

**Dr. B. R. Ambedkar National Institute of  
Technology, Jalandhar**

**Estate office –Repair and Maintenance**

**Works tender**

**Name of work:**

**Construction and Provisioning for boundary wall  
fencing work at sewerage treatment plant and  
near old SAC building at Dr. B. R. Ambedkar  
National Institute of Technology, Jalandhar**



## Dr B R AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY

G T Road By Pass, Jalandhar-144011, Punjab (India)

EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

### INDEX

**Name of Work: Construction and Provisioning for boundary wall fencing work at sewerage treatment plant and near old SAC building at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar**

Sr. No.	Description	Page Nos.
1.	<b>Index</b>	<b>2</b>
2.	Information and Instructions for Contractors	3-4
3.	<b>PART – A (Civil)</b>	<b>5</b>
4.	CPWD-6 for e-Tendering	6-10
5.	Schedule A, B, C, D, E, F (Major Component)	11-16
6.	Special Conditions	17-35
7.	Particular Specifications	36-53
8.	Proforma for Receipt of Deposition of Original EMD	54
9.	Guarantee Bonds/Affidavit for work	55-60
10.	List of approved products for Civil Work.	61-65
11.	Office Memorandum DG/SE/CM/CON/Misc./02 dt. 16.3.2016 for Draft Special conditions to comply Directives of Hon'ble National Green Tribunal	66-70
12.	Integrity pact	71-78
<b>13.</b>	<b>PART – C</b>	<b>80</b>
14.	Schedule of Quantity for Civil Work	81-83

NIT containing page 1 to 83 is hereby approved for Rs. **25,77,454.00/-** (Rs.Twenty five lakh seventy seven thousand four hundred fifty four only).



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### INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING FORMING PART OF BID DOCUMENT AND TO BE POSTED ON WEBSITE

The Registrar, Dr. B R Ambedkar National Institute of Technology, Jalandhar invites online, Percentage Rate tenders/Item Rate Bids from CPWD/ MES/State PWD-B&R/ PSU approved and eligible contractors only for following work:

Sl. No	NIT No.	Name of Work and Location	Estimated Cost Put to Tender	Earnest Money	Time/ Period of completion	Downloading & Submission of Online e-tender/bids	Last date & time of submission of bid. EMD and other documents	Date and Time of opening of tender
1	NITJ/EO/ Works R&M/86/ 22	“Construction and Provisioning for boundary wall fencing work at sewerage treatment plant and near old SAC building at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar”	Rs. 25,77,453.96	Rs. 51,549.00	03 Months	30.01.2023 at 3:00 PM	20.02.2023 at 3:00 PM	21.02.2023 at 3:00 PM

1. The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.
2. Information and Instructions for bidders posted on website shall form part of bid document.
3. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website [www.nitj.ac.in](http://www.nitj.ac.in) or CPP Portal free of cost. The tenderer should also read the General Conditions of Contract for CPWD Works 2020 amended upto date correction slip (available on CPWD above websites) which is available as Govt. of India Publications; however provisions included in the tender document shall prevail over the provisions contained in this standard form.
4. The bid can only be submitted after uploading the mandatory scanned documents such as Demand Draft towards EMD in favour of Security A/c, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar and other documents as specified.
5. Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website.
6. The intending bidder must have valid class-III digital signature to submit the bid.



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7. On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
8. Contractor can upload documents in the form of PDF format.
9. Integrity Pact of the bid document (Page No62 to69) shall be signed between Registrar and the successful bidder after acceptance of bid.
10. It is mandatory to upload scanned copies of all the documents listed below including registration /[GST registration/PAN Card](#) as stipulated in the bid document. If such document is not uploaded his bid will become invalid.
11. If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest contractor the bid shall become invalid.
12. Tender fee of Rs.500/- (Non- refundable) in the form of DD in favour of Director, D R B R Ambedkar NIT, Jalandhar.
13. All the bidders are required to submit the Tender Fee and EMD as per requirement of tender document failing which bids received straightway rejected and bid will be treated invalid.
14. Bidders should also upload the scanned copies of Tender fees/EMD as specified in the tender documents along with online technical documents. EMD Earnest Money in the form of Treasury Challan or Demand Draft or Pay order or Banker`s Cheque or Deposit at Call Receipt or Fixed Deposit Receipt in favour of the Security – A/c, Dr B R Ambedkar NIT, payable at Jalandhar (refundable separate) and Tender Fee in the form of a Demand Draft in favour of the Director, Dr B R Ambedkar NIT, payable at Jalandhar (Non-refundable separate) should also be submitted in physical form to the following address as per scheduled time given for physical submission of EMD and Tender fee. The Envelope should be super- scribed as EMD and Tender Fee for Tender and sent to following address:-  
**Kind Attention:-** Executive Engineer (Civil)-R&M (Estate office- R&M),  
Dr B R Ambedkar National Institute of Technology, G T Road Amritsar By Pass, Jalandhar-144001, Punjab (India).

**Note:** If the bidder inadvertently or otherwise upload the quoted rates in the technical bid, the bid will be straightway rejected and treated invalid.

### List of Documents to be scanned and uploaded upto date and time mentioned above:

1. Treasury Challan/ Demand Draft/ Pay order or Banker`s Cheque/ Deposit at Call Receipt/ FDR/ Bank Guarantee of any Scheduled Bank against EMD.
2. Registration for GST.
3. Enlistment order of the contractor.
4. Copy of PAN Card.
5. The contractor has to upload EPFO, ESIC Registration or Proof of applying registration with EPFO, ESIC.
6. **Scan Copy of original EMD**
7. Signed copy of Tender Document
8. Any other document as specified in Eligibility Criteria and/or in CPWD-6.

**Executive Enginner –Civil (R&M)**  
**Dr. B.R Ambedkar NIT Jalandhar**  
**Email – [eecivil@nitj.ac.in](mailto:eecivil@nitj.ac.in)**



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## **Dr. B R Ambedkar National Institute of Technology, Jalandhar**

**Name of work:** "Construction and Provisioning for boundary wall fencing work at sewerage treatment plant and near old SAC building at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar"

### **PART A (Civil Work)**



## Dr B R AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY

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The Registrar, Dr. B R Ambedkar National Institute of Technology, Jalandhar invites online, Item Rate Bids from CPWD/ MES/State PWD-B&R/ PSU approved and eligible contractors for following work: **“Construction and Provisioning for boundary wall fencing work at sewerage treatment plant and near old SAC building at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar”** The enlistment of the contractors should be valid on the last date of submission of bids. In case the last date of submission of tender is extended, the enlistment of contractor should be valid on the original date of submission of bids.

1. The work is estimated to cost **Rs.25,77,453.96**. This estimate, however, is given merely as a rough guide.
2. Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD-8 (or other Standard Form as mentioned) which is available as a Govt. of India Publication and also available on website [www.nitj.ac.in](http://www.nitj.ac.in). Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
3. The time allowed for carrying out the work will be **03 Months** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.
4. (i) The site for the work is available.  
(ii) The drawing shall be made available in phased manner as per requirement of the same as per approved programme of completion submitted by the contractor after award of the work.
5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen from website **CPP Portal** or [www.nitj.ac.in](http://www.nitj.ac.in) of cost.
6. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
7. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.
8. **Earnest Money Rs. 51,549.00/-** in the form of Demand Draft/ Pay order or Banker`s Cheque **in favour of Security A/c, Dr. B R Ambedkar National Institute of Technology, Jalandhar** shall be scanned and uploaded to the e-tendering website within the period of bid submission. **The original EMD should be deposited in the office of Dr.B R Ambedkar NIT, Jalandhar within the period of bid submission.**

Copy of Enlistment order and other required as per NIT documents shall be scanned and uploaded to the e-tendering website within the period of bid submission. However, certified copy of all the scanned and uploaded documents as specified in press notice shall have to be submitted by the lowest bidder only within a week physically in the office of tender opening authority.

Online bid documents submitted by intending bidders shall be opened only of those bidders, **whose EMD Deposited with NIT, Jalandhar office** and other documents scanned and uploaded are found in order.

9. The bid submitted shall be opened at **21.02.2023 at 3:00 P M**  
The bid submitted shall become invalid if:
  - (i) The bidder is found ineligible.
  - (ii) The bidder does not deposit original EMD with the office of **NIT, Jalandhar**



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(iii)

Does not uploaded all the documents (including [GST registration/ PAN Card](#)) as stipulated in the bid document.



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- (iv) **If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest tenderer in the office of tender opening authority.**
- (v) **If a tenderer quotes nil rates against each item rate tender or does not quote any percentage above/below on the total amount of the tender or any section/sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.**
10. The contractor whose bid is accepted will be required to furnish **performance guarantee of 3 % (Five Percent)** of the bid amount within the period specified in Schedule F. This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10000/-) or Deposit at Call receipt of any Scheduled Bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any Scheduled Bank of any scheduled bank (in case guarantee amount is less than Rs. 1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. **The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/ registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board and Programme Chart (Time and Progress) within the period specified in Schedule 'F'.**
11. **The description of the work is as follows: “Construction and Provisioning for boundary wall fencing work at sewerage treatment plant and near old SAC building at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar”**  
Intending bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent upon any misunderstanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions, Conditions imposed by NIT, Jalandhar authorities and other factors having a bearing on the execution of the work.
12. The competent authority on behalf of the Director NIT Jalandhar does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.
13. Canvassing whether directly or indirectly, in connection with tenderers is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.
14. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.
15. The contractor shall not be permitted to tender for works in the NIT, Jalandhar whose blood relation is serving in NIT Jalandhar.





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16. No Engineer of Gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the previous permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found anytime to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the tender or engagement in the contractor's service.
17. **The bid for the works shall remain open for acceptance for a period of Forty Five (45) days from the date of opening of bid.** If any bidders withdraws his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidders shall not be allowed to participate in the rebidding process of the work.
18. This notice inviting bid shall form a part of the contract document. The successful bidder/specialized agency, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign contract consisting of:
  - a) The Notice Inviting bid, all the documents including Special Conditions, General Specifications/ Particular Specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
  - b) Standard C.P.W.D. Form 8 is applicable.

### 19. For Bids

19.1.1 The bid document will include following four components:

**Part A** CPWD-6, CPWD Form-8 including Schedule A to F for the work, Standard General Conditions of Contract for CPWD 2019 as amended/ modified up to date.

**Part B:** General/ specific conditions, specifications, Schedule of Quantities applicable to the work

**Part C:** Schedule A to F, General/specific conditions and specifications, Schedule of Quantities applicable to the work

Entire work under the scope of tender shall be executed under one agreement.

Security Deposit @2.5% will be worked out for the Tendered cost of the work.

Running payment as per recommended by EE in-charge shall be made by Registrar to the contractor.

A. The work shall be treated as complete when all the components i.e civil and electrical of the work are complete. The completion certificate of the work shall be recorded by Registrar after record of completion certificate of all other components.

Bills submitted by Contractor of whole work shall be finalized and paid by the Registrar.

It will be obligatory on the part of the tenderer to sign the tender documents before the first payment is released.

**Registrar,  
Dr. B R Ambedkar National Institute of Technology  
Jalandhar**



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**COMPOSITE ITEM RATE TENDER & CONTRACT FOR WORKS**

- (A) Tender for the work of: **“Construction and Provisioning for boundary wall fencing work at sewerage treatment plant and near old SAC building at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar”**
- i) to be submitted online **by 20.02.2023 upt 3:00 PM** through website **CPP Portal** to [Registrar, Dr. B R Ambedkar National Institute of Technology, Jalandhar.](#)
  - ii) to be opened through online in presence of tenderers who may be present **21.02.2023 at 3:00 PM** in the office of [Registrar, Dr. B R Ambedkar National Institute of Technology, Jalandhar.](#)

**T E N D E R**

I/We have read and examined the Notice Inviting Tender, Schedule A, B, C, D, E & F, Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, Clauses of Contract, Special Conditions, Schedule of Rate and other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the [Registrar, Dr. B R Ambedkar National Institute of Technology, Jalandhar](#) within the time specified in Schedule 'F', viz. Schedule of Quantities and in accordance in all respects with the Specifications/ Special conditions, Designs, Drawings and instructions in writing as referred to in this tender document and with such materials as are provided for, by and in respects in accordance with, such conditions so far as applicable.



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We agree to keep the tender open for **(45) Forty Five days** from the date of opening of technical bid and not to make any modifications in its terms and conditions.

**A sum of Rs. 51,549.00/- is hereby forwarded demand draft of a scheduled bank as earnest money.**

A copy of earnest money in demand draft of a scheduled bank is scanned and uploaded. If I/We, fail to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said Director NIT Jalandhar or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that Director NIT Jalandhar or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely. The said Performance Guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form.

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

I/We undertake and confirm that eligible similar work(s) has/ have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred from the tendering in **NIT, Jalandhar** in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Registrar shall be free to forfeit the entire amount of Earnest Money.

I/We hereby declare that I/we shall treat the tender documents, drawings and other records connected with the work as Secret/ Confidential documents and shall not communicate information/ derived therefrom to any person other than a person to whom I/we/am/are may authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated:  Signature of Contractor .....

Witness: -  Postal Address: - .....

Address: -

Occupation: -

Telephone No.  
Fax:-  
E-Mail:-

**ACCEPTANCE**

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

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

For & on behalf of the President of India.

i)  Signature

ii)

iii)

Dated: -..... Registrar

To be filled in by the Registrar  
 To be filled in by the contractor



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**SCHEDULES (A to F)**

**SCHEDULE 'A'**

Schedule of quantities - **Schedule of Quantities (Civil Work)**

**SCHEDULE 'B'**

Schedule of materials to be issued to the contractor

S.No.	Description of item.	Quantity.	Rate in figures & words at which the material will be charged to the contractor	Place of issue
(1)	(2)	(3)	(4)	(5)
			<b>NIL</b>	

**SCHEDULE 'C'**

Tools and plants to be hired to the contractor

S.NO.	DESCRIPTION.	HIRE CHARGES
PLACE OF ISSUE		PER DAY
		<b>NIL</b>

**SCHEDULE 'D'**

Extra schedule for specific requirements/ documents for the work, if any.

1. Special Conditions -
2. Particular Specifications. -

**SCHEDULE 'E'**

1. Reference to General Conditions of contract: *General Conditions of contract for Central PWD Works 2020 as amended upto date correction slip (available on CPWD above websites).*
2. Name of Work: **“Construction and Provisioning for boundary wall fencing work at sewerage treatment plant and near old SAC building at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar”**
  - (i) Estimated Cost of work: **Rs. 25,77,453.96**
  - (ii) Earnest Money: **Rs. 51,549.00.00 (To be returned after receiving Performance guarantee)**
  - (iii) Performance Guarantee 3.00% of tendered value
  - (iv) Security Deposit 2.5% of tendered value



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### SCHEDULE 'F':

#### 3. General Rules & Directions:

(i) Officer Inviting Tender

**Registrar,  
Dr. B R Ambedkar National Institute of Technology,  
Jalandhar.**

(ii) Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with

Clauses 12.2 & 12.3

Refer Clause-12

#### 4 Definitions:

(i) Registrar

**Dr. B R Ambedkar NIT, Jalandhar  
Registrar, NIT, Jalandhar**

(ii) Accepting Authority

(iii) Percentage on cost of materials and labour to cover all overheads and profits

15%

(iv) Standard Schedule of Rates

**Delhi Schedule of Rates 2021** with upto date correction slips

V Department

Dr. B R Ambedkar NIT, Jalandhar

(vi) Standard CPWD Contract Form

**GCC 2020, Form 7** as amended upto the date of submission of bid.

#### Clause-1:

i. Time allowed for submission of Performance Guarantee Programme Chart (Time & Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance.

**07 days**

ii. Maximum allowable extension with late fee @0.1% per day of the performance guarantee amount beyond the period provided in (i) above

03 days



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## Clause-2:

Authority for fixing compensation under Clause 2

Director,NIT, Jalandhar

## Clause – 2A:

Whether clause-2A shall be applicable.

Not applicable

## Clause-5:

(i) Number of days from the date of issue of

10 days

letter of acceptance for reckoning date of start

(ii) Time allowed for execution of work

03 Months.

## Authority to decide

(iii) Extension of time for completion of work.

Registrar, Dr. B R Ambedkar National Institute of Technology, Jalandhar.

(iv ) Re-scheduling of Mile stone

Dean-PD, Dr. B R Ambedkar National Institute of Technology, Jalandhar.

(v) Shifting of date of start in case of delay in handing over of site.

Dean PD, NIT, Jalandhar.

## CLAUSE 5.1

The Contractor shall submit a Programme Chart (Time and Progress) for each mile stone alongwith performance guarantee & get it approved by the Department. The Chart shall be prepared in direct relation to the time stated in the contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-charge and the contractor within the limitations of time imposed in the contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per mile stones given in schedule "F".

## Clause-6, 6A:

Clause applicable- (6 or 6A):

Clause-6A (Computerized Measurement to be submitted by agency)

**Clause-7:** Gross work to be done togetherwith net Payment/ adjustment of advances for material collected If any, since the last such payment

Rs.2.50lacs



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**Clause-7A:**

Whether Clause 7A shall be applicable

Yes,

(No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Registrar.)

**Clause-10A:**

List of testing equipment to be Provided by the contractor at site lab.

Not applicable

**Clause-10-B (ii).**

Whether clause 10-B (ii) shall be applicable

Not applicable

**Clause-10C:-**

(i) Component of labour expressed as percent of total value of work for

Applicable (25%)

**Clause-10 CA:**

Not Applicable

S. No	Materials covered under this clause	Nearest Materials (other than cement, reinforcement bars and structural steel) for which All India Wholesale Price Index to be followed:	Base Price and its corresponding period of all the materials covered under clause 10 CA	
			*Base price (in Rs.) per MT	Corresponding period
1	Cement (PPC) Cement (OPC)	-----NA-----		
2	TMT Reinforcement bars Primary Producers only )			
3	Structural Steel			

The Base Price is excluding applicable Tax and Cartage from stock yard at site.

**CLAUSE 10 (CC)**

Whether Clause 10 (CC) shall be applicable

No

**Clause-11:** Specifications to be followed for execution of work

C.P.W.D. Specifications 2019 Vol. I & II with correction slips issued upto last date of submission of bid.

**Clause-12:** Type of Work:

Original work.

12.2 & 12.3 Deviation limit beyond which clause 12.2 & 12.3 shall apply for building work in superstructure.

30%



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- 12.5 (i) Deviation limit beyond which clause 12.2 & 12.3 shall apply for foundation works 50%
- (ii) Deviation limit for items in Earth work Sub-head of DSR or related items 100%

**Clause-16:** Competent Authority for deciding reduced rates. **Director, NIT, Jalandhar**

**Clause -17: Contractor liable for damages, Defects during defect liability period** **12 months**

**Clause-18:** List of mandatory machinery, tools & plants to be deployed by the contractor at site.

- |                                       |                              |
|---------------------------------------|------------------------------|
| 1. Concrete mixer with hopper – 1 No. | 2. Steel shuttering 10 sqm.  |
| 3. Bar Bending Machine - 1 No.        | 4. Needle Vibrators - 2 Nos. |
| 5. Welding machines – 1 No.           |                              |

**Clause-19:** The ESI and EPF contribution on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Registrar to the contractor on actual basis. **The applicable and eligible amount of EPF&ESI shall be reimbursed preferably within 7 days but not later than 30 days of submission of documentary proof of payment provided same are in order. The contractor shall also comply with provisions of the inter-state migrant workmen (Regulation of Employment and conditions of service Act, 1979).** **Applicable**

**Clause-25:**

Constitution of Dispute Redressal Committee (DRC)	Competent Authority to appoint DRC.
DRC shall constitute on Chairman and Two members	Director NIT Jalandhar

**CLAUSE 36 (i)**

**"Requirement of Technical Representative (s) and Recovery Rate"**

S. No.	Minimum Qualification of Technical Representatives	Discipline	Designation (Principal Technical/ Technical Representative)	Minimum Experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 36(i) per month
(a) Civil Work						





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1.	Graduate Engineer	(Civil)	Project manager cum planning/ quality/ site/ billing engineer	2 years	+	Rs. 25,000 P.M.	Rs. Twenty Five Thousand Per month
"OR"				5 years			
				Respectively			

**~~"Assistant Engineer retired from Government Services those are holding Diploma will be treated at par with Graduate Engineer".~~**

### CLAUSE 42

- (i) (a) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates *DSR 2021 with up-to-date correction slip.*
- (ii) Variations permissible on theoretical quantities
- (a) Cement for works estimated cost put to tender not more than Rs. 5 Lakhs 3 % plus/minus  
 estimated cost put to tender more than Rs. 5 Lakhs 2 % plus/minus
- (b) Bitumen for all works 2.5% plus only & nil on minus side
- (c) Steel reinforcement and structural steel section for each diameter, section and category 2% plus/minus
- (d) All other materials Nil.

