



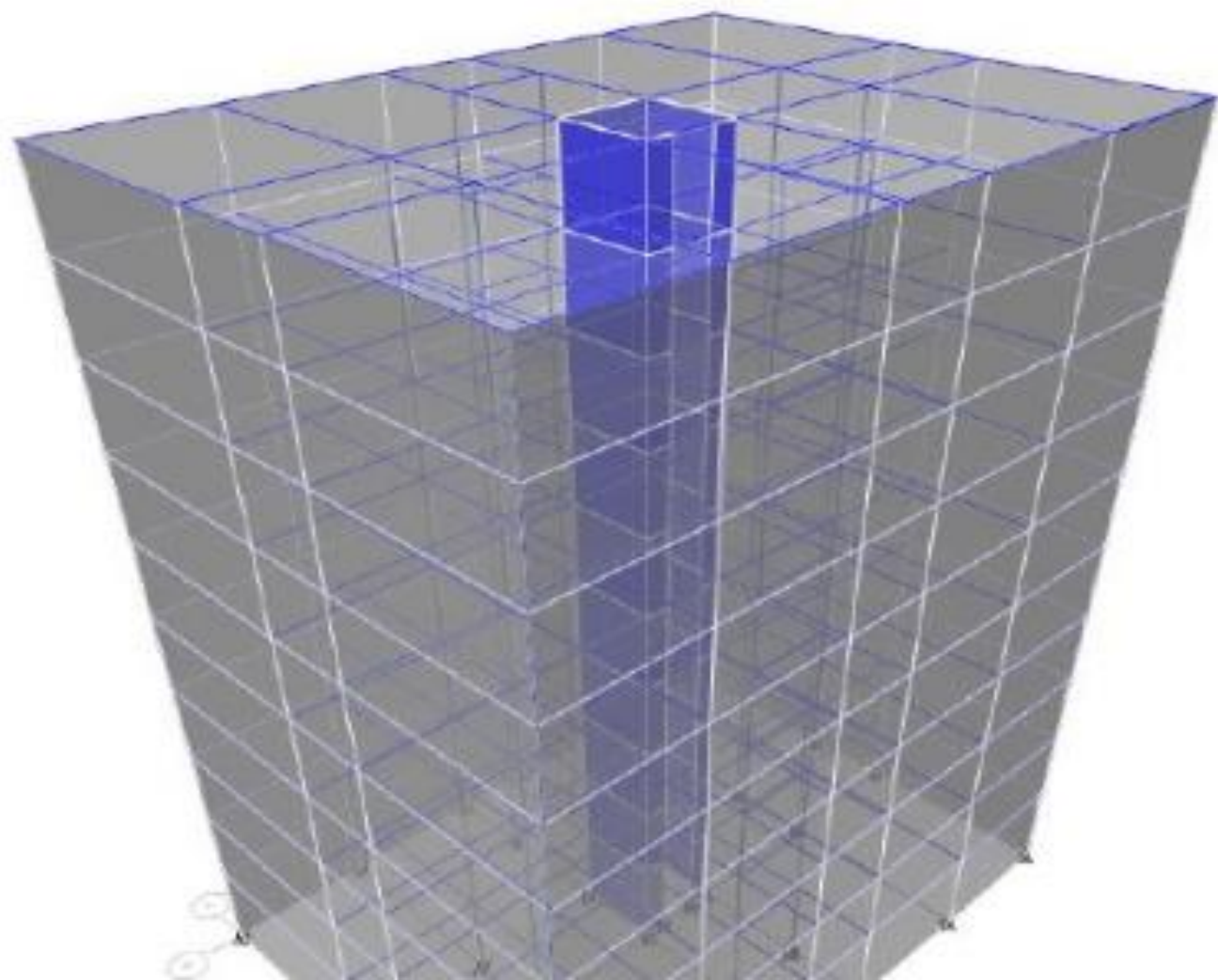
**Ministry of Higher Education
Mansoura Higher Institute of Eng. & Tech.**

ETABS Tutorial

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Dr.Eng.Mohamed Ebrahim

ETABS[®] 2013

Integrated Building Design Software



file menu > New model > select see
build in- settings with > from display
unit choose metric SI ok



from this slide choose

1- the grids in x- and y -
direction .

2- spacing between x
and y grids .

3-number of stories.

4-hight of stories.

After that click ok.

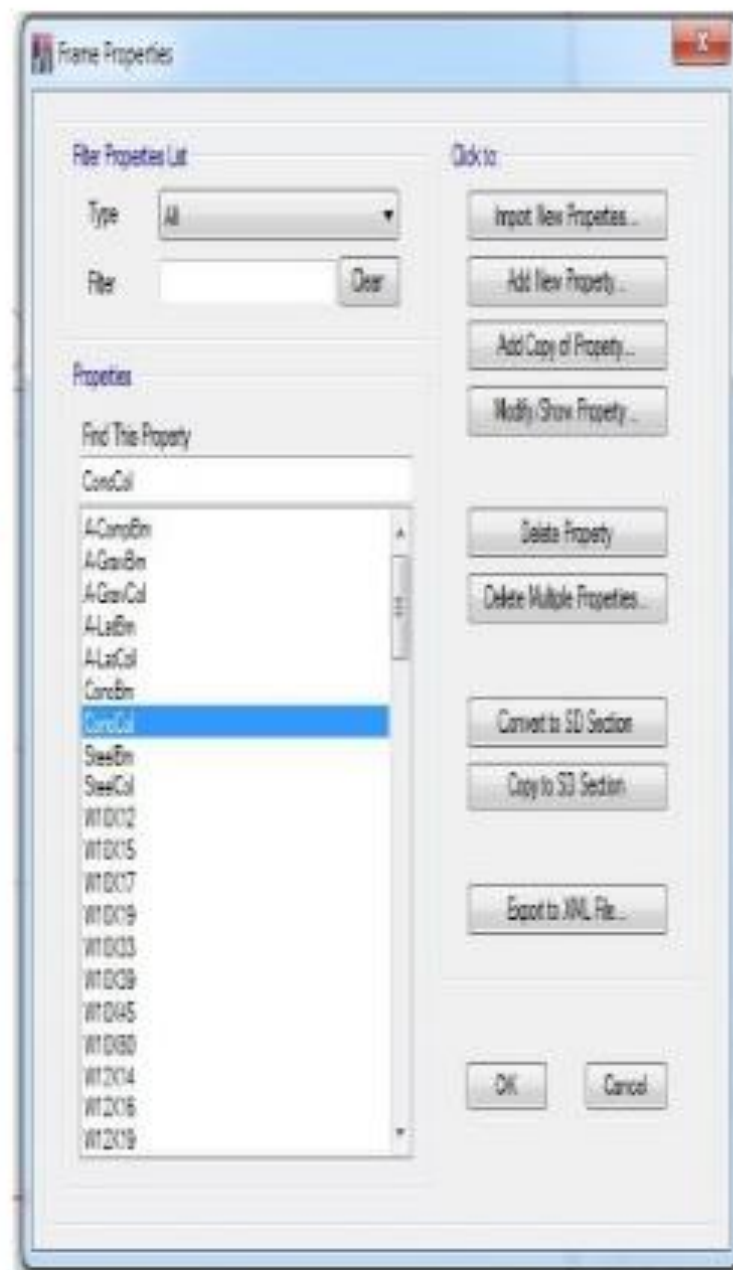


define menu > section properties
frame sections > Mark conc Col
click on add copy of property
and
modify the property of the



