

# STRUCTURAL AUDIT REPORT OF

## CHANDRA BHUVAN CO-OP HSG. SOCIETY Chandralok-A, 97, Nepean Road, Mumbai 400026



BY.

**A. D. SHINTRE CONSULTANS**  
ARCHITECTS & CONSULTING ENGINEERS

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12.12.2019



**STRUCTURAL AUDIT REPORT FOR CHANDRA BHUBAN CO- OP. HOUSING  
SOCIETY LTD,**

Chandralok –A, 97, Ledy L. Jagmohandas Road, Mumbai 400 006.

18.12.2019

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To,

**Hon. Secretary,**

Chandra Bhuvan Co-op. Housing Society Ltd,

Chandralok-A, 97, Nepean sea Road,

Mumbai 400 006.

Subject : Structural Audit of building known as Chandra Bhuvan Co-op. Housing Society Ltd, Chandralok-A, 97, Nepean sea Road, Mumbai 400 006.

We have visited to inspect Structural condition of the subject mentioned bldg. on 21<sup>st</sup> November 2<sup>nd</sup> December 2019.

We have carried out visual inspection for distresses and occurrences of leakage from External façade as well as from internal areas.

The subject mentioned building is Ground + 5 storey RCC framed building structure. Building is constructed about 60 years ago. This building is one staircase block and two lifts. The building has a shop line on the ground floor and above floor is residential.

Building having one main terrace above 5<sup>th</sup> floor and one small terrace at 5<sup>th</sup> floor level. Building has got 2 Nos of 15000 and 4Nos of 10000 liters sintex water and one lift machine room at the terrace level.

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**Following are our observations:**

**SECTION- I, EXTERNAL FACADE:**

Minor Cracks have observed on external plaster of the building and monsoon leakages signs are observed in some of the flats in the building. Monsoon leakage is also observed from window frame in some of the flats. External façade shows minor cracks and discoloring of paint. Six years ago external painting and patch work plaster work is done.

Aluminum weather shades of different shape and size are provided over windows at Bldg. Absences of chajja projection over window are observed at some of location.

A.C. Drainage system are not observed.

Chemical coatings and Membrane treatment are observed on balcony top terrace at 5<sup>th</sup> floor level.

**Please refer attached façade photography for condition of external facade.**

**REMEDIAL MEASURES:**

- I. External façade should be checked for hollowness by tapping with light hummer. Chipping out loose plaster in patches in rectangular areas, providing ready- mix plaster in two coats to match with surrounding areas with bonding agent. Covering joint with chemical coating.
- II. Structural members such as Column, Beam, Chajjas etc. to be repaired by Micro Concrete, Repair Mortar and casting as required.

**M/s. A. D. Shintre Consultants**  
Architects and Consulting Engineers

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- III. Providing and applying mini brick bat waterproofing treatment on chajja top.
- IV. Providing of long lasting paint system using 100% external Acrylic paint to entire building surface.

**SECTION-II, DRAINAGE & WATER SUPPLY LINES :**

- Water supply pipe are of G.I. and corroded at certain locations.
- The existing drainage pipes are of Cast Iron and PVC. Corroded at some places.
- Opening of Plumbing gabada are observed at certain locations.

**REMEDIAL MEASURES:**

- I. Existing Drainage and water supply pipe lines which are damage should be replace by drain line and water supply lines.

**SECTION-III, INTERNAL FLAT OBSERVATION:**

**(Please refer as attached separate sheet flat wise for details of observation and photography)**

- False ceiling is observed in Majority of the flats. Therefore structural members hidden inside false ceiling could not be inspected.
- Leakages are reported from window frames in some of the flats.
- Floor tiles are found loose/cracked in some of flats.
- Structural distress such as cracks in columns, beams, and ceiling area are observed in some of flats.
- Some of the flat shows separation cracks on column/beam and wall joint.
- Cracks in the false ceiling are observed in some flats. There may be due to weakness in the slab & Beam inside.

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- Leakages are observed from open balcony in some flats.
- Leakage is observed in majority flats from near bath/toilet walls.
- Flat No. 411 Major renovation work is in progress. Heavy corroded reinforcement is observed on beams and ceilings.
- Some of the flat shows Structural distress such as cracks in columns, beams, flooring slab and ceiling. Few flats like F-401A, F-408 and 502 etc. have major structural distresses.

**REMEDIAL MEASURES:**

- I. Provision of temporary props wherever necessary prior to commencing of works in those internal areas of flats and common areas.
- II. Removing of all loose pockets of plaster and de-bonding/deteriorated concrete.
- III. Providing rust cleaning and rust passivating treatment.
- IV. Providing epoxy coating treatment for old and new reinforcement.
- V. Providing, tying and fixing supplementing reinforcement bars, wherever required.
- VI. Providing epoxy bond coating treatment for old concrete surface for proper bonding with new concrete.
- VII. Providing Grouting by using two components high strength, low viscous monomer MONOPOL 250H, wherever loose concrete.
- VIII. Structural members such as Column, Beam, Slabs etc. to be repaired by Micro Concrete, Repair Mortar and casting as required by the condition of concrete.
- IX. Providing one coat ready –mix plaster to match with surrounding areas

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**SECTION-IV, INTERNAL SHOPS OBSERVATION:**

- False ceiling is observed in Majority of the shops. Therefore structural members hidden inside false ceiling could not be inspected.
- Structural distress such as cracks in columns, beams, and ceiling area are observed in some of shops.
- Some of the shops show Structural distress such as cracks in columns, beams, flooring and ceilings. Few Shops like S-04, S-18, S-28 and S-03 etc. have major structural distresses.
- Leakages are observed from upper flat in certain locations.

**REMEDIAL MEASURES:**

- Same repairs and internal structural considered in Section-III.

**SECTION-V, STAIRCASE AND PASSAGE:**

Six months ago staircase and passage lobby painting work done reported by Mr. Umesh (Society Manager)

**SECTION-VI, TERRACE LEVEL OBSERVATIONS :**

China chips treatment provided on entire terrace. PVC tennis net and court is observed on part terrace area.

The Balcony of the 5<sup>th</sup> floor is found covered with cement sheet. Asphalt coating is provided over cement sheet roof.

Two years ago terrace water proofing treatment work done reported by Mr. Umesh (Society Manager)

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As reported during our survey flat below this terrace floor have No leakage problems through terrace.

**SECTION-VII, OVER HEAD TANKS :**

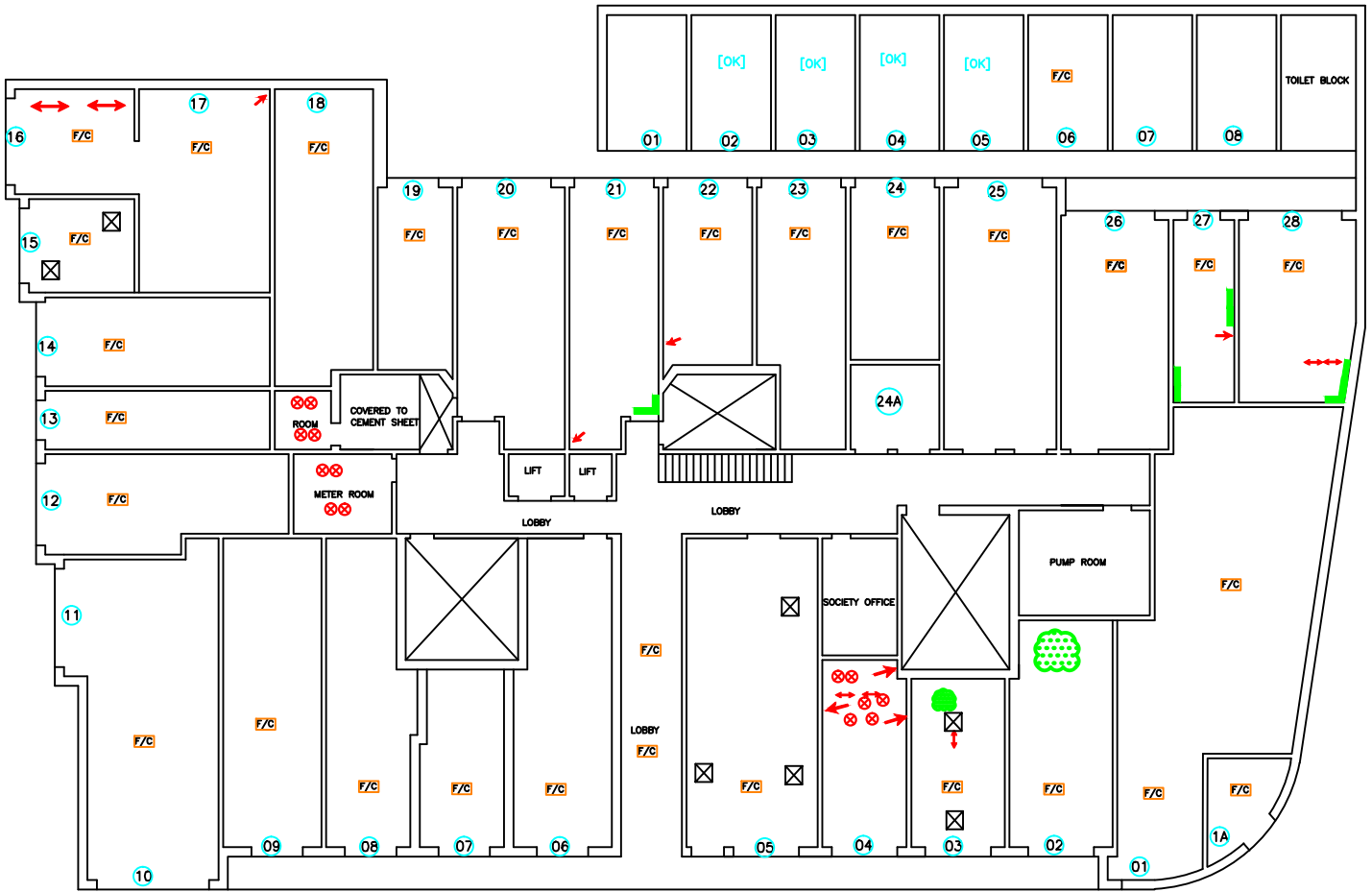
Sintex Water Tanks are supported over the columns on RCC overhead water tank. The existing RCC Overhead water tank not in use.

