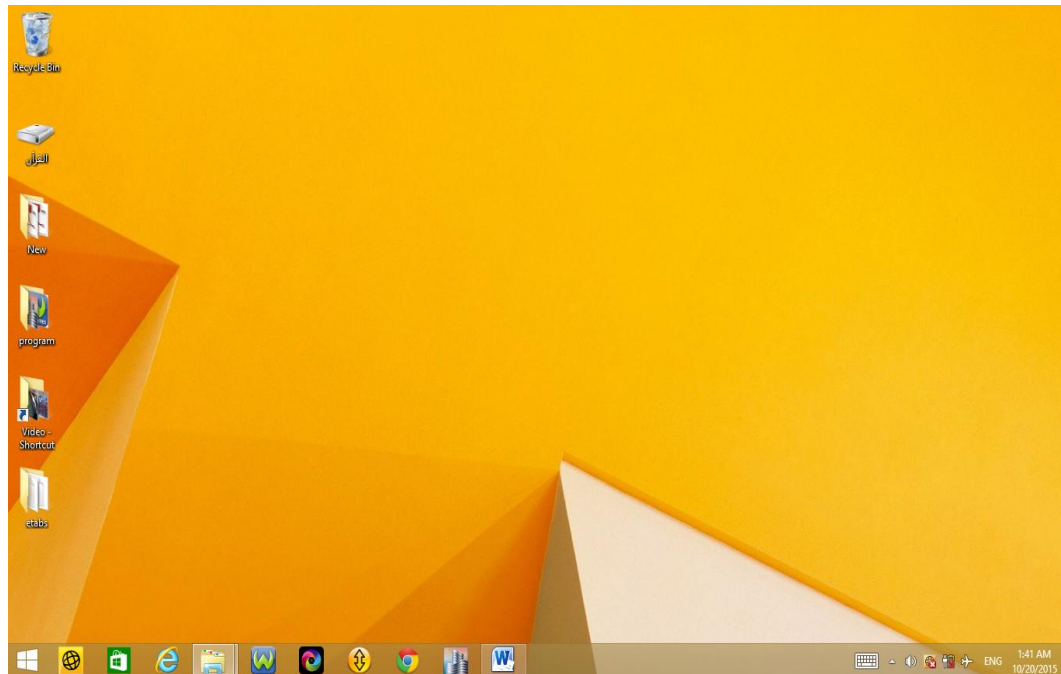


Appendix

Appendix

Explanation images for the work procedure by ETABS program:

click the Etabs program icon

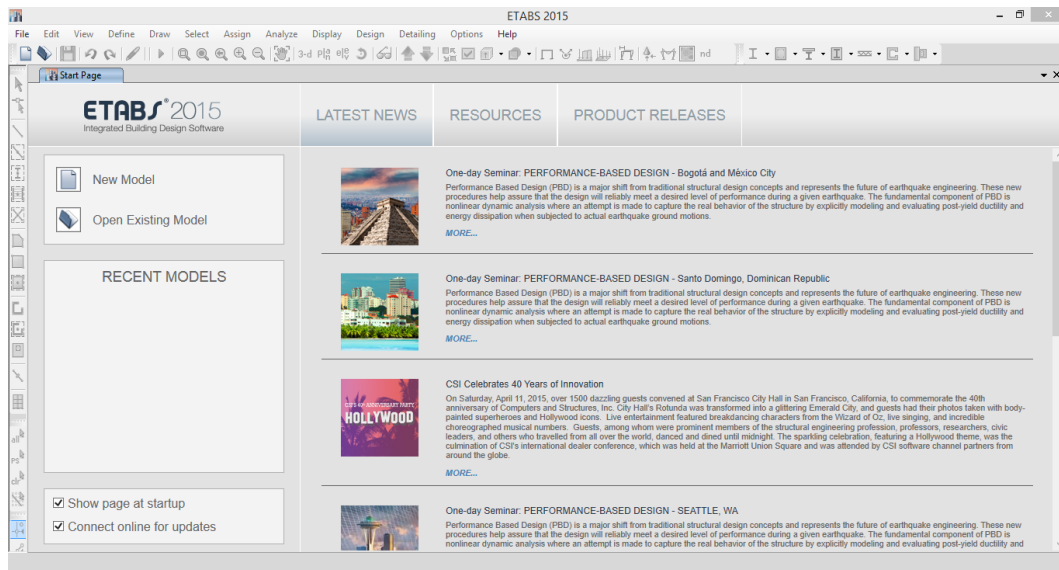


Etabs Program opening page

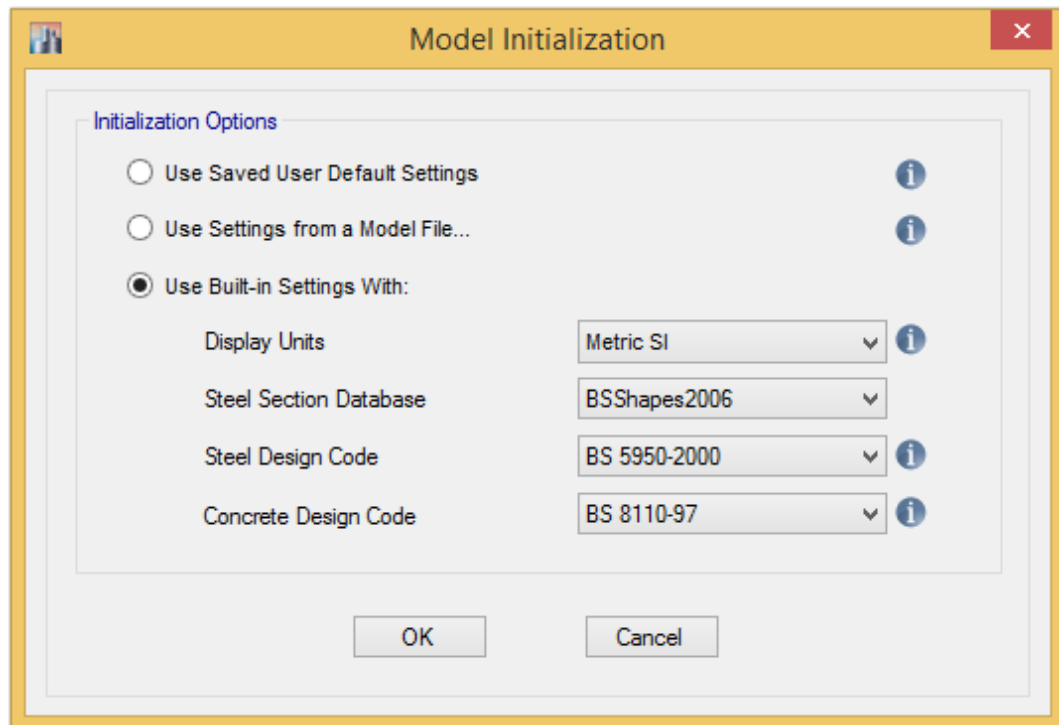


Appendix

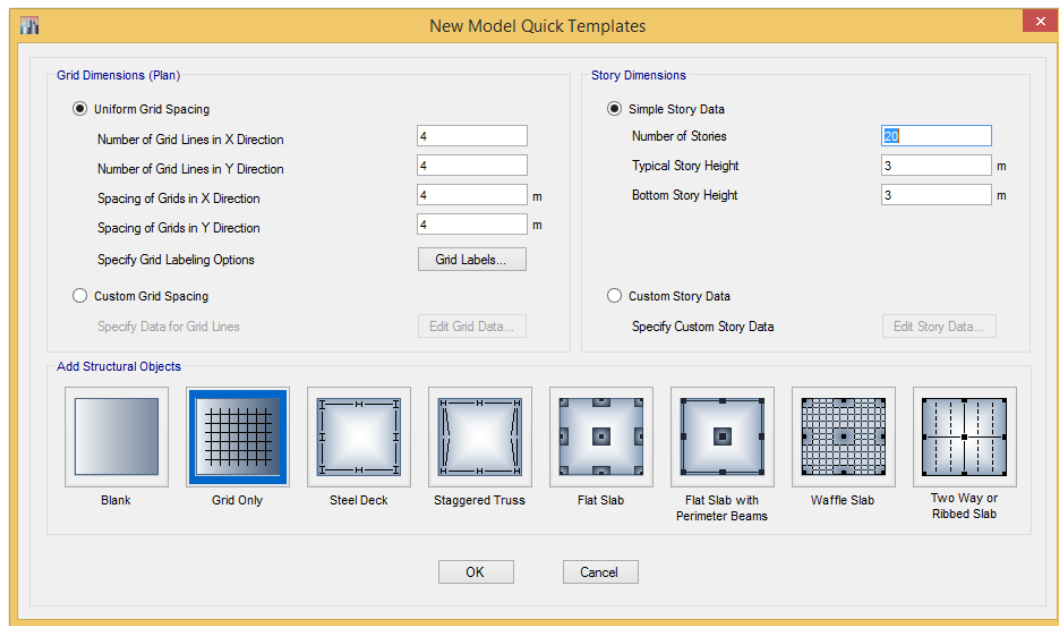
First page in Etabs program



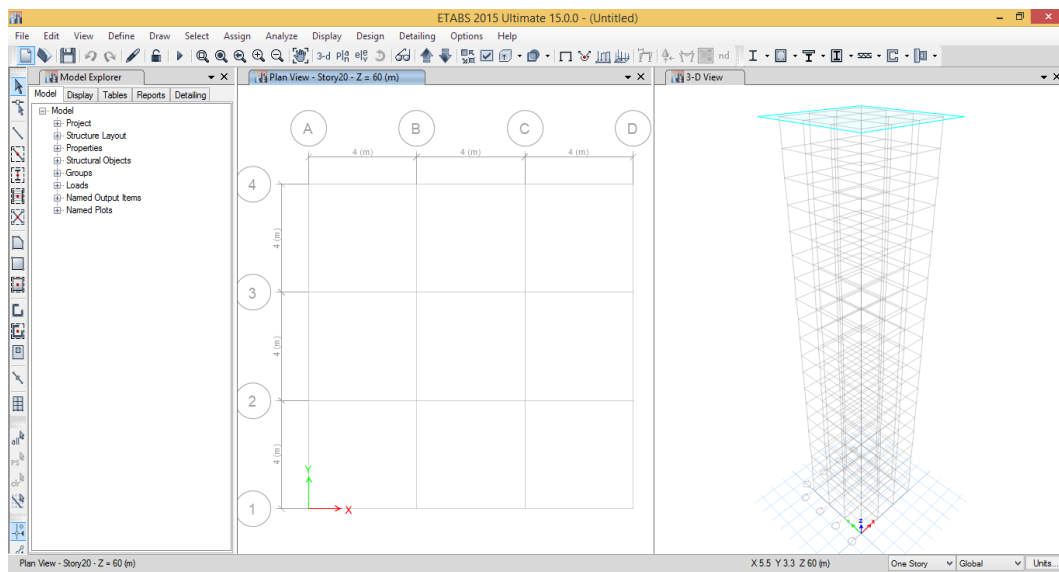
Model initialization



Making model grids

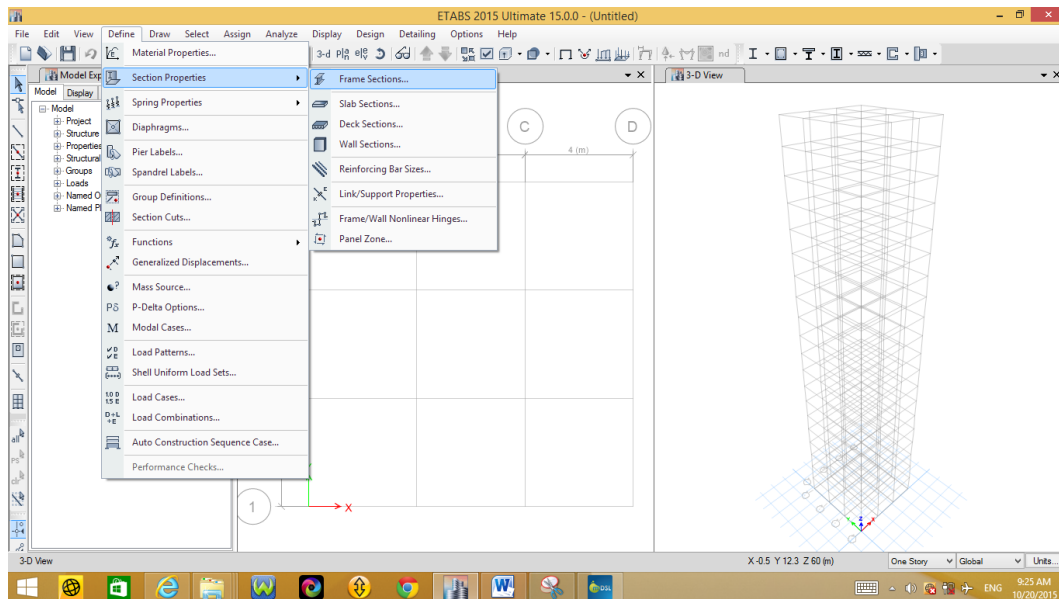


Model grids

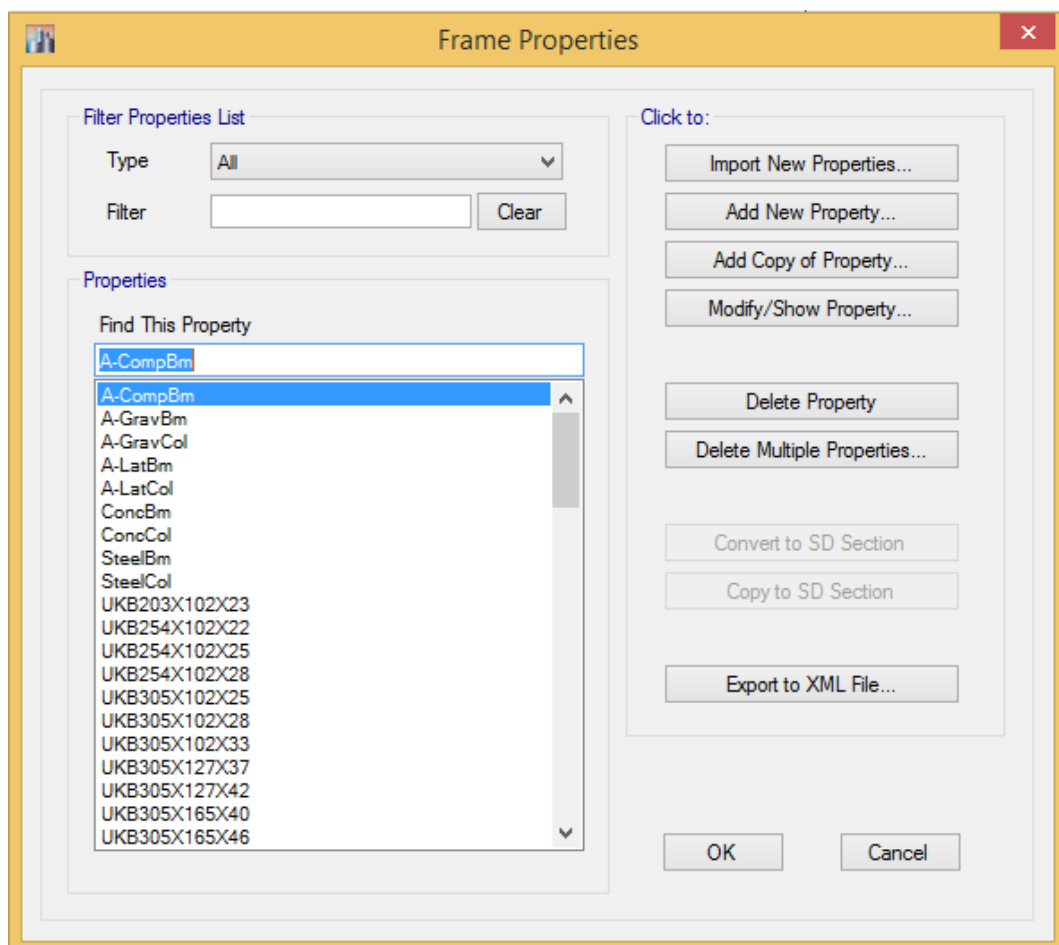


Appendix

Define section properties

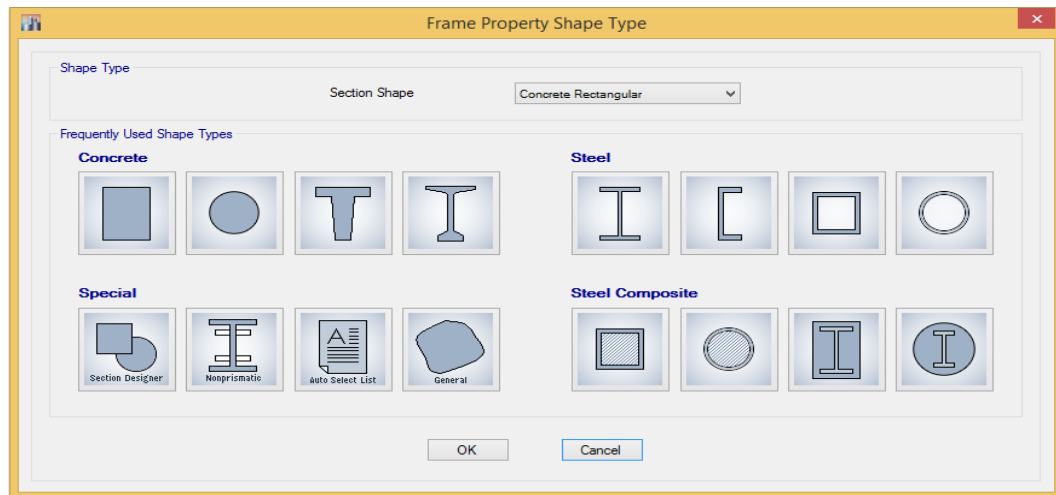


Import new properties

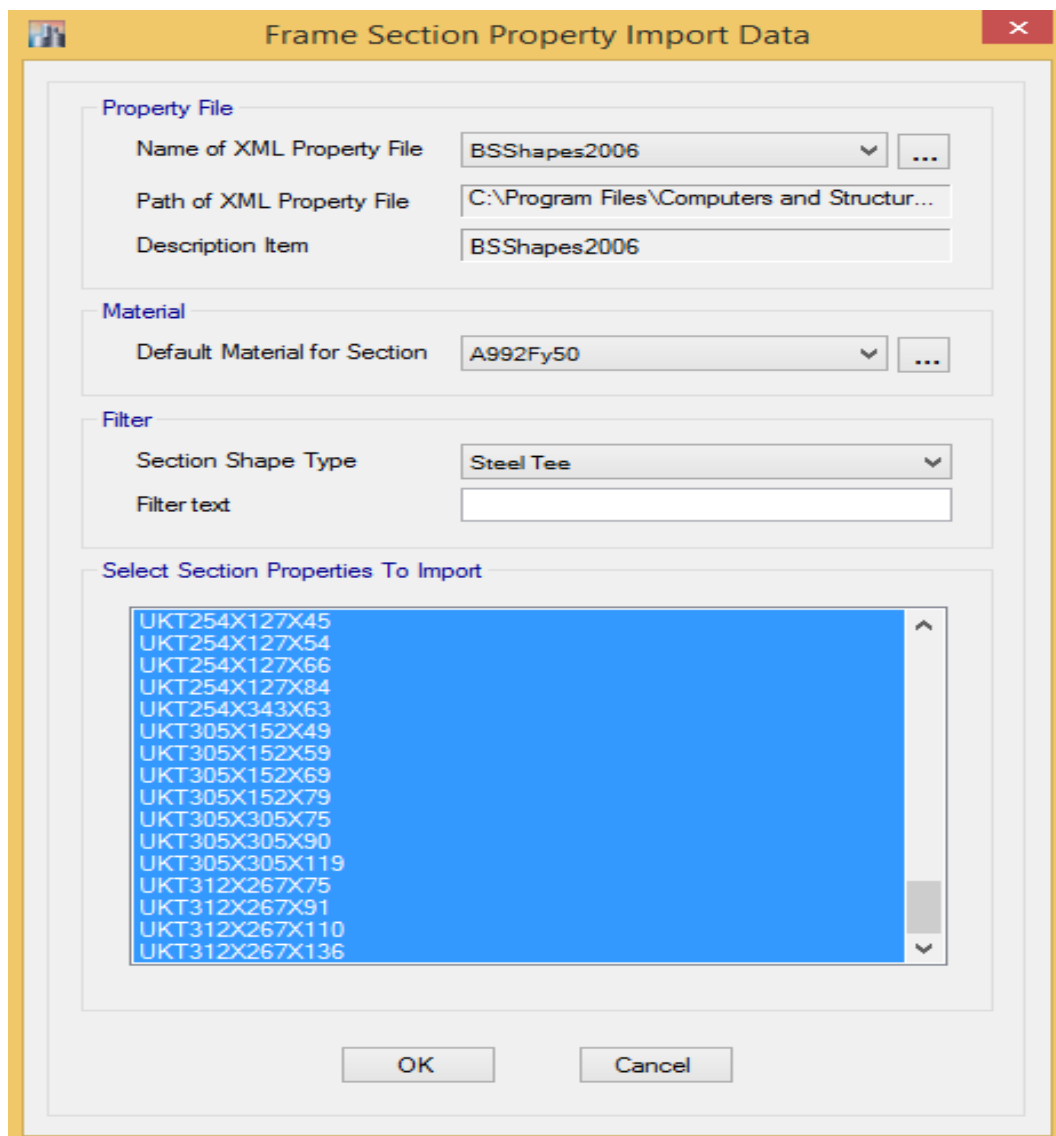


Appendix

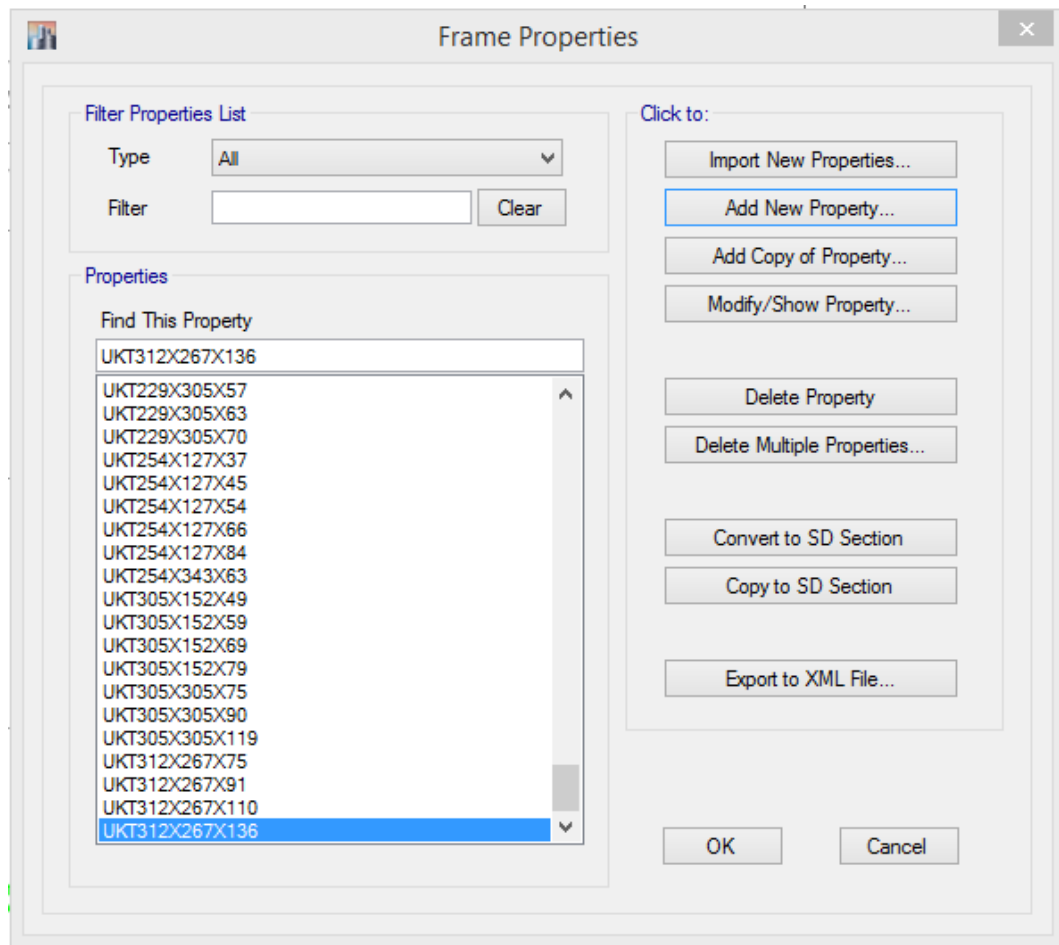
Selection of shape type



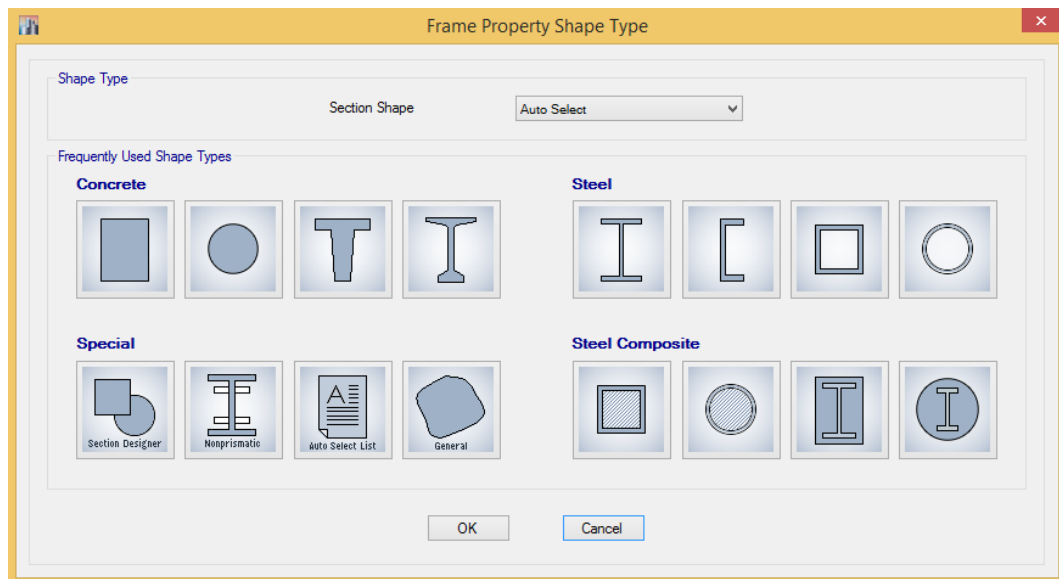
Import data



Add new properties



Frame properties shape types (auto selections)



Data of Frame section properties

General Data

Property Name

T bracings

Auto Select Design Type

Steel

Notes

Modify/Show Notes...

