

CSIR- Central Scientific Instruments Organisation
Sector-30, Chandigarh
(Engineering Services Division)
(Telefax: 0172-2657083)

CSIO/ 1512/2023-24/ESD

NIT No. 10/2025-26/ESD/CSIO/Chd.

Subject: Recarpetting of roads in colony area in CSIR-CSIO, Chandigarh.

NOTICE INVITING E-TENDER FOR WORKS

Sealed item rate online tender (E-tender) are invited for the road construction contractor following work from Contractor of appropriate class of CPWD, Railways, MES, State PWD/ Central Govt./ Semi Govt. organizations/ Public Sector undertaking/ Govt. Autonomous bodies and / or from those who have carried out similar works for CSIR satisfactorily 1/2/3 similar works of 80% /60%/40% respectively of the estimated value of the cost during last (7) years ending January 2026. Similar work means **Providing laying bituminous surfacing work through mix of HOT MIX plant laid with sensor paver and vibratory rollers” done in any Central Government Department / Central Autonomous Body / Central Public Sector Undertakings /State Government in last 7 years** The similar work means road construction, bituminous road concrete work etc. The tenderer is required to produce the proof of fulfilling these conditions number.

The tenderer shall bid the tender through <https://etenders.gov.in/eprocure/app>.

The estimated cost of each work of the tender based on prevailing market rates & CPWD, DSR-2023 is indicated below:

Tender Reference No.	Name of the work	Estimated cost	Earnest money deposits/ Tender Fee	Period of contract
NIT No. 10/ 2025-26/ ESD/ CSIO/ Chd.	Recarpetting of roads in colony area in CSIR-CSIO, Chandigarh	Rs.=80,48,311.00	Rs.= 1,60,967.00	01 Months

Time Schedule for Tender:

Sl. No.	Particulars	Date	Time
1	Tender e-Publication date	23.01.2026	15.00 Hours
2	Document download/Sale start date	23.01.2026	15.00 Hours
3	Bid submission start date	23.01.2026	17.30 Hours
4	Bid submission end date	02.02.2026	17.00 Hours
5	Bid opening date	04.02.2026	15.30 Hours

The details of the Notice inviting E-Tender and complete documents can be seen at the E-Tendering portal <https://etenders.gov.in/eprocure/app>. Tenders should be submitted on the specified form (Non-transferable) which is available at <https://etenders.gov.in/eprocure/app>.

Sr. Superintending Engineer (Civil)
Engineering Services Division

CSIR-Central Scientific Instruments Organisation
Sector-30, Chandigarh
(Engineering Services Division)
(Telefax: 0172-2657083)

CSIO/ 1512 /2023-24/ESD

NIT No. 10/2025-26/ESD/CSIO/Chd.

Subject: Recarpetting of roads in colony area in CSIR-CSIO, Chandigarh.

E-Tender

Online item-rate tenders are hereby invited through e-tendering portal <https://etenders.gov.in> for the work of **Recarpetting of roads in colony area in CSIR-CSIO, Chandigarh** from the firms having worked with CPWD, Railways, MES, Post and telegraph Deptt., state PWD's, Semi government organization or those who have successfully carried out works for CSIR or its laboratories and have successfully completed at least three similar work amounting to 40% or at least two similar works amounting to 60% or at least one work of painting amounting to 80% or above in single contract of the estimated cost of work during the last seven years ending January 2026. Similar work means **Providing laying bituminous surfacing work through mix of HOT MIX plant laid with sensor paver and vibratory rollers" done in any Central Government Department / Central Autonomous Body / Central Public Sector Undertakings /State Government in last 7 years.** The contractors may apply with proof of fulfilling the above conditions along with copies of PAN Card, GST registration number and satisfactory work completion certificates. The contractor debarred will not be considered for maintenance tender.

The estimated cost of work is **Rs. 80,48,311.00/- (Rupees Eighty Lakhs Forty Eight Thousand Three Hundred Eleven only)** based on CPWD, DSR-2023 including cost index and GST.

1. Duration of contract for carrying out of the work will **01 Months** from the date of commencement which shall be reckoned from the tenth day of issue of award letter.
2. The tender in two bid system shall be submitted through online at CPP-portal by the tenderer, as per date given in Critical Date Sheet below:

Critical Date Sheet

S. No.	Schedule of Activities	Date and time
1	Publish Date on CPP Portal	23.01.2026 15.00 hours
2	Bid Document downloaded/sale start date	23.01.2026 15.00 hours
3	Bid submission start date	23.01.2026 17.30 hours
4	Bid submission end date	02.02.2026 17.00 hours
5	Last time and time of submission of original Demand Drafts against Tender fee & EMD at CSIR-CSIO, Chandigarh.	03.02.2026 15.00 hours
6	Technical Bid opening date	04.02.2026 15.30 hours
7	Financial Bid opening date	To be intimated later on

3. Tender processing fee of **NIL** non-refundable and Earnest Money Deposit (EMD) of **Rs. 160967.00/-** will required to be paid offline in the form of Demand Draft (DD) drawn in favour of Director CSIO payable at Chandigarh from nationalized or any scheduled bank (but not from co-operative or Gramin Bank). The original demand Drafts (DD), against above should reach by post/ courier/ given in person to Sr.SE (C),Central Scientific Instruments Organisation,Sector-30, Chandigarh as specified in the critical date sheet given in subsequent para of this e-NIT. The details of Demand drafts, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time in **Cover-I**.

The tenderers who fail to submit the hard copy of Tender fee & EMD (in original) by due date and time, their tender shall be rejected out-rightly. Postal delay, if any, will not considered/ entertained.

Scanned copies of Tender processing fee and Earnest money Deposit (EMD) shall be uploaded in Cove-1 of the e-tender. Tenders received without tender cost and earnest money deposit will not be considered.

4. The employer does not bind himself to accept the lowest or any tender and reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rates quoted by him.

5. The tenderer shall not be permitted to tender for works in the concerned unit of CSIR in which a relative is posted in the grade between Controller of Administration and Junior Engineer, (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or subsequently employed by him and who relatives are as mentioned above.

NOTE: A person shall be deemed to be a relative of another if, (a) they are members of a Hindu undivided family: (b) they are husband and wife: (c) the one is related to the other in the following manner: Father: Mother (including step mother), Son (including step son), Son's wife, Daughter (including step daughter), Father's father, Son's son, Son's Son's wife, Son's daughter, Son's Daughter's husband, Daughter's husband, Daughter's son, Daughter's Son's wife, Daughter's daughter, Daughter's husband, Brother (including step brother), Brother's wife, Sister (including step sister), Sister's husband.

6. Tender submitted shall remain valid for 90 days from the date of opening for the purpose of acceptance and award of work, validity beyond 90 days from the date of opening shall be by mutual consent.
7. In e- tendering, tenderer can quote the rates in figure only. The rates in words, amount of each item and total is generated automatically. Therefore, the rate quoted by the tenderer in figure is to be taken as correct.
 - i) When there is a difference between the rates in figures and words, the rates, which correspond to the amounts worked out by the tenderer, shall be taken as correct.
 - ii) When the amount of an item is not worked out by the tenderer or it does not correspond with the rate written either in figures or in words, the rate quoted by the tenderer in words shall be taken as correct.
 - iii) When the rate quoted by tenderer in figures and in words tallied but the amount is not worked out correctly the rate quoted by the tenderer shall be taken as correct and not the amount.
8. The tenderer should carefully see the contract drawings (as applicable) as no claim, whatsoever, will be entertained for any alleged ignorance thereof.
9. Before tendering, the tenderer shall inspect the site to fully acquaint himself about the condition in regard to accessibility of site, nature and area/ extent of ground, working condition of site and locality including stacking of materials, installation of tools and plants etc., conditions affecting accommodations and movement of labour etc. required for the satisfactory execution of the work contract. No claim whatsoever on such account shall be entertained by the Employer under any circumstances.
10. If any tenderer withdraws his tender within the validity period or makes any modification in terms and conditions of the tender, before the award of work, which are not acceptable to CSIR-CSIO shall, without prejudice to any other right or remedy, shall be at the liberty to forfeit 50% (fifty percent) of the Earnest Money deposit absolutely. Further, the tenderer shall not be allowed to participate in the re-tendering process for this work.
11. 100% Earnest Money will be forfeited if the contractor fails to commence the work within the stipulated period after the letter of award.
12. Except writing rates in figure only, the tenderer should not write any conditions or make any changes, additions alterations and modifications.
13. Some of the provisions of General Conditions of Contract are given below. Interpretation however shall be as given in the General Conditions of the Contract.
 - (a) DEFECT LIABILITY PERIOD is of **12 months** from the date of completion as certified by the Engineer-In-Charge.
 - (b) Minimum value of work for the intermediate / interim certificate will be Rs. **5.00 Lac (Rupees Five)** only).However, a lesser amount can be admitted for Intermediate/ interim certificate at the discretion of the Engineer In charge.
 - (c) SECURITY DEPOSIT: A sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum along with the sum already deposited as earnest money to 5% of the tendered value of the work. In addition, the contractor shall be required to deposit an amount equal to 5% of the contract value as performance security within the period prescribed in the letter of award issued to him.
 - (d) **COMPENSATION:** Contractor shall pay as compensation an amount equal to one percent or such smaller amount as the Employer (whose decision in writing shall be final) may decide on the amount of the award value of the whole work as shown in the award letter/agreement, for every

week that the work remains un-commenced or unfinished or due quantity of work remains incomplete after the scheduled dates. Compensation to be paid shall not exceed ten percent of the contract amount as shown in the agreement.

14. For any queries relating to the Tender Document and the terms and conditions content therein should be addressed to Sr.SE(C), CSIR-CSIO, Chandigarh.

15. Opening of Technical Bid

- (a) The Technical bid will be opened by Tender Opening Committee (TOC). No claim or any grievances will be entertained what-so-ever by the Tender Opening Committee in this regard.
- (b) After evaluation of documents submitted i.e. Technical Bid CSIO will decide the eligible tenders, as per the criteria laid down in the NIT.
- (c) The TOC will open the Financial Bids of only eligible tender on latter date.

16. Opening of Financial Bid

The financial bids of eligible contractor will be opened at latter stage by TOC on online mode.

17. Tender Liable for Rejection.

Tender is liable for outright rejection if on opening it is found that:

- (a) The Tenderer has not strictly followed the procedure laid down for submission of tender.
 - (b) If the tender is CONDITIONAL
 - (c) If the Tenderer has quoted his offer anywhere else other than specified place provided.
 - (d) The Tenderer has not uploaded the documents or failed to fill the prescribed format.
 - (e) Any other ground as decided by the TOC in view of deviation from Tender Document.
18. The instructions for the submission of e-tender are available on the CPP portal i.e. <https://etenders.gov.in/e procure/app> under the "Instruction for Online Bid Submission". All the intending tenderers are requested to go through these instructions before entering into the process of e-tendering.
19. The tenderers shall submit an acceptance letter as per Annexure-I on the form letter head. The scanned copy of the undertaking shall be uploaded in Cover-I and the Original copy of the undertaking should be submitted before award of work to Engineering Services Unit.
20. Clauses No.28 of General Conditions of Contract i.e. "ESCALATION" will not be applicable in this work.
21. Goods and Service Tax (GST) will be applicable their bill as per standard norms of the Government. The contractor shall quote their rates inclusive of all taxes (including GST).
22. The contractor has to pay the current prevailing minimum wages to deployed manpower's including of certification of EPF and ESI as applicable in UT, Chandigarh.
23. Old useable bricks, if available, will be issued for reuse @ Rs. 3500/- per thousand.
24. Bricks Bats, If available, will be issued for making brick ballast etc @ Rs. 270/- per cum.
25. The contractors will make police verification of all the labours, contractor supervisor/engineer as per instruction of Intelligence Bureau.

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date:.....

To,
Director
CSIR-CSIO,
Sector-30, Chandigarh.

Subject: Acceptance of Terms & Conditions of Tender;

e-Tender Reference No.....