Thanking you,  
Yours faithfully,

A.D. Shintre Consultants  
Str. Lic. No. STR/S/102

- 1) Floor plans indicating leakage and distresses.
- 2) Photographs showing distresses.
- 3) Flat wise observed report.
- 4) NDT reports
- 5) Approx. Estimate





LEGEND:

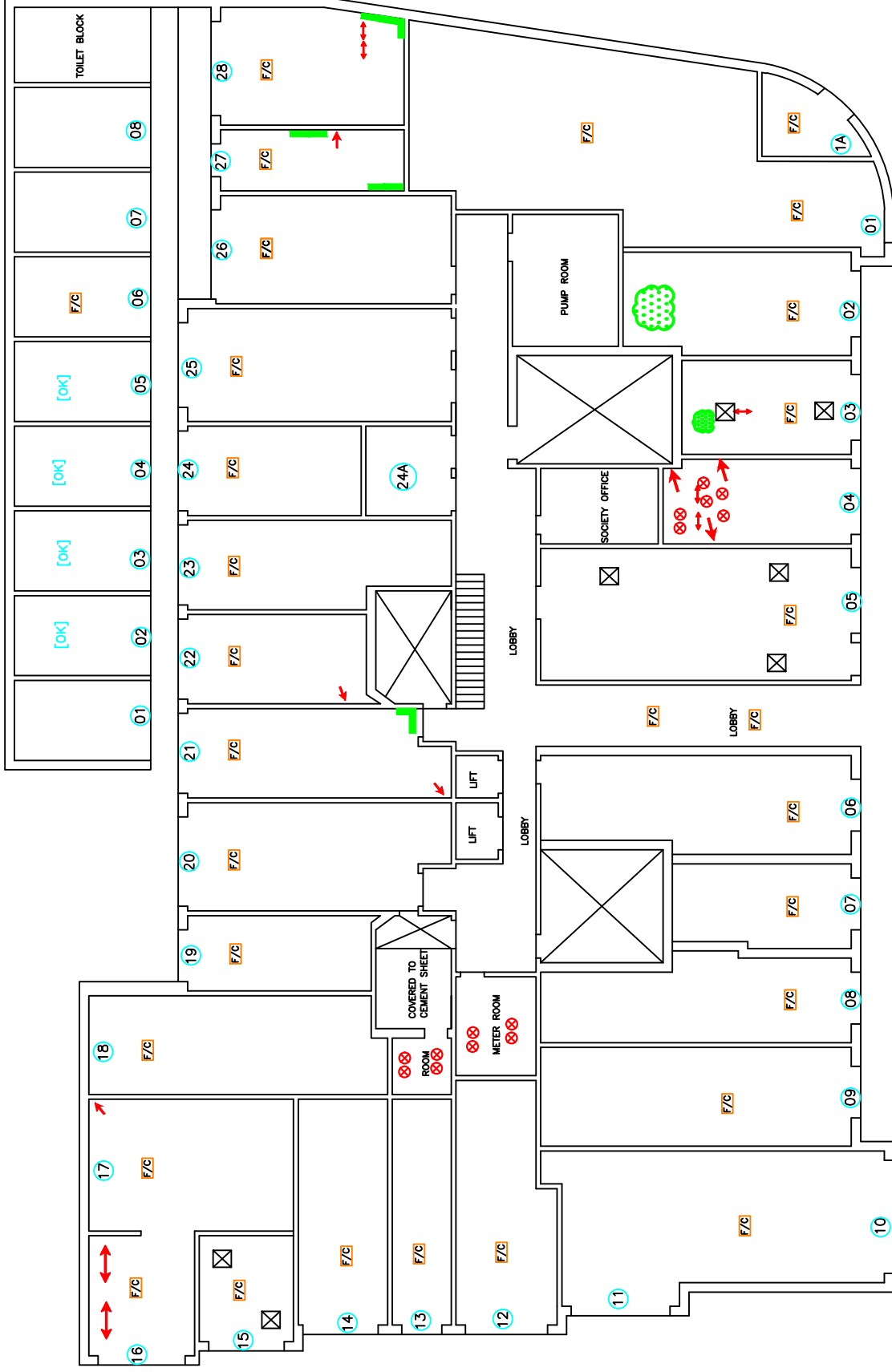
F/C	FALSE CEILING
⊗	CEILING CRACKS
▤	RAISED FLOORING
↔	BEAM CRACKS
↘	COLUMN CRACKS
●	CEILING LEAKGE
—	WALL LEAKGE

NOTE : THIS FLOOR LAYOUT IS ONLY FOR INDICATING STRUCTURAL DISTRESSES AND LEAKAGES.

CHANDRA BHUVAN (CHANDRALOK) CO-OP.HSG.SOC.

GROUND FLOOR PLAN

A.D.SHINTRE CONSULTANTS	TEL:-23822863	DATE	DRN BY	NO.
28, RADHA BLDG., SHASTRI HALL, MUMBAI 400 007		12.12.19	jairam	1/6



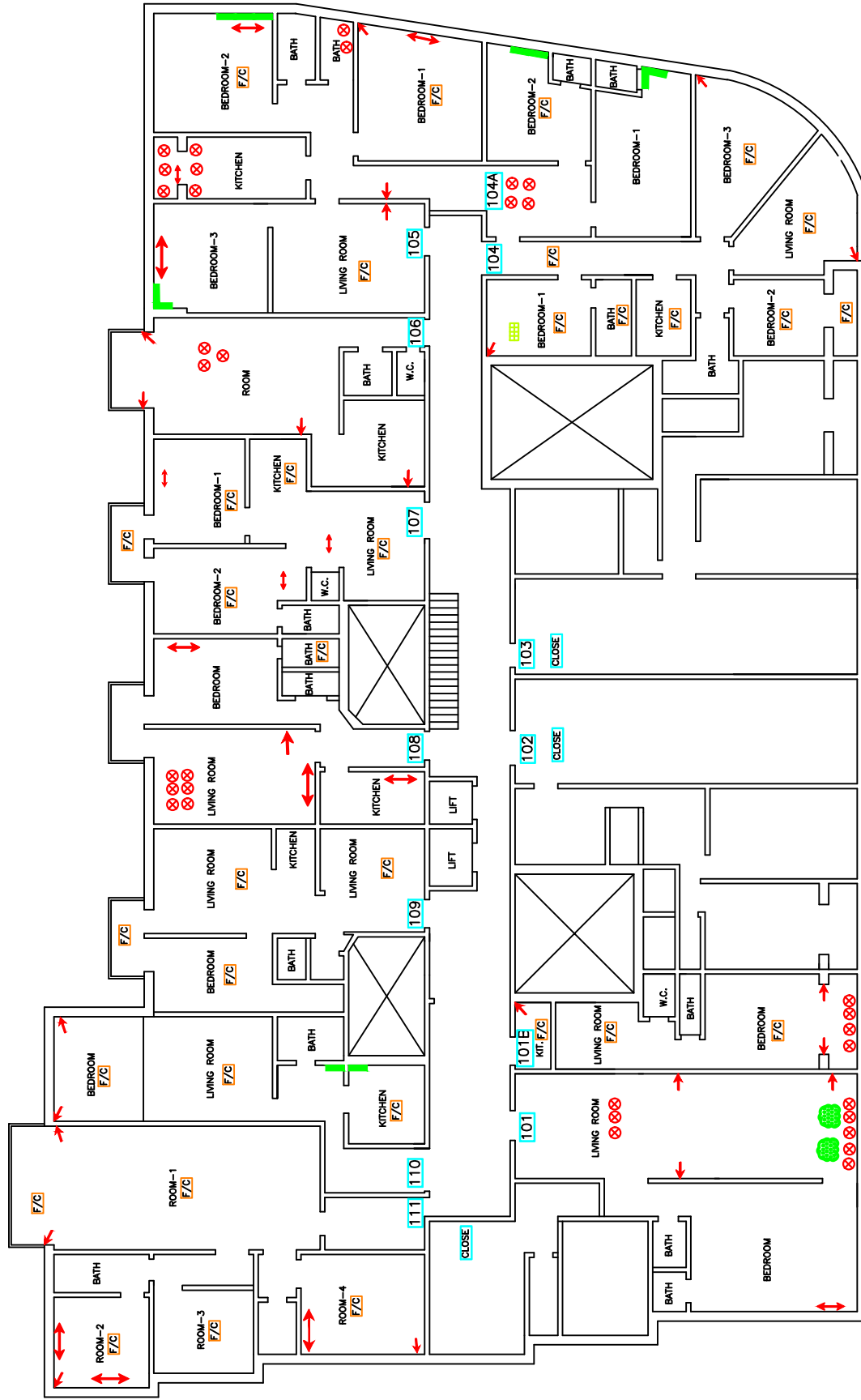
LEGEND:

F/C	FALSE CEILING
⊗	CEILING CRACKS
⊞	RAISED FLOORING
↔	BEAM CRACKS
▲	COLUMN CRACKS
⊙	CEILING LEAKGE
—	WALL LEAKGE

NOTE : THIS FLOOR LAYOUT IS ONLY FOR INDICATING STRUCTURAL DISTRESSES AND LEAKAGES.

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28, RADHA BLDG., SHASTRI HALL, MUMBAI 400 007		12.12.19	jairam 1/6



LEGEND:

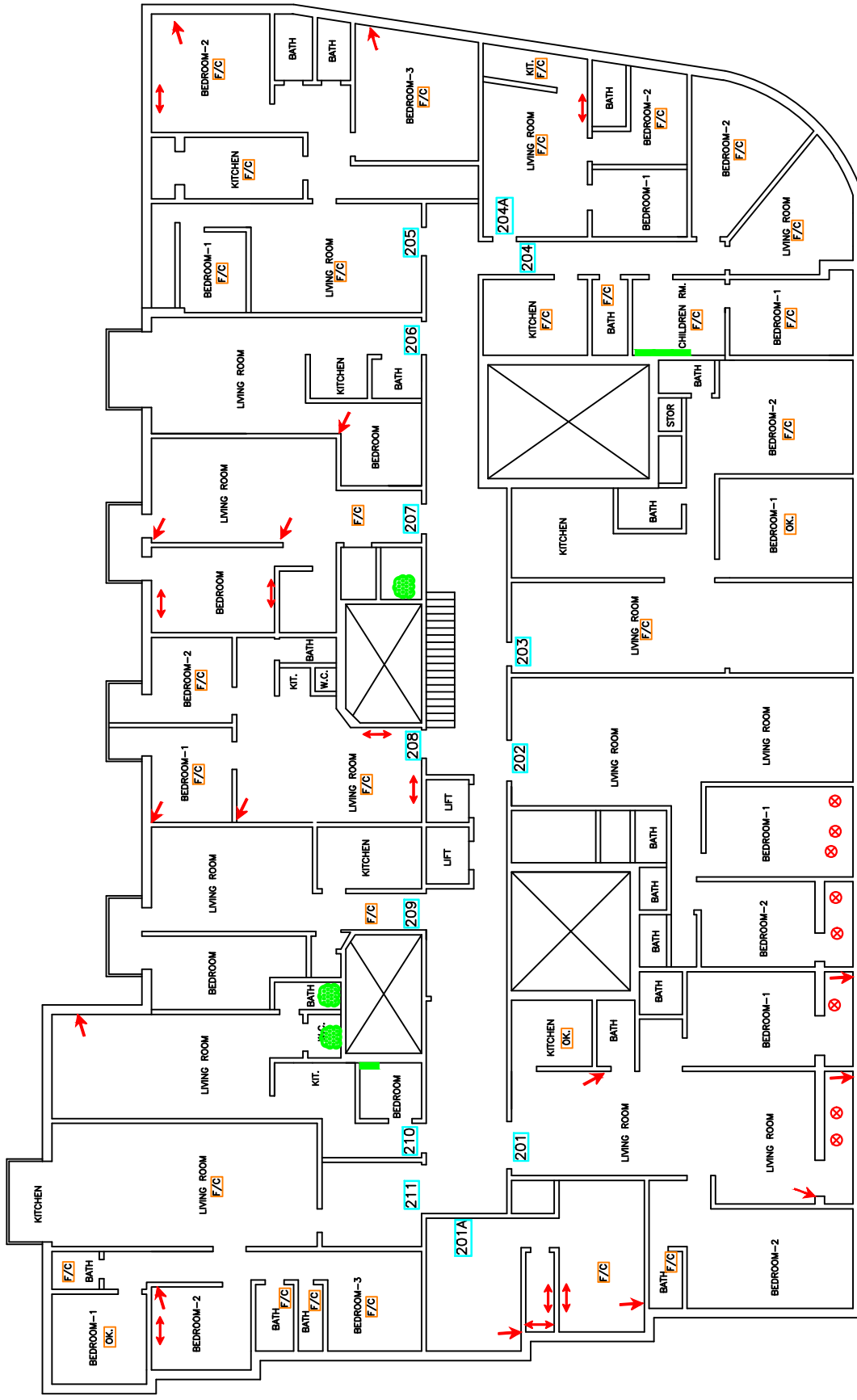
F/C	FALSE CEILING
⊗	CEILING CRACKS
▨	RAISED FLOORING
↔	BEAM CRACKS
↔	COLUMN CRACKS
⊗	CEILING LEAKGE
—	WALL LEAKGE

NOTE : THIS FLOOR LAYOUT IS ONLY FOR INDICATING STRUCTURAL DISTRESSES AND LEAKAGES.