### TABLE OF MILE STONE (S)

Name of Work:

Sl. No.	Description of Financial Milestone	Time Allotted (From date of start)	Amount to be withheld in case of non-achievement of milestone (% of Tended Amount)
1.	Work upto 1/8 <sup>th</sup> of the tendered amount	1/4 <sup>th</sup> (of the whole work)	In the event of not achieving the necessary progress as assessed from the running payments, 1% of the tendered value of work will be withheld for failure of each milestone.
2.	Work upto 3/8 <sup>th</sup> of the tendered amount	1/2 (of the whole work)	
3.	Work upto 3/4 <sup>th</sup> of the tendered amount	3/4 <sup>th</sup> (of the whole work)	
4.	Full Work Completed in all respect.	Full	



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## SPECIAL CONDITIONS

### 1. General

1.1 Except for the items, for which Particular Specifications are given or where it is specifically mentioned otherwise in the description of the items in the schedule of quantities, the work shall generally be carried out in accordance with the "C.P.W.D. Specifications 2019 Vol. I & II with correction slips issued up to last date of submission of bid. Additional/ Particular Specifications, Architectural/ structural drawings and as per instructions of [Engineer Incharge](#)

The several documents forming the tender are to be taken as mutually complementary to one another. Detailed drawings shall be followed in preference to small scale drawings and figured dimensions in preference to scaled dimensions.

Should there be any difference or discrepancy between the description of items as given in the schedule of quantities, particular specifications for individual items of work (including special conditions) and I.S. Codes etc., the following order of preference shall be observed:

- i. Description of Schedule of Quantities
- ii. Particular Specifications and Special Conditions, if any.
- iii. Drawings
- iv. C.P.W.D. Specifications 2019 Vol. I & II.
- v. Indian Standard Specifications of B.I.S.
- vi. NBC-2016
- vii. CPHEEO Sewage Manual
- viii. Manufacturers' specifications & as decided by [Dean Planning & Development](#).

"In the event of any variation/ discrepancy in the drawings, specifications and tender documents etc. the decision of the Registrar shall be final binding and conclusive on the contractor and in the case the contractor have any doubt and the same should be got clarified immediately from the Registrar and no claim of the contractor shall be entertained thereafter. Moreover, the agency is not allowed to take benefit out of any clerical/ grammatical mistake in the standard clauses/ Schedule of Quantities/ Specifications etc. being used in the agreement".

The works to be governed by this contract shall cover delivery and transportation upto destination, safe custody at site, insurance, erection, testing and commissioning of the entire works.

The works to be undertaken by the contractor shall interalia include the following:

- i. Preparation of detailed SHOP drawings and AS BUILT drawings wherever applicable.
- ii. Obtaining of Statutory permissions where-ever applicable and required.
- iii. Pre-commissioning tests as per relevant standard specifications, code of practice, Acts and Rules wherever required.
- iv. Warranty obligation for the equipment and/or fittings/fixtures supplied by the contractor.

Contractor shall provide all the shop drawings or layout drawings for all the coordinated services before starting any work or placing any order for any of the services etc. These shop drawings/layout drawings shall be got approved from [Registrar](#) before implementation and this shall be binding on the contractor. The contractor shall submit material submittals along with material sample for approval of [Registrar](#) prior to delivery of material at site.

- 1.2 Any reference made to any Indian Standard Specifications, shall imply to the latest version of that standard, including such revisions/ amendments as issued by the Bureau of Indian Standards upto last date of receipt of tenders. The Contractor shall keep at his own cost all such publications including relevant Indian Standard Codes applicable to the work at site.



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- 1.3 All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested before covering.
- 1.4 Samples including brand/ quality of materials and fittings to be used in the work shall be got approved from the Registrar, well in advance of actual execution and shall be preserved till the completion of the work.
- 1.5 Equipments like batching plant, concrete pumps excavators/ Transit mixers etc. shall be allowed to be moved away from the site when, in written opinion of Registrar, the same are no longer required at site of work.
- 1.6 The contractor, his authorized representative, workmen etc. shall strictly observe orders pertaining to fire precautions prevailing in the area.
- 1.7 Contractor(s) shall study the soil investigation report for the site, available in the office of the Registrar and satisfy himself about complete characteristics of soil and other parameters at site. However, no claim on the alleged inadequacy or incorrectness of the soil data supplied by the department shall be entertained.
- 1.8 The tenderer shall see the approaches to the site. In case any approach from main road is required at site or existing approach is to be improved and maintained for cartage of materials by the contractor, the same shall be provided, improved and maintained by the contractor at his own cost.
- 1.9 Contractor shall take all precautionary measures to avoid any damage to adjoining property. All necessary arrangement shall be made at his own cost.
- 1.10 The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night, speed limit boards, red flags, red lights and providing barriers. He shall be responsible for all damages and accidents caused to work due to negligence on his part. No hindrances shall be caused to traffic, during the execution of the work.
- 1.11 The contractor shall take instructions from the Registrar regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, compound wall, services etc are to be constructed.
- 1.12 The contractor shall provide at his own cost suitable weighing, surveying and leveling and measuring arrangements as may be necessary at site for checking. All such equipments shall be got calibrated in advance from laboratory, approved by the Registrar. Nothing extra shall be payable on this account.
- 1.13 Contractor shall provide permanent bench marks, flag tops and other reference points for the proper execution of work and these shall be preserved till the end of work. All such reference points shall be in relation to the levels and locations, given in the Architectural and plumbing drawings.
- 1.14 Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should conform to approved manufacturers specifications where C.P.W.D. Specifications 2019 Vol. I & II are not applicable. The contractor should get the materials (fixtures/fittings) tested from approved labs wherever required at his own cost.
- 1.15 The work shall be carried out in accordance with the Architectural drawings and Structural drawings, to be issued from time to time, by the Registrar. Before commencement of any item of work, the contractor shall correlate all the relevant architectural and structural drawings issued for the work, nomenclature of items, specifications etc. and satisfy himself that the information available there from is complete and unambiguous. The figures & the written dimensions of the drawing shall



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super cede the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Registrar for immediate decision before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement

of work on the basis of any erroneous and/ or incomplete information and no claim, whatsoever shall be entertained on this account.

- 1.16 The contractor should submit the shop drawing of staging and shuttering for approval of Registrar before actually commencing the execution of work under the item. Nothing extra shall be payable on this account.
- 1.17 Other agencies may also simultaneously execute and install the works and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings, trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be available as specified elsewhere in the contract) and the contractor shall fix the same at the time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.
- 1.18 All material shall only be brought at site as per program finalized with the Engineer Incharger. Any pre- delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.
- 1.19 The contractor shall procure the required materials in advance so that there is sufficient time for testing of the materials and approval of the same before use in the work.
- 1.20 Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services. In case temporary supporting of such services is required to facilitate the work, the same shall be done by the contractor at no extra cost.  
  
In case the existing services are to be shifted permanently, then before dismantling the existing services, alternate/diversion of service lines has to be laid by the contractor so that there is no interruption in use of existing services. The contractor has to plan the alternate suitable route for diversion/shifting of service lines and get the same approved from the Registrar before starting shifting of services. Nothing extra shall be paid except the payment of dismantling and laying of new service lines as per conditions of contract.
- 1.21 The contractor shall be responsible for the watch and ward/ guard of the buildings, safety of all fittings and fixtures including sanitary and water supply fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the client department. No extra payment shall be made on this account.
- 1.22 The contractor shall be fully responsible for the safe custody of materials brought by him/ issued to him even though the materials may be under double lock key system.
- 1.23 For construction works which are likely to generate malba/ rubbish, contractor shall dispose of malba, rubbish & other unserviceable materials and wastes at his own cost to the notified specified dumping ground and under no circumstances these shall be stacked/ dumped even temporarily, outside the construction premises.
- 1.24 The rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work, profile, establishment of reference bench mark(s), taking spot levels, construction of all safety and protection devices, barriers, preparatory works, working during monsoon, working at all depths, height, lead, lift and location etc until/ unless specified otherwise and any other incidental works required to complete this work. Nothing extra shall be payable on this account.



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1.25 For works below ground level the contractor shall keep that area free from water. If dewatering or bailing out of water is required the contractor shall do it and nothing extra shall be paid except otherwise provided in the items of schedule of quantities.

1.26 ----Deleted----

Any legal or financial implications resulting out of disposal of earth shall be sole responsibility of the contractor. Nothing extra over the schedule shall be paid on this account.

The Contractor shall keep himself fully informed of all acts and laws of the Central & State Governments, all orders, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye-laws laid down by Collector/ MC, LAWDA etc. and any other statutory bodies shall be adhered to, by the contractor, during the execution of work. The Contractor shall also adhere to all traffic restrictions notified by the local authorities. It is clarified that the extra sewerage charges (one time charges for commencement of work) required to be paid to the Municipal Corporation/ other statutory bodies shall be paid by the department and need not be considered by the contractor. The water charges (for municipal water connection as well as tanker water) shall be borne by the contractor. Also, if the contractor obtains water connection for the drinking purposes from the municipal authorities or any other statutory body, the consequent sewerage charges shall be borne by the contractor. All statutory taxes, levies, charges (including water and sewerage charges, charges for temporary service connections and/ or any other charges) payable to such authorities for carrying out the work, shall be borne by the Contractor. The Contractor shall arrange to give all notices as required by any statutory / regulatory authority and shall pay to such authority all the fees that is required to be paid for the execution of work. He shall protect and indemnify the Department and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts. The fee payable to statutory authorities for obtaining the various permanent service connections and Occupancy Certificate for the building shall be borne by the Department.

Royalty at the prevalent rates shall be paid by the Contractor as per the terms of supply between them on all materials such as boulders, metals, sand and bajri etc. collected by him for the execution of the work, directly to the revenue authority of the state government concerned. Nothing extra shall be payable on this account.

No foreign exchange shall be made available by the Department for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.

The Contractor shall conduct his work so as not to interfere with or hinder the progress of the work being performed by other Contractors or by the Registrar. As far as possible, he shall arrange his work and place, so as not to interfere with the operations of other Contractors or shall arrange his work with that of the others, in an acceptable and coordinated manner and shall perform it in proper sequence.

The Contractor shall assume all liability, financial or otherwise in connection with this contract and shall protect and indemnify the Department from any and all damages and claims that may arise on any account. The Contractor shall indemnify the Department against all claims in respect of patent rights, royalties, design, trademarks of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the Department in all respect from such actions, costs and expenses. Nothing extra shall be payable on this account.

The Contractor shall make all necessary arrangements for protecting from rains, the work already executed and for carrying out the further work, during monsoon including providing and fixing temporary shelters, protections etc. Nothing extra shall be payable on this account. Also, no claims for hindrance shall be entertained on this account.

In case of flooding of site on account of rain or any other cause and any consequent damage, whatsoever, no claim financially or otherwise shall be entertained notwithstanding any other provisions elsewhere in the





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contract agreement. Also, the Contractor shall make good, at his own cost, the damages caused, if any.

The Contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupants of the adjacent properties and to the public in general. The Contractor shall take all care, as not to damage any other adjacent property or other services running adjacent to the plot. If any damage is done, the same shall be made good by the Contractor at his own cost and to the entire satisfaction of the Registrar. The Contractor shall use such methodology and equipments for execution of the work, so as to cause minimum environmental pollution of any kind during construction, to have minimum construction time and minimum inconvenience to road users and to the occupants of the buildings on the adjacent plot and public in general, etc. He shall make good at his own cost and to the entire satisfaction of the Engineer in Charge any damage to roads, paths, cross drainage works or public or private property whatsoever caused, due to the execution of the work or by traffic brought thereon, by the Contractor. Further, the Contractor shall take all precautions to prevent any pollution of streams and waterways. All waste or superfluous materials shall be carted away by the Contractor, entirely to the satisfaction of the Registrar. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants/ users of adjoining buildings. No claim whatsoever on account of site constraints mentioned above or any other site constraints not specifically stated here, shall be entertained from the Contractor. Therefore, the Contractors are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. Nothing extra shall be payable on this account.

All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, barricading, testing facilities/ laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Registrar), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Registrar, a site/ construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement and other storage, steel fabrication yard, site laboratory, water tank, etc.

The Contractor shall display all permissions, licenses, registration certificates, bar charts, other statements etc. under various labour laws and other regulations applicable to the works, at his site office.

No tools and plants including any special T&P etc. shall be supplied by the Department and the Contractor shall have to make his own arrangements at his own cost. No claim of hindrance (or any other claim) shall be entertained on this account.

The Contractor shall cooperate with and provide the facilities to the associate-Contractors and other agencies working at site for smooth execution of the work. The Contractor shall

- i. Allow use of scaffolding already erected, toilets, sheds etc.
- ii. Properly co-ordinate their work with the work of other Contractors.
- iii. Provide control lines and benchmarks to his associate-Contractors and the other Contractors.
- iv. Provide electricity and water at mutually agreed rates.
- v. Provide hoist and crane facilities for lifting material at mutually agreed rates.
- vi. Co-ordinate with other Contractors for leaving inserts, making chases, alignment of services etc. at site.
- vii. Adjust work schedule and site activities in consultation with the Registrar and other Contractors to suit the overall schedule completion.
- viii. Resolve the disputes with other Contractor amicably and the Registrar shall not be made intermediary or arbitrator. The contractor shall indemnify the Department against any claim(s) arising out of such disputes.

On completion of work, the contractor shall submit at his own cost four prints of "as built" drawings of the completed work to the Registrar. These drawings shall have the following information.



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- a) Run off of all piping and their diameters including soil, waste pipes and vertical stacks.
- b) Ground and invert level of all drainage pipes together with locations of all manholes and connections, upto out fall.
- c) Run off of all water supply lines with diameters, location of control valves, access panels etc.

### **2.0 Unless otherwise specified in the schedule of quantities or C.P.W.D. Specifications 2019 Vol. I & II, the rates for respective items shall be all inclusive and apply to the following:**

- i. All lifts & all heights, floors including terrace, leads and depths.
- ii. All labour, material, tools and plants and other inputs involved in the execution of the item.
- iii. Any of the conditions and specifications mentioned in the tender documents.
- iv. Providing sunk flooring in bath-rooms, kitchen, etc.
- v. Any legal or financial implications resulting out of disposal of earth, if any.
- vi. Payment of Royalty at the prevailing rates, if any, on the boulders, metal, shingle, sand and bajri etc. or any other material collected by him for the work direct to revenue authorities.
- vii. Performance test of the entire installation(s) before the work is finally accepted.
- viii. Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been built in the items.
- ix. All incidental charges for cartage, storage and safe custody of materials brought to site
- x. All local taxes, Entry taxes, and all other taxes of J&K State government and central taxes.

### **3.0 QUALITY ASSURANCE/TESTING OF MATERIALS:**

#### **3.1 TESTING OF MATERIAL:**

3.1.1 Samples of materials required for testing shall be provided free of charge by the contractor. The cost of test shall be borne by the contractor/ department in the manner indicated below: -

- a) By the contractor, if the results show that the material does not conform to relevant specifications.
- b) By the department, if the results show that the material conforms to relevant specifications.

All other expenditure required to be incurred for taking samples; conveyance, packing etc. shall be borne by the contractor himself.

- c) All the test in field lab setup at construction site shall be carried out by the Engineering Staff deployed by the contractor which shall be 100% witnessed by JE & 50% of tests shall be witnessed by AE –in-charge. At least 10% of the tests are to be witnessed by the EE/ SE division office.
- d) All the entries in the registers will be made by the designated Engineering staff of the contractor and same should be regularly reviewed by JE/AE/EE/SE division office.
- e) Contractor shall be responsible for safe custody of all the test registers.
- f) Submission of copy of all test registers, materials at Site Register and Hindrance Register along with each alternate Running Account Bill and Final Bill shall be mandatory. These registers should be duly checked by AE(P) in Division Office & receipts of registers should also be acknowledged by Accounts Officer by signing the copies and register to confirm receipt in division office.
- g) Extensive testing of the materials used for construction is a pre-requisite for attaining high quality of the work. This shall also require specialized tests, physical, chemical, ultrasonic, x-ray and various other types of tests which cannot possibly be carried out in a site laboratory. These tests also require specialized personal who regularly deal in such testing. Therefore the need arises for carrying out the tests in outside laboratories. These laboratories may be in the Govt. sector, Semi Govt. or Private sector. The outside private laboratories shall be short listed before handed by EE and approval obtained from SE. In case of laboratories in the private sector, the past record and reputation of the laboratory must invariably be given due consideration. The infrastructure in these laboratories can also be inspected before they are short listed.

However, testing of material in any Govt., Lab/ Public Undertaking Lab/ IIT or NIT Lab/ Govt. Engineering



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College may be allowed by Executive Engineer Jalandhar without prior approval of Superintending Engineer or higher officers provided these labs have all necessary facility to carry out the required tests.

3.2 However, if any ultrasonic pulse velocity/ load testing or special testing is to be done for concrete whose strength is doubtful, the cost of the same shall be borne by the contractor.

3.3.1 In case there is any discrepancy in frequency of testing as given in list of mandatory tests and that in individual sub-heads of work as per CPWD Specifications higher of the two frequencies of testing shall be followed and nothing extra shall be payable on this account.

### 3.4 FIELD LABORATORY

The contractor has to establish field laboratory at site including all necessary equipments and skilled manpower for the **Field Tests** at his own cost to have proper quality control.

For performing the above tests, the **Field Testing Equipment's and Instruments** are to be arranged and maintained by the contractor.

3.5. The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material/ work beyond set-out tolerance limit shall be summarily rejected by the Engineer-in-Charge & contractor shall be bound to replace/ remove such sub-standard / defective work immediately.

3.6 The list of Laboratory/ Field equipment referred above are to be arranged and maintained by the contractor at the site of work. In case the equipment required for any test is not available at site, the department shall get the test conducted from the third party. However in that event, besides providing free materials of sample, the cost of taking of sample, packing, transportation, testing charges etc. shall be borne by the contractor irrespective of the results.

### 4.0 SECRECY

4.1 The contractor shall take all steps necessary that all persons employed on any work in connection with the contract have notice that the Indian Official Secrets Act 1923 applies to them & will continue so to apply even after the execution of such works under the contract.

4.2 The contract is confidential and must be strictly confined to the contractor's own use (except so far as confidential disclosure to sub-contractors or suppliers as necessary) and to the purpose of the contract.

4.3 All documents, copies thereof & extracts there from furnished to the contractor shall be returned to the Engineer-in-Charge on the completion of the work / works or the earlier determination of the contract.

### 5.0 SAMPLE OF MATERIALS:

a) All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Registrar which shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Registrar. Wherever brand/ quality of material is not specified in the item of work, the contractor shall submit the samples as per List of Approved Makes for approval of Registrar. For all other items, ISI Marked materials and fittings shall be used with the approval of Registrar. Wherever ISI Marked material/ fittings are not available, the contractor shall submit samples of materials/ fittings manufactured by firms of repute conforming to relevant Specifications or IS codes for the approval of Registrar.

b) To avoid delay, contractor should submit samples as stated above well in advance so as to give timely orders for procurement. If any material, even though approved by Registrar is found defective or not conforming to specifications shall be replaced/ removed by the contractor at his own risk & cost.

c) BIS marked materials except otherwise specified shall also be subjected to quality test besides testing of other materials as per the specifications described for the item/material. Wherever BIS marked materials are brought to the site of work, the contractor shall, furnish manufacturer's test certificate or test





## Dr B R AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY

G T Road By Pass, Jalandhar-144011, Punjab (India)

EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

certificate from approved testing laboratory to establish that the material procured by the contractor for incorporation in the work satisfies the provisions of specifications relevant to the material and/ or the work done.

