

**MAHARASHTRA RAJYA SAHAKARI DUDH MAHASANGH
MARYADIT,
MAHANAND DAIRY
Goregaon East, Mumbai 400065**

Invitation for proposals for Appointment of Structural Consultant for Structural Audit, Repairs / rehabilitation of the existing buildings at **MAHANAND NIWAS, Ciba Road, Goregaon (East), Mumbai – 400 065**, for **MAHARASHTRA RAJYA SAHAKARI DUDH MAHASANGH MARYADIT (MRSDMM), Goregaon (east) Mumbai.**

Sealed proposals are invited in Single envelope for appointment of Structural Consultant for Structural Audit, Repairs / rehabilitation of the existing buildings at MAHANAND NIWAS for **MAHARASHTRA RAJYA SAHAKARI DUDH MAHASANGH MARYADIT (MRSDMM), Goregaon (east), Mumbai.**

The blank forms for proposals are attached herewith. The consultants shall fill in the formats on their own letterheads.

Duly filled in proposals shall be submitted before 12/10/2018, up to 4.00 pm on any working day at the office of the Deputy Manager (Estate), Maharashtra Rajya Sahakari Dudh Mahasangh Maryadit, Mahanand Dairy, Western Express Highway Goregaon(E), Mumbai, Maharashtra 400065.

The office of **Maharashtra Rajya Sahakari Dudh Mahasangh Maryadit, Mahanand Dairy**, invites from MCGM empanelled Consultancy Firms for the utilization of the consultancy services for Structural Audits, repairs/ rehabilitation and retrofitting & structural design works.

1. Applications are invited from the practicing structural Engineers and firms specialized in the field of carrying out Non-Destructive Tests and other relevant tests and structural repairs/

rehabilitation/ retrofitting systems so as to enhance to service life of the structure effectively and preparing structural design of the building .

2. Applicants should state the details of the
 - i. Qualifications
 - ii. Works carried out (particularly for Government bodies / Industries).
 - iii. Non-destructive tests carried out through a NABL certified laboratory
3. Process to be confidential
Information relating to the examination, clarification, evaluation and comparison of proposals and recommendations for the award of a contract shall not be disclosed to structural consultants or any other person not officially concerned with such process until the award to the successful consultant has been announced. Any efforts by the consultants to influence the employer's processing of proposal or award decision may result in the rejection of his proposal.
4. Examination of proposals and determination of responsiveness
Prior to detail evaluation of proposals, MSRDMM will determine whether each proposal-
 - a) Meet the eligibility criteria
 - b) Has been properly signed.
 - c) Fulfill the requirement of the proposal documents.
5. The selection of the consultant for Structural Audit and Repairs is the sole discretion of the management of MRSDDMM. The management may appoint separate consultants for audit and repairs, if feels so.

Scope of the work for consultant:-

The whole job is to be carried out for four (4) buildings, viz. A, B, C and D, total 82 flats, at Mahanand Niwas, Ciba Road, Goregaon (E), Mumbai – 400 065.

The consultant entrusted with the work design of structural repairs/retrofitting works shall perform following functions:-

- I) He shall consider the various feasible alternatives of structural repair/retrofitting systems for the particular building entrusted to him and choose the most cost effective way of repairs for enhancing the service life of the structure and also considering future maintenance aspects and prepare repair/retrofitting.
- II) Methodology for the purpose of inviting bids from approved contractors:-
 - i) Carrying out condition survey of the building.
 - ii) A preliminary drawing for specialized repairs/retrofitting and such other detailed Drawings as necessary to identify the weak structural elements. Existing Structural drawings will be made available only if possible.
 - iii) Carrying out various types of non destructive and other tests such as Schmidt Hammer Test, U.P.V. Test, Corrosion Potential Test, Carbonation Depth, Monitoring Crack Width and its pattern. Correlating the N. D. T. results and submitting necessary analysis. Also verifying condition of existing reinforcement bars would be necessary. The consultants shall carry out any other test required in connection with works.
 - iv) To prepare a plan for propping system to be provided to ensure structural safety and to advise whether building/ structure is required to be vacated wholly or partly etc.
 - v) To prepare a detailed bill of quantities based on the schedule of rates of M.C.G.M/P. W. D.
 - vi) Specifications and special conditions of contract, if any applicable to the work in particular.
 - vii) Detailed structural analysis based on N. D. and other tests results and to evaluate the overall structural condition of the building and also inform / advise whether the structure needs to be pulled down & to be reconstructed wholly or partly.
 - viii) Submission of report / documentation with colored photographs.
 - ix) Giving Technical advice and guidance for any other works as called for wherever necessary.
- III) On receipt of tender bids, the Consultant shall submit a detailed report to the management for consideration with his recommendations.
- IV) In the event of the official repair/retrofitting methodology being adopted for execution, the

Consultant shall prepare all the required working drawings and details within time limit, as stipulated to him so as to complete the work within contract period.

- V) The Consultants shall pay periodical visits to the site of works to discuss and solve difficulties arising during the execution of work as per drawings and shall essentially report the finding/solution/observation and methodology of work to the management on regular basis.
- V) The Consultants shall suggest measures to enforce quality control standards in conformity with the general policy arrived at by the management.
- VII) In case of structural Design, consultant shall provide cost effective and efficient design. Consultant/Consultant's representative from concern field such as electrical & Mechanical, H. V. A. C., plumbing work will visit the site during the execution of works such as checking reinforcement, concreting, electrical & Mechanical, H. V. A. C., plumbing work etc., record the instruction in the instruction book or otherwise. Consultant shall be issuing "Stability Certificate" on completion of the project.
- VIII) Structural consultant shall co-ordinate with soil investigation agency appointed by M. C. G. M. or any such registered or empanelled soil investigation agency/ geo-tech consultant as desired and required for the project.

SCOPE OF WORK IN DETAILS [FOR STRUCTURAL AUDIT OF THE BUILDINGS]

- Visual inspection of each and every structural member such as beams, columns and slabs is to be carried out from inside every unit with the help of residents' feedback.
- Inspect/identify cracks in the RCC walls or plaster, seepage through walls and slabs, hollowness in RCC or plaster and corrosion of reinforcement are some of the common signs of distress.
- To determine the nature and extend of distress in R.C.C member
- Tapping exercise of each and every structural member from inside. (if required).
- Preparing/compiling unit-wise report with overall cost estimate.
- To inspect the entire terrace, parapet wall, overhead water tank, etc. and identify the source of leakage and its nature
- Checking feasibility of internal alterations carried out by members.
- Suggest the best economic solution to comply the suitable remedial measure and quantify the area.
- Implementing new technologies/materials to achieve best results.
- Prepare the bill of quantity, estimate of time period required and total schedule of work in detail, including bar chart.
- Identify the critical zone through the photographic exhibits
- A priority wise repair work will be phased out as per the availability of funds
- Conduct extensive Non Destructive test (if required and found necessary).

- Submission of the Detailed Audit Report to the management of MRSDMM and if required to MCGM, mentioning structural stability and the life of the building as it is and after the suggested retrofitting.

SCOPE OF WORK IN DETAILS [FOR REPAIRS CONSULTANCY]

- Preparing of tender documents for e-tendering.
- Preparing a comparative statement of the tendered rates / amounts.
- Assisting the MRSDMM in selection of the Contractor by a recommendation letter after thoroughly scrutinizing the tenders of each bidder.
- Preparation of legal agreement between MRSDMM and the Contractor after finalization of the Contractor.
- Briefing session for the contractor for deciding on a mechanism on reporting and quality control
- Providing necessary technical support during the execution of work
- Periodic evaluation of quality and progress of work through site visits and meetings
- Periodic Supervision at the site during the actual execution of the repairs work.
- Scheduling the work activities.
- Getting the work done as per the specifications and within the time scheduled.
- Checking and certifying the bills raised by the Contractor.
- Certifying the final bill of the Contractor.
- Periodic visits during the defect liability period [if required][i.e. 12 months from the date of completion of the work.]
- Getting the defects rectified (if any found during the defect liability period) by the contractor.

EXECUTION

Periodic Supervision on site by trained civil engineer during progress of work.

- Checking all mixing of material
- Ensuring the work as per technical specification
- Confirming the skilled workman at site
- Coordinate with both contractor's representative and the management.
- Maintain a book for daily report & instruction to the contractor at site
- Ensure the schedule of work with time
- Quality control, Measurement checking & reporting to senior and the management.
- Holding meeting with the contractor every week to ensure the progress of work
- Verify the measurement & certify the bills after scrutiny
- Progress review meeting with the management every fortnight
- Giving all instruction, technical input & decision as and when required
- Finally to ensure that the work should be executed smoothly and within the time limit.

TERMS OF PAYMENT TO THE CONSULTANT

1. The payment for the structural audit shall be made after satisfactory completion of the job as mentioned in the "Scope of work for Structural Audit".
2. The rates shall be inclusive of all the expenses, including but not limited to, transportation, stationary, overheads etc.
3. The taxes shall be mentioned separately.
4. The terms of payment for "Repairs / Retrofitting consultancy" shall be decided after the structural audit. The consultants may suggest their terms of payment. No advance payment shall be made. The payment shall be made on the basis of progress of work.

Name of the Consulting Firm : -					
Sr. No.	NAME OF PERSON	Graduate in Civil Engineering	Post Graduate in Structural Engineering	Doctorate in Structural Engineering	Membership of professional body

NDT and repairs to multistoried buildings during last 5 years

(Mainly for Govt. bodies)

sr. no.	name of the building	location	year	N D TESTS	repair

Repairs and retrofitting to buildings during last 5 years

(Mainly for Govt. bodies)

sr. no.	name of the building	location	year	Repairs	Retrofitting

QUOTATION FOR STRUCTURAL AUDIT - MAHANAND NIWAS

Sr.no	Description	Qty	Unit	Rate	Amount
1	Site visits, preparation & submission of visual inspection report including photographs evidence, As built architectural drawings like plans, elevations. Preparation of distress mapping drawing for the mentioned structures.	1	nos		

2	ND Testing : Conducting adequate /required number of following NDT/PDT on concerned structure. Preparation and submission of ND/PD test report. Rate shall be inclusive of necessary surface preparation and travelling etc.				
a	Ultrasonic Pulse velocity test	15	nos		
b	Rebound hammer test	15	nos		
c	Carbonation test	15	nos		
d	Half Cell Potential test	15	nos		
e	Core Compression test	3	nos		
f	Chemical Analysis Test (pH, chloride, Sulphate)	3	nos		
g	Cover meter Survey : Checking clear concrete cover for RCC elements	3	nos		
3	Suggestion for remedial measures, preparation & submission of detailed estimate, BOQ & Specifications for repair & rehabilitation scheme for all structures.	1	nos		
	TOTAL				
	GST @ 18%				
	TOTAL AMOUNT (PER UNIT CALCULATION)				

QUOTATION FOR CONSULTANCY WORK – MAHANAND NIWAS		
Sr. No.	Description	Percentage
1	Supervision Charges for the Repairs work as per the scope of work mentioned	_____ % of the total cost of work carried out + 18% GST