FIRST FLOOR PLAN

CHANDRA BHUVAN (CHANDRALOK) CO-OP.HSG.SOC.

A.D.SHINTRE CONSULTANTS	TEL:-23822863	DATE	DRN BY	NO.
28, RADHA BLDG., SHASTRI HALL, MUMBAI 400 007		12.12.19	jairam	2/6



LEGEND:

F/C	FALSE CEILING
⊗	CEILING CRACKS
▨	RAISED FLOORING
↔	BEAM CRACKS
↕	COLUMN CRACKS
⊗	CEILING LEAKGE
▬	WALL LEAKGE

NOTE : THIS FLOOR LAYOUT IS ONLY FOR INDICATING STRUCTURAL DISTRESSES AND LEAKAGES.

SECOND FLOOR PLAN

CHANDRA BHUVAN (CHANDRALOK) CO-OP.HSG.SOC.			
A.D.SHINTRE CONSULTANTS	TEL:-23822863	DATE	DRN BY NO.
28, RADHA BLDG., SHASTRI HALL, MUMBAI 400 007		12.12.19	jairam 3/6



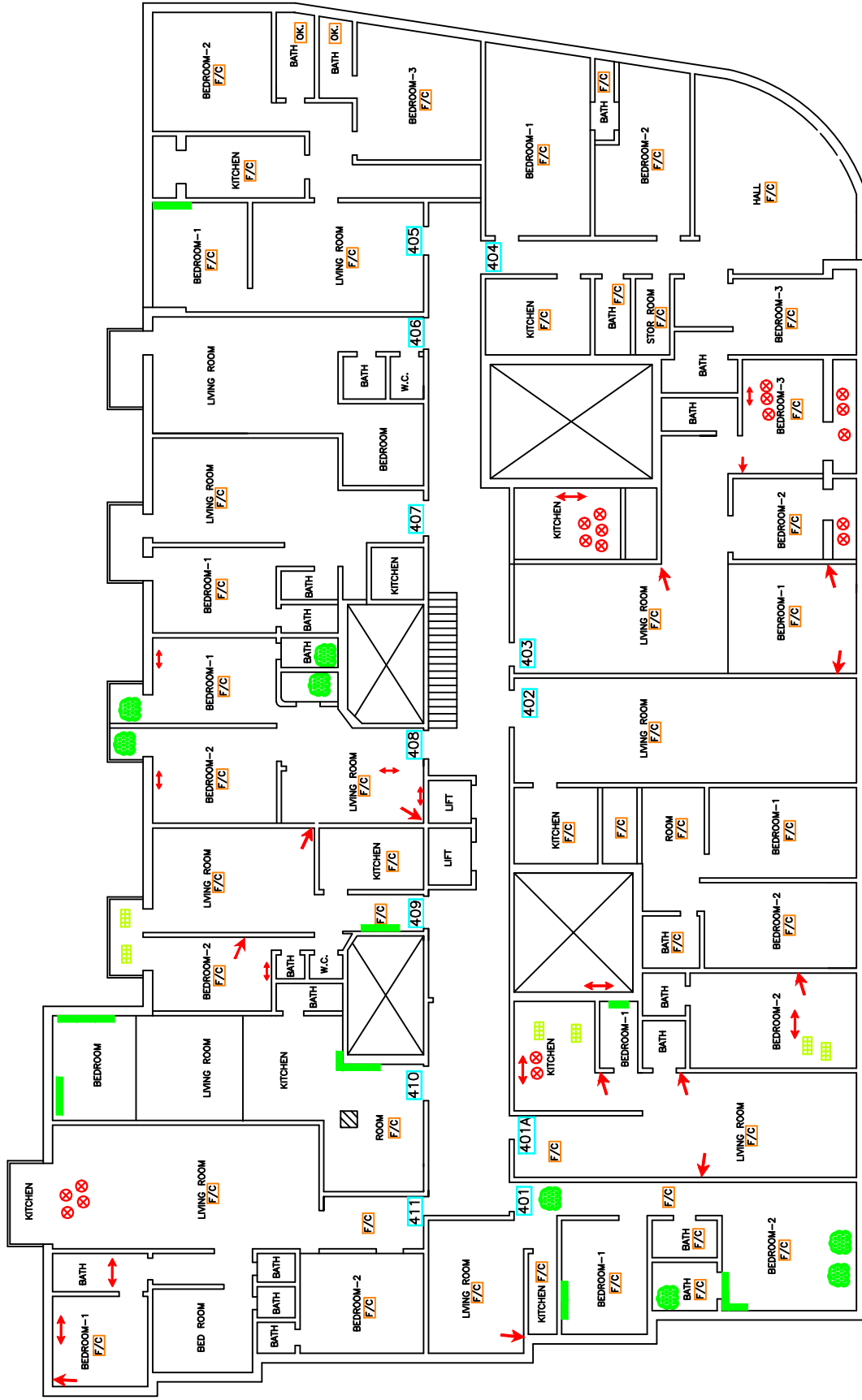
LEGEND:

F/C	FALSE CEILING
⊗	CEILING CRACKS
▤	RAISED FLOORING
↔	BEAM CRACKS
→	COLUMN CRACKS
⊗	CEILING LEAKGE
↔	WALL LEAKGE

NOTE : THIS FLOOR LAYOUT IS ONLY FOR INDICATING STRUCTURAL DISTRESSES AND LEAKAGES.

### THIRD FLOOR PLAN

CHANDRA BHUVAN (CHANDRALOK) CO-OP.HSG.SOC.			
A.D.SHINTRE CONSULTANTS	TEL:-23822863	DATE	DRN BY NO.
28, RADHA BLDG., SHASTRI HALL, MUMBAI 400 007	12.12.19	jairam	4/6



LEGEND:

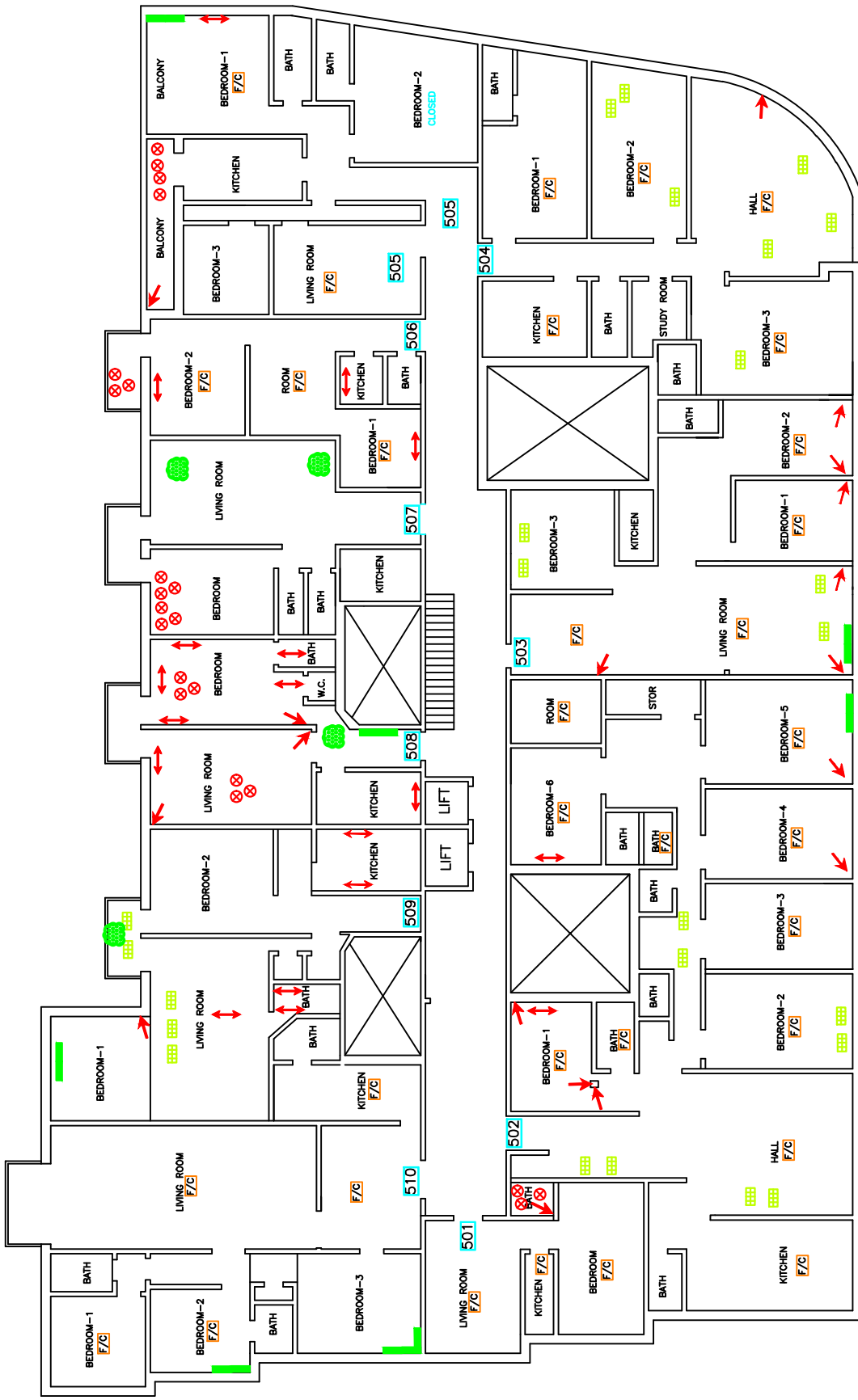
F/C	FALSE CEILING
⊗	CEILING CRACKS
▤	RAISED FLOORING
↔	BEAM CRACKS
↖	COLUMN CRACKS
⊙	CEILING LEAKGE
▬	WALL LEAKGE

NOTE : THIS FLOOR LAYOUT IS ONLY FOR INDICATING STRUCTURAL DISTRESSES AND LEAKAGES.

