

**INDIAN INSTITUTE OF TROPICAL METEOROLOGY (IITM)
PASHAN, PUNE-411 008**

Tender No. IITM/CE/WORKS/ROAD/HACPL/2014-15/10

e-TENDER NOTICE

Director, Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road, Pashan, Pune-411 008, (India). Invites sealed separate tenders for following work (Part-I – Technical Bid, Part-II – Commercial Bid) in separate sealed covers from Contractors registered in the approved list of contractors of PWD/MES/ CPWD/ Railways/P&T/Industrial Experienced contractors and any other government departments in appropriate class for following work:

Name of work: Repairs to existing bituminous approach road to HACPL Site at Mahabaleshwar for IITM, Pashan, Pune.

Tender documents can be down loaded from the institute website <http://www.tropmet.res.in> or e – procurement web site <http://eprocure.gov.in> and can also be obtained from the civil wing of the institute.

The tender document fee: Rs 500-/, (Rs Five Hundred Only) [Non Refundable] by demand draft drawn in the favour of Director, IITM Pune.

Date of issue of tender documents : 26/02/2015

Pre - Bid Meeting : 09/03/2015 (11:00hrs)

Venue of Pre-Bid meeting : HACPL Site Mahabaleshwar

Last date of receipt of Tender at IITM, Pune: 18/03/2015 (12:30hrs)

Opening of Tenders (Technical Bids only : 18/03/2015 (15:00hrs)

The Institute reserves the right to reject any or all tenders without assigning any reason thereof.

Civil Engineer
For Director
IITM, PUNE

TENDER FOR

**REPAIRS TO EXISTING BITUMINOUS APPROACH ROAD TO HACPL SITE AT
MAHABALESHWAR FOR IITM, PASHAN, PUNE.**

**VOLUME-I
(TECHNICAL BID)**

TENDER FOR

REPAIRS TO EXISTING BITUMINOUS APPROACH ROAD TO HACPL SITE AT MAHABALESHWAR FOR INDIAN INSTITUTE OF TROPICAL METEOROLOGY, DR.HOMI BHABHA ROAD, PASHAN, PUNE-411008

Tender No. : **IITM/CE/WORKS/ROAD/HACPL/2014-15/10**
Name of work : **REPAIRS TO EXISTING BITUMINOUS APPROACH ROAD TO HACPL SITE AT MAHABALESHWAR FOR IITM, PASHAN, PUNE.**

Tender document fee: Rs 500/-, (Rs Five hundred only) [Non Refundable] by Demand draft drawn in the favour of Director, IITM Pune-411008.

Date of issue of tender documents from: 26/02/2015

Pre - Bid Meeting : 09/03/2015 at 11:00 hrs.

Venue of Pre-Bid meeting : Indian Institute of Tropical, Meteorology,
Dr. Homi Bhaba Road Pashan,
Pune-411008

Last date of receipt of Tender at IITM, Pune: 18/03/2015 at 12:30 hrs.

Opening of Tenders (Technical Bids only) :18/03/2015 at 15:00 hrs.

Estimated Cost: **Rs. 8.00 lakhs**

COMPLETION PERIOD : **15 days** from the date of handing over of site to contractor by the Institute to commence the work

Ernest Money Deposit (EMD): **Rs.16,000 (Rs. Sixteen Thousand Only)** by demand draft (DD) or Bank Guarantee (BG) from Nationalize/Schedule Bank in favour of The Director IITM, Pashan, Pune-411008.

**NOTICE INVITING TENDER FOR
REPAIRS TO EXISTING BITUMINOUS APPROACH ROAD TO HACPL SITE AT
MAHABALESHWAR FOR IITM, PASHAN, PUNE-411008.**

TWO COVER SYSTEM

Tender Notice No. IITM/CE/WORKS/ROAD/HACPL/2014-15/10

Director, Indian Institute of Tropical Meteorology, Pune, Invites bid for the said work under the **Two Cover System** from the contractors who meet the following criteria.

1. For road work

- i) Average annual financial turnover for similar works during the last 3 years ending 31st March 2014 of the previous should be at least 30% of the estimated cost.
- ii) Experience of having successfully completed similar works during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following:-

The BIDDER should have three similar completed works costing not less than the amount equal to 40% of the estimated cost.

Or

Two similar completed works costing not less than the amount equal to 50% of the estimated cost.

Or

One similar completed work costing not less than the amount equal to 80% of the estimated cost.

2. The successful bidder shall ensure that, the direct subcontractors engaged in the works, Complies with all conditions as specified in the Agreement between the employer and the Successful bidder.

- 3) A sum of Rs. 500/- (Non – Refundable) for the cost of tender documents DD drawn in favor of Director, IITM.
- 4) This tender is not transferable.
- 5) The rates for BOQ items total cost of work should be mentioned clearly in the Commercial Offer (Part-II) as per commercial bid format only.
- 6) **Tenders received through Fax / E-mail / Telegraphic / Telex will not be considered.**
- 7) Tenders addressed to the Director, Indian Institute of Tropical Meteorology, Pune 411008 are to be submitted under two bids system. Super scribed with Tender No., name of work, due date and time and it should submitted before due date at time.
- 8) The tenders must be clearly written or typed without any cancellations / corrections or overwriting.
 - a) Tenders, which are submitted without following the Two-Bid Offer System, will summarily be rejected.
 - b) Unsigned Tenders will also be rejected.
 - c) Part and incomplete tenders are liable to be rejected.