columns

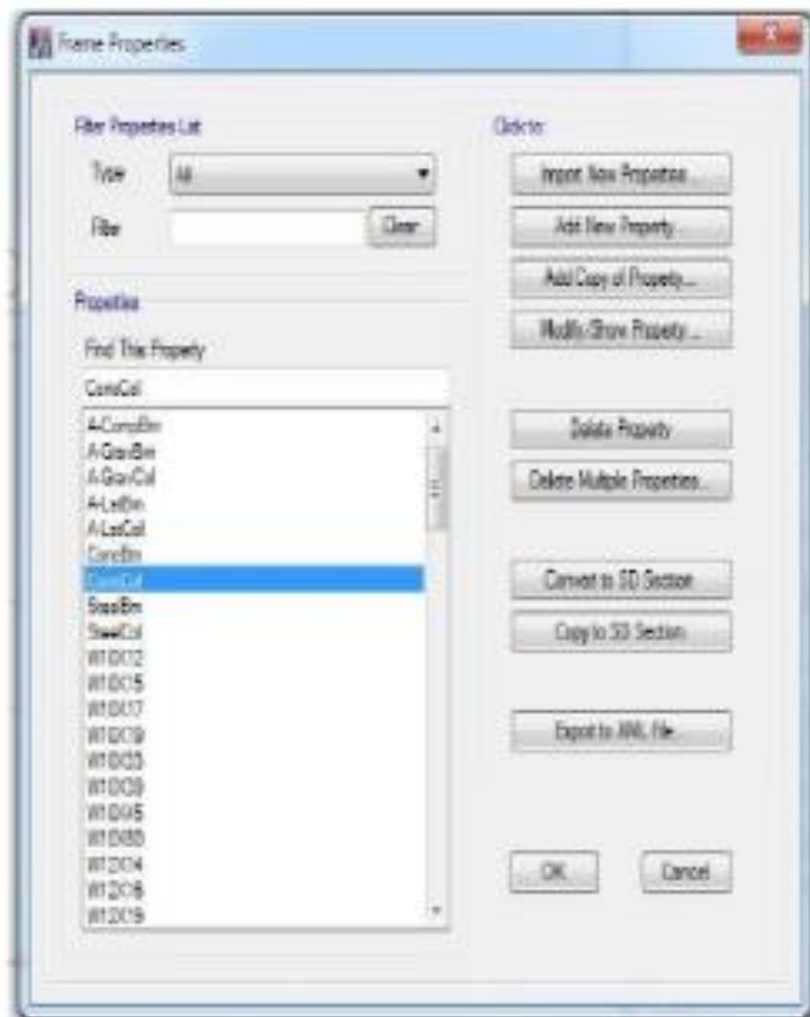
ok.



Mark concBm >

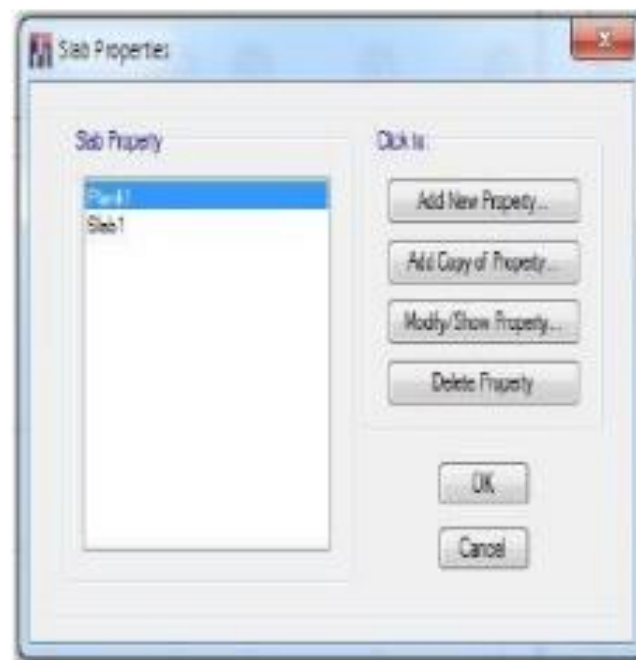
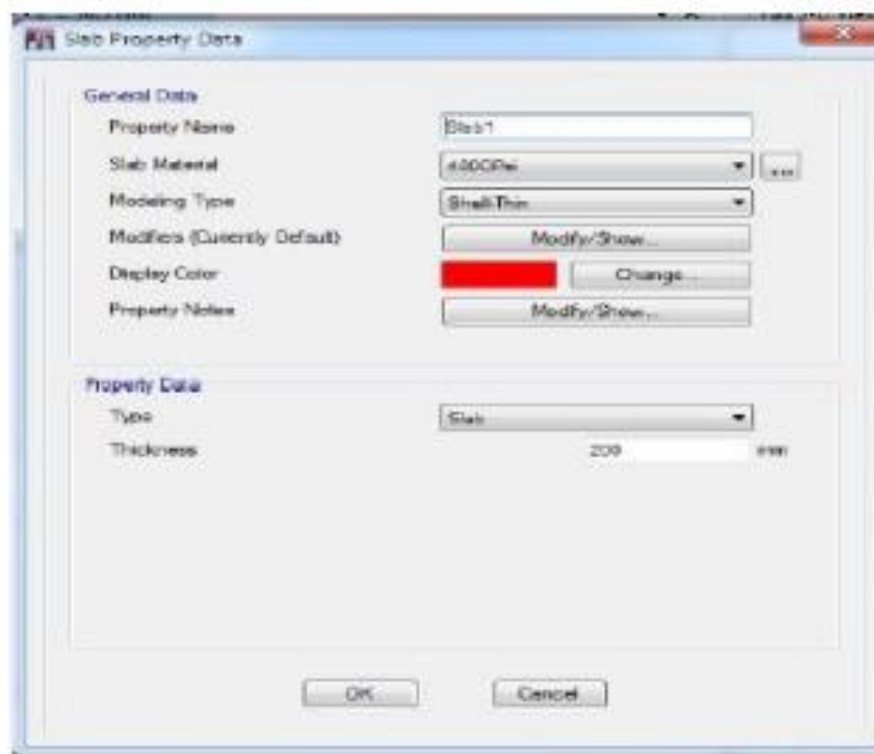
click add copy of property >

modify property of the beam >



After that click ok .

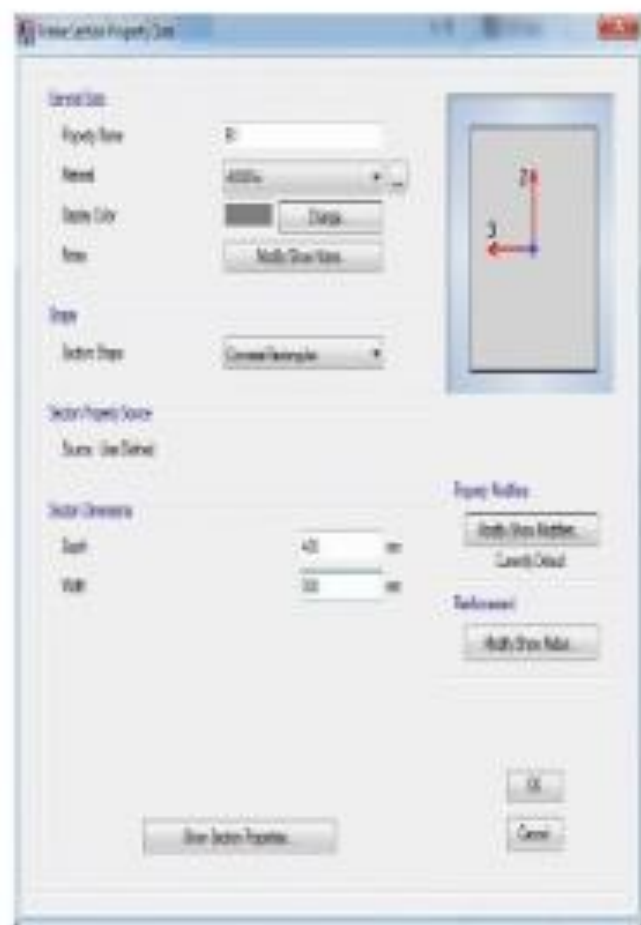
define menu > section properties
slab sections > select slab1 and
click on add copy of property >



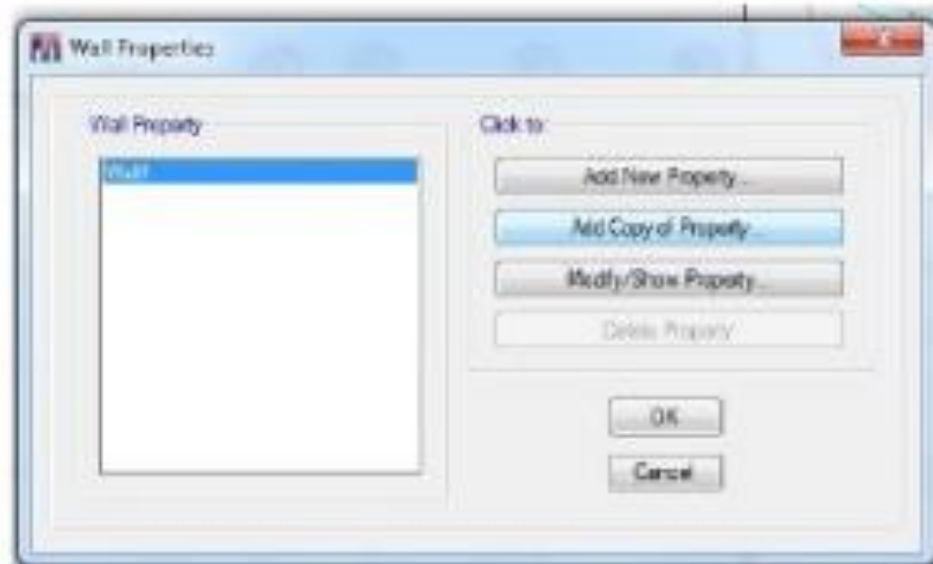
modify property of the
slab >

Then ok.

