelling unit is 29.4 Sqm. The building will be G+3 as specified by the employer. The contractor is supposed to get prepared structural design and drawings from experienced Structural designer of National / International repute. The design must conform to the relevant building codes & specifications related to earth quake resistant design of buildings for respective seismic zones. The designs and drawings so prepared have to be got approved from Indian Institute of Technology (ISM Dhanbad) / National Institute of Technology, Deoghar / Birsa Institute of Technology, (Sindri) Dhanbad at their own cost.*

## **1. Foundation & Plinth**

**Foundation:** The foundations for building shall be either pile foundation or Isolated Column footing or Raft footing or Combined Column cum Raft footing, depending on the geo-technical report of soil strata, height of the building and the opinion of the design expert in Indian Institute of Technology (ISM Dhanbad) / National Institute of Technology, Deoghar / Birsa Institute of Technology, (Sindri) Dhanbad. The RCC work in foundation, unless otherwise stated, shall be of M20 or higher grade.

**Plinth:** The Plinth beam in foundation shall be in RCC work with M20 Grade concrete and high corrosion resistance Fe 500/TMT bars conforming to IS 1786:2008.

**Plinth filling:** The plinth shall be filled with excavated soil (excluding clayey/black cotton soil) or new soil in layers not exceeding 15 cm or river/ local sand used for plinth filling eg. Ganga sand, etc (including watering/ ramming for proper compaction).

## **2. Super Structure**

**Superstructure:** The superstructure for the building under PMAY(U) shall be either RCC Framed structure or any structure conforming to New and Emerging Technology approved by Building Material and Technology Promotion Council (BMTPC), Ministry of Housing and Urban Poverty Alleviation, Government of India. The RCC work in superstructure, unless otherwise stated shall be in M20 or higher grade for G+3 building and M-25 or higher grade for G+6 and G+8 building.

**Lintel:** As the building is to be earthquake proof, R.C.C band at lintel level shall be provided. The thickness of the band will be 120mm except for the openings where it will be 150mm extending suitably on the both sides of the opening to a thickness of not less than 200mm wherever necessary (i.e. where anchoring in column is not there).

**Chajja:** The Chajja will be in R.C.C of M-20 grade in G+3 Building and M-25 grade in G+6 and G+8 building. The chajja will be projected 45cm (cantilever projection) and the average thickness measured at middle will be 63mm.

### **3. Water proofing(APP) on roof slab and chajjas**

Atactic Poly-propylene Polymer (APP) modified prefabricated five layer 3mm thick water proofing membrane, black finished, reinforced with non-woven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/ sqm shall be provided on roof slab and chajjas for water proofing.

### **4. Brick work in foundation and superstructure**

#### **4.1 In Foundation/Plinth**

Red brick masonry work (brick conforming to 75 A) of required thickness as per design shall be used in foundation in 1:6 cement mortar (with Ordinary Portland Cement (OPC) Grade 43/ Portland Slag cement). The brick work in external walls shall be laid over sand filling followed by PCC in 1:4:8 of 100 mm thick. The depth of this wall in plinth (upto plinth band level) shall be got approved by Engineer-in-charge; however, this depth shall be 450 mm unless until stated otherwise. Alternately, R.C.C band at ground level in M-20 concrete can be provided over which the red brick masonry work can be done upto plinth level.

#### **4.2 In superstructure (including parapet wall)**

Fly Ash brick masonry work (Bricks conforming to IS 12894 of 2004) shall be used in outer walls of superstructure in 1:6 cement mortar (with Ordinary Portland Cement (OPC) Grade 43/ Portland Slag cement). The outer wall shall be of full brick size (230 mm).

The inner wall shall be in pre-cast concrete hollow blocks (150/100 mm), conforming to IS 2185 Part-I: 2005. 6 mm dia. mild steel Reinforcement shall be provided at every 4<sup>th</sup> course (embedded in cement mortar or otherwise) in the pre-cast concrete hollow block masonry work.

The parapet wall over roof slab on the periphery will be in full brick size (230 mm) laid in 1:4 cement mortar (with Ordinary Portland Cement (OPC) Grade 43/ Portland Slag cement).

### **5. Plastering work (Internal and external)**

#### **5.1 Internal wall plaster:**

12mm thick cement plaster in 1:6 cement mortar (with Ordinary Portland Cement (OPC) Grade 43/ Portland Slag cement) with clean coarse sand of FM 1.5, in single layer.

#### **5.2 External wall plaster:**

20 mm thick cement plaster in 1:4 cement mortar (with Ordinary Portland



Cement (OPC) Grade 43/ Portland Slag cement) with clean coarse sand of FM 1.5, in single layer.

Cement punning shall be provided of 1.5mm thick upto plinth band level in all building immediately after external plaster.

### **5.3 Ceiling plaster:**

6 mm thick cement plaster in 1:3 cement mortar (with Ordinary Portland Cement (OPC) Grade 43/ Portland Slag cement) with clean coarse sand of FM 1.5, in single layer.

### **5.4 Plaster in Chajjas:**

6 mm thick cement plaster in 1:3 cement mortar (with Ordinary Portland Cement (OPC) Grade 43/ Portland Slag cement) with clean coarse sand of FM 1.5, in single layer with suitable rain cuts along three edges of the chajja. The raincuts should be prepared with proper plastering (beat work) instead of simply pointing work.

## **6. Cement punning**

Cement punning shall be done over slab (wardrobe shelf of rooms and slabs below kitchen deck slab) which will be 1.5 mm thick with Ordinary Portland Cement (OPC) Grade 43/ Portland Slag cement).

## **7. Plain Cement Concrete:**

Plain cement concrete or mud mat of 1:4:8 (one OPC cement of grade 53, four sand of FM 2.5-3.0, eight aggregates of metal grade III: 50-25 mm) shall be used below footing, wherever required.

Plain cement concrete of 1:3:6 (one OPC cement of grade 53, three sand of FM 2.5-3.0, six aggregates of metal grade III: 50-25 mm) shall be used below flooring, below bottom reinforced concrete slab of septic tank etc, wherever required as directed by EIC.

## **8. Reinforcement**

Fe500 conforming to IS 1786:2008 High corrosion resistant -TMT Bars of TISCON (TATA), SAIL, JINDAL, VIZAG (RINL) or Electro-steel.

## **9. Flooring, Skirting and Dado**

### **Sub-Base for Flooring in Ground floor**

In ground floor before flooring 75 mm local sand shall be filled and properly rammed after providing adequate water OMC for proper compaction. Over this sand layer, one flat brick soling with 75A bricks shall be provided and the joints filled with local sand. Over the flat brick soling 100 mm thick PCC 1:3:6 of M10 Grade shall be provided which will form the sub-base for flooring in the ground floor.

### **Floor Tiles of bedroom, hall, living room, balcony and passage/ lobby**

Vitrified floor tiles 600mm X 600mm X 8mm thick conforming to IS: 15622/ISO 13006, of approved make, colour and shades, laid on 20mm thick 1:4 cement mortar (1 cement : 4 coarse sand) including pointing the joints with white cement mixed with matching pigment etc., shall be

provided in floor of bedroom, hall, living room, balcony and passage/ lobby. Skirting of similar material of 150 mm height shall be provided.

#### **APP over sunken slab in Bath/ Toilet**

Atactic Poly-propylene Polymer (APP) modified prefabricated five layer 3mm thick water proofing membrane, black finished, reinforced with non-woven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/ sqm needs to be provided in Sunk slab of Bath/ Toilet for water proofing.

Fill Material- Before laying Floor tiles in bath/toilet the space between sunken slab and floor need to be filled by lightweight materials with negligible pores such as fly ash etc.

#### **Floor of Kitchen and Bath/ Toilet**

Ceramic antiskid tiles in floor of size 300mm X 300mm X 6mm thick conforming to IS : 15622, in approved make, colour, shade laid on 20 mm thick Cement Mortar 1:4 (1 cement : 4 coarse sand) including pointing the joints with white cement mixed with matching pigment etc., shall be provided in floor of Kitchen and Bath/ Toilet.

#### **Dado/ Wall Tile Work in Kitchen and Bath/ Toilet**

**In Kitchen-** The skirting will be 150mm high and will be of the same material of which the floor has been provided in the kitchen. In dado, ceramic glazed tiles of size 300mmX300mm X 6mm thick conforming to IS: 15622, in approved make, colour, shade laid on 12 mm thick Cement Mortar 1:3 (1 cement: /3 coarse sand) including pointing the joints with white cement mixed with matching pigment etc., complete shall be provided upto a height of 600mm above kitchen counter top all along the adjacent wall of the kitchen counter top including window sill and window side wherever applicable.

**In Bath/ Toilet-** In dado of Bath/ Toilet, ceramic glazed tiles of size 300mmX300mm X 6mm thick conforming to IS: 15622, in approved make, colour, shade laid on 12 mm thick Cement Mortar 1:3 (1 cement : /3 coarse sand) including pointing the joints with white cement mixed with matching pigment etc., complete shall be provided upto a height of 2 m from floor level in all walls of bath/toilet.

#### **Floor of Staircase**

Kota stone of minimum thickness 25mm shall be used for flooring in risers and treads of steps, skirting and/ or pillar laid in minimum 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the kota stone including rubbing and polishing complete. Single stone is to be used for riser and treads of steps and the size of kota stone should be chosen such there should be no horizontal joints in the skirting of the stairs. The height of the skirting should be such that from the outer edge of the tread the skirting should be atleast 150mm in height. The upper edge of the skirting should be in straight line.