- 9) The tenders will be received in the Institute till 18/03/2015 up to **12:30 hrs** and shall be opened on 18/03/2015 at **15:00 hrs** (Technical Bids only) in presence of the tenderers or their authorized agents who wish to be present.
- 10) IITM will not be responsible:
a) For delayed / late quotations submitted / sent by Post / Courier etc.
b) For submission / delivery of quotations at wrong places other than the Office of Director, IITM, Pune,
- 11) The tender / quotation / offer submitted by the firm should be valid for a minimum period of **Ninety (90) days** from the date of opening the tender.
- 12) The Tenderer is required to furnish the Permanent Account Number (PAN) and Service Tax no. if any allotted by the Income Tax Department. If registered with the National Small Industries Corporation, the registration number, purpose of registration and the validity period of registration' etc. should also be provided in Technical Bid.
- 13) A copy of latest Income Tax Clearance Certificate from Income Tax Department (INDIA) for in Technical Bid.
a) Also requested to submit copies of all the documents duly signed and stamped such as the company profile , last 3 years balance sheet & Profit and loss account, registration with of firms entity no police case pending against the firm bar chart and PAN card copy, RTGS details . etc ,
- 14) **PAYMENT:**
a) No advance can be paid.
b) **95% payment** will be made after successful completion of work against final bill and remaining 5% will be released after completion of defect liability period i.e. one year from the date of handing/taking over of completed/cleared site.
c) No price escalation will given.
- 15) **NON TENDERED/ Extra Items ITEMS:**
The rate of extra items shall be worked out in accordance with the following rules.
a.The rates for the extra items shall be derived from the rate of an appropriate item of the similar class for which the rate has already been accepted, where same can be directly derived.
b. The contractor shall be bound to carry out any extra items of work as per site requirement. The rate for extra items shall be derived from the rate already quoted. Where the items are not specified in the BOQ the rate shall be worked out at cost of material+labour+ Taxes +10% overheads, wastage and transportation & profit.
c. Wherever applicable the basic rate difference in materials (mentioned in tender) shall be payable plus-minus without any profits, overheads etc., on said rate difference.
d. Variation and Non- Tendered items, if any, shall be carried out under specific written instruction by Consultants and prior sanction by the Institute. Sanction for all extra items shall be sought by the contractor within seven days from the occurrence such necessity.

- 16) **Performance security 5%** of order value in the form of DD/BG drawn on Nationalized Bank in favour of Director IITM, Pune payable at Pune which will be released after successful completion of work .
- 17) **Retention money:** 5% security deposit will be recovered & retained from final bill which will be refunded after defect liability period of 12 months.
- 18) **DEFECT LIABILITY PERIOD:** Defect liability period of the work will be 12 months from the date of actual completion of work and taking over by the Institute
- 19) The prices quoted should be firm and irrevocable and not subject to any change whatsoever, even due to increase in cost of raw material components and fluctuation in the foreign exchange rates and excise duty.
- 20) IITM will not provide any accommodation / transportation for the Engineers/Representatives.
- 21) No sub-contracting will be allowed for installation or maintaining system/ equipment/ instrument during or after warranty period.
- 22) Discount if any offered should be mentioned clearly in the commercial bid only.
- 23) a) The Earnest Money Deposit of **Rs.16,000 (Rs. Sixteen thousand) only**) must be paid / sent along with your technical bid in the form of a Demand Draft, or Bank Guarantee drawn on Nationalized Bank drawn in favour of **The Director, Indian Institute of Tropical Meteorology, Pune payable at Pune**, otherwise your technical & financial bids will not be considered at all.
- 24) The Earnest Money of the unsuccessful bidder whose technical bid has not been found suitable will be returned within 30 days after award of work to successful bidder.
- 25) Tenders not accompanied with Demand Draft / Bank Guarantee towards "Earnest Money Deposit" and tender fee will summarily be rejected.
- 26) **PENALTY:** If the Contractor fails to carry out the road work as per specifications mentioned in the BOQ within the due date, the contractor is liable to pay liquidated damages of one percent, per every week delay subject to a maximum of 10% of work order value and such money will be deducted from any money due or which may become due to the supplier.
- 27) **Corrupt or Fraudulent Practices.**
 - A) IITM requires that the bidders/contractors under this tender observe the highest standards of ethics during the procurement and execution of such contracts. In pursuance of this policy, IITM:
 - i) Defines for the purposes of this provision, the terms set forth as follows:
 - a) "Corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of the public official in the procurement process or in contract execution; and

b)“Fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or a execution of a contract to the detriment of IITM, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive IITM of the benefits of the free and open competition;

ii) Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

B) IITM will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt and fraudulent practices in competing for, or in executing, a contract.

28) Conditional Offers will not be considered.