Shape

Section Shape

Auto Select

Section Property Source

Source: User Defined

Choose Sections in Auto Select List

Available Sections

Type

Steel Tee

Filter

Add >>

<< Remove

Show...

Import More...

Auto Select List

UKT229X305X57
UKT229X305X63
UKT229X305X70
UKT254X127X37
UKT254X127X45
UKT254X127X54
UKT254X127X66
UKT254X127X84
UKT254X343X63
UKT305X152X49
UKT305X152X59
UKT305X152X69
UKT305X152X79
UKT305X305X75
UKT305X305X90
UKT305X305X119
UKT312X267X75
UKT312X267X91
UKT312X267X110
UKT312X267X136

Starting Section

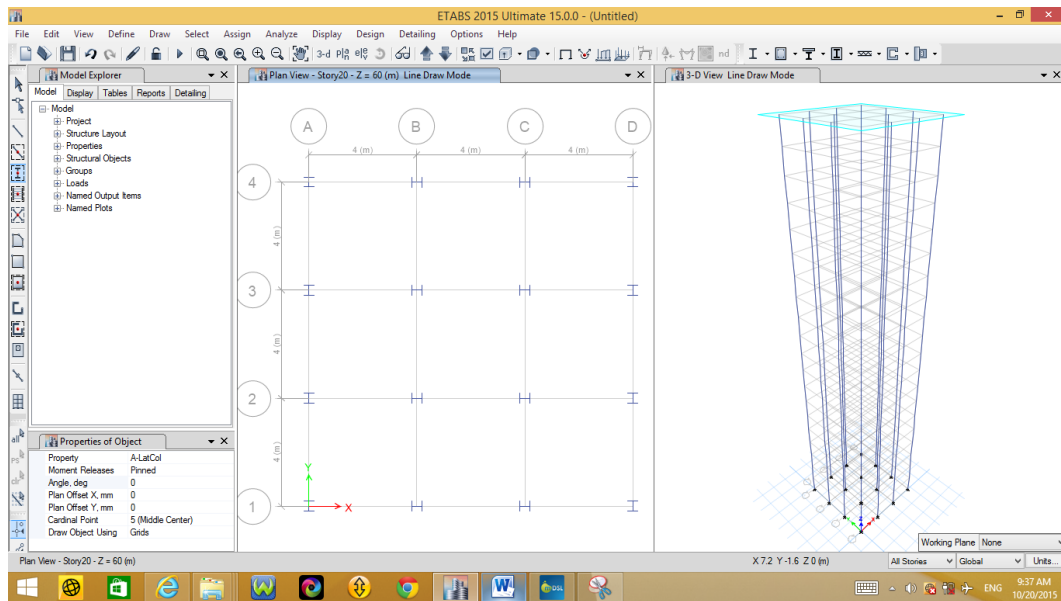
Starting Section in Auto Select List

Median Section by Area

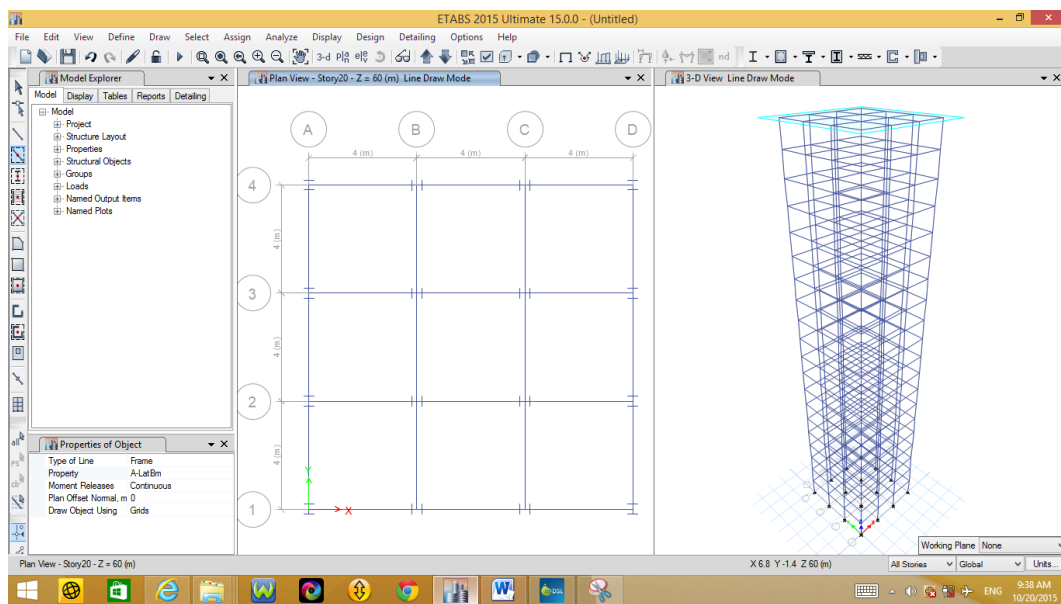
Modify...

