



INDIAN INSTITUTE OF TECHNOLOGY MADRAS
ENGINEERING UNIT, CHENNAI – 600 036

Name of Work: Applying road marking paint over the speed breakers in Bonn avenue, Delhi Avenue, Madras Avenue and Alumini avenue at IIT Madras.

Notice Inviting Tenders

Tender No: 28 / 2014 – 15 / Civil

EXECUTIVE ENGINEER(Civil), Indian Institute of Technology Madras, Chennai - 600 036 invites sealed item rate tenders from the eligible contractors upto 3.00 PM on 11.06.2014. for the following work.

1. PARTICULARS OF WORK

1.1 Name of Work: Applying road marking paint over the speed breakers in Bonn Avenue, Delhi Avenue, Madras Avenue and Alumini Avenue at IIT Madras.

1.2. Estimated Cost (For reference only) : **Rs 5.03 Lakhs**

1.3. Earnest Money Deposit (EMD) : Rs 10,100/-

1.4. Cost of Tender Document :Rs 525/- including VAT(Non –refundable)

(Both the EMD and Tender cost should be accompanied in the form of Demand Draft drawn in favour of Indian Institute of Technology Madras, Chennai-600036)

1.5. Time Period for Completion : 30 days

1.6. Validity of the Tender : 90 days from the date of opening of the tender

1.7. Date of Prebid Meeting : Nil

1.8. Date and Time of Receipt : Date: 11-06-2014–Time 3.00pm

1.9 Date of Opening : Date: 11 -06-2014-Time 3.10pm

1.10 Place of submission of tenders:

Office of the Executive Engineer(Civil),
Engineering unit, Admin Building 3rd Floor,
IIT Madras, Chennai – 600 036.

Executive Engineer (Civil)

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1.11 Deadline for submission of tender

Tenders must be received by the Employer at the following address not later than **3.00 PM** on the date of opening mentioned. In the event of the specified date for the submission of the Tender being declared a holiday by the Employer, the Tenders will be received up to the appointed time on the next working day

1.12. Address for Submission of Tender

The Executive Engineer (Civil)
Engineering Unit, Administrative Building, 3rd floor,
Indian Institute of Technology Madras
Chennai – 600036.

1.13. The Employer may extend the deadline for submission of Tenders by issuing an amendment in writing in which case all rights and obligations of the Employer and the Tenderer previously subject to the original deadline will be subject to new deadline.

1.14. LATE TENDER

Tenders received late will not be accepted.

2. TENDER

- 2.1. I/We have read and examined the notice inviting tender, schedules, Specifications applicable, drawings, Conditions of contract and other documents and rules referred to in the conditions of contract and all other contents in the tender documents for the work.
- 2.2. I/We hereby tender for the execution of the work specified for the Indian Institute of Technology Madras, within the time specified in Schedule – 'F' and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in General Rules and Directions and in Clause 11 of Form 8 (General conditions of contract) and with such materials as are provided for, and in all respects in accordance with such conditions applicable.
- 2.3. I/We agree to keep the tender open for Ninety (90) days from the date of opening of tender and not to make any modifications in its terms and conditions
- 2.4. I/We agree that the EMD deposited by me/us be retained by IITM towards Security Deposit to ensure execution of all works referred to in the tender documents on the terms and conditions contained or referred to therein.
- 2.4. If I/We fail to furnish the prescribed performance guarantee as mentioned elsewhere within prescribed period, I/we agree that IITM shall, without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely.
- 2.5. I/we agree that in case of forfeiture of earnest money as aforesaid, I/we shall be debarred from participating in the re-tendering process of the work.
- 2.6. If I/we fail to commence work as specified in clause 3A of the contract, I/we agree that IITM shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely,

2.7. I/We agree to carry out such deviations as may be ordered, up to a maximum percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the contract.

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

2.9. I/We hereby certify that the tender document downloaded is the exact copy of the document published by the IITM and no alterations and additions have been made by me / us in the tender document.