### **10. Doors and Door Frames**

**Pressed steel door frames conforming to IS: 4351**, manufactured from commercial mild steel sheet of 1.60 mm thickness, including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25 mm, or base ties of 1.60 mm, pressed mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed butt hinges 2.5 mm thick with mortar guards, lock strike plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface all complete. Two coats of synthetic enamel paint of approved shade and make over steel door frame surface after cleaning the surface thoroughly shall be provided. The frame shall be fixed with adjustable lugs with split end tail to each jamb.

**External Doors:** Minimum 30mm thick solid core type non-decorative single leaf flush shutter conforming to IS 2202-1 (1999) with black board core blended with high quality phenol formaldehyde synthetic resin both side commercial veneeres of standard make for external doors.

**Internal Doors:** Minimum 25mm thick flush door shutters non decorative type, conforming to IS : 2202 (Part 1), interior grade, commercial type, core of block board construction with frame of first class hard wood and well matched commercial ply veneering with vertical grains, cross bands and face veneers on both faces of shutters. The doors in the bath/ toilet will be provided with aluminum metal sheet all over its face in inner side. There will be no painting on the inner side of the bath/ toilet door however, two coats of primer with anti-termite solution mixed suitable shall be provided.

Both external and internal doors will include hinges, should be all complete with ISI Mark Powder coated (minimum thickness of powder coating 50 micron). Aluminum Door fittings namely Tower Bolt: 150 x 10 mm, Sliding Pad Bolt: 250 x 16mm, Handle: 125 mm and Floor Door Stopper: Single Rubber Stopper.

**Painting:** Two coats of synthetic enamel paint over one coat of wood pink primer of approved shade and make over new wooden surface after cleaning and smoothening of wooden surface with sand papers of appropriate numbers all complete.

**Fire Door and Door Frame in Fire Staircase:** Fire resistant door frame shall be provided in fire staircase of section 50 x 60 mm on horizontal side & 35 x 60 mm on vertical sides having built in rebate made out of 1.6 mm thick GI sheet ( Zinc coating not less than 120gm/m<sup>2</sup>) suitable for mounting 120 min Fire Rated Glazed Door Shutters. The frame shall be filled with Mineral wool Insulation having density min 96Kg/m<sup>3</sup>. The frame will have a provision of G.I. Anchor fasteners 14 nos ( 5 each on vertical style & 4 on horizontal style of size M10 x 80 ) suitable for fixing in the opening along with Factory made Template for SS Ball Bearing Hinges of Size 100x89x3mm for fixing of fire rated glazed shutter. The frame shall be finished with a approved fire resistant primer or Powder coating of not less than 30 micron in desired shade.

60 mm thick glazed fire resistant door shutters in fire staircase of 120 min fire rating confirming to IS:3614 (Part II) or EN1634-1:1999, tested and certified as per laboratory approved by Engineer-in-charge, with suitable mounting on door frame, consisting of vertical styles, top rail

&side rail 60 mm x 60 mm wide and bottom rail of 110 mm x 60 mm made out of 1.6mm thick G.I. sheet (zinc coating not less than 120gm/m<sup>2</sup>) duly filled mineral wool insulation having density min 96 kg/m<sup>3</sup> and fixing with necessary stainless steel ball bearing hinges of size 100x89x3mm of approved make, including applying a coat of approved fire resistant primer or powder coating not less than 30 micron.

#### **11. Windows, Ventilator and Associated Grill**

Aluminum work for windows and ventilators with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of approved dia and size; including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/neoprene gasket etc. Aluminum sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminum snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. Including Glazing, paneling and dash fasteners. Powder coated Aluminum sections shall be used (minimum thickness of powder coating 50 micron) with float glass panes of minimum 4.0 mm thickness. The aluminum plate wherever used of 1.5mm thickness.

M.S. grill made of 20mm x 6mm M.S. flat or 10mm square bar with minimum 18 Kg per sqm as per approved drawing, properly fabricated with joints continuous fillet welded and finished smooth or as approved by Engineer In charge for windows & ventilator. Two coats of synthetic enamel paint of approved shade and make over a coat of red oxide zinc chromate primer after cleaning the surface thoroughly all complete.

#### **12. Railing in Balcony and Staircase**

Railing in Balcony and Staircase will comprise of Steel work welded in built up sections of height not less than 1.2m with minimum 18 Kg per sqm 16 gauge properly fixed and applying two coats of synthetic enamel paint over a priming coat of red oxide zinc chromate primer. Over the steel work circular pipe will be welded which will be also painted as the steel work are painted. Railing work shall conform to IS 1239-1 (2004)

#### **13. Kitchen Countertop and Shelf**

Countertop- The kitchen countertop base slab shall be constructed with RCC 1:1.5:3 M-20 concrete with 6mm and down stone chips and 6mm dia MS Bars. The Thickness of the slab will be 50 mm. Over this slab, 600mm x 25mm thick Kota stone shall be provided. The stainless steel sink will be adjusted suitably and shall be in level flushed with the kitchen finished countertop so that the water on the kitchen countertop finds way smoothly to the sink. Kota Stone shall also be provided in the core of the kitchen slab, flushed with the outer edge of the horizontal slab. The Kota stone should be fixed with cement mortar 1:3.

Shelf Below Kitchen Platform - The space below the kitchen platform shall be constructed with RCC 1:1.5:3 M-20 concrete with 6mm and down stone chips and 6mm dia MS Bars suitably divided in two parts in order to accommodate gas cylinder in one part. In the remaining part between the

kitchen platform and the floor one horizontal RCC slab of 50mm thickness shall be provided for accommodating kitchen utensils and other kitchenware. This slab needs to be finished with 1:3 cement mortar and 1.5 mm thick cement punning. The lowest enclosure of the shelf shall be 75mm above floor level.

Shelf Above Lintel in kitchen- The Shelf above lintel level of 63mm thickness which shall be 60cm projection along three sides of wall shall be constructed with RCC 1:1.5:3 M-20 concrete with 6mm and down stone chips and 6mm dia MS Bars. The slabs needs to be finished with 1:3 cement plaster and 1.5mm thick punning over it. The color wash of the room shall be applied on this slab also after finishing with plaster etc.

#### **14. Shelf in Bedroom and Drawing Hall**

The Shelf in bedroom and drawing hall shall be of 63mm thickness shall be RCC 1:1.5:3 M-20 concrete with 6mm and down stone chips and 6mm dia MS Bars suitably partitioned so as to hang coats, sarees, etc in one upper part and the remaining portion can be sub divided to keep folded clothes, books, etc. A hanging rod shall be provided for hanging coat, sarees etc. All the slabs needs to be finished with 1:3 cement plaster with 1.5mm thick punning on its top and front face. The lowest enclosure of the shelf shall be 75mm above floor level.

The Shelf above lintel level shall be constructed of 75mm thickness and 750mm projected in all sides of wall in bedroom which shall be constructed in RCC 1:1.5:3 M-20 concrete with 6mm and down stone chips and 6mm dia MS Bars. All the slab needs to be finished with 1:3 cement plaster with 1.5mm thick punning and 1.5mm thick punning over it. The color wash of the room shall be applied on this slab also after finishing with plaster etc.

#### **15. Terrace and Parapet Wall**

Staircase tower shall vertically extend as per the typical drawing to have sufficient head room which will be covered with RCC slab of thickness as per design with minimum M-20 concrete. APP water proofing will be applied over the staircase roof also. The staircase tower roof slab will necessarily have to be projected so that the water cut can be provided in the projected portion which will avoid rain water flowing from the roof top finding way directly through walls. The vertical walls of the staircase tower will be 230mm thick constructed by Fly ash brick.

Wall all around the roof in parapet will be 1m high 230 mm thick full brick/ concrete wall. The parapet wall will be plaster from inside 1:4 cm and 1:3 cm plaster on top. 1.5mm cement punning will be done on the flat top portion of the parapet wall.

All terrace and parapet walls shall be finished with Premium exterior acrylic smooth paint silicone additives. (Two or more coats applied @ 1.43 ltr/ 10 sqm over priming coat of cement primer applied @ 2.20 kg/ 10 sqm).

## 16. Painting

Internal walls and ceiling- Painting with two coats of interior acrylic emulsion paint of approved shade (however, for ceiling only white color paint shall be used) and make over surface smoothed after applying Birla putty or equivalent of any other make of 2mm thickness and providing over it a primer coat of cement primer.

Exterior walls with Premium exterior acrylic smooth paint silicone additives. (Two or more coats applied @ 1.43 ltr/ 10 sqm over priming coat of cement primer applied @ 2.20 kg/ 10 sqm)

**Wooden Work-** Two coats of synthetic enamel paint over one coat of wood pink primer of approved shade and make over new wooden surface after cleaning and smoothing of wooden surface with sand papers of appropriate numbers all complete.

**Steel Surface** - two coats of synthetic enamel paint of approved shade and make over steel surface after cleaning the surface thoroughly all complete.

## 17. Internal Sanitary and Collecting Chamber

### India Water Closet (I.W.C)

Vitreous white glazed earthen ware I.W.C. conforming to IS 2556 Part-III of approved make with attached footrest (Preferably Orrisa Squatting Pan in white color of size 580x440x300 mm) with 100mm H.C.I. 'P' or 'S' trap and not less than 5 Litre low level plastic cistern of approved make in white color with brass stop cock (weight 50gm or more), PVC connection pipe etc all associated fittings to complete the job which can be utilized by the residents thereafter.