29) All disputes are subject to exclusive jurisdiction of Competent Court and Forum in Pune, India only.

30) The Director, Indian Institute of Tropical Meteorology, Pune 411 008, India reserves the right to accept any tender in full or in part or to reject the lowest or any or all tenders without assigning any reason.

31) The Director, Indian Institute of Tropical Meteorology, Pune will be the final authority to decide the appropriate action and it will be binding on the Vendor.

*Only one set of document will be issued. Contractors have to take additional copies.

32) **BID SUBMISSION**

Technical Bid-I along with forwarding application on their company letter head, complete tender documents, blank BOQ, related documents duly signed and stamped on each page in sealed ENVELOPE superscripted with TECHNICAL BID and Part - II Commercial Bid duly filled and signed in separate sealed ENVELOPE superscripted with COMMERCIAL BID and Both the sealed bids should be sent in another sealed envelope superscripted with Tender notice no., due date and time addressed to the Director, Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road, IITM Post, Pashan, Pune – 411 008, INDIA so as to reach on or before 18/03/2015 (12:30hrs).

[Note: Late received bids will not be considered for tender opening and further evaluation]

33) The Director, Indian Institute of Tropical Meteorology, reserves the right to accept/reject Anyone /all the tenders without assigning any reason thereof.

CIVIL ENGINEER
FOR DIRECTOR,
INDIAN INSTITUTE OF TROPICAL
METEOROLOGY, DR. HOMI BHABHA
ROAD, NCL POST, PASHAN
PUNE – 411008.INDIA

**SAFETY RULES
AND
REGULATIONS**

PART 6

SAFETY CONDITIONS FOR UNDERTAKING SITE WORKS BY CONTRACTORS

These Safety Conditions shall not be regarded as exhaustive. These have been issued for the guidance of the Contractor and will not in any way absolve the Contractor from any such obligations or liabilities he might incur or transfer such obligations or liabilities to the company.

GENERAL

The Contractor shall obtain a “Work Permit” from owner before starting any work on site. The “Work Permits” are issued to prevent Contractors working in unauthorized areas and will be valid for specific area for a limited period.

The Contractor shall ensure that at no time during the erection and commissioning, his workmen operate any of the existing plant and Equipment in and around the site allocated to them.

The Contractor is to remove all waste material and rubbish from and around the work site and leave the job thoroughly cleaned up, ready for use.

With a view to the safety of its own Employees, Owner reserves the right to inspect at any time, any items of machinery or equipment brought into Owners’ site by the Contractor, his servants and agents and to prohibit the use on the site of any items, which in owners opinion is or may be dangerous, but the exercise of such right for the omission to exercise it any particular case shall not detract from the Contractor, his agents and servants responsibilities in respect of his machinery, equipment and system of working nor give the Contractor any right against Owner in respect thereof. The Contractor shall execute the work in a manner causing the least possible interference with the business of owner, or with the work of any other Contractor who may be engaged on the premises and shall at all times coming with the reasonable requirements of Owners’ senior project engineer at site.

All precautions necessary not only for the safe working of the Contractors’ workmen at site shall be taken by the Contractor, but shall also deploy all precautions to safeguard existing structures, equipment and workmen of other agencies in and around the job site.

EXCAVATIONS

In the event of an excavation being made or a man hole being lifted etc, the Contractor shall be responsible for seeing that any opening, sump or pit caused by him or his Sub-Contractors is securely fenced as required by the Factory Act.

LIFTING GEAR

The Contractor shall produce Test Certificate to Owner from approved certifying authorities for all of his lifting gear and hoists (slings, chains, hooks, chain pulley blocks, winches, hoists, cranes etc.) before being allowed to start work.

These certificates shall be retained at site with Contractor’s supervisor for subsequent spot checks also

PRESSURE AND LEAK TESTING

Pressure and leak testing of all equipment is normally to be done hydraulically. However, in special cases where pneumatic testing is essential, written approval is to be obtained from Consultant/Customers representative before starting work. Under no circumstances gases other than Nitrogen, Carbon-dioxide, Air or steam are to be used.

ELECTRICAL

Portable power tools rated for above 50 Volts, supply and hand lamps rated for above 24 volts supply are not permitted at site.

The transformer shall be fed through an armoured cable with a 3 pin Rey role plug, properly earthed.

All power supply / distribution boards will have canopy for protection.

All supply points shall have proper plug and socket.

Contractor shall provided insulated flexible cables, distribution board including individual sockets with ELCB.

FIRE REGULATIONS

Fire Prevention: Before out any hot work (gas cutting, welding etc.) the Contractor is to obtain hot work permit from Owners' manager after ascertaining that the area is safe for working.

Smoking is strictly prohibited in site premises. This has been indicated by putting up sign boards as shown below:-

“SMOKING IS NOT PERMITTED IN SIDE THE SITE PREMISES”

Even at permitted locations, cigarette ash or butts are to be disposed off in ash trays provided.

No combustible material is to be stored on or near any source of heat (i.e. hot pipes, welding or gas cutting operations, boilers, furnaces, etc.) and before leaving the place of work or Contractor's sheds the Contractors' employees are to ensure that nothing is left which could start a fire.