define menu
wall sections
and click on



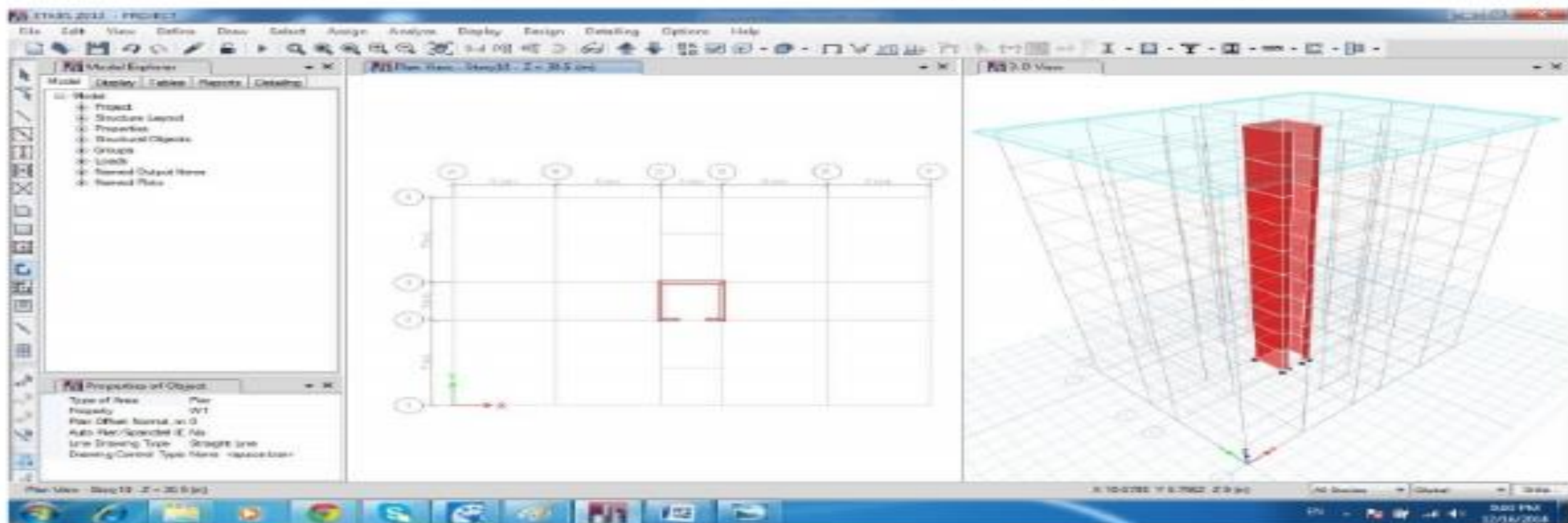
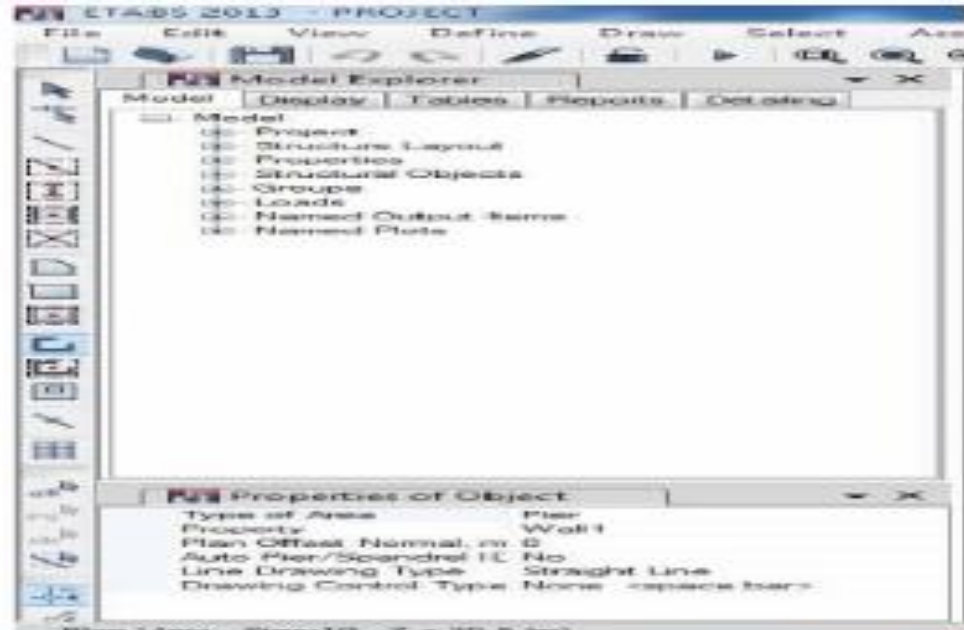
> section properties >
select wall 1 >
add copy of property >



modify property of the shear walls.

Then ok.

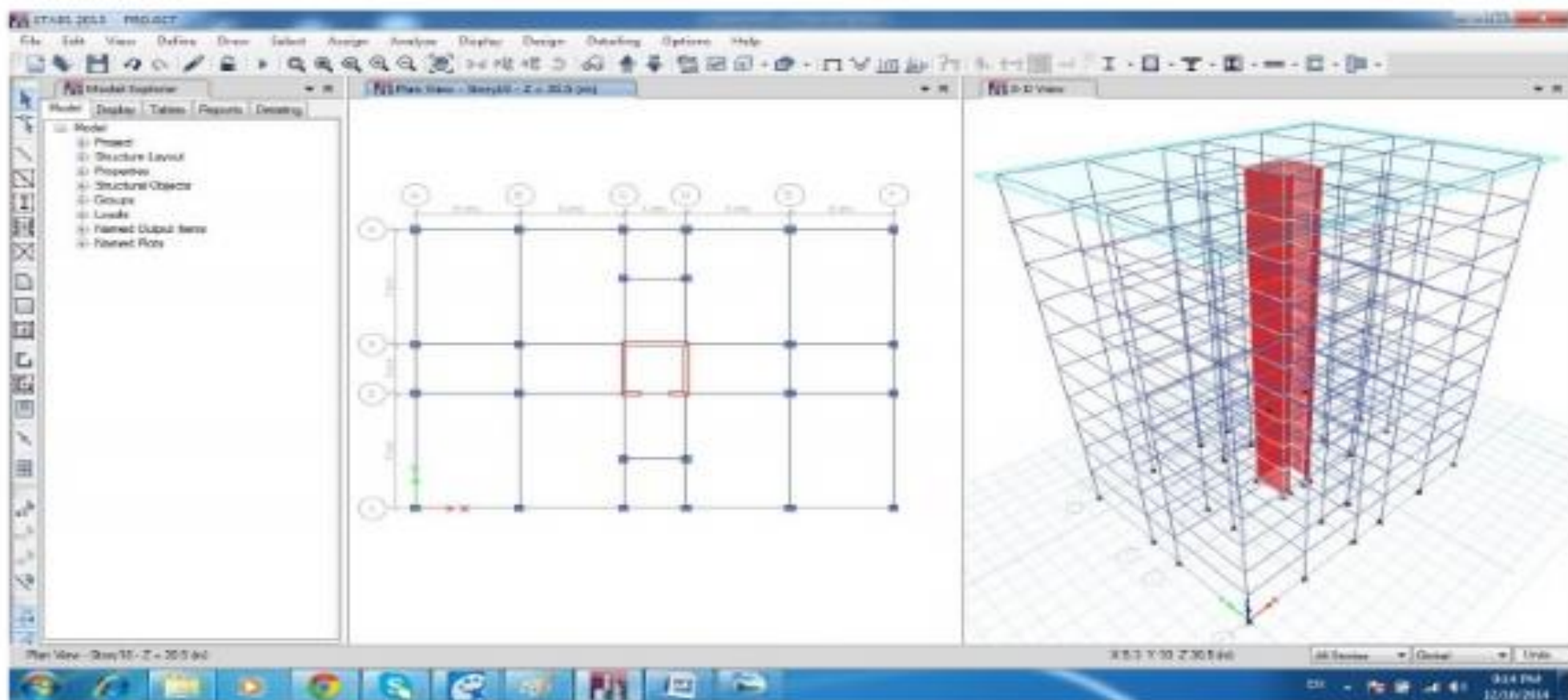
Click on draw wall plan icon and choose property wall 1 .