BIS marked items (except cement & steel for which separate provisions have been made in para 4.0) required on the work shall be got tested, for only important tests, which govern the quality of the product, as decided by the [Registrar](#). The frequency of such tests (except the mandatory test) shall be 5% of the frequency as specified in BIS. For mandatory test, frequency shall be as specified in the [NIT, Jalandhar Specifications](#).

- d) For certain items, if frequency of tests is neither mentioned in the [NIT, Jalandhar Specifications](#) & BIS, then tests shall be carried out as per decision of [Registrar](#).

### 5.1 CEMENT & STEEL REINFORCEMENT (IF NOT STIPULATED TO BE SUPPLIED BY THE CONTRACTOR).

Contractor has to produce manufacturers test certificate and challan for each lot of Cement & Steel Reinforcement procured at site.

### 5.2 CEMENT:

**5.2.1** The contractor shall procure 43 grade ordinary Portland Cement conforming to IS: 8112/ Portland Pozzolona Cement conforming to IS: 1489 (Part-1) as required in the work from reputed manufacturers of cement as mentioned in Preferred Make List or from any other reputed Cement Manufacturer having a production capacity not less than one million ton per annum as approved by the Director NIT Jalandhar.

**5.2.2** Samples of cement arranged by the contractor shall be taken by the [Registrar](#) and got tested in accordance with provisions of relevant BIS Codes. The cement for such testing purpose shall be supplied by the contractor free of charge. In case test results indicate that the cement arranged by the contractor does not conform to the relevant BIS Codes, the same shall stand rejected and shall be removed from the site by the contractor at his own cost within a week's time of written order from the [Registrar](#) to do so. The cost of tests shall be borne by the contractor/department in the manner indicated below:

**5.2.2.1** By the contractor, the results show that the cement conforms to relevant BIS Codes.

**5.2.3** Cement shall be brought at site in bulk supply of approximately 100 tonnes or as decided by the [Registrar](#).

**5.2.4** OPC & PPC bags shall be stored in separate godowns. Separate godowns for tested cement and fresh cement (under testing) to be constructed by the contractor at his own cost as per sketches given in C.P.W.D Specifications having weather-proof roofs and walls. The size of the cement godown is indicated in the sketches for guidance. The actual size of godown shall be as per site requirements and nothing extra shall be paid for the same. Each godown shall be provided with a single door with two locks. The keys of one lock shall remain with [Registrar](#) or his authorized representative of the work and that of other lock with the authorized agent of the contractor at the site of work so that the cement is issued from godown according to the daily requirement with the knowledge of both parties. The account of daily receipt and issue of cement shall be maintained in a register in the prescribed proforma and signed daily by the contractor or his authorized agent and [Registrar](#) or his authorized representative in token of its correctness. The day to day receipt and issue accounts of different grade/brand of cement shall be maintained separately in the standard proforma by the contractor or his authorized representative which shall be duly signed by the authorized representative of the [Registrar](#) before issue to the work on day to day basis.

**5.2.5** Four separate cement godowns each having capacity of 50 MT or more as decided by the [Registrar](#) shall be constructed by the contractor at site of work for which no extra payment shall be made. The contractor shall be responsible for the watch and ward and



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EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

safety of the cement go-downs. The contractor shall facilitate the inspection of the cement go-downs by the [Registrar](#) at any time.

- 5.2.6** The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in Clause-42 of the contract and shall be governed by the conditions laid therein.
- 5.2.7** If the quantity of cement actually used in the work is found to be more than the theoretical quantity of cement including authorized variation, nothing extra shall be payable to the contractor on this account. In the event of it being discovered that after the completion of the work, the quantity of cement used is less than the quantity ascertained as herein before provided (allowing variation on the minus side as stipulated in Clause-42), the cost of quantity of cement not so used shall be recovered from the contractor as specified in schedule. Decision of the Registrar in regard to theoretical quantity of cement which should have been actually used as per the schedule and recovered at the rate specified, shall be final and binding on the contractor.
- 5.2.8** For non-scheduled items, the decision of the [Registrar, Dr. B R Ambedkar National Institute of Technology, Jalandhar](#) regarding theoretical quantity of the cement, which should have been actually used, shall be final and binding on the contractor.
- 5.2.9** Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of the [Registrar](#).
- 5.2.10** In case the contractor brings surplus quantity of cement the same shall be removed from the site after completion of work by the contractor at his own cost after approval of the [Registrar](#).
- 5.2.11** Cement, which is not used within 90 days from its date of manufacture, shall be retested at approved laboratory. Until the results of such tests are found satisfactory, it shall not be used on the work.

### 5.3 Special Conditions for Steel Reinforcement:

**5.3.1** The contractor shall procure IS Marked TMT Bars of Fe 500D grade from the following Steel Manufacturer or their authorized dealers:

- i. SAIL
- ii. Rashtriya Ispat Nigam Ltd.
- iii. Tata Steel Ltd.
- iv. Jindal Steel & Power Ltd.
- v. JSW Steel Ltd.

The procured steel should have following qualities:

- a. Excellent ductility, bend ability and elongation of finished product due to possible refining technology.
- b. Consumption of steel should be accurate as per design.
- c. Steel should have no brittleness problem in finished product.
- d. Steel should carry the quality of corrosion & earth quake resistance.
- e. Quality steel with achievement of proper level of sulphur & phosphorus as per IS: 1786-2008.

**5.3.2** The contractor shall have to obtain and furnish test certificates to the [Registrar](#) in respect of all supplies brought by him to the site of work.

**5.3.3** Samples shall also be taken and got tested by the [Registrar](#) as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications, the same shall stand rejected, and it shall be removed from the



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EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

site of work by the contractor at his cost within a week time or written orders from the [Registrar](#) to do so.

- 5.3.4** The steel reinforcement bars shall be brought to the site in bulk supply of 10 tonnes or more or as decided by the [Registrar](#).
- 5.3.5** The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion and nothing extra shall be paid on these accounts. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
- 5.3.6** For checking nominal mass, tensile strength, bend test, rebend test etc. specimens of sufficient length shall be cut from each size of the bar at random & at frequency not less than that specified below:

SIZE OF BAR	FOR CONSIGNMENT BELOW 100 TONNES	FOR CONSIGNMENT OVER 100 TONNES
Under 10 mm dia	One sample for each 25 tonnes or part thereof.	One sample for each 40 tonnes or part thereof
10 mm to 16 mm dia	One sample for each 35 tonnes or part thereof.	One sample for each 45 tonnes or part thereof
Over 16 mm dia	One sample for each 45 tonnes or part thereof	One sample for each 60 tonnes or part thereof

- 5.3.7** The contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. The cost of tests shall be borne by the contractor.
- 5.3.8** The Actual issue and consumption of steel on work shall be regulated and proper account maintained as provided in Clause-10 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in Clause-42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variation, recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment need to be made.
- 5.3.9** Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the [Registrar](#).
- 5.3.10 Deleted.**
- 5.3.11** The contractor shall submit original vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be incorporated in the work. All consignment received at the work site shall be inspected by the Site staff along with the relevant documents before acceptance. The contractor shall obtain Original Vouchers and Test Certificates and furnish the same to the [Registrar](#) in respect of all the lots of steel brought by him from approved supplier to the site of work. The original vouchers and test certificates shall be defaced by the Site staff and kept on record in the site office.
- 5.3.12** Reinforcement including authorized spacer bars and lap pages shall be measured in length of different diameters as actually (not more than as specified in the drawings) used in the work nearest to a centimetre. Wastage and unauthorized overlaps shall not be measured.
- 5.3.13** The standard sectional weights referred to as in Table 5.4 in para 5.3.4 in [NIT, Jalandhar](#) Specifications will be considered for conversion of length of various sizes of M.S. Bars, Steel Bars and T.M.T. bars into Standard Weight.
- 5.3.14** Records of actual Sectional weights shall also be kept dia-wise and lot-wise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The decision of the [Registrar](#) shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work



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each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the actual weighted average sectional weight shall be termed as Derived Actual Weight. However for the stipulated issue of steel reinforcement up to and including 10mm diameter bars, the actual weight of steel issued shall be modified to take into account the variation between the actual and the standard coefficients and the contractors' accounts will be debited by the cost of modified quantity.

- (a) If the Derived Weight as in sub-para (4.3.13) above is less than the Standard Weight as in Sub-para (4.3.12) above then the Derived Actual Weight shall be taken for payment provided, it is within the following tolerances specified in IS1786-2008, otherwise whole lot will be rejected.

### Tolerances on Nominal Mass

Nominal Size in mm	Tolerance on Nominal mass Percent		
	Batch	Individual sample*	Individual sample for coil**
Upto and including 10	+7	-8	+8
Over 10 upto and Including 16	+5	-6	+6
Over 16	+3	-4	+4

\* For individual sample plus tolerance is not specified.

\*\*For coils batch tolerance is not specified.

- b) If the Derived Actual Weight is found more than the Standard Weight, the Standard Weight as per in sub-para (4.3.13) above shall be taken for payment. In such case nothing extra shall be paid for the difference between the Derived Actual Weight and the Standard Weight.

## 6.0 SECURITY

- 6.1** The contractor shall take all steps necessary that all persons employed on any work in connection with the contract have notice that the Indian Official Secrets Act-1923 applies to them & will continue so to apply even after the execution of such works under the contract.
- 6.2** The contract is confidential and must be strictly confined to the contractor's own use (except so far as confidential disclosure to sub-contractors or suppliers as necessary) and to the purpose of the contract.
- 6.3** All documents, copies thereof & extracts there from furnished to the contractor shall be returned to the [Registrar](#) on the completion of the work/ works or the earlier determination of the contract.

## 7.0 LABOUR AND SECURITY

- 7.1** Contractor should provide his plan for labour huts as per his requirement and get it approved from the [Registrar](#). The contractor will be provided space for labour huts etc. inside the campus but the space requirement and location, as assessed by [Registrar](#) shall be final and binding.
- 7.2** Contractor has to follow the security requirement of the campus and obtain necessary entry passes for the labour and vehicles and follow security checks at entry/ exit gates, restriction on movement of vehicle, restricted timings of working etc. The Department however shall assist the contractor in obtaining such passes for movement of vehicles and labour. No claim whatsoever shall be entertained on account of delay in entry of vehicles and labour including restrictions in working hours, if there is any.
- 7.3** The contractor shall employ only Indian Nationals after verifying their antecedents and loyalty. The contractor shall, on demand submit list of his agents, employees and work people concerned & shall satisfy as to the bonafides of such people.



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G T Road By Pass, Jalandhar-144011, Punjab (India)

EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

- 7.4** The contractor & his work people shall observe all relevant rules regarding security promulgated in which work is to be carried out by the Controlling Administrative Authority of the campus/area (hereinafter referred to as "Administrator").
- 7.5** The contractor, his representative, workman shall be allowed to enter through specified gates & timing as laid down by the controlling authority. They shall be issued an identity card or an individual pass in accordance with the standing rules & regulations & they should possess the same while working. The contractor shall be responsible for the conduct & actions of his workmen, agents/ representatives.
- 7.6** Normally contractor shall be allowed to carry out work between 7 AM to 6 PM. However, he may also be allowed to carry out the work beyond 6 PM & upto 7 AM if the site conditions/ circumstances so demand with prior written permission from the "Administrator". However, if the work is carried out in more than one shift or at night, no claim on this account shall be entertained.
- 7.7** Normally contractor's material/ vehicles etc shall be allowed to move in/ go-out between 7 AM to 7 PM only & no movement of material/ vehicles out of site of work shall be allowed during night hours unless specific permission is obtained from the "Administrator".
- 7.8** In case if a separate entry has been allowed, the contractor has to make all arrangement for making a separate entry gate and barricading of the working area to segregate/separate the same from other areas. All these have to be done by the contractor at his own cost including safeguarding any untoward incident in the restricted area due to separate entry gate and barricading arranged by the contractor. No extra amount on this account shall be payable by the department.

### 8.0 TRANSPORTATION AND OFFICE INFRASTRUCTURE:

- 8.1** In order to complete the work within the scheduled time if the contractor shall be required to do the work in more than one shift and accepted by the department the contractor will provide vehicular facilities to the [NIT, Jalandhar](#) site staff to reach the site and their residence at his own cost for their services required beyond the normal office hours. In case the contractor fails to provide the facilities [Registrar](#) shall be at liberty to make the arrangement themselves and deduct the respective cost from the contractor's bills.
- 8.2** The contractor shall make arrangement for Helmets and leather shoes (meant of construction work at sites) for all field staff of the department during the entire period of construction for safety reasons. One helmet and two pairs of shoes per staff member (maximum ten members) of the departments per year shall be arranged by the contractor.

### 9.0 DOCUMENTATION

The Contractor shall render all help and assistance in documenting the total sequences of this project by way of photography, slides, audio/ video recording & other records etc. Nothing extra shall be payable to Contractor on this account. However, cost of photographs, slides, audio/ video graph etc. shall be borne by the Department. The original films shall be the property of the Department. No copy shall be prepared without the prior approval of the [Registrar](#).

### 10.0 PROGRAM CHART:

**10.1** The Contractor shall prepare an integrated program chart for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfilment of the program within the stipulated period or earlier and submit the same for approval of the [Registrar](#) within 15 days of the issue of letter of acceptance for the contract. This program chart should clearly indicate that work will simultaneously be started on all different locations of Class rooms and hostels. The integrated program chart so submitted should not have any discrepancy with the milestones attached in the Contract Agreement.

**10.2** The program chart should include the following:



## Dr B R AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY

G T Road By Pass, Jalandhar-144011, Punjab (India)

EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

- 10.2.1** Descriptive note explaining sequence of various activities.
- 10.2.2** Network (PERT/ CPM/ BAR CHART) prepared on MS project which will indicate resources in financial terms, manpower and specialized equipments for every important stage.
- 10.2.3** Program for procurement of materials by the contractor.
- 10.2.4** Program of procurement of machinery/ equipments having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor.
- 10.3** If at any time, it appears to the Registrar that the actual progress of work does not conform to the approved program referred above, the contractor shall produce a revised program showing the modifications to the approved program by additional inputs to ensure completion of the work within the stipulated time.
- 10.4** The submission of revised program or approval by the Registrar of such program or the furnishing of such particulars shall not relieve the contractor of any of his duties or responsibilities under the contract. This is without prejudice to the right of Registrar to take action against the contractor as per terms and conditions of the agreement.

Notwithstanding the fact that the contractor will have to pay to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour regulations and the agreement entered upon and/or extra amounts for any other reason.

### 11.0 PROGRESS AND MONITORING OF WORK:

Apart from the above integrated program chart, the contractor shall be required to submit monthly progress report of the work in a computerized form. The progress report shall contain the following, apart from whatever else may be required as specified:

- i. Construction schedule of the various components of the work through a bar chart for the next three quarters (or as may be specified), showing the milestones, targeted tasks and up to date progress.
- ii. Progress chart of the various components of the work that are planned and achieved, for the month as well as cumulative up to the month, with reason for deviations, if any in a tabular format.
- iii. Plant and machinery statement, indicating those deployed in the work.
- iv. Man-power statement, indicating individually the names of all the staff deployed on the work, along with their designations.
- v. Financial statement, indicating the broad details of all the running account payment received up to date, such as gross value of work done, advances taken, recoveries effected, amount withheld, net payments details of cheque payment received etc.





## Dr B R AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY

G T Road By Pass, Jalandhar-144011, Punjab (India)

EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, notwithstanding the fact that the Contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them.

The work should be planned in a systematic manner so that chase cuttings in the walls, ceilings and floors is minimized. Wherever absolutely essential, the chase shall be cut using chase cutting machines. Chases will not be allowed to be cut using hammer/ chisel. The electrical boxes should be fixed in walls simultaneously while raising the brick work. The contractor shall ensure proper co-ordination of various disciplines viz. building works, sanitary & water supply & electrical installations etc.

The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Registrar and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of Registrar.

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

All material shall only be brought at site as per program finalized with the Registrar. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.

### 12.0 ENGAGING SPECIALIZED AGENCIES FOR WORKS:

**12.1** The Contractor shall engage specialized agencies having adequate technical capability and experience of having executed at least one work of similar items of 80% or more magnitude or two works of similar items of value minimum 60% individually for executing the following items of the work and/or any other items of work where specialized firm is required to be engaged as per contract conditions. For determining the required magnitude, the value of the work executed may be suitably enhanced with the prevailing approved cost index.

**12.1.1** Anti Termite treatment work.

**12.1.2** Factory made Wooden Shutters of all types except Flush Doors.

**12.1.3** Water proofing treatment work of all types.

**12.1.4** Aluminium Work

**12.1.5** Fabrication and erection of structural steel.

**12.1.6** Aluminium semi unitized/Curtain wall four way structural glazing/Aluminium composite panel cladding.

**12.1.7** All type false ceilings.

**12.1.8** Galvalume/ aluminum roofing sheet Double skin insulated system

**12.1.9** Plumbing works.

**12.1.10** Fire rated doors.



## Dr B R AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY

G T Road By Pass, Jalandhar-144011, Punjab (India)

EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

- 12.2** The Specialized agency for the work shall be got approved from the Registrar well before actual commencement of the item of work. The contractor shall submit the list of specialized agencies except for Internal Electrical Installation, proposed to be engaged by him along with necessary performance certificates, within 30 days from the date of issue of acceptance letter to substantiate technical capability and experience of the agency for prior approval of the Registrar.
- 12.3** For Electrical work as contained in the Electrical component work under Part C, the Electrical Agency to be engaged as an associate electrical contractor for the Internal E.I/External E.I work should be enlisted contractor of CPWD appropriate class as per the value of the work. The firm will be required to submit the credentials of the associate electrical contractor including their registration documents, electrical contractor license, sales tax documents apart from submission of the MOU.
- 12.4** If the main contractor fails to associate agency/agencies for execution of minor components of work within prescribed time or furnishes incomplete details or furnishes details of ineligible agencies even after the tenderer is given due opportunity, the entire scope of such component of works shall be withdrawn from the tender and the same shall be got executed by the Registrar at the risk and cost of the main contractor.
- 12.5** Same milestones shall be applicable for all components of work.
- 12.6** For the specialized item of door & window fittings, water supply and sanitary installations; the contractor shall engage such vendors/installers as approved by the manufacturers. Provisions mentioned under Sr. No. 11.1 above shall not be applicable for the items mentioned herein above.

### 13.0 Defect liability:

- 13.1** The contractor's liability during the defect liability period from the final date of completion as per clause 17 shall be limited to rectification of defects including replacement as follows which in the opinion of Registrar are not manmade.

Sl. No.	Description	Defect Liability
(i)	Ant termite treatment.	(a) Termites found if any till guarantee period to be rectified through post ATT.
(ii)	Concrete	Rectification of structural/ superficial/ non-structural cracks. Rectification of dampness/ seepage in roof slab/ junctions & sunken portion. Rectification of cracks in beam, shade, column.
(iii)	Brick work/ Concrete Block Masonry	Rectification of cracks in panel wall/ portion. Cracks/ settlement of dwarf walls. Rectification of efflorescence/ leaching.
(iv)	Joinery	Replacement of warped joinery. Cracks in panels, rails/ styles etc.
(v)	Builders Hardware	Repairs/ Replacement of loosened / pre-mature failure of fittings. Tightening/ Replacement of sag in mosquito proofing.
(vi)	Steel & Iron work	Rectification/ Replacement of defective part of rolling shutter. Redoing of defective portion in fabrication/ welding including painting. Steel windows, grills, gates etc. – defects to be rectified.
(vii)	Roof treatment	Rectification of leakage/ seepage of roof slab including covering at junction till guarantee period.
(viii)	Plastering	Rectification of structural/ superficial cracks if any. Rectification of protruding / peeling off plaster if any. Rectification of efflorescence





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G T Road By Pass, Jalandhar-144011, Punjab (India)

EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

Sl. No.	Description	Defect Liability
(ix)	Flooring	Rectification of sinking portion of plinth protection including saucer drain. Settlement of foundation & floors, hollow sounding, cracks in tiles/stones.
(x)	Plumbing / Sanitary fittings	Making good of leakage through soil / waste pipe joints. Replacement of looking mirror if found wavy. Rectification of leakage of overhead tanks. Leakage/ seepage of sunken floor, blockage of taps/ pipes, non-functioning of cistern.
(xi)	Finishes	Making good of defective/ dissimilar patches of painting to match with remaining surfaces, peeling of paint.
(xii)	Internal Water Supply	Repairs/ Replacement of defective taps/ fittings. Repair to leakage of GI water pipe lines including joints. Removal of blockage of GI pipe lines.
(xiii)	Roads	Repair of sunken portion of road & potholes, if any
(xiv)	Sewage	Rectification of slope/ system if found defective during use. Rectification of major blockage in Sewer lines. Cracks & settlement of sewage lines.
(xv)	Drains	Repair to Drains. Settlement of Drains
(xvi)	External Water Supply	Repairs to installations & fittings.
(xvii)	General	All manufacturing defects of structures/ fixtures/ fittings/ equipments other than listed above including any defects of shrinkage or other faults that appear in the work within twelve months after a certificate of its completion is given by the Registrar shall be rectified by the contractor.