Special attention is to be paid to collection and disposal of oil soaked cotton waste or rags. On no account are these to be dropped into corners, pushed below equipment or left hanging on pipes.

Gas cylinder should be used in a safe manner. They should not be dropped from heights. Acetylene cylinders should be kept in upright position. Oxygen cylinders should not be kept near inflammable materials like oil etc.

Tarpaulins are not to be used in the vicinity of welding / gas cutting jobs.

Contractors' employees of at least status of a foreman shall examine all arrangement before such work is commenced and shall satisfy them that all reasonable safety precautions have been taken.

The Contractor shall remove all waste material and rubbish from and about the work site and leave the job thoroughly cleaned up, ready for use.

Contractor shall duly return the permit after job completion

Fire Instructions:

- Instructions for the event 'If you discover a fire': Shout "Fire, Fire" loudly, run for nearest fire alarm switch and press it.
- If possible, also dispatch someone else immediately to the Main Gate / Gate Lodge.
- Where possible, switch off any electrical and gas apparatus near the fire.
- Check the nature of fire, pick up appropriate fire extinguisher and try to put out fire.
- For paper, cloth wood fires, - Use Soda Acid type extinguisher.
- For petrol, oil and fat fires, - Use foam or carbon dioxide fire extinguisher.
- For electrical fires,- Use only Carbon dioxide fire extinguisher.

On Hearing Fire Alarm: The alarm will be given by the continuous sounding of the siren.

Make sure that your place of work is safe and wait there for further instructions.

PERSONAL PROTECTIVE EQUIPMENT

Protective clothing, head and eye protection safety equipment are to be worn, at all times as per the job requirements.

ACCIDENTS

In case of injury or serious illness, notify concerned department on Owner's premises. All injuries are to be reported by filling in the injury report form, which should be made available with Consultant/Customers representative's representative at site.

All the Contractor's workmen shall be covered under the Employees' State Insurance Scheme/ Janata policy and other scheme which may be specified by the Statutory Authorities from time to time.

SAFETY ENGINEER

There would be full time Safety Engineer of the Contractor at site to ensure safety in all operations. He shall be a graduate engineer with training on safety in construction.

Owners' own safety engineer would inspect the operations and instruct from time to time. He would be also authorized to stop work in case he is of opinion that such activity or condition may lead to any accident.

SAFETY REVIEW MEETING

Periodic safety review meetings will be conducted by Owner / Owner's representative to review safety and for better co-ordination with other agencies. The Contractor's Senior Representative shall personally attend the meeting and ensure compliance.

DAILY SAFETY MEETING

Every day morning safety review will be held with Owner's Representative and issues will be discussed and action points shall be monitored, in a separate safety register / file.

WORK AFTER NORMAL WORKING HOURS

Extra care need to be taken for jobs being carried out after normal working hours with due re-validated work permit.

CONVEYANCE FOR EMERGENCY

Conveyance and person with driving license should be available at site at all times of work execution so that in case of an accident, the victim can be rushed to nearest medical center. Full time standby vehicle should be provided.

First Aid Box to be kept in 'Ready to Use' condition at all times at the site office.

The Site In-charge and key supervisors to be trained on first aid, for electrical shock, fall from heights, burns etc.

PROCEDURE FOR CONTRACTOR'S ENTRY AND EXIT INTO / FROM THE SITE

If contractor brings his property into the Site premises with the intension of taking it back at a later date, he shall:

- Present such items to the security department at the gate.
- Provide the security with two copies of list of these items neatly written (typed) on the Contractors' letterhead

The security Department shall then:

- Examine the goods and stamp both copies.
- The duplicate copy shall be returned to the contractor.
- The original shall be retained at the gate lodge and passed on to the Engineering stores the next morning.

Engineering stores shall:

- Compare his request against the valid challan indicating entry of the same material.
- Prepare a gate pass for the same (writing work of the gate pass shall be done by the Contractor and authorization by the senior departmental supervisor in engineering stores. Only one gate pass

book shall be reserved for such duly and the stamp Contractors' Property' shall be stamped across the Gate Pass.

- Cancel out the original and duplicate challan or the pertinent items therein.

The security dept. shall permit exit of Contractors' property only on receipt of such gate passes as mentioned above.

SITE RULES:

- Keep tidy your working area at all times, remove your hand tools and unused materials before leaving and leave your working area tidy after completion of work, housekeeping is part of your job, BAD HOUSEKEEPING CREATES UNSAFE SITUATIONS
- Do not eat at other than designated places like improper and anti hygienic areas
- Do not approach with flame to the explosive and flammable material don't smoke at prohibited areas
- Do not tamper the electrical panels and switches.
- Don't enter the any place other than your responsible area without permission.
- Follow up the site traffic rules.
- Designated transportation roads will be used for the jobsite and shortcuts will not be used.
- Don't accept your guests during the working hours.
- Don't take out any materials or hand tools from jobsite without permission.
- Inform all accidents/incidents to your chief.
- Nobody will climb the electrical towers without permission.
- Collect the scrap materials at designated place.
- Carry the hazardous liquids in special containers.