Name of work: ... **Recarpetting of roads in colony area in CSIR-CSIO, Chandigarh.**

Dear Sir,

1. I/we have downloaded/ obtained the tender document (s) for the above mentioned work from the website(s) namely: e-tendering portal <https://etenders.gov.in/eprocure/app> as per your advertisement, given in the above mentioned website(s).
2. I/we hereby certify that L/we have read the entire terms and conditions of the tender documents (including all documents like GCC, Scope of work, Annexure(s), list of make, schedule(s), undertaking letter etc.), which form part of the contract agreement and I/we shall abide hereby by the terms/ conditions/ clauses contained therein.
3. The corrigendum (s) issued from time to time by your department/ organization too has also been taken in to consideration, while submitting this acceptance letter.
4. I/we hereby unconditionally accept the tender conditions of above mentioned tender document (s) / corrigendum(s) in it is totally/ entirety.
5. I/we do hereby declare that our firm has not been black listed/ debarred by any Govt. Department/ public sector undertaking.
6. I/we certify that all information furnished by the our firm is true and correct and in the event that the information is found to be incorrect/ untrue or found violated, then your department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the for future of the full said earnest money deposit absolutely.

Yours faithfully,

GENERAL CONDITIONS OF CONTRACT

1. Interpretation

- (a) In construing these conditions, the Specifications, the Schedule of Quantities, Tender, Special Conditions and Agreement, the following words shall have the meaning herein assigned to them except where the subject or context otherwise requires.
- (b) This contract shall comprise of the Articles of Agreement, General Conditions of Contract, Special Conditions. Additional Special Conditions, the Schedule of Quantities, Specifications, letter of acceptance of tender and other documents mentioned in the contents sheet attached hereto and including these to which only reference is made herein.

Work or Works: Shall mean all work or works defined in schedule of quantities, specification and such other work or works as the contractor may be entrusted with for carrying out under this contract.

Employer: Shall mean Director-General, CSIR or any officer authorized by Director-General for the purpose.

Engineer: Shall mean the Engineer designated by the Employer to superintend and perform other duties as indicated in the contract.

Contractor: Shall mean the individual or Firm or Company, whether incorporated or not. Undertaking the work and shall include the legal personal representative or such individual or the persons composing such Firm or Company or the successors of such Firm or Company and the permitted assignees of such individual or Firm or Firms or Company.

Site: Shall mean the site of the contract works including any buildings and erections thereon and any other land adjoining thereto (inclusive) as aforesaid allotted by the Employer or the Engineer for the contractor's use.

Compensation: Shall mean all sum payable by way of compensation under any of the conditions shall be considered as reasonable compensation without reference to the actual loss or damage sustained and whether or not any damage sustained, and whether or not any damage shall have been sustained. Words imputing persons include firms and corporations; Words imputing the singular only also include the plural and vice versa where the context so required.

The headings are given to the clauses for convenience and they will not limit the meaning or scope of the clauses in any way.

2. Drawings and Specifications

The Contractor shall execute whole and every part of the work in the most substantial and workmanlike manner both as regards material and otherwise in every respect in accordance

with the specifications. The contractor shall also confirm exactly and faithfully to the design, drawings and instructions given in the respect of the work by the Engineer. The contractor shall be furnished free of charge one- copy of such specifications and all such designs, drawings and instructions as are not included in the printed publications.

3. Earnest Money Deposit (EMD)

EMD upto the value of **Rs.10,000/-** may be deposited in cash and when value of EMD exceeds **Rs.10,000/-** then EMD should be deposited in the shape of **DD/PO** upto the value of **RS.25 lacs**. If EMD amount is in excess of **RS.25 lacs** then the excess amount over **RS.25 lacs** can be accepted in the form of Bank Guarantee issued by a scheduled bank.

4. Contractor to Provide Everything Necessary

- (a) The contractor shall provide at his own cost all materials (except such materials, if any as may in accordance with the contract be supplied by the Employer) plants, tools, appliance, implements, ladders, scaffolding, temporary works, etc. requisite or proper for the execution of the work whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or which may be necessary for the purpose of satisfying or complying to the requirements of Engineer, as to any manner as to which under these conditions he is entitled to be satisfied together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with means and materials necessary for the purpose of setting out works and counting, weighing and assisting in the measurement or examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer **at the expense of the contractor** and the expenses may be deducted from any money due to the contractor under the contract and / or from his Security Deposit.
- (b) The contractor shall provide himself with requisite quantity and quality of water for carrying out the works at his own, if, however piped water is supplied by the Employer, the contractor shall pay for the water at **one percent of** the total of the work done except on Electrical Work, Air-conditioning work and Furniture work. The contractor shall make own arrangement for water connection and laying of further pipelines from the source of supply of the Employer. It should be clearly understood that the Employer does not guarantee to maintain uninterrupted supply of water and it will be incumbent on the part of the contractor to make alternative arrangement for water at his own cost in the event of any temporary breakdown in the water mains so that the progress of work is not held up for want of water. No claim as damages or refund of water charges will be entertained on account of such breakdowns. However, if the contractor is permitted to make his own arrangement to draw water from a well, hand-pump, or natural river or pond of the Employer, no charges will be made for the water drawn from the same, but the contractor will make good any damage done to the installations and ensure that the quality of water used in the work is conforming to BIS codes and provide for any treatment at his own

cost.

- (c) The contractor shall be allowed to construct temporary wells in Employer's land for taking water for construction purpose only after he has permission of the Employer in writing. No charges shall be recovered from the contractor on this account but the contractor shall be required to provide necessary safety arrangement to avoid any accident or damage to adjacent buildings, roads and service lines. He shall be responsible for any accident or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.
- (d) The Employer on no account shall be responsible for the expenses incurred by the contractor for hired ground or water obtained for elsewhere.
- (e) Subject to availability the Employer may **supply power** at only one point from where the Contractor shall make his own arrangement for distribution including provision of electric meters, switches, fuses etc. at his own cost. These shall be in the custody of the Employer. If there is any hinderance caused to other works the contractor shall reroute or remove such temporary lines without any extra cost. Such temporary lines shall be removed after the completion of work. The cost of power consumed by the contractor shall be payable to the employer at rates fixed by the Employer, which would be deducted from the running account bills. However the Employer does not guarantee the supply of power and no compensation for any failure or short supply of power shall be entertained.

“Sufficiency of Tender:

The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of the tender the works and the rates and the prices quoted in the schedule of items, which rates and the prices shall, except as otherwise provided, cover all his obligation under the contract and all matters and things necessary for the proper completion and maintenance of the works”.

5. Authorities, Notice & Patents

- (a) The contractor shall confirm to any regulations and bye-laws of any corporation and of any electricity supply company and authorities with whose systems the structure is proposed to be connected, and shall before making any variations from the drawing and specifications that may be necessitated for so conforming by giving written notice to the Engineer specifying the **variations proposed** to be made, the reasons for making it and apply for instructions thereon. If the compliance with this clause involves any extra work not included in this contract, he shall specify these items of work and the allowance of extra payment required on their account.

- (b) The contractor shall give all notices required by the said regulations or bye-laws to be given to any Authority and pay to such Authority or to any public office all fees that may be chargeable in respect of the works and lodge the receipts with the bill to the Engineer for reimbursement.

6. Rates to include all Taxes

- (a) Rates quoted by the contractor shall **include sales tax**, duties, octroi, toll tax, realties and all other taxes in respect of this contract and the Employer shall not entertain any claim whatsoever in this respect. Tendered rates are inclusive of all taxes levies payable under the respective statutes. However pursuant to the Constitution (Forty Sixth Amendment) Act; 1982 if any further tax or levy is imposed by Statutes, after the date of receipt of tenders and the contractor there upon necessarily and properly pays such taxes/ levie the contractor shall be reimbursed the amount as per the rules on producing proof of payment so made provided such payments, if any, is not in the opinion of the Employer (whose decision shall be final and binding) attributable to delay in execution of work within the control of the contractor.
- (b) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of the Employer and further shall furnish such other information and documents as the Employer may require.
- (c) The contractor shall within a period of thirty days of imposition of any **further tax** or levy pursuant to the Constitution (Forty Sixth Amendment) Act, 1982 give a written notice thereof to the Employer that the same is given pursuant to this condition together with all necessary information relating thereto.

7. Materials

- (a) If the specifications of schedule of items provide for the use of any material to be supplied by the Employer's stores or if it is required that the contractor shall use certain stores to be provided by the Employer as shown in the schedule of materials hereto annexed, the contractor shall be bound to procure and shall be supplied such materials and stores as are from time to time required to be used by him for the purpose of the contract only and value of the materials so supplied at the rates specified in the said schedule of materials and of the quantities incorporated in the work may be set off or deducted from any sums then due, or thereafter to become due to the contractor under the contract or otherwise or against or from the Security deposit. All materials so supplied to the contractor by the Employer shall remain the absolute property of the Employer and the contractor shall be the trustee of the materials so supplied procured and the said materials shall not be removed/disposed off from the site of the work on any account and shall be at all times open for inspection by the Engineer or Employer. The contractor shall bear all incidental charges for cartage, storage and safe custody of all materials and against

damage due to 'dampness, rain, sun, fires and theft and be fully responsible for their storage and maintenance. Any such material unused and in perfectly good condition in the opinion of the Employer at the time of the completion of work or termination of the contractor or earlier shall be returned to the Employer at a place directed by the Engineer at contractor's cost and at rates stipulated in the said schedule but in case the Employer decides not to take back the materials the contractor shall have no claim for compensation on account of any such materials supplied to him as aforesaid being unused by him or for any wastage or damage to any such materials.

- (b) If for any reason there is delay or non-supply of material as shown in the schedule, the contractor shall procure the same and complete the work in time after due intimation and approval of the Employer. The difference in price (between his procurement price and price shown in the schedule) shall be paid to the contractor. However, in case approval of the Employer is not given, only suitable extension of time would be considered and no other claim of compensation/damages shall be payable by the Employer.
- (c) After completion of the work or on determination/ termination of the contract, the theoretical quantity of cement to be used in work shall be calculated on the basis of statement showing quantity of cement to be used in different items of work provided in current Schedule for the purpose printed by CPWD. In case any item is executed for which the standard contents for the consumption of cement are not available in the above mentioned statement or cannot be derived from this statement, the same shall be calculated on the basis of standard formula to be laid down by the Engineer. Over this theoretical quantity of cement shall be allowed a variation upto 3% plus/minus for works estimated cost of which as put to tender is not more than Rs.10 lakhs and upto 2% plus/ minus for works estimated cost of which as put to tender is more than Rs. 10 lakhs. The difference in the quantity actually issued to the contractor and the theoretical quantity including authorised variation if not returned by the contractor, shall be recovered at twice the issue rate, without prejudice to the provision of other conditions regarding return of material governing the contract. In the event of its being discovered that the quantity of cement which is less than the quantity ascertained as herein before provided (allowing variation on minus side as stipulated above) the cost of quantity of cement not so used, shall be recovered from the contractor on the basis of stipulated issue rates and cartage to site.
- (d) The provisions of foregoing sub-clause shall apply Mutatis-Mutandis in the case of steel reinforcement structural steel sections (each diameter/ section or category shall be considered separately) except that the theoretical quantity of the steel be taken as the quantity required as per design or as authorised by the Engineer, including lappages, plus 3% wastage due to cutting into pieces. Over this theoretical quantity 2% plus/ minus shall be allowed as variation due to wastage.

- (e) The provision of foregoing sub-clause shall apply Mutatis-Mutandis in the case of cables; (other than under-ground cables) wires, conduits/ GI pipes, GI/ MS sheets used in various items of work shall be calculated on the basis of measurements recorded in the measurement books for the purpose of payment and for assessing the Consumption of materials used in the works. Over this quantity a variation of 5% plus shall be allowed for wastage of materials during execution in case of cables (other than under-ground cables), wires, conduits GI pipes, and 10% plus in case of GI/ MS Sheets.
- (f) The provisions made above are without prejudice to the right of the Employer to take action against the contractor under the conditions of the contract for not doing the work according to the prescribed specifications.
- (g) "In case of easy availability of approved quality of cement and steel in the open market it will be Employer's discretion to make these items as contractor's supply".