Contractor

Dated

Signature of the Tenderer

Postal Address

Witness

Signature

Name

Postal Address

Occupation

3. Acceptance

The above tender is accepted by me for an on behalf of the Director, IITM for a sum of _____ Rs. _____
(Rupees _____

_____)

The letters referred to below shall form part of this contract Agreement:

- a)
- b)
- c)

For & on behalf of the Director, IITM.

Signature _____

Designation _____

Date _____

4. Conditions of contract

4.1. Definitions

In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:-

1. The expression 'works' or 'work' shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed, whether temporary or permanent, and whether original, altered, substituted or additional.
2. The 'Site' shall mean the land/or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
3. The 'contractor' shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of 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, firm or company.
4. The 'Engineer-in-charge' means the Engineer who shall supervise and be in-charge of the work and who shall sign the contract on behalf of IIT as mentioned in Schedule 'F' hereunder.
5. 'Accepting Authority' shall mean the authority mentioned in Schedule.
6. 'Excepted Risks' are riots (other than those on account of contractor's employees), war, acts of God such as earthquake, lightening and unprecedented floods, and other such causes over which the contractor has no control and accepted as such by the Accepting Authority.
7. 'Market Rate' shall be the rate as decided by the Engineer-in-charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Schedule 'F' to cover all overheads and profits.
8. 'Schedules(s)' referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard schedule of Rates of the CPWD mentioned in schedule 'F' hereunder, with the amendments thereto issued up to the date of receipt of the tender.

9. 'Department' means IITM which invites the tenders.
10. 'District specification' means the specifications followed by the state of Tamil Nadu in the area where the work is to be executed.
11. 'Tendered value' means the value of the entire work as stipulated in the letter of award.
12. 'Employer means IITM
13. Where the context so requires, words imparting the singular also include the plural and vice versa. Any reference to masculine gender shall whenever required shall refer to feminine gender and vice versa.
14. Wherever the expression "Divisional Officer" appears in the Clauses, it should be substituted by the expression "EXECUTIVE ENGINEER
15. "Engineer in Charge" means EXECUTIVE ENGINEER, IITM, and the Engineer means the officer representing the Engineer-in-Charge of the Project.

4.2. Authority to sign the tender document

The tender must be signed by the person / persons competent to sign as indicated below. Same stipulations will also apply in the case of Receipt of payments for the work done.

1. If the Applicant is an individual, he should sign above his full typewritten name and current address.
2. If the Applicant is a proprietary firm, the Proprietor should sign above his full typewritten name and the full name of his firm with its current address.
3. If the Applicant is a firm in partnership, the Documents should be signed by all the Partners of the firm above their full typewritten names and current addresses. Alternatively the Documents should be signed by a Partner holding Power of Attorney for the firm and in this case a certified copy of the Power of Attorney should accompany the tender documents. In both cases a

certified copy of the Partnership Deed and current address of all the partners of the firms should be furnished.

4. If the Applicant is a limited Company, or a Corporation, the Documents shall be signed by a duly authorized person holding Power of Attorney for signing the Documents, accompanied by a copy of the Power of Attorney. The Applicant should also furnish a copy of the Memorandum of Articles of Association duly attested by a Public Notary

4.3 .Instructions for filling the Bill of Quantities (Schedule A)

1. Rate for each item shall be filled in words and figures and there shall be no discrepancy between the rate quoted in figures and words. However, if a discrepancy is found, the rate which corresponds with the amount worked out by the contractor shall unless otherwise proved, be taken as correct.
2. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct.
3. Where the rates quoted by the contractor in figures and in words tally but the amount is not worked out correctly, the rates quoted by the contractor, will, unless otherwise proved, be taken as correct and not the amount.
4. If no rate has been quoted for any item(s), leaving space both in figure(s), words(s) and amount, it will be presumed that the contractor has included the cost of this / these item(s) in other items and rate for such items(s) will be considered as zero and work will be required to be executed accordingly.
5. Amount must be quoted in full rupees only.
6. Special care should be taken to write the rates in figures as well as in words and the amount in figures in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the word 'Rs' should be written before the figure of 'Rupees' and the word ' P ' after the decimal figures, eg.' Rs 2.15P' and in case of words the word, "Rupees" should precede and the word 'Paise' should be written at the end. Unless the rate is in whole rupees and followed by the word 'only', it should invariably be up to two decimal places.