### FOURTH FLOOR PLAN

CHANDRA BHUVAN (CHANDRALOK) CO-OP.HSG.SOC.

A.D.SHINTRE CONSULTANTS	TEL:-23822863	DATE	DRN BY	NO.
28, RADHA BLDG., SHASTRI HALL, MUMBAI 400 007		12.12.19	jairam	5/6



LEGEND:

F/C	FALSE CEILING
⊗	CEILING CRACKS
▤	RAISED FLOORING
↔	BEAM CRACKS
↗	COLUMN CRACKS
⊙	CEILING LEAKGE
▬	WALL LEAKGE

NOTE : THIS FLOOR LAYOUT IS ONLY FOR INDICATING STRUCTURAL DISTRESSES AND LEAKAGES.

FIFTH FLOOR PLAN

CHANDRA BHUVAN (CHANDRALOK) CO-OP.HSG.SOC.			
A.D.SHINTRE CONSULTANTS	TEL:-23822863	DATE	DRN BY NO.
28, RADHA BLDG., SHASTRI HALL, MUMBAI 400 007		12.12.19	jairam 6/6

**Please find brief description of flat/room-wise observations as follows:**

Following are the flat-wise observations of the structural distresses and Leakages of the available flats.

Some of the flat were finding closed during survey.

Flats / rooms having the above mentioned observations are only tabulated below.

**1<sup>st</sup> Floor - Flat No: 101**

**History: Seven years ago painting work done.**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks Leakage marks	Cracks observed on balcony ceiling Cracks on column at lower part. On balcony ceiling
Bedroom	Separation cracks	On beam and wall joints

**1<sup>st</sup> Floor - Flat No: 101B**

**History: Seven years ago painting work done.**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Kitchen	Tiles Cracks False ceiling	Cracks filling with white cement on tiles On full ceiling.
Livingroom	Cracks Leakage marks False ceiling	On column On chowk side wall On full ceiling
Bedroom	Cracks	On balcony ceiling On balcony column lower part

**1<sup>st</sup> Floor - Flat No: 102**

**CLOSED**



**1<sup>st</sup> Floor - Flat No: 103**

**CLOSED**

**1<sup>st</sup> Floor - Flat No: 104**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Bedroom-1	Minor Cracks False ceiling	On column and flooring. On full ceiling.
Kitchen	False ceiling	On full ceiling
Bedroom-2	False ceiling	On full ceiling
Livingroom	Wide tiles Cracks False ceiling	On balcony column On full ceiling
Bedroom-3	Cracks False ceiling	On column On full ceiling

**1<sup>st</sup> Floor - Flat No: 104A**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Bedroom-1	Leakage marks	On external and bath room wall
Bedroom-2	False ceiling Cracks Leakage marks	On full ceiling On bath room ceiling On external wall
Passage	Cracks	On ceiling

**1<sup>st</sup> Floor - Flat No: 105**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	False ceiling Minor cracks	On full ceiling On column
Bedroom-1	Separation cracks Cracks False ceiling	On beam and wall joints On column On full ceiling
Bath	Cracks	On ceiling
Bedroom-2	Separation cracks Major leakage	On beam and wall joints On South side wall
Kitchen	Cracks	On ceiling and beam
Bedroom-3	Separation Cracks Leakage marks False ceiling	On beam On window wall On full ceiling

**1<sup>st</sup> Floor - Flat No: 106**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Room	Cracks Separation cracks Wide tiles cracks	On ceiling patch area On balcony column and pardi joints On column
Kitchen	Cracks	On column

**1<sup>st</sup> Floor - Flat No: 107**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	False ceiling Cracks	On full ceiling On beam bottom
Kitchen	False ceiling	On full ceiling
Bedroom-1	Cracks False ceiling	On beam On full ceiling
Bedroom-2	Separation Cracks False ceiling	On beam and cladding joints On full ceiling

**1<sup>st</sup> Floor - Flat No: 108**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks	On ceiling ( patch area) On beam On column
Kitchen	Cracks	On beam
Bedroom-1	Cracks	On beam
bathroom	False ceiling	On full ceiling

**1<sup>st</sup> Floor - Flat No: 109**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Note: Full flat was found in OK condition. False ceiling is observed on majority of the ceiling areas. It is reported that flat was renovated 2years ago.		

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**1<sup>st</sup> Floor - Flat No: 110**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Passage	False ceiling	On full ceiling
Living room	Cracks False ceiling	On column On full ceiling
Kitchen	Leakage marks False ceiling	On chowk side On full ceiling
Bedroom-1	Cracks	On columns

**1<sup>st</sup> Floor - Flat No: 111**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Passage	False ceiling	On full ceiling
Room-1	Separation Cracks False ceiling	On balcony column and pardi joints On full ceiling
Room-2	Cracks False ceiling	On beams On column On full ceiling
Room-3	False ceiling	On full ceiling
Kitchen	Ok	
Room-4	False ceiling Cracks	On full ceiling On column On beam

**2nd Floor - Flat No: 201**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks	On column
Kitchen	Cracks	On beam
Bath	Leakage marks	On chowk side wall
Bedroom-1	Cracks	On balcony ceiling
Bedroom-2	Ok	

**2nd Floor - Flat No: 201A**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks	On column
Kitchen	Cracks	On beam
Bedroom	Cracks	On column On beam

**2nd Floor - Flat No: 202**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	False ceiling	On full ceiling
Kitchen	Ok	
Bath	Ok	
Bedroom-1	Cracks	On balcony ceiling
Bedroom-2	Cracks	On balcony ceiling

**2nd Floor - Flat No: 203**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	False ceiling	On full ceiling
Kitchen	False ceiling	On full ceiling
Bath	False ceiling	On full ceiling
Bedroom-1	Ok	
Bedroom-2	False ceiling	On full ceiling
Note: Full flat was found in OK condition. False ceiling is observed on majority of the ceiling areas. It is reported that flat was renovated 1.5years ago.		

**2nd Floor - Flat No: 204**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Children room	Leakage marks	On bath partition wall and chowk wall
Note: Full flat was found in OK condition. False ceiling is observed on majority of the ceiling areas. It is reported that flat was renovated 2years ago.		

**2nd Floor - Flat No: 204A**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Separation cracks False ceiling	On beam and partition wall joints On full ceiling
Note: False ceiling is observed on majority of the ceiling areas.		

**2nd Floor - Flat No: 205**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	False ceiling	On full ceiling
Bedroom-1	False ceiling	On full ceiling
Kitchen	False ceiling	On full ceiling
Bedroom-2	Cracks False ceiling	On pardi On column On full ceiling
Bath	Exposed steel	On loft ceiling
Bedroom-3	Wide cracks False ceiling	On column On full ceiling

**2nd Floor - Flat No: 206**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Wall paper	On ceiling and wall
bedroom	cracks	On column
kitchen	Ok	

**2nd Floor - Flat No: 207**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks	On column On beam
Bedroom-	Cracks	On beam
Kitchen	Leakage marks	On ceiling

**2nd Floor - Flat No: 208**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Separation cracks False ceiling	On beam and wall joints On beam On full ceiling
Bedroom-1	Cracks False ceiling	On column On full ceiling
Kitchen		
Bedroom-2	False ceiling	On full ceiling

**2nd Floor - Flat No: 209**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
No structural distresses are observed on the structural members such as beam and slab. Recently painting work is done.		

**2nd Floor - Flat No: 210**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks False ceiling	On beam On column On full ceiling
Kitchen	Ok	
Bedroom	Leakage marks	On chowk side wall



**2nd Floor - Flat No: 211**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Separation Cracks False ceiling	On column & wall joints On full ceiling
Beroom-1	Cracks	On ceiling patch area
Bedroom-2	Separation cracks False ceiling	On beam On column On full ceiling
Bedroom-3	False ceiling	On full ceiling

**3rd Floor - Flat No: 301**

**CLOSED**

**3rd Floor - Flat No: 302**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Old leakage marks Leakage	On ceiling part area On below window area
kitchen	False ceiling	On full ceiling
Bedroom-1	False ceiling	On full ceiling
Bedroom-2	Ok	

**3rd Floor - Flat No: 303**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Kitchen	Leakage marks Cracks	On ceiling On beam
Living room	Cracks	On column at lower part
Bedroom-1	False ceiling	On full ceiling
Bedroom-2	Cracks False ceiling	On balcony ceiling On full ceiling
Bedroom-3	Cracks False ceiling	On balcony ceiling On full ceiling

**3rd Floor - Flat No: 304**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Kitchen	Tiles cracks False ceiling	On chowk side beam On full ceiling
Living room	False ceiling and cladding	On full ceiling and column & beam
Bedroom-1	Closed	
Bedroom-2	Closed	
Bedroom-3	Closed	
Passage	leakage	On kitchen and bath partition wall (lower part)

**3rd Floor - Flat No: 305**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	False ceiling	On full ceiling
Bedroom-1	Leakage	On external wall
Bedroom-2	Cracks False ceiling	On column On flooring On full ceiling
Kitchen	Leakage Cracks	From plumbing pipe On flooring
Bedroom-3	Leakage	On ceiling & wall

**3rd Floor - Flat No: 306**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	False ceiling	On full ceiling
Bedroom-1	Cracks/Raised Cracks	On floor tiles On balcony column
Kitchen	False ceiling	On full ceiling
bath	Tiles cracks	On column

**3rd Floor - Flat No: 307**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks	On column On balcony ceiling
Bedroom	Cracks	On ceiling On beam
Kitchen	Cracks	On beam On ceiling
bath	Cracks	On column

**3rd Floor - Flat No: 308**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Passage	Cracks	On ceiling patch area
Living room	Cracks Old leakage mark	On column On ceiling
Bedroom	Cracks Old leakage mark	On ceiling On ceiling
Kitchen	Ok	
bathroom	Leakage marks	On chowk side wall

**3rd Floor - Flat No: 309**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Passage	Ok	
Living room	Cracks	On column
Bedroom	Cracks	On ceiling
Balcony	Cracks	On column
bathroom	Leakage marks cracks	On ceiling On ceiling

**3rd Floor - Flat No: 310**

**CLOSED**

**3rd Floor - Flat No: 311**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Passage	False ceiling	On ceiling
Living room	Cracks False ceiling Major leakage	On column On beam On full ceiling On North side wall (Near window)
Bath	Tiles Cracks	On column
Bedroom-1	False ceiling	On ceiling
Bathroom-2	Leakage marks cracks	On North side wall On beam

**4th Floor - Flat No: 401**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks	On column On full ceiling
Passage	Leakage marks	On ceiling
Bedroom-1	Leakage marks	On bathroom partition wall at lower part
Bath	Leakage	On ceiling
Bathroom-2	Leakage marks	On balcony ceiling On bath partition wall

**4th Floor - Flat No: 401A**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Passage	False ceiling	On full ceiling
Living room	Cracks False ceiling	On column On full ceiling
kitchen	Cracks	On ceiling
Bathroom-2	Cracks	On flooring On column and beam

**4th Floor - Flat No: 402**

Note: Full flat was found in OK condition. False ceiling is observed on majority of the ceiling areas. It is reported that flat was recently renovated.
---

**4th Floor - Flat No: 403**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks	On column
kitchen	Cracks	On chowk side beam On ceiling
Bedroom-1	False ceiling	On balcony ceiling On column
Bedroom-2	False ceiling Minor cracks	On full ceiling On full balcony ceiling
Bedroom-3	Cracks Minor cracks Cracks	On ceiling and beam ( under cuppada) On balcony ceiling On column

**4th Floor - Flat No: 404**

MEMBER ID.	DEFECT OBSERVED	LOCATION
Note: Full flat was found in OK condition. False ceiling is observed on majority of the ceiling areas. It is reported that flat was renovated one month ago.		