8. Testing of Materials

The contractor shall provide assistance, instruments, materials, labour and any other arrangement normally required for testing, checking of materials and workmanship as stipulated in the specifications and by statutory authority at his own cost. The Employer has the right to appoint the testing authorities. The contractor shall pay for the cost of test samples, its packing, transportation including testing fees. Failings his so doing, the same shall be provided by the Engineer at the expense of the contractor and the expenses may be deducted from any money due to the contractor under the contract and/ or from the Security Deposit or proceeds thereof or of a sufficient portion thereof.

9. Contractor's Engineers/ Foreman & Workman

- (a) The contractor shall give all necessary personals superintendence during the execution of the (work and as long thereafter as the Engineer may consider necessary until the expiration of the Defects Liability Period. The contractor shall employ competent Site-Engineer/ Foreman as per CPWD norms and as approved by the Engineer Whose qualification must conform to the requirement specified by the Engineer who shall be constantly in attendance of the work while the men are at work. Any directions, explanations, instructions or notices given by the Engineer to such Site-Engineer or Foreman or any other authorised agent shall be held to be given to the contractor.
- (b) Contractor's Site Superintendence Staff to be employed by contractor on works: The contractor shall employ the following technical staff during execution of works

(a) For building and road works

- (i) One Graduate Engineer, when the tendered cost of work exceeds Rs. 10 lakhs
- (ii) One qualified Diploma holder (overseer) with experience not less than 3 years when

the tendered cost of work exceeds Rs. 5 lakhs but is less than RS.10 lakhs.

(iii) One qualified Diploma holder when the tendered cost of work is more than RS.2lakhs but less than RS.5lakhs.

(b) For sanitary and water supply works

One qualified diploma holder with experience of not less than 5 years, out of which one year should be in sanitary and water supply works when the tendered cost of work is more than Rs.50,000.

(c) For electrical works

(i) One qualified Graduate Engineer possessing Degree in Electrical Engineering from recognised university with an experience of not less than 3 years or a Diploma holder in Electrical Engineering with an experience of not less than 7 years when the tendered cost of the work is not less than RS.1.5 lakhs.

(ii) One Graduate Electrical Engineer with two years experience or a Diploma holder in Electrical Engineering with experience of not less than 3 years when the tendered cost of the work is more than RS.75,000 but less than Rs. 1.5 lakhs.

(iii) One Diploma holder in Electrical Engineering with experience of not less than 3 years when tendered cost of work is more than Rs. 37,000, but less than Rs.75,000.

(iv) One licensed Supervisor with experience of not less than 3 years when the tendered cost of work is more than Rs.7,500 and less than Rs.37,000.

(d) In case the contractor fails to employ the technical staff as aforesaid, he shall be liable to pay reasonable amount not exceeding the amount shown below for each month. of default. These recoveries are subject to modification, from time to time by CSIR based on CPWD.

(i) In case when a Graduate Engineer is to be employed Rs. 3,000

(ii) In case when a qualified Diploma holder is required to be employed Rs. 1,500

(iii) In case when a technical Supervisor is required to be employed Rs. 750

(e) The contractor shall on the request of the Engineer immediately dismiss from the works any person employed thereon who may in the opinion of the Engineer be unsuitable or incompetent or who may in the opinion of the Employer misconduct himself.

10. Access

(a) The Engineer, and the Employer or its representatives shall at all reasonable time have free access to the works and/or workshops, factories or other places the materials are being prepared or constructed for the contract and also to any place where the materials are lying or from which they are being obtained and the contractor shall give every facility to them for inspection. Except the representatives of statutory authorities and those mentioned above no other person shall be allowed on the works at any time without the permission of the Engineer.

- (b) If any work is to be done at a place other than the site of works, contractor shall obtain written permission of the Engineer.

11. Variation & Price for Variation

- (a) The Engineer with the approval of the Employer shall have powers to make any alterations/ omissions/ additions and/ or substitutions from the originals specifications, drawings, designs and written instructions of such alterations, omissions, additions, substitutions shall not invalidates the contract and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the work shall be carried out by the contractor on the same conditions in all respects on which he agreed to do the main work. The rates for such altered, additional or substituted work under this clause shall be worked out in accordance with the following provisions in their respective order.
- (b) If the rates for the altered, additional, or substituted work are specified in the contract for the work, the contractor is bound to carry out the altered, additional, or substituted work at the same rates as are specified in the contract for the work.
- (c) If the rates for the altered, additional, or substituted work are specified in the contract for the work, the contractor is bound to carry out the altered, additional, or substituted work at the same rates as are specified in the contract for the work.
- (d) If the rates for the altered, additional, or substituted work cannot be determined in the manner specified in sub-clause (b) and (c) above, then the contractor shall, with 10 working days from the date of receipt of the order to carry out the work through notice in writing; inform the Engineer of the rate which it is his intention to charge for such class of work, supported by analysis of the rate claimed which shall be based on actual cost of work plus 10% as contractor's profit and overheads except in case of departmental materials for which contractors profit and over-heads shall be 2.5%. When such notice has been given, the Engineer with the consent of the Employer may agree to such a rate but if the Engineer does not agree to the contractor's rate the Engineer may cancel his order to carry out such class of work and arrange to ' carry out in such a manner as he may consider advisable.
- (e) Under no circumstances, the contractor shall suspend d the work on the plea of non-settlement of rates of items falling under the clause.
- (f) "Deviation limits"

Building work	30%
Maintenance/emergency woks	50%
Foundation works	100%
Services works	30%

12. Faulty Materials, Workmanship & Defects After Completion

- (a) The Engineer shall have powers to require the removal from the site of all materials and work which in his opinion are not in accordance with specifications and in case of

default, the Engineers shall be at liberty to employ other persons to remove the same without being answerable or accountable for any loss or ,damage that may happen or arise to such materials to be substituted thereof and in case of default the Engineer may cause the same to be supplied and all costs which may attend such removal and/ or substitution are to be borne by the contractor.

- (b) If it shall appear to the Engineer or to the Employer based on audit/ technical examination that any work has been executed with unsound, imperfect, or unskillful workmanship or with materials of any inferior description, or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract, any defects, shrinkage or other faults which may appear within the defects liability period of 12 months from the date of completion arising in the opinion of the Engineer, the contractor shall on demand in writing which shall be made within 12 months of the completion of the work from the Engineer specifying the work, materials, articles defects or other faults complained of notwithstanding that the same may have been passed, certified and paid for, forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may requires or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own cost. In case of any such failures, the Engineers may rectify or remove or re-execute the work or remove and replace with others, the material or articles complained of as the case may be at the risk and cost in all respects of the contractor.
- (c) In lieu of rectifying the work not done in accordance with the contract, the Employer may, allow such work to remain, and in that case make allowance for the difference in value, together with such further reduction as in his opinion may be reasonable.
- (d) Provided always that nothing in this clause shall relieve the contractor from his liability to execute the works in all respects in accordance with the terms and conditions of this contract, or from his liability to make good all defects.

13. Works to Be Open for Inspection

- (a) All work under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Engineer and the contractor shall at all times, during the usual working hours, and at all other times at which reasonable notice of the intentions of the Engineer to visit the works shall have been given to the contractor, either himself be present to receive order and instruction or have a responsible agent duly accredited in writing present for that purpose.
- (b) The contractor shall give not less than seven days notice in writing to the Engineer before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is so covered up or placed beyond the reach of measurement and shall not cover up and place beyond the reach of measurement, any work without the consent in writing of the Engineer and the Engineer shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach

of measurement without sud1 notice having been or the Engineer's consent obtained the same shall be uncovered at the contractors expense or in default thereof. no payment or allowance shall be made for such work or the materials with which the same was executed

14. Assignment or Sub-Letting

- (a) The contract shall not be assigned or sublet without the written approval of the Employer. And if the contractor shall assign or sub-let his contract or attempt to do so or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so or if any bribe, gratuity or gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor or any of his servants or agents to any person in the employment of the Employer in any way relating to his office or employment, or if any such employee or person shall become in any way directly or indirectly interested in the contract, the Employer shall have the power to adopt any of the courses specified under clause-23 as may be best suited to the interest of the Employer and in the event of any of the courses being adopted the consequences specified in the said clause shall ensure.
- (b) Where the contractor is a partnership firm, the approval in writing of the Employer shall be obtained before any changes in the constitution of the firm. Where the contractor is an, individual or a Hindu undivided family business concern such approval as aforesaid shall likewise be obtained the contractor enters into any partnership agreement hereunder the partnership firm would have the right to carry out the work hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned or sublet in contravention of clause 13 (a) and the same action may be taken and the same consequences shall ensue as provided in the said clause 13 (a).

15. Indemnifying Against Damages to Persons, Property & Statutes

The contractor shall take all precautions to avoid all 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 due to negligence on his part. No hindrance shall be caused to traffic during the execution of work.

- (a) The contractor shall be responsible for all injury to persons, animals or things, and for al damage, whether such injury or damage arises from carelessness or accident in any way connected therewith. This clause shall be held to include interalia any damage due to causes is aforesaid to work, building (whether immediately adjacent or otherwise) and to roads, streets, foot paths, bridges or ways as well as all damage caused to the buildings and works forming the subject of this contract by inclemency of weather. The contractor indemnifies the Employer and holds him harmless in respect of all expenses arising from such injury or damage as aforesaid and also in respect of any award of compensation or damage consequent upon such claim including legal costs.

- (b) The contractor shall reinstate all damage of every sort mentioned in this clause, so as to deliver the whole of the contracted works complete and perfect in every respect and so as to make good and otherwise satisfy all claims for damage as aforesaid to the property of third parties.
- (c) The contractor also indemnifies the Employer against all claims which may be made upon the Employer for acts during the currency of this contract by any employee or representative of an employee of the contractor or any sub-contractors, employed by him, for any injury to or loss of life, of such employees, or for compensation payable under any law for the time being in force to any workmen or to the representative of any deceased or incapacitated workmen.
- (d) The contractor also indemnifies the Employer against all claims which may be made upon the Employer for acts during the currency of this contract by the Central/ State Government or local Municipal authorities for the noncompliance of any laws, regulations, rules pertaining to wages act, safety act in force and any amendments thereof in respect of all labour and apprentices directly or indirectly employed in the work under this contract.
- (e) The Employer shall be at liberty and is hereby empowered to deduct the amount of any damages, compensation costs, charges and/ or expenses arising or accruing from or in respect of any such claim and/ or damages as aforesaid from any sum or sums due or to become due to the contractor or security deposit.
- (f) The contractor shall indemnify the employer against any action, claim or proceedings relating to infringement or sue of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against the Employer in respect of any such matters as aforesaid the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise there from. Provided that the contractor shall not be liable to indemnify the Employer if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the said Employer or his authorized representative.

16. Lien in Respect of Claim in Other Contracts

- (a) Any sum of money due and payable to the contractor including the security deposit under the contract may be withheld or retained by way of lien by the Employer or Government or any other contracting person or persons against any claim of the Employer or Government or such other persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Employer or Government or with such other persons.
- (b) It is agreed term of the contract that the sum of money so withheld or retained under this clause by the Employer will be kept withheld or retained as such by the Employer or till his claim arising out of in the same contract or any other contract is either mutually settled or

determined by the Arbitrator if the contract is governed by arbitration clause or by the competent court as the case may be, and that the contractor shall have no claim for interest or damages whatsoever on this account or any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

17. Withholding & Lien in Respect of Sums Claimed

- (a) Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the contractor, the Employer shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security deposit if any deposited by the contractor and for the purpose aforesaid, the Employer shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalisation or adjudication of any such claim. In the event of the security deposit being insufficient to cover the claimed amount or amounts or if no security deposit has been taken from the contractor, the Employer shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which at any time thereafter may become payable to the contract under the same or any other contract, with the Employer or any contracting person pending finalisation or adjunction of any such claim.

