A Review on 3-D Analysis of Building Frame Using STAAD-PRO

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Abstract- **This In 21st century due to huge population the no of areas in units are decreasing day by day. Few years back the populations were not so vast so they used to stay in Horizontal system(due to large area available per person).But now a day's people preferring Vertical System(high rise building due to shortage of area).In high rise buildings we should concern about all the forces that act on a building ,its own weight as well as the soil bearing capacity .For external forces that act on the building the beam, column and reinforcement should be good enough to counteract these forces successfully. And the soil should be good enough to pass the load successfully to the foundation. For loose soil we preferred deep foundation (pile).If we will do so much calculation for a high rise building manually then it will take more time as well as human errors can be occurred. So the use of STAAD-PRO will make it easy.**

Index Terms- **Software Analysis, High rise Building, STADD PRO 3D.**

I. INTRODUCTION

STAAD-PRO was born giant. It is the most popular software used now days. Basically it is performing design works. There are four steps using STAAD-PRO to reach the goal.
• Prepare the input file.
• Analyze the input file.
• Watch the results and verify them.
Send the analysis result to steel design or concrete design engines for designing purpose.
1. Prepare the input file-
   • First of all we described the structure. In description part we include geometry, the materials, cross sections, the support conditions.
2. Analyze the input file-We should sure that we are using STAAD-PRO syntax. Else it will error.
   • We should sure that all that we are inputting that will generate a stable structure .Else it will show error.
   • At last we should verify our output data to make sure that the input data was given correctly.
3. Watch the results and verify them.
   • Reading the result take place in POST PROCESSING Mode.
   • First we choose the output file that we want to analyze (like various loads or load combination) .Then it will show the results.
4. Send the analysis result to steel design or concrete design engines for designing purpose.
   • If someone wants to do design after analysis then he can ask STAAD-PRO to take the analysis results to be designed as design
   • The data like Fy main, Fc will assign to the view
   • Then adding design beam and design column.
   • Running the analysis it will show the full design structure.

II. LITERATURE REVIEW

Following are the literature reviews are based on the study.
Viviane Warnotte summarized basic concepts on which the seismic pounding effect Occurs between adjacent buildings. He identified the conditions under which the seismic Pounding will occur between buildings and adequate information and, perhaps more Importantly, pounding situation analyzed. From his research it was found that an elastic model cannot predict correctly the behaviors of the structure due to seismic pounding. Therefore

non-elastic analysis is to be done to predict the required seismic gap between buildings.

Shehata E. Abdel Raheem developed and implemented a tool for the inelastic analysis of seismic pounding effect between buildings. They carried out a parametric study on buildings pounding response as well as proper seismic hazard mitigation practice for adjacent buildings. Three categories of recorded earthquake excitation were used for input. He studied the effect of impact using linear and nonlinear contact force model for different separation distances and compared with nominal model without pounding consideration.

Robert Jankowski addressed the fundamental questions concerning the application of the nonlinear analysis and its feasibility and limitations in predicting Seismic pounding gap between buildings. In his analysis, elastoplastic multi-degree of freedom. Lumped mass models are used to simulate the structural behavior and non-linear viscoelastic impact elements are applied to model collisions. The results of the study Prove that pounding may have considerable influence on behavior of the structures.

- At least 20% of the concrete shall be residual products used as aggregate.
- Use of concrete industries own residual products.
- Use of new types of residual products, previously land filled or disposed of in others ways.
- CO_2- neutral, waste-derived fuels shall substitute fossil fuels in the cement production by at least 10%.

III. CONCLUSION

For column the area of steel and percentage of steel always greater required for wind load combination than the seismic load combination.

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