

Report on

**FEASIBILITY STUDY FOR INSTALLATION OF COMA TOWER
AND PREFAB SHELTER OVER THE EXISTING RESIDENTIAL
APARTMENT BUILDING NAMED "MAY FLOWER PARK"
AT IDA MALLAPUR, HYDERABAD.**

Report for

The General Manager - Projects,
M. S. Refinco Engineering Associates Private Limited,
101, 6-3-1090/B/1, Lake Shore Towers,
Raj Bhavan Road, Somajiguda,
HYDERABAD - 500 082.



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Report on : Feasibility study for installation of CDMA Tower and Prefab Shelter over the existing residential apartment building named 'May Flower Park' at IDA Mallapur, Hyderabad.

Report for : The General Manager – Projects,
M/s. Reliance Engineering Associates
Private Limited,
101, 6-3-1090/B/1, Lake shore Towers,
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HYDERABAD – 500 082.

Date of study : 16th September, 2002

Study carried out by : Mr. B V K Eswar
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Study carried out in the presence of : Mr. Ramanujam
M/s. Reliance Engineering Associates Pvt. Ltd.,
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Date of submission of Report : 24.09.2002

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A. INTRODUCTION:

The existing residential apartment building named 'May Flower Park' at IDA Mallapur, Hyderabad is an r.c. framed structure with infill masonry walls. The building comprises Stilt + five upper floors. The concerned authorities of M/s. Reliance Engineering Associates Pvt. Ltd. propose to install CDMA Tower and Prefab shelter over the fifth floor terrace. Hence, a reference was made to us to investigate the structural soundness of the identified r.c. members of the building for the erection of the proposed CDMA tower and prefab shelter on them.

In view of the above, a detailed investigation was carried out by us on 16th September, 2002 alongwith necessary Non-destructive tests.

This report in brief, summarises the outcome of the studies carried out and conclusions thereon.

B. PHYSICAL OBSERVATIONS:

Following are the physical observations made consequent to detailed inspection of the building.

1. No signs of settlement of foundation was observed in any part of the building.
2. No significant distress features were observed in any of the r.c. members.

C. PROBING TESTS:

The following probing tests were carried out in order to evaluate structural adequacy / soundness of columns on which it is proposed to erect the CDMA tower and prefab shelter.

i) **Dimensional measurements of structural members:**

The existing dimensions of r.c. members at the roof where it is proposed, were physically measured and recorded. The dimensions are mentioned in Table 2.

ii) **Ultrasonic Pulse Velocity Test:**

In order to assess the quality / strength of in-situ concrete, Ultrasonic Pulse Velocity Test was carried out on the identified r.c. members. Direct method of scanning was carried out on the identified members, wherever accessible as per the guidelines of IS : 13311 (Part 1) 1992. The results of the above tests are tabulated in Table – 1. The corresponding reference strength chart is presented in Table 1A.

iii) **Profometer Studies:**

To verify the disposition of reinforcement and cover provided in them, 'Profometer Studies' were carried out on the identified r.c. members. The results of the above studies are tabulated in Table – 2.

D. THEORETICAL ANALYSIS:

The aim of theoretical analysis was to find the adequacy of the identified columns for the existing loads and the loads from tower and shelter. To calculate the loads from the existing beam network, part space frame was generated in such a manner that atleast one grid beyond the identified columns was considered. The loads from the tower and shelter were independently calculated and applied as joint loads on the tower foundation system, which was also generated at terrace level. The columns were checked for uni-axial bending moment and axial forces. The actual grade of concrete, which was obtained from test results, was considered in the design check.

The following loadings are considered.

- i) Dead Load of the frame (actual)
- ii) Dead Load of the slab (4 ½ " thick)
- iii) Live Load as per IS : 875 Part II
- iv) Partition loads on all-beams (light weight only)
- v) Tower leg reactions

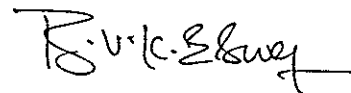
E. INFERENCES:

Based on the physical observations and probing tests, following inferences are drawn.

1. From the results of the Ultrasonic Pulse Velocity Test, it is inferred that the in-situ strength of concrete in the tested beams & columns is estimated to be around 20 N/sq.mm.
2. The configuration and the reinforcement of the identified columns in the region are adequate to transfer the existing and proposed loads.

F. CONCLUDING REMARKS:

The identified columns of the building are structurally suitable for the erection of CDMA Tower & prefab shelter on roof.



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