It is an agreed terms of the contract that the sum of money so withheld or retained under the lien referred above, by the Employer will be kept withheld or retained as such by the Employer till the claim arising out of or under the contract is determined by the Arbitrator (if the contract is governed by the arbitration clause) or by the competent court as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company the Employer shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or In part from any sum payable to any Partner/ Limited company as the case may be, whether in his individual capacity or otherwise.

- (b) The Employer shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been over paid in respect of any work done by the contractor under the contract or any work claimed by him to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over payment and it shall be lawful for the Employer to recover the same from him in the manner prescribed in sub-clause (a) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under-payment shall be duly paid by the Employer to the contractor.

Provided that the Employer shall not be entitled to recover any sum over-paid, nor the

contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Employer on the one hand, and the contractor on the other hand under any term of contract permitting payment for work after assessment by the Employer.

18. In-Case of Death of Contractor

Without prejudice to any of the rights of remedies under this contract, if the contractor dies, the Employer shall have the option of terminating the contract without compensation to the contractor.

19. Sub -Contractors

The Employer reserves the right to use the premises and any portion of the site for the execution of any work not included in the contract. The contractor is to afford all reasonable facilities to all sub-contractor, specialists, merchants, tradesmen and others who may at any time be appointed by the Employer for executing any work or supplying any goods relating to the construction, servicing, equipping or furnishing of the work under this contract.

20. Compliance to Labour Laws & Apprentice Act

The contractor shall comply with an the provisions of the Minimum Wages Act, 1948, Contract Labour (Regulation and Abolition) Act, 1970, and rules and orders framed there under and other labour laws affecting contract labour and Apprentice Act, 1961 and the rules and orders framed there under that may be in force or brought into force from time to time.

Contractor shall obtain a valid license under Contract Labour (R&A) Act 1970 and Contract Labour (R&A) Central Rules 1971 before commencing work and which should be valid till the completion.

21. Compensation for Delay

(a) The time for carrying out the work as entered in the tender shall be strictly observed by the contractor and shall be deemed to be essence for the contract on the part of the contractor. The work shall throughout the stipulated period of the contract be proceeded with all due diligence and the contractor shall pay as compensation an amount equal to ONE PER CENTOR such smaller amount as the employer (whose decision in writing shall be final) may decide on the amount of the whole work as shown in the agreement, for every week that the work remains uncommenced or unfinished after the purpose.

(b) And further to ensure good progress during the execution of the work, the contractor shall be bound in alt cases. in which the time allowed for any work exceeds one month

(say for special jobs) to complete one-eighth of the whole of the work before one-fourth of the whole time allowed under the contract has elapsed: three-fourths of the work before three-fourths of such time has elapsed. However for special jobs if a time schedule has been submitted by the contractor and the same has been accepted by the Employer, the contractor shall comply with the said time schedule. In the event of the contractor failing to comply with this condition he shall be liable to pay as compensation an amount equal to one per cent or such smaller amount as the Employer (whose decision in writing shall be final) may decide on the said cost of the work for every week that the due quantity of work remains incomplete. Provided that the entire compensation to be paid under the provisions of this clause shall not exceed ten percent on the estimated cost of the work as shown in the tender.

22. Damage to Works in Consequence of Hostilities or War-Like Operation

- (a) The work (whether fully constructed or not) and all materials, machines, tools and plants, scaffolding, temporary buildings and other things connected therewith shall be at the risks of the contractor until the work has been delivered to the Employer and a certificate from him to that effect obtained. In the event of the works or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or war-like operations, the contractor shall, when ordered in writing by the Employer, remove any debris from the site, collect and properly store or remove from store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking, removal of serviceable materials and for the reconstruction of all works ordered by the Employer such payment being in addition to compensation up to the value of the work originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for the damage/destruction suffered and for restoring the material at the rates based on the analysis of rates tendered for in accordance with the provision of this agreement. The certificate of the Employer regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on the contractor.
- (b) Provided always that no compensation shall be payable for any loss in consequence of hostilities or war-like operations (i) unless the contractor had taken all such precautions against Air Raid as are deemed necessary by the A. R. P. Officers or the Employer, (ii) for any materials etc., not on the site of the work or for any tools and plant, machinery, scaffolding, temporary buildings and other things not intended for the work.
- (c) In the event on the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Employer.

23. Extension of Time

- (a) If the contractor shall desire an extension of time for the completion of the work on the grounds of his having been unavoidably hindered in its execution or any other ground he shall apply in writing to the Employer within thirty days of the date of hindrance on account of which he desires extension-as aforesaid, and the Employer shall, if in his opinion (which shall be final) reasonable grounds shown therefore, authorise such extension of time if any, which may, in his opinion, be necessary or proper
- (b) In the event, the value of work exceeds the value of the Bill of Quantities owing to variations, the contractor shall be entitled to ask for extension of time in proportion to the increased value of work.

24. Suspension of Work by Contractor

- (a) The Employer may without prejudice to his right against the contractor in respect of any delay or inferior workmanship or otherwise or to any claims for damages in respect of any breaches of the contract and without prejudice to any rights or remedies under any of the provisions of this contract or otherwise and whether the date for completion has elapsed by notice absolutely determine the contract in any of the following cases:
 - (i) If the contractor having been given by the Engineer to rectify, reconstruct or replace any defective work or that the work is being performed in any inefficient' or otherwise improper or unworkman-like manner shall omit to comply with the requirements of such notice for a period of seven days thereafter or if the contractor shall delay or suspend the execution of the work so that in the judgment of the Employer (which shall be final and bindings) he will be unable to ensure completion of the work by the date for completion or he has already failed to complete the work by that date.
 - (ii) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditors shall be appointed or if circumstances shall arise which entitle the court of creditor to appoint a receiver or a manager or which entitle the court to make a winding up of order.
 - (iii) If the contractor commits breach of any of the terms and conditions of this contract.
 - (iv) If the contractor commits any acts mentioned in clause-23th thereof.
- (b) When the contractor has made himself liable for action under any of the cases aforesaid, the Employer shall have the following powers:
 - (i) To determine or rescind the contract as aforesaid (of which termination or rescission notice in writing to the contractor under the hand of the Employer shall be conclusive evidence). Upon such determination or recession the security deposit of the contractor shall be liable to be forfeited and shall be absolutely at the disposal of the Employer.

- (ii) The Engineer may employ labour paid by the Employer and to supply materials to carry out the work or any part of the work debiting the contractor with the cost of the labour and the price of the materials (of the amount of which cost and price certified by the Engineer shall be final and conclusive against the contractor) and crediting him with the value of the work done in all respects in the same manner and at the same rates as if it had been carried out by the contractor under the terms of his contract. The certificate of the Engineer as to the value of the work done shall be final and conclusive against the contractor, provided always that action under the sub-clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the Employer are less than amount payable to the contractor at his agreement rates, the difference should not be paid to the contractor.
- (iii) After giving notice to the contractor to measure up the work of the contractor and to take such part thereof as shall be unexecuted out of his hands and to give it to another contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor if the whole work had been executed by him (of the amount of which exceed the certificate in writing of the Engineer shall be final and conclusive) shall be borne and paid by the original contractor and may be deducted from any money due to him by the Employer under this contract or any other account whatsoever or from his security deposit.
- (iv) In the event anyone or more of the above courses being adopted by the Employer the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagement or made any advances on account or with view to the execution of the work or the performance of the contract. And in case action is taken under any of the provisions aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

25. Secured Advance

The contractor on signing an indenture in the form specified by the Employer during the progress of the execution of the work may be paid if agreed by the Employer upto 75 percent of the estimated value which shall take into account the market value and contractor tendered rates for the finished item of any material which in the opinion of the Engineer is likely to be incorporated in the work within next three months, are non-perishable and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and protected against damage by weather or other causes, which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this clause are incorporated in the work the amount of such advance shall be deducted from the next

payment made under any of the clause of clauses of this contract.

26. Certificates & Payments

- (a) No payments shall be made for a work estimated to cost Rupees ten thousand or less till the whole of the work shall have been completed and certificate of completion given. But in the case of a work estimated to cost more than Rupees ten thousand, the contractor shall, on submitting the bill entitled to receive a monthly payment proportionate to the part of the work executed and to the satisfaction of the Engineer, whose certificate of the sum so payable shall be final and conclusive against the contractor, provided the amount of work done is as per the value of intermediate certificate or for a lesser amount at the discretion of the Engineer as mentioned in the NIT. All such intermediate payments shall be regarded as payments by way of advance against the/ final payment only and not as payments for work actually done and completed and shall not preclude the requiring of bad, unsound, imperfect or unskilled work to be removed and taken away and reconstructed, or recreated or be considered as an admission of the due performance of the contract, or any part thereof in any respect or the accruing of any claim nor shall it conclude, determine, or affect in any way the powers of the Employer under these conditions or any of them as to the final settlement and adjustment of the accounts or in any other way affect the contract. The final bill shall be submitted by the contractor within two months of the date fixed for the completion of work or of the date of the certificate of completion furnished by the Employer and payments shall be made within three months if the value of the completed works is upto Rupees Two lakhs and in six months if the same exceeds Rupees Two lakhs of the submission of such bill. If there shall be any dispute about any item or items of the work then the undisputed item or items only shall be paid within the said period of three months or six months as the case may be.
- (b) Whenever there is likely to be delay in recording detailed measurements for making a running payment, advance payment without detailed measurements for work done worked out at 75 percent of the tendered rates for assessed quantities may be made in running account bills by the Employer on the basis of a certificate from the Engineer. The advance payments so allowed shall be adjusted in the subsequent running bills by taking detailed measurements thereof. Final payments shall be made only on the basis of detailed measurements.
- (c) A bill shall be submitted by the contractor each month on or before the date fixed by the Engineer on printed forms obtainable from the Engineer's office. The Engineer shall take or cause to be taken the requisite measurements for the purpose of having the same verified and the claim, as far as admissible, adjusted as far as possible, before the expiry of ten days from the presentation of the bills. If the contractor does not submit the bill within the time fixed as aforesaid the Engineer may take action within seven days of the date fixed as aforesaid, an authorised representative to measure up the said work in the presence of the contractor whose signature to the measurement will be sufficient warrant and the Engineer may prepare the bill from such measurements.

- (d) Before taking any measurement of any work the Engineer or his authorised representative deputed by him shall give reasonable notice to the contractors. If the contractor fails to attend after such notice or fails to sign or to record the difference within a week from the date of measurement in the manner required by the Engineer then in any such event the measurements taken by the Engineer or by the authorised representative deputed by him as the case may be, shall be final binding on the contractor and the contractor shall have no right to dispute the same.
- (e) The charges in the bills shall always be entered at the rates specified in the agreement or in the case of any extra work ordered in pursuance of these conditions and not mentioned or provided for in the agreement at the determined as per-clause-10. However in case of partially executed items of work, the Employer at his discretion allows proportionate rates for such items of work as determined by the Engineer whose certificate of the sum so payable shall be final and conclusive against the contractor.

27. Security Deposit

- (a) A sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum along with the sum already deposited as earnest money, will amount to security deposit of the 5% tender value of the work. In addition, the contractor shall be required to deposit an amount equal to 5% of the tendered value of the contract as Performance Security within the period prescribed for commencement of work in the letter of award issued to him.
- (b) In case a fixed deposit receipt of any scheduled bank is furnished by the contractor to the Employer as part of the Security deposit and the bank goes into liquidation or for any reason is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Employer to make good the deficit of such sum from the running bill as mentioned above. Such deductions will be held by the Employer by way of security deposit, provided always that the Employer for this purpose shall be entitled to recover the said percentage of the amount from each running bill till the balance of the amount of security deposits is realised. All compensation or the other sums of money payable by the contractor under the terms of this contract may be deducted from the security deposit or from the interest arising there from or from any sums which may be due to or may become due to the contractor by the Employer on any account whatsoever and in the event of his security deposit being reduced reason of any account whatsoever and in the event of his security deposit being reduced reason of any such deductions aforesaid, the contractor shall within ten days make good in cash or further fixed deposit receipt pledged in favour of the Employer. The security deposit shall be collected from the running bills of the contractor at the rates mentioned above and the earnest money if deposited-at the time of tenders will be treated as part of the security deposit.
- (c) The contractor if he so desires may furnish fixed deposit receipt in advance towards the

security deposit. Such fixed deposit receipt shall be of a minimum value of *Rs.25,000/-* each. (The last such fixed deposit receipt could be of a lower value on the basis of the amount) In case any recovery is effected from running account bills, such recovered amount shall not be replaced with fixed deposit receipt. It is in the contractor's interest to keep a ward about the adequacy of the fixed deposit receipt submitted.