- Don't keep sharp edge tools in your working clothes.
- Avoid unsafe acts at risky areas for fire safety.
- Use all necessary proper personal protective equipment and ensure the providing of necessary warning signs while working with machinery and equipments
- Obey the warning tags on the panels, switches, valves and control systems such as 'DANGER', 'DO NOT OPERATE', 'DO NOT TOUCH' and ensure the availability of these tags in case of necessity.
- Be careful in order not to damage the cables during the transportation of construction vehicles and equipments on the route.
- Welding is prohibited without mask and no one will look the welding arc with naked eyes.
- No flammable material will be kept in the working area.
- Take all necessary precautions for fire safety.
- Don't use any vehicles if you are not driver or operator. Operators will obey the all traffic rules on the jobsite.
- SPEED LIMIT IS 10 KM/H OBEY THE SPEED LIMIT AND WARN THE PEOPLE WHO DOESN'T OBEY
- Be careful at the intensive vehicle traffic area on the jobsite and keep these roads open at all times.
- Use designated roads for transportation to the jobsite and always walk at the left side of road.
- Don't keep, eat or drink any food or drink when working at closed area.

TECHNICAL CONDITION OF CONTRACT

TECHNICAL CONDITIONS OF CONTRACT

INTENT

The intent of this document is to define the technical requirement and the quality standards of the materials to be incorporated in the works and the workmanship during the execution of the works.

GENERAL

All works shall be as per the relevant IS / CPWD specifications unless otherwise mentioned below:

Wherever in the specifications mention is made of any produce by name, make or catalogue number, it shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition. The contractor, in such cases, may use any product, which is equal to that name, provided prior written approval from the Consultant / Customers representative is obtained.

Unless substitution is requested no deviation from the specification will be permitted. Failure to propose the substitution of any article within 30 days after signing of the contract or after specific details given by the Consultant/Customer representative will be deemed sufficient cause for the denial of the request for substitution.

If any particular structural steel sections mentioned in the drawing and design are not available, and the employer and the Consultant/Customer representative are convinced accordingly, the alternative sections are to be decided by the Consultant/Customer representative at his discretion. If no extra charges have been specified for items involving work below or above ground level or above roof level for additional lifts, it should be presumed that rates for such items as shown in drawings and bill of quantities are inclusive of work at additional depths or lifts.

The contractor shall, without any extra charge, at all stages furnish any data required by the Consultant/Customer representative such as levels, falls, slopes etc. to enable him to take suitable decisions required for proper execution of the work.

The Consultant/Customer representatives' decision in these respects shall be final and binding on the contractor.

SECRECY

Contractor shall not disclose any information furnished by the owner/Consultant/Customers representatives nor any drawings, reports and any other information prepared by the contractor for the project, without the prior written approval of the owner, except in so far as disclosure is necessary for the performance of contractors work and services under this contract.

TECHNICAL SPECIFICATIONS

The various items indicated in BOQ shall be read in conjunction with the technical specifications of the tender, and IS/CPWD specifications as applicable to such items. In the event of variance and /or ambiguity or incompleteness between Technical specifications, IS specifications, CPWD stipulations, and BOQ description, the following order shall prevail .

- a) BOQ Description
- b) Technical Specifications
- c) IS specifications
- d) CPWD specifications

TECHNICAL SPECIFICATIONS AND SCOPE OF WORK FOR ROAD REPAIRING AND RE-CARPETING

50.1. SPECIFICATIONS:

1.1 The specifications for the entire work under the Contract shall be in accordance with the latest "CPWD Specifications", including all correction slips, Indian Road Congress Standard Specifications and Codes of Practice, latest "Indian Standard codes". Wherever these codes are silent, the same shall be governed by sound Engineering practice, and the decision of the "Engineer-in-Charge [EIC]", in matter of interpretation, shall be final and binding on the Contractor.

1.2 The bidder must read carefully all such specifications/codes before submitting their bid. It shall be deemed that the Bidder has thoroughly read & understood the "GCC", "SCC" & "Specifications & Scope of Work" before filling in the rates/prices, irrespective of the fact whether they have really done so or not, and no claim on this account shall be entertained at a later date.

1.3 Order of Precedence for specifications of works: i) Letter of Acceptance ii) Technical Specifications and Scope of Work iii) CPWD Specifications Vol – I & II iv) Indian Standard Codes v) Indian Road Congress Standard Specifications vi) Standard Engineering Practice

2.0 SCOPE OF WORK:

The scope of work shall be generally as per Schedule of Rates, drawings etc. for the subject work which are self-explanatory but not limited to the quantities and specifications indicated therein. The scope of work shall include road repair and re-carpeting work at IITM Campus office and colony roads. The work includes tools, tackles, men and machine as required for the completion of the job in all aspect as per contract specifications. Contractor's scope of work shall include but not limited to the following:-

2.1 REPAIRING POTHOLES DEEPER THAN 50 MM: Potholes which are considerably deeper than 50 mm shall be repaired as per following:

i) Cutting: Road surface around potholes shall be cut in to a square/ rectangular shape for easy measurement.