**4th Floor - Flat No: 405**

MEMBER ID.	DEFECT OBSERVED	LOCATION
Note: Full flat was found in OK condition. False ceiling is observed on majority of the ceiling areas. Leakage marks is observed on bedroom-1 and kitchen partition wall.		

**4th Floor - Flat No: 406**

**CLOSED**

**4th Floor - Flat No: 407**

**CLOSED**

**4th Floor - Flat No: 408**

MEMBER ID.	DEFECT OBSERVED	LOCATION
Living room	Cracks False ceiling	On beam On chowk side wall On full ceiling
Bedroom-1	Cracks Balcony ceiling False ceiling	On beam On balcony ceiling On full ceiling
Bedroom-2	Cracks False ceiling	On beam On full ceiling

**STRUCTURAL AUDIT REPORT FOR CHANDRA BHUBAN CO- OP. HOUSING SOCIETY LTD,**  
Chandralok –A, 97, Ledy L. Jagmohandas Road, Mumbai 400 006.

12.12.2019

Balcony	Leakage	On ceiling
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**4th Floor - Flat No: 409**

MEMBER ID.	DEFECT OBSERVED	LOCATION
Passage	Leakage False ceiling	On chowk wall On full ceiling
Living room	Cracks False ceiling	On column On full ceiling
Bedroom	Cracks False ceiling	On beam On full ceiling
Balcony	Cracks	On balcony flooring

**4th Floor - Flat No: 410**

MEMBER ID.	DEFECT OBSERVED	LOCATION
Entrance Room	False ceiling Leakage marks	On full ceiling On chowk side wall
Living room	Ok	
Bedroom	Major leakage marks	On window above wall
Balcony		

**4th Floor - Flat No: 411**

MEMBER ID.	DEFECT OBSERVED	LOCATION
Entrance Room	False ceiling	On full ceiling
Living room	cracks false ceiling	On ceiling patch area On full ceiling
Bedroom-1	Cracks False ceiling	On beam and column On full ceiling
Bedroom-2	Renovation work is in progress	
Bedroom-3	False ceiling	On full ceiling



**5th Floor - Flat No: 501**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	False ceiling	On full ceiling
Kitchen	False ceiling	On full ceiling
Bedroom	False ceiling	On full ceiling
Toilet/bath	Tiles cracks Cracks	On column On ceiling

**5th Floor - Flat No: 502**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	False ceiling Cracks	On full ceiling On flooring (patch area)
Kitchen	False ceiling	On full ceiling
Bedroom-1	Wide Cracks Cracks  False ceiling	On column On window above beam On column On full ceiling
Bedroom-2	Separation cracks Cracks False ceiling	On beam and wall joints On column On full ceiling
Bedroom-3	False ceiling	On full ceiling
Bedroom-4	Cracks False ceiling	On column On full ceiling
Bedroom-5	Old leakage marks Cracks False ceiling	On window wall On column On full ceiling
Store	False ceiling	On full ceiling
Room	False ceiling	On full ceiling
Berroom-6	Cracks False ceiling	On chowk side beam On full ceiling

**5th Floor - Flat No: 503**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks False ceiling Leakage marks	On column On flooring On full ceiling On window wall
Bedroom-1	Separation cracks False ceiling	Column and wall joints On full ceiling
Bedroom-2	Cracks False ceiling Cladding Cracks	On column On full ceiling On beams On flooring patch area
Bedroom-3	Cracks Cracks Leakage marks False ceiling	On flooring patch area On beam On wall at chowk side On full ceiling

**5th Floor - Flat No: 504**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks False ceiling	On column On full ceiling
Bedroom-1	False ceiling	On full ceiling
Bedroom-2	Cracks False ceiling	On flooring patch area On full ceiling
Bedroom-3	False ceiling	On full ceiling area
Kitchen	False ceiling	On full ceiling area
Store	False ceiling	On full ceiling area

**5th Floor - Flat No: 505**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	False ceiling	On full ceiling
Bedroom-1	Cracks Cracks Leakage	On beam On flooring On balcony wall
Bedroom-2	Closed	
Bedroom-3	Vertical cracks	On column
Kitchen	Ok	

**5th Floor - Flat No: 506**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	False ceiling	On full ceiling
Bedroom-1	Cracks False ceiling	On beam On full ceiling
Bedroom-2	Wide cracks Cracks False ceiling	On beam On balcony ceiling On full ceiling
Kitchen	Cracks	On beam

**5th Floor - Flat No: 507**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Old leakage marks	On ceiling patch area
Bedroom	Ceiling	On ceiling patch area
Note: Internal painting is due since previous repair.		

**5th Floor - Flat No: 508**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks Cracks Cracks	On ceiling On beam On column
Bedroom	Cracks Wide Cracks Cracks	On ceiling On beam On column
Kitchen	Cracks	On beam
Passage	Leakage marks	On chowk side wall

**5th Floor - Flat No: 509**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	Cracks	On flooring patch area On beam On column
Balcony	Major leakage	On ceiling
Kitchen	Tiles cracks	On beam
Bedroom	Leakage marks	On window wall

**5th Floor - Flat No: 510**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
Living room	False ceiling	On full ceiling
Bedroom-1	False ceiling	On full ceiling
Berroom-2	Leakage marks False ceiling	On widow wall On full ceiling
Bedroom-3	Leakage marks False ceiling	On widow wall On full ceiling
Kitchen	False ceiling	On full ceiling

**STRUCTURAL AUDIT REPORT FOR CHANDRA BHUBAN CO- OP. HOUSING SOCIETY LTD,**

Chandralok –A, 97, Ledy L. Jagmohandas Road, Mumbai 400 006.

12.12.2019

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
<b>GARAGE-1A</b> (4 years ago painting work done)	False ceiling Cladding	On full ceiling On beam and wall
<b>GARAGE-1</b> (2 years ago renovation work done)	False ceiling Cladding	On full ceiling On beam and column
<b>GARAGE-2</b> (6 years ago renovation work done)	False ceiling Paint papadi Leakage marks	On full ceiling On ceiling On ceiling
<b>GARAGE-3</b> ( two open cutout on false ceiling is observed)	Major leakage Cracks	On ceiling On beam
<b>GARAGE-4</b>	Major wide cracks Bulging of concrete Corroded reinforcement	On beam On column On column and beam
<b>GARAGE-5</b> ( three open cutout on false ceiling is observed)	False ceiling	On full ceiling
<b>LOBBY</b>	False ceiling Stone cladding	On full ceiling On column and beam
<b>GARAGE-6</b> (16 years ago renovation work done)	False ceiling Cladding	On full ceiling On column and beam
<b>GARAGE-7</b> (20 years ago false ceiling and tiles all wall work done)	False ceiling Tiles Cladding	On full ceiling On wall, column and beam
<b>GARAGE-8</b> (1 years ago renovation work done)	False ceiling Cladding	On full ceiling On column
<b>GARAGE-9</b> (6 months ago renovation work done)	False ceiling Cladding	On full ceiling On column
<b>GARAGE-10 &amp; 11</b>	False ceiling Cladding	On full ceiling On column & beam
<b>GARAGE-12</b>	False ceiling Cladding	On full ceiling On column & beam
<b>GARAGE-13</b>	False ceiling	On full ceiling

A. D. Shintre Consultants  
Architects and Consulting Engineers

**STRUCTURAL AUDIT REPORT FOR CHANDRA BHUBAN CO- OP. HOUSING SOCIETY LTD,**

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12.12.2019

	Cladding	On column & beam
<b>GARAGE-14</b>	False ceiling Cladding	On full ceiling On column & beam
<b>GARAGE-15</b> ( two open cutout on false ceiling is observed)	False ceiling	On full ceiling
<b>GARAGE-16</b>	False ceiling Separation cracks	On full ceiling On beam and wall joints
<b>GARAGE-17</b>	False ceiling Cladding Stone cracks	On full ceiling On wall, column and beam On column
<b>GARAGE-18</b> (22 years ago renovation work done)	False ceiling Cladding	On full ceiling On wall, column and beam
<b>GARAGE-19</b>	False ceiling Cladding	On full ceiling On wall, column and beam
<b>GARAGE-20</b>	False ceiling Cladding	On full ceiling On wall, column and beam
<b>GARAGE-21</b>	False ceiling Leakage marks Cracks	On full ceiling On chowk side wall On column
<b>GARAGE-22</b>	False ceiling Cracks	On full ceiling On column
<b>GARAGE-23</b>	False ceiling Cladding	On full ceiling On wall, column and beam
<b>GARAGE-24</b>	False ceiling Partly Cladding	On full ceiling On wall, column and beam
<b>GARAGE-24A</b>	Partly False ceiling	On ceiling
<b>GARAGE-25</b> (2 years ago renovation work done)	False ceiling Cladding	On full ceiling On wall, column and beam
<b>GARAGE-26</b>	False ceiling Cladding	On full ceiling On wall, column and beam
<b>GARAGE-27</b>	False ceiling Leakage marks Cracks	On full ceiling On wall )lower partition ) On column
<b>GARAGE-28</b> (1 year ago renovation work	False ceiling Cladding	On full ceiling On wall, column and beam

A. D. Shintre Consultants  
Architects and Consulting Engineers

**STRUCTURAL AUDIT REPORT FOR CHANDRA BHUBAN CO- OP. HOUSING SOCIETY LTD,**  
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12.12.2019

done)		
<b>GARAGE-28A</b>	Cracks Major leakage marks	On beam On wall

**REAR SIDE GARAGE :**

<b>MEMBER ID.</b>	<b>DEFECT OBSERVED</b>	<b>LOCATION</b>
<b>GARAGE-1</b>	Plaster deboning	On ceiling
<b>GARAGE-2</b>	Ok	
<b>GARAGE-3</b>	Ok	
<b>GARAGE-4</b>	Tiles	On ceiling
<b>GARAGE-5</b>	Ok	
<b>GARAGE-6</b>	False ceiling Tiles	On full ceiling On wall
<b>GARAGE-7</b>	False ceiling Cladding	On full ceiling On wall, beam and column
<b>GARAGE-8</b>	CLOSED	
<b>TIOLET</b>	Ok	