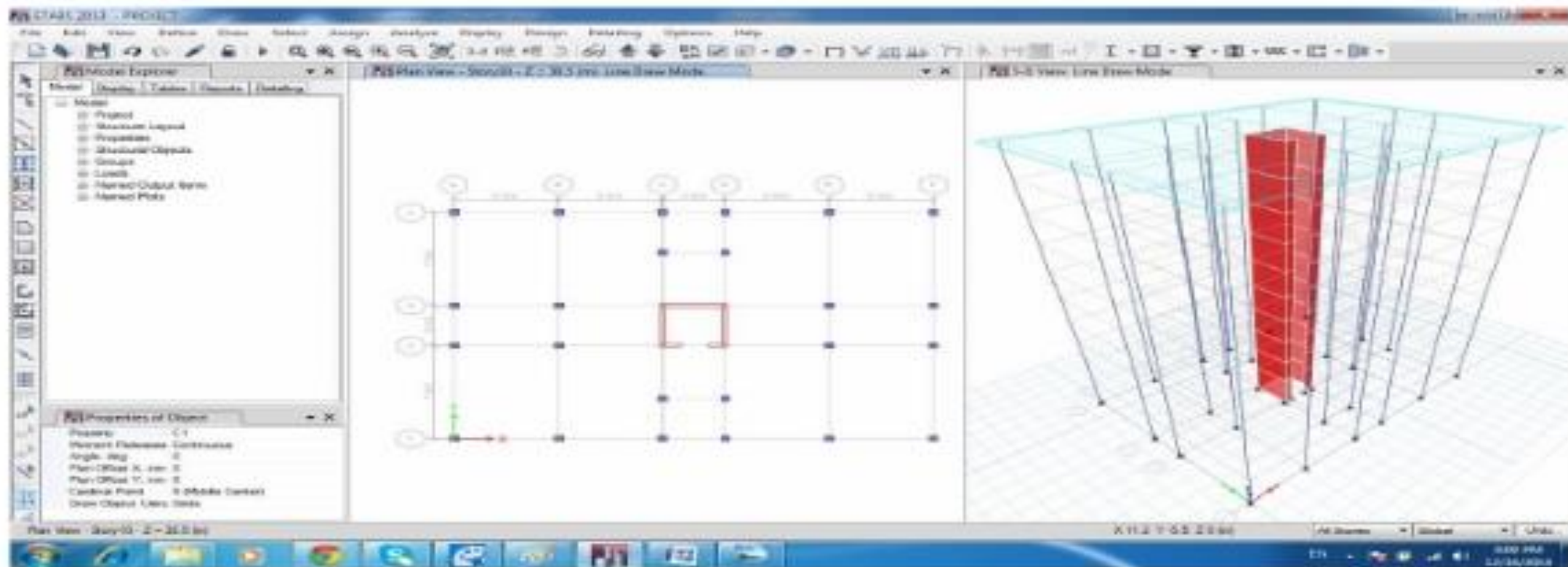
Click on quick draw column icon> choose property C1> and draw columns.

Click on quick draw beam icon >choose property B1 > draw beams.

After drawing beams.



Click on quick draw floor > choose property S1 > choose one story > and draw floor on the shear wall for end story .



After drawing the slab.

Select all stories and draw floors for all stories.

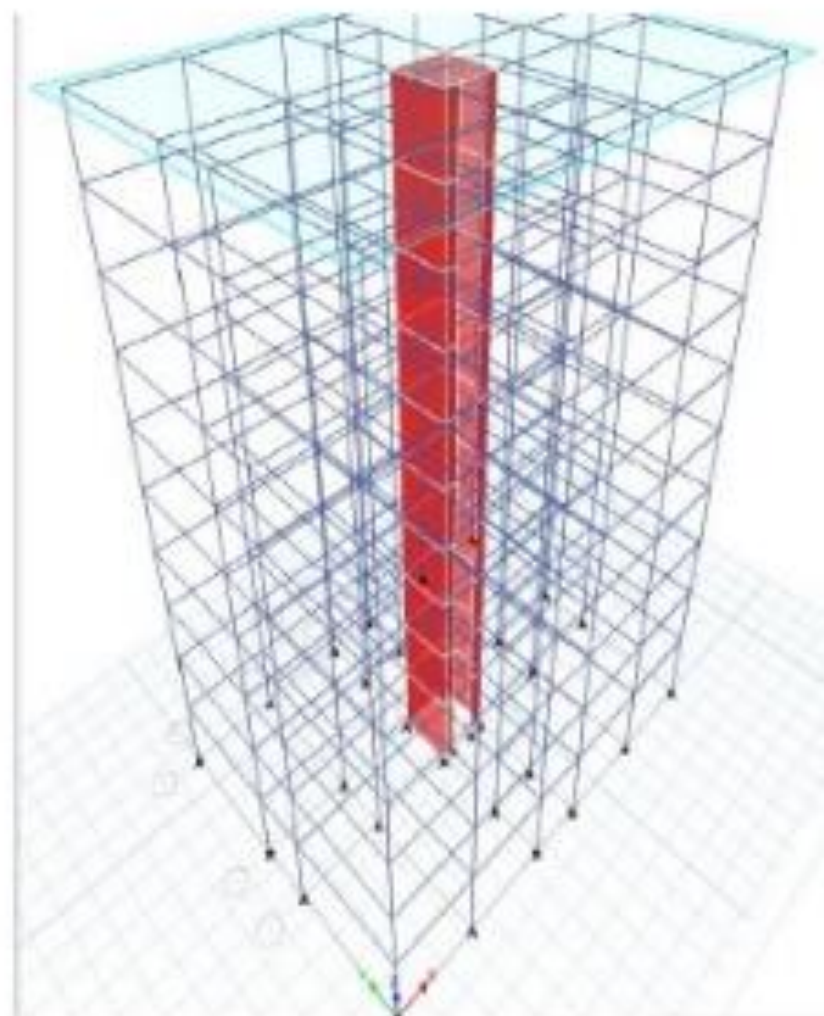
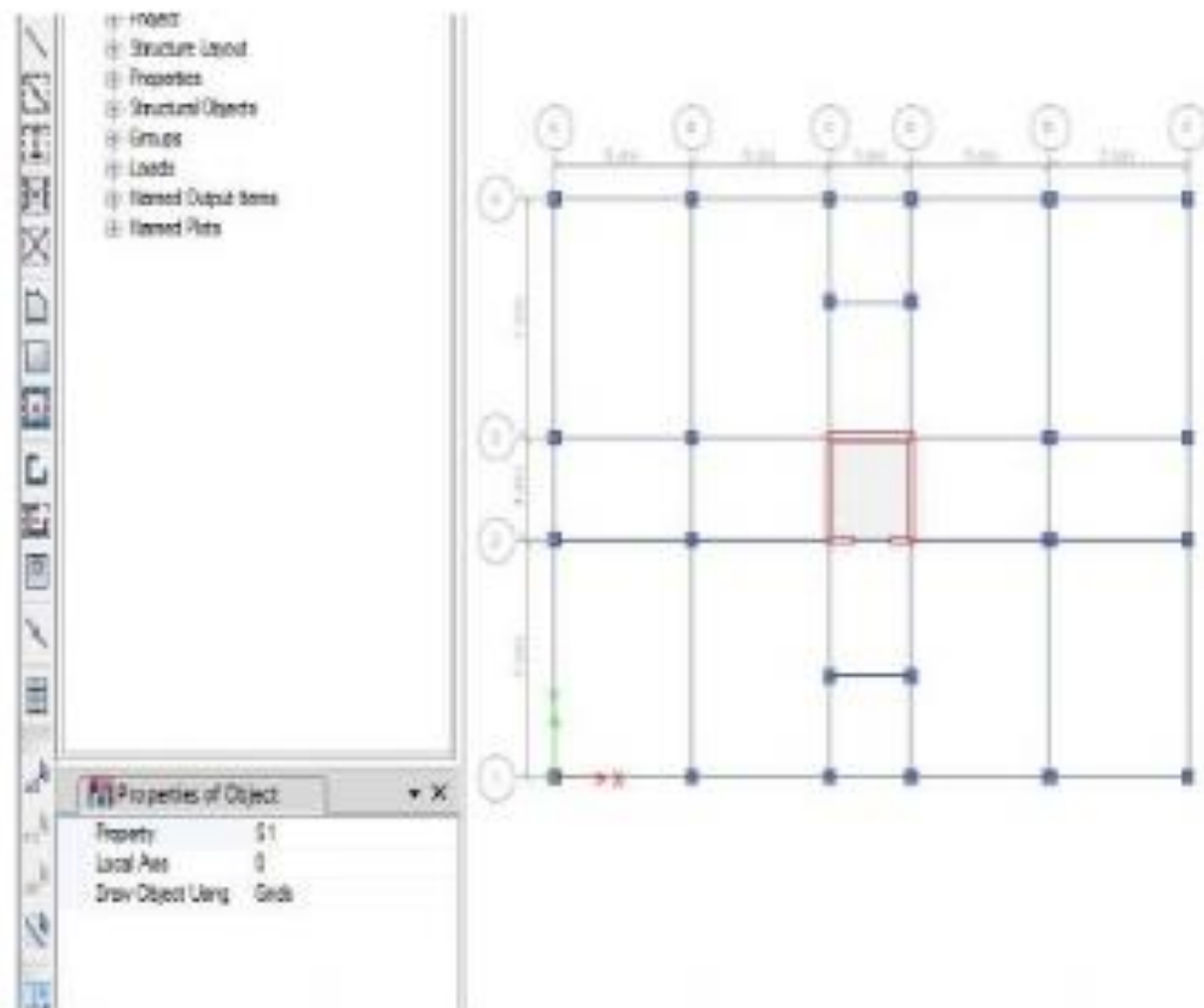
Choose one story and select ground floor and delete the ground floor slab.