ii) Filling: Filling potholes with graded stone aggregate (size range 53 mm to 0.075 mm) till depth 50 mm from top of existing road surface (this includes providing, laying, spreading and compacting).

iii) Surface dressing: Provide Surface dressing on new surface in two coats with bitumen of grade VG - 10 of approved quality using 1.8 kg of bitumen per sq.mtr with 1.5 cum of stone chippings 13.2 mm nominal size per 100 sq.mtr of road surface for first coat and 1.25 kg. of bitumen per sq.mtr with 1.50 cum of stone chippings 11.2 mm nominal size per 100 sq.mtr of road surface for second coat, including consolidation of each coat separately with road roller of 6 to 8 tonne capacity etc. complete. iv) Measurement will be taken for each pothole in cum (Area of pothole x depth)

2.2 APPLYING TACK COAT OF HOT STRAIGHT RUN BITUMEN: Providing and applying tack coat using hot straight run bitumen of grade VG – 10 (conforming to IS: 73, 2013) including heating the bitumen, spraying the bitumen with mechanically operated spray unit fitted on bitumen boiler, cleaning and preparing the existing road surface as per specifications: On bituminous surface @ 0.50 Kg / sq.mtr.

i) PREPARATION OF SURFACE Prior to the application of bitumen, all vegetation, loose sealing compound, caked mud, animal dung, dust, dirt and foreign material shall be removed from the entire surface of the pavement and from existing dummy, construction and expansion joints (wherever existing) by means of mechanical sweepers and blowers, otherwise with steel wire brushes, small picks, brooms or other implements as approved by the Engineer-in-Charge. The material so removed shall be disposed off as directed by the Engineer-in-Charge. The tack coat shall not be applied nor any bitumen work done during rainy weather or when the surface is damp or wet or when the atmospheric temperature in the shade is not more than 16°C.

ii) APPLICATION OF TACK COAT Bitumen shall be heated in a boiler to a temperature of 165°C to 175°C and maintained at that temperature. Temperature shall be checked at regular intervals with the help of a thermometer. Hot bitumen shall be applied evenly to the clean, dry surface by means of a pressure sprayer at specified rate. Even and uniform distribution of bitumen shall be ensured. Bitumen shall be applied longitudinally along the length of the pavement and never across it. Excessive deposits of bitumen caused by stopping or starting of the sprayer or through leakage or any other reason shall be suitably rectified.

iii) MEASUREMENT & RATE Length and breadth shall be measured correct to a cm, along the surface of pavement. Area shall be worked out in sq.mtr correct to two places of decimal. Rate shall include the cost of all materials and labour involved in all the operations described above.

2.3 PROVIDING AND LAYING 2.5 CM/ 4 CM THICK PREMIX CARPET:

A. 2.5 cm premix carpet surfacing with 2.25 cum and 1.12 cum of stone chippings of 13.2 mm and 11.2 mm size respectively per 100 sq.mtr and 52 kg and 56 kg of hot bitumen per cum of stone chippings of 13.2 mm and 11.2 mm size respectively, including a tack coat with hot straight run bitumen, including consolidation with road roller of 6 to 9 tonne capacity etc. complete (tack coat to be paid for separately). With paving Asphalt grade VG - 30 with no solvent.

B. 4 cm premix carpet surfacing with 3.6 cum and 1.8 cum of stone chippings of 13.2 mm and 11.2 mm size respectively per 100 sq.mtr and 52 kg and 56 kg of hot bitumen per cum of stone chippings of 13.2 mm and 11.2 mm size respectively, including a tack coat with hot straight run bitumen, including consolidation with road roller of 6 to 9 tonne capacity etc. complete as per instructions of EIC: With paving Asphalt grade VG - 30 with no solvent (tack coat to be paid for separately). The carpeting material will be brought from the hot mix plant only, available in the surrounding area. This item shall include:

i) PREPARATION OF SURFACE Repairs: Pot holes or patches and ruts in surface course which is to be surface treated, shall be repaired by removal of all loose and defective material by cutting in rectangular patches and replacement with suitable material. For the purpose of repairs the area of pot holes shall be taken up to 0.75 sq.mtr and depth up to 5 cm. All pot holes, patches and ruts up to 2.5 cm deep shall be repaired and brought to level with premix and properly consolidated while those of depths greater than 2.5 cm shall be repaired with similar specifications as adopted originally. Cleaning: Prior to the application of the binder, all dust, dirt, caked mud, animal dung, loose and foreign material etc. shall be removed 30 cm on either side, beyond the full width to be treated, by brooms etc. The material so removed shall be disposed off as directed by the Engineer-in-Charge. For a water bound macadam surface, the interstices between the road metal shall be exposed up to a depth of about 10 mm by means of wire brushes. The surface shall then be brushed with soft brooms to remove all loose aggregate. Finally the traces of fine dust which get accumulated while brushing shall be thoroughly removed from the surface by blowing with gunny bags. The prepared surface shall be closed to traffic and maintained fully clean till the binder is applied.