### Wash Basin

Vitreous white glazed earthen ware wash hand basin of minimum size 450mm x 300mm of approved make conforming to IS 2556 Part IV of flat back of one piece construction including combined overflow basin single tap hole of size 28 sqm or 30mm rounded. The basin shall have circular waste hole or 5sqcm slot type overflow supported on painted C.I. or R.S. cantilever brackets conforming to IS 775(use of MS angle or Tee section as bracket not permitted) with 32mm C.I. brass waste, 15mm dia C.I. body brass spindle stop cock of approved quality and weight not less than 330 grams, 32mm P.V.C. waste pipe 750mm long with brass coupling at one end all to be put to use for residents. A suitable brass bib cock with chromium coated not less than 400gms should be mounted on the wash basin.

### Drainage of Domestic Water

Sewage disposal from WC & waste water from kitchen & Bathroom has to be taken out with suitable dia PVC pipe, "S/P" trap & fittings including steel/ strainers as required. It shall be responsibility of contractor to make essential arrangements for disposal of rain water from terrace (roof slab) by providing proper gentle slope in the roof/ terrace slab and by providing appropriate PVC/uPVC pipes of size between 75 to 100mm dia conforming to IS 13592 and fittings conforming to IS 13591, free from

cracks, flaws and defects and shall be able to withstand the water pressure all complete. The connection between two pipes shall be made with approved sealant and the joint should be leak proof. The PVC pipe should be fastened to the wall with suitable fasteners at desired location as per IS code in this regard. All the roof top water should be taken to the nearby rain water harvesting collection pit so that the water so collected can be gainfully utilized in recharging the water table.

#### **Miscellaneous Items to be put in the Dwelling Units**

Following items shall be provided by the contractor in each Dwelling Unit:-

- a) C.P. brass towel rail 600mm long and 20mm dia with two C.P brass bracket coated. The rail shall be coated with chromium plated of thickness not less than grade no. II of IS 4827.
- b) C.P. brass soap dish container medium quality with screw and hinges etc.
- c) C.P Brass towel ring of dia 175mm and thickness not less than 8mm.
- d) Stainless Steel A ISI 304 (18/8) Kitchen Sink (Inner dimension 550 x 400mm, depth 200mm) shall be provided in Kitchen with compatible Stainless steel drain board (min. thickness 1 mm) as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm to be placed flushed with kitchen slab. The gap between board and platform/wall shall be finished with white/matching cement.

#### **Other Attachments related to PHE works**

Male ended 15mm dia brass bib cock shall be provided of approved quality (Wt. not less than 400 gms.) with extra socket all complete; One for Bathing purposes in the bathroom and one near I.W.C and one for Kitchen sink (This does not include the tower bib cock which will be put on the wash basin).

Duct portion up to plinth level shall be constructed as collecting chamber and covered with flag stone.

The above list may not be complete and suitable additions may be suggested with contractor has to comply with.

### **18. Internal Water Supply**

The internal water supply will be through PVC pipes (except for toilet where uPVC shall be used with fittings of specified dia including laying, fixing, cutting, jointing, painting etc for vent overflow, waste water pipeline etc. The pipe and fitting shall conform to series IV of IS 4985-1978 PVC pipes and fittings (Bend, Tees, Unions, reducers, etc) shall be free from cracks, flaws, defects and shall be able to withstand requisite pressure. 15mm CP brass bib cock not less than 400 gm with 15mm

diaUPVC pipe. The water supply pipe connecting various floors should be 25 mm UPVC pipe. The distribution pipelines in various floors should be done with 20mm dia pipes unless until directed otherwise. The spacing between clamps for internal pipes shall be around 700mm for horizontal runs and 1000mm for vertical runs.

Construction/ Installation of RCC water tank/ polyethylene water storage tank(s), ISI: 12701 marked as approved by Engineer in charge on roof of every building. The capacity of the tank should be computed as per latest CPHEEO Manual for each Dwelling Unit. RCC water tank should have proper manhole (with CI cover) and flushing hole to dispose off water at the time of cleaning. Proper arrangement for a person to enter the water tank (for Cleaning shall be made). The RCC tank, if constructed, should be properly plastered from within by 20mm 1:3 cement mortar plaster with suitable waterproofing agent with 2mm thick cement punning on all the walls and bottom slab.

All other fitting and installations required for healthy living the residents in line with the Affordable Housing Policy need to be provided by the contractor at their cost if directed.

Although stated earlier, it is reminded that there should be 4 water points in each dwelling unit- 2 in bath room (1 near WC and 1 for bathing purpose), 1 in kitchen and 1 in the basin.

Gun metal full way valve with each Overhead tank shall be provided.

Unions, non- return valves and other fittings are to be provided as per requirement for ease of operation and maintenance.

The contractor will be wholly and solely responsible for providing house service connection joining the external pipeline with individual dwelling units of each block.

#### **19. Internal Electrification and Panel Room**

- i) 5 nos. light points, 1 no tube light point, 2 nos. fan points and 4 nos. Plug socket points, all of 5 Amp in each dwelling unit all complete with Piano Type switch and socket.
- ii) 15 Amp Plug Socket Point with fittings 2 Nos (1 for Kitchen and 1 for Hall), Telephone socket and T.V antenna socket in each dwelling unit.
- iii) 2 pin ceiling rose on the junction box at suitable location needs to be in all building blocks
- iv) **Ceiling Fan and Fan Regulator-** 1200mm Sweep, double ball bearing, 2 canopy ceiling fan shall be provided along with electronic step mini fan regulator in each dwelling unit.
- v) Bulb and Batten/ Angle holder- LED Bulbs of minimum 9/12W shall be provided at suitable locations along with batten/ angle holder all the building blocks.
- vi) Electronic Call bell shall be provided for each dwelling unit.



- vii) In addition, one light point shall be provided outside the main door of each DU.
- viii) 1.5 sqmm. stranded copper wiring with concealed PVC conduit pipe.
- ix) 16 Amp. M.C.B. including required size of Switch Board.
- x) 2+4 way MCB 240 Volts SPN MCB-1 no for each DU
- xi) 6- 32 A SP MCB 240 volts, 'C' curve-2 nos for each DU
- xii) 40 A SP MCB 240 volts, 'D' curve-1 no for each DU

The internal as well as external wiring in the houses constructed under PMAY will be fully concealed.

All material should be conforming to I.S.I. standard and relevant IS Codes and before using the same it shall be approved by Employers Representative.

4 nos. plate earthing with necessary fittings/ wiring all complete for every building shall be provided in each building.

Lightening conductor with all accessories shall also be provided as per relevant norms. Meter room should be constructed separately.

Contractor shall also provide all electrical works upto meter board panel.

Suitable Illumination at the following places in the building also will be the responsibility of the contractor:

- i. Staircase at Suitable landings
- ii. Roof at suitable place
- iii. Near Common Meter Panel
- iv. Back of the building

All other fitting, installations and wiring required for healthy living the residents in line with the Affordable Housing Policy need to be provided by the contractor at their cost if directed.

## **20. Fan Hook**

Fan hooks of 16mm dia M.S. bar & suitable length, bent to required size and shape, placed in position and fixed in the R.C.C.slab/beam at the time of casting.

## **21. Roof Top Rain Water Harvesting arrangement (including recharging pit)**

Rain water harvesting system associated with 80-100m deep, 100-150 mm dia tube well (extending upto fracture zone/ GW aquifer), recharge pit of length and width varying between 5-7 mt and depth about 6 metres with five layers of coarse sand & gravels upto natural ground level with stainless steel wire mesh suitably tied on the top of 10-15 cm and Rain Water Harvesting recharge Pit (As per Typical Drawing) for each block. Before the recharge pit, an inspection chamber (Pre-chamber) shall be

constructed, where the water will be retained for some time before letting into the recharge pit. Water will be brought from the roof top catchment, first to the pre-chamber and then to the recharge pit through 75mm PVC pipe.

For designing the rainwater harvesting pit, the manual of CPWD on Rain water harvesting has to be referred to/ followed. The Ground Water Directorate of Water Resources Department, Government. of Jharkhand has also brought out a booklet on Rain Water Harvesting which can be obtained from them. Their email id is- dirgwdran-wrd-jhr@nic.in).

## **22. Building Elevation**

Building elevation shall be strictly in accordance with the elevation details shown in approved execution drawing.

## **23. Expansion Joint**

To be constructed as per relevant I.S. code in this regard.

## **24. Minimum distance between building blocks**

Minimum distance between two building blocks shall be 4.5 metres.

## **25. Internal Road Work**

The Cement Concrete road will be 200mm thick M-20 Concrete with proper camber laid over lean concrete of 100mm thick M-15 with extra 300mm on each side of the road. Lean concrete shall be laid on 150mm sand filling. The width of the road ideally should be 4.5m but may increase as per the site condition. For details of footpath, drains along the road, etc, the typical sectional drawings can be referred to.

## **26. Sewer Drain**

Manhole- Brick masonry manhole chamber 800x900mm, R.C.C. Slab top in 1:1.5:3 concrete mix

P.C.C- 150 mm thick (P.C.C. 1:3:6).

Pipe- 150mm Dia, 225mm Dia& 300mm Dia RCC Hume Pipe including fitting accessories.

The house service connection between individual dwelling units and the sewer drain as well as the sewer drain and main truck drain will be the responsibility of the contractor.

## **27. Landscapping/ Green Space/ Park(Must be 10% of the total project area at each site)**

i) Soil filling -Good Earth + cow dung / dump manure.

ii) Plantation -Doob grass, Hedges &Furns, Adansoniadigitata (Kalpvricksh), Bauhinia Acuminata shrub in earthen Pot, etc. all complete on fine dressed ground.

iii) Making Brick Side Edging, Lawn Turf etc all complete.

## **28. Under Ground Water Tank/Sump Well Including Pumping Arrangement**

i) R.C.C. M-25 or more as per approved design with special water proofing.