Appendix

drawing Columns

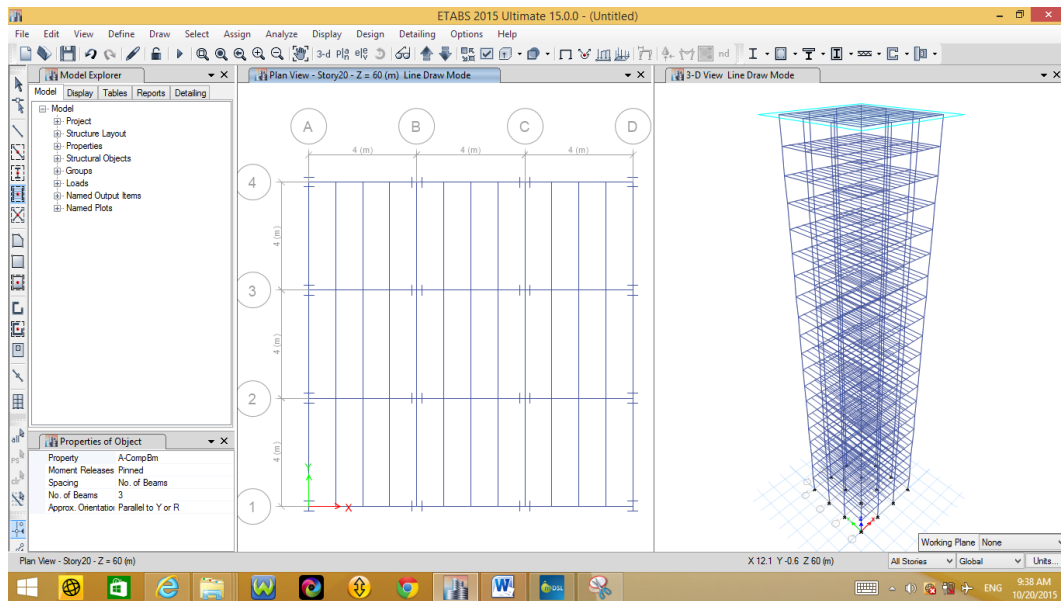


Drawing Beams

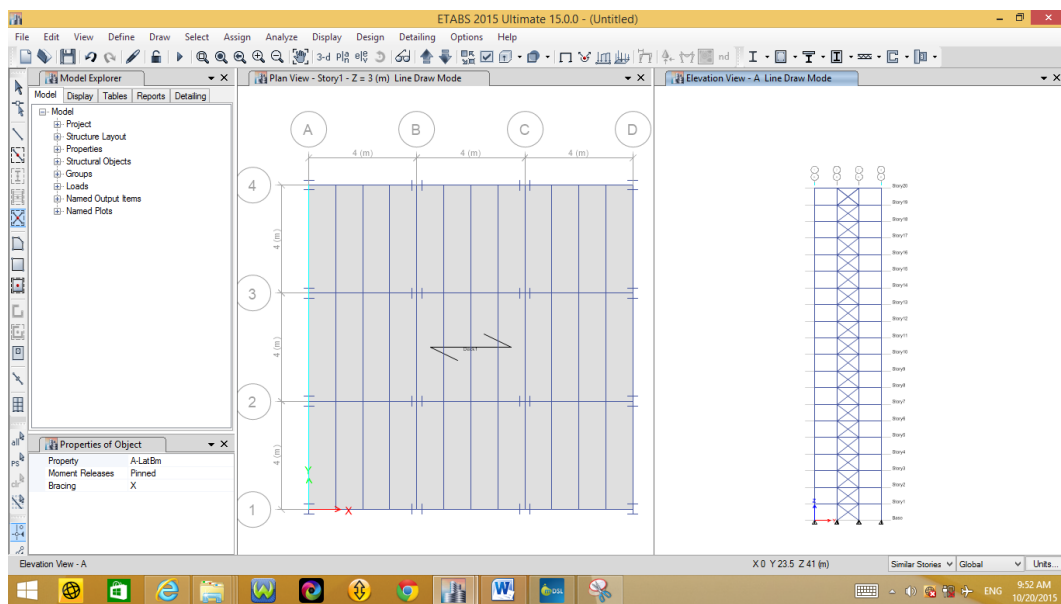


Appendix

drawing composite beams

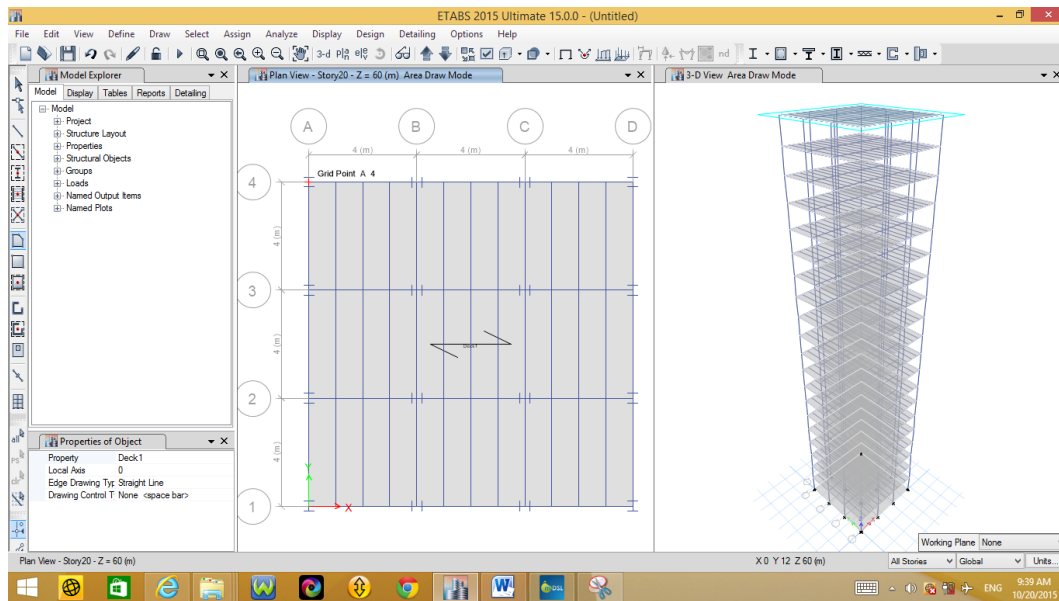


Drawing of bracing

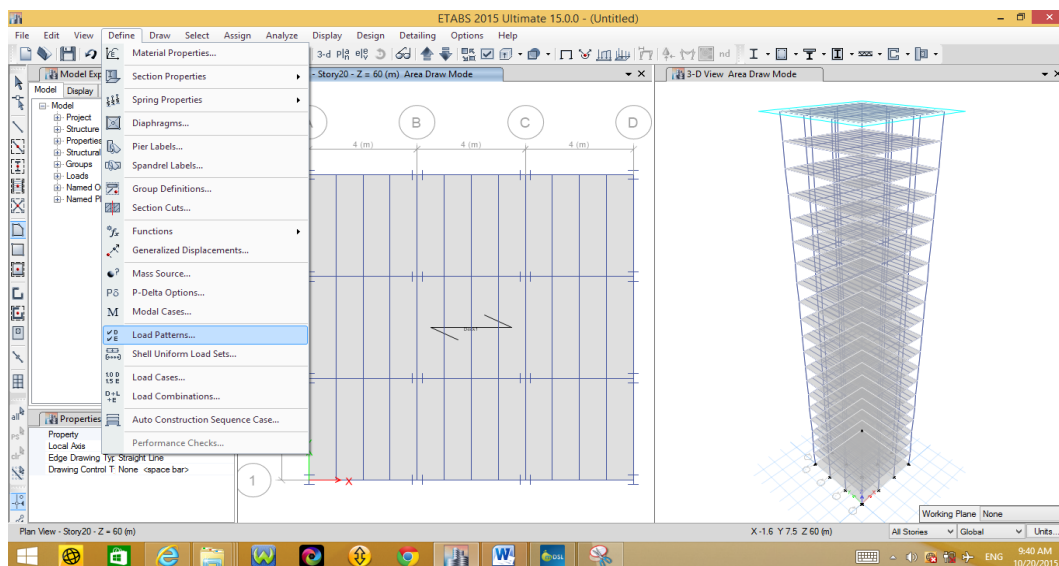


Appendix

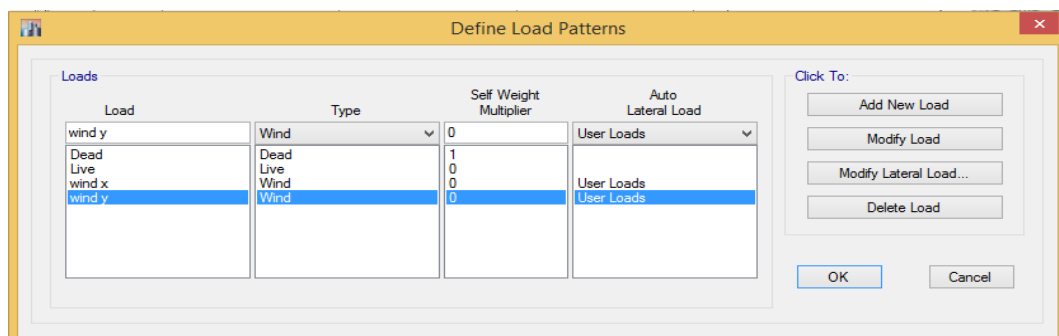
Drawing of decks



load pattern define

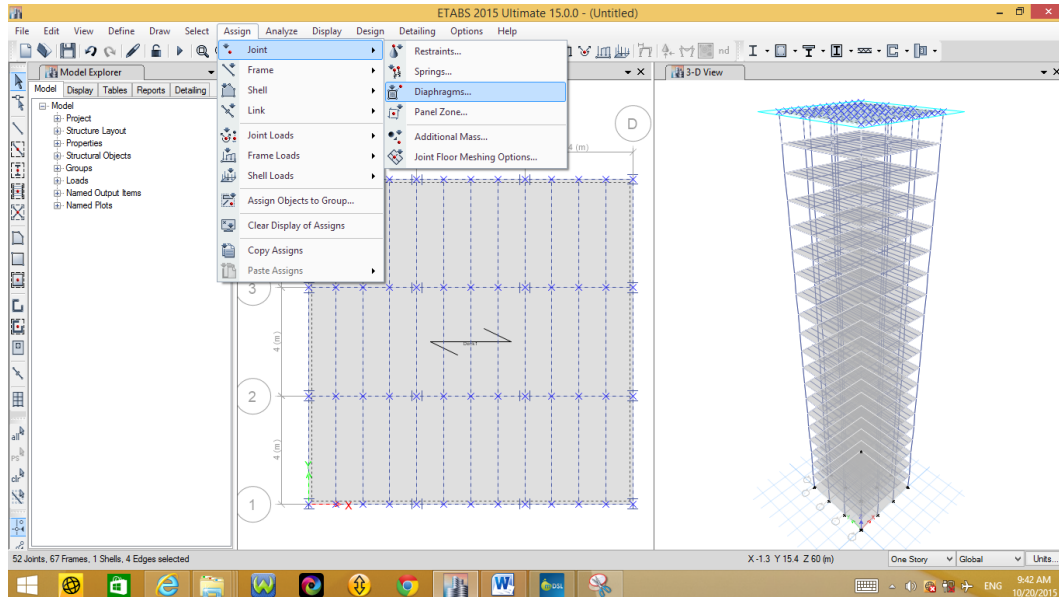


Load pattern

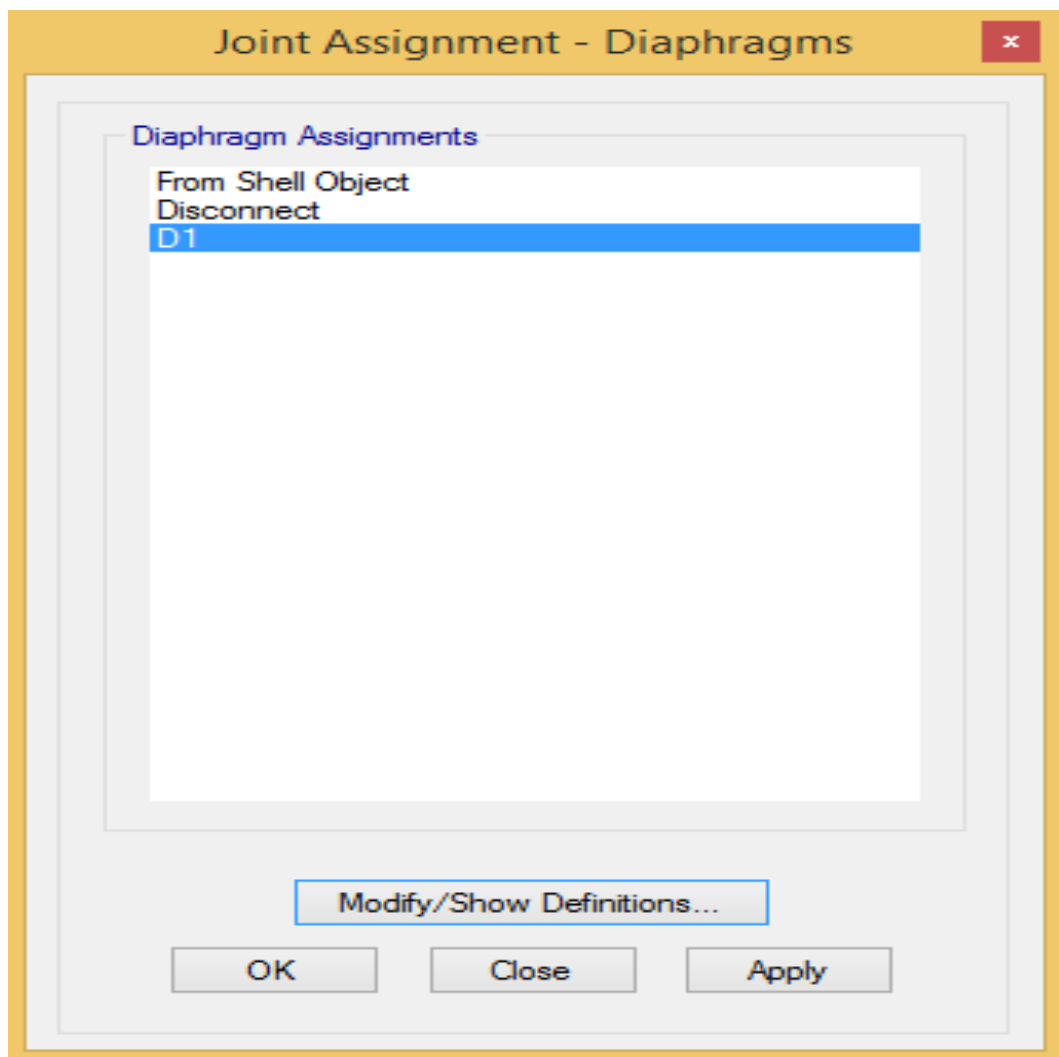


Appendix

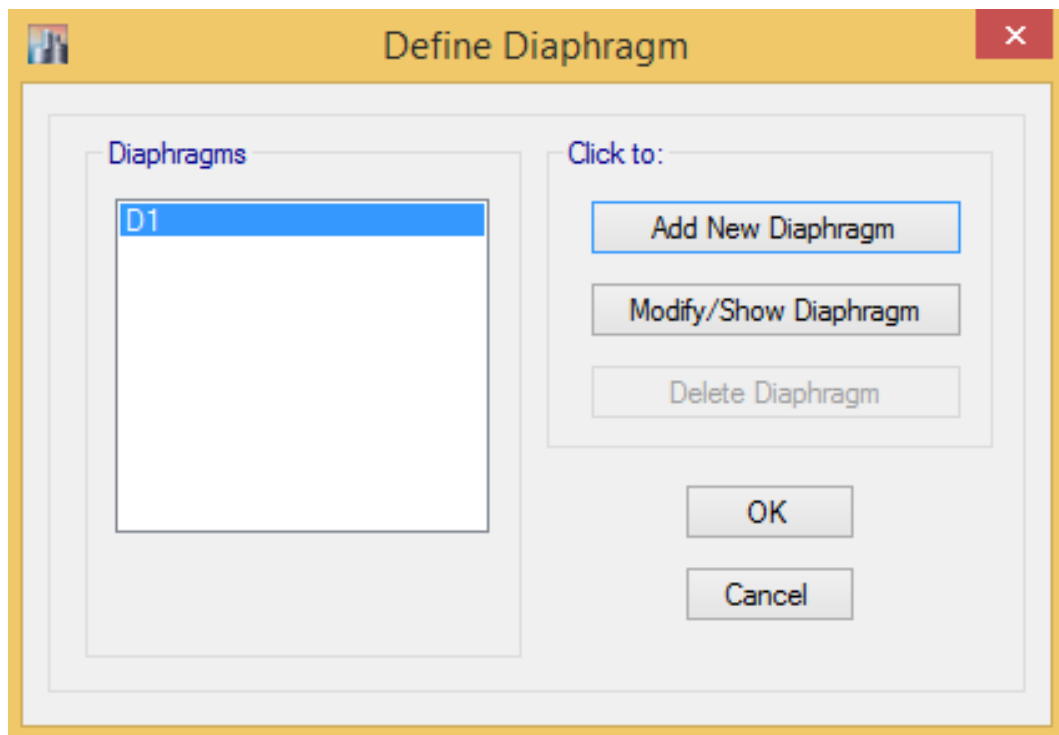
Making diaphragms



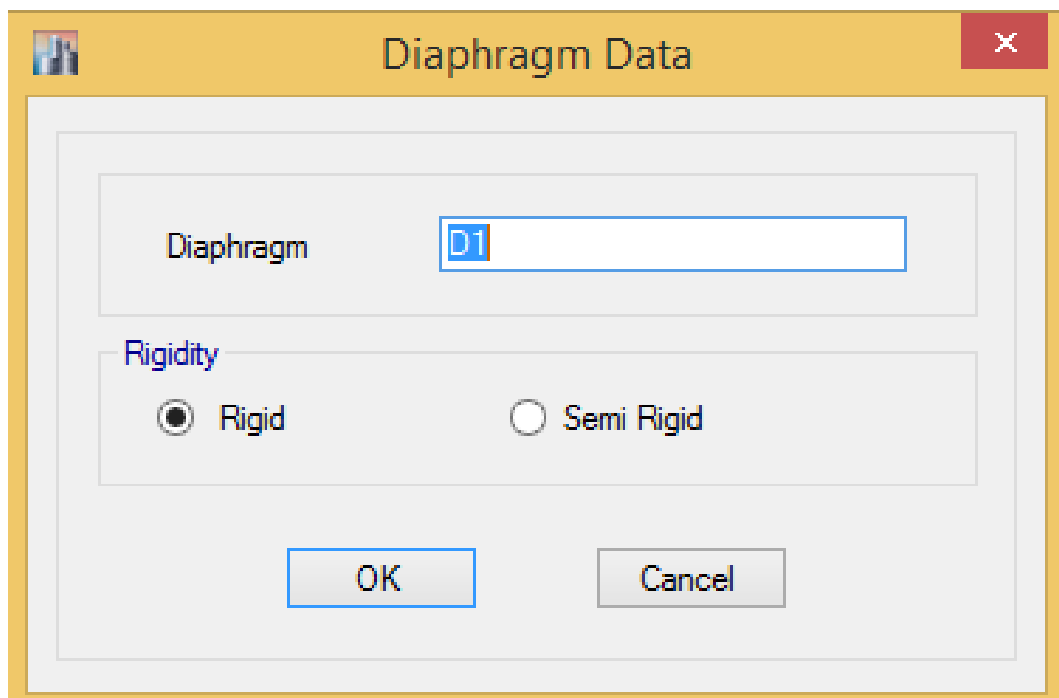
joint diaphragms assignment



Making new diaphragms

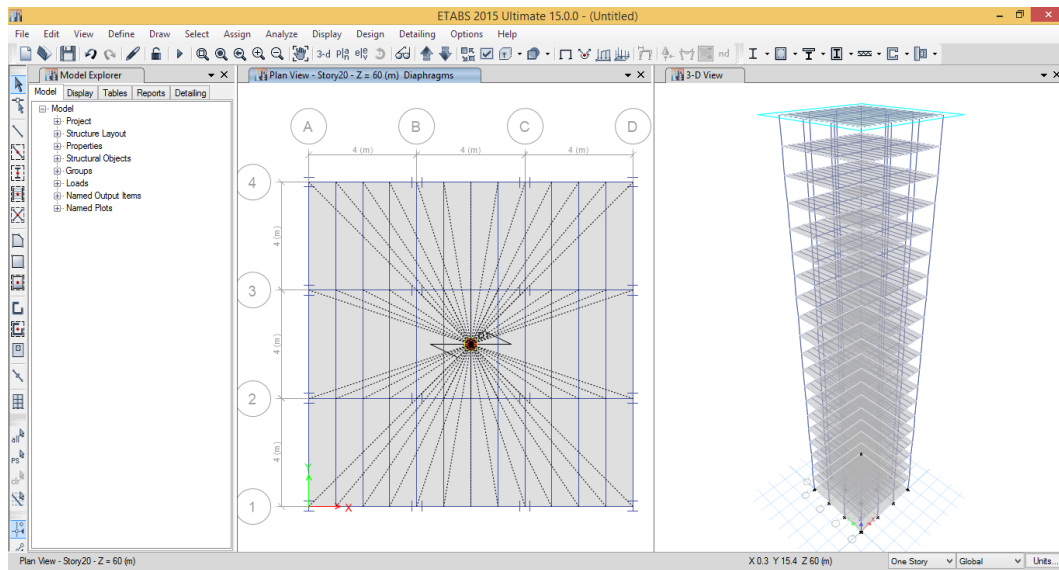


Diaphragm data

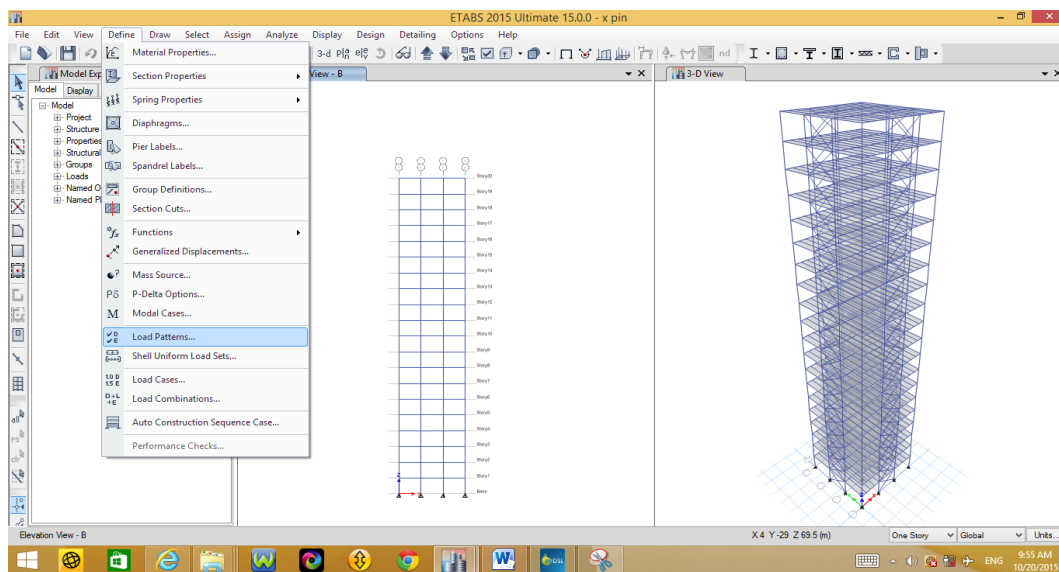


Appendix

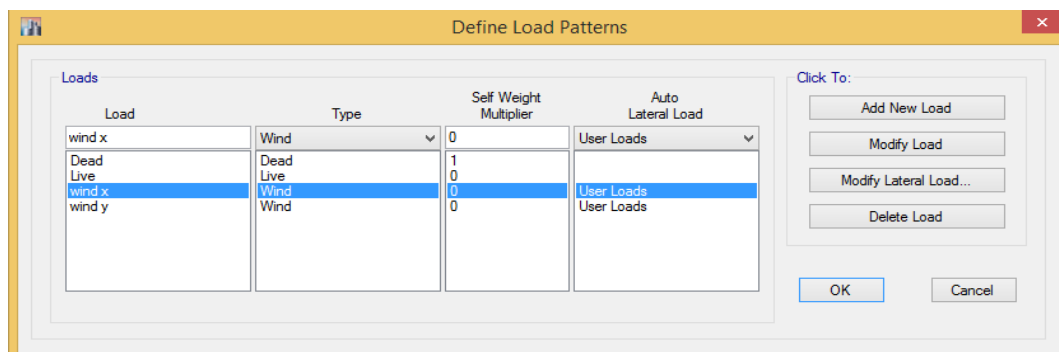