While quoting each rate in schedule of tender, the word 'only' should be written closely following the rate and it should not be written in the next line.

7. In the case of item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below/above the rates quoted is liable to be rejected
8. Tenders containing proposal for any alteration in the work or in the time allowed for carrying out the work, or which contain any other condition including conditional rebates, will be summarily rejected.
9. The officer inviting tenders shall have the right to reject all or any of the tenders and will not be bound to accept the lowest or any other tender.
10. The tender for the work shall not be witnessed by a Contractor or Contractors who himself / themselves has/have tendered for the same work. Failure to observe this condition would render tenders of the Contractor tendering, as well as witnessing the tender, liable to summary rejection.
11. In the case of any tender where unit rate of any item/items appear unrealistic, such tender will be considered as unbalanced and in case the tenderer is unable to provide satisfactory explanation, such tender is liable to be rejected.
12. The tenderers shall sign a declaration under the Official Secret Act, 1923, for maintaining secrecy of the tender documents, drawings or other records connected with the work given to them.

4.4. Refund / forfeiture of EMD

1. In the event of a tender being accepted, a receipt for the Earnest Money forwarded therewith shall thereupon be given to that Contractor.
2. In the event of a tender being rejected, the Earnest Money forwarded with such unaccepted tender shall thereupon be returned to the Contractor remitting the same, without any interest.
3. Tender for the work shall remain open for acceptance for a period of 90 days from the date of opening of the Tender.
4. If any tenderer withdraws his tender before the said period or issue of acceptance, whichever is earlier or makes any modification in the terms and conditions of the tender which are not acceptable to the Institute, then IITM, shall without prejudice to any other right or remedy, be at liberty to forfeit 50 % of the said earnest money.

4.5 Documents to be submitted upon acceptance of the tender.

1. On acceptance of the tender, the name of the accredited representative(s) of the Contractor who would be responsible for taking instructions from the Engineer in Charge shall be communicated in writing to the Engineer in Charge.
2. The Contractor shall give a list of IITM employees related to him.

4.6 Signing of Agreement.

1. The successful contractor on acceptance of his tender shall within 14 days from the stipulated date of start of the work, sign the contract.
2. **Documents constituting the contract**
 - a. Non judicial stamp paper for value not less than Rs.100 containing the brief description of the contract duly signed by both parties to the contract.
 - b. The notice inviting tender, the financial bid and all other the documents including drawings, if any, forming the tender as issued at the time invitation of tender and acceptance thereof together with any correspondence leading thereto.
 - c. Decisions taken in the Pre-bid meeting if conducted.
 - d. Letter of acceptance
 - e. Letter of award (After submission of Performance Guarantee)

4.7 Special conditions

1. Child Labour is strictly prohibited.
2. Construction labour shall not be permitted (except staff for watch and ward) to stay inside the campus and no labour camp shall be allowed to be set up inside the campus.
3. The construction activities and storage of materials shall be restricted within the area earmarked around the proposed building, which shall be barricaded with materials approved by IITM.
4. The contractor shall abide by the restrictions imposed by the security wing of the Institute on the working and on movement of labour, materials etc. and nothing extra shall be payable on this account. The contractor shall arrange for necessary photo identity passes for the labour for entry into the campus. Advance action for obtaining such passes shall be taken by the contractor and no claim on this account shall be entreated.
5. Movement of labour should be restricted to the areas where work is carried out. Workers should be made to confine themselves to the work areas and should not wander into the near by areas / buildings/ forest.
6. The work should be executed during day time only. If the work is required to be carried out in the night, necessary permission of the Engineer-in-charge shall be obtained. Contractor will make his own arrangement for lighting the area and no extra amount for carrying out the work during

night is payable. To the extent possible engaging women labour in the night shift should be avoided