This list is not exhaustive but it is only indicative.

### 14.0 SAFETY MEASURES

Contractor shall take all precautionary measures to avoid any damage to adjoining property. All necessary arrangement shall be made at his own cost.

### 15.0 Warning/ Caution Boards

All temporary warning/ caution boards/ glow signage display such as "Construction Work in Progress", "Keep Away", "No Parking", Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Registrar. These glow signage and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Registrar. Nothing extra shall be payable on this account.

### 16.0 Sign Boards

The Contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Registrar. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, client/ owner, architects, structural consultants, Department etc. besides providing space for names of other Contractors, Associate contractors and specialized agencies. Nothing extra shall be payable on this account.



## Dr B R AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY

G T Road By Pass, Jalandhar-144011, Punjab (India)

EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

Necessary protective and safety equipments shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor by the Contractor at his own cost and used at site.

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

Special condition for Hardware and sanitary wares:

**Registrar** will take a decision regarding model numbers of equivalent Door/ window hardwares/ sanitary wares at the time of execution, in case the material, from the manufacturer whose model number is mentioned, is not available. However, in case, the equivalent model so approved, is cheaper than the model already mentioned in item/approved makes list, the price adjustment will be made based on the difference in market rate. In case, the rate of subsequently approved model is more, no extra payment will be made on this account.”

### 17.0 ADDITIONAL CONDITIONS OF CONTRACT SPECIFIC TO GREEN BUILDING PRACTICES

The contractor shall strictly adhere to the following conditions as part of his contractual obligations:

#### 17.1 SITE

The contractor shall ensure that adequate measures are taken for the prevention of erosion of the topsoil during the construction phase.

The Contractor should follow the construction plan as proposed by the **Registrar** to minimize the site disturbance such as soil pollution due to spilling.

No excavated earth shall be removed from the campus unless suggested otherwise by **Registrar**. All subsoil shall be reused in backfilling/landscape, etc. as per the instructions of the **Registrar**. The surplus excavated earth shall be disposed of by the contractor at his own cost for reuse. Royalty on the soil is to be deposited with the State Govt. Deptt.

The contractor shall not change the natural gradient of the ground unless specifically instructed by the Engineer in Charge. This shall cover all natural features like water bodies, drainage gullies, slopes, mounds, depressions, etc. Existing drainage patterns through or into any preservation area shall not be modified unless specifically directed by the **Registrar**.

The contractor shall not carry out any work which results in the blockage of natural drainage.

The contractor shall ensure that existing grades of soil shall be maintained around existing vegetation and lowering or raising the levels around the vegetation is not allowed unless specifically directed by the **Registrar**.

- 17.1.1 Overloading of trucks is unlawful and creates the erosion and sedimentation problems, especially when loose materials like stone dust, excavated earth, sand etc. are moved. Proper covering must take place. No overloading shall be permitted.

#### 17.2 CONSTRUCTION PHASE AND WORKER FACILITIES

- 17.2.1 The contractor shall specify and limit construction activity in pre- planned/designated areas and shall start construction work after securing the approval for the same from the **Registrar**. This shall include areas of construction, storage of materials, and material and personnel movement.

##### 17.2.2 Preserve and Protect Landscape during Construction



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EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

- a. The contractor shall ensure that construction activities should be restricted to the areas outside of the canopy of the tree, or, from a safe distance from the tree/plant by means of barricading. Trees will not be used for support; their trunks shall not be damaged by cutting and carving or by nailing posters, advertisements or other material. Lighting of fires or carrying out heat or gas emitting construction activity within the ground, covered by canopy of the tree is not to be permitted.
- b. The contractor shall take steps to protect trees or saplings identified for preservation within the construction site using tree guards of approved specification.
- c. Contractor should limit all construction activity within the specified area as per the Construction Management Plan (CMP) approved by Registrar.
- d. The contractor shall ensure that maintenance activities during construction period shall be performed as needed to ensure that the vegetation remains healthy.

17.2.3 The contractor shall provide potable water for all workers.

17.2.4 The contractor shall provide the minimum level of sanitation and safety facilities for the workers at site. The contractor shall ensure cleanliness of workplace with regard to the disposal of waste and effluent; provide clean drinking water and latrines and urinals as per applicable standard. Adequate toilet facilities shall be provided for the workman within easy access of their place of work. Toilet facilities shall be provided from the start of building operations, connection to a sewer shall be made as soon as practicable. Every toilet shall be so constructed that the occupant is sheltered from view and protected from the weather and falling objects. Toilet facilities shall be maintained in a sanitary condition. A sufficient quantity of disinfectant shall be provided. Natural or artificial illumination shall be provided.

17.2.5 The contractor shall ensure that air pollution due to dust/generators is kept to a minimum, preventing any adverse effects on the workers and other people in and around the site. The contractor shall ensure that the speed of vehicles within the site is limited to 10 km/hr.

- Spills of dirt or dusty materials will be cleaned up promptly so the spilled material does not become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers.

17.2.6 The contractor shall ensure that no construction leachate (e.g. cement slurry etc.), is allowed to percolate into the ground.

17.2.7 Staging (dividing a construction area into two or more areas to minimize the area of soil that will be exposed at any given time) should be done to separate undisturbed land from land disturbed by construction activity and material storage.

17.2.8 The contractor shall comply with the safety procedures, norms and guidelines (as applicable).

17.2.9 The contractor shall ensure the following activities for construction workers safety, among other measures:

- Guarding all parts of dangerous machinery.
- Precautionary signs for working on machinery
- Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.
- Durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.

17.2.10 The storage of material shall be as per standard good practices to the satisfaction of **the Engineer in Charge**. Watch and ward of the Contractor's materials shall be his own responsibility.

17.2.11 The contractor shall provide for adequate number of garbage bins around the construction site and the workers facilities and will be responsible for the proper utilization of these bins for any solid waste generated during the construction

17.2.12 Where possible, the contractor shall select materials / vendors, harvested and manufactured regionally, within a 800-km radius of the project site.



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17.2.13 The contractor shall ensure that a flush out of all internal spaces is conducted prior to handover. This shall comprise an opening of all doors and windows for 14 days to vent out any toxic fumes due to paints, varnishes, polishes, etc.

17.2.14 Contractor shall make efforts to reduce the quantity of indoor air contaminants that are odorous or potentially irritating harmful to the comfort and well-being of installer and building occupants. Contractor shall ensure that the VOC (Volatile Organic Compounds) content of paints, coatings and primers are low.

17.2.15 Water Use during Construction

Contractor should spray curing water on concrete structure and shall not allow free flow of water. Concrete structures should be kept covered with thick cloth/gunny bags and water should be sprayed on them. Contractor shall do water poundings on all sunken slabs using cement and sand mortar.

17.2.16 The contractor shall provide O & M Manuals wherever applicable.

### 18.0 MATERIALS & FIXTURES FOR THE PROJECT

#### 18.1 Contractor will produce wherever feasible certificate regarding distance of the source of the relevant material.

The contractor shall ensure that all paints, polishes, adhesives and sealants used both internally and externally, on any surface, shall be Low VOC products. The contractor shall get prior approval from the Registrar before the application of any such material.

18.1.1.1 The contractor shall ensure that all composite wood products/agro-fiber products used for cabinetwork, etc. do not contain any added urea formaldehyde resin.

### 18.2 RESOURCES CONSUMED DURING CONSTRUCTION

a. The contractor shall ensure that the water and electricity is not wasted during construction. The Engineer in Charge can bring to the attention any such wastage and the contractor will have to ensure that such bad practices are corrected.

b. The contractor shall ensure that all run-off water from the site, during construction is collected and reused to the maximum.

### 18.3 EQUIPMENT

a. To ensure energy efficiency during and post construction all pumps, motors and engines used during construction or installed, shall be subject to approval and as per the specifications of the Registrar.

b. Generally the lighting installed by the contractor around the site and at the labour quarters during construction shall be CFL bulbs of the appropriate illumination levels.



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### PARTICULAR SPECIFICATIONS

#### 1.0 EARTH WORK:

Earth work shall be executed as per [NIT, Jalandhar](#) specifications. The surplus earth if any shall be disposed of within the campus as per the directions of [Engineer Incharge](#).

Anti-Termite Treatment constructional measures as specified in para 2.28.3 of C.P.W.D. Specifications 2009 Vol. I & II shall be adopted at the site as per final recommendations incorporating the constructional details given in above para and shown in Fig 2.4 of [NIT, Jalandhar](#) Specifications mentioned above.

#### 2.0 R.C.C. WORK:

2.1 Design Mix Concrete (applicable if mentioned in agreement item).

2.2 The RCC work shall be done with Design Mix Concrete. Wherever letter M has been indicated, the same shall imply for the Design Mix Concrete. The Design Mix Concrete will be designated based on the principles given in IS: 456, 10262 & SP 23. The Conditions & Specifications stated herein shall have precedence over all conditions & specifications stated in relevant I.S. Codes/ [NIT, Jalandhar](#) Specifications. The concrete mix shall be designed for the specified target mean compressive strength in order to ensure that work test result do not fall below the acceptance criteria specified for the concrete mix. The Contractor shall design mixes for each class of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting the requirements specified.

2.3 The contractor has to submit design mix without use of admixtures. The grade of concrete for water retaining structure shall be minimum M-30.

2.4 Admixture may be added in case of specific technical requirement so as to meet the workability/ slump requirement or for any other reason but nothing extra is to be paid to contractor on account of adding admixtures.

2.5 The sources of coarse aggregate, fine aggregate, water, admixture & cement to be used in concrete work shall be identified by the contractor & he will satisfy himself regarding their conforming to the relevant specifications & their availability before getting the same approved from the [Registrar](#).

**2.6 Coarse Aggregate:** As per C.P.W.D. Specifications 2019 Vol. I & II

**2.7 Fine Aggregate:** As per C.P.W.D. Specifications 2019 Vol. I & II

**2.8 Water:** It shall conform to requirements laid down in IS:456-2000/ Para 3.1.1 C.P.W.D. Specifications 2019 Vol. I & II

**2.9 Cement:** Portland Pozzolona Cement (Fly Ash based) conforming to IS: 1489/ OPC of grade 43 shall conform to IS: 8112, required in the work from reputed manufacturers of cement as per the approved make in 50 kg. bags bearing manufacturer's name and ISI marking, along with manufacturers test certificate for each lot. Portland Pozzolona Cement is to be used for RCC works only subject to fulfilment of conditions of circular number CDO/ SE (RR)/ fly ash (MAN) 02 dated 09.04.09 shall be used for design mix concrete and shall conform to IS-1489 (Part I). However, if the contractor uses higher grade of cement nothing extra shall be paid.

**2.10 Admixture/ Plasticizer:** The admixture shall conform to IS: 9103. Whenever required, the admixture of approved quality & approved make only shall be used to attain the required workability. Nothing extra on account of use of Admixture/ Plasticizer shall be payable.

**2.11 Water Cement Ratio and Slump:**



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In proportioning a particular mix, the manufacturer/producer/contractor shall give due consideration to the moisture content in the aggregates, and the mix shall be so designed as to restrict the maximum free water cement ratio to less the 0.5.

Due consideration shall be given to the workability of the concrete thus produced. Slump shall be controlled on the basis of placement in different situations. For normal methods of placing concrete, maximum slump shall be restricted to 100mm when measured in accordance with IS:1199.

### 2.12 Characteristic Compressive Strength compliance Requirement

Specified Grade	Mean of the Group of 4 Non-overlapping consecutive test results in N/mm <sup>2</sup>	Individual Test Results in N/mm <sup>2</sup>
(1)	(2)	(3)
M20 Or Above	$\geq F_{ck} + 0.825 \times$ established standard deviation (rounded off to nearest 0.5 N/mm <sup>2</sup> ) Or $F_{ck} + 4$ N/mm <sup>2</sup> , whichever is greater where $f_{ck}$ is characteristic compressive strength of CC cube at 28 days.	$F_{ck} - 4$ N/mm <sup>2</sup>
<b>Note:</b> (i) In the absence of established value of standard deviation, the values given in Table as mentioned below may be assumed, and attempt should be made to obtain results of 30 samples as early as possible to establish the value of standard deviation. (ii) The acceptance criteria for compressive strength as mentioned in IS:456-2000 as amended upto date shall prevail over the above criteria in case of any difference.		

**2.13** The Contractor shall engage one of the following approved laboratories/ test house for designing the concrete mix in accordance with relevant IS Code and to conduct laboratory tests to ensure the target strength & workability criteria for a given grade of concrete:

- i. IIT New Delhi
- ii. [NIT Jalandhar](#)
- iii. CBRI Roorkee.
- iv. National Institute of Technical Teachers Training and Research, Sector 26, Chandigarh..
- v. Chandigarh Engineering College, Sector 26, Chandigarh.

The various ingredients for mix design/ laboratory tests shall be sent to the lab / test houses through the [Registrar](#) and the samples of such aggregates sent shall be preserved at site by the department. In the event if all the above laboratories are unable to carry out the requisite design/ testing, the contractor may have it done from any other laboratory with prior approval of the [Registrar, NIT, Jalandhar](#).

**2.14** The contractor shall submit the report on design mix from any of above approved laboratories for approval of Engineer in Charge within 30 days from the date of issue of letter of acceptance of the tender. No concreting shall be done until the design mix is approved. In case of White Portland Cement and the likely use of admixtures in concrete with Portland Pozzolona/ White Portland Cement, the contractor shall design and test the concrete mix by using trial mixes with white cement and / or admixtures also, for which nothing extra shall be payable.

**2.15** In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, the contractor as per the directions of the [Registrar](#) shall submit a revised laboratory mix design report conducted at laboratory established at site.

**2.16** All cost of mix designing and testing, connected therewith, including charges payable to the laboratory shall be borne by the Contractor including redesigning of the concrete mix whenever required & as directed by [Registrar](#).





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**2.17** The mix design for a specified grade of concrete shall be done for a target mean compressive strength  $T_{ck} = F_{ck} + 1.65s$

Where  $F_{ck}$  = Characteristic compressive strength at 28 days.

$s$  = Standard deviation which depends on degree of quality control.

The assumed standard deviation for different grades of concrete shall be as follows:

GRADE OF CONCRETE	STANDARD DEVIATION
M-20	4.0
M-25	4.0
M-30	5.0
M-35	5.0

However, actual standard deviation based on test strength of samples for each grade of concrete shall be calculated separately as per procedure laid down in clause 9.2.4 of Code of Practice IS 456:2000.

### 3.0 TRIAL BATCHES

- i. The designed mix proportions shall be checked for target mean compressive strength by means of trial batches.
- ii. Minimum three sets of separate preliminary tests shall be carried out for each trial batch of concrete mix. Each test shall comprise of six specimens and only one test-set of six specimens shall be made on any particular day.
- iii. The quantities of materials for each trial mix shall be sufficient for at least six specimens (cubes) and the concrete required for carrying out workability tests.
- iv. The workability of trial mix No.1 shall be measured and mix shall be carefully observed for freedom from segregation, bleeding and its finishing characteristics. The water content, if required, shall be adjusted corresponding to the required changes in the workability.
- v. With the modified Water Content, the mix proportions shall be recalculated by keeping with water cement ratio unchanged. The mix proportion, as modified, shall form the Trial Mix No.2 and tested for the specified strength and workability.
- vi. In addition, trial mix No.3 and 4 shall be designed by keeping water contents same as that determined for trial mix 2 but varying the water cement ratio by +10 percent of the specified value and tested for their design characteristics.
- vii. Out of the six specimen of each set, three shall be tested at seven days and remaining three at 28 days. The preliminary tests at seven days are intended only to indicate the strength to be attained at 28 days, while the design mix shall be approved only on the basis of test strength at 28 days.

### 4.0 APPROVAL OF DESIGN MIX

The design mix shall be considered satisfactory and approved if at least three preliminary test-sets individually satisfy the following strength and workability criteria:

4.1.1.1 The average strength of each test-set is not less than the specified target mean compressive strength ( $T_{ck}$ ).

4.1.1.2 The strength of any specimen cube is not less than  $0.85 T_{ck}$ .

4.1.1.3 The concrete mix is of required degree of workability and acceptable concrete



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finish.

### 5.0 BATCHING & MIXING:

- a. All design mix concrete shall be done using fully automatic computerized batching plant conforming to IS: 4925 of minimum 7.5 cum per hour capacity. The automatic batching plant shall be charged by devices when actuated by a single starter switch, will automatically start the weighing operation of each material (i.e. stone aggregate, sand, cement, water, admixture etc.) and stop automatically when designated weight of each material has been reached and also it should have rated capacity ( in terms of concrete in a single batch). It shall have control panel for operation of the batching plant complete with printing facility.
- b. The contractor shall be free to use Ready Mix Concrete (RMC) in place of Batch mix concrete at his own cost. The contractor shall ensure that transit mixtures shall transport the concrete to site. All the precautions shall be taken during the transportation and handling of concrete to achieve the desired strength, durability, etc. as envisaged in the Mix Design. Contractor has to get the approval from [Registrar](#) regarding source of RMC by giving the details of such plants indicating name of owner/ company, its location, technical establishment, past experience and text of Memorandum of Understanding (proposed to be entered between purchaser and supplier). The [Registrar](#), after satisfying himself about quality/ capability of the company shall give approval in writing (subject to drawing of MOU). The MOU shall be drawn with RMC plant owner/ company and submitted to [Registrar](#) within a week of such approval. The contractor will not be allowed to purchase RMC without completion of above formalities for use in the project. Notwithstanding the approval granted by [Registrar](#) in aforesaid manner, the contractor shall be fully responsible for quality of concrete including input control, production, transportation and placement etc. The [Registrar](#) will reserve the right to deploy his supervisor at plant site to inspect at any such stage and reject the material/ concrete etc. if he is not satisfied about quality of material/ product.
- c. All measuring equipment shall be maintained in a clean and serviceable condition and their accuracy shall be checked at least once a month.
- d. Only single sized good quality stone aggregate shall be brought to site of work from the approved source. The grading of the stone aggregate shall be controlled by blending the aggregate of different sizes in the required proportions at site of work. The aggregate of different sizes shall be stock-piled separately, preferably a day before use. The grading of coarse and fine aggregates shall be checked as frequently as possible and as directed by the [Registrar](#) to ensure that the specified grading and quality of aggregate is maintained.
- e. It is important to maintain the Water Cement Ratio constant at its specified or approved value by making adjustment for the moisture contents of both fine and coarse aggregates.

The moisture contents in the aggregate shall be determined as frequently as possible in keeping with the weather conditions and as per the provisions of IS: 2386 (Part-III).

### 6.0 OTHER OPERATIONS:

All other operations in concreting work like mixing, slump, laying, placing of concrete, compaction, curing etc. not mentioned in this particular specifications for Ready Mix Concrete/Batch mix concrete shall be as per [NIT, Jalandhar](#) Specifications.

### 7.0 SAMPLING AND STRENGTH OF DESIGNED CONCRETE MIX

#### 7.1.1 General

Samples from fresh concrete shall be taken as per IS 1199 and cubes shall be made, cured and tested at 28 days in accordance with IS 516. 15.1.1 In order to get a relatively quicker idea of the quality of concrete,





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optional tests on beams for modulus of rupture at 72 + 2 h or at 7 days, or compressive strength tests at 7 days may be carried out in addition to 28 days compressive strength test. For this purpose the values should be arrived at based on actual testing. In all cases, the 28 days compressive strength specified in Table 2 of code of practice, IS:456 2000 shall alone be the criterion for acceptance or rejection of the concrete.