- ii) 150 mm thick (P.C.C. 1:4:8).
- iii) Crushed Stone Dust of Sand/Moorum filling around the water tank in case of clayey soils to avoid pressure on the tank due to expansion of soils.
- iv) The capacity of Sump should be computed as per latest revision of CPHEEO Manual each Dwelling Unit.

## **29. Compound Fencing and Gate**

**Barbed Wire Fencing-** Fencing with R.C.C. post of mix 1:1.5:3 and 2m height placed at required distance, embedded in cement concrete blocks, every 15th post, last but one end post and corner post shall be struted on both sides and end post one side only, provided with horizontal lines and two diagonals of barbed wire weighing 9.38 kg per 100 metres (minimum), between the two posts fitted and fixed with G.I. staples on wooden plugs or G.I. binding wire tied to 6 mm bar nibs fixed while casting the post. With G.I. barbed wire. (Typical Drawings and details are attached for reference).

**GATE-** Supplying, fitting & fixing 20 gauge G.C.I sheet gate of suitable width fitted on M.S Angle frame of size 60x60x6 mm including cost of fabrication, providing necessary locking arrangement with haskal and domny duly fixed in R.C.C. M-200 with normal mix of (1:1.5:3) in column of required size with approved quality of stone chips 20mm to 6mm size graded and clean coarse sand of F.M. 2.5 to 3, applying two coats of synthetic enamel paint over a priming red lead paint over steel work and two coats of exterior quality acrylic paint of approved shade over a coat of cement primer including 19mm thick water proof plaster over R.C.C column.

## **30. Septic Tank**

R.C.C septic tank to cater to the needs of all residents shall be designed by the contractor as per CPHEEO Manual/ IS 2470 and got approved along with the building designs. The number of septic tanks and the locations will be site specific has to be got approved along with the building designs for which the computation needs to be provided by the contractor.

A suitable covered soak pit attached with every septic tank shall also be constructed by the contractor.

## **31. Tube Well and Pump House**

*Attention of Contractor: It is brought to the knowledge of the contractor that the tube well and pump house is to be constructed in such a way if piped water supply is not available the tube well is capable of meeting the domestic water needs however related details but not limited to is provided below.*

Successful drilling of perfectly vertical bore hole of a diameter suitable to receive 150mm nominal diameter casing pipe upto desired depth to achieve required yield below ground level for transporting, lowering and fixing of 150mm nominal diameter G.I. casing pipe inside the bore hole including all works pertaining to drilling such as transportation, installation and removal of drilling machine, etc. all complete.

I.S.I. Marked G.I. Casing pipe (plain) medium class in 4 to 7 meters or required length one end fitted with socket as per I.S. 1239 (Part-2) 1992 with IVth revision (Up-to date amendments)

Conducting yield test or development of tube-well by operating the pumping set continuously for a desired time interval as per the direction of Engineer in charge including all complete.

Making hydrant pillar work with bricks of required crushing strength not less than 25kg/sq.cm in cement mortar 1:4 including 10cm thick coping 1:2:4 (stone aggregate, 12.5mm nominal size) rendered smooth with neat cement and plastered with 12mm cement mortar 1:4 including finishing with floating coat of neat cement over 15cm thick foundation concrete 1:5:10 (stone aggregate 40mm nominal size) including earth work and disposal of surplus earth complete as per standard design.

Submersible pump of suitable HP 12 stages having discharge 300 ltr. / min. as per I.S.I. Specification with 4 Sq mm Cable wire and panel board with starter suitable for above 5 HP pumps shall be provided.

Mono block pump upto 5 HP as per I.S.I. Specification with 4 Sqmm Cable wire and panel board with starter suitable for above 5 HP pumps. as per site requirement shall be provided.

### **32. External Electrification**

External electrification work shall be suitably designed and provided to cater the requirements of all the dwelling units.

The contractor has to co-ordinate and follow-up with concerned JBVNL/Applicable local authority for obtaining necessary sanction towards the scheme. The scheme so sanctioned should be inclusive of required specification layer and other drawings etc. complete as per requirement.

All the charges which may become due to JSEB/JBVNL viz. strengthening, supervision charges etc. for connection of electricity line upto the transformer (transformer has to be installed by the contractor and not by JUIDCO Ltd.) shall be borne by the implementing agency i.e. JUIDCO Ltd, however, the contractor (successful bidder) shall facilitate JUIDCO Ltd. and carry out the liaising work required for getting the demand notice and other supporting documents (along with approvals etc.) from JSEB/JBVNL. The contractor is supposed to take note of this aspect and they should not load the cost of the same, unnecessarily in the price bid for this work.

**The details scope of work related to aforementioned external electrification may include (but not limited to) the following:-**

- a) Preparing & submission of 3 set of drawings after carrying as of survey & getting approval from Supervisor.
- b) Obtaining necessary permission in respect of road/soil/footpath cutting from the external agencies namely PWD, RCD etc. as the case may be.
- c) Preparation & submission of good for construction drawings.

- d) The agency shall be responsible for submission of all documents to electrical inspection authority and other local body towards the completion of entire work at their own cost, failing which the work may not be treated complete.
- e) Charging permission of the installation.
- f) Inspection report of the various equipment and material required for external electrification.
- g) The approval of Chief Electrical Inspector shall be taken by the contractor for installation of transformer and other equipment.
- h) Arranging pre & post state wise & final testing and commissioning of the Installation from JBVNL/Applicable local authority and electrical inspector etc. as required including any shutdowns if required.
- i) All papers/required documents/drawings to be submitted by the bidder to JBVNL/Applicable Local Authority is to be submitted first to implementing agency and after taking their approval only, the same can be submitted JBVNL/Applicable Local authority.

### **33. Parking**

Providing and laying 60mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete.

The paver block mentioned above shall be laid above random rubble masonry base properly compacted.

*Please note that as per Jharkhand Building Bye- Laws for affordable housing, 20% of the total Dwelling unit shall be provided with car parking and remaining 80% shall be two wheeler parking.*

### **34. Street Lighting**

Solar 30 W LED Street Light System including 30 W with inbuilt charge controller and dusk to dawn controller LED OSRAM or equivalent. Pole of M.S Material with powder coating and 6m height. Battery 12 V/ 75 A-h, suitable for 2 days autonomy/ service. Solar Panel 75 WP (MNRE approved with IDO 9001:2008 Certified). Battery with automatic Dusk-down on-off system.

### **35. Community Hall**

*The built-up area of community hall shall be 10% of the total plot area at each site.*

Community Hall should be so planned that space for shops, primary health care facility should also be there along with and a multipurpose hall. Needless to mention that toilets (with facilities like urinals, European Water Closet, Toilets for Physically Disabled person, etc) shall be provided at suitable location taking care of the aesthetics of the area.

The specifications for construction of community hall shall be in line with the specifications provided for construction of Dwelling unit/ Building Blocks as mentioned above.

### **36. Lifts**

Jharkhand Building Bye-laws makes provision of Lifts mandatorily in G+4 buildings or in buildings of height 12 m and above.

The number, type and capacity of lift shall be in accordance with Part VIII, Building services, Section-5, Lift, elevators and escalators in National Building Code (NBC) of India, 2016.

Out of the total number of lifts provided in accordance with NBC, one stretcher lift shall be mandatory for building more than 6 stories high.

The provision and make of lift has to be also got approved by the IIT(ISM Dhanbad)/NIT (Deoghar)/ BIT Sindri as mentioned in the Bid documents while getting other designs approved.

### **37. Fire Fighting System**

All high rise buildings (15m or above height, irrespective of its occupancy) should be equipped with Fire Fighting System as per provisions indicated by NBC and that will be applicable in affordable housing buildings also. The building design shall comply to the applicable provisions (including Fire Exit Staircase) of Fire and Life safety as mentioned in National Building Code of India 2016, Volume-I, Part-IV –Fire and Life Safety and bidder shall submit compliance report of these provisions in their proposal.

Adequate nos. of detectors (smoke/optical), Sprinkler, Fire Extinguisher, Hose Reel, Wet/ Dry Riser, Down comer, Yard Hydrant and others shall be provided in every high rise building and shall be connected with Fire water tank of required capacity at the top of the roof.

The High Rise building can't be handed over by the contractor if the firefighting system is not constructed and put to place as per National Building code/State Fire safety regulation/ norms.