Frame diaphragms



Wind loads assignment



define of wind load



Appendix

User wind loads on diaphragms

User Wind Loads on Diaphragms

Number of Load Sets: 1 ☒ Loads are Reversible for Combos

Load Set 1 of 1

Story	Diaphragm	Fx kN	Fy kN	Mz kN-m	X Ordinate m	Y Ordinate m
Story20	D1	74.4	0	0	6	6
Story19	D2	73.6	0	0	6	6
Story18	D3	72.07	0	0	6	6
Story17	D4	71.04	0	0	6	6
Story16	D5	69.65	0	0	6	6
Story15	D6	68.1	0	0	6	6
Story14	D7	66.45	0	0	6	6
Story13	D8	64.82	0	0	6	6
Story12	D9	63.46	0	0	6	6
Story11	D10	61.66	0	0	6	6
Story10	D11	60.75	0	0	6	6
Story9	D12	58.35	0	0	6	6
Story8	D13	56.51	0	0	6	6
Story7	D14	54.81	0	0	6	6
Story6	D15	52.55	0	0	6	6
Story5	D16	50.12	0	0	6	6

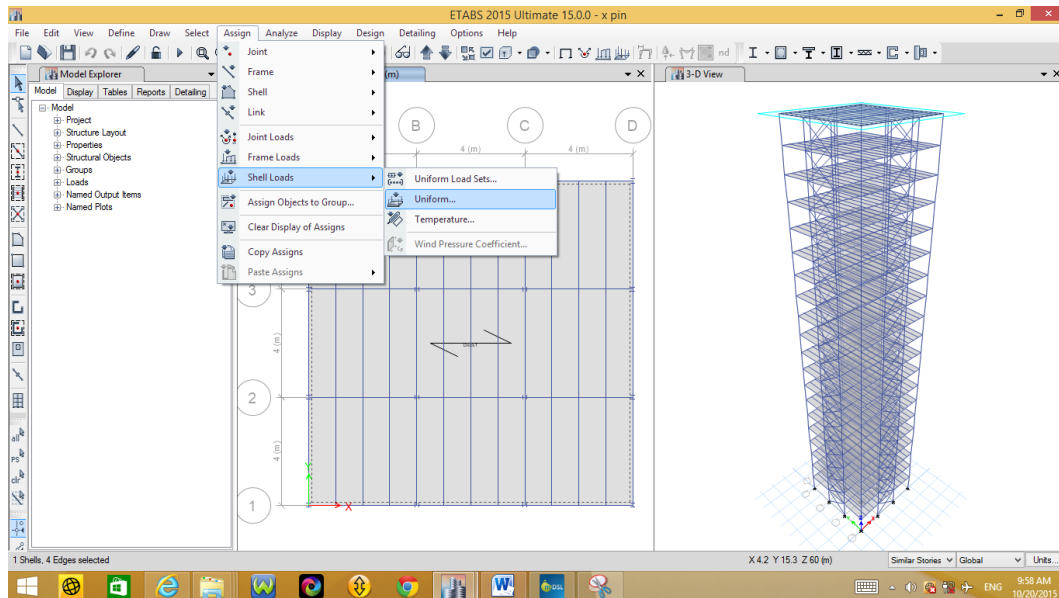
1

Sort Rows

Add Row Delete Row(s)