### 7.1.2 Frequency of Sampling

### 7.1.3 Sampling Procedure

A random sampling procedure shall be adopted to ensure that each concrete batch shall have a reasonable chance of being tested that is the sampling should be spread over the entire period of concreting and cover all mixing units.

### 7.1.4 Frequency

The minimum frequency of sampling of concrete of each grade shall be in accordance with the following:

Quantity of Concrete in the Work, m <sup>3</sup>	Number of Samples
1 - 5	1
6 - 15	2
16 - 30	3
31 - 50	4
51 and above	4 plus one additional sample for –each additional 50 m <sup>3</sup> or part thereof

**NOTE-** At least one sample shall be taken from each Shift. Where concrete is produced at continuous production unit, such as batch-mixed concrete plant, frequency of sampling may be decided by Registrar in such a manner so as to ensure that each concrete batch shall have a reasonable chance of being tested.

### 7.1.5 Test Specimen

Three test specimens shall be made for each sample for testing at 28 days. Additional samples may be required for various purposes such as to determine the strength of concrete at 7 days or at the time of striking the formwork, or to determine the duration of curing, or to check the testing error. Additional samples may also be required for testing samples cured by accelerated methods as described in IS 9103. The specimen shall be tested as described in IS 516.

### 7.1.6 Test Results of Sample

The test results of the sample shall be the average of the strength of three specimens. The individual variation should not be more than  $\pm 15$  percent of the average. If more, the test results of the sample are invalid.

## 8.0 ACCEPTANCE CRITERIA

### 8.1.1 Compressive Strength

The concrete shall be deemed to comply with the strength requirements when both the following condition are met:

8.1.1.1 The mean strength determined from any group of four consecutive test results complies with the appropriate limits in col 2 of Table given under para 2.1.4 above.

8.1.1.2 Any individual test result complies with the appropriate limits in col 3 of Table given under para 2.1.4 above.

### 8.1.2 Quantity of Concrete Represented by Strength Test Results

The quantity of concrete represented by a group of four consecutive test-results shall include the batches from which the first and last samples were taken together with all intervening batches. Where the mean rate



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of sampling is not specified the maximum quantity of concrete that four consecutive test results represent shall be limited to 60 m<sup>3</sup>.

8.1.3 Concrete of each grade shall be assessed separately.

8.1.4 Concrete is liable to be rejected if it is porous or honey-combed, its placing has been interrupted without providing a proper construction joint, the reinforcement has been displaced beyond the tolerances specified, or construction tolerances have not been met. However, the hardened concrete may be accepted after carrying out suitable remedial measures to the satisfaction of the [Registrar](#).

8.2 **MEASUREMENT:** C.P.W.D. Specifications 2019 Vol. I & II.

8.3 **TOLERANCES:** C.P.W.D. Specifications 2019 Vol. I & II.

8.4 **RATES:**

- i. The rate includes the cost of materials, labour and T&P, including mixing, placing, transportation involved in all the operations described above except for the cost of centring, shuttering & reinforcement which will be paid for separately.
- ii. In case of rejection of concrete on account of unacceptable compressive strength, governed by para "Standard of Acceptance" as above, the work for which samples have failed shall be redone at the cost of contractor. However, the [Registrar](#) may order for additional tests (like cutting cores, ultrasonic pulse velocity test, load test on structure or part of structure, etc.) to be carried out at the cost of contractor to ascertain if the portion of structure wherein concrete represented by the sample has been used, can be retained on the basis of results of individual or combination of these tests. The Contractor shall take remedial measures necessary to retain the structure as approved by the [Registrar](#) without any extra cost. However, for payment, the basis of rate payable to contractor shall be governed by the 28 days cube test results and reduced rates shall be regulated in accordance with [NIT, Jalandhar](#) Specifications.

### 9.0 RCC WORK (ORDINARY)

9.1.1 The work shall be done in accordance with C.P.W.D. Specifications 2019 Vol. I & II.

9.1.2 Water Cement ratio for Ordinary RCC work shall not be more than 0.5. Contractor shall use concrete mixture of proper design having arrangement for measuring water for mixing of concrete.

### 10.0 FORM WORK

10.1.1 The work shall be done in general as per C.P.W.D. Specifications 2019 Vol. I & II.

10.1.2 Only M.S. centering/ shuttering and scaffolding material unless & otherwise specified shall be used for **all R.C.C. work to give** an even finish of concrete surface. However, marine-ply shuttering in exceptional cases as per site requirement may be used on specific request from contractor to be approved by the [Registrar](#).

10.1.3 Nothing extra shall be paid for the centering and shuttering, circular in shape whenever the formwork is having a mean radius exceeding 6m in plan.

10.1.4 Nothing extra shall be paid for grid beams and the corresponding slabs having clear span more than 1.20 meters.

10.1.5 In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the level of top surface of R.C.C. shall be



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accordingly adjusted at the time of its centering, shuttering and casting for which nothing extra shall be paid to the Contractor except the places where different type of flooring is provided in the same room.

- 10.1.6 As per general engineering practice, level of floors in toilet/ bath, balconies, shall be kept 12 to 20 mm or as required, lower than general floors shuttering should be adjusted accordingly. Nothing extra is payable on this account.
- 10.1.7 Steel shuttering as approved by the Registrar shall be used by the contractor. Minimum size of shuttering plates shall be 600 mm x 900 mm except for the case when closing pieces are required to complete the shuttering panels.

Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work.

The shuttering plates shall be cleaned properly with electrically driven sanders to remove any cement slurry or cement mortar or rust. Proper shuttering oil or de-bonding compound shall be applied on the surface of the shuttering plates in the requisite quantity before assembly of steel reinforcement.

### 11.0 REINFORCEMENT:

- 11.1.1 The reinforcement shall be done as per C.P.W.D. Specifications 2019 Vol. I & II.
- 11.1.2 The rate of item of reinforcement of RCC work includes all operations including straightening, cutting, bending, welding, binding with annealed steel or welding and placing in position at all the floors with all leads and lift complete as per C.P.W.D. Specifications 2009 Vol. I & II.
- 11.1.3 The contractor shall provide approved type of support for maintaining the bars in position and ensuring required spacing and correct cover of concrete to reinforcement as called for in the drawings, spacer blocks of required shape and size. Chairs and spacer bars shall be used in order to ensure accurate positioning of reinforcement. Spacer blocks shall be cast well in advance with approved proprietary pre-packed free flowing mortars (Conbextra as manufactured by M/S Fosroc Chemicals India Ltd. **or approved equivalent**) of high early strength and same color as surrounding concrete. However, Cover Guard Bars shall also be used to maintain proper cover of RCC Columns in addition to spacer blocks as mentioned above. The rate of RCC items is inclusive of cost of such cover blocks & Cover Guard Bars.

### 12.0 PRE-CAST RCC WORK

- 12.1.1 The work shall be done in accordance with C.P.W.D. Specifications 2019 Vol. I & II..
- 12.1.2 Pre-cast reinforced concrete units shall be of grade or mix as specified. Provision shall be made in the mould to accommodate fixing devices such as hooks etc. and forming of notches and holes. Each unit shall be cast in one operation. A sample of the unit shall be got approved from Registrar before taking up the work.
- 12.1.3 Pre-cast units shall be clearly marked to indicate the top of member and its location.
- 12.1.4 Pre-cast units shall be stored, transported and placed in position in such a manner that these are not damaged.
- 12.1.5 The compaction of the concrete shall be done by vibrating, table or external vibrator, as approved by Registrar. The rate quoted for the item shall include the element for framework and mechanical vibration.
- 12.1.6 Rate for item includes cost of all materials, labour, and all operations involved. Cost of M.S. frames, lugs including their welding, lifting hooks is also included.



## Dr B R AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY

G T Road By Pass, Jalandhar-144011, Punjab (India)

EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

12.1.7 In the item of providing and fixing precast reinforced cement concrete in shelves the cost of cutting chases and making good the same shall be inclusive in the item and nothing extra shall be paid on this account.

### 13.0 BRICK WORK:

13.1 The brickwork shall be carried out with good quality well burnt FPS bricks of class designation 7.5 as per C.P.W.D. Specifications 2019 Vol. I & II. Exposed brick work for ground level to plinth level shall be executed with selected FPS bricks of class designation 7.5.

13.2 The rate shall also include for leaving chases/ notches for dowels/ cramps for all kinds of cladding to come over brick work.

13.3 Brick work provided around shaft or lift walls or around slab cutouts shall be measured in the brick for corresponding floor level. Nothing extra shall be paid on this account.

13.4 M.S. Strip/ Bar provided at every third course of half brick masonry shall be in single piece. If required, welding joint can be used without overlaps. Nothing extra shall be paid for welding and overlaps.

### 14.0 PRECAST CEMENT CONCRETE BLOCKS:

Machine moulded precast cement concrete blocks of mix 1:3:6 (1 cement: 3 coarse sand: 6 graded stone aggregate of nominal size 20 mm) shall conform to C.P.W.D. Specifications 2019 Vol. I & II volume-I 2019 with up to date correction slips as applicable to cement concrete work (chapter-IV). These precast cement concrete solid blocks shall be manufactured & tested as per IS 2185 (Part-1): 2005. The 28 days compressive strength of these solid concrete blocks shall be 10 N/mm. All other parameters including physical requirements thereof except compressive strength as aforesaid shall conform to IS 2185 (Part-1): 2005.

### 15.0 STONE/ MARBLE WORK

15.1 **General:** The execution of stones work shall be in general as per C.P.W.D. Specifications 2019 Vol. I & II (Volume-I) 2019 with up-to-date correction slips.

#### 15.2 GRANITE/ MARBLE WORKS

15.2.1 The granite/ marble stonework shall, in general, be carried out as per the C.P.W.D. Specifications 2019 Vol. I & II. The specifications for dressing, laying, curing, finishing, measurements, rate etc. for the granite/ marblestone flooring shall be same as that of works for the Marble flooring, skirting and risers of steps under Flooring Sub Head of the C.P.W.D. Specifications 2019 Vol. I & II. The wall lining / veneer work with granite/ marble stone shall be as per the C.P.W.D. Specifications 2009 Vol. I & II for Marble work Sub Head.

15.2.2 The decision of the [Registrar](#) as regards the approval of the samples for the various types of the granite/ marble stones shall be final and binding on the Contractor. No claim of any kind whatsoever shall be entertained from the Contractor on this account. The Contractor shall then procure and get the mock up prepared at site of work for approval of quality of workmanship and the granite/ marble stone as specified. The mock up shall be prepared in lift lobby, toilet etc. on one of the floors. The size of the stones shall be as per the architectural drawings. If the quality of the workmanship and the material is as per the required standards, the mock up shall be allowed as part of the work and measured for payment and shall not be dismantled. Otherwise, it shall be dismantled by the contractor as directed by the [Registrar](#) and taken away from the site of the work at his own cost. Nothing extra shall be payable on this account.

15.2.3 That the curvilinear profile of the entrance steps for the building shall be negotiated in segmental manner (using trapezoidal shaped granite stone pieces with straight edges for treads and rectangular stone pieces for the risers) and not in curved profiles as specified earlier. However the granite/ marble stone slabs shall be cut to required sizes and shapes, as



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per the architectural drawings, to negotiate the curved steps in segmented manner. The risers shall also be cut to required sizes and shapes and the edges chamfered at the joints, all as per the architectural drawings. However, the Contractor shall prepare the detailed shop drawings for the same and commence work only after the approval by the Registrar. The rate shall also include any consequent wastage, incidental charges involved in this work. Nothing extra shall be payable on this account. For the purpose of payment, the actual area of each type of granite/ marble stone as laid shall be measured.

15.2.4 For the steps (risers and treads) in the linear profile, the granite/ marble stone shall be provided in single pieces up to 2.0m as per the architectural drawings, unless otherwise specifically permitted by the Registrar. Wherever grooves are required to be provided the same is to be done as per architectural drawings and as directed by the Registrar. Wherever required, the joints shall be provided as per the architectural drawings. Nothing extra shall be payable on these accounts.

15.2.5 The granite/ marble slabs used for providing and fixing in the sills, soffits and jambs of doors, windows, ventilators and similar locations shall be in single piece unless otherwise directed by the Registrar. Wherever stone slab other than in single piece is allowed to be fixed, the joints shall be provided as per the architectural drawings and as per the directions of the Registrar. In the cabin areas, the joints in sills shall preferably be provided in line with the partition wall. Depending on the number of joints, as far as possible, the stone slabs shall be procured and fixed in slabs of equal lengths as per the architectural drawings and as directed by Registrar.

15.2.6 While fixing the granite/ marble slabs in sills, soffits and jambs of doors, windows, ventilators etc., rebates shall be made by overlapping the stones at the required places for fixing shutters for doors, windows and ventilators etc. as shown in the architectural drawings and as per the directions of the Registrar. Epoxy based adhesives shall be used for fixing the granite/ marble stones to each other, or wherever required. The authorized overlap as per the architectural drawings or as directed by the Registrar shall be measured for payment under the same item. However, any extra mortar thickness required due to the overlap arrangement shall be deemed to have been included in the rate of this item. Nothing extra shall be payable on this account. The granite/ marble stone slab shall be fixed over low level storage cabinets using necessary adhesive as per the manufacturer's specification. The stone shall have uniform thickness and shall be provided in sizes as per the architectural drawings. The stone slab shall have uniformly leveled surface after fixing. All the joints shall be finished smoothly in a workmanlike manner.

15.2.7 The granite/ marble work shall be adequately protected by a layer of Plaster of Paris, which shall be maintained throughout and removed just before handing over of the works for which nothing extra shall be payable.

### 15.3 SAMPLES FOR STONE WORK

Samples of each item of stone work either individually or in combination shall be prepared for approval of Registrar before commencement of work.

### 16.0 WOOD WORK

16.1 The wood work in general shall be carried out as per C.P.W.D. Specifications 2019 Vol. I & II with up-to-date correction slips

16.2 The sample of timber to be used shall be deposited by the contractor with Registrar before commencement of work

16.3 The shape and size of beading shall be as per drawings. The joints of beading shall be mitred.

16.4 Timber shall be of specified species, good quality and well seasoned. It shall have uniform color,



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reasonably straight grains and shall be free from knots, cracks, shakes and sapwood. It shall be close grained. The contractor shall deposit the samples of species of timber to be used with the Registrar for testing before commencement of the work.

- 16.5 Wood work shall not be painted, oiled or otherwise treated before it has been approved by the Registrar. All portion of timber including architrave abutting against masonry, concrete, stone or embedded in ground shall be painted with approved wood preservative or with boiling coal tar.
- 16.6 The contractor(s) shall produce cash voucher and certificates from approved Kiln Seasoning Plants about the timber used on the work having been kiln seasoned and chemically treated by them, falling which it wouldnot be so accepted as kiln seasoned and/or chemically treated.
- 16.7 Deleted.**
- 16.8 Factory made wooden flush door shutters shall be carried out as per C.P.W.D. Specifications 2019 Vol. I & II(Volume-I, 2019 with upto date correction slips).
- 16.9 The work shall be executed through specialized agencies to be approved by the Registrar.
- 16.10 The contractor shall propose well in advance to Registrar, the names and address of the factory where from the contractor intends to get the shutters manufactured along with the credential of the firm. The contractor shall place the order for manufacturing of shutters only after obtaining approval of the Registrar whose decision in this case shall be final & binding. In case the firm is not found suitable he shall propose another factory. The factory may also be inspected by a group of officers before granting approval; shutters shall however he accepted only if these meet the specified test.
- 16.11 Contractor will arrange stage wise inspection of the shutters at factory by the Registrar or his authorized representative. The contractor will have no claim if the shutters brought at site in part or full lot are rejected by the Registrar due to bad workmanship / quality. Such defective shutters will not be measured and paid. The contractor shall remove the same from the site of work within 7 days after the written instruction in this regard are issued by the Registrar.
- 16.12 The shutters should be brought at site without primer / painting.

### 17.0 STEEL WORK

All steel work shall be carried out as per C.P.W.D. Specifications 2019 Vol. I & II. (Volume-1) 2019 with up-to-date correction slips.

### 18.0 FLOORING

- 18.1 All work in general shall be carried out as per C.P.W.D. Specifications 2019 Vol. I & II(Volume-1) 2019 with up-to-date correction slips.
- 18.2 Whenever flooring is to be done in patterns of tiles and stones, the contractor shall get samples of each pattern laid and approved by the Registrar before final laying of such flooring. Nothing extra shall be payable on this account.
- 18.3 Different stones/ tiles used in pattern flooring shall be measured separately as defined in the nomenclature ofthe item and nothing extra for laying pattern flooring shall be paid over and above the quoted rate. No additional wastage, if any, shall be accounted for any extra payment.
- 18.4 Samples of flooring stones/ Tile (Kota/ Marble/ Granite/ Ceramic tiles/ Vitrified tiles etc.) shall be deposited well in advance with the Registrar for approval. Approved samples should be kept at site with the Registrar and the same shall not be removed except with the written permission of Registrar. No payment whatsoever shall be made for these samples.
- 18.5 The Marble/ Kota/ Granite or any other stone shall be fully supported by the details establishing the quarry and its location.
- 18.6 Full width Marble/ Kota/ Granite stone over kitchen platform shall be provided which shall not be less than 900 mm long except to adjust for closing pieces. The marble/ stone flooring in treads and risers





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EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

of staircase shall not be less than 1500 mm long except to adjust the closing pieces. Nothing extra shall be paid on these accounts

### 18.7 Vitrified Tile Flooring

The tiles shall be of approved make and shall generally conform to Table 12 of IS 15622. The full body Vitrified tiles of specified sizes shall be used & sample of tiles shall be got approved from the Registrar. The Mandatory tests for vitrified tiles shall be got done as per C.P.W.D. Specifications 2019 Vol. I & II (volume-1)/relevant BIS Code.

### 18.8 Ceramic Tiles Flooring

18.8.1 The tiles shall be procured from the approved manufactures of the specified shade & color.

18.8.2 The floor & wall tiles shall be conforming to IS: 15622 for floor and wall tiles respectively.

18.8.3 Tiles for dado shall be 300 mm x 600 mm (minimum size) or more (GROUP: B-III) as approved.

18.8.4 Tiles for flooring shall be 300 mm x 300 mm (minimum size) or more (GROUP: B-II for commercial application) as approved.

18.8.5 Test shall be conducted to satisfy the quality of material as per NIT, Jalandhar Specifications

18.9 The rate of items of flooring is inclusive of providing sunken flooring in bathrooms, kitchen etc. and nothing extra on this account is admissible. The proper gradient shall be given to flooring for toilets, verandah, kitchen, courtyard, etc. as per the directions of Registrar.

### 19.0 WATER PROOFING FOR SUNKEN FLOORS:

19.1 The work shall be got executed from the specialized agency, if the contractor does not have specialization in Water Proofing Works.

19.2 Total quantity of the water proofing compound required shall be arranged only after obtaining the prior approval of the make by Registrar in writing. Materials shall be kept under double lock and key and proper account of the water proofing compound used in the work shall be maintained. It shall be ensured that the consumption of the compound is as per specified requirements.

19.3 The finished surface after water proofing treatment shall have adequate smooth slope as per the direction of the Registrar.

19.4 Before commencement of treatment on any surface, it shall be ensured that the outlet drain pipes/ spouts have been fixed and the spout openings have been chased and rounded off properly for easy flow of water.

### 20.0 GUARANTEE BOND FOR ALL WATER PROOFING ITEMS:

Ten years Guarantee bond in prescribed proforma at shall be submitted by the contractor which shall be signed by the contractor to meet their liability/ liabilities under the guarantee bond. However, the sole responsibility about efficiency of water proofing treatment shall rest with the contractor. 10% (Ten per cent) of the cost of water-proofing work shall be retained as Security Deposit and the amount so deducted would be released after ten years from the date of completion of the entire work under the agreement, if the performance of the treatment is found satisfactory. If any defect is noticed during the guarantee period, the contractor shall rectify it within 15 days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done from another agency at the risk and cost of contractor.

### 21.0 FINISHING:

21.1 The work shall be done in accordance with C.P.W.D. Specifications 2019 Vol. I & II (Volume-II) 2019 with up-to-date correction slips and/or manufacturers specifications wherever applicable.