#### **NOTE:**

**The above specifications to the extent practicable are in line with the latest Affordable Housing Policy/Jharkhand Building Bye Laws. Some up gradations have been made on the basis of feedback received from various stakeholders by the decision makers. Any deviation from the policy/Bye- Laws must be got approved from the implementing agency before execution. The decision of the implementing agency will be final and binding to the constructing agency.**

**List of Approved Makes**

**CIVIL ITEMS:**

Sl. No.	Description of Approved Material	Approved Make
1 (a)	Cement (OPC- Grade 43/53)	Ultratech (L&T)/ Ambuja/ACC /Konark/ Birla Gold/ Emami Double Bull/ /Lafarge
1 (b)	White Cement	JK White/ Birla White
2	Reinforcement Steel	SAIL/ TISCON(TATA)/ VIZAG (RINL) /JINDAL, ELECTROSTEEL
3	Structural Steel	SAIL/ TISCON(TATA)/ VIZAG (RINL) /JINDAL, ELECTROSTEEL
4.	Glazed Ceramic Tile	KAJARIA / JOHNSON/ SOMANI/ CERA
5.	Ceramic Floor Tile	KAJARIA / JOHNSON/ SOMANI/ CERA
6.	Vitrified Tile	KAJARIA / JOHNSON/ SOMANI/ CERA
8.	Ply Wood, Shuttering Ply Conforming to IS 303-1989 / IS 4990-1993	M/s. Century Plyboards (I) Ltd. / M/s. Green Ply Industries Ltd.
9.		
10.	Fire Door	Shakti Met-Door, Metaflex
11	Rolling Shutter	Bengal Rolling Shutter, ' Standard', 'Swastik', 'Diana', 'Hercules',
12.	Stainless Steel Section	SAIL/ TATA
13.	Stainless steel hardware for doors	Dorma /Haffelle
14	Glazing	Saint Gobain / Asahi Float Glass Ltd / Hindustan Safety Glass Works Ltd. / Modi.
15.	Injection water proofing, waterproofing coating, water repellents Conc. Admixtures. Plasticized PVC membrane of waterproofing	SikaQualcrete Ltd./ Structural Waterproofing Co./PidiliteIndustriesLtd./Fosroc/BASF. (The applicator has to be certified by thewater proof vendor)
16.	Synthetic Enamel Paints, Distemper, Acrylic Emulsion Paints, Melamine Coating , Aliphatic Acrylate	I.C.I (I) Ltd. / Berger Paints (I) Ltd. / Jenson & Nicholson (I) Ltd. / Asian Paints (I) Ltd. / FOSROC Chemicals(I) Pvt Ltd .
17.	Flush door ( Factory made )	M/s. Century Plyboards (I) Ltd. / Green ply / Merino Industries
18.	Aluminium Sections and Extrusion shall conform IS:733-1983 and IS:1285-1975	HINDALCO / JINDAL
19.	General Hardware	
	a) Latches, hinges etc.	GODREJ / DORMA / HAFFELLE
	b) Locks , Flush bolt	GODREJ / DORMA / HAFFELLE
	c) Handles	GODREJ / DORMA/ HAFFELE
	d) Screw	Nettlefold / GKW / ND
	e) Door Closure	GODREJ / DORMA/HAFFELE
	f) Floor Spring	GODREJ / M/s. EVERITE Agencies Pvt. Ltd. / M/s. Garnish

	g) Aldrop	ISI Marked
	h) Tower bolt	ISI Marked
	I) PVC Buffer block	ISI Marked
	J) Door Stopper	ISI Marked
	k) Patch fittings for toughened glass	Dorma Systems
20.	Laminates	-DECOLAM(BakeliteHylamLtd.)/-MERINOI (Century Laminating Co. Ltd.)/ GREENLAM (GREEN PLY )
21	<b>Kota stone</b> ( Bluish grey/ Green )	Premium
22	Waterproof Adhesive for Tile / Slab fixing to wall or floor	Terraco India (P) Ltd. / M/s. Pidilite Industries Ltd. / M/s. Roffe Construction Chemicals Pvt. Ltd.
23	Sealant	Rhodorsil-33, Pidiseal A-11 & B-11 : M/s. Pidilite Industries Ltd., Techseal RDL-600, TechsealRDL-940, Techseal RDL-1000 : M/s. ChokseyChemical (P) Ltd. Roffseal : M/s. Roffe Construction Chemicals Pvt. Ltd. or Fosroc., SikkPolysulphide/ Dr. Fixit Pidiseal PS (42 P) MYK.
24	<b>Tile Jointing Materials</b>	-Rainbow Tile Mate – HDI (M/s. Roffeconstruction Chemicals Pvt.Ltd.). -Terragrout(M/s.TerracoIndia(P)Ltd.).or Fosroc
25	Decorative Ply (Teak / Cedar / Mahegony / Walnut Veneer)	M/s. Century Plyboards (I) Ltd. / GREENPLY
26	Cement Based Exterior Textured Paint	ICI ( I ) Ltd / Asian Paints / Berger Paint (I) Ltd. / Jenson & Nicholson
27	Glass Mosaic tiles	Shon, Kent , Bisazza
28	Glass for structural glazing & canopy (Coloured Reflective toughened glass)	Saint Gobain / Hindustan Pilkington/ Ashai float glass.
29	Silicone Sealant	GE/Dow Corning
30.	Aluminium composite panel	Aluco bond ,Aludecor , Alstrong
31.	MS Conduit pipe	BEC /SUPREME/ AKG
32.	PVC Conduit pipe	PLAZA/PRECISION/POLYCAB/AKG/ Arkaylite/ Havells, JUVAS
33.	Pre-constructional Anti-termite (Chloropyriphos)	Pest Control India or approved by Engineer-in- charge
34.	Cement Primer	ICI / BERGER / ASIAN PAINTS/ JENSON & NICHOLSON
35.	Textured Paint	ICI / BERGER / ASIAN PAINTS/ JENSON & NICHOLSON
36.	Waterproofing acrylic emulsion exterior gradepaint	ICI / BERGER / ASIAN PAINTS/ JENSON & NICHOLSON
37.	Acrylic Polymer waterproofing coat	SIKA / FOSROC / PIDILITE / ROFFE/ BASF
38.	Expanding grout admixture	SIKA / FOSROC / PIDILITE / ROFFE/ BASF
39.	Integral waterproofing compound	SIKA / FOSROC / PIDILITE / ROFFE



40.	Waterproofing admixture	SIKA / FOSROC / PIDILITE / ROFFE
41.	Plasticizer	SIKA / FOSROC / PIDILITE / ROFFE
42.	APP Modified Bituminous membrane	SIKA / FOSROC / PIDILITE / ROFFE
43.	Aluminium anodized louver	HUNTER DOUGLAS
44.	Structural glazing	JINDAL/HINDALCO
45.	Stainless steel handrail with balluster	GODREJ / DLINE
46.	Floor hardener	Ironite/ Feronite

#### WATER SUPPLY, SEWERAGE & DRAINAGE

Sl. No.	Description of Approved Material	Approved Brand / Manufacturer
1.	G.I. Pipes - medium class (As per IS- 1239, P - I)	TATA/JINDAL
2.	G.I. Pipe fittings (as per IS-1239, P-II) ; of material with Galvanised Cast Iron Fillings, with material code conforming to IS- 1879	HB/'NB'/'ZOLOTO'/Leader /-'JSI' fittings ISI approved Heavy
3.	<b>C.P. on brass fittings</b>	
	CP Bib cock	JAQUAR-Continental/CERA/ESSCO -Delux 'or sumthingspecial'/'Marcl'-Hindwareloras approved by ENGINEER-IN-CHARGE
	CP 'Long Nose' /or' Long Body' Bib cock	- Do-
	CP Angle valve	- Do-
	CP 'Concealed' Stop cock 'Heavy' type with adjustable CP wallFlange	- Do-
	CP Shower Rose	- Do-
4.	Bronze/Gunmetal-body-Pressure- Release valve with threaded screwed ends, class (PN-1.0) / or (PN-1.6) class	Zoloto/1040A/Leader/'-Santl/'-Neta
5.	Gun metal body Ball Float valve with PVC (High pressure) Ball Float	Zoloto/Leader/'-Santl/'-Neta
6.	15 mm dia. PVC Connector pipe with Symet nuts at both ends. - ( for Wash Basin Pillar tap &W.C. &Urinal - Cistern connections)	PRAYAG or as approved by ENGINEER-IN- CHARGE
7.	Wall Outlet Connection Flexible Pipe - 15mm dia	"Jaquar"-'Esscol/'-Hindwarel

8.	Bronze /Gun metal-body Gate valve with threaded screwed ends, "Non- rising Spindle" type (PN-1.0) / or (PN- 1.6) class	Sant-/Leader/-Zoloto-forBronzebody/ -Netal/SBM--Peglarltype
9.	Bronze -body Globe valve with 'BSPT(F), threaded screwed ends, "Non-rising Spindle" type (PN-1.0) (PN-1.6) class	Valves of 'Zoloto', or 'Sant' or as approved by ENGINEER-IN-CHARGE.
10.	CI body Gate /Sluice valve with flanged ends rising Spindle" type (PN- 1.0) / or (PN-1.6) class	Sant'/_Zoloto'/Leader/_Hawa'
11.	Pump for water supply .	'Willo'/  KSBI  —CRII / —Grundfosl/DP.pump
12.	CP Urinal Spreader-15mm (for Urinalonly)	for all Toilets :- Hindware / "Parryware" or as approved by ENGINEER-IN-CHARGE.
13.	Soil, waste & vent pipes / and Pipe Fittings & Specials :- C.I. Centri cast (as per 15-3989)	'NECO' / 'HEPCO' / 'KAPILANSH DHATU UDYOG (P) L TD.'
14.	<b>C.P. on brass fittings</b>	JAQUAR/ESSCO_-Delux'/Marc /Hindware/CERA/
15.	C.P. on brass fittings C.P. Waste Coupling, ii) C.P. Bottle Trap, iii) C.P. Robe Hook, iv) C.P. Towel Rail. v) CP Two way Bib Tap	JAQUAR/ESSCO_-Delux'/Marc/Hindware/CERA
16.	CP Toil. Paper Holder	- Do-
17.	CP Towel Ring	- Do-
18.	CP Soap Dish Holder	- Do-
19.	CP Bottle Trap with CP wall connection Pipe	- Do-
20.	Sanitary Fixtures & Fittings	
	CP Robe Hooks	- Do-
	CP "Two-way" Bib cock	- Do-
	CP Shower Rose	- Do-
21.	Rigid PVC (Concealed) Waste pipe, [Schdl.-40], (as per ASTM D 1785)- (concealed or exposed)	Supreme / Oriplast / Finolex/ Utkarsh
22.	Rain Water Pipe Fittings :- 'Sand cast Iron' - "SWR" class, as per (IS: 1792)	DO
23.	Salem'StainlessSteelSinkasperAISI 304 (18/8) conforming to I.S.- 13983	"Hindware" "Hafele" ""Nirali' , 'Parryware'
24.	<b>Stone- Ware Pipes, and S.W. Pipe Fittings</b>	Sonali / GINNI / NIRALI / Hind