Select the ground floor joints ;

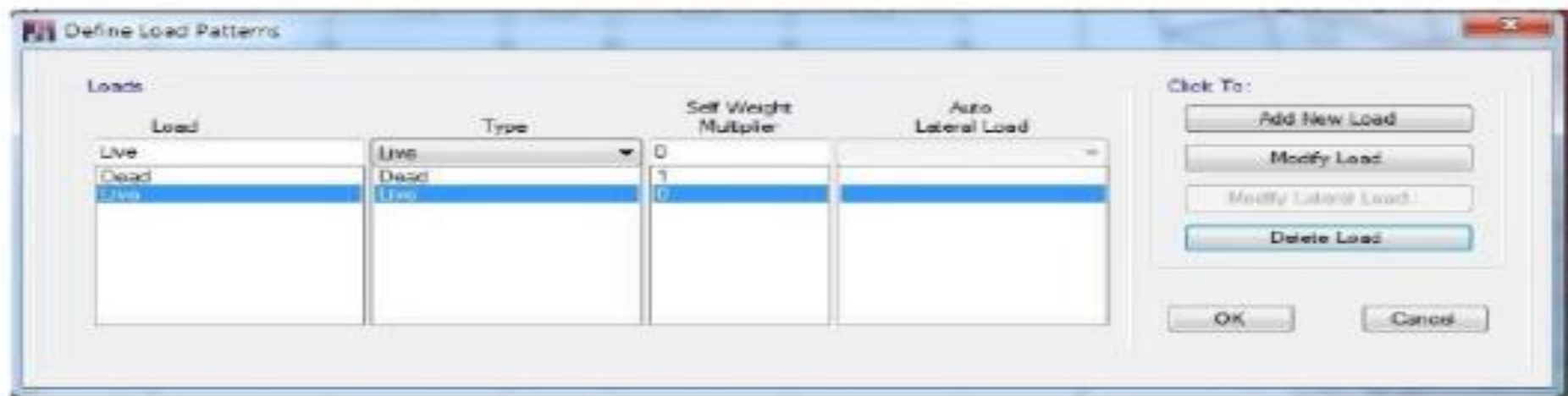
And click on assign >joints >restraints >

Ok.



define menu > load pattern >

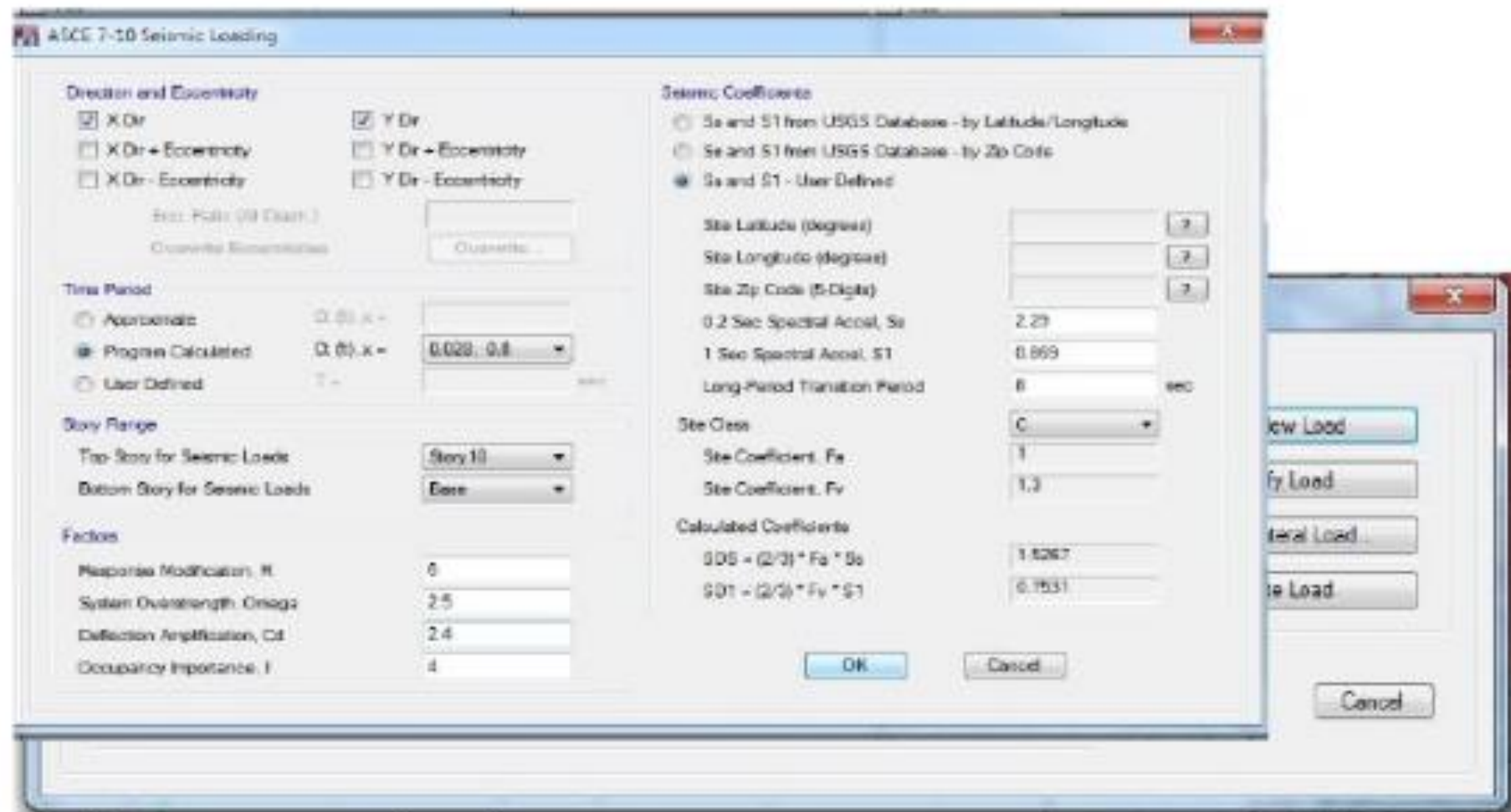
And add supper dead load , wind load ,and seismic load according ASCE 7-10.



After adding loads

Select wind > Click modify load> We should modify wind load according to our location and speed of the wind > ok.

Select seismic load> modify load > Also we must modify seismic load according to our location .