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EPABX-0181-2690301 & 453 website: [www.niti.ac.in](http://www.niti.ac.in) email: [registrar@niti.ac.in](mailto:registrar@niti.ac.in)

- 21.2 All painting material of approved brand and manufacturer shall be brought to the site of work in the original sealed containers. The material brought to the site of work shall be sufficient for at least 30 days of work. The material shall be kept under the joint custody of contractor and representative of the Registrar. The empty containers shall not be removed from the site till the completion of the work without permission of the Registrar.
- 21.3 In the item of finishing walls with water proofing cement paint, only the plain/flat area shall be measured for payment and nothing extra shall be paid on account of pointed wall surface.

### 22.0 SANITARY INSTALLATIONS/ WATER SUPPLY/ DRAINAGE:

- 22.1 The contractor shall submit schematic drawing of water supply and sanitary installation showing details of layout, including internal water supply and drainage details, showing the detail of water supply lines including fittings diameter wise and fixtures connecting to soil waste through traps and connection of W.C. to main shaft pipe for drainage including its ventilation system for approval of Registrar.
- 22.2 For the work of water supply and sanitary installations, the contractor shall engage the approved licensed plumbers and submit the name of proposed plumbing agencies with their credentials for approval of the Registrar.
- 22.3 The work in general shall be carried out as per C.P.W.D. Specifications 2019 Vol. I & II (Volume II) 2019 with up-to-date correction slips.
- 22.4 The tendered rates shall include the cost of cutting holes in walls, floors, RCC slabs etc. wherever required and making good the same for which nothing extra shall be paid.
- 22.5 The Centrifugally spun cast iron pipe IS: 3989-1984 wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs of approved quality and nothing extra shall be paid for on this account.
- 22.6 The pig lead to be used in the jointing should be as per C.P.W.D. Specifications 2019 Vol. I & II.
- 22.7 Nothing extra for providing & fixing CP Brass caps/extension pieces wherever required for CP Brass fittings shall be paid beyond the rates payable for corresponding CP Brass fittings.

### 23.0 Aluminium work

Aluminum doors, windows, ventilators etc. glazing specifications

- 23.1 **Extent and Intent:** The work shall be carried out in the factory through Special Agency, who shall furnish all material, labour, accessories, equipment, tool and plants and incidentals required for providing and installing anodized/powder coated aluminum doors, windows, claddings, louvers and other items as called for on the drawings. The drawings and specifications cover the major requirements only. The supplying of additional fastenings, accessories, fixtures and other items not mentioned specifically herein, but which are necessary to make a complete installation shall be a part of this contract. Hinges for openable panel shall be stainless steel friction hinges/ stays selected for specified wind load and dead loads or specifically extruded in-built hinges.
- 23.2 **General:** Aluminum doors, windows etc. shall be of sizes, section details as shown on the Architectural drawings. The details shown on the drawings indicate generally the sizes of the component parts and general standards. These may be varied slightly to suit the standard adopted by the manufacturers. Before proceeding with any manufacturing, the contractor shall prepare and submit complete manufacturing and installation drawings for approval of the Registrar and no work shall be performed until the approval of these drawings is obtained.



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- 23.3 **Shop Drawings:** The contractor shall submit the shop drawings of doors, windows, louvers, cladding and other aluminum work, based on the architectural drawings to the Registrar for his approval. The shop drawing shall show full size sections of doors, windows etc. thickness of metal (i.e. wall thickness) details of construction, sub frame/rough ground profile, anchoring details hardware as well as connection of windows, doors and other metal work to adjacent work. Samples of all joints and methods of fastening and joining shall be submitted to the Registrar for approval well in advance of commencing the work.
- 23.4 **Samples:** Samples of doors, windows louvers etc. shall be fabricated, assembled in the factory and submitted to Registrar for his approval. They shall be of sizes, types etc. as decided by Registrar. All samples shall be provided at the cost of the contractor.
- 23.5 **Sections:** Aluminum doors and windows shall be fabricated from extruded sections of profiles as detailed on drawings. The sections shall be extruded by the manufacturers approved by the Registrar. The aluminum extruded sections shall conform to BIS designation IIE/IIV 9 WP alloy, with chemical composition technical properties, as per IS: 733 and IS: 1285. The permissible tolerance of the extruded sections shall be such as not to impair the proper and smooth function/ operations and appearance of doors and windows.
- 23.6 **Fabrication:** Doors, windows etc. shall be fabricated to sizes at factory and shall be of section, sizes, combinations and details as shown on the drawings. All doors, windows etc. shall have mechanical joints. The joints shall be designed to withstand a minimum wind load of 150 Kg. per Sqm. The design shall also incur that the maximum deflection of any member shall not exceed 1/175 of the span of the member. All members shall be accurately machined and fitted to form hairline joints prior to assembly. The joints accessories such as cleats, brackets etc. shall be of such material as not to cause any bimetallic action. The design of the joints and accessories shall be such that the accessories are fully concealed. The fabrication of doors, windows, etc. shall be done in suitable sections to facilitate easy transportation, handling and installation. Adequate provision shall be made in the door and window members for anchoring to support and fixing of hardware and other fixture as approved by the Architect.
- 23.7 **Anodizing/ powder coating:** All aluminum sections shall be Powder coated (minimum 50 micron thickness) as per requirement as per IS: 7088 and to required color as specified in the item as per IS: 1868 grading as specified in item schedule after cutting the member to requisite sizes before the final assembly. Powder coating shall be of minimum 50 micron thickness. Anodizing conforming to specified grade with minimum average thickness of 15 microns when measured as per IS: 612. The anodic coating shall be properly sealed by steams or in boiling water are cold sealing process as per IS:1868/IS: 6057. Polythene tape protection shall be applied on the anodized section before they are brought to site. All care shall be taken to ensure surface protection during transportation, storage at site and installation. The tape protection shall be removed on installation. The sample will be tested in the approved laboratory and cost of samples; etc. shall be borne by the contractor.
- 23.8 **Protection of finish:** All aluminum members shall be wrapped with approved self-adhesive non-staining PVC tapes.

### 24.0 Handling and Stacking:

- i. Fabricated materials shall be carried in an approved manner to protect the material against any damage during transportation. The loading and unloading shall be carried out with utmost care. On receipt of material at site, it shall be carefully examined to detect any damaged pieces. Arrangements shall be made for expeditious replacement of damaged pieces/ parts. Materials found to be acceptable on inspections shall be repacked in crates and stored safely.
- ii. In the case of composite windows and doors, the different units are to be assembled first. The assembled composite units should be checked for line, level and plumb before final fixing is done. Units may be serial numbered and identified as out how to be assembled in their final locations if situation so warrants.



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- iii. The contractor shall be responsible for assembling composite, bedding and filling the groove with polysulphide sealant inside and outside, at transoms and mullions placing the doors, windows etc. in their respective openings. After the doors/ windows have been fixed in their correct assigned position, the open hollow sections abutting masonry concrete shall be fitted with approved polysulphide sealant densely packed and finished neat.
- iv. The contractor shall be responsible for doors, windows, etc. being set straight, plumb, level and for their satisfactory operation after fixing is complete.

### 25.0 Installation:

Just prior to installation the doors, windows, etc. shall be uncreated and stacked on edge on level bearers and supported evenly. The frame shall be fixed into position true to line and level using adequate number of expansion machine bolts, anchor fasteners, of approved size and manufacture and in an approved manner. The holes in concrete/masonry members for housing anchor bolts shall be drilled with an electric drill.

The door/ windows assembled as shown on drawings shall be placed in correct final position on the opening and marks made on concrete members at jambs, sills and heads against the holes provided in frames for anchoring. The frame shall then be removed from the opening and laid aside. Neat holes with parallel sides of appropriate size shall then be drilled in the concrete members with an electric drill at the marking to house the expansion bolts. The expansion bolts shall then be inserted in the holes, struck with a light hammer till the nut is forced into the anchor shell. The frame shall then be placed in final position in the opening and anchored to the support through cadmium plated machine screws of required size and anchored to the support through cadmium plated machine screws of required size threaded to expansion bolts. The frame shall be set in the opening by using wooden wedges at supports and be plumbed in position. The wedges shall invariably be placed at the meeting at points of glazing bars and frame.

- 25.1 **EPDM Rubber/ Neoprene gaskets:** The contractor shall provide and install EPDM Rubber/ Neoprene gaskets of approved size and profile at all locations as shown and as called for to render the doors, windows etc. absolutely air tight and weather tight. The contractor shall produce samples of the gaskets for approval and shall procure the same after approval only.
- 25.2 **Fittings:** Hinges, stays, handles, tower bolts, locks and other fittings shall be of quality and manufacturer as approved by the [Registrar](#).
- 25.3 **Manufacturer's Attendance:** The manufacturer immediately prior to the commencement of glazing shall adjust and set all windows and doors and accept responsibility for the satisfactory working of the opening frames.
- 25.4 **Poly-sulphide:** The gaps between frames and supports and also any gaps in the door and windows sections shall be raked out as directed and filled with poly-sulphide of approved color and make to ensure complete water tightness. The poly-sulphide shall be of such color and composition that it would not stain the masonry/concrete work, shall receive paint without bleeding, will not sag or run and shall not set hard or dry out under any conditions of weather. The sample of poly-sulphide to be used for this purpose shall be got approved from the [Registrar](#) before its actual use.

### 25.5 Details of Test:

The various tests on aluminum sections shall be conducted in accordance with the relevant IS codes.

The minimum number of tests for anodizing/powder coating and corrosion resistance shall be as given below:

S.No.	Details	No. of Tests
1.	Doors, windows and ventilators	One test for every 1000 kg or part thereof.



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The samples of major member of each unit of doors/ windows shall be selected at random by Registrar as such that all the aluminum section shall be got tested.

- 25.6 **Acceptance Criteria:** The entire responsibility for the quality of work will however rest with the building contractor only. The aluminum work shall carry Two years guarantee after completion of work against unsound material, workmanship and defective anodizing/ powder coating as per Guarantee Bond. Two years guarantee in prescribed Performa attached must be given by the specified firm, which shall be counter signed by the contractor, in token of his overall responsibility. 10% (ten percent) of the cost of these items would be retained as security deposit and the amount so deducted would be released after two years from the date of completion of the entire work under the agreement, if the performance of the items is found satisfactory. If any defect is noticed during the guarantee period, the contractor should rectify it within seven days and if not attended to the same will be got done from another agency at the risk and cost of contractor. However, this security deposit can be released in full if bank guarantee of equivalent amount is produced and deposited with the department.

### 25.7 Rates:

The rates of the item shall include the cost of materials, labour required in all the above operations.

The rates exclude the cost of stainless steel friction hinges/ stays selected for specified wind load and dead loads or specifically extruded in-built hinges, and rest of the fittings shall also be paid separately.

## 26.0 List of Bureau of Indian Standards Codes

All equipment, supply, erection, testing and commissioning shall comply with the requirements of Indian Standards and code of practices given below as amended up to date. All equipment and material being supplied by the contractor shall meet the requirements of IS. Tariff advisory committee's regulation (fire insurance), electrical inspectorate and Indian Electricity rules and other Codes/ Publications as given below:

1.	Pipes and Fittings	
	IS: 458, (2003) amendment 1, Active August 2011	Specification for precast concrete pipes (with and without reinforcement)
	IS: 651 ( 2007 ) amendment 1, Active August 2011	Salt glazed stone ware pipes and fittings'.
	IS: 1239 (Part 1) 2004, amendment 4, Active August 2011	Mild steel, tubes, tubular and other wrought steel fittings: Part 1 Mild Steel tubes.
	IS: 1239 (Part 2), 1992, amendments 7, Active August 2011	Mild Steel tubes, tubular and other wrought steel fittings: Part 2 Mild Steel tubular and other wrought steel pipe fittings.
	IS: 1536, 2001, amendment 4, active August 2011	Centrifugally cast (spun) iron pressure pipes for water, gas and sewage.
	IS: 1537, 1976, amendment 6, active August 2011	Vertically cast iron pressure pipes for water, gas and sewage.
	IS: 1538 1993, amendments 4, Active august 2011	Cast Iron fittings for pressure pipes for water, gas and sewage.
	IS: 1729, 2002 ,amendments 4, active, August 2011	Cast iron/ / Ductile Iron drainage pipes and pipes fittings for over ground Non pressure pipe line socket and spigot series.
	IS: 1879, 2010, active August 2011	Malleable cast iron pipe fittings.
	IS: 2643 (Part 1) 2005 , active August 2011	Dimensions for pipe threads for fastening purposes: Part 1 Basic profile and dimensions.
	IS: 2643 (Part 2)	Dimensions for pipe threads for fastening purposes: Part 2 Tolerances.
	IS: 2643 (Part 3)	Dimensions for pipe threads for fastening purposes: Part 3 Limits of sizes.



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	IS: 3468,1991, amendment 1, Active August 2011	Pipe nuts.
	IS: 3589, 2001 ,amendments 4 , Active August 2011	Seamless or electrically welded steel pipes for water, gas and sewage (168.3 mm to 2032 mm outside diameter).
	IS: 3989, 1984, amendments 5 , Active 2011	Centrifugally cast (spun) iron spigot and socket soil, waste and ventilating pipes, fittings and accessories.
	IS: 4346, 1982, Active August 2011	Specifications for washers for use with fittings for water services.
	IS: 4711,2008, amendments 1, Active August 2011	Methods for sampling steel pipes, tubes and fittings.
	IS: 6392, 1971,amendments1,Active August 2011	Steel pipe flanges
	IS: 6418, 1971, Active August 2011	Cast iron and malleable cast iron flanges for general engineering purposes.
	IS: 7181,1986 amendments 3, Active August 2011	Specification for horizontally cast iron double flanged pipe for water, gas and sewage.
2.	Valves	
	IS: 778,1984, amendments 3, Active August 2011	Specification for copper alloy gate, globe and check valves for water works purposes.
	IS: 1703,2000,amendments1 Active August 2011	Specification copper alloy float valves (horizontal plunger type) for water supply fittings.
	IS: 3950,yr(1979), amendments 1, Active August 2011	Specification for surface boxes for sluice valves.
	IS: 5312 (Part 1),yr(2004),amendments 2, Active August 2011	Specification for swing check type reflux (non return) valves: part 2 Multi door pattern.
	IS: 5312 (Part 2),yr(1986), Active August 2011	Specification for swing check type reflux (non return) valves: part 2 Multi door pattern.
	IS:12992(Part1), yr(1993), Active August 2011	Safety relief valves, spring loaded : Design
	IS:13095, yr (1991), amendments 1, Active August 2011	Butterfly valves for general purposes.
4.	Pumps & Vessels	
	IS: 2002, yr (2009), Active August 2011	Steel plates for pressure vessels for intermediate and high temperature service including boilers.
	IS: 2825 Yr.1969, amendments 5, Active August 2011	Code for unfired pressure vessels.
	IS: 4648 (Part 1) Yr.1968, amendments 1, Active August 2011	Code of practice for Electrical layout in residential building.
	IS: 5600, yr 2002,Active August 2011	Specification for sewage and drainage pumps
	IS: 8034 Yr. 2002, amendments 2, Active August 2011	Specification for submersible pump sets for clear, cold, fresh water.
	IS: 8418 Yr.1999 amendment 1, Active August 2011	Specification for horizontal centrifugal self-priming pumps.
5.	<b>General</b>	
	SP: 6 (1)	Structural Steel Sections
	IS: 325 Yr. 1996, amendments, Active August 2011	Three Phase Induction Motors
	IS: 554 Yr.1999, amendments 1, Active August 2011	Dimensions for pipe threads where pressure tight joints are required on the threads.
	IS: 694 Yr. 2010, amendments 5, Active August 2011	PVC insulated cables for working voltages up to& including 1100 V.





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IS: 779 Yr.1994, amendments 5, Active August 2011	Specification for water meters (domestic type).
IS: 782 Yr.1978, Active August 2011	Specification for caulking load.
IS: 800 Yr.2007, Active August 2011	Code of practice for general construction in steel
IS: 1068 Yr.1993, amendments 1 Active August 2011	Electroplated coatings of nickel plus chromium and copper plus nickel plus chromium.
IS: 1172Yr.1993, Active August 2011	Code of Basic requirements for water supply drainage and sanitation.
IS: 1367 (Part 1)Yr.2002, Active August 2011	Technical supply conditions for threaded steel fasteners: Part 1 introduction and general information.
IS: 1367 (Part 2)Yr.2002, Active August 2011	Technical supply conditions for threaded steel fasteners: Part 2 product grades and tolerances.
IS: 1554 (Part 1) Yr.1988, amendments 4 Active August 2011	PVC insulated (heavy duty) electric cables: Part 1 for working voltages upto and including 1100 V.
IS: 1554 (Part 2)Yr.1988, amendments 3 Active August 2011	PVC insulated (heavy duty) electric cables: Part 2 for working voltages from 3.3 KV upto and including 11 KV.
IS: 1726Yr.1991, Active August 2011	Specification for cast iron manhole covers and frames.
IS: 1742Yr.1983, Active August 2011	Code of practice for building drainage.
IS: 2064Yr.1993, Active August 2011	Selection, installation and maintenance of sanitary appliance code of practice.
IS : 2065Yr.983, Active August 2011	Code of practice for water supply in buildings.
IS : 2373Yr.1981, amendments 3 Active August 2011	Specification for water meter (bulk type)
IS : 2379 Yr.1990, amendments 1 Active August 2011	Color code for identification of pipe lines.
IS : 2527Yr.1984, Active August 2011	Code of practice for fixing rainwater gutters and down pipes for roof drainage.
IS : 2629 Yr.1985, amendments 3 Active August 2011	Recommended practice for hot dip galvanizing on iron and Steel.
IS : 3114Yr.1994, Active August 2011	Code of practice for laying of cast iron pipes
IS : 4111 (Part 1)Yr.1986, Active August 2011	Code of practice for ancillary structures in sewerage system: Part 1 manholes.
IS : 4127Yr.1983, Active August 2011	Code of practice for laying glazed stoneware pipes.
IS : 4853Yr.982, Active August 2011	Recommended practice for radiographic inspection of fusion welded butt joints in steel pipes.
IS : 5329Yr.1983, Active August 2011	Code of practice for sanitary pipe work above ground for buildings.
IS : 5455Yr.1969, Active August 2011	Cast iron steps for manholes.
IS : 6159Yr.1998, Active August 2011	Recommended practice for design and fabrication of material, prior to galvanizing.
IS : 7558Yr.974, Active August 2011	Code of practice for domestic hot water installations.
IS : 8419 (Part 1)Yr.1977, Active August 2011	Requirements for water filtration equipment: Part 1 Filtration medium sand and gravel.
IS : 8419 (Part 2)Yr.1984, Active August 2011	Requirements for water filtration equipment: Part 2



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		under drainage system.
	IS : 9668Yr.1990, Active August 2011	Code of practice for provision and maintenance of water supplies and fire fighting.
	IS : 9842 Yr.1994,amendments 2 Active August 2011	Preformed fibrous pipe insulation.
	IS : 9912Yr.1981, Active August 2011	Coal tar based coating materials and suitable primers for protecting iron and steel pipe lines.
	IS : 10221Yr.2008, Active August 2011	Code of practice for coating and wrapping of underground mild steel pipelines.
	IS : 10446Yr.1983, Active August 2011	Glossary of terms relating to water supply and sanitation.
	IS : 11149 Yr.1984,amendment 1 Active August 2011	Rubber Gaskets
	IS : 11790Yr.1986, Active August 2011	Code of practice for preparation of butt-welding ends for pipes, valves, flanges and fittings.
	IS : 456, 2000	Code of practice for Plain and RCC construction





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**Form of Earnest Money Deposit  
Bank Guarantee Bond**

WHEREAS, contractor.....(Name of contractor) (hereinafter called "the contractor") has submitted his tender dated ..... (date) for the construction of..... (name of work) (hereinafter called "the Tender")

KNOW ALL PEOPLE by these presents that we ..... registered office at ..... (hereinafter called "the Bank") are bound unto **Director, Dr. B R Ambedkar National institute of Technology, Jalandhar** in the sum of Rs. .... (Rs. in words ..... ) for which payment well and truly to be made to the said **Director, Dr. B R Ambedkar National institute of Technology JALANDHAR** the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this ..... day of ..... 20 ..... THE CONDITIONS of this obligation are:

- (1) If after Technical Bid opening of tender; the Contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender;
- (2) If the contractor having been notified of the acceptance of his tender by the **Director, Dr. B R Ambedkar National institute of Technology JALANDHAR**(a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to contractor, if required;  
OR
- (b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and Instructions to contractor,  
OR
- (c) fails or refuses to start the work, in accordance with the provisions of the contract and Instructions to contractor,  
OR
- (d) fails or refuses to submit fresh Bank Guarantee of an equal amount of this Bank Guarantee, against Security Deposit after award of contract.