25.	C. I. Manhole Cover ( I.S. - 1726) - "Medium" or "Heavy" Grade' (Light duty only on Oil/Grease Trap Chamber)	NECO/'HEPCO'/Swastika/'BPL'/'—BICI.
26.	NP-2 class R.C.C. Pipes and Pipe Fittings (i.e., RCC Collars etc.)	EasternSpuncrete/'WestBengalConcreteIndustries(P)Ltd /'HINDUSTAN'/'SUR'./or equivalent ISI approvedMake.
27.	Stone- Ware Gully Trap	Sonali / GINNI / NIRALI / Hind / or equivalent ISI approved make.
28.	C. I. Grating- (Over Catch Pit I Yard Gully Chamber), (I.S. - 1726) - "Medium" or "Heavy" Grade	NECO/'HEPCO'/'BPL'/'KapilanshDhatuUdyog
29.	<b>Rain Harvesting Pump/ Agriculture Pump of required capacity-</b>	'Willo' /  KSBI / —CRII / —Grundfos  DP pumps/
30.	"Enclosed" Analogue type Water Meter ("Bulk" Type), conforming to IS- 2373 with Calibration Certificate, including all necessary accessories.	"Dashmesh" / 'Kaycee" / "Capstan"/ —Kentl.
31.	Bronze body "Parallel Slide" 'Blow-off valve ("Spring loaded, blow-off pressure sellable" type), with flanged ends, also with matching Flanges (PN-1.0) / or (PN-1.6) class	Zoloto' /Sant –make / Leader.
32.	<b>Air-Release Valve</b>	Zoloto' /Sant –make / Leader.
	Bronze body "Parallel Slide" 'Blow-off valve ("Spring loaded, blow-off pressure sellable" type), with flanged ends, also with matching Flanges (PN-1.0) / or (PN-1.6) class	
	Bronze / Gun metal -body Ball valve with 'BSPT(F), threaded screwed ends, "quarter turn Lever operated" type (PN-1) / or (pN-1.6) class	Valves of Bronze body :-'Leader', 'Zoloto' – Metal only:- Sant make / Leader.
33.	Gaskets-CAF 'Full face' conforming to IS- 2712, Gr.- C; (3mm thick)	"Klinger" / "Permanite" / "Champion".
34.	CPVC and uPVC and HDPE pipe including fittings	Ori-Plast /Suprim/Alom
35.	Pressure Reducing Valve , Blow-off VALVE : Bronze / Gun metal Body,: Bronze/Gun metal Body, Non-Return Valve (N.R.V) : C.I. Body	<b>Zoloto,'Sant'/'—Leader  /—Amcoll/'—Hawal)</b>

36.	Sanitary wares (Vitreous chinaware):- i) W.C. - (Indian type/ European Type) - with 'S' / 'P' - Trap - Floor mounted type, without PVC Flushing Cistern  ii) Wash Basins - "Flat-back" type rectangular pattern with-Esscol CPPillar Tap/or -SwanneckltypeMixer  iii) Urinal - Flat back "Small" with CP Spreader, CP Waste coupling, CP Bottle Traps with wastepipes.	<b>Hindware,-/Parryware/-CERA/KOHLER</b>
37.	Wall Mirror	6mm thick 'Modiguard' / 'Ashai' / or equivalent as approved by ENGINEER-IN-CHARGE, with 12mm thick hard-board backing
38.	W.C.:- Floor mounted "Pedestal" type- W.C.-	Hindware- /Parryware/'Cera' :-
39.	Wash Basin	Hindware- /Parryware/'Cera'
40.	For WC flushing :- PVC 'Low-level' "Dual- Flush" Cistern	Hindware' "SLEEK" or equivalent Parryware or 'Cera' Model.

**ELECTRICAL ITEMS:**

Sl.	ITEM	APPROVED MAKES
1	Diesel engine	CUMMINS / CATERPILLAR / KIRLOSKAR
2	Alternator	KIRLOSKAR / STAMFORD / AREVA
3	LT Cable termination materials	DOWELLS / COMET / LOTUS
4	Air Circuit Breaker	SCHNEIDER / ABB / L&T
5	MCCB / Contactor	SCHNEIDER / ABB / L&T
6	MCB Distribution Board	SCHNEIDER / ABB / L&T
7	MCB / RCCB / RCCBO	SCHNEIDER / ABB / L&T
8	Power Factor Correction Relay	SCHNEIDER // L&T/EPCOS
9	Power Factor Correction Capacitors	SCHNEIDER / EPCOS / L&T
10	Relays	SCHNEIDER / SIEMENS / L&T
11	Meters	SCHNEIDER / ENERCON/ AEI
12	Ammeter/Voltmeter selector switch	L&T/ KAYCEE / SALZER
13	Indicating Lamp	SCHNEIDER /SIEMENS/VAISHNO/ L&T
14	Push Buttons / Indicating Lamps	SCHNEIDER /L & T (RISHAB) / SIEMENS
15	CT	KAPPA / AUTOMATIC ELECTRIC / BCH
16	L. T. Power, control and signal cable	HAVELLS / POLYCAB / CRYSTAL

17	Cu. Wires	MESCAB / FINOLEX /HAVELLS
18	M.S.Conduit	JINDAL / TATA / GST
19	PVC conduit & Accessories	ISI Marked
20	Industrial Power Socket Outlets	SCHNEIDER / ABB / L&T
21	Switches and Sockets modular type	LEGRAND / CRABTREE / L&T
22	Lighting Fixture	WIPRO / CG / PHILIPS
23	Wall/ Ceiling / Exhaust Fans	USHA / CROMPTON / HAVELLS
24	Ductable Split Units	LG / PANASONIC / CARRIER
25	Wall Mounted Split Unit	LG / PANASONIC / CARRIER
26	Cable Tray	FABRICATED / LEGRAND
27	EPABX	UNIFY / CISCO / AVAYA
28	RJ 11 SOCKET	LEGRAND/L&T/SCHNEIDER
29	RJ 45 SOCKET	LEGRAND/L&T/SCHNEIDER
30	LAN Cable &Accessories	HAVELLS / POLYCAB / CRYSTAL
31	UPS	ETON/EMERSON
32	CCTV CAMERAS	L&T/SCHNEIDER/ABB
33	PA SYSTEM along with all accessories	BOSCH / HONEYWELL
34	TRANSFORMER	VOLTAMP / SCHNEIDER /
35	HT BREAKER	SCHNEIDER/ABB/L&T
36	HT XLPE CABLE	HAVELLS / POLYCAB / CRYSTAL
37	11 KV RUBBER MAT	ISI MARKED
38	11 KV HAND GLOVES	ISI MARKED
39	ELECTRONIC LIGHTING ARRESTER	PROLITE/
40	Fan	Havells, Crompton, Bajaj
41	LED Lights	Havells, Crompton, Bajaj, Surya

#### **FIREFIGHTING MAKES**

<b><u>Sl. No.</u></b>	<b><u>Description of Approved Material/Item</u></b>	<b><u>Approved Make</u></b>
1	Relays	Siemens / Schneider / L & T
2	Meters	IMP / Neptune
3	Ammeter/Voltmeter selector switch	Kaycee / Salzer / AE
4	Indicating Lamp	Siemens/ Schneider
5	Wires (copper conductor)	Mescab / Polycab/ Havells/ Nicco / Gloster

6	MCCB	Siemens/ Schneider / L & T
7	CT	Kappa
8	<b>MS-Black Main Pipes-Hydrant ERW (IS-1239) Butt weldable /threaded IS:1239 Part-I (Heavy)</b>	<b>JINDAL / TATA/ Nezone/ _Skipper‘</b>
9	<b>Gate valve(IS:210,GR-210) ,</b>	<b>Crawlie&amp; Ray</b>
10	<b>Butter fly valve in C.S. lever / Wheel operated to be fitted between flanges, PN- 1.0 BS-5155</b>	<b>/Leader/Intervale/Sant/ Zoloto/L&amp;T Kirloskar/</b>
11	<b>Foot Valve with Strainer as per IS-4038</b>	
12	Sluice / Gate Valve.	
13	N.R.V.	
14	R.C.C. pipes (NP-3	Eastern Spuncrete / W.B. Concrete Industries Pvt. Ltd./ Hindustan
15	Hydrant Valve IS-5290	Fire Shield/Minimax,Surex –all ISI marked
16	CP fire Hose with G.M. Nozzle.	FireShield /Minimax,Surex – all ISI marked
17	Pressure Gauge	FireShield /Minimax,Surex – all ISI marked
18	Hose Box	FireShield /Minimax,Surex – all ISI marked
19	<b><u>Fire Extinguishers</u></b>  D.C.P.- 5 Kg.- including MS fastening Clamps for mounting onwalls/columnsCO <sub>2</sub> 4.5 Kg.- including MS fastening Clamps for mounting onwalls/columnsWater CO <sub>2</sub> including MS fasteningClampsformounting onalls/columns  A B C – Powder type (Mono Ammonium Phosphate base) - including MS fastening Clamps for mounting on walls/columns	FireShield /Protector//Surex /Minimax-all ISI approved
20	Pump	BE Pumps/Kirloskar/KSB/SAMTURBO /WPIL/Grundfos or Equivalent
21	<b>Y‘-strainer</b>	<b>Kirloskar/Leader/Sant /Zoloto</b>
22	Pressure Release Valve	<b>Kirloskar/Leader/Sant /Zoloto</b>
23	Fire Sprinklers (both pendent & Up-Right type)	<b>_TYCO‘ / _VIKING‘ / _Omex‘ /-Centrall- ELO16/Crawlie&amp;Ray</b>
24	FIRE ALARM PANEL DETECTORS 3 MODULES/ MCP (system sensor)	HONEYWELL-ESSER, Notifire, Simplex, _Morley- Edward
25	RESPONSE INDICATOR	Approved matching Brand.
26	CABLE	Finolux or equivalent

27	PVC CONDUIT	Ori-Plast or other equivalent
28	FIRE ALARM PANEL	HONEYWELL-ESSER,
29	Smoke Detector	Siemens/Esser/Tyco
30	Heat Detector	Siemens/Esser/Tyco
31	Manual Call Box	ISI Approved Make
32	PC	HP/Dell
33	Pressure Switch	Indfoss ,/ Switzer
34	Lift	OTIS/KONE/JOHNSON

**All material must conform to relevant BIS specifications.**

## CODES & STANDARDS.

All the systems and equipment's within the scope of this tender shall be of reputed proven makes, designed and manufactured in accordance with the stipulations of latest versions of Indian Codes.