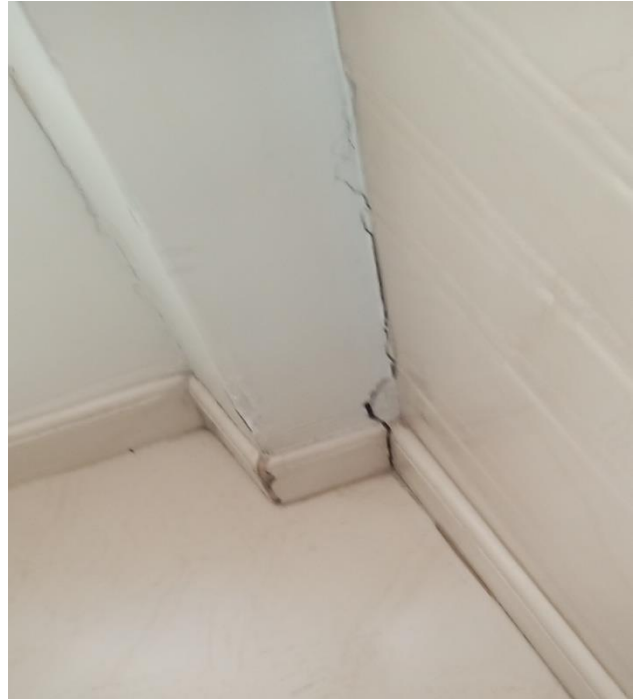
**Flat No.503: vertical cracks on living room column**



**Flat No.503: Cracks on living room column**



**Flat No. 503: cracks on beam bottom at bedroom-3**



**Flat No.503: Cracks on column at bedroom-2**





**Flat No.503: Cracks on column at bedroom-2**



**Flat No. 108: Cracks on beam at living room**



**Flat No. 110: Cracks on on column at livingroom**



**Flat No. 110: Cracks on on column at bedroom**



**Flat No. 110: Cracks on column at bedroom**



**Flat No. 107: Cracks on beam at bedroom**



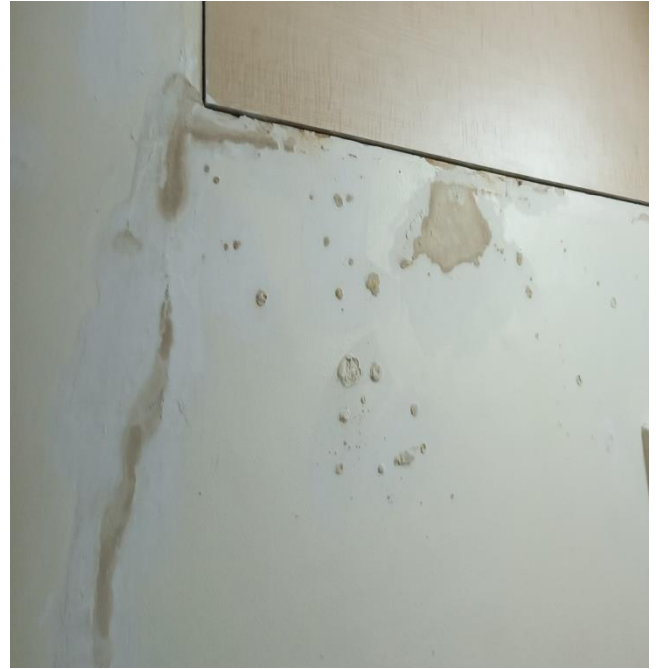
**Flat No. 107: Cracks on beam at bedroom**



**Flat No. 106: Tiles Cracks on column at room**



**Flat No. 105: Cracks on beam at kitchen**



**Flat No. 101B: Leakage marks on partition wall**



**Flat No. 104A: Cracks on ceiling**



**Flat No. 105: Leakages marks on wall at bedroom-2**





**Flat No. 206: Cracks on column at bedroom**



**Flat No. 205: Wide cracks on column at bedroom -3**



**Flat No. 205: exposed of reinforcement on loft ceiling.**



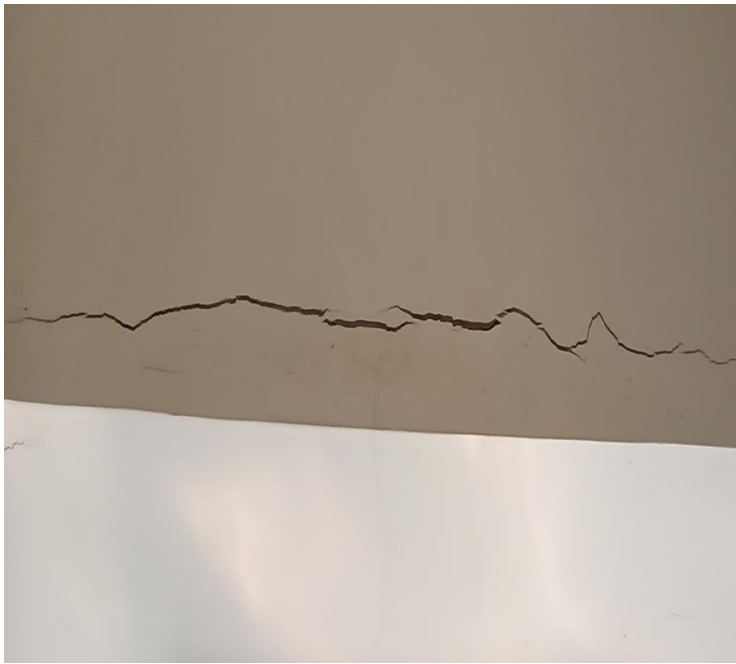
**Flat No. 204: Leakage marks on partition wall at Children room**



**Flat No. 311: Tiles cracks on column at bathroom**



**Flat No. 205: Wide cracks on column at livingroom**



**Flat No. 311: Wide cracks on beam at kitchen**



**Flat No. 311: cracks on column at bedroom -2**



**Flat No. 207: cracks on column**



**Flat No. 303: Cracks on balcony ceiling at bedroom-2**



**Flat No. 304: Tiles cracks on beam at kitchen**



**Flat No. 306: Raised on flooring at bedroom**





**Flat No. 306: Tiles cracks on column at bathroom**



**Flat No. 307: Cracks on beam at kitchen**



**Flat No. 111: cracks on column**



**Flat No. 307: Cracks on column at bathroom**



**Flat No. 307: cracks on ceiling at bedroom**



**Flat No. 401: Cracks on beam at passage**



**Flat No. 411: corroderd reinforcement at bath**



**Flat No. 401A: Tiles cracks on beam at kitchen**





**Flat No. 401A: bulging of concrete on ceiling**



**Flat No. 401A: vertical cracks on column at living room**



**Flat No. 401A: wide cracks on column at bedroom-2**



**Flat No. 401A: cracks on beam at bedroom-2**



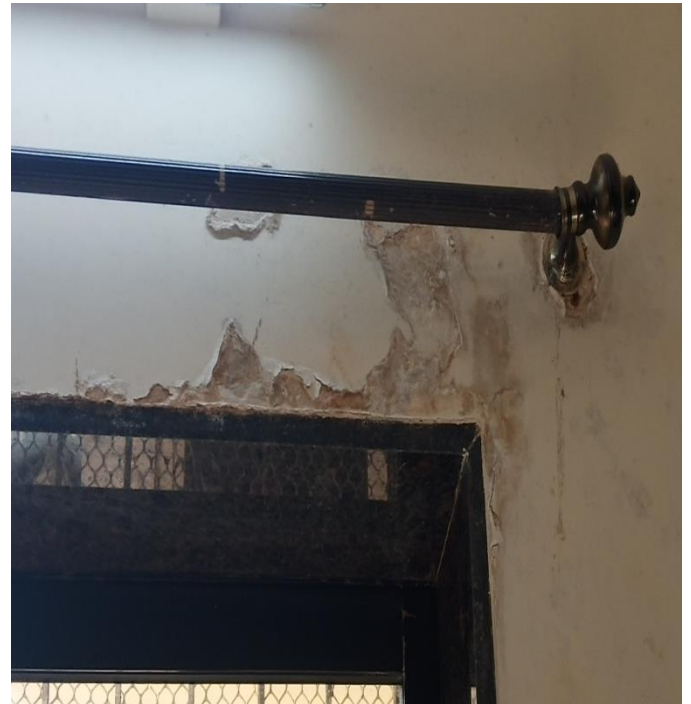
**Flat No. 401A: exposed of reinforcement on bedroom ceiling**



**Flat No. 409: cracks on floor tiles/stone**



**Flat No. 409: cracks on beam**



**Flat No. 410: major leakage marks on external wall**



**Flat No. 308: leakage marks on ceiling**



**Flat No. 403: Cracks on column at living room**



**Flat No. 501: Tiles cracks on bathroom column**



**Flat No.502: wide cracks on column at bedroom-1**





**Flat No.502: wide cracks on column at bedroom-1**



**Flat No.502: cracks on beam at bedroom-6**



**Water proofing coating on 5<sup>th</sup> floor level balcony top.**



**Flat No.510: leakage marks on external wall**



**Flat No.509: cracks on floor tiles/stone**



**Flat No.509: cracks on floor tiles/stone**



**Flat No.508: cracks on beam bottom**



**Flat No.508: cracks on beam bottom**





**Flat No.508: cracks on beam bottom**



**Flat No.508: cracks on beam bottom**



**Flat No.508: cracks on beam bottom**



**Flat No.508: cracks on beam bottom**



**Flat No.506: cracks on beam bottom**



**Flat No.506: cracks on beam bottom**



**Flat No.505: cracks on beam at bedroom-1**



**Flat No.408: leakage marks on chowk side wall**



**Flat No.408: cracks on ceiling**



**Flat No.408: cracks on beam**



**Flat No.408: cracks on beam**



**Flat No. 104: Tiles cracks on column**





**Flat No.408: cracks on beam at bedroom-2**



**Flat No.408: cracks on ceiling**



**Shop No. 2: Leakage marks on ceiling**



**Shop No. 3: Wide cracks on RRC Beam**



**Shop No. 3: Leakage marks on ceiling and try fixed on ceiling for avoid leakage**



**Shop-4: bulging of concrete on ceiling, column and beam**



**Shop-4: bulging of concrete on ceiling, column and beam**





**Shop-4: wide cracks on column and bulging of concrete**



**Shop-4: wide cracks on column and bulging of concrete**



**Shop-4: bulging of concrete on ceiling, column and beam**



**Shop-16: cracks on beam**





**Shop-18: Exposed of reinforcement and heavy corroded on reinforcement .**



**Shop-28: Exposed of reinforcement and heavy corroded on reinforcement .**



**Rear side shop-1: debonding plaster on ceiling**





**Water proofing coating on 5<sup>th</sup> floor level balcony top.**

**Water proofing coating on 5<sup>th</sup> floor level balcony top.**



**Leakage on Plumbing pipes**

**Open on Plumbing Gabada**



**Leakage on Plumbing pipes**



**Damage Vatta on weather shed**

**Date: 21.12.2019**

To,

**Hon. Secretary,**

Chandra Bhuvan Co-op. Housing Society Ltd,  
Chandralok-A, 97, Nepean sea Road,  
Mumbai 400 006.