7. The work shall be carried out with least hindrance to the adjoining buildings and offices and the contractor will be responsible for any damage, caused to the existing fixtures, electric fittings, cables, roads, pipelines etc. in the course of execution and the contractor shall make good any such damages for which nothing extra is payable.
8. Water for construction shall be arranged by the contractor. The contractor will not be allowed to use any of the water resources available within the campus nor will be permitted to dig any bore well inside the campus.
9. No plot rent shall be charged for materials stocked in the institute land during the course of construction with the prior approval the Engineer. All such materials shall be removed at the time of completion of the work.
10. The contractor shall make his own arrangement for electricity required during the construction period.
11. Tenderers shall inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the site and shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not. Submission of a tender implies that the tenderer has read the complete contract documents and is aware of the conditions, specification of the work to be done and of the local conditions and other factors having a bearing on the execution of work. Any claim either for extra amount or for additional time for execution due to ignorance about the site and working condition is not payable.
12. All documents forming the contract shall be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scaled.
13. In the case of discrepancy between the schedule of Quantities, the specifications and/or the Drawings, the following order of precedence shall be observed.
 - i. Description of item in the Schedule of Quantities.
 - ii. Particular Specifications and special conditions, if any
 - iii. Drawings.
 - iv. C.P.W.D Specifications
 - v. Specifications of B.I.S.

14. If there are varying or conflicting provisions made in any one document forming part of the contract, the Engineer-in-charge shall be the deciding authority with regard to the interpretation of the documents and his decision shall be final and binding on the contractor.
15. Any error in description, quantity or rate in schedule of Quantities or any omission there from shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract. All such variations, errors additions, substitutions etc shall be decided as per the terms of the contract
16. The building work shall be carried out complying in all respects with the requirements of relevant bye-laws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-Charge and nothing extra will be paid on this account.
17. The work of water supply, internal sanitary installations and drainage work etc. shall be carried out as per the local body bye-laws and the contractor shall produce necessary completion certificate from such authorities after completion of the work, if required.
18. Where CPWD specifications are not available for fittings and fixtures, the same should conform to bye-laws and specification of the local Body. The contractor should engage licensed plumbers for the work.
19. The contractor shall comply with all legal orders and directions of the local or public authority or municipality and abide by them.
20. The contractor shall give a performance test of the installation(s) as per specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
21. Any cement slurry added over base surface (or) for continuation of concreting to obtain better bond between old and new concrete is deemed to have been included in the items and nothing extra shall be payable or extra cement considered in consumption on this account
22. The Rate for RCC works includes cost of concreting in sloped & curved roof, chajjas & beams and no extra rate shall be payable for concreting in such situations.
23. The rate for Centering & shuttering under concrete items will be the same for Centering & shuttering in curves & arches also unless specified otherwise in the BOQ.
24. The contractor should construct proper mortar bands of lean mix with adequate depth & size over the roof for flooding with water & proper curing. In case of Arches, wet gunny bags shall be used for a period of two weeks.
25. Holes and chase for water supply and drainage, etc, shall be provided as directed during progress of work without any claim for extra for finishing
26. The rate quoted for tiling on walls shall include providing the bevel edges for the corners or the PVC corner strips. No additional payment shall be payable on this account.

27. Sample of all materials, fixtures, flooring tiles, wall tiles, doors, windows, sanitary fittings, roofing sheets electrical fittings etc, shall be got approved in advance from the Engineer-in-Charge before taking up the respective work. The contractor shall produce all the materials in advance so that there is sufficient time for testing and approving the materials and clearance of the same before their use in work.
28. The contractor shall be furnished, free of cost one certified copy of the contract documents except Standard Specifications, Schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract
29. For any dispute arising out of this agreement, the legal jurisdiction will be at Chennai in Tamil Nadu only.
30. It is not binding on the competent authority to accept the lowest or any other tender and any or all the tenders received can be rejected without assigning any reason.
31. Canvassing whether directly or indirectly, in connection with tender is strictly prohibited and the tenders of the contractors who resort to canvassing will be liable to rejection.
32. The competent authority reserves the right to accept part of the tender and the tenderer shall be bound to perform the same at the rates quoted.
33. The contractor shall associate an Electrical contractor of the appropriate class to carry out the electrical works. But it is the principal contractor who is responsible for completion of the Electrical work also as per contract. No agreement is created between the Electrical contractor associated by the tenderer and IITM in this regard.
34. Other agencies related to this project will also simultaneously execute their part of works and the contractor shall cooperate and allow smooth working of all such agencies. The contractor shall leave such holes, openings etc, for laying / burying of pipes, cable, conduits, clamps, boxes and hooks for fans etc. as may be required for other agencies. Conduits for electrical wiring shall be laid in such a way that they leave enough space for concreting and do not adversely affect the structural members. The rates quoted for the items of work are deemed to include charges for coordinating with all such agencies and nothing extra is payable on this account.
35. The following events will take place in the Campus which may hinder the progress of work.

The duration of the events are

- a. Shaastra and Saarang - 10 days (normally in January)
- b. Convocation - 2 days (normally in July)

The completion time stipulated in the contract is deemed to have included the above, if they happen during the duration of the contract.

5. SCHEDULES

Schedule 'A' - The Bill of Quantities enclosed in this document.

Schedule 'B' - Schedule of materials proposed to be issued to the tenderer

NO MATERIAL SHALL BE ISSUED TO THE TENDERER BY IITM

Schedule 'C'- Schedule of tools and plants proposed to be hired to the tenderer

NO TOOLS AND PLANTS SHALL BE HIRED TO THE CONTRATOR BY IITM

Schedule 'D' - Extra schedules for specific requirements / documents for the work, if any.

Schedule 'E'- Price escalation Clauses – 10C Not applicable to this contract.

Schedule 'F'

Name of work: Applying road marking paint over the speed breakers in Bonn avenue, Delhi Avenue, Madras Avenue and Alumini avenue at IIT Madras.

Estimated cost of work : Rs.5.03 Lakhs

Earnest money : Rs.10,100/-

Performance Guarantee : 5% of the tendered value

Security Deposit : 5% of the tendered value

General Rules and Directions:

Officer inviting tender : EXECUTIVE ENGINEER (Civil), IITM

Maximum percentage for quantity of items work
to be executed beyond which rates are to be
determined in accordance with clause 12.2 and 12.3. } See below

Definition

Engineer-in-charge	EXECUTIVE ENGINEER(Civil)
Accepting authority	Director, IIT Madras
Percentage on cost of material and labour to cover all overheads and profit	15%
Standard schedule of rates	CPWD DSR 2013
Department	IIT Madras
Standard CPWD contract form	CPWD form 8 with upto date Modification and correction (Annexure 1)

(Form 8 – Annexure 1 need not be enclosed in the Tender, however while signing the Agreement, this Annexure 1 also will be part of the agreement and signed copy will be enclosed with the agreement)

Clause 1

- i.) Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance in days. 7 (seven)_Days
- (ii) Maximum allowable extension beyond the period provided above 7(Seven) Days.

Clause 2

Authority for levying compensation under clause 2.: SUPERINTENDING ENGINEER

Clause 2a

Whether clause 2a shall be applicable : Yes applicable.

Clause 5

Number of days from the date of issue of
letter of acceptance for reckoning the date of start : 14 Days

Milestones to be achieved shall be as given below. NOT APPLICABLE

Time allowed for execution of work : 30 Days

Authority to give fair and reasonable
Extension of time for completion of work : EXECUTIVE ENGINEER (CIVIL), IITM

Clause 6, 6A : Clause 6A shall be applicable.

Clause 7

Gross work to be done with net
payment after adjustment of advances for material
collected, if any, since the last such payments : First and Final Bill
for being eligible to interim payment.

**Clause 10A - List of Testing equipments to be provided as listed in this
document - NOT APPLICABLE**

Whether Clause 10B (ii) shall be applicable : Not Applicable :

Clause 10 C, 10CA, 10CC - **NOT** applicable to this work.

Clause 10CC : Not applicable.

Clause 11

Specification to be followed for execution of work
CPWD Specifications 2009 Volume I to II and revised CPWD Specifications up to date, general
specifications for electrical works part – I 2004, general specifications for electrical works part-IV Sub
Station 2007.