- (d) No partial refund of security deposit shall be made during the defect liability period. In case the final bill is not settled within stipulated period for reasons beyond control and the Employer is satisfied that the security deposit is not required for adjustment of Employer dues or whatsoever dues either in this or any other contract then this security deposit either in full or in part could be refunded at the sole discretion of the Employer. However, release of security deposit would be only after written clearance of Labour Officer regarding no dues or claims is received.
- (e) In case of termination of contract, this security deposit shall be forfeited and amount necessary to makeup this amount shall be recovered from money due to the contractor under this contract, or any Contract with the Employer.

28. Completion Certificate

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Employer and within ten days of the receipt of such notice the-Engineer shall inspect the work. If there is no defect in the work the Employer shall furnish the contractor with certificate of completion otherwise a certificate of completion indicating defects shall be issued but the work shall not, considered to be completed until the contractor shall have removed from the premises on which the work shall be executed all the scaffolding, surplus material, rubbish, and all the huts and sanitary arrangements required for his work, people on the site in connection with execution of the works as shall have been erected or constructed by the contractor and cleaned of the dirt, splashes, droppings of finishing items from all wood work, doors, windows, walls, floors or other parts of any building, in upon or about which the work is to be executed or of which he may have had possession for the purpose of the execution thereof. If the contractor shall fail to comply with requirements of this clause on or before the fixed for the completion of the work, the Employer may at the risk and cost of the contractor take action as he may think fit and the contractor shall have no claim except for any sum actually realised by the sale thereof.

29. Escalation

- (a) If the prices of materials not being supplied by the Employer and/ or wages of labour required for execution of the works increase, the contractor shall be compensated for such increase as per provisions detailed below and the amount of the contractor shall accordingly be varied, subject to the condition that compensation for escalation in prices shall be available only for the work done during the stipulated period of the contract including such period for which the contract is validly extended under the provisions of Clauses-22 of General Conditions of Contract without levy of

compensation under Clause-20 of General Conditions of Contract and also subject to the condition that no such compensation shall be payable for a work and also which the stipulated period of completion is 18 months or less . Such compensation for escalation in the prices of materials and labour when due shall be worked out based on the following provisions.

- (i) The base date for working out such escalation shall be the last date on which the tenders were stipulated to be received.
- (ii) The cost of work on which escalation will be payable shall be reckoned as 85% of the cost of the work as per the bills, running or final, and from this amount the value or material supplied by the Employer and proposed to be recovered in the particular bill shall be deducted before the amount of compensation for escalation is worked out. In case of materials bought to site for which secured advance is included in the bill full value of such materials as assessed by the Engineer in charge (and not the reduced amount for which secured advance has been paid) shall be included in the cost of work done for operation of this clause. Similarly when such materials are incorporated in the work, the secured advance is deducted from the bill full assessed value of the materials originally considered for operation of this clause shall be deducted from the cost of work shown in the bill running or final. Further the cost of work shall not include any work for which payment is made for any item at prevailing market rates.
- (iii) The compensation for escalation for materials & labour shall be worked out as per the formula given below:

VM	=	$W \times A / 100 \times (MI - MI_0) / MI_0$.
VM	=	Variation in material cost i.e. increase or decrease in the amount in rupees to be paid or recovered
W	=	Cost of work done worked out as indicated in sub para (ii) above.
A	=	Component of materials expressed as percent of the total value of work and is predetermined as 75
MI	=	Index numbers of Wholesale Prices in India for all commodities published by the Reserve Bank of India for the period under reckoning
MI ₀	=	Index numbers of Wholesale prices in India for all commodities published by the Reserve Bank of India and valid on the stipulated date of receipt of tenders
VL	=	$W \times B / 100 \times (LI - LI_0) / LI_0$
VL	=	Variation in labour cost, that is, increase or decrease in the amount in rupees to be paid or recovered
W	=	Value of work done, worked out as indicated in sub para (ii) above.
B	=	Component of labour expressed as percent of the total value of work and is predetermined as 25
L1	=	All India consumer price index numbers for workers published by the Reserve Bank of India for the period under reckoning as for the period under consideration
L1 ₀	=	All India consumer price index numbers for industrial workers published by the Reserve Bank of India and valid on the stipulated date of receipt of

tenders.

- (b) The following principle shall be followed while working out indices mentioned in sub para (iii) above.
- (i) The compensation for escalation shall be worked out at yearly intervals and shall be with respect to the cost of work done during the six calendar months of the said work. The first such payment shall be made at the end of the six months after the month (excluding) in which the tenders was accepted and thereafter at six monthly intervals. At the time of completion of work, the last period for payment might become less than six months, depending on the actual date of completion
 - (ii) The index (MI or LI) relevant to any six months for which such compensation is paid shall be the arithmetical average of the indices relevant to the six calendar months. If the period upto date of completion after the six months covered by the last such installment of payment, is less than six months the index MI or LI shall be the average of indices for the months falling within that period.
 - (iii)The base index (MI or LI) shall be the relating to the months in which the tender was stipulated to be received.
- (c) In the event the price of materials and/ or wages of labour required for execution' of the work decreases there shall be downward adjustment of the cost of work so that the price of materials and/or wages of labour shall be deductible from the cost of work under this contract and in this regard formula herein before stated under this clause shall mutatis mutandis apply, provided that no such adjustment for the decrease in the prices of materials and/ or wages of labour aforementioned would be made in case of contracts in which the stipulated period of completion of the work is six months or less.
- (d) Employer shall have the discretion to permit the IIEEMA (Indian Electrical & Electronics Manufacturers' Association) Clause for escalation in case of specialised works e.g lifts and electrical and mechanical installations etc. where the price variation is not similar to building works.

30. Arbitration

- (a) Except where otherwise provided in the contract, all questions and dispute relating to the interpretation of the specification, designs, drawings and instructions, herein before mentioned, and as to the quality or workmanship or materials used in the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, specifications, estimates, instructions, orders on these conditions or otherwise concerning the works, or the execution or failure to execute the same, whether arising during the progress of the work or after the completion or abandonment thereof, shall be referred to the sole arbitration of the person appointed by

the Director General, Council of Scientific and Industrial Research. The arbitrator shall be appointed within 30 days from the receipt of a request by any party. The arbitrator to whom the matter is originally referred, being unwilling or unable to act for any reason, the Director General shall appoint another person to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor. The arbitrator shall give speaking award. The Award of the Arbitrator shall be final and binding on the parties. The cost of the Arbitrator shall be borne equally by both the parties.

- (b) It is also a term of the contract that the party invoking arbitration shall specify the dispute or disputes to be referred to arbitration under this clause together with the amount or amounts claimed in respect of each such dispute.
- (c) It is also a term of the contract that if the contractor does not make any demand for arbitration in respect of any claim in writing within 90 days of receiving the intimation from the Employer that the bill is ready for payment, the claim of the contractor will be deemed to have been waived and absolutely barred and the Employer shall be discharged and released of all liabilities under the contract in respect of these claims.
- (d) Subject as aforesaid the provisions of the Arbitration and conciliation Act, 1996, or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration reference under this clause.

31. Dismantled Material:

The contractor shall treat all material obtained during dismantling of a structure, services sub systems/ installations, excavation of the site for a work etc., as employer's property and such material shall be disposed of to the best advantage of the Employer according to the instructions issued in writing by the Engineer.

32. Performance Guarantee

Performance Guarantee may be taken from the contractor before the award of work, by the officer authorized to award the contract, if and where considered necessary, to ensure that a part or whole of the contract is completed by the contractor. In case of non-performance this guarantee could be encased.

IV SPECIAL CONDITIONS – I

1. These special condition are meant to amplify the general specifications and general conditions of contract.
2. Work shall be done as per CPWD specification.

In case of any discrepancy the order of precedence in interpretation shall be as under.

- (i) Schedule of quantities
- (ii) Drawings
- (iii) Additional conditions
- (iv) General conditions of contract
- (v) Special condition
- (vi) Additional Technical Specifications
- (vii) CPWD latest Civil and Electrical Specification
- (viii) IS Codes
- (ix) International Codes
- (x) Best Engineering Practice.

3. **Steel**

- (i) Steel to be issued as stated elsewhere in the contract shall be for reinforcement bars for RCC work. For all other items of steel work the contractor shall procure the same.
- (ii) Reinforcement bars for RCC work will be issued in available coils and straight lengths. No claim for straightening the bars whatsoever shall be entertained.
- (iii) Issue of steel of diameters above 10 mm dia will be regulated on sectional weight basis, weight being calculated with the help of the standard sectional weights as given in the CPWD latest specifications for conversion of length to weight. However, for bars upto and including 10 mm dia the following procedure shall be adopted. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The actual weight of steel issued shall be modified to take into account the variations between the actual and the standard coefficient and the contractor's account will be debited by the cost of this modified quantity only.
- (iv) For theoretical consumption of steel, reinforcement bars will be balanced diameter wise for the purpose of penal recovery as envisaged in the contract.

4. **Cement**

Cement to be issued as stated elsewhere in the contract shall be only for site work. For factory made products such as Pre-cast tiles, Hollow concrete blocks, RCC pipes etc. cement shall not be issued.

5. Unless otherwise provided in the schedule of quantities the rates tendered by the contractor shall apply for all heights, lifts, leads and depths of the work and nothing extra shall be payable on this account.

6. The surplus excavated earth which is beyond the requirement of the Employer's work may be allowed by the Employer to be disposed off by the contractor on his own or sell the surplus excavated earth to private parties at his discretion but nothing extra will be paid for the carriage or disposal of surplus earth if the same is not required for any other work of the Employer

V.ADDITIONAL CONDITIONS

1. The structural and architectural drawings, shall at all time be properly correlated before executing any work. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and drawings relating to the relevant item the former shall prevail unless and otherwise given in writing by the Engineer.
2. No payment shall be made to the contractor for any damage caused by rain snowfall, floods or any other natural cause whatsoever during the execution of work. The damage to work will be made good by the contractor at his own cost and no claim on this account shall be entertained.
3. All materials used shall be as per specifications and IS marked wherever applicable. IS marking referred relates to latest BIS code as published by Bureau of Indian Standards upto 30 days before the date of opening the tender.
4. The contractor shall give a performance test of the entire installation(s) as per standard specifications and/ or as directed by the Engineer and will also submit. Test certificates as are required by Municipal. Electrical authority or any other authority. Nothing extra shall be payable for the same other than the fees paid to such authorities which shall be reimbursed on production of receipts.

VI INDENTURE FOR SECURED ADVANCE

This indenture made the _____ day of _____ 20____ between _____ (hereinafter called the contractor which expression shall where the context so admits or implies be deemed to include his heirs, executors, administrators and permitted assignees) of the one part and Council of Scientific & Industrial Research, New Delhi, a Society registered under the Societies Registration Act 1860 (hereinafter called the Employer which expression shall include its successors and assignees and authorised officer of the Society) of the other part.