**Sub: - NDT Reports of the building known as Chandra Bhuvan Co-op. Housing Society Ltd, Chandralok-A, 97, Nepean sea Road, Mumbai 400 006.**

**Ref: NDT Report by M/S. Global Lab dated 16.12.2019**

**Dear Sir,**

We herewith are forwarding copy of the NDT report. With reference to the NDT report following is the result / inference of each test done on site:

**1. Concrete Core Compressive Test (Core Test):**

As per the test result the equivalent cube compressive strength of concrete of sample-1 is 125.6 kg/cm<sup>2</sup> & sample 2 is – 182.3kg/cm<sup>2</sup> and sample-3 is 178.6 kg/cm<sup>2</sup> shows that concrete grade is ranging between M-15 to M-20.

**2. Half Cell Potentiometer Test:**

The result is ranging between 271 -mV to 282 -mV which indicates that there is 'An increasing probability of corrosion' in reinforcement.

**3. Ultrasonic Pulse velocity Test:**

All the samples Results reading below 3.0 km/sec which indicates "Doubtful Quality of Concrete" condition of RCC.

**4. Rebound Hammer Test:**

Sample 1, 2, 3, 4, 5, 6, 9 and 10 test results shows that Grade of concrete is ranging around M-15 and Sample-7 test results shows that Grade of concrete is ranging less than M-10 and Sample 8 test results shows around M-25.

**5. Hardened concrete carbonation Test:**

All the 10 samples indicate that there is carbonation in the concrete of average 36mm thickness. This implies that there is porosity and permeability in the concrete surface. Due to which cracks develop.

**6. Chemical test result of Hardened Concrete:**

Results shows pH value is 11.5 and Chloride & Sulphate content is within the limits.

**7. Hardened Concrete Aggregate Cement Ratio:**

The Result show 6.2 which indicate low cement content means comparatively less durable concrete.

This is for your information.

Thanking you,

Yours Faithfully,

**A. D. Shintre Consultants**

**Enclosed: All 7 NDT results as mentioned above**





# GLOBAL LAB

A World of Quality Material Testing

FORMAT NO: SC/01

REV NO : 00

## TEST REPORT

TEST REPORT ISSUED BY: LOCATION-01 : VASAI LAB

SAMPLE TESTED BY/AT: LOCATION-01 : VASAI LAB

TEST REPORT NO.

: KRL-31435-TR-328960

TEST REPORT DATE

: 16-12-19

### NAME OF CUSTOMER :

M/s A. D. SHINTRE CONSULTANTS Architect  
& Consulting Engineers  
28, Radha Building, Shastri Hall,  
Tardeo Road, Nana Chowk.  
Mumbai

### PROJECT / SITE ADDRESS :

Chandra-Bhuvan Co. Operative Housing Society Ltd.  
Chandraloc-A', Nepean sea Road,  
Mumbai

CUSTOMER REF. NO. & DATE

: Letter Dated-05/12/2019

QUANTITY

: 01 No.

DATE OF RECEIPT

: 05-12-19

CONDITION OF SAMPLE ON RECEIPT

: Satisfactory

SOURCE OF SAMPLE

: Ground Floor Column

TEST METHOD

: BS 1881 Part 124

## HARDENED CONCRETE AGGREGATE-CEMENT RATIO

DATE OF CASTING : NA

GRADE OF CONCRETE: NA

TESTING PERIOD : 10/12/2019 to 14/12/2019

Sr .No.	Specimen ID	Aggregate/Cement Ratio
1	Gr.Floor C-04	6.20

## NOTES

- Sample/s was/were not drawn by laboratory.
- The Reported result/s is/are valid only to the sample submitted to the laboratory.
- No part of the report, except in full, shall be reproduced without written consent of the laboratory.
- The report is valid only when Global Lab hologram is available on the report.



(Authorised Signatory)  
**A. SHARMA**  
Technical Manager



## TEST REPORT

TEST REPORT ISSUED BY: **LOCATION-01: VASAI LAB (TEST)**  
 TEST REPORT NO.  
 ULR NO.  
 TEST REPORT DATE  
 DISCIPLINE : MECHANICAL TEST

SAMPLE TESTED BY/AT: **LOCATION-01: VASAI LAB (TEST)**  
 KRL-31435-TR-328958  
 TC571319000031442F  
 09/12/2019  
 GROUP NAME : BUILDING MATERIALS

**CUSTOMER NAME & ADDRESS:**

M/s A. D. SHINTRE CONSULTANTS Architect & Consulting Engineers  
 28, Radha Building, Shastri Hall, Tardeo Road, Nana Chowk. Mumbai

**PROJECT SITE ADDRESS:**

Chandra-Bhuvan Co. Operative Housing Society Ltd.  
 ' Chandraloc-A', Nepean sea Road, Mumbai

**QUANTITY:**

3 Nos

**DATE OF RECEIPT:**

05/12/2019

**CUSTOMER REF. NO & DATE:**

Letter Date: 05-12-2019

**CONDITION OF SAMPLE ON RECEIPT:**

Satisfactory

**SOURCE OF SAMPLE AS GIVEN BY CUSTOMER:**

Concrete Core

**TEST METHOD:**

IS 516 : 1959 (RA : 2013) Amd-02

### CONCRETE CORE COMPRESSIVE STRENGTH TEST RESULTS

DATE OF TESTING: 09/12/2019

GRADE OF CONCRETE: NA

DATE OF CASTING: NA

AGE OF SPECIMEN (DAYS): NA

Sr. No	ID Mark of Specimen	Core Height (h)(mm) *	Core Dia (d) (mm)	Core Wt.(kg) *	Cross sectional Area, mm <sup>2</sup>	Max. Load (kN)	h/d Ratio	Correction Factor for(h/d) ratio \$	Corrected Comp. Strength (After Dia & h/d Ratio) (N/mm <sup>2</sup> )	Equivalent Cube Comp. Strength (N/mm <sup>2</sup> ) !	Equivalent Cube Comp. Strength (kg/cm <sup>2</sup> ) !	Type of Fracture
1	Gr. Floor C-04	114.3	68.54	0.964	3690.4	37.7	1.67	0.96	9.9	12.3	125.6	Usual
2	Gr. Floor C-05	100.72	68.55	0.934	3690.8	56	1.47	0.94	14.3	17.9	182.3	Usual
3	Gr. Floor C-10	110.1	68.54	0.83	3689.9	54	1.61	0.96	14	17.5	178.6	Usual

**REMARKS:**

\* Core length and weight after trimming and capping of specimen

\$ For h/d ratio correction factors are as per Figure - 1 of IS : 516 - 1959 ( Reaffirmed 2013 ) Amd-02

! Equivalent cube compressive strength = 1.25 x corrected cylinder compressive strength as per clause 5.6.1 of IS 516-1959 ( Reaffirmed 2013 ) Amd-02

**Acceptance Criteria as per IS: 456 - 2000 (Reaff: 2016) Clause No 17.4.3 :**

Concrete in the member represented by a core test shall be considered acceptable if the average equivalent cube strength of the cores is equal to at least 85% of the cube strength of the grade of concrete specified for the corresponding age and no individual core has a strength less than 75% .

**NOTE:**

- Sample/s was/were not drawn by laboratory.
- The Reported result/s is/are valid only to the sample submitted to the laboratory.
- No part of the report, except in full, shall be reproduced without written consent of the laboratory.
- The report is valid only when Global Lab hologram is available on the report.

\*\*\*\*\*End of Report\*\*\*\*\*

A. SHARMA  
 Technical Manager  
 Authorized Signatory



### TEST REPORT

TEST REPORT ISSUED BY:**BORIVALI LAB**  
TEST REPORT NO.  
TEST REPORT DATE

SAMPLE TESTED BY/AT:**BORIVALI LAB**  
KRL-31435-TR-328964  
09/12/2019

**CUSTOMER NAME & ADDRESS:**

M/s A. D. SHINTRE CONSULTANTS Architect & Consulting Engineers  
28, Radha Building, Shastri Hall, Tardeo Road, Nana Chowk. Mumbai

**PROJECT SITE ADDRESS:**

Chandra-Bhuvan Co. Operative Housing Society Ltd.  
' Chandraloc-A', Nepean sea Road, Mumbai

**QUANTITY:**

10 Nos

**CUSTOMER REF. NO & DATE:**

Letter Date: 05-12-2019

**CONDITION OF SAMPLE ON RECEIPT:**

Satisfactory

**SOURCE OF SAMPLE AS GIVEN BY CUSTOMER:**

RCC Structure

**TEST METHOD:**

ASTM C 876 : 2015

### HALF CELL POTENTIAL TEST RESULTS

TEST DATE : 05/12/2019

TEMPERATURE (°C) : 27.2

METHOD OF PRE WETTING : Wet Sponging to the test observation point Only

METHOD OF ATTACHING VOLTMETER LEAD TO REINFORCEMENT : Compression type Ground Clamp

Sr. No.	ID Mark	Location	Half Cell Potential Value in (-mV)	Temp. Corrected Half Cell Potential Value in (-mV)
1	Ground Floor Column	C-1	273	273
2	Ground Floor Column	C-2	274	274
3	Ground Floor Column	C-3	273	273
4	Ground Floor Column	C-4	271	271
5	Ground Floor Column	C-5	277	277
6	Ground Floor Column	C-6	274	274
7	Ground Floor Column	C-7	282	282
8	1st Floor Staircase Slab	S-1	273	273
9	Ground Floor Column	C-8	272	272
10	Ground Floor Column	C-9	279	279

The Percentage of the total Half Cell potentials more negative than -350mV : nil.

The Percentage of the total Half Cell potentials less negative than -200mV : nil.

Remarks: Probability of corrosion according to ASTM 876-09

Sr. No.	Half-cell potential reading, Cu/CuSO4	Corrosion Probability
1	Less negative than -200 mV	90% probability of no corrosion
2	Between -200 mV and -350 mV	An increasing probability of corrosion
3	More negative than -350 mV	90% probability of corrosion

**NOTE:**

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# GLOBAL LAB

A World of Quality Material Testing

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IO : KRL-31435-TR-328964

Authorized Signatory





# GLOBAL LAB

A World of Quality Material Testing

Format No NDT-03

Rev. No.00

## TEST REPORT

TEST REPORT ISSUED BY:**BORIVALI LAB**  
TEST REPORT NO.  
TEST REPORT DATE

SAMPLE TESTED BY/AT:**BORIVALI LAB**  
KRL-31435-TR-328963  
09/12/2019

### CUSTOMER NAME & ADDRESS:

M/s A. D. SHINTRE CONSULTANTS Architect & Consulting Engineers  
28, Radha Building, Shastri Hall, Tardeo Road, Nana Chowk. Mumbai

### PROJECT SITE ADDRESS:

Chandra-Bhuvan Co. Operative Housing Society Ltd.  
' Chandraloc-A', Nepean sea Road, Mumbai

### QUANTITY:

10 Nos

### CUSTOMER REF. NO & DATE:

Letter Date: 05-12-2019

### CONDITION OF SAMPLE ON RECEIPT:

Satisfactory

### SOURCE OF SAMPLE AS GIVEN BY CUSTOMER:

RCC Structure

### TEST METHOD:

BS EN 14630:2006

## HARDEN CONCRETE CARBONATION DEPTH TEST RESULTS

DATE OF TESTING :05/12/2019

WEATHER CONDITION :CLEAR

COMPOSITION OF INDICATOR SOLUTION : Solution of phenolphthalein indicator normally 1g phenolphthalein is dissolved in 70ml ethyl alcohol

Sr. No.	ID Mark	Location	Exposure	Type & Size of Specimen Used	Maximum Carbonation Depth (dk max), mm	Avg Carbonation Depth (dk mean), mm	Remarks
1	Ground Floor Column	C-1	Sheltered	Drilling Holes	34	34	NA
2	Ground Floor Column	C-2	Sheltered	Drilling Holes	36	36	NA
3	Ground Floor Column	C-3	Sheltered	Drilling Holes	35	35	NA
4	Ground Floor Column	C-4	Sheltered	Drilling Holes	36	36	NA
5	Ground Floor Column	C-5	Sheltered	Drilling Holes	38	38	NA
6	Ground Floor Column	C-6	Sheltered	Drilling Holes	37	37	NA
7	Ground Floor Column	C-7	Sheltered	Drilling Holes	39	39	NA
8	1st Floor Staircase Slab	S-1	Sheltered	Drilling Holes	37	37	NA
9	Ground Floor Column	C-8	Sheltered	Drilling Holes	35	35	NA
10	Ground Floor Column	C-9	Sheltered	Drilling Holes	38	38	NA

### NOTE:

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- The Reported results are valid at The time of performance of test /s under specific conditions only.
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A. SHARMA  
Technical Manager

Authorized Signatory



# GLOBAL LAB

A World of Quality Material Testing



Format No HCCT/01

Rev. No.00

## TEST REPORT

TEST REPORT ISSUED BY: **LOCATION-01: VASAI LAB (TEST)**  
 TEST REPORT NO.  
 ULR NO.  
 TEST REPORT DATE  
 DISCIPLINE : CHEMICAL TEST

SAMPLE TESTED BY/AT: **LOCATION-01: VASAI LAB (TEST)**  
 KRL-31435-TR-328959  
 TC571319000031527F  
 11/12/2019  
 GROUP NAME : BUILDING MATERIALS

**CUSTOMER NAME & ADDRESS:**

M/s A. D. SHINTRE CONSULTANTS Architect & Consulting Engineers  
 28, Radha Building, Shastri Hall, Tardeo Road, Nana Chowk. Mumbai

**PROJECT SITE ADDRESS:**

Chandra-Bhuvan Co. Operative Housing Society Ltd.  
 ' Chandraloc-A', Nepean sea Road, Mumbai

**QUANTITY:**

1 Nos

**DATE OF RECEIPT:**

05/12/2019

**CUSTOMER REF. NO & DATE:**

Letter Date: 05-12-2019

**CONDITION OF SAMPLE ON RECEIPT:**

Satisfactory

**SOURCE OF SAMPLE AS GIVEN BY CUSTOMER:**

Gr. Floor C-10

**TEST METHOD:**

BS 1881-124:2015, IS 2720 PART 26 : 1987 RA 2016

### CHEMICAL TEST RESULT OF HARDENED CONCRETE

**PERIOD OF TESTING :** 09/12/2019 TO 11/12/2019

**DATE OF CASTING :** NA

**GRADE OF CONCRETE :** -

SR. NO	ID MARK	TEST PARAMETERS		
		pH Value As per IS 2720 Part 26 : 1987 RA 2016	Acid Soluble Chloride Content, % of Concrete As per BS 1881 Part-124 : 2015	Water Soluble Sulphate, as SO <sub>3</sub> , % of Concrete As per BS 1881 Part-124 : 2015
1	Gr. Floor C-10	11.5	0.07	0.8

Remarks: Customer Provided the following details for Result calculation:

Cement Content in mix, kg/m<sup>3</sup>:NA

Concrete Density, kg/m<sup>3</sup>:NA

Remarks: NA

**REMARKS:**

1) As Per IS 456:2000(RA:2016)- Table No : 7, Acid Soluble Chloride Content in mix for Reinforced Concrete is max 0.6 kg/m<sup>3</sup> .

2) As Per IS 456:2000(RA:2016)- Clause 8.2.5.3 ,Total Water Soluble Sulphate Content should not exceed 4 % by Mass of Cement in Mix.

**NOTE:**

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A. SHARMA  
 Technical Manager

Authorized Signatory



### TEST REPORT

TEST REPORT ISSUED BY:**BORIVALI LAB**  
TEST REPORT NO.  
TEST REPORT DATE

SAMPLE TESTED BY/AT:**BORIVALI LAB**  
KRL-31435-TR-328961  
09/12/2019

**CUSTOMER NAME & ADDRESS:**

M/s A. D. SHINTRE CONSULTANTS Architect & Consulting Engineers  
28, Radha Building, Shastri Hall, Tardeo Road, Nana Chowk. Mumbai

**PROJECT SITE ADDRESS:**

Chandra-Bhuvan Co. Operative Housing Society Ltd.  
' Chandraloc-A', Nepean sea Road, Mumbai

**QUANTITY:**

10 Nos

**CUSTOMER REF. NO & DATE:**

Letter Date: 05-12-2019

**CONDITION OF SAMPLE ON RECEIPT:**

Satisfactory

**SOURCE OF SAMPLE AS GIVEN BY CUSTOMER:**

RCC Structure

**TEST METHOD:**

IS 13311 (Part-2) : 1992 RA : 2013

### REBOUND HAMMER TEST RESULTS

ID of R.H.Instrument :

DATE OF TESTING : 05/12/2019

Sr. No	ID Mark	Location	Grade Of Concrete	Date of Casting	Age of Concrete (Days)	Avg. Rebound Index (After Mean Outliers)	Estimated Comp. Strength, (N/mm <sup>2</sup> )	Direction of Rebound	Surface Condition
1	Ground Floor Column	C-1	NA	NA	NA	22.54	14.6	Horizontal	Dry
2	Ground Floor Column	C-2	NA	NA	NA	22.26	14.1	Horizontal	Dry
3	Ground Floor Column	C-3	NA	NA	NA	21.98	13.7	Horizontal	Dry
4	Ground Floor Column	C-4	NA	NA	NA	22.26	14.1	Horizontal	Dry
5	Ground Floor Column	C-5	NA	NA	NA	22.12	13.9	Horizontal	Dry
6	Ground Floor Column	C-6	NA	NA	NA	21.7	13.2	Horizontal	Dry
7	Ground Floor Column	C-7	NA	NA	NA	21.84	Less than 10.0	Vertical Up	Dry



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TEST REPORT NO. : KRL-31435-TR-328961

8	First Floor Staircase Slab	S-1	NA	NA	NA	28.98	24.9	Horizontal	Dry
9	Ground Floor Column	C-8	NA	NA	NA	21.98	13.7	Horizontal	Dry
10	Ground Floor Column	C-9	NA	NA	NA	22.12	13.9	Horizontal	Dry

**REMARKS:**

- 1) As Per IS 13311 (Part-2) Clause No 8.1, The Probable accuracy of prediction of concrete strength in a structure by the Rebound hammer is  $\pm 25$  percent..
- 2) As per IS 13311 (Part -2), A wet condition will give underestimation of the strength of concrete calibrated under dry conditions. In structural Concrete, this can be about 20% lower than in an equivalent dry concrete.

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A. SHARMA  
Technical Manager

Authorized Signatory





# GLOBAL LAB

A World of Quality Material Testing

Format No NDT-01

Rev. No.00

## TEST REPORT

TEST REPORT ISSUED BY:**BORIVALI LAB**  
TEST REPORT NO.  
TEST REPORT DATE

SAMPLE TESTED BY/AT:**BORIVALI LAB**  
KRL-31435-TR-328962  
09/12/2019

**CUSTOMER NAME & ADDRESS:**

M/s A. D. SHINTRE CONSULTANTS Architect & Consulting Engineers  
28, Radha Building, Shastri Hall, Tardeo Road, Nana Chowk. Mumbai

**PROJECT SITE ADDRESS:**

Chandra-Bhuvan Co. Operative Housing Society Ltd.  
' Chandraloc-A', Nepean sea Road, Mumbai

**QUANTITY:**

10 Nos

**CUSTOMER REF. NO & DATE:**

Letter Date: 05-12-2019

**CONDITION OF SAMPLE ON RECEIPT:**

Satisfactory

**SOURCE OF SAMPLE AS GIVEN BY CUSTOMER:**

RCC Structure

**TEST METHOD:**

IS 13311 (Part-1) : 1992 RA : 2013

### ULTRASONIC PULSE VELOCITY TEST RESULTS OF CONCRETE

Sr. No. of USPV Instrument :

TEST DATE : 05/12/2019

Sr. No.	ID Mark of Member	Location	Grade of Concrete	Date of Casting	Age of Concrete (Days)	Travel Path Length(mm)	Travel Time(μs)	Velocity (km/s)	Probing Method	Surface Condition
1	Ground Floor Column	C-1	NA	NA	NA	400	164.3	2.43	Surface Probing	Dry
2	Ground Floor Column	C-2	NA	NA	NA	400	172.1	2.32	Surface Probing	Dry
3	Ground Floor Column	C-3	NA	NA	NA	400	165.4	2.42	Surface Probing	Dry
4	Ground Floor Column	C-4	NA	NA	NA	400	181.2	2.21	Surface Probing	Dry
5	Ground Floor Column	C-5	NA	NA	NA	400	161.1	2.48	Surface Probing	Dry
6	Ground Floor Column	C-6	NA	NA	NA	400	178.5	2.24	Surface Probing	Dry
7	Ground Floor Column	C-7	NA	NA	NA	400	169.6	2.36	Surface Probing	Dry

Sr. No.	ID Mark of Member	Location	Grade of Concrete	Date of Casting	Age of Concrete (Days)	Travel Path Length(mm)	Travel Time(μs)	Velocity (km/s)	Probing Method	Surface Condition
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A World of Quality Material Testing										
8	First Floor Staircase Slab	S-1	NA	NA	NA	NA	NA	2.22	Surface Probing	Dry
TEST REPORT NO. : KRL-31435-TR-328962										
9	Ground Floor Column	C-8	NA	NA	NA	400	168.7	2.37	Surface Probing	Dry
10	Ground Floor Column	C-9	NA	NA	NA	400	173.4	2.31	Surface Probing	Dry

Remark :-

**Remarks :** 1. As per IS 13311 (Part-1) : 1992 (Reaff: 2008) Clause No. 5.4.1 surface probing in general gives lower pulse velocity than in case of cross probing and depending on number of parameters, the difference could be of the order of about 1 Km/Sec.  
2. As per IS 13311 (Part-1) : 1992 (Reaff: 2008) Clause No. 6.1, The Pulse Velocity of saturated concrete may be up to 2% higher than that of similar dry concrete. In general , drying of concrete may result in somewhat lower pulse velocity.

**Velocity Criterion for Concrete As Per IS 13311 Part-1 (Reaff : 2013), Table No -02**

1. Velocity by cross probing, Above 4.5 km/sec - Excellent Quality of Concrete.
2. Velocity by cross probing, 3.5 to 4.5 km/sec - Good Quality of Concrete.
3. Velocity by cross probing, 3.0 to 3.5 km/sec - Medium Quality of Concrete.
4. Velocity by cross probing, Below 3.0 km/sec - Doubtful Quality of Concrete.
5. In case "doubtful" quality it may be necessary to carry out further tests.

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Technical Manager

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