When an equipment is offered conforming to standards other than those listed below, it shall be clearly brought in notice of engineer in charge.

S. No	IS Code	Description
1	IS:1646	Code of practice for fire safety of building (general), Electrical Installations.
2	IS:1648	Code of Practice for fire safety of buildings (general), Fire Fighting Equipment and its Maintenance.
3	IS:3034	Code of Practice for Fire of Industrial Buildings, Electrical Generating and Distributing Stations.
4	IS:884	First Aid Hose Reel for Fire Fighting ( For Fixed Installations).
5	IS:2171	Portable Fire Extinguisher, Dry Powder Type
6	IS:2878	Portable Fire Extinguishers, CO2 type.
7	IS:1239	Part - I : Mild Steel Tubes (upto 150mm). Part - II : Mild Steel tubulars and other wrought steel pipe fittings.
8	IS:778	Gunmetal gate, globe and check valves for general purposes.
9	IS:13095	Butter Fly Valve
10	IS:14846	Sluice Valve for water works purposes (50 to 1200mm size) – Specification.
11	IS:5312	Swing Check type Reflux (Non-Return) Valves.
12	IS:940	Portable Fire Extinguisher ,Water CO2 Type.
13	IS:10204	Portable Fire Extinguisher, Foam Type.
14	IS:2190	Code of practice for selection, installation and maintenance of portable First - Aid Fire Appliances.
15	IS:1520	Horizontal Centrifugal Pumps for clear, cold and fresh water.
16	IS:5290	Landing / Hydrant Valve
17	IS:8423	Controlled Percolation Hose for fire fighting.
18	IS:903	Fire Hose Delivery Couplings, Branch Pipe, Nozzles& Nozzle spanner.
19	IS:2062	Structural Steel (Fusion / Welding Quality).
20	IS:325	Three Phase Induction Motor.
21	NBC	National Building Code, Chapter – IV (Amendment No.3, January 1997).
22	IS:2189	Code of practice for selection, installation and maintenance of Automatic Fire Detection and Alarm System.
23	IS:732	Code of practice for electrical wiring installations
24	IS:2217	Recommendations for providing first aid fire fighting arrangements in public buildings.
25	IS:3844	Code of practice for installation of internal fire hydrant in multistoried buildings.
26	IS:3589	Mild Steel Tubes (200mm and above).



# **VOLUME-III**

## **SECTION 7**

### **FORM OF BID**

## FORM OF BID

Description of the Works:

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BID

To :

Address :

1. We offer to execute the Design, Plan and Build Works described above and remedy any defects therein in conformity with the Conditions of Contract, specification, drawings ( Concept layout), Price Bid ( Lumpsum format) and Addenda for the sum(s)of \_\_\_\_\_
2. We undertake, if our Bid is accepted, to commence the Works as soon as is reason- ably possible after the receipt of the Engineer's notice to commence, and to complete the whole oftheWorkscomprisedintheContractwithinthetimestatedinthedocument.
3. We agree to abide by this Bid for the period of..... daysfrom the date fixed for receiving the same, and it shall remain binding upon us and may be accepted at any time before the expiration of thatperiod.
4. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding contract betweenus.
5. We understand that you are not bound to accept the lowest or any tender you may receive.

Datedthis \_\_\_\_\_ dayof \_\_\_\_\_ 2019

Signature \_\_\_\_\_ in the capacityof \_\_\_\_\_ duly authorized to sign bids for and on behalf of \_\_\_\_\_(In block capitals or typed)

Address \_\_\_\_\_

Witness \_\_\_\_\_

Address \_\_\_\_\_

Occupation \_\_\_\_\_

# **SECTION 8**

## **PRICE BID**

## **PRICE BID**

### **Preamble**

1. The Price Bid shall be read in conjunction with the Instructions to Bidders, Conditions of Contract, Technical Specifications and Drawings (Concept Layout).
2. The numbers of dwelling units and buildings together related infrastructure and are given to provide a common basis for bidding. The payment will be based upon the actual quantities in respect of dwelling unit completed and carried out, as measured by the Contractor in sqm of carpet area and verified by the Engineer and valued at the rates and prices tendered in the Price Bid, within the terms of the Contract.
3. The rate per sqm of carpet area tendered in the Price Bid shall, except in so far as it is otherwise provided under the Contract, shall include cost of all type of planning, designing, preparing Good for construction structural drawings, getting these drawings vetted from Indian Institute of Technology (ISM), Dhanbad /National Institute of Technology (NIT), Deoghar or BIT, Sindri, Dhanbad, constructional plant usages, labour, supervision, materials, erection, maintenance of tools and plants used during construction, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the EPC Contract tendered by JUIDCO Ltd.
4. The rates or prices shall be quoted in Indian Currency only.
5. The rates or prices per sqm of carpet area shall be entered in the price bid which will be taken to have included the cost of water supply/ plumbing, drainage and sewer lines within the colony, internal and external (with transformer and further up to the dwelling units) electricity /lighting, construction of overhead tanks for dwelling units/ sumps at ground level for storing water and pumping thereafter up to the overhead tanks, internal roads, landscaping work, etc within the premises/ land where affordable housing under PMAY is to come up in Jharkhand.
6. The entire cost of constructing the housing scheme as mentioned above shall be converted into per sqm of carpet area while bidding; as payment toward no extra claim shall be normally allowed. Please note that the rates provided by the bidder shall be taken as cost of entire work which has figured in the scope of work.
7. General directions and descriptions of work and materials have not been repeated or summarized in the Price Bid. As such, reference to the relevant sections of the contract documentation shall necessarily be made by the bidder before entering rates or price in the Price Bid.
8. The method of measurement of completed work shall be on carpet area basis for which payment shall be made as per milestone indicated in the bid documents.
9. Errors will be corrected by the Employer for any arithmetic errors pursuant to Clause 29 of the Instructions to Bidders.
10. Rock is defined as all materials which, in the opinion of the Engineer, require blasting, or the use of metal wedges and sledgehammers, or the use of compressed air drilling for its removal, and which cannot be extracted by ripping with a tractor of at least 150 kW with a single rear mounted heavy duty ripper.

## PRICE BID

I/we hereby tender to execute the whole of the work described in the:

**Name of the Work:-“Construction (including structural design) of 440 dwelling units in 22number of G+3 blocks at Butberiya, Mihijam under Pradhan MantriAwasYojana (Urban) (Package-L)”**

(i) Scope of work, but not limited to, include Architectural Planning and Design, Engineering Procurement, Preparation of Detailed Structural Design & Drawing; project execution & construction, after obtaining approval from municipal bodies including water supply and sanitation (Including Sump, Overhead/Roof top Tank and water lifting arrangement), sewer network, electrification work, storm water drainage, rain water harvesting, landscaping, barbed wire fencing, street lighting, construction of internal roads, and parking area of Pradhan MantriAwasYojana at identified ULB/Smart City/Location in Jharkhand on EPC cum Turnkey basis and according to the Technical Specifications in Section-6 for which the Defect Liability Period is one year (365 days).

Sl. No	Description	Rate per sqm of Carpet Area	
		In figure	In words
01.	Dwelling Units each having a carpet area approximately 29.4 sqm under PMAY (Affordable Housing) in G+3 within the project site including Architectural Planning and Design, Engineering Procurement, Preparation of Detailed Structural Design & Drawing; project execution & construction after obtaining approval from municipal bodies including water supply and sanitation (including Sump, Overhead/Roof top Tank and water lifting arrangement), sewer network, electrification work, storm water drainage, rain water harvesting, landscaping, barbed wire fencing, street lighting, construction of internal roads and parking area all complete and thereafter transfer of dwelling units including the External Infrastructure and maintenance thereafter during the Defect Liability Period of 365 days. Number of Dwelling Units <b>440</b> <i>(The bidder need to quote the rate persqm of carpet area in such a way that it include entire cost of the housing project in it as no separate payment will be made for associated works.)</i>	-	—

**The Rate per Square meter of Carpet Area (Which includes all costs of Housing Project) (In Figures): -----(In Words) Rupees: (-----)**

-----)And should this tender be accepted, I/we do hereby agree and bind myself/ ourselves to abide by and fulfill all the conditions annexed to the said specifications in default thereof to or forfeit and pay to JUIDCO , the penalties of sums of money mentioned in the said condition viz:-----

**Note:- 1. The Quantity mentioned under description is only indicative and not final and it cannot be considered as basis of any claim. This quantity is subject to increase or decrease by 20%.**

**Note:-2. Rate quoted will be lump-sum but on basis of sqm (carpet area per dwelling unit).**

**Note:-3. The rate quoted by the bidder shall be inclusive of G.S.T, taxes, royalty and cess.**

Dated:-.....