WHEREAS by an agreement dated _____ (hereinafter called the said agreement) the contractor has agreed AND WHEREAS the contractor has applied to the Employer that he may be allowed advances on the security of materials absolutely belonging to him and brought by him to the site of the works the subject of the said agreement for use in the construction of such of the works as he has undertaken to execute at rates fixed for the finished work (inclusive of the cost of materials and labour and other charges) AND WHEREAS the Employer has agreed to advance to the contractor the sum of Rs. _____ (Rupees _____) on the security of materials the quantities and other particulars of which are detailed in accounts of secured

advances attached to the running account Bill for the said works signed by the contract on _____ and the Employer has reserved to himself the options of making any further advance or advances on the security of other materials brought by the contractor to the site of the said works. Now THIS INDENTURE WITNESSESS that in pursuance of the said agreement and in consideration of the sum of Rs. _____ on or before the execution of these presents paid to the contractor by the Employer (the receipt whereof the contractor both hereby acknowledge) and of such further advances (if any) as may be made to him as aforesaid the contractor both hereby convince and agree with the Employer and declare as follows:

1. That the said sum of Rs. _____ advanced by the Employer to the contractor as aforesaid and all or any further sum or sums advanced as aforesaid shall be employed by the contractor in or towards expediting the execution of the said works and for no other purpose whatsoever.
2. That the materials detailed in the said account of secured advance which have been offered to and accepted by the Employer as security are absolutely the contractor's own property and free from encumbrance of any kind and the contractor will not make any application for or receive a further advance on the security of materials which are not absolutely his own property and free from encumbrances of any kind and the contractor indemnifies the Employer against all claims to any materials in respect of which an advance has been made to him as aforesaid.
3. That the materials detailed in the said account of secured advances and all other materials on the security of which any further advance or advances may hereafter be made as aforesaid (hereinafter called the said materials) shall be used by the contractor solely in the execution of the said works in accordance with the directions of the Engineer and in the term of the said agreement.
4. That the contractor shall make at his own cost all necessary and adequate arrangements for the proper watch, safe custody and protections against all risks of the said materials and that until used in construction as aforesaid the said materials shall remain at the site of the said works in the contractor's custody and on his own responsibility and shall at all times be open to inspection by the Employer or any officer authorised by him. In the event of the said materials or any part thereof being stolen destroyed or damaged or becoming deteriorated in a greater degree than is due to reasonable use and wear thereof the contractor will forthwith replace the same with other materials of like quality or repair and make good the same as required by the Engineer.
5. That the said materials shall not on any account be removed from the site of the said works except with the written permission of the Employer or any officer authorised by him on that behalf.
6. That the advances shall be repayable in full when or before the contractor receives payments from the Employer of the price payable to him for the said works under the terms and provisions of the said agreement. However if any intermediate payments are made to the contractor on account of work done then on the occasion of each such payment the Employer will be at liberty to make a recovery from the contractor's bill for

such payment by deducting there from the value of the said materials then actually used in the construction and in respect of which recovery has not been made previously the value for this purpose being determined in respect of each description of materials at the rates at which the amount of the advances made these presents were calculated.

7. That if the contractor shall at any time make any default in the performance or observance in any respect of any of the terms of provisions of the said agreement or of these presents the total amount of the advance or advances that may still owing to the Employer shall immediately on the happening of such default be repayable by the contractor to the Employer together with interest thereon at twelve percent per annum from the date or respective dates or such advance or advances to the date of repayment and with all costs charges, damages and expenses incurred by the Employer in or for the recovery thereof or the enforcement of this security or otherwise by reason of the default of the contractor and the contractor hereby covenants and agrees with the Employer to repay and pay the same respectively to him accordingly.
8. That the contractor hereby charges all the said materials with the repayment to the Employer of the said sum of Rs. _____ and any further sum or sums advanced as aforesaid and all costs charges, damages and expenses payable under these presents PROVIDED ALWAYS AND it is hereby agreed and declared that notwithstanding anything in, the said agreement and without prejudice to the powers contained therein if and whenever the convenient for payment and repayment herein before contained shall become enforceable and the money owing shall not be paid in accordance therewith the Employer may at any time thereafter adopt all or any of the following courses as he may deem best:-
 - (a) Seize and utilize the said materials or any part thereof in the completion of the said works on behalf of the contractor in accordance with the provisions in that behalf contained in the said agreement debiting the contractor with the actual cost of effecting such completion and amount due in respect of advances under these presents and crediting the contractor with the value of work done as if he had carried out in accordance with the said agreement and at the rates thereby provided. If the balance is against the contractor he is to pay same to the Employer on demand.
 - (b) Removed and sell by public action the seized material or any part thereof and out of the money arising from the sale retain all the sums aforesaid repayable or payable to the Employer under these presents and pay over the surplus (if any) to the contractor.
 - (c) Deduct all or any part of the money owing out of the security deposit or any sum due to the contractor under the said agreement.

9. That except in the event of such default on the part of the contractor as aforesaid interest on the said advance shall not be payable.

In witness whereof the said _____ and _____ by the order and under the direction of the Employer have hereunto set their respective hands the day and year first above written.

Signed sealed and delivered

By the said contractor: _____

In the presence of Signature : _____

Name: _____

Address: _____

Signed by _____

By the order and direction of the Employer: _____

In the presence of

Signature : _____

Name: _____

Address: _____

VII PERFORMANCE GUARANTEE

To

Council of Scientific and Industrial Research

In consideration of Council of Scientific and Industrial Research (hereinafter) called "The Council" having awarded to MIs _____
_____ a Company registered under the Companies Act 1956 (hereinafter) called the Contractor, a contract for (hereinafter) called the said contract under the terms and conditions of an Agreement dated-made between the Council and the 'Contractor hereinafter called the said agreement and Council agreed to accept the Council and the Contractor as herein provided for Rs.. _____ (Rupees _____ only) from a Scheduled Bank towards due performance of the contract by the Contractor as per the terms and conditions of the contract on the condition that the Bank on demand from the Council and without demur pay to the Council the aforesaid amount.

2. We, _____ Bank Ltd., (hereinafter referred to as the 'bank' do hereby undertake to pay to the Council and amount not exceeding Rs. _____ against any loss or damage caused to or suffered or would be caused to or suffered by the Council by reasons of any breach or breaches of any of the terms. of condition of the said agreement by the said contractor.

3. We, _____ Bank Ltd., do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from the Council by stating the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Council for reasons of any breach by the said contractor(s) of any of the terms conditions contained in the said Agreement or by reason of the Contractor(s) failure to perform the said Agreement. 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. _____.

4. This guarantee shall come into force immediately and continue in force and remain valid till six months after the completion of all works under the said contract which according to the terms of the said contract, should be six months from the probable date of completion viz., the _____ day of _____. If, however, the period of the completion of the works under the said contract is for any reason extended and upon such extension if the Contractor fails, before the terms of this guarantee expires, to furnish a fresh or renewed guarantee for the extended period, the Bank shall pay to Council the said sum of Rs. _____.

5. This guarantee shall not be affected by any change in the constitution of the Bank or of the Contractor.

6. Notwithstanding anything hereinafter contained, the liability of the Bank under this guarantee is restricted to Rs. _____ (Rupees _____ only) and the guarantee shall remain in force till _____ day of 20____ unless claim or demand under this guarantee is presented to the Bank within six months from that date all the rights of Council u'1der this guarantee shall be forfeited and the Bank shall be released and discharged from all obligations hereunder.

******SPECIAL CONDITIONS******

1. These special conditions are meant to amplify the general specifications and general conditions of contract.
2. In case of any discrepancy, the order of precedence in interpretation shall be as under:-
 - i) Schedule of quantities
 - ii) Drawings
 - iii) Additional Conditions
 - iv) General Conditions of contract
 - v) Special Conditions
 - vi) Additional Technical Specifications
 - vii) CPWD latest civil and Electrical specifications
 - viii) I.S. codes
 - ix) International codes
 - x) Best Engineering practice

STEEL

1. The Contractor shall procure steel reinforcement bars confirming to relevant BIS codes from reputed manufactures (or their authorised dealers) as approved by Engineer-in-Charge. The contractor shall have to obtain and furnish test certificates to the Engineer-in-Charge in respect of all supplies of steel brought by him to the site of work. Samples shall also be taken and got tested by the Engineer-in-Charge 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 confirm the BIS codes, the same shall stand rejected and shall be removed from the site of work by the contractor at his cost within a week's time from written orders from the Engineer-in-Charge to do so.
2. The steel reinforcement shall be brought to the site in bulk supply of 10 tonnes or more as decided by the Engineer-in-Charge.
3. The steel reinforcement shall be stored by the contractor at the site of work in such a way as to prevent distortion and corrosion and nothing extra shall be paid on this account Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
4. For checking nominal mass, tensite strength, bend test, rebend test etc. specimen 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 50 tonnes or part thereof

5. The contractor shall supply free of charge the steel required for testing. The cost of tests shall be borne by the contractor.
6. The actual issue and consumption of steel of work shall be regulated and proper accounts maintained as provided in Clause 6 of the contract. The theoretical consumption of steel shall be worked out as per procedure in Clause 6 of the contract and shall be governed by conditions laid therein.
7. Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in Charge.

CONDITIONS FOR CEMENT

1. The Contractor shall procure 33 grade (confirming to IS:269) or 43 grade (conforming to IS : 8112) ordinary Portland cement or Portland Pozzolona Cement, as required in the work, from reputed manufacturers of cement (or their authorized dealers) having a production capacity of one million tones per annum or more, such as ACC, L&T, J.P.Rewa, Vikram, Shri Cement, Birla Jute, ambuja and Cement Corporation of India etc. as approved by Ministry of Industry, Government of India and holding license to uses ISI certification mark for their product whose name shall be got approved from Engineer-in Charge. Supply of cement shall taken in 50 kg bags bearing manufacturer's name and ISI marking samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS codes. In case the 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 own cost within a week's time of written orders from the Engineer-in-Charge to do so.
2. The cement shall be brought at site in bulk supply of approximately 20 tonnes or as decided by the Engineer-in-Charge.
3. The cement godown of the capacity to store a minimum of 800 bags of cement or as decided by Engineer-in-Charge, shall be constructed by the contractor at site of work for which no extra payment shall be made. Double lock provisions shall be made to the door of the cement godown. The keys of one lock shall remain with the Engineer-in-Charge or his authorised representative and the key of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward the safely of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge at any time.
4. The contractor shall supply free of charge the cement required for testing. The cost of the tests shall be borne by the contractor.
5. The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in Clause 6 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in Clause 6 of the contract and shall be governed by condition laid therein.
6. Cement brought to site and cement remaining unused after completion of work shall not be removed from site without permission of the Engineer-in-Charge.

ADDITIONAL CONDITIONS

1. The structural and architectural drawings, shall at all times be properly correlated before executing any work. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and drawings relating to the relevant item the former shall prevail unless and otherwise given in writing by the Engineer.
2. No payment shall be made to the contractor for any damage caused by rain, snowfall, floods or any other natural cause whatsoever during the execution of work. The damage to work will be made good by the contractor at his own cost and no claim on this account shall be entertained.
3. All materials used shall be as per specifications and ISI marked wherever applicable. ISI marking referred relate to latest BIS code as published by Bureau of Indian Standards upto 30 days before the date opening the tender.
4. The contractor shall give a performance test of the entire installation(s) as per standard specifications and/or as directed by the Engineer and will also submit. Test Certificates as are required by Municipal/ Electrical Authority or any other authority. Nothing extra shall be payable for the same other than the fees paid to such authorities which shall be reimbursed on production of receipts.

INDENTURE FOR SECURED ADVANCE

This indenture made the _____ day of 2018 _____ between _____ (hereinafter called the contractor which expression shall where the context so admits or implies be deemed to include his heirs, executors, administrators and permitted assignees) of the one part and Council of Scientific & Industrial Research, New Delhi, a Society registered under the Societies Registration Act 1860 (hereinafter called Employer which expression shall include its successors and assignees and authorised officers of the Society) if the other part.