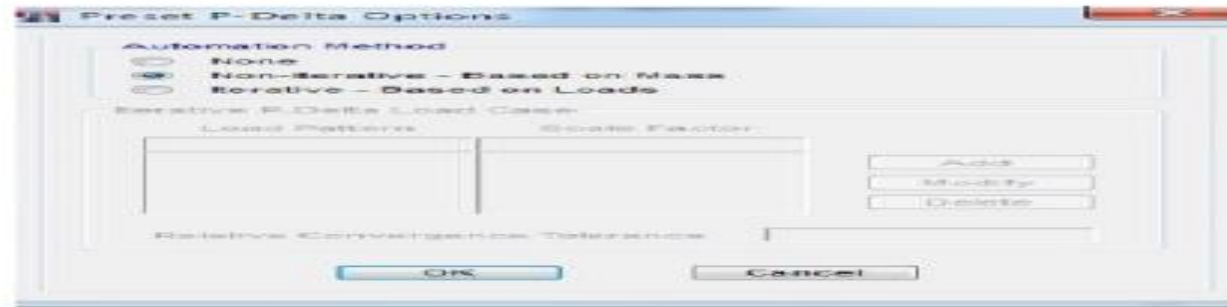
Define menu > load cases >

Click on modify/ show case >

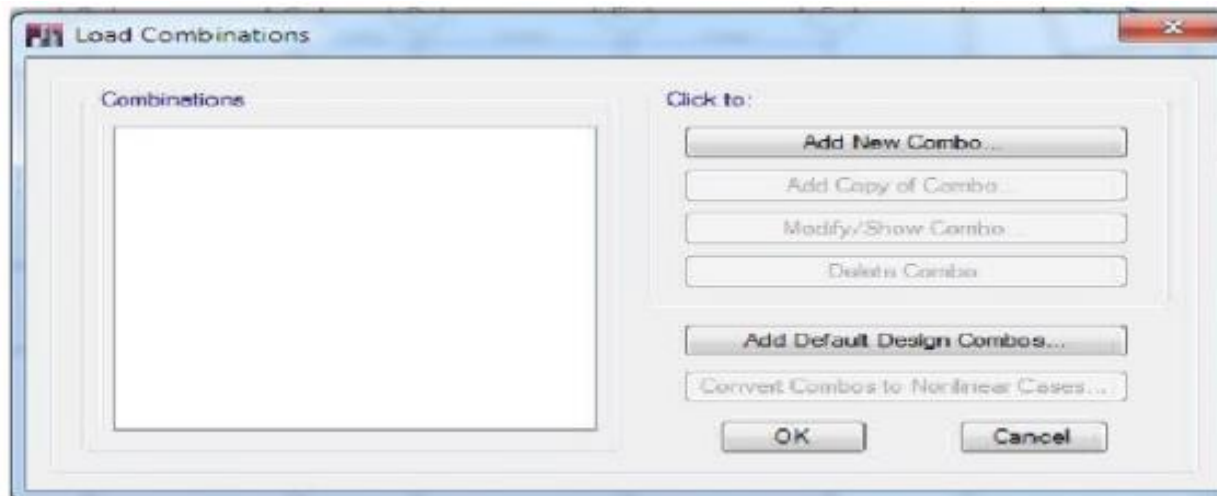
Click on modify/ show >

select non- iterative - based on mass >

ok .

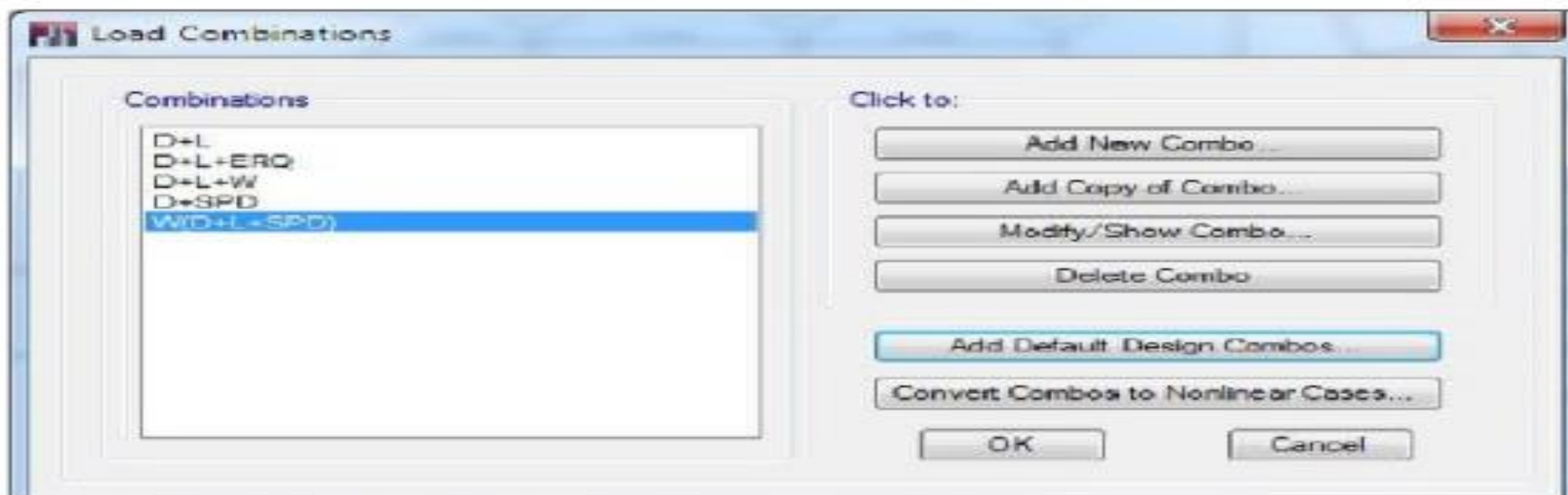


define menu > load combination > add new combination.



- 1- $1.2DL+1.6LL$
- 2- $1.2DL+1LL+1ERQ$
- 3- $1.2DL+1.6LL+.5WIND$
- 4- $1.4DL+1.4SPD$
- 5- $1DL+1LL+1SPD$

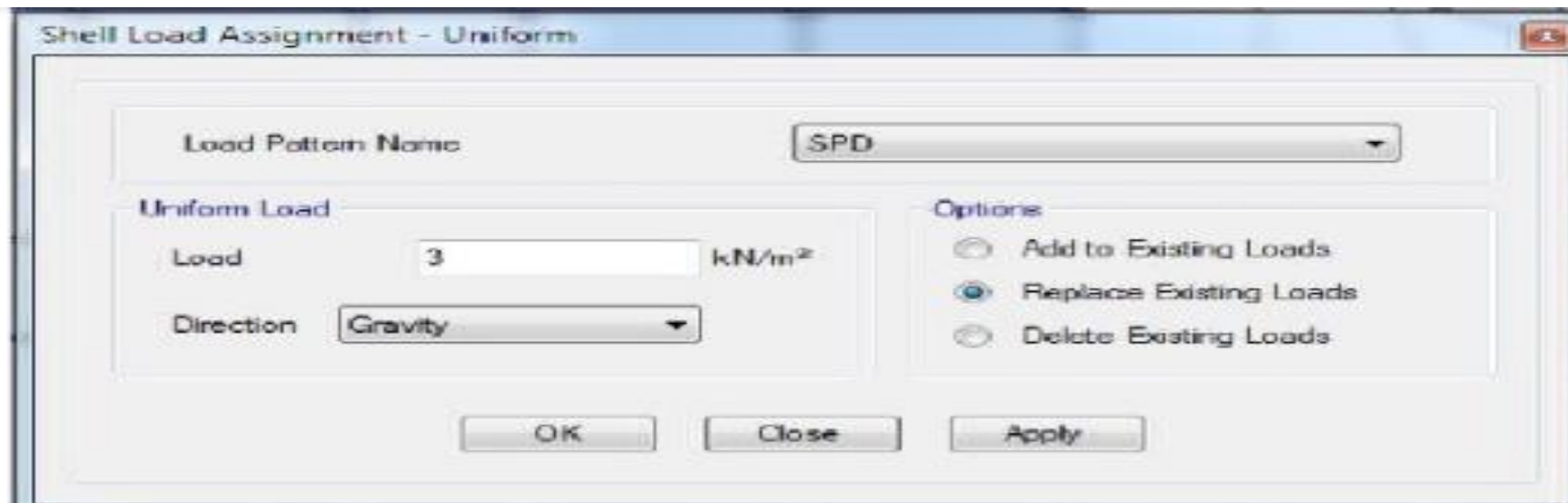
After adding the combinations.



Now we will assign the supper dead load loads to the floor .

Select menu > object type > floors.

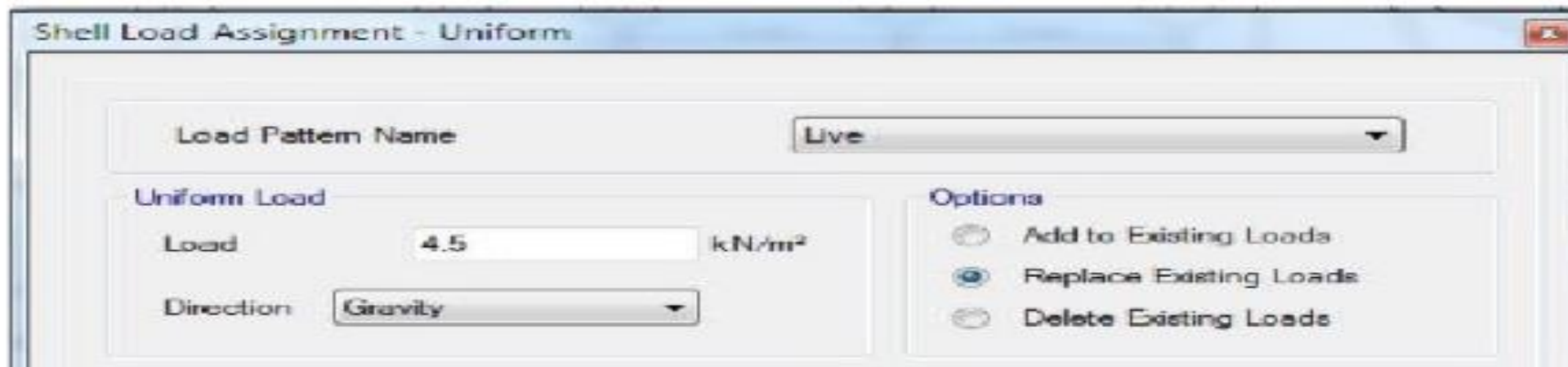
After that assign menu > shell loads > uniform.