**Note:**Price Bid is available online on the website <http://jharkhandtenders.gov.in>. Bidder shall fill Price Bid as per instruction given in Instruction to Bidder.

## **SECTION 9**

### **SECURITIES AND OTHER FORMS**



**BID SECURITY (BANK GUARANTEE)**

WHEREAS, [name of Bidder] (hereinafter called "the Bidder") has submitted his Bid dated [date] for the construction of [name of Contract hereinafter called "the Bid"].

KNOW ALL PEOPLE by these presents that We \_\_\_\_\_ [name of Bank] of \_\_\_\_\_ [name of country] having our registered office at (hereinafter called "the Bank") are bound unto \_\_\_\_\_

[name of Employer's Representative] (hereinafter called "the Employer's Representative") in the sum of \* for which payment well and truly to be made to the said Employer's Representative the Bank itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this \_\_\_\_\_ day of .... 2019

THE CONDITIONS of this obligation are:

(1) If after Bid opening the Bidder withdraws his bid during the period of Bid validity specified in the Form of Bid;

OR

(2) If the Bidder having been notified to the acceptance of his bid by the Employer during the period of Bid Validity:

- a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or
- b) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Bidders; or
- c) does not accept the correction of the Bid Price pursuant to Clause 27.

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the three conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date \_\_\_\_\_\*\* days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE \_\_\_\_\_

SIGNATURE \_\_\_\_\_

WITNESS \_\_\_\_\_

SEAL \_\_\_\_\_

\_\_\_\_\_  
[Signature, name and address]

\* The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 16.1 of the Instructions to Bidders.

\*\* 45 days after the end of the validity period of the Bid. Date should be inserted by the Employer before the Bidding documents are issued.



**PERFORMANCE BANK GUARANTEE**

To

\_\_\_\_\_ [name of Employer's Representative]  
\_\_\_\_\_ [address of Employer's Representative]

WHEREAS, \_\_\_\_\_ [name and address of Contractor] (hereafter called "the Contractor") has undertaken, in pursuance of Contract No. \_\_\_\_\_ dated \_\_\_\_\_ to execute \_\_\_\_\_ [name of Contract and brief description of Works] (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligation in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you on behalf of the Contractor, up to a total of \_\_\_\_\_ [amount of guarantee]\* (in words), such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limit of \_\_\_\_\_ [amount of guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between your and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until 28 days from the date of expiry of the Defect Liability Period. Signature and Seal of the guarantor \_\_\_\_\_

Name of Bank \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

---

\*An amount shall be inserted by the Guarantor, representing the percentage the Contract Price specified in the Contract including additional security for unbalanced Bids, if any and denominated in Indian Rupees.

**BANK GUARANTEE FOR ADVANCE PAYMENT**

**PERFORMANCE BANK GUARANTEE**

To

\_\_\_\_\_ [name of Employer's Representative]  
\_\_\_\_\_ [address of Employer's Representative]  
\_\_\_\_\_ [name of Contractor]

Gentlemen:

In accordance with the provisions of the Conditions of Contract, sub-clause 14.2 ("Advance Payment") of the above-mentioned Contract, [name and address of Contractor] (herein after called "the Contractor") shall deposit with [name of Employer's Representative] a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of \_\_\_\_\_

[amount of Guarantee]\* \_\_\_\_\_ [in words].

We, the \_\_\_\_\_ [bank of financial institution], as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to [name of Employer's Representative] on his first demand without whatsoever right of obligation on our part and without his first claim to the Contractor, in the amount not exceeding [amount of guarantee]\* \_\_\_\_\_ [in words].

We further agree that no change or addition to or other modification of the terms of the Contractor or Works to be performed there under or of any of the Contract documents which may be made between \_\_\_\_\_ [name of Employer's Representative] and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until \_\_\_\_\_ [name of Employer's Representative] receives full repayment of the same amount from the Contractor.

Yours truly,

Signature and Seal: \_\_\_\_\_

Name of Bank / Financial Institution: \_\_\_\_\_

Address: \_\_\_\_\_

\*An amount shall be inserted by the Bank or Financial Institution representing the amount of the Advance Payment, and denominated in Indian Rupees.

**LETTER OF ACCEPTANCE**  
**(Letter head paper of the Employer's Representative)**

(Date) \_\_\_\_\_

To

(Name and address of the Contractor)

\_\_\_\_\_  
\_\_\_\_\_

Dear Sirs,

This is to notify you that your Bid dated \_\_\_\_\_ for execution of the \_\_\_\_\_ (name of the contract and identification number, as given in the Instructions to Bidders) for the Contract Price of Rupees \_\_\_\_\_ (

\_\_\_\_\_ ) (amount in words and figures), as corrected and modified in accordance with the Instructions to Bidders<sup>1</sup> is hereby accepted by our agency.

You are hereby requested to furnish Performance Security, in the form detailed in Para 32.1 of ITB for an amount equivalent to Rs. \_\_\_\_\_ within 21 days of the receipt of this letter of acceptance valid up to 28 days from the date of expiry of defects Liability Period i.e. upto \_\_\_\_\_ and sign the contract, failing which action as stated in Para 32.4 of ITB will be taken.

Yours faithfully,

Authorized Signature  
Name and title of Signatory  
(Employer's Representative)

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<sup>1</sup>. Delete "corrected and" or "and modified" if only one of these actions applies. Delete as corrected and modified in accordance with the Instructions to Bidders, if corrections or modifications have not been affected.

**ISSUE OF NOTICE TO PROCEED WITH THE WORK**

**(Letter head of the Employer's Representative)**

(Date)\_\_\_\_\_

To

(Name and address of the Contractor)

\_\_\_\_\_  
\_\_\_\_\_

Dear Sirs,

Pursuant to your furnishing the requisite security as stipulated in ITB Clause 32.1 and signing of the Contract for the construction of \_\_\_\_\_ at Bid Price of Rs. \_\_\_\_\_

You are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and title of  
Employer's Representative)

## AGREEMENT FORM

### Agreement

This agreement, made the \_\_\_\_\_ day of \_\_\_\_\_ between \_\_\_\_\_  
(name and address of Employer) [hereinafter called "the Employer"] and \_\_\_\_\_  
\_\_\_\_\_ (name and address of contractor) hereinafter called "the  
Contractor" of the other part.

Whereas the Employer is desirous that the Contractor execute \_\_\_\_\_  
\_\_\_\_\_ (name and identification number of Contract) (hereinafter called "the  
Works") and the Employer has accepted the Bid by the Contractor for the execution and  
completion of such Works and the remedying of any defects therein, at a cost of Rs. \_\_\_\_\_.

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the conditions of contract hereinafter referred to and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be ready and construed as part of this Agreement viz.
  - (1) The Contract Agreement
  - (2) Letter of Acceptance, notice to proceed with the works
  - (3) Contractor's Bid
  - (4) Contract Data
  - (5) Conditions of Contract including Special Conditions of Contract
  - (6) Employer's Requirements
  - (7) Technical Specifications
  - (8) Concept Drawings & Data along with Tender documents

(9) Any other document listed in the Contract Data as forming part of the Contract

In witnessed whereof the parties there to have caused this Agreement to be executed the day and year first before written.

The Common Seal of \_\_\_\_\_ was hereunto affixed in the presence of :

Signed, Sealed and Delivered by the said \_\_\_\_\_  
\_\_\_\_\_

in the presence of:

Binding Signature of Employer's Representative \_\_\_\_\_

Binding Signature of Contractor \_\_\_\_\_

## UNDERTAKING

I, \_\_\_\_\_ The undersigned do hereby undertake that our firm M/s \_\_\_\_\_ agree to abide by this bid for a period \_\_\_\_\_ days for the date fixed for receiving the same and it shall be binding on us and may be accepted at any time before the expiration of that period.

---

(Signed by an Authorized Officer of the Firm)

---

Title of Officer

---

Name of Firm

---

DATE

# **VOLUME-IV**

## **SECTION 10**

### **DRAWINGS**



**Drawings attached separately.**

**Drawings attached separately.**

**Drawings attached separately.**

**Drawings attached separately.**

**Drawings attached separately.**

# **VOLUME-V**

## **SECTION 11**

### **DOCUMENTS TO BE FURNISHED BY BIDDER**

**Refer to Addendum to ITB**

**izi=&1**

**(For JHARKHAND URBAN INFRASTRUCTURE DEVELOPMENT COMPANY LTD. RANCHI)**

Name of the work	.....	
Tender Ref. No.		
Name of the Procurement Officer	.....	
Sl. No.	Name and address of responsive bidders in technical evaluation	
1		
2		
3		
4		
	Name and address of the non-responsive bidders	Reason for their non-responsiveness
1		
2		
3		

**Signature of the tender approving authority**



## izi=&2

(For JHARKHAND URBAN INFRASTRUCTURE DEVELOPMENT COMPANY LTD. RANCHI)

Name of the work	.....	
Tender Ref. No.		
Name of the Procurement Officer	.....	
Sl. No.	Name and address of the successful bidder  In financial evaluation	Amount of award of work
1		
Sl. No.	Name and address of the unsuccessful bidders	Reason for unsuccessful bid
1		
2		
3		

**Signature of the tender approving authority**

\* \* \* \* \*