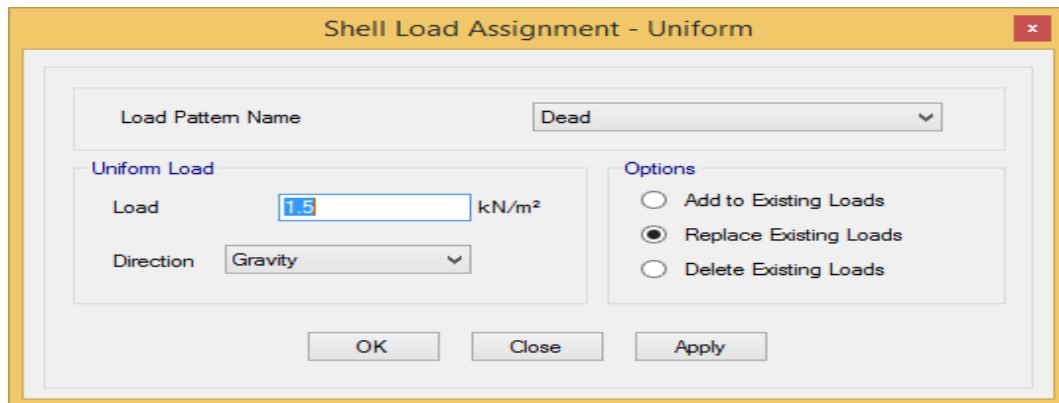
OK Cancel

shell loads assignment

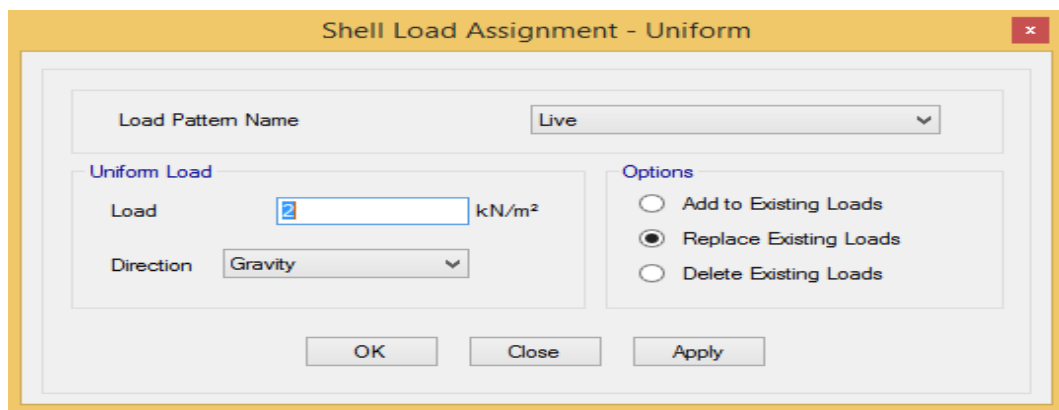


Appendix

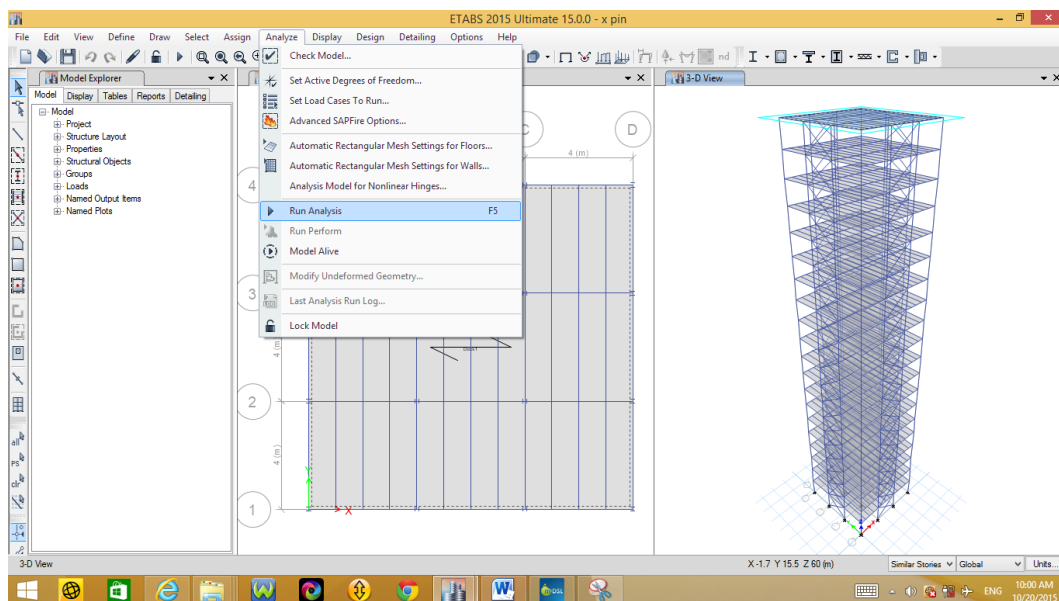
dead loads assignment



live loads assignment

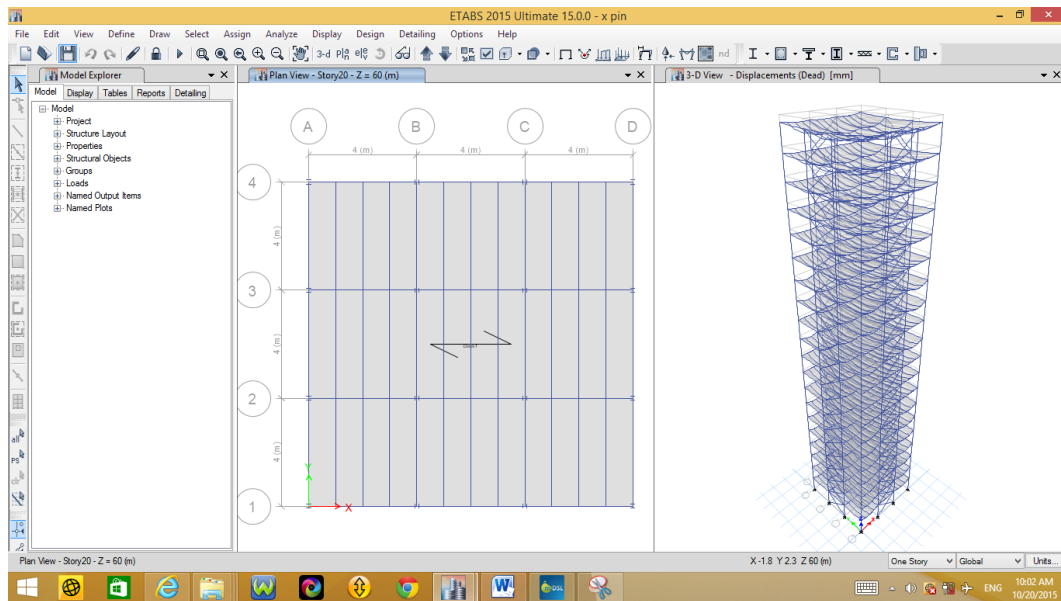


Run analysis

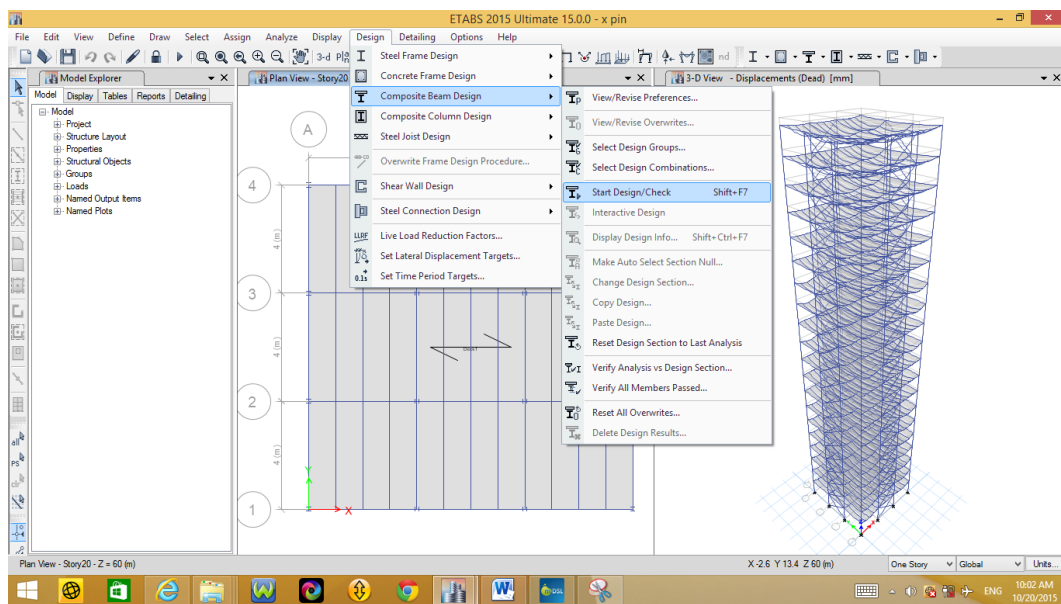


Appendix

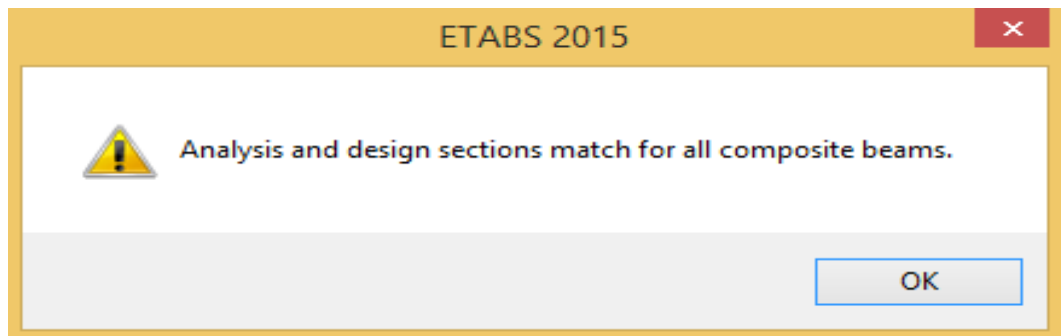
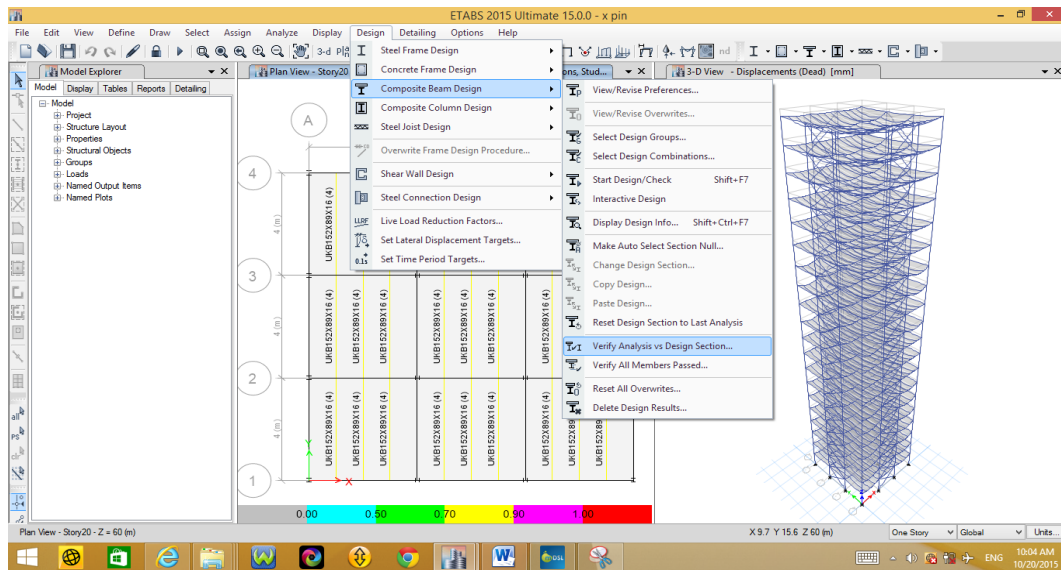
Deformed shape