ii) MATERIALS

- a.** 2.25 Cum and 1.12 cum of stone chippings of 13.2 mm and 11.2 mm size respectively per 100 sq.mtr for 2.5 cm premix carpet.
- b.** 3.6 Cum and 1.8 cum of stone chippings of 13.2 mm and 11.2 mm size respectively per 100 sq.mtr for 4 cm premix carpet.
- c.** Binder material shall be of 52 kg and 56 kg of hot bitumen (heated 149 C to 177C; conforming to IS: 73, 2013) per cum of stone chippings of 13.2 mm and 11.2 mm size respectively

iii) APPLICATION OF TACK COAT Tack coat shall be applied and to be paid separately as described in 2.2.

iv) PREPARATION OF PREMIX The aggregate shall be dry and suitably heated to temperature as directed by Engineer-in-Charge before these are placed in the mixer to facilitate mixing with the binder. Mixers of approved type shall be employed for mixing the aggregates with the bituminous binder. The binder shall be heated to the temperature appropriate to the grade of bitumen approved by the Engineer-in-Charge, in boilers of suitable design avoiding local overheating and ensuring a continuous supply. The aggregates shall be dry and suitably heated to a temperature as directed by Engineer-in-Charge before these are placed in the mixer. After about 15 seconds of dry mixing, the heated binder shall be distributed over the aggregates at the rate specified. The mixing of binder with chippings shall be continued until the chippings are thoroughly coated with the binder. The mix shall be immediately transported from the mixer to the point of use in suitable vehicles or wheel barrows. The vehicles employed for transport shall be cleaned and be covered over in transit if so directed.

v) SPREADING AND ROLLING The premixed material shall be spread on the road surface with rakes to the required thickness and camber or distributed evenly with the help of a drag spreader, without undue loss of time. The camber shall be checked by means of camber boards and inequalities evened out. As soon as sufficient length of bituminous material has been laid, rolling shall commence with 6 to 9 tone power rollers, preferably of smooth wheel tandem type, or other approved plant. Rolling shall begin at the edges and progress towards the centre longitudinally. Except on the super elevated portions rolling shall progress from the lower to upper edge, parallel to the centre line of the pavement. The consolidated thickness shall not at any place be less than the specified thickness by more than 25%. However, the average thickness shall not be less than that specified in the item. When the roller has passed over the whole area once, any high spots or depressions which become apparent shall be corrected by removing or adding premixed materials. Rolling shall then be continued until the entire surface has been rolled to compaction and all the roller marks eliminated. In each pass of the roller, preceding track shall be overlapped uniformly by at least 1/3 width. The roller wheels shall be kept damp to prevent the premix from adhering to the wheels and being picked up. In no case shall fuel/lubricating oil be used for this purpose. Rollers shall not stand on newly laid material as it may get deformed thereby. The edges along and transverse of the carpet, laid and compacted earlier shall be cut to their full depth so as to expose fresh surface which shall be painted with a thin surface coat of appropriate binder before the new mix is placed against it.

vi) SURFACE FINISHING The surface regularity both in longitudinal and transverse directions shall be within the tolerances as following Longitudinal profile Max. permissible undulation when measured with 3 M straight edge Cross profile Max. permissible variation from specified profile when measured with a camber template 10 mm 6mm The longitudinal profile shall be checked during rolling with a three meters long straight edge and graduated wedge at the middle of each traffic lane along the road. Similarly the transverse profile shall be checked with adjustable templates at intervals of 10 meters.

vii) RECTIFICATION Where the surface irregularity fall outside the specified tolerances the contractor shall be liable to rectify it to the satisfaction of Engineer-in-Charge by adding fresh material and recompacting to specifications where the surface is low. Where the surface is high the full depth of the layer shall be removed and replaced with fresh material and compacted to specifications.

viii) MEASUREMENTS AND RATES The length and width of the finished work shall be measured correct to a cm along the finished surface of the road. The area shall be calculated in square meter, correct

to two places of decimal. The rate shall include the cost of materials and labour involved in all the operations described above for the particular item.

2.4 PROVIDING AND APPLYING SEAL COAT: This work shall consist of the application of a seal coat for sealing the voids in a bituminous surface laid to the specified levels, grade and cross fall (camber). Providing and laying seal coat of premixed fine aggregate (passing 2.36 mm and retained on 180 micron sieve) with bitumen using 128 kg of bitumen of grade VG - 10 bitumen per cum of fine aggregate and 0.60 cum of fine aggregate per 100 sqm of road surface, including rolling and finishing with road roller all complete. The binder shall be heated in boilers of suitable design, approved by the Engineer-in-Charge to the temperature appropriate to the grade of bitumen or as directed by the Engineer-in-Charge. The aggregates shall be dry and suitably heated to a temperature between 150 C and 165 C or as directed by the Engineer-in-charge before these components are placed in the mixer. Mixing of binder with aggregates to the specified proportions shall be continued until the latter are thoroughly coated with the former. The mix shall be immediately transported from the mixing plant to the point of use and spread uniformly on the bituminous surface to be sealed. As soon as a sufficient length has been covered with the premixed material, the surface shall be rolled with an 8-10 tonne smooth-wheeled roller. Rolling shall be continued until the premixed material completely seals the voids in the bituminous course and a smooth uniform surface is obtained. Further, the prepared finished surface shall be protected from traffic for 24 hours or such period as may be directed by the Engineer-in-Charge.

