

**NATIONAL BANK FOR AGRICULTURE
AND RURAL DEVELOPMENT**

HARYANA REGIONAL OFFICE, CHANDIGARH

**TENDER FOR
CONSULTANCY SERVICES OF STRUCTURAL
AUDIT AND CARRYING OUT NON
DESTRUCTIVE TESTS FOR
ASSESSMENT OF STRUCTURAL
HEALTH/SAFETY OF 70 NABARD FLATS IN
MODERN HOUSING COMPLEX, MANIMAJRA,
CHANDIGARH**

PRICE/FINANCIAL BID

PRICE / FINANCIAL BID

SCHEDULE /BILL OF QUANTITIES

S. No.	Particulars	Approx. Quantity	Unit	Rate (Rs.)	Amount (Rs.)
1	NDT				
a)	Rebound Hammer Test: Conducting the rebound hammer test with required instruments/ equipments by preparing the surface of RCC structural members such as beams, columns, slabs etc. by chipping the plastered surface/ finishing/ cladding to expose the concrete, smoothening the area using carborandum stone all in terms of relevant IS code : 13311-1992(Part 2) or as directed. The quoted rate shall be inclusive of cost of all tool & tackles, restoration of the test area/spots after conduct of test with matching paint, associated sundry work etc. as well as all applicable taxes.	175	No.		
	Rate in words -				
b)	UPV (Ultrasonic Pulse Velocity) Test: Conducting the UPV test with required instruments/equipments by preparing the surface of RCC structural members such as beams, columns, slabs etc. by chipping the plastered surface/ finishing/ cladding to expose the concrete, smoothening the area using carborandum stone all in terms of relevant IS code : 516 (Part 5, Section 1) or as directed. The quoted rate shall be inclusive of cost of all tool & tackles, restoration of the test area/spots after conduct of test with matching paint, associated sundry work etc. as well as all applicable taxes.	175	No.		
	Rate in words -				
c)	Carbonation Depth Test: Preparing the surface of RCC structural member such as beams, columns, slabs, water tank walls & slab etc. by chipping the plastered surface/ finishing/ cladding to expose the concrete, cutting etc. as per relevant code and conducting carbonation test at various	175	No.		

	depth as directed by consultant using phenolphthalein of specified concentration to assess depth of carbonation. The ratio of Carbonation depth to cover depth is also to be measured to check the intensity of carbonation attack on steel bar. The quoted rate shall be inclusive of cost of all tool & tackles, restoration of the test area/spots after conduct of test with matching paint, associated sundry work etc. as well as all applicable taxes.				
	Rate in words				
e)	Core Extraction and Testing :Extracting the concrete core samples of minimum 65mm diameter and 100-150mm length(approx.) at selected locations from RCC members of the structures covered under the study and evaluating the properties (compressive strength value, grade of concrete, density, water absorption test) in the laboratory from the core samples selected as per relevant provision of applicable codes viz. IS 456:2000, IS 15516:1959 & IS 1199:2002 without encountering any steel reinforcement (by using bar locator / ferro-scanner) from the RCC members at specified locations as decided in consultation with NABARD engineer with portable power driven core cutting equipment. The quoted rate shall be inclusive of all required tool & tackles, restoration of the test area/spots (by filling it with epoxy and/or other permissible material) after conduct of test with matching paint, associated sundry work etc. as well as all applicable taxes.	30	No.		
	Rate in words				
f	Resistivity Test : Conducting the test as per standard practice [viz. ASTM C1202/AASHTO T 277 rapid chloride permeability (RCP) method) or RILEM] and prescribed procedure or as directed. The quoted rate shall be inclusive of all sundry activities and applicable taxes.	175	No.		

	Rate in words				
g	<p>Half Cell Potential Test for corrosion mapping : Measuring the Half Cell Potential reading with wheel electrode at thenodes of pre-marked grid points on concrete surface in a suitable grid for determining the probability of corrosion activity of embedded steel reinforcement in concrete with specified half cell electrode in accordance with latest IS code and after moistening concrete surface with water. The quoted rate shall include surface preparation, moistening concrete surface for assessing the percentage risk of corrosion in the reinforcement, measuring the half cell/surface potentials at selected locations on RCC members of the structures covered under the study to understand the extent of reinforcement corrosion and contour mapping of corrosion, plotting the half cell potential readings in graphical presentation with potential contours plotted in terms of probable risk of corrosion of steel bar in all the three categories of flats with proper documented report. The quoted rate shall be inclusive of cost of all tool & tackles, restoration of the test area/spots after conduct of test with matching paint, associated sundry work etc. as well as all applicable taxes.</p>	70	No.		
	Rate in words				
2	<p>Consultancy charges (on the basis of built-up area of flats) for following work :</p> <p>(A) Preparation of comprehensive structural audit report for 70 NABARD flats (spread in 31 blocks) and shall include following :</p> <p>i. Rapid Visual Screening (RVS) and Detailed Visual Study of the flats & complete Block/ Unit by inspecting flats/ terrace/ external face/ sunshades/ foundation area to assess current state of condition, levels of deterioration , stability / durability on the basis of surface damages, cracks, flaking, coloration, dampness/ leakages, local</p>	98945	SqFt		

	<p>weaknesses etc. and their damage classification as per latest guidelines/primer of National Disaster Management Agency & relevant codes etc.</p> <p>ii. Non-destructive test results analysis: all the conducted test results shall be analysed and need to prepare separate report for each category of flats with proper suggestion / recommendation .</p> <p>(B) Suggested remedial measures : Preparation of BoQ for the remedial measures (wherever required) with detailed technical specification for repair for flats only and final inspection/ testing with two site visits.</p> <p>(C) Issuing structural fitness/stability certificate for the flats in the prescribed/ prevailing format of local bodies for the next three years.</p> <p>The quoted rate shall be inclusive of associated works & preparation of reports with photographs and applicable taxes. The consultant has to give two sets of hard copies of reports in addition to soft copy to NABARD.</p>				
	Rate in words				
	TOTAL AMOUNT				

Total amount in words :

Note – 1. The work shall be completed in three months period from the date of work order.

2. The consultant/firm/agency shall be competent to carry out the structural audit work and have valid certificate/license in this regard.

3. The rates shall be quoted after understanding the site.

4. The quoted rates shall be inclusive of all applicable taxes and necessary statutory deductions will be made from the submitted bill of firm/agency/consultant.

5. Details of 70 flats (35 no. category –I flat having area 1648 Sq ft each, 25 no. category –II flat having area 1251 Sq ft each and 10 no. category –III flat having built-up area 999 Sq ft each) and situated in 31 Blocks. Each block is a four storeyed RCC frame structure building having 24 flats. NABARD has only layout plan of the flats and does not

have any structural drawings of these block/unit.

6. The tentative test quantities are mentioned in the tender and may vary as per discussion and decision in this regard.

7. The agency have to make his own arrangement at its' cost for stay and meeting the travelling expenses, daily allowance etc., during execution of the project/work. NABARD will provide one covered car parking for keeping their instruments etc. and its safety & electrical connection will be ensured by the agency itself.

8. In case of any doubt / clarifications, the latest CPWD guidelines will be accepted.

Name of the authorized person sign the Tender/Price Bid :

(Signature)

Date

Place