EXPERIMENTAL AND ANALYTICAL STUDY OF REINFORCED MASONRY

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A Project Report submitted

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By

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ABSTRACT:

Load bearing masonry is one of the oldest construction techniques followed for buildings. Masonry, as is well known has a number of advantages; however their load carrying capacity is limited by the tension failure or sometimes shear failure rather than compression failure. If one is capable of introducing reinforcement in masonry without compromising on any of its advantages then masonry can be prevented from premature tension failure and hence its load carrying capacity may be enhanced.

Earlier studies on vertical containment reinforcement for the purpose of improving flexural ductility have shown increase in strength also. In this project work an attempt has been made to study the load enhancing characteristics of masonry with vertical containment reinforcement.

The load carrying capacity of masonry is generally obtained by carrying out tests on masonry prisms. In the present investigation un-reinforced and reinforced grooved concrete block masonry prisms have been cast and tested.

In an effort to understand the effect of percentage of vertical steel, specimens were cast with varying percentages of vertical steel.

Based on the experimental investigation, it was found that vertical containment reinforcement significantly improves the load carrying capacity, in addition to good improvement in stiffness enhancement.

The details of this project work have been presented in the following five chapters:

- Chapter 1 gives the introduction, review of literature and objectives of present investigation
- Chapter 2 gives the development of moderate strength grooved concrete block units
- Chapter 3 gives the experimental investigation of reinforced masonry
- Chapter 4 gives the comparison of reinforcement requirement for framed RC structure and load bearing RM
- Chapter 5 gives the concluding remarks and Scope for further studies