We undertake to pay to the **Director, Dr. B R Ambedkar National institute of Technology JALANDHAR** either up to the above amount or part thereof upon receipt of his first written demand, without **Registrar, Dr. B R Ambedkar National institute of Technology JALANDHAR** having to substantiate his demand, provided that in his demand the **Director, Dr. B R Ambedkar National institute of Technology JALANDHAR** will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date\* .....after the deadline for submission of tender as such deadline is stated in the Instructions to contractor or as it may be extended by the **Director, Dr. B R Ambedkar National institute of Technology JALANDHAR** 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 OF THE BANK

WITNESS .....

SEAL

(SIGNATURE, NAME AND ADDRESS)



## Dr B R AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY

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### FORM OF PERFORMANCE SECURITY

#### BANK GUARANTEE BOND

In consideration of the President of India (hereinafter called "The Government") having offered to accept the terms and conditions of the proposed agreement between \_\_\_\_\_ and \_\_\_\_\_ (hereinafter called "the said contractor(s)" for the work \_\_\_\_\_ (hereinafter called "The said agreement") having agreed to production of a irrevocable Bank Guarantee for Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) as security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

1. We \_\_\_\_\_ (hereinafter referred to as "the Bank) hereby undertake to  
(Indicate the name of the bank)  
pay to the Government an amount not exceeding Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) on demand by the Government.

2. We \_\_\_\_\_ do hereby undertake to pay the amounts due and payable  
(indicate the name of the bank)  
under this Guarantee without any demure, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only).

3. We, the said bank further undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.

4. We \_\_\_\_\_ further agree that the guarantee herein contained shall  
(Indicate the name of the Bank)  
remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Registrar on behalf of the Government certified that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor (s) and accordingly discharges this guarantee.

5. We \_\_\_\_\_ further agree with the Government that the government  
(Indicate name of the bank)  
shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractor(s) or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).

7. We \_\_\_\_\_ lastly undertake not to revoke this guarantee except  
(indicate the name of Bank)

with the previous consent of the Government in writing.



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8. This guarantee shall be valid upto \_\_\_\_\_ unless extended on demand by Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Dated the \_\_\_\_\_ day of \_\_\_\_\_ for \_\_\_\_\_.  
(indicate the name of Bank)



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**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR  
FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF  
WATER-PROOFING WORKS (All Water - Proofing Items).**

The agreement made this..... day of ..... (Two Thousand\_\_\_\_\_only).....between  
.....S/o ..... (hereinafter called the GUARANTOR of the one part)  
and the Registrarr NIT Jalandhar (hereinafter called the Government of the other part)

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract) dated  
..... and made between the GUARANTOR OF THE ONE PART AND the Government of the other part  
whereby the contractor inter alia undertook to render the building and structures in the said contract  
recitedcompletely water and leak-proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain  
water and leak proof, for ten years from the date of completion of work.

NOW THE GUARANTOR hereby guarantee that work executed by him will render the structures completely  
leak proof and the minimum life of such water proofing treatment shall be ten years to be reckoned from the date of  
the completion of work.

The decision of the Registrar with regard to nature and cause of defect shall be final and binding on  
Guarantor.

During this period of guarantee, the guarantor shall make good all defects and in case of any defect being  
found render the building water proof to the satisfaction of the Registrar calling upon him to rectify the defects failing  
which the work shall be got done by the Department by some other contractor at the Guarantor’s cost and risk. The  
decision of the Registrar as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to execute the water proofing or commits breach thereunder, then the guarantor  
will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be  
incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this  
supplementary agreement. As to the amount of loss and/or damage and / or cost incurred by the Government, the  
decision of the Registrar will be final and binding on both the parties.

IN WITNESS WHEREOF these presents have been executed by the obligator.....and  
..... by.....for and on behalf of Registrar NIT Jalandhar on the day, month  
and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of :-

- 1. ....
- 2. ....

SIGNED FOR AND BEHALF OF THE Registrar NIT Jalandhar BY.....in the presence of :-

- 1. ....
- 2. ....



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**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR  
FOR REMOVAL OF DEFECTS AFTER COMPLETION  
IN RESPECT OF SANITARY INSTALLATIONS/ WATER SUPPLY/ DRAINAGE WORK.**

The agreement made this..... day of ..... (Two Thousand ..... only) .....between  
.....S/o ..... (hereinafter called the GUARANTOR of the one part) and  
the Registrarr NIT Jalandhar (hereinafter called the Government of the other part)

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract) dated  
..... and made between the GUARANTOR OF THE ONE PART AND the Government of the other  
part, whereby the contractor inter alia, undertook to render the work in the said contract recited leak proof with  
sound material and workmanship.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain  
structurally stable, leak proof and guaranteed against faulty material and workmanship, and finishing for five years  
from the date of completion of work.

NOW THE GUARANTOR hereby guarantee that work executed by him will be free from any leakage, seepage,  
cracks in pipes and guaranteed against faulty material and workmanship improper slope, defective galvanizing etc. for  
Five years to be reckoned from the date of completion of the work.

The decision of the Registrar with regard to nature and cause of defect shall be final.

During this period of guarantee, the guarantor shall make good all defects and in case of any defect to  
satisfaction of Registrar at his cost and shall commence the work for such rectification within seven days from the  
date of issue of the notice from the Registrar calling upon him to rectify the defects failing which the work shall be  
got done by the Department by some other contractor at the guarantor's cost and risk. The decision of the Registrar  
as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to make good all defects or commits breach thereunder, then the guarantor will  
indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred  
by him by reason of any default on the part of the GUARANTOR in performance and observance of this  
supplementary agreement. As to the amount of loss and/or damage and or cost incurred by the Government, the  
decision of the Registrar will be final and binding on both the parties.

IN WITNESS WHEREOF these presents have been executed by the obligator .....  
.....and ..... by ..... for and  
on behalf of the Registrarr NIT Jalandhar on the day, month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of :-

1. .... 2. ....

SIGNED FOR AND ON BEHALF OF THE Registrar NIT Jalandhar BY ..... in the presence of :-

1. .... 2. ....



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**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR  
FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF  
STONE WORK/ TILE WORK.**

The agreement made this..... day of ..... (Two Thousand\_\_\_\_\_only) .....between  
.....S/o ..... (hereinafter called the GUARANTOR of the one part) and  
the Registrarr NIT Jalandhar (hereinafter called the Government of the other part)

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract) dated  
..... and made between the GUARANTOR OF THE ONE PART AND the Government of the other part  
whereby the contractor inter alia undertook to render the work in the said contract recited structurally stable  
workmanship, finishing and use of sound materials.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain  
structurally stable and guaranteed against faulty workmanship, improper slope, finishing and materials.

NOW THE GUARANTOR hereby guarantee that work executed by him will be free from any material defects,  
structural defects, cracks, hollow pockets, improper slope, faulty joints etc.

The decision of the Registrar with regard to nature and cause of defect shall be final.

During this period of guarantee, the guarantor shall make good all defects to the satisfaction of the Registrar  
calling upon him to rectify the defects failing which the work shall be got done by the Department by some other  
contractor at the Guarantor’s cost and risk. The decision of the Registrar as to the cost payable by the Guarantor shall  
be final and binding.

That if the guarantor fails to make good all the defects, commits breach thereunder, then the guarantor will  
indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred  
by him by reason of any default on the part of the GUARANTOR in performance and observance of this  
supplementary agreement. As to the amount of loss and/or damage and or cost incurred by the Government, the  
decision of the Registrar will be final and binding on both the parties.

IN WITNESS WHEREOF these presents have been executed by the obligator.....and  
..... by ..... for and on behalf of the Registrar NIT Jalandhar on the day,  
month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of :-

- 1. .... 2. ....

SIGNED FOR AND BEHALF OF THE Registrar NIT Jalandhar BY.....in the presence of :-

- 1. .... 2. ....



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**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR  
FOR REMOVAL OF DEFECTS AFTER COMPLETION  
IN RESPECT OF aluminum DOORS, WINDOWS VENTILATOR WORK.**

The agreement made this..... day of ..... (Two Thousand ..... only).....between .....S/o ..... (hereinafter called the GUARANTOR of the one part) and the Registrarr NIT Jalandhar (hereinafter called the Government of the other part)

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract) dated ..... and made between the GUARANTOR OF THE ONE PART AND the Government of the other part, whereby the contractor inter alia, undertook to render the work in the said contract recited structurally stable, workmanship, powder coating, anodizing, coloring and sealing etc.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain structurally stable and guaranteed against faulty material and workmanship, defective anodizing/ powder coating for five years from the date of completion of work.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable and guaranteed against faulty material and workmanship, defective anodizing/ powder coating for Two years to be reckoned from the date of completion of the work. **for two years to be reckoned from the date of completion of the work.**

The decision of the Registrar with regard to nature and cause of defect shall be final.

During this period of guarantee, the guarantor shall make good all defects and in case of any defect to satisfaction of Registrar at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from the Registrar calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the guarantor's cost and risk. The decision of the Registrar as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to make good all defects or commits breach there under, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and or cost incurred by the Government, the decision of the Registrar will be final and binding on both the parties.

IN WITNESS WHEREOF these presents have been executed by the obligator..... and ..... by ..... for and on behalf of the Registrar NIT Jalandhar on the day, month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of:-

- 1. ....
- 2. ....

SIGNED FOR AND ON BEHALF OF THE Registrar NIT Jalandhar BY ..... in the presence of:-

- 1. ....
- 2. ....





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## LIST OF FIELD TESTS

v) Any other equipment for site tests as outline in BIS and as directed by the Registrar.

### **B. Field Testing Instruments**

- i) Steel tapes – 3 m
- ii) Vernier Calipers
- iii) Micrometer Screw 25 mm gauge
- iv) A good quality plumb bob
- v) Spirit level minimum 30 cms long with 3 bubbles for horizontal vertical
- vi) Wire gauge (circular type) disc.
- vii) Foot rule
- viii) Long nylon thread
- ix) Magnifying glass
- x) Screw driver 30 cms long
- xi) Plastic bags for taking samples
- xii) Levelling machine

### **C. Minimum required T&P**

Sr. No.	Detail of T&P	Qty.	Remarks
1	Concrete mixer with hopper (Full bag)	02	
2	Steel Shuttering	1000 Sq.m.	
3	Needle Vibrator	02	
4	Plate Vibrator	02	
5	Welding Machine	02	

### **PROFORMA FOR TESTS CARRIED OUT**

NAME OF THE WORK:

DIVISION:

AGREEMENT NO. & DATE:

SUB-DIVISION:

Sl. No.	Item	Quantities as per agreement	Frequency as per specification	No. of tests required	R.A. bill No.	Uptodate quantity	No. of tests required	No. of tests actually done	Remarks
1	2	3	4	5	6	7	8	9	10

Signature of Contractor



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## CEMENT/PAINT REGISTER

NAME OF WORK:  
AGREEMENT NO.

DIVISION  
SUB-DIVISION

### Particulars of Receipt

Date of Receipt	Source of receipt with details if any	Batch No.	Date of manufacture	Date of expiry	Qty. received	Progressive Total	Date of Issue	Qty Issued	Items of work for which Issued	Qty. Returned at the end of day's work
1	2	3	4	5	6	7	8	9	10	11

### Particulars of Issue

Net Qty. Issued	Progressive Total	Daily Balance in Hand	Contractor's Initial	J.E.'s Initial		Periodical Check	
				By AE	By EE	By AE	By EE
12	13	14	15	16		17	18



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### LIST OF PREFERRED MAKES FOR CIVIL / SANITARY / ELECTRICAL WORKS

<b>LIST OF PREFERRED MAKES FOR CIVIL / SANITARY WORKS</b>		
<b>LIST OF APPROVED MAKES FOR CIVIL WORKS I/C WATER SUPPLY AND SANITARY WORKS</b>		
S. No.	Material	Approved make
1	WATER PROOFING COMPOUNDS, PLASTICIZER, SUPER PLASTICIZER, GROUTS, POLYMERS, POLYEXPANSE, OTHER CONSTRUCTION	CHOWGULE KOSTER, FOSROC, SIKA, HUNTSMAN (CIBA GEIGY), SUNANDA SPECIALTY COATING, SHIVALIK AGRO POLY PRODUCT LTD. (WATER PROOFING LINER), DR. FIXIT, Berger Paint (Water Proofing Compound).
2	ADMIXTURES	FOSROC, MBT, SIKA, CICO, ASIAN.
3.	VENEERED PARTICLE BOARD[	KITPLY, ACTION TESA, EURO, GREEN, ARCHIDPLY
4	LAMINATED PARTICLE BOARD / LAMINATES	ACTION TESA, GREENLAM, CENTURY PLY, OPTUS, SUNMICA, FORMICA, ARCHIDPLY
5	FLUSH DOOR SHUTTERS	KUTTY FLUSHDOOR, KITPLY INDUSTRIES (SWASTIK), CENTURY, GREENPLY, JAIN WOOD INDUSTRIES, SH. RAM PANELS PVT. LTD., POOJA DECORATIVE PLYWOODS, ARCHIDPLY, Jain Doors Pvt. Ltd.
6	FALSE CEILING- GYPSUM	SAINT GOBAIN, LAFARAGE, DEXUNE, GYPTECH ACOUSTIC SYSTEM
7	FALSE CEILING, -METAL	SAINT GOBAIN, ARMSTRONG, AURA (ASIPL), DEXUNE, GYPTECH ACOUSTIC SYSTEM.
8	PLYWOOD/ VENEER	GREEN, CENTURY, DURO, JAIN WOOD INDUSTRIES, SH. RAM PANELS PVT. LTD., POOJA DECORATIVE PLYWOODS, ARCHIDPLY
9	MELAMINE POLISH	ASIAN PAINTS MELAMINE GOLD, WUDFIN OF PIDILITE, TIMBERTONE OF ICI DULUX.
10	FLOOR SPRING	HARDWYN, GODREJ, GRACE,
11	MULTIPURPOSE LOCKS, C/B	HTTICH, DORSET.DORMA HAFELE, GEZE
12.	SS HARDWARE LIKE :- MORTICE LOCK WITH PAIR OF HANDLES, RECESS HANDLE FITTINGS, FLOOR SPRING, DOOR CLOSER, TOWER BOLTS, FLOOR DOOR STOPPERS	DORMA GMBH & CO.KG, HAFELE INDIA (P) LTD, D-LINE CARL 1 F INTERNATIONAL, GEZE
13	ANODISED ALUMINIUM HARDWARE (HEAVY DUTY)	HARDIMA, EVERITE, GIESSE
14	ALUMINIUM - WINDOWS, GLAZING ANDPARTITIONS.	JINDAL, INDALCO, HINDALCO, BHORUKA.
15	GLAZING STRUCTURAL / SUSPANDED / SKYLIGHT	SAINT GOBAIN, GLAVERBEL, PILKINGTON
16	FLOAT GLASS, FROSTED GLASS	SAINT GOBAIN, ASAHI,PILINGTON, VIRACON
17	GLASS SPIDER CANOPY	DORMA, ALUCOB, ALUPRO
18	HERMITICALLY SEALED PERFORMANCEGLASS & TOUGHENED GLASS	SAINT GOBAIN, PILINGTON, EMIRATES GLASS(PROCESSED BY THEMSELVES OR BY THEIR APPROVED PROCESSORS), Asahi India Glass.
19	FIRE RATED VISION PANELS	PILKINGTON, SCHOTT, FERILITE.
19A	FIRE RATED WOODEN/METAL DOORS	GODREJ, KUTTY, NAVAIR, SYNERGY, PROMAT.
20	SKYLIGHT - THERMOFORM	MCCOY ARCHITECTURAL SYSTEM, VERGOLA, ABUCOB
21	EPDM GASKET	HANU/ ANAND, RAVEN, ZERO.
22	STRUCTURAL, SUSPANDED GLAZING, CURTAIN WALL GLAZING, GLAZED SKYLIGHT FABRICATORS.	ALUPRO, SP FABRICATORS, GLAZE TECH, GREENFAÇADE
23	SILICON SEALANT,WEATHER SEALANT	G.E. PLASTICS, DOW CORNING, WACKER.
24	POLY-SULPHIDE SEALANT	CHOKSEY CHEMICALS, FOSROC, DR. FIXIT, SIKA
25	FIRE SEALENT	BTMH, PROMAT, ALSTOM, BIRLA 3M.
26	CERAMIC TILES/ GLAZED TILES/ HEAT RELFLECTIVE CERAMIC ROOF TILES	KAJARIA, NITCO, SOMANY, RAK CERAMICS, AGL TILES WORLDS(AGIL)



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27	VITRIFIED TILES	KAJARIA, NITCO, SOMANY, RAK CERAMICS, RIWASA TILE, AGL TILES WORLDS (AGIL), ORIENTBELL.
28	TILE ADHESIVE	CICO, PIDILITE, FERROUS CRETE, Berger Paint
29	GROUTING COMPOUND	ENDURA, PIDILITE OR APPROVED EQUIVALENT
30	DASH / ANCHORING FASTENERS	HILTI, FISCHER OR APPROVED EQUIVALENT
31	TRANSLUCENT	G.E. PLASTIC (POLYCARBONATE SHEETS), POLYGEL
32	WALL PUTTY	BIRLA WALL CARE, JK WHITE OR APPROVED EQUIVALENT
33	EXTERIOR PAINT/ (WEATHER PROOF) ACRYLIC BASED	BERGER - (WEATHERCOAT LONG LIFE), ICI (DULUX WEATHERSHIELD MAX), ASIAN PAINTS (APEX ULTIMA), KANSAI NEROLAC, SHALIMAR.
34	EMULSION PAINTS	ICI (DULUX GLOSS), NEROLAC, ASIAN PAINTS, SHALIMAR.
35	STEEL PRIMER	ICI, NEROLAC, ASIAN PAINTS.
36	WOOD PRIMER	ICI, NEROLAC, ASIAN PAINTS, SHALIMAR.
37	TEXTURED PAINT	ASIAN, ICI, KANSAI NEROLAC, SHALIMAR.
38	SYNTHETIC ENAMEL PAINT	ASIAN, ICI, KANSAI NEROLAC, SHALIMAR Berger Paint.
39	EPS	SNOW PACK POLYMERS, RELIABLE INSUPACKS, FAIRMATE
10	GLASS REINFORCED CONCRETE SLATES	UNISTONE, GRC INDIA CO,, KAMDHENU GRC ENTERPRISES
41	G.I. / M.S. PIPE	TATA, JINDAL (HISAR), PARKASH STEEL TUBES
42	G.I. FITTINGS	UNIK, KS, AMCO, AVR, ZOLOTO
43	WASH BASIN/ URINAL/WC/WALL WATER CLOSET/OVAL UNDER COUNTER HUNG	HINDWARE, DURAVIT, CERA, SOMANY, KEROVIT
44	STAINLESS STEEL SINK (OUT OF SALEM)	NEELKANTH, NIRALLI, JYNA, SILVER SHINE, SHAKTI ENTERPRISES, PRAYAG
45	FLOAT VALVE	IVC, LEADER, PRAYAG, KALSI PUMP PVT. LTD., DHAWAN SANITARY UDYOG (PRIMA), PRAYAG
46	CP FITTINGS AND ACCESSORIES	JAQUAR, MARC, KOHLER, JAINKO, GROHE, KEROVIT, SHAKTI ENTERPRISES, PRAYAG
47	CENTRIFUGALLY CAST (SPUN) IRON PIPES & FITTINGS	BIC (BENGAL IRON CORPORATION, KOLKATA), NECO, HIF, HEPKO, SKF, RPMF
48	CENTRIFUGALLY CAST (SPUN) IRON PIPES (CLASS LA).	NECO, ELECTRO STEEL, KAPILANSH, RPMF
49	GUN METAL VALVES, GLOBES	LEADER, ZOLOTO, KILBURN, CIM VALVES, SANT, ANNAPURANA
50	BRASS STOP & BIB COCK	ZOLOTO, SANT, L&K, LEADER, JAINKO, KALSI PUMP PVT. LTD., DHAWAN SANITARY (PRIMA), PRAYAG
51	STONEWARE PIPES & GULLY TRAPS	PREFECT, HIND OR ISI MARKED S.W. PIPES
52	MIRROR GLASS	ATUL, MODI GUARD, GOLDEN FISH
53	GLAZED FIRE CLAY KITCHEN SINK	PAMINI, SANFIRE, RKCP
54	PVC PIPE & FITTINGS	SUPREME, AKG, FINOLEX, PRINCE, KISAN, SFMC, DIPLAST, PRAYAG
55	NON RETURN VALVE (CHECK VALVE) 1/2" TO 1 1/4"	KALSI PUMPS PVT. LTD. ZOLOTO, ANNAPURNA
56	BRASS FERRULES	DHAWAN SANITARY UDYOG (PRIMA), KALSI, ANNAPURNA
57	POLYETHYLENE WATER STORAGE TANK	SINTEX, VEXTUS, FRONTIER, KAVARI
58	REINFORCEMENT STEEL TMT BARS (FE 500D Grade) & TMT RE-BARS CONFORMING TO IS 1786-2008 FE500D CORROSION RESISTANT STEEL GRADE	SAIL, TATA STEEL LTD., RINL, JINDAL STEEL & POWER LTD. AND JSW STEEL LTD.
59	(I) ORDINARY PORTLAND/ PORTLAND POZZOLONA CEMENT	ACC, ULTRATECH CEMENT LTD., GUJARAT AMBUJA, VIKRAM, BIRLA, JK CEMENT JP ASSOCIATES, SHREE CEMENT LTD.,
	(i) WHITE CEMENT	J.K. LAKSHMI, M/S BINANI CEMENT, M/S KHYBER INDUSTRIES
60	GYPSUM PLASTER	FERROUS CRETE/GYROC-SAINT GOBIAN
61	EPOXY MORTAR	FOSROC/SIKA/CICO/LATICRETE/FEROUS
62	BITUMEN	IOCL, BPCL, HPCL