WHEREAS by an agreement dated _____ (hereinafter called the said agreement) the contractor has agreed AND WHEREAS the contractor has applied to the Employer that he may be allowed advances on the security of material absolutely belonging to him and brought by him to the site of the works the subject of the said agreement for use in the construction of such of the works as he has undertaken to execute at rates fixed for the finished work (inclusive of the cost of material and labour and other charges) AND WHEREAS the Employer has agreed to advance to the contractor the sum of Rs. _____ (Rupees _____) on security of materials the quantities and other particulars of which are detailed in accounts of secured advances attached to the running account Bill for the said works signed by the contractor on _____ and the Employer has reserved to himself the option of making any further advance or advances on the security of other materials brought by the contractor to the site of the said works. Now THIS INDENTURE WITNESSETH that in pursuance of the said agreement and in consideration of the sum of Rs. _____ on or before the execution of these presented paid to the contractor by the Employer (the receipt whereof the contractor do hereby acknowledge) and of such further advances (if any) as may be made to him as aforesaid the contractor do hereby covenant and agree with the Employer and declare as follows:

1. That the said of Rs. _____ advanced by the Employer to the contractor as aforesaid and all or any further sum or sums advanced as aforesaid shall be employed by the contractor in Or towards expediting the execution of the said works and for no other purpose whatsoever.
2. That the materials detailed in the said account of secured advance which have been offered to and accepted by the Employer as security are absolutely the contractor's own property and free from encumbrances of any kind and the contractor will not make any application for or receive a further advance on the security of materials which are not absolutely his own property and free from encum branches of any kind and the contractor indemnifies the Employer against all claims to any materials in respect of which an advances has been made to him as aforesaid.
3. That the materials detailed in the said account of secured advances and all other materials on the security of which any further advance or advances may hereafter be made as aforesaid (herein after called the said materials) shall be used by the contractor solely in the execution of the said works in accordance with the directions of the Engineer and in the terms of the said agreement.

4. That the contractor shall make at his own cost all necessary and adequate arrangements for the proper watch, safe custody and protections against all risks of the said materials and that until used in construction as aforesaid the said materials shall remain at the site of the said works in the contractor's custody and on his own responsibility and shall at all times be open to inspection by the Employer or any officer authorised by him in the event of the said materials or any part thereof being stolen, destroyed or damaged or becoming deteriorated in a greater degree than is due to reasonable use and wear thereof the contractor will forthwith replace the same with other materials of like quality or repair and make good the same as required by the Engineer.
5. That the said materials shall not on any account be removed from the site of the said works except with the written permission of the Employer or any officer authorised by him on that behalf.
6. That the advances shall be repayable in full when or before the contractor receives payments from the Employer of the price payable to him for the said works under the terms and provisions of the said agreement. However if any intermediate payments are made to the contractor on account of work done then on the occasion of each such payment the Employer will be at liberty to make a recovery from the contractor's bill for such payment by deducting there from the value of the said materials then actually used in the construction and in respect of which recovery has not been made previously the value for this purpose being determined in respect of each description of materials at the rates at which the amounts of the advances made under these presents were calculated.
7. That if the contractor shall at any time make any default in the performance or observance in any respect of any of the terms of provisions of the said agreement or of these presents the total amount of the advance or advances that may still be owing to the Employer shall immediately on the happening of such default be repayable by the contractor to the Employer together with interest there on at twelve per cent per annum from the date or respective dates of such advance or advances to the date of repayment and with all costs charges, damages and expenses incurred by the Employer in or for the recovery thereof or the enforcement of this security or otherwise by reason of the default of the contractor and the contractor hereby covenants and agrees with the Employer to repay and pay the same respectively to him accordingly.
8. That the contractor hereby charges all the said materials with the repayment to the Employer of the said sum of Rs. _____ and any further sum or sums advanced as aforesaid and all costs charges, damages and expenses payable under these presents PROVIDED ALWAYS and it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the powers contained therein if and whenever the covenant for payment and repayment herein before contained shall become enforceable and the money owing shall not be paid in accordance therewith the Employer may at any time thereafter adopt all or any of the following courses as he may deem best.
 - (a) Seize and utilise the said materials or any part thereof in the completion of the said works on behalf of the contractor in accordance with the provisions in that behalf contained the said agreement debiting the contractor with the actual cost of effecting such completion and amount due in respect of advances under these presents and crediting the contractor with the value of work done as if he had carried it out in accordance with the said

agreement and at the rates thereby provided. If the balance is against the contractor he is to pay same to the Employer on demand.

(b) Removed and sell by public auction the seized materials or any part thereof and out of the money arising from the sale retain all the sums aforesaid repayable payable to the Employer under these presents and pay over the surplus (if any) to the contractor.

(c) Deduct all or any part of the moneys owing out of the security deposit or any sum due to the contractor under the said agreement.

9. That except in the event of such default on the part of the contractor as aforesaid interest on the said advance shall not be payable. In witness where of the said _____ and _____ by the order the under the direction of the Employer have here into set their respective hands the day and year first above written.

signed sealed and delivered

By the said contractor _____

In the presence of Signature _____

Name: _____

Address: _____

Signed by _____

By the order and direction of the Employer _____

In the presence of Signature: _____

Name: _____

Address: _____

PERFORMANCE GUARANTEE

To

Council of Scientific & Industrial Research

1. In consideration of Council of Scientific & Industrial Research (hereinafter) called "The Council" having awarded to M/s _____ a company registered under the Companies Act 1956 (hereinafter) called the contractor, a contract for (hereinafter) called the said contract under the terms and conditions of an Agreement date _____ made between the Council and the Contractor hereinafter called the said agreement and Council agreed to accept a Deed of Guarantee as herein provided for Rs _____ (Rupees only) from a Scheduled Bank towards due performance of the contract by the Contractor as per the terms and conditions of the contract on the condition that the Bank on demand from the Council and without demur pay to the Council the aforesaid amount.
2. We _____ Bank Ltd. (hereinafter) referred to as bank do hereby undertake to pay to Council and amount not exceeding Rs. _____ against any loss or damage caused to or suffered or would be caused to or suffered by the Council by reasons of any breach or breaches of any of the terms of conditions of the said agreement by the said contractor.
3. We _____ Bank Ltd. Do hereby undertake to pay the amount due and payable under this Guarantee without any demur, merely on a demand from the Council by stating the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Council for reasons of any breach by the said contractor(s) of any of the terms & conditions contained in the said Agreement or by reason of the Contractor(s) failure to Perform the said agreement. 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. _____
4. This guarantee shall come into force immediately and continue in force and remain valid till six months after the completion of all works under the said contract which according to the terms of the said contract, should be six months from the probable date of completion viz, the _____ day of _____ if, however, the period of the completion of the works under the said contract is for any reason extended and upon such extension if the Contractor falls, before the terms of this guarantee expire, to furnish a fresh or renewed guarantee for the extended period, the Bank shall pay to Council and said sum of Rs. _____ or such lesser sum as Council may demand.
5. This guarantee shall not be affected by any change in the constitution of the Bank or of the Contractor.
6. Notwithstanding anything here in before contained, the liability of the Bank under this guarantee is restricted to Rs. _____ (Rupees _____ only) and the guarantee shall remain in force till _____ day of _____ 20 _____ unless claim or demand under this guarantee is presented to the Bank within six months from the date all the rights of Council under this guarantee shall be forfeited and the Bank shall be released and discharged from all obligations hereunder.

CONTRANTOR'S SITE SUPERINTENDENCE

Staff to be employed by contractor on works. The contractor shall employ the following technical staff during execution of work

- (a) For building and road works
 - (i) One Graduate Engineer, when the tendered cost of work exceeds Rs. 10 lakhs
 - (ii) One qualified Diploma holder (overseer) with experience not less than 3 years when the tendered cost of work exceeds Rs. 5 lakhs but is less than Rs.10 lakhs
 - (iii) One qualified Diploma holder when the tendered cost of work is Rs.2 lakhs but less than Rs.5 lakhs
- (b) For sanitary and water supply works one qualified diploma holder with experience of not less than one year should be in sanitary and water supply works when the tendered cost of work is more than Rs.50,000.
- (c) For electrical works
 - (i) One qualified Graduate Engineer possessing Degree in Electrical Engineering from recognised university with an experience of not less than 3 years or a diploma holder in Electrical Engineering with an experience of not less than 7 years when the tendered cost of the work is not less than Rs.1.5 lakhs. One Graduate Electrical Engineer with two years experience or a Diploma holder in Electrical Engineering with experience of not less than 3 years when the tendered cost of the work is more than Rs.75.000 but less than Rs.1.5 lakhs.
 - (ii) One Diploma holder in Electrical Engineering with experience of not less than 3 years when tendered cost or work is more than Rs.37.000 but less than Rs.75.000.00
 - (iii) One licensed Supervisor with experience of not less than 3 years when the tendered cost of the work is more than Rs.7,500 and less than Rs.37,000
- (d) In case the contractor fails to employ the technical staff as above said, he shall be liable to pay reasonable amount not exceeding the amount shown below for each month of default. These recoveries are subject to modifications from time to time by CSIR based on CPWD.

In case when a graduate Engineer is to be employed	Rs.3,000/-
In case when a qualified Diploma holder is required to be employed	Rs.1,500/-
In case when technical supervisor is required to be employed	Rs.750/-

AMENDMENTS- CODITIONS OF CONTRACT FOR WORKS

SR. NO.	PAGE	PARA	MODIFY
1.	2	1(a)	Amend Six to Twelve
2.	5	1(b)	Add a new sub para after 'WORK' as below:- "EMPLOYER" shall mean Director -General, CSIR or any officer authorized by Director-General for the purpose.
3.	5	After para 3	Add a new para 3A:- "SUFFICIENCY OF TENDER. The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of the tender for the works and the rates and the prices quoted in the schedule of items which rates and the prices shall, except as otherwise provided, cover all his obligations under the contract and all matters and things necessary for the proper completion and maintenance of the works."
4.	8	6	Add sub para (g) as "In case of easy availability of approved quality of cement and steel in the open market it will be Employer's discretion to make these items as contractor's supply."
5.	8	8(a)	Add "Annexure III refers."
6.	9	10	Add sub para 10 (f) as " Deviation limits" Building work 30% Maintenance / emergency works 50% Foundation works 100% Services works 30%
7.	9	11(b) first line 5 th line 7 th line	Modify to read as "If it shall appear to the Engineer or to the Employer based on audit / technical examination that any work has been executed." Amend Six to Twelve Amend Six to Twelve
8.	12	19	Add "Contractor shall obtain a valid license under Contract Labour (R&A) Act 1970 and Contractor Labour (R&A) Central Rules 1971 before commencing work and which should be valid till the completion."
9.	16	26(d)	Add "However, if applicable, release of security deposit would be only after written clearance of Labour Officer regarding no dues or claims is received.
10.	16	Clause 28 Para (ii)	" The cost of work on which escalation will be payable shall be reckoned as 85% of the cost of the work as per the bills, running of final, and from this amount the value of material supplied by the Employer.....any items at prevailing market rates".
11.	17	28	Add sub para (d) as "Employer shall have the discretion to permit the IEEMA (Indian Electrical & Electronics Manufacturers' Association) clause for escalation in case of specialized works e.g. lifts and electrical and mechanical installations etc. where the price variation is not similar to building works.
12.	17	29	Modify para 29(a) Any difference/ dispute arising out of Agreement shall be referred to Delhi International Arbitration Centre (DIAC), Delhi High Court instead of DG CSIR. (i) In the event of any question/dispute/difference arising under the agreement or in connection herewith (except as to matters the decision of which is specially provided under this agreement) the same shall e referred to the Delhi International Arbitration Centre for appointment of Arbitrator to adjudicate the dispute. (ii) The award of the Arbitrator shall be final and binding on the parties. The Arbitrator may give interim award(s) and / or directions, as may be required. Subject to the aforesaid provision, the arbitration and conciliation act, 1996 and the rules made hereunder and any modification thereof from time to time being in force shall be deemed to apply to the Arbitration proceedings under this clause."
13	18	Add para 30	Add Para 30 to as under " DISMANTLED MATERIAL": The contractor shall treat all material obtained during dismantling of a structure, service, sub-systems/ installations, excavation of the site for a work etc., a employer's property and such material shall disposed of to the best advantage of the employer according to the instructions issued in writing by the Engineer.