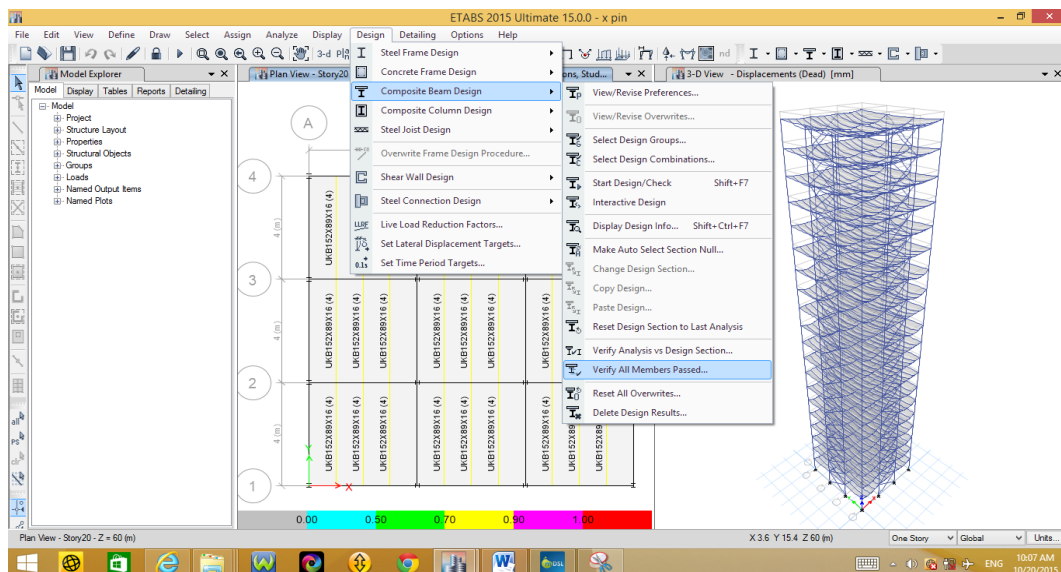
composite beams design



Verify analysis vs design

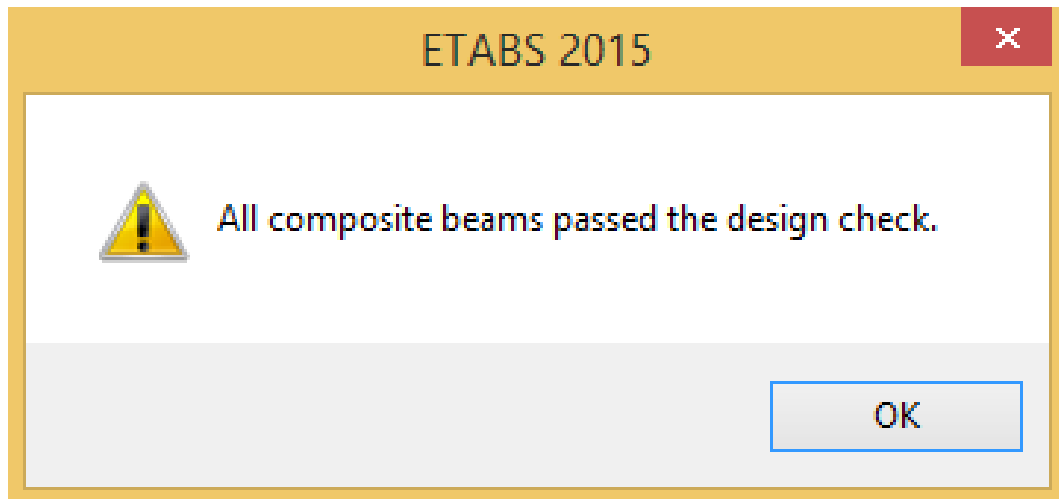


Verify all members passed capacity check

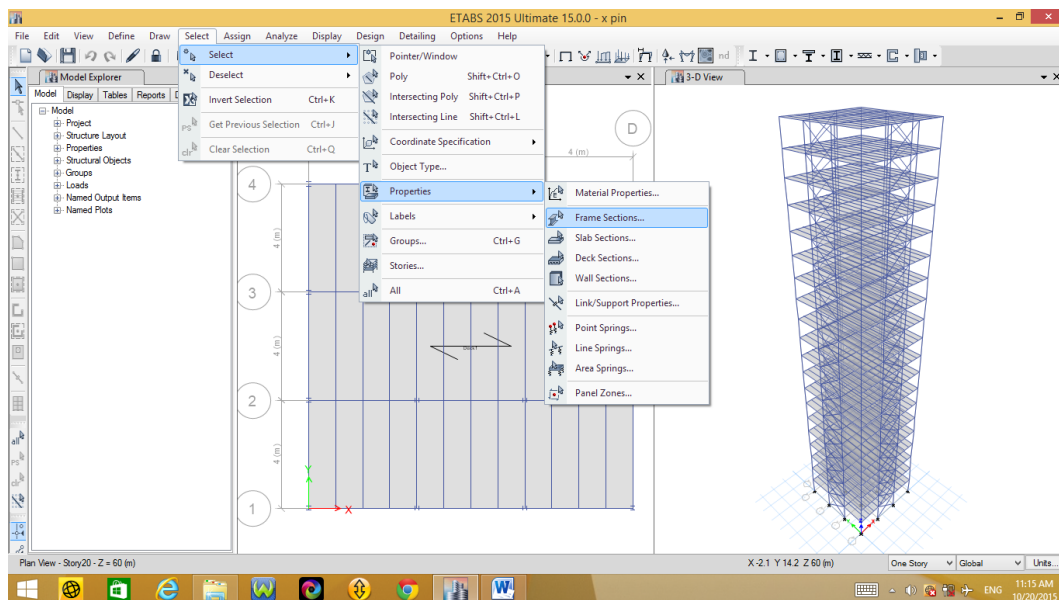


Appendix

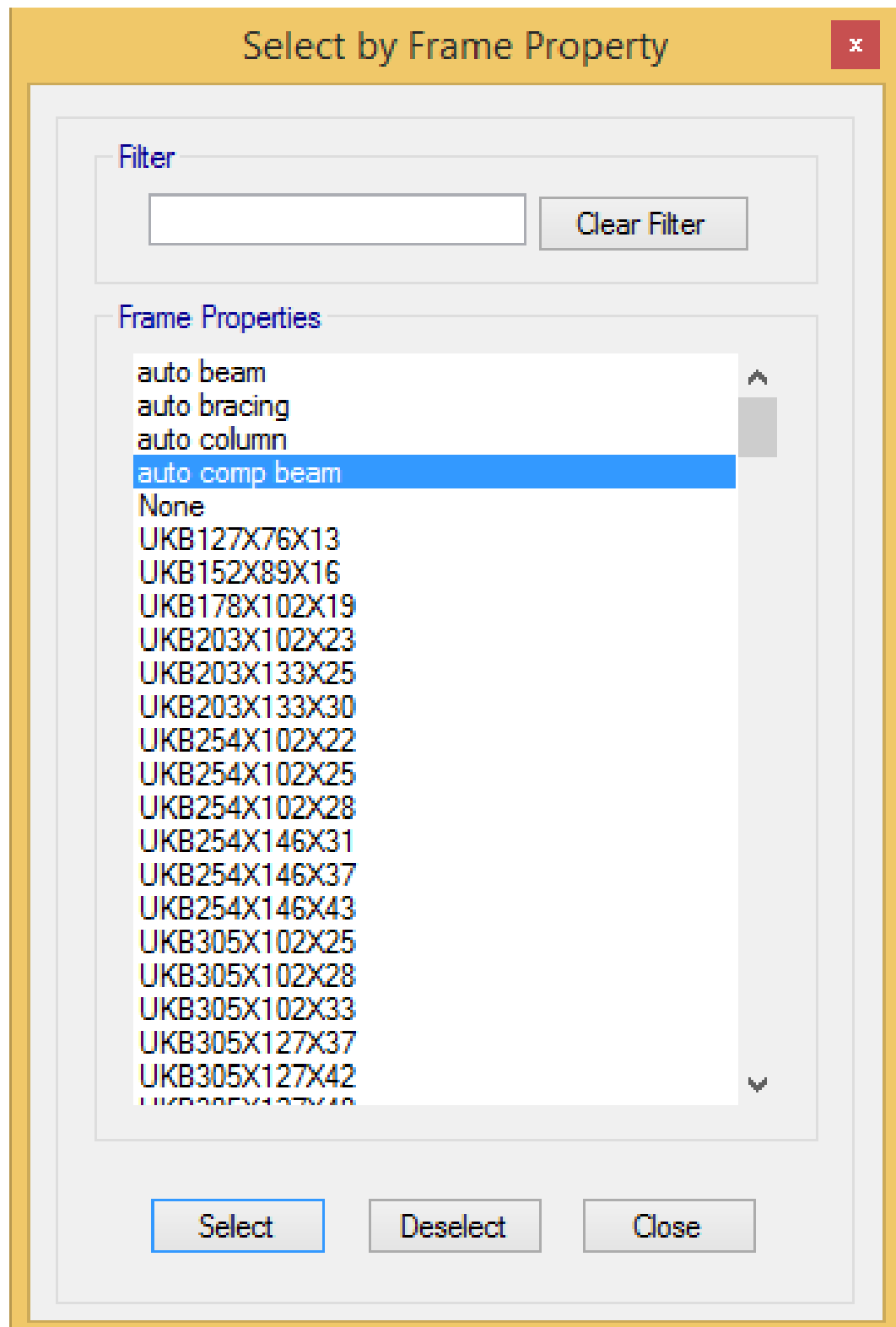
Message of satisfying the check



Selection of frame sections

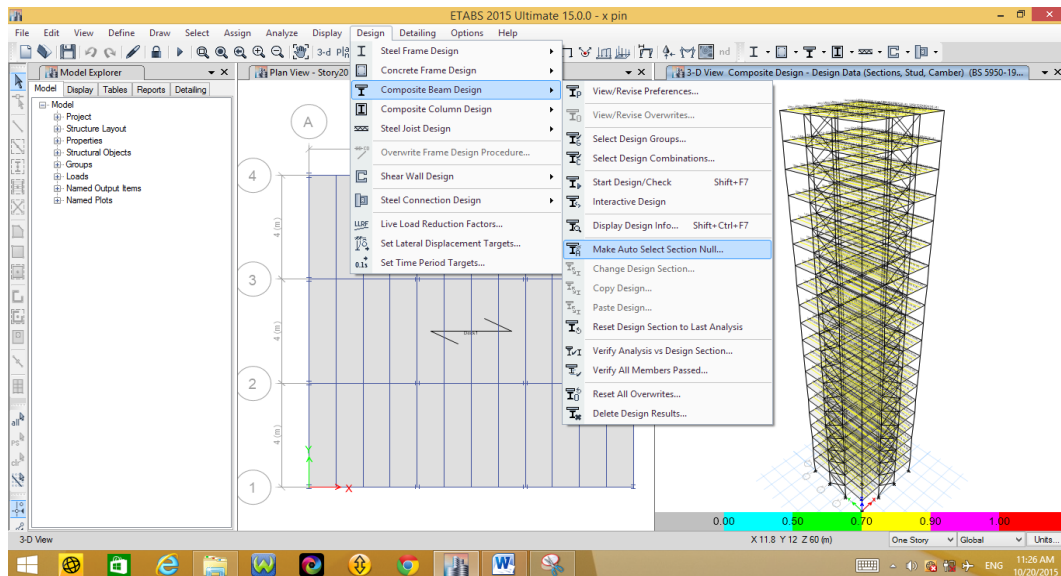


Selection of auto composite beams

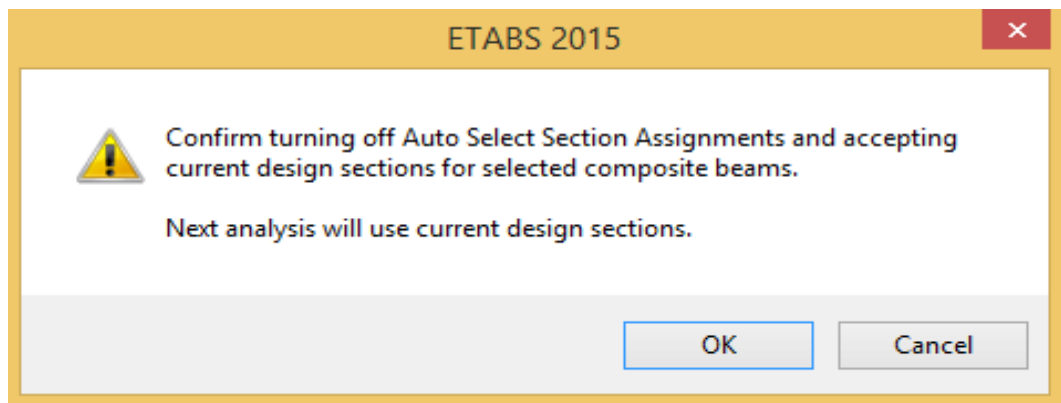


Appendix

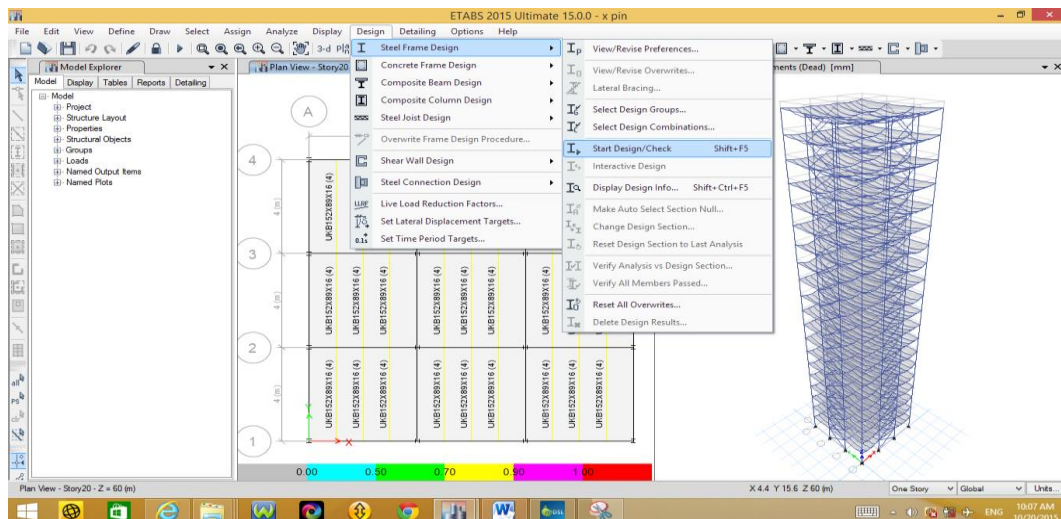
Make auto select sections null



Message of agreement

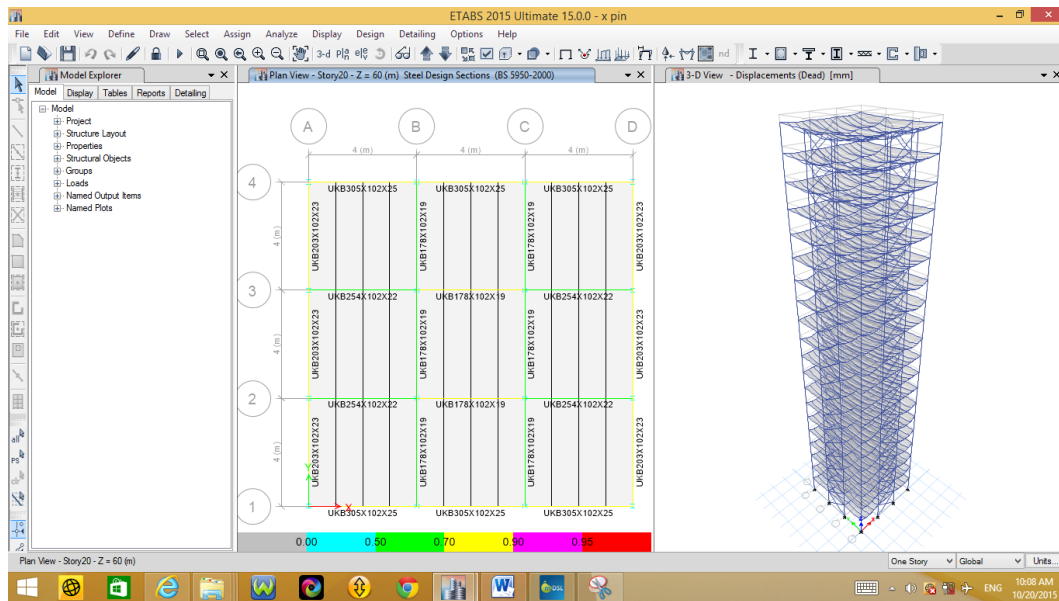


Design of frame members

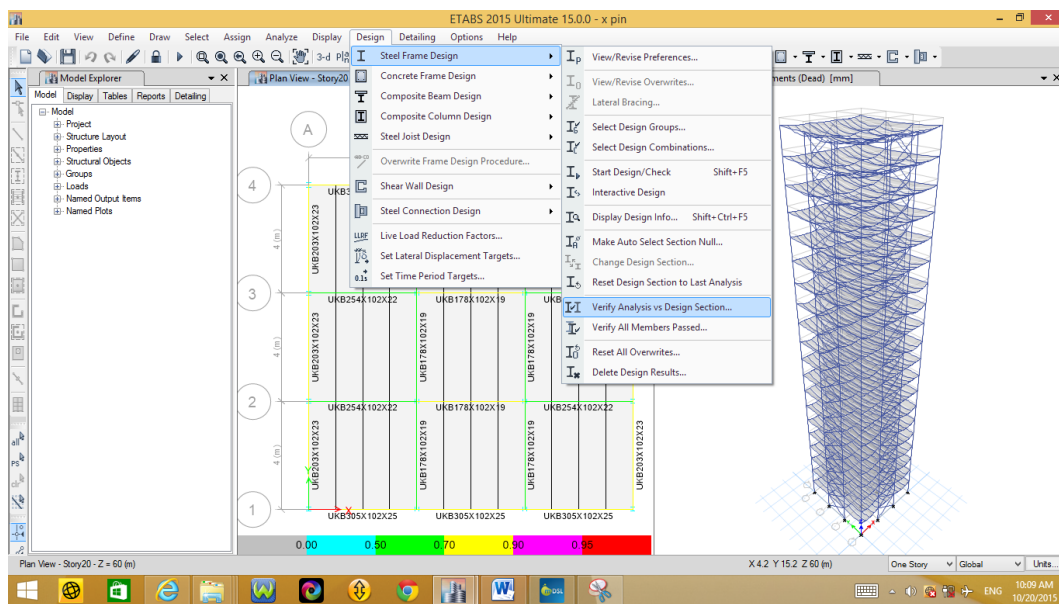


Appendix

Deformed shape

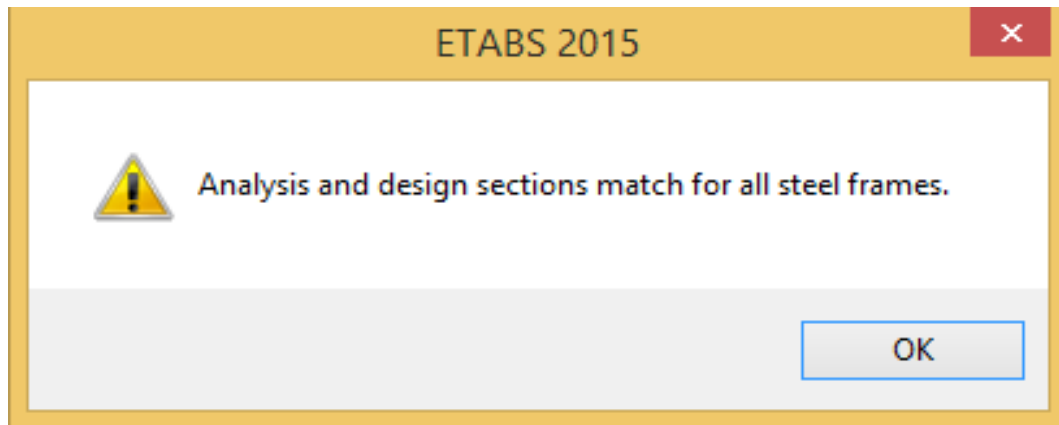


Verify analysis vs design

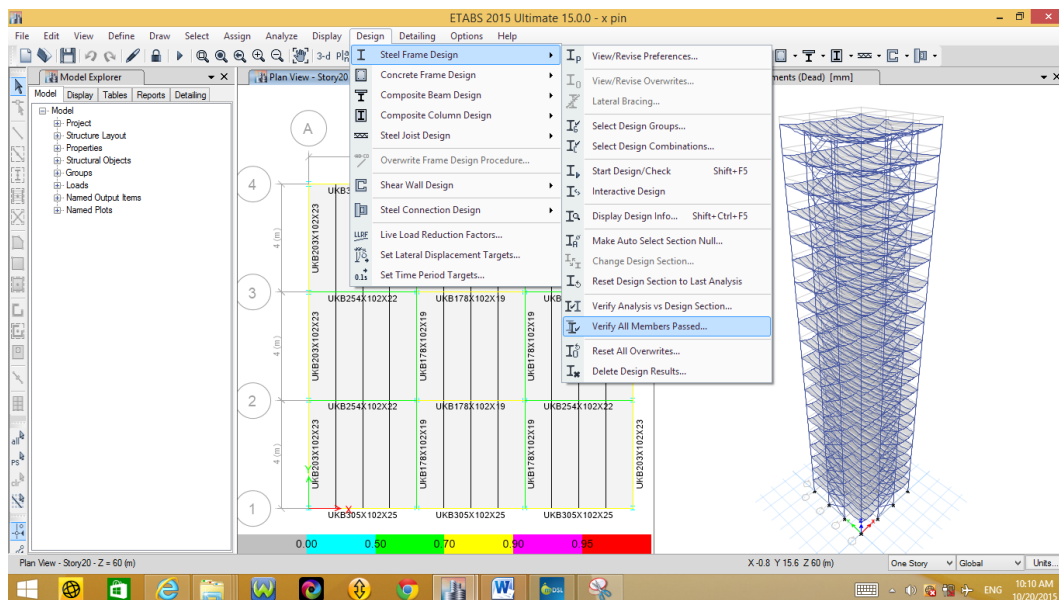


Appendix

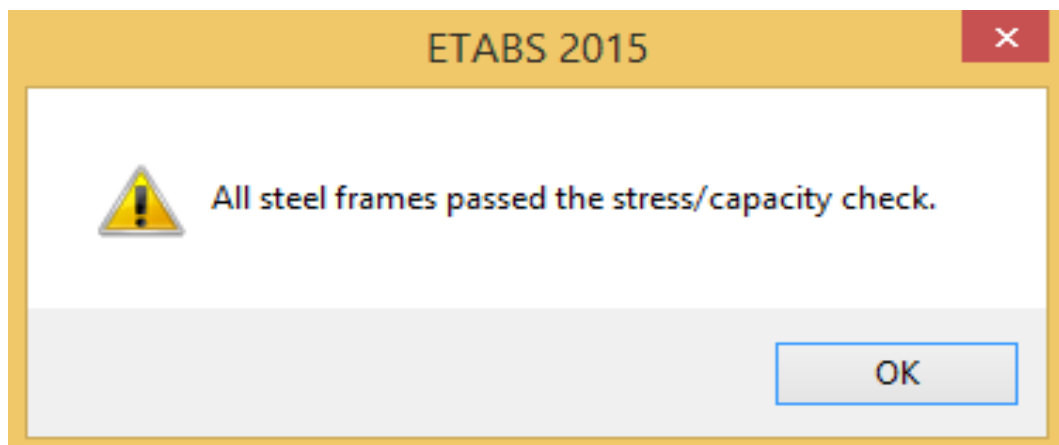
Message of satisfying the check



Verifying of capacity

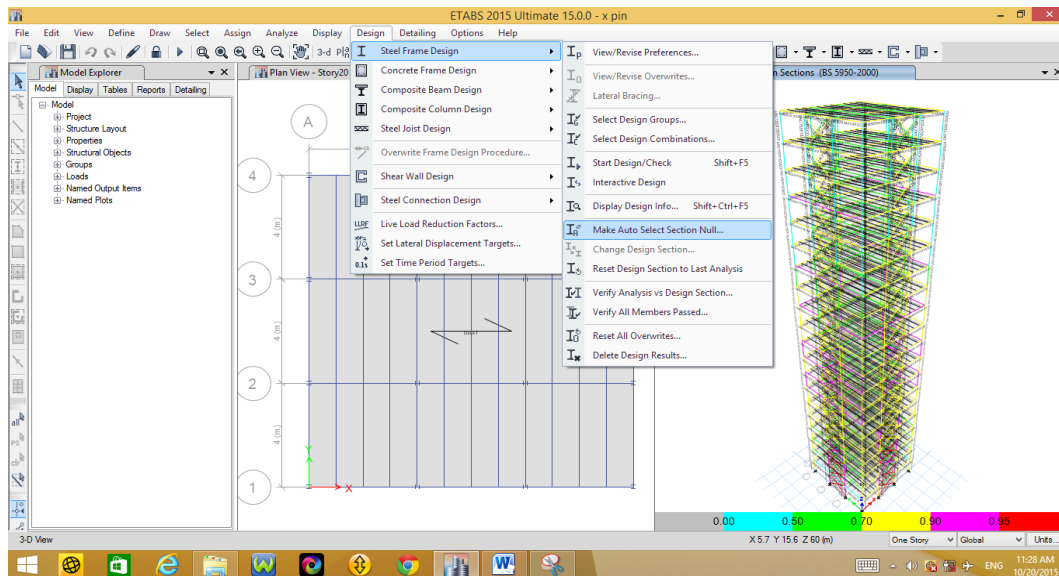


Message of satisfying the check

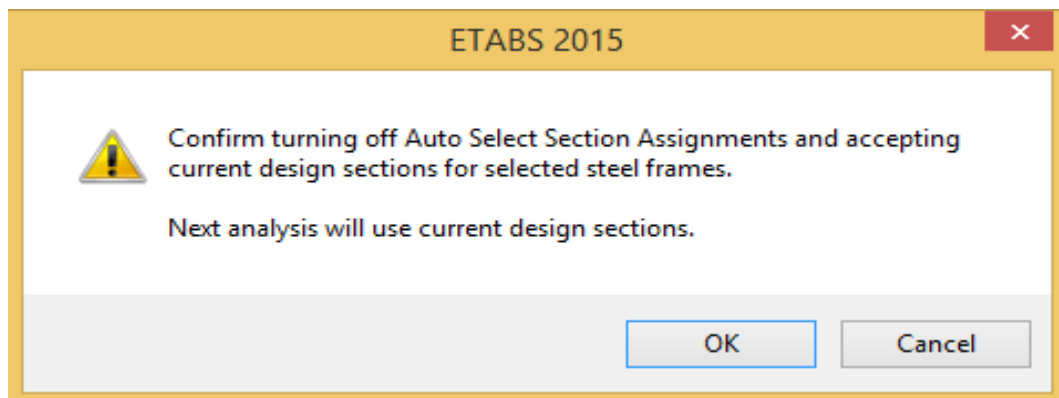


Appendix

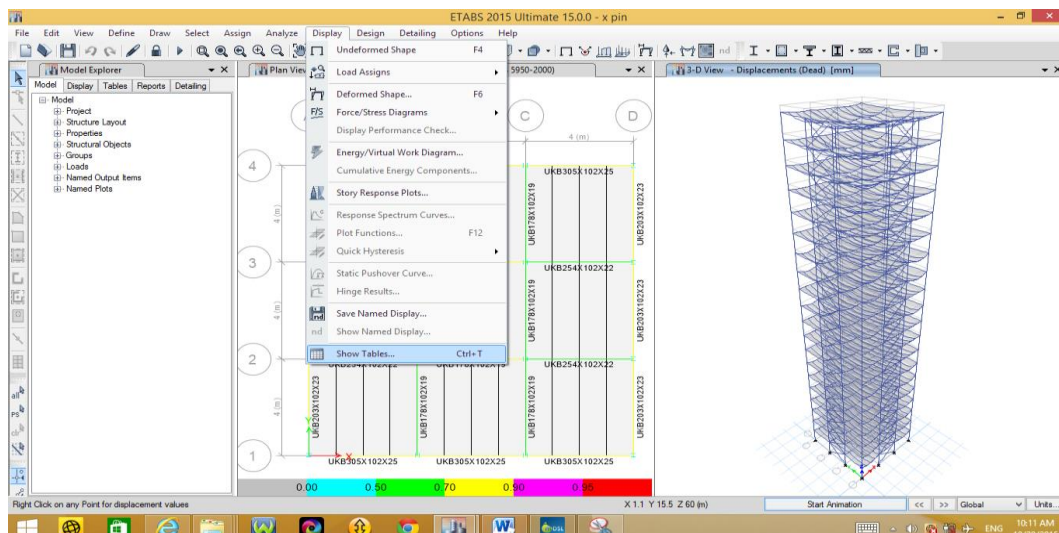
Make auto select sections null for frame sections



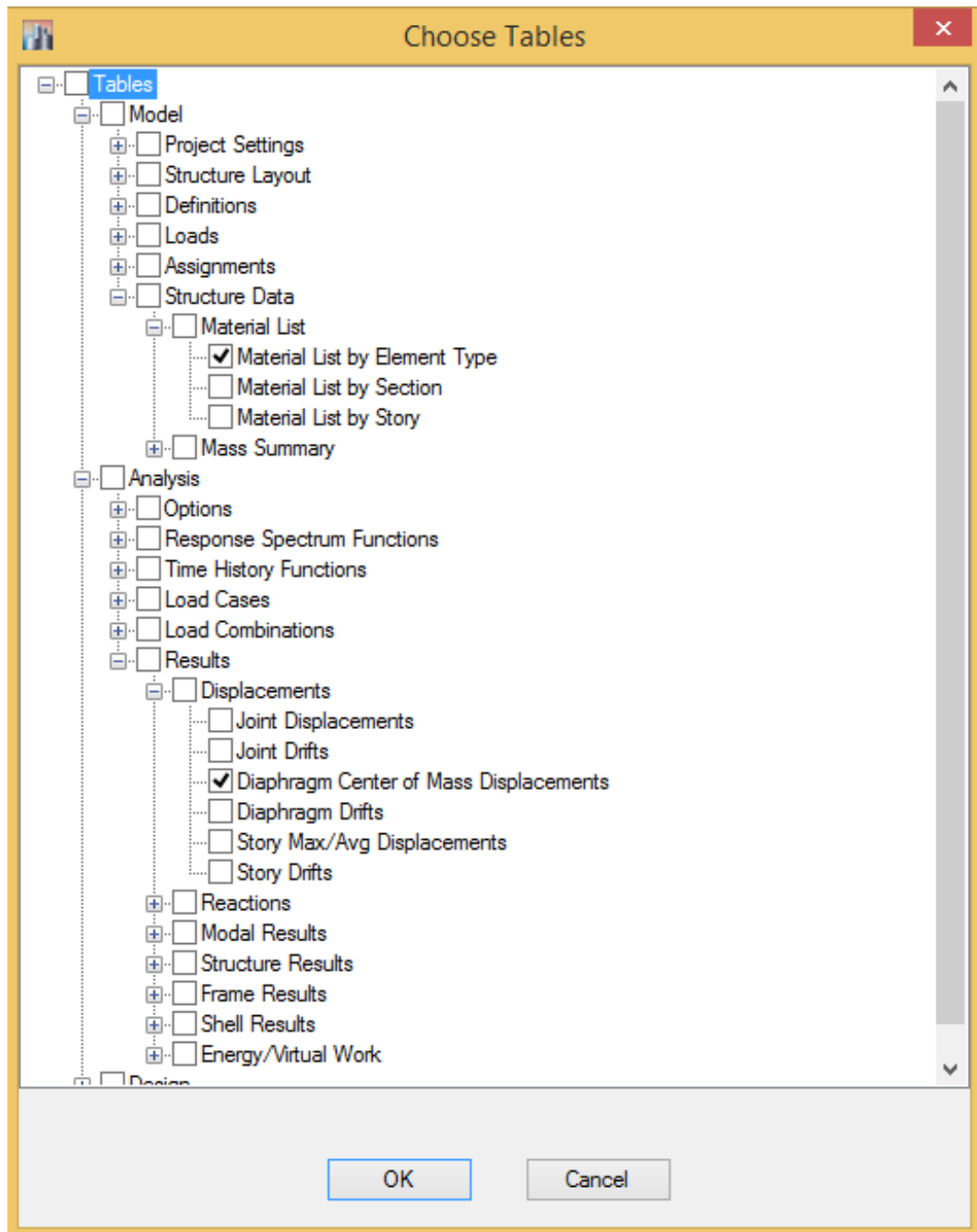
Message of agreement



Show the tables of results