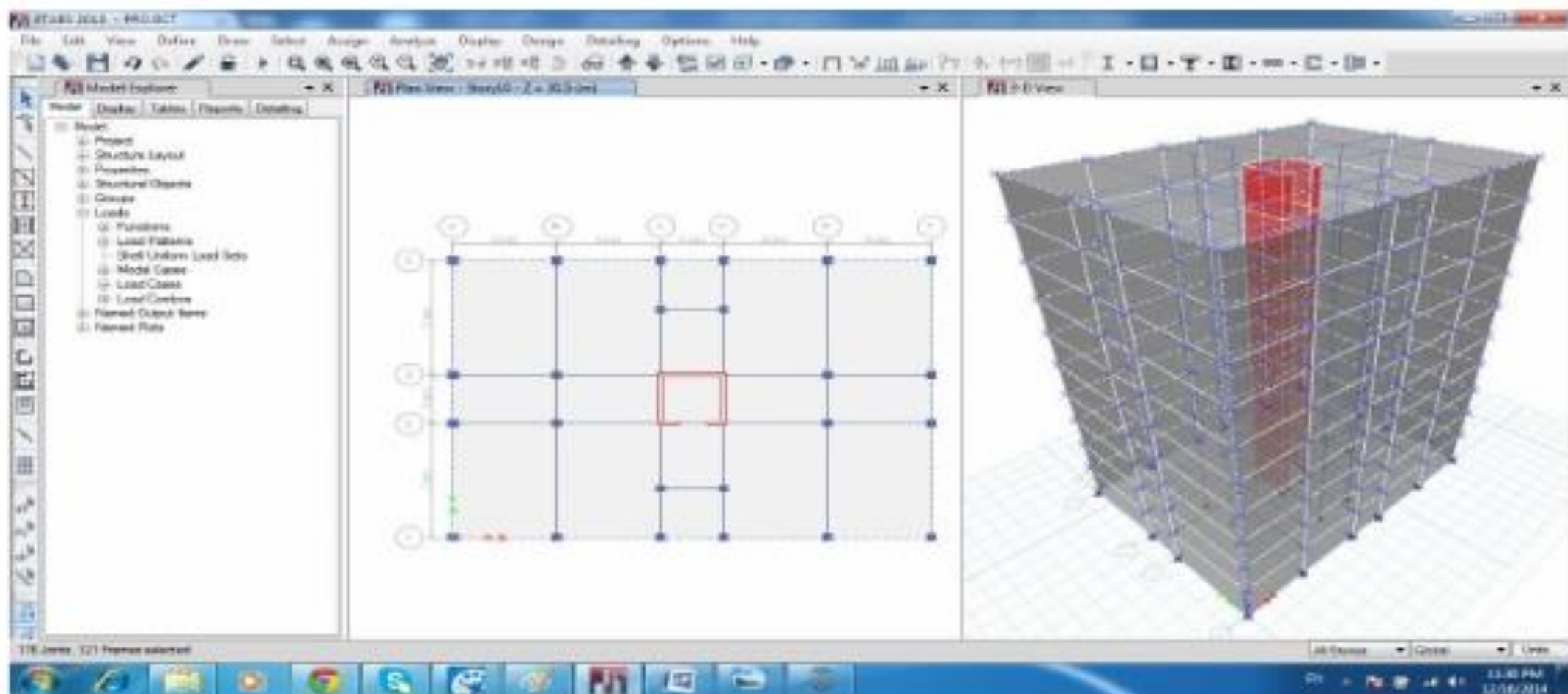


Now we will assign the live load to the floor .

Select menu > object type > floors.

After that click on assign > shell loads > uniform.





Now apply additional dead load on the frame sections .first select the frame members .

Assign menu > frame loads > distribution .

Frame Load Assignment - Distributed

Load Pattern Name: Dead

Load Type and Direction:
 Forces Moments
Direction of Load Application: Gravity

Options:
 Add to Existing Loads
 Replace Existing Loads
 Delete Existing Loads

Trapezoidal Loads:

	1.	2.	3.	4.
Distance	0	0.25	0.75	1
Load	0	0	0	0

Relative Distance from End-I Absolute Distance from End-I

Uniform Load:
Load: 2 kN/m

OK Close Apply

Ap

ply wind pressure coefficient , first wind ward .

Select the side in front of the wind pressure .

assign menu > shell loads > wind pressure coefficient .

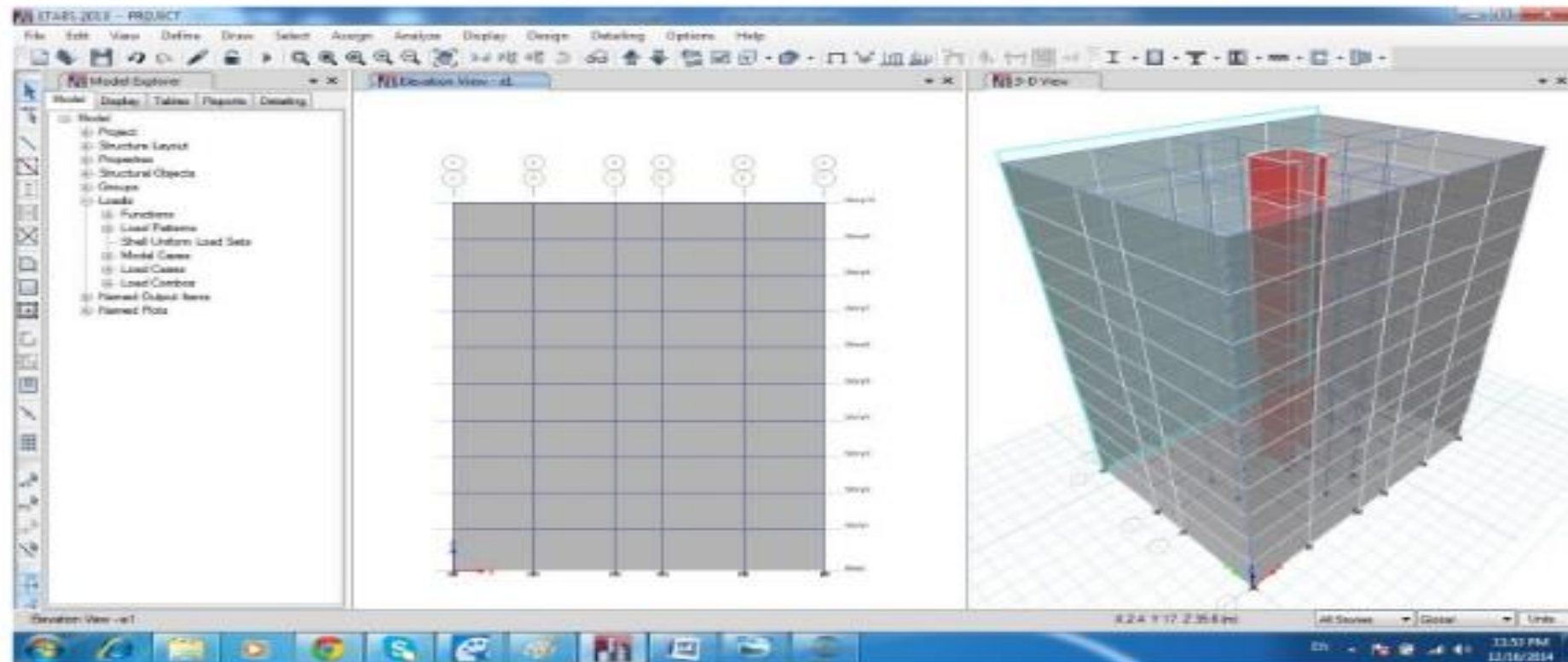


Apply wind pressure coefficient , second leeward .

Select the other side in front of the wind pressure .

Assign menu> shell loads >wind pressure coefficient .

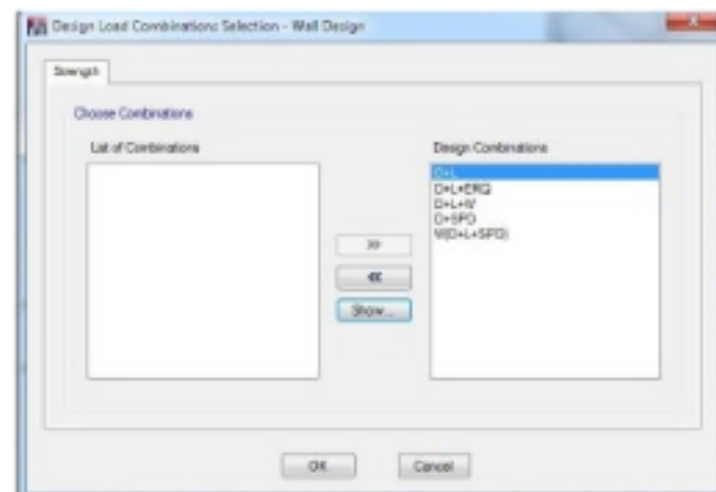
Select the wind ward side > draw menu > draw developed elevation definition > Ok .



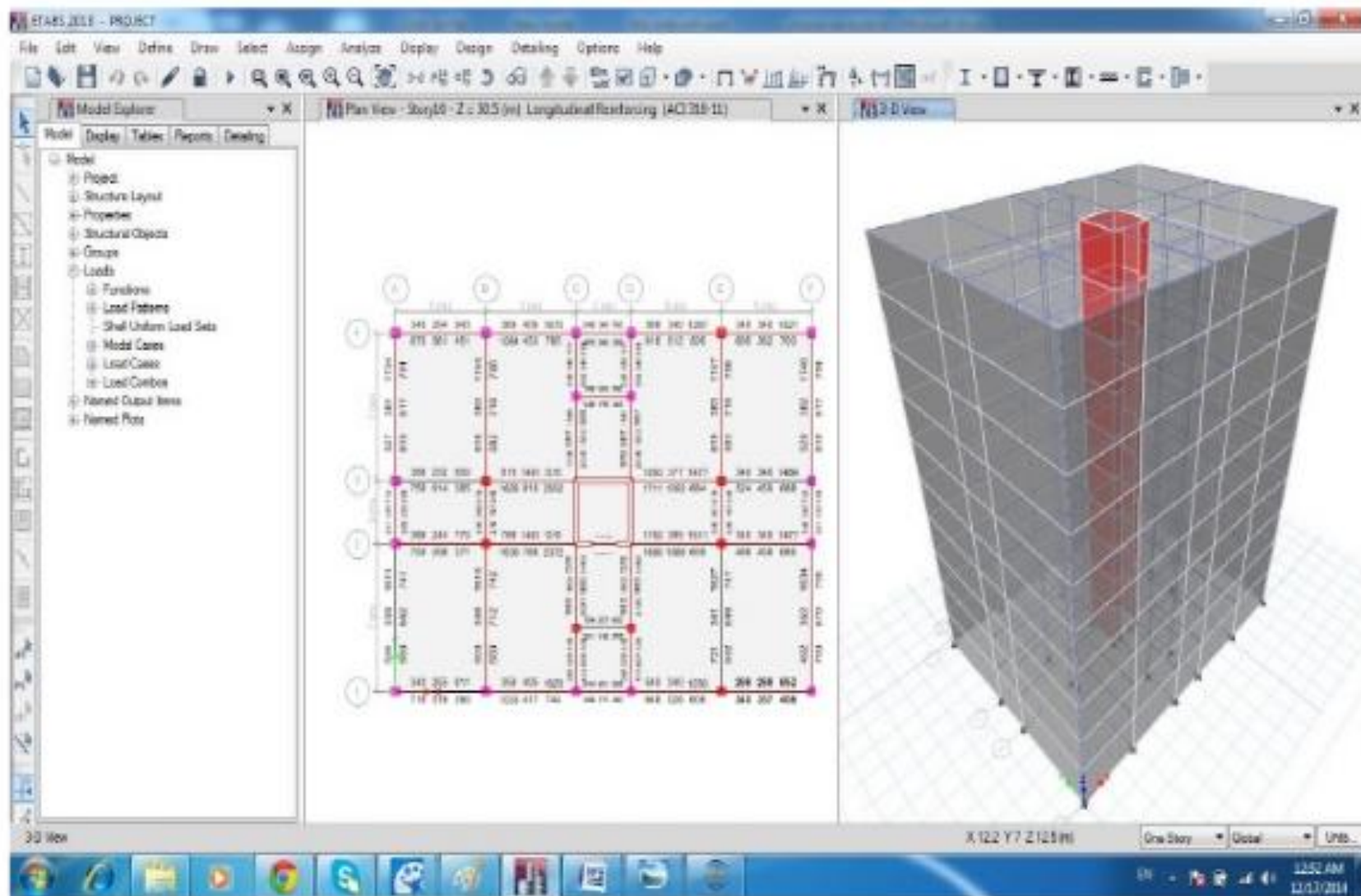
Apply wind ward pressure to this elevation >select the hole side > assign menu > shell loads >

And for shear walls also select the design combination ;

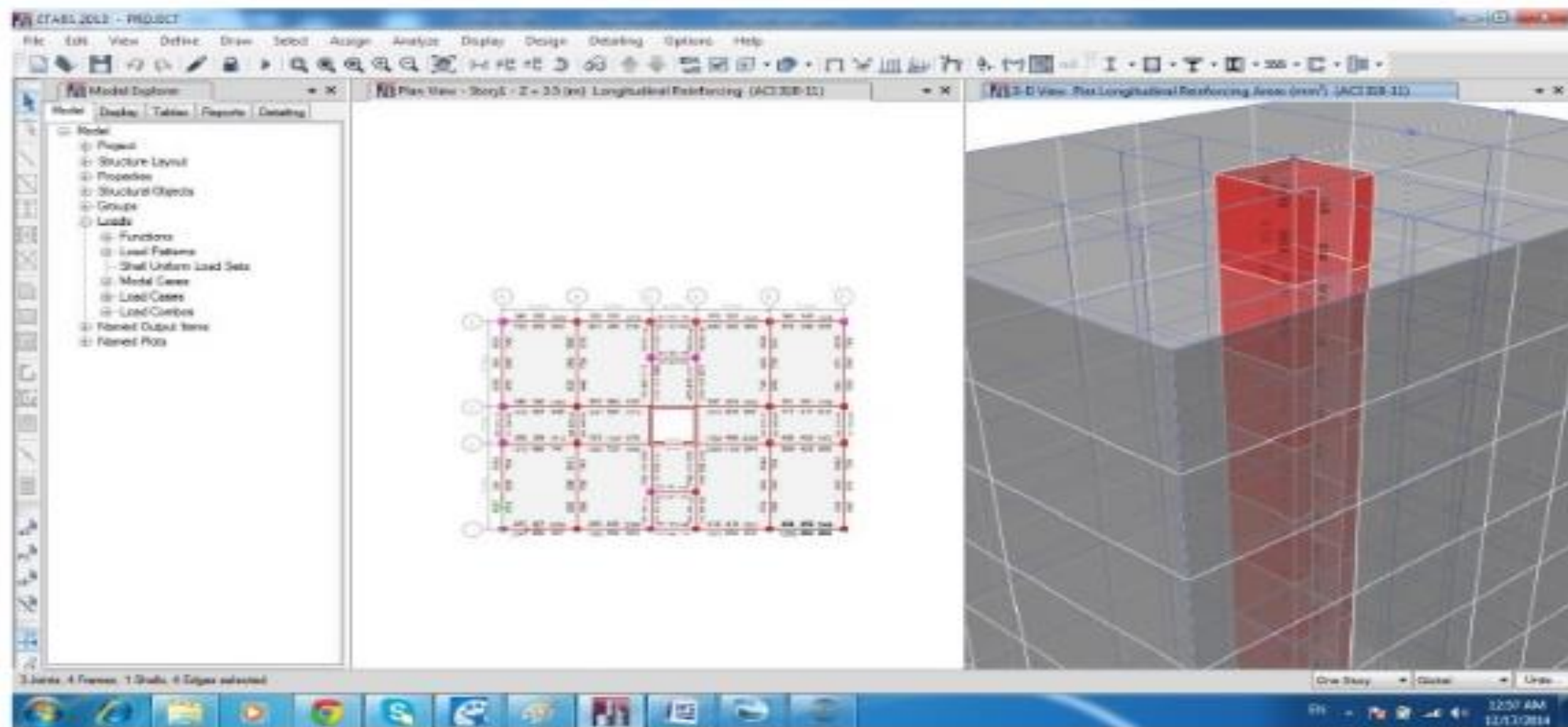
Design menu>shear wall design >
select design combinations.



Start frame design >click on design >concrete frame design
>start design and check .



Start design of shear walls > click on design > shear wall design > start design and check.



At the end start detailing >
detailing menu>start detailing.

For export drawings > detailing menu
>export detailing.

