Dr. D.S.R. MURTY
B.E., M.Tech. (Structures), Ph.D. (I.I.T. Kanpur)
M.I.E., M.I.S.T.E., M.A.C.C.E., F.I.E. (India)
Professor, Dept. of Civil Engg.
Andhra University, Visakhapatnam - 530 003

(M) 9885155346
(P) 0891-2755346
(O) 0891-2511789
E-mail : dsrmurty14@gmail.com

Feb 07, 2024.

Technical report on status of the Kendriya Vidyalaya School No.2, Nausena Bagh Visakhapatnam

Date of Inspection 07-02-2024.

Introduction:-

The framed structure is built more than thirty years ago. It is ground plus 2 floors building. The wing on the northern side and western side has three floors for class and laboratory purpose. The school has two floors on the east and south side. The school building was under regular maintenance and required recurring repairs of late. The Principal of the School has requested Andhra University through official letter to take up the study of the buildings for their longevity and stability as little children are studying. The total building needed structural audit by physical inspection for identifying the damage locations and extent of damage for possible repairs.

General Observations& Study:-

All the four sides of the school building taken up for this study are constructed more than thirty years ago. The physical observation of the school building was done to identify already developed structural damage locations and further to identify the possible new locations.

General condition/deterioration of the building from visual observation with due emphasis on the condition of structural members like columns, beams and slabs was done for all members All the Slabs were checked for the leakage and possible spalling. Visual inspection of all columns and beams from inside and outside of the building was done. Individual strength study for concrete members was not done as majority of the members are in good condition.

Prof. D.S.R. MURTY
M.Tech.,Ph.D.,F.I.E.,M.I.S.T.E.,M.A.C.C.E.(INDIA)
Department of Civil Engineering
Andhra University
VISAKHAPATNAM-530 003

Residence : 8-45-14, 4th Lane, Vidya Nagar, China Waltair Colony, Behind Old C.B.I. Office.

From the observations, it is found that at about fifteen locations, column reinforcement is exposed particularly at lower levels and in some at the top due to spalling. The damaged columns are mostly on the verandah side of inside school and some perimeter columns on the outside. The areas where the column bars are exposed need to be repaired immediately to prevent further damage extension by corrosion. They all need repair urgently with chemicals. Verandah roof slab also developed few spalling zones and need to be repaired. Girls toilet in first floor leakage noticed. It's roof need to be repaired immediately. Staircase room slab on north side has developed spalling. Repairs required for all spalled zones urgently. Care required to see that the accumulation of plant leaves on terrace slab and other sunshade projections to save from corrosion induced damage. Accumulation of water and deposit of plant debris to be avoided. The portico needs regular cleaning. Plant growth is not to be seen around water tank on terrace. Water leakage from pipelines, joints and near valves has to be addressed urgently.

Conclusions:-

The total G+2 school building visually appeared to be sound from outside. Few columns have developed corrosion induced cracking and need urgent repair. The damaged columns are located both near inner verandah side and on the outer perimeter side. Few toilets are also causing leakage resulting in visible damage to structural members. They need to be repaired urgently. Urgent repairs at the damaged locations with chemicals would enhance the life of the structure. If the repairs are not done immediately, the cost of repair in near future would increase exponentially and would not be cost effective as well. Usual regular maintenance in cleaning terrace, portico and leak proof toilets would ensure long life and stability to school buildings.

On the whole, the school building is structurally sound and satisfactory at present from strength and integrity point and minor repairs recommended urgently. The building has the strength and stability to withstand additional load of two more labs if constructed in the second floor adjacent to the junior science laboratory located on the south side of the main building. The building may require structural audit after three years again.

(D S R Murty)