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63	MODULAR KITCHEN CABINETS	SLEEK/ GODREJ/ ZUARI/ HETTICH/ DURIAN/ DORMA/ HARDWYN/ KICH
64	MODULAR KITCHEN HARDWARE AND ACCESSORIES	SLEEK/ GODREJ/ ZUARI/ HETTICH/ DURIAN/ DORMA/ HARDWYN/ KICH.
65	WATER PROOF PLYWOOD( MARINE PLY)	DURO/ CENTURY/ ARCHID
66	S.S. BASKETS	STALLION,KAFF,GODREJ
67	HARDWARE AND FITTINGS SUCH AS HINGES,DRAWER SLIDES ETC.	HETTICH, EBCO,KAFF, OZON, HAFFLE, GODREJ
68	AUTOCLAVED AERATED CEMENT BLOCKS	BILTECH, ECO GREEN, FINECRETE, J.K. LAKSHMI CEMENT LTD.
69	M.S. TUBES/HOLLOW STEEL SECTION	TATA STEEL LTD, JINDAL INDUSTRIES HISSAR, BHUSHAN POWER STEEL, JSW STEEL LTD.
70	BLOCK BOARD	MERINO, KIT PLY, NATIONAL, ARCHID PLY, CENTURY PLY, JAYNA.
71	POLYMER MODIFIED ADHESIVE FOR AAC BLOCKS	MYK LATICRETE, FERROUS CRETE, ARDEX ENDURA, ULTRATECH, AEROCON.
72	CRYSTLINE SLURRY	KRYSTOL T1, BOSTIK K11, ELOKT, PAM TIES
73	ASBESTOS FIBRE REINFORCED AERATED CEMENT	EVEREST, CHARMINAR, BISON PANEL
74	Roller Blinds	MAC, NOVA, DECK
75	Submersible Pump	Kirloskar/ Crompton Greaves/ Siemens

### NOTE:

- (i) A List of Preferred Brand Names of Various Materials/ Products are shown above for usage in execution of Work. However, Approved equivalent material of any other Specialized Companies/ Firms may also be used, in case it is established that the Brands Specified below are not available in the market or in other unavoidable circumstances and subject to Approval of the alternate Brand by the [Registrar](#). However, in case, the equivalent model so approved, is cheaper than the model already mentioned in item/approved makes list, the price adjustment will be made based on the difference in market rate. In case, the rate of subsequently approved model is more, no extra payment will be made on this account.
- (ii) It must be ensured, in general, that all materials to be used in the works shall bear BIS Certification mark. In cases where for a particular material/product, BIS Certification Mark is not available, then the material proposed to be procured can be used subject to the condition that it should conform to C.P.W.D. Specifications 2009 Vol. I & II and relevant BIS codes. In such cases written approval of the [Director](#) shall be obtained before use of such material in their works.
- (iii) The list given below does not absolve the Executing Agency from their responsibility for using these products. It is only after, they are satisfied about the quality and performance, the products shall be used. To achieve this, proper check on the quality of the product, actually to be used, should be exercised.
- (iv) The Director, Dr. B R Ambedkar National Institute of Technology, Jalandhar or his successors reserves the right to add or delete any materials and brands in the list of approved makes. However, in case, the equivalent model so approved, is cheaper than the model already mentioned in item/approved makes list, the price adjustment will be made based on the difference in market rate. In case, the rate of subsequently approved model is more, no extra payment will be made on this account.



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## CENTRAL PUBLIC WORKS DEPARTMENT

### OFFICE MEMORANDUM

No. DG/SE/CM/CON/Misc./02

ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAWAN, NEW DELHI

DATED: 16.03.2016

**Sub: Draft Special Conditions for NIT to comply directives of Hon'ble National Green Tribunal dt. 04.12.2014 & 10.04.2015 and EIA Guidance Manual issued in February 2010**

The guidelines have been issued by SE(TLC), CPWD vide OMs dt. 23.12.2014 and 01.06.2015 on the subject matter in pursuance of orders passed by Hon'ble National Green Tribunal. The Director(Tech & PR) has also issued directives on Air Pollution from construction and demolition activity. These guidelines should be made part of NIT as special conditions and agreement items. The same are summarized as under:-

1. The contractor shall not store/dump construction material or debris on metalled road.
2. The contractor shall get prior approval from Engineer-in-Charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
3. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and /or other similar material to ensure that no construction material dust fly outside the plot area.
4. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precautions that the vehicles are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air/contaminate air.
5. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
6. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relating to dust emission.
7. The contractor shall ensure that C&D waste is transported to the C & D Waste site only and due record shall be maintained by the contractor.
8. The contractor shall compulsory use of wet jet in grinding and stone cutting.





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9. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.
10. The contractor shall carry out on-Road- Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
11. The contractor shall ensure that all DG sets comply emission norms notified by MoEF.
12. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.
13. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
14. The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects. The NIT approving authority shall carry out cost benefit ratio analysis of the same.

### Conditions to be included as Agreement item.

1. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and /or other similar material to ensure that no construction material dust fly outside the plot area.  
**The NIT approving authority shall take such item in the schedule of quantity to ensure that the construction activity does not cause any air pollution during course of construction and/or storage of material or construction activity.**
2. The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects. The NIT approving authority shall carry out cost benefit ratio analysis of the same.  
**Based on the cost benefit ratio analysis, the NIT approving authority shall include the item of paving of path in schedule of item which can be utilized as a permanent path for client after construction of project.**
3. **The NIT approving authority shall take lead of C&D waste from construction site to C&D waste site in the scheduled of item.**

  
Superintending Engineer (C&M)

Issued from file no. CSQ/CM/ 17(1 )/2016

Copy to:

- (1) All Spl. DGs/ADGs CPWD. E-in-C PWD, Delhi Govt. They are requested to endorse a copy of this to all CEs, SEs & EEs concerned.

  
Executive Engineer (C)





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केन्द्रीय लोक निर्माण विभाग

कार्यालय ज्ञापन

No. DG/CON/312

ISSUED BY THE AUTHORITY OF DIRECTOR GENERAL, CPWD

Nirman Bhawan, New Delhi

Dated: 17.02.2021

Subject: Modification in Clause 12 of GCC 2020 for Construction Works.

The following modifications are made in the GCC for Construction Works.

Existing Provision	Modified Provision
<p><b>Clause 12</b> <b>Deviations/Variations Extent and Pricing</b> The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.</p>	<p><b>Clause 12</b> <b>Deviations/Variations Extent and Pricing</b>  <b>No Change</b></p>
<p><b>12.1</b>The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the contractor, as follows: (i) in the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus (ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.</p>	<p><b>No Change</b></p>



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<p><b>12.2 Deviation, Extra Items and Pricing</b> In the case of extra item(s) (items that are completely new, and are in addition to the items contained in the contract), the contractor may within fifteen days of receipt of order or occurrence of the item(s) submit market rate claim rates, supported by proper analysis which shall include invoices, vouchers etc. and Manufacturer's specification for the work failing which the rate approved later by the Engineer-in-Charge shall be binding and the Engineer-in-Charge shall within prescribed time limit of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined, failing which it will be deemed to have been approved.</p>	<p><b>12.2 Deviation, Extra Items and Pricing</b> In the case of extra item(s) (items which are not available in the contract), the contractor may within fifteen days of the receipt of order or occurrence of the item(s), submit claim for market rate(s), supported with proper analysis of rate and manufacturer's specification for the work, invoices, vouchers, etc. (as applicable), failing which the rate(s) approved later by the Engineer-in-Charge shall be final and binding. Where the contractor submits claim for market rate(s) in the manner prescribed above, the Engineer-in-Charge shall, within 45 days of the receipt of the claims, after giving consideration to the analysis of rates and other documents submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined. <b>The rate(s) of extra items so determined by the Engineer-in-Charge shall be final and binding on the contractor, and shall not be arbitrable.</b></p>
<p>In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para.</p> <p>a) If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).</p> <p>b) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).</p>	<p>Deleted</p> <p>Deleted</p>



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<p><b>Deviation, deviated Quantities, Pricing</b>          In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above-mentioned limits, ..... and the contractor shall be paid in accordance with the rates so determined.</p> <p>The prescribed time limit for finalizing rates for Extra Item(s), Substitute Item(s) and Deviated Quantities of contract items is within 45 days after submission of proposal by the contractor without observation of the Engineer-in-Charge.</p>	<p><b>Deviation, deviated quantities, Pricing</b>          In the case of contract items which exceed the limit laid down in Schedule F, the contractor may within fifteen days of the receipt of order or occurrence of the excess, claim revision of the rates, supported with proper analysis of rate and invoices, vouchers, etc. (as applicable), for the quantity in excess of the above-mentioned limit. The Engineer-in-Charge shall within 45 days of receipt of the claims, after giving consideration to the analysis of rates and other documents submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.  <b>The rate(s) so determined by the Engineer-in-Charge shall be final and binding on the contractor, and shall not be arbitrable.</b></p>
<p><b>12.3</b> The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Schedule F, and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.</p>	<p><b>12.3</b> In the case of contract items which exceed the limit laid down in Schedule F, the Engineer-in-Charge shall after giving notice to the contractor within 30 days of submission of that bill by the contractor which contains such item(s), and after taking into consideration any reply received from the contractor within 15 days of the issue of such notice, reduce the rate for quantity in excess of the above-mentioned limit on the basis of market rates, within 30 days of the expiry of the said period of 15 days, and the contractor shall be paid in accordance with the rates so determined.  <b>The rate(s) so determined by the Engineer-in-Charge shall be final and binding on the contractor, and shall not be arbitrable.</b></p>
<p><b>12.4</b> For the purpose of operation of Schedule "F", the following works shall be treated as works relating to foundation unless &amp; otherwise defined in the contract:</p> <ul style="list-style-type: none"> <li>(i) For Buildings: All works up to 1.2 metres above ground level or up to floor 1 level whichever is lower.</li> <li>(ii) For abutments, piers and well staining: All works up to 1.2 m above the bed level.</li> <li>(iii) For retaining walls, wing walls, compound walls, chimneys, overhead reservoirs/ tanks and other elevated structures: All works up to 1.2 metres above the ground level.</li> </ul>	<p><b>Deleted</b></p>






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(iv) For reservoirs/tanks (other than overhead reservoirs/tanks): All works up to 1.2 metres above the ground level. (v) For basement: All works up to 1.2 m above ground level or up to floor 1 level whichever is lower. (vi) For Roads, all items of excavation and filling including treatment of sub base.	<b>Deleted</b>
<b>12.5</b> Any operation incidental to or necessarily has to be in contemplation of tenderer while quoting tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be. Nothing extra shall be admissible for such operations.	<b>12.5</b> The cost of any operation necessarily in contemplation of tenderer while quoting tender or necessary or incidental to proper execution of an item of work included in the Schedule of Quantities or in the Schedule of Rates mentioned in Schedule F, whether or not specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said Schedule of Rates, as the case may be. Nothing extra shall be admissible for such operations.


This issues with the approval of competent authority.

  
(सी०पी० साहु)  
17-02-2021

अधीक्षण अभियंता(सी०एंड एम०)

Issued from file No.CSQ/CM/17(1)/2020 e-file no. 9104203

प्रतिलिपि: सभी केलोनिवि तथा लोनिवि दिल्ली के अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु। (केलोनिवि वेबसाईट के माध्यम से)

  
(सी०पी० साहु)  
17-02-2021  
अधीक्षण अभियंता(सी०एंड एम०)



## Dr B R AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY

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### **GUIDELINES REGARDING SIGNING OF INTEGRITY PACT BY THE BIDDER AT THE TIME OF SUBMISSION OF BID (Vide No. DG/CON/255A dated 10.08.2011)**

**Sub: Clarification regarding Introduction of Integrity Pact introduced vide OM No. CON 255 dated 23.05.2011**

A new provision of Integrity Pact (IP) was introduced in GCC-2010 vide OM No. CON/255 dt. 23.05.2011. In the OM it is mentioned that at the time of submission of bid, it shall be mandatory to sign the pact by the bidder failing which the bidder will stand disqualified from the tendering process and such bid would be summarily rejected.

Some field Units have raised their doubts regarding submission of duly signed Integrity Pact by the bidder at the time of submission of bid. In this regard it is clarified that:

1. Submission of duly signed Integrity Pact by the bidder is applicable in case of manual tendering where e-tendering is not followed.
2. In case of manual tendering Executive Engineer should sign the first page addressed to the intending bidder at the time of issue of tender form and before submission of the bid, each bidder shall sign IP at respective places and submit the bid. If duly signed IP is not submitted by the bidder, such bid shall not be considered.
3. In case of e-tendering, Integrity Pact shall be treated in the same manner as other components of the bid document. In e-tendering, the intending bidder does not sign any document physically and entire bid document is submitted through digital signature. Since IP is a part of bid document no separate physical submission is required with other documents to be submitted in the office of tender opening authority. In addition to other component of bid document, the Integrity Pact along shall also be signed between Registrar and successful bidder after acceptance of bid.



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**INTEGRITY PACT**

To,

.....,  
.....,  
.....

**Sub: NIT No. .... for the work .....**

Dear Sir,

It is here by declared that [NIT, Jalandhar](#) is committed to follow the principle of transparency, equity and competitiveness in public procurement. The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer/ bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the [NIT, Jalandhar](#).

Yours faithfully

Registrar





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**INTEGRITY PACT**

To,

Registrar,

.....,  
.....

**Sub: Submission of Tender for the work of .....**

Dear Sir,

I/We acknowledge that **NIT, Jalandhar** is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

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

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

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

Yours faithfully

(Duly authorized signatory of the Bidder)



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## To be signed by the bidder and same signatory competent / authorized to sign the relevant contract on behalf of NIT, Jalandhar. INTEGRITY AGREEMENT

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

### BETWEEN

..... represented through Registrar, Dr. B R Ambedkar National institute of Technology, Jalandhar (Hereinafter referred as the 'Principal/ Owner', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

### AND

.....  
(Name and Address of the Individual/firm/Company)

through ..... (Hereinafter referred to as the  
(Details of duly authorized signatory)

"Bidder/ Contractor" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

### Preamble

WHEREAS the Principal/ Owner has floated the Tender (NIT No.....)

(hereinafter referred to as "Tender/ Bid") and intends to award, under laid down organizational procedure, contract for.....

(Name of work)

hereinafter referred to as the "Contract".

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

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

### Article 1: Commitment of the Principal/Owner

- 1) The Principal/ Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
  - i. No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
  - ii. The Principal/ Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
  - iii. The Principal/Owner shall endeavor to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- 2) If the Principal/ Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/ Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.



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

- 1) It is required that each Bidder/ Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government/ Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- 2) The Bidder(s)/ Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
  - a) The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/ Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
  - b) The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
  - c) The Bidder(s)/ Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/ Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
  - d) The Bidder(s)/ Contractor(s) of foreign origin shall disclose the names and addresses of agents/ representatives in India, if any. Similarly Bidder(s)/ Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/ representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
  - e) The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
- 3) The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 4) The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.**
- 5) The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).

### **Article 3: Consequences of Breach**

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

- 1) If the Bidder(s)/ Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/ Owner after giving 14 days notice to the contractor shall have



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- powers to disqualify the Bidder(s)/ Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/ Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/ Owner. **Such exclusion may be forever or for a limited period as decided by the Principal/Owner.**
- b. **Forfeiture of EMD/Performance Guarantee/ Security Deposit:** If the Principal/ Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/ determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/ Owner apart from exercising any legal rights that may have accrued to the Principal/ Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/ Contractor.
  - c. **Criminal Liability:** If the Principal/ Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

### **Article 4: Previous Transgression**

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

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

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

### **Article 6- Duration of the Pact**

This Pact begins when both the parties have legally signed it. It expires for the Contractor/ Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded. If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, [NIT, Jalandhar](#).

### **Article 7- Other Provisions**

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



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**Article 8- LEGAL AND PRIOR RIGHTS**

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

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

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

.....  
(For and on behalf of Bidder/Contractor)  
WITNESSES:

1. ....  
(signature, name and address)

2. ....  
(signature, name and address)

Place:

Dated :



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**Dr. B R Ambedkar National Institute of Technology, Jalandhar**

**Name of work: "Construction and Provisioning for boundary wall fencing work at sewerage treatment plant and near old SAC building at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar"**

**PART B**

**(Schedule of Quantities)**





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**Schedule of Quantities (Civil Work)**

**Name of work:** “Construction and Provisioning for boundary wall fencing work at sewerage treatment plant and near old SAC building at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar

<b>Estimate for Fencing of STP Area &amp; old SAC building</b>					
<b>Sr. No.</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>
1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.				
	All kinds of soil.	cum	70.23	286.85	20145.48
2	Centering and shuttering including strutting, propping etc. and removal of form work for :				
	Retaining walls, return walls, walls (any thickness) including attached pilasters, buttresses, plinth and string courses fillets, kerbs and steps etc.	sqm	154.04	669.55	103137.48
3	CEMENT CONCRETE (CAST IN SITU) Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
	1:3:6 (1 Cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources)	cum	49.43	6833.40	337774.96
4	Brick work with common burnt clay modular bricks of class designation 7.5 in foundation and plinth in:				
	Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	109.08	5746.80	626860.94



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5	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				
	MiThermo-Mechanically Treated bars of grade Fe-500D or more.	kg	1808	89.65	162087.20
6	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	cum	21.88	7365.15	161149.48
7	12 mm cement plaster of mix				
	1:4 (1 cement: 4 fine sand)	sqm	462.08	294.85	136244.29
8	Providing and fixing G.I. chain link fabric fencing of required width in mesh size 50x50 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge				
	Made of G.I. wire of dia. 4 mm, PVC coated to achieve outer dia not less than 5 mm in required colour and shade	sqm	393	901.65	354348.45
9	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	kg	2180.72	142.30	310316.46
10	Finishing walls with Acrylic Smooth exterior paint of required shade :				
	New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	sqm	644.4	166.85	107518.14



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11	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.		sqm	644.4	123.85	79808.94
12	Distempering with 1st quality acrylic distemper (ready mixed) having VOC content less than 50 gms/litre, of approved manufacturer, of required shade and colour complete, as per manufacturer's specification					
	Two or more coats on new work		sqm	644.4	92.75	59768.10

**(Registrar)**

**Read and Accepted.**

**(Signature & Stamp of Tenderer)**