Clause 12

Deviation limit beyond which clauses 12.2 & 12.3 shall apply for building work (Excluding foundation) 50%

Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation work. } 100%

Clause 16

Competent Authority for EXECUTIVE ENGINEER (CIVIL)
deciding reduced rates for items which IITM
are not as per specification

Clause 36(i) Technical Personnel to be employed at site.- Not Applicable

6.0 List of Approved make/Brand

6.1 IITM reserves the right to select any of the make/brand and only those makes/brands will be allowed to use in the work. Nothing extra is payable even if there is cost difference between the make/brand of another.

7. BILL OF QUANTITIES

Tender No: 28 / 2014 – 15 / Civil / Applying road marking paint over the speed breakers in Bonn avenue, Delhi Avenue, Madras Avenue and Alumini avenue at IIT Madras.

S NO	Qty	Description of work	Unit	Rate	Amount
1	1005	Over Bitumen surface -Supply and Applying of paint over Centerline / Edge line Road marking / speed breaker marking of size 1.85x0.75m over speed breaker marking using thermoplastic paint (manufactured by M/s Brand: Cataline & Reflexline or equivalent approved by Engineer in-charge) (Hot application) white / yellow by indigenous modern propeller road marking machine with a single coat of 2.5mm thickness as directed by the Engineer in charge including cost and conveyance, all ingredients such as binder, Glass beads 250gms per sqm, Titanium Dioxide, calcium carbonate. Inters pillars, pigments as per MORTH specification of clause 803.4.2.2 for the preparation of Thermoplastic requirements for glass beads shall be the table No.800.4 of MORTH specification as per IRC-35 / 1997 including cost of all other materials, labour charges for mixing the ingredients to the require temperature, cleaning the road surface, pre marking, Necessary advance, cautionary sign boards, Red flags, Traffic cones as per traffic rules, safeguarding the newly painted center line marking as directed by the Engineer in-charge. The work should be strictly confirming to the requirement specified in EN 1436. The contractor has to submit the test results for confirming to the EN 1436 requirements.	Sqm		

		A sum of 10% of the bill value will be retained as performance guarantee for 2 years. The overall reduction in coefficient of retro-reflected luminance, RL (mcd.m-2.lx-1) should not be more than 20% after two years of exposure. For releasing the PG, the contractor has to submit the test result indicating the above requirement conducted at the site.			
2	105.0	Over Concrete surface -Supply and Applying of paint over the Centerline / Edge line Road marking / speed breaker marking of size 1.85x0.75m over speed breaker marking after applying suitable primer over the concrete surface followed by applying thermoplastic paint (manufactured by(Brand:Cataline & Reflexline or equivalent approved by Engineer in-charge) (Hot application) white / yellow by indigenous modern propeller road marking machine with a single coat of 2.5mm thickness as directed by the Engineer in-charge including cost and conveyance, all ingredients such as binder, Glass beads 250gms per sqm, Titanium Dioxide, calcium carbonate. Inters pillars, pigments as per MORTH specification of clause 803.4.2.2 for the preparation of Thermoplastic requirements for glass beads shall be the table No.800.4 of MORTH specification as per IRC-35 / 1997 including cost of all other materials, labour charges for mixing the ingredients to the require temperature, cleaning the road surface, pre marking, Necessary advance, cautionary sign boards, Red flags, Traffic cones as per traffic rules, safeguarding the newly painted center line marking as directed by the Engineer in-charge. The work should be strictly carried out to meet the requirements specified in EN 1436. The contractor has to submit the test results for confirming th EN 1436 requirements after completion of the works.	Sqm		

		A sum of 10% of the bill value will be retained as performance guarantee for 2 years. The overall reduction in coefficient of retro-reflected luminance, RL ($\text{mcd.m}^{-2}.\text{lx}^{-1}$) should not be more than 20% after two years of exposure. For releasing the PG, the contractor has to submit the test result indicating the above requirement conducted at the site.			
3	3400	Cleaning the raised pavement markers (cat eye) with water (no soap water) using a nylon brush to remove all dust, dirt completely.	Nos		
Total Amount in Rs.					

Total Amount in Rs. (In words) :

Certified that the bid as published on the web contains 21 pages.

Signature of the contractor

Executive Engineer (Civil)

Engineering Unit, Administrative Building, 3rd Floor, Engineering Unit,
IIT Madras, Chennai – 600 036.