SR. NO.	PAGE	PARA	MODIFY
14	18	Add para 31	Add Para 31 as : PERFORMANCE GUARANTEE “Performance Guarantee may be taken from the contractor before the award of work, by the officer authorized to award the contract, if and where considered necessary, to ensure that a part or whole of the contract is completed by the contractor, In case of non-performance, this guarantee could be encashed.
15	19	2	Modify as “ In case of any discrepancy, the order of precedence in interpretation shall be as under: (i) Schedule of quantities (ii) Drawings (iii) Additional conditions (iv) General conditions of contract (v) Special condition (vi) Additional Technical Specifications (vii) CPWD latest Civil and Electrical specifications (viii) IS codes (ix) International codes (x) Best Engineering Practice
16	24		Add Annexure III as below; Contractor’s Site Superintendence Staff to be employed by contractor on works. The contractor shall employ the following technical staff during execution of Work: - (a) For building and road works (i) One Graduate Engineer, when the tendered cost of work exceeds Rs. 10 lakhs. (ii) One qualified Diploma holder (overseer) with experience not less than three years when the tendered cost of work exceeds Rs. 5 lakhs but is less than Rs. 10 lakhs. (iii) One qualified Diploma holder when the tendered cost of work is more than Rs. 2 lakhs but less than Rs. 5 lakhs. b) For sanitary and water supply works one qualified diploma holder with experience of not less than 5 years, out of which one year should be in sanitary and water supply works when the tendered cost of work is more than Rs.50,000/-. (c) For electrical works:- (i) One qualified Graduate Engineer possessing Degree in Electrical Engineering from recognized university with an experience of not less than three years or a Diploma holder in Electrical Engineering with an experience of not less than 7 years when the tendered cost of the work is not less than Rs. 1.5 lakhs. (ii) One graduate Electrical Engineer with two years experience or a Diploma holder in Electrical Engineering with experience of not less than 3 years when tendered cost of work os more than Rs. 75,000/- but less than Rs.,1.5 lakhs. (iii) One diploma holder in Electrical Engineering with experience of not less than 3 years when tendered cost of work is more than Rs.37,000/- but less than Rs.75,000/-. (iv) One licensed Supervisor with experience of not less than 3 years when the tendered cost of work is more than Rs.7,500/- and less than Rs.37,000/-. (d) In case the contractor fails to employ the technical staff as aforesaid, he shall be liable to pay reasonable amount not exceeding the amount shown below for each month of default. These recoveries are subject to modifications from the time by CSIR based on CPWD. :- (i) In case when a Graduate Engineer is to be employed Rs. 3,000. (ii) In case when a qualified Diploma holder is required to be employed Rs. 1,500. (iii) In case when a technical supervisor is required to be employed: Rs .750.

Additional Amendments

SR. NO.	PAGE	Condition of contract for works in CSIR.	Amended Provision
1.	Page 2 para 17(c)	Security deposit shall be deducted from the running bills at 10% of the gross value of work done and measured inclusive of Earnest Money subject to a maximum of Rs. 5.00 lakhs (Rupees five lakhs only).	A sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum along with the sum already deposited as earnest money, will amount to security deposit of 5% of the tendered value of the work. In addition, the contractor shall be required to deposit an amount equal to 5% of the tendered value of the contract as performance Security within the period prescribed for commencement of work in the letter of award issued to him.
2.	Page 15 para 26(a)	Security deposit: The contractor shall permit the Employer at the time of making any payment to him for the work done and measured to deduct sum at the rate of 10% of the gross value of work done in each running bill along with the earnest money if any, as already deposited by the contractor will amount to 10% of the estimated cost or Rs. 5.0 lakhs whichever is less, unless full amount of security deposit in cash or in the form of fixed deposit receipts pledged in favour of the employer has been deposited.	As per 1 above
3.	Page 16 para 28(a)	Escalation: If the prices of materials not being supplied by the employer and /or wages of labour required for execution of the work increase, the contractor shall be compensated for such increase as per provision detailed below and the amount for the contractor shall accordingly be varied, subject to the condition that compensation for escalation in prices shall be available only for the work done during the stipulated period of the contract including such period for which the contract is validly extended under the provision of clause 22 of General Conditions of contract without levy of compensation under Clause 20 of General Conditions of Contract and also subject to the condition that no such compensation shall be payable for a work for which the stipulated period of completion is six months or less. Such compensation for escalation in the prices of materials and labour when due, shall be worked out based on the provision.	Escalation: If the prices of materials not being supplied by the employer and /or wages of labour required for execution of the work increase, the contractor shall be compensated for such increase as per provision detailed below and the amount for the contractor shall accordingly be varied, subject to the condition that compensation for escalation in prices shall be available only for the work done during the stipulated period of the contract including such period for which the contract is validly extended under the provision of clause 22 of General Conditions of contract without levy of compensation under Clause 20 of General Conditions of Contract and also subject to the condition that no such compensation shall be payable for a work for which the stipulated period of completion is eighteen months or less. Such compensation for escalation in the prices of materials and labour when due, shall be worked out based on the provision.
4.	Page 3 New para	Not existing	Purchase preference will be given to Central Public Sector Enterprise (CPSE) for award of works costing between Rs. 5 crores to Rs. 1.00 crores as per provisions contained in para 20.10.9 in CPWD Manual 2003 and OM No. DPE/13(12)/2003-fin Vol. II dated 18.07.05 issued by department of Public Sector Enterprises, Govt. Of India.

Scope of work

The scope is laying of bituminous surfacing on existing flexible pavements in CSIO Chandigarh office area road 2 km length at various locations. The work of B.C and other associated works has to be carried out as per applicable Latest guidelines in MoRTH/IRC/CPWD specifications. All source materials, Mix Design for BC and other mandatory test as listed in IRC: 111 - 2009 and MoRTH must be carried out in Govt Lab and submitted for approval before commencement of the work at site. The contractor has to **submit job mix designed from an Engg College** for approval prior to start the work. The bitumen to be used in the tac coat shall be VG-30 grade & shall be supplied at site in sealed packed drums from IOCL/ BPCL/ HPCL only. The challan of procured bitumen from mother refinery are to be supplied along with the bill. Since the work shall be allowed to continue at night, so proper arrangements of light shall be made by the contractor. **The contractor to make arrangement for inspection of hot mix plant from where material is dispatched and made** The edge of finished road shall be kept straight. The left bitumen mix shall have to be removed on daily basis from the site. A detailed data received of mix supplied at site such as temperature at plant, weight, temperature at site along with the laying quantity to be kept on register. The theoretical consumption & actual quantity supplied must be matched before releasing of any payment.

Note: The scope of the works listed above is indicative only for the details of the works, please refer to the BoQ and the work has to be done strictly as per the specifications in the BoQ and the particular specification.

List of Preferred Makes for Road Works

Preferred makes of materials to be used in the work are as under. In case of non-availability of these makes, the Engineer-in-charge may allow use of alternative BIS makes of materials in the work. Non-BIS marked materials may be permitted by the Engineer-in-charge. This is a general list of makes. All makes applicable as per Schedule of Quantities must be as per the Institute preferred make. All materials - coarse aggregates, fine aggregates, grout should conform MoRTH/ IRC specifications. If any quality issues are noticed, Engineer-inCharge reserves the right to do

relevant testing as per MoRTH/ IRC by taking core from the laid down bituminous surfaces and based on the results, it can be asked to redo the entire application or other remedial measures as suggested

1 Cement (PPC/OPC) ACC, Ultratech, Vikram, Shree Cement, Abuja, JK Cement, Century Cement, Jaypee Cement & Prism Cement.

2 Bitumen IOCL, BPCL & HPCL 3

3) Thermoplastic Paint Asian Paints, Prime Road, Indigo

Conditions for Bitumen

1. The contractor shall procure bitumen of required grade as specified conforming to IS:73- 1992 with up-to-date amendments and other relevant codes from the manufacturers of repute like Indian Oil Corporation Ltd., Hindustan Petroleum Corporation Ltd. and Bharat Petroleum Corporation Ltd. as approved by Ministry of Petroleum, Govt. of India and holding license to use ISI certification mark for their products.

2. Mode of Procurement (a) HOT STRAIGHT RUN BITUMEN of Grade VG-10 & VG-30 for tack coat shall be brought at site in sealed drums only bearing following markings (legible):

i. Name of Manufacturer.

ii. Gross Wt., Net Wt. And Tare weight

iii. Month and Year of Manufacture.

iv. Use before (date)

v. Type and Grade. vi. Batch Number.

vii. 'ISI' Certification and Standard Mark.

viii. Name of Contractor/Supplier.

ix. Serial No. & Total Nos. Of drums in each batch. (b) When bitumen is issued in drums, the same shall be stacked in fenced enclosures, to be provided by the contractor at his own cost, as

directed by the Engineer -in-Charge, on one side of the roadway. The contractor shall be responsible for the watch & ward and safety of bitumen. The contractor shall facilitate the inspection of bitumen stockyard by the Engineer-in-Charge or his representative at any time. (c) Bitumen shall be kept in joint custody of the contractor and the representative of the Engineer -in Charge. The empty containers shall not be removed from the site of work till the relevant item of work has been completed and permission obtained from the Engineer-in-Charge. No heating of bitumen in drums for any purpose whatsoever shall be allowed

Sampling and Testing:

The contractor shall have to obtain and furnish test certificates issued by manufacturer to the Engineer -in-Charge in respect of bitumen procured by him. The samples shall be collected at discretion of Engineer-in-Charge and got tested as per provisions of IS:73/ MORTH/CPWD specifications from Lab

The contractor shall supply, free of cost, the bitumen sample required for testing.

In case the test result indicate that the bitumen procured by the contractor does not conform to the relevant BIS codes/specifications, the same lot shall stand rejected and shall be removed from the site of work by the contractor at his own cost within a week's time of written order form Engineer in-Charge to do so. The bitumen content in the bituminous mix shall be checked by conducting the bitumen extraction test conforming to IRC: SP.11 at regular intervals during the progress of work; the actual consumption of bitumen shall be worked out based on such test results. The theoretical consumption shall be worked out based on the job mix formula and the actual consumption (based on the extraction test as well as the MAS account) if found less than the theoretical one, the recovery shall be made from the contractor for less use of bitumen. The work found executed with a bituminous mix having bitumen content lesser than a permissible variation of (-) 0.3% shall be considered as sub-standard work and hence shall be liable for rejection. However, nothing extra shall be paid if actual consumption so worked out is higher than theoretical consumption. This is without prejudice to action under other relevant clauses of the agreement. Bitumen brought at site/ Road roller/ Pave finisher etc and bitumen remaining unused after completion of work shall not be

removed from site without written permission of the Engineer-in-Charge. **The contractor to make arrangement for inspection of hot mix plant from where material is dispatched and made**

1. The work, in general shall be executed as per the description of item, drawing, particular specification & special conditions attached, MoRTH specifications for road and bridge works (Fourth revision) 2001, CPWD specifications 2019 Vol-I & II for dismantling and demolition works & road works, relevant IRC codes and IS specifications with correction slips issued up to the date of receipt of tender.

2. The necessary tests shall be conducted in the laboratory.

3. BITUMINOUS WORK (a) Tack Coat: The work shall be done strictly in accordance with clause 503 and sub clauses thereto of MoRTH specifications for road and bridge works (Fourth revision) 2001. The tack coat will be applied by the bitumen distributor assembly capable of applying even and uniform tack coat of specified quantity. (b) Cleaning and Preparation of the Surface: The surface on which the tack coat is to be applied shall be clean and free from dust, dirt, and any extraneous material,

and be otherwise prepared in accordance with the requirements of clauses 501.8 and 902 of MORTH Specification (4th Revision) 2001 as appropriate. Immediately before the application of the tack coat, the surface shall be swept clean with a mechanical broom, and high- p r e s s u r e jet, or by other means as directed by the Engineer-in-Charge.

The testing charges to be born by contractor