2.5 PROVIDING AND APPLYING OF ROAD MARKING STRIPS: Painting road surface marking with adequate no's of coats (minimum 2 coats) to give uniform finish with ready mixed road marking paint conforming to IS: 164, on bituminous surface in white/yellow shade, including cleaning the surface of all dirt, scales, oil, grease and foreign material etc. complete.

2.6 All safety precautions are to be taken for execution of the work particularly for hot work, etc. required for the road work.

2.7 The contractor shall have to abide by all SAFETY RULES & REGULATIONS applicable for the works. This will include issue of security passes for all workers, provision of safety equipment, personal protective equipment etc. Safety equipment/ personal protective equipment will have to be provided by contractor at his own cost without any payment liability on GAIL.

2.8 All materials should be approved by EIC/site engineer before execution, failing which material used will not be accepted and no payment will be made towards the same. 2.9 Contractor should ensure the safety of his material at his risk and cost. GAIL will not be responsible for any type of damage or loss etc.

2.10 Contractor is advised to make a site visit before quoting for the tender to understand the scope of work.

3.0 TESTING & INSPECTION:

3.1 The Contractor shall carry out the various tests as per CPWD/ IRC/ IS Specifications/ Standards as per requirements of work and instructions of EIC. No separate payment shall be made unless otherwise specified in schedule of rates.

3.2 All the tests either on the field or at outside laboratories concerning the execution of the work and supply of materials by the Contractor shall be carried out by Contractor at his own cost.

3.3 Any work not conforming to Technical Specifications and Scope of Work, concerning CPWD specifications, Indian Road Congress Specifications and IS codes shall be rejected forthwith and the Contractor shall carryout the necessary rectification at his own cost.

3.4 All results of inspection and tests will be recorded in the inspection reports, pro forma of which will be approved by the Engineer-in-Charge. These reports shall form part of the completion documents.

3.5 Inspection and acceptance of work shall not relieve the Contractor from any of his responsibilities under this Contract.

3.6 Contractor shall submit original copies of different certificates of required tests performed in the field and laboratory as per specification of relevant BIS Codes /CPWD Specifications to the EIC.

3.7 Any additional test

3.8 If EIC feels requirements of any of these test, the Contractor has to carry out test as per instructions of EIC.

REFERENCE BOQ TO BE SUBMITTED BLANK DULY SIGNED AND STAMPED ALONG
WITH TECHNICAL BID:

Name of work - Repairs to Approach Road of Office of the Director , Inidna Institute of Tropical Meteorology at Mahabaleshwar, (M.G.G. Hospital Campus), Tal. Mahabaleshwar, Dist. Satara.								
Sl.no.	Items Description	Qty.	Unit	Basic Rate in Rs.	TAXES		Rate (Basic + Taxes)	Total Amount
					Service Tax %	VAT %		
Item no.								
1	Bituminous Macdam Providing and Laying 50 Millimeter thick Bituminous Macadam with 3.30% Bitumen for grading with 40-60 TPH hot mix plant producing an average output of 35 tonnes per hour using crushed aggregates of specified grading permixed with bituminous binder, transported to site, laid over a perviously prepared surface with a hydrestatic paver finisher to the required grade, level and alignment and rolled as per cloused 501.6 and 501.7 to achieve the desired compaction with tack coat at 5kg./10sqmt. (Using60/70 grade Bulk Bitumien	50.44	Cumt					
2	Providing hot mix hot laid 20 mm thick Permixon Bituminous Carpet at 205 kg/100 Sqmt. Without Liquid seal Coat including supplying all materials, preparing and cleaning the base, heating bitumen and chips, applying Tack Coat at specified rate of 50kg/100 sqmt. (Bulk Bitumen) mixing hot betimuen and chips, laying the carpet layer with paver finisher and compacting the carpet etc. complete. (using 60/70 Grade Bulk Bitumen)	915.00	Sq.mt.					
3	Providing Bituminous Liquid Seal Coat with Indian Standard Grade Bulk Bitumen ti Black Topped Surface, including supplying all materials with all leads, preparing exisiting raod surface, heating and applying bitumen 98 kg/100 sqmt., spreading chips and rolling etc. complete. (Using 60/70 Grade Bulk Bitumen)	915.00	Sq.mt.					
	Total amount including Tax							

Tender No. IITM/CE/WORKS/ROAD/HACPL/2014-15/10

**Name of work: Repairs to existing bituminous approach road to
HACPL Site at Mahabaleshwar for IITM, Pashan,
Pune.**

COMMERCIAL BID

VOLUME-II

Name of work - Repairs to Approach Road of Office of the Director , Inidna Institute of Tropical Meteorology at Mahabaleshwar, (M.G.G. Hospital Campus), Tal. Mahabaleshwar, Dist. Satara.

Sl.no.	Items Description	Qty.	Unit	Basic Rate in Rs.	TAXES		Rate (Basic + Taxes)	Total Amount
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Total amount including Tax								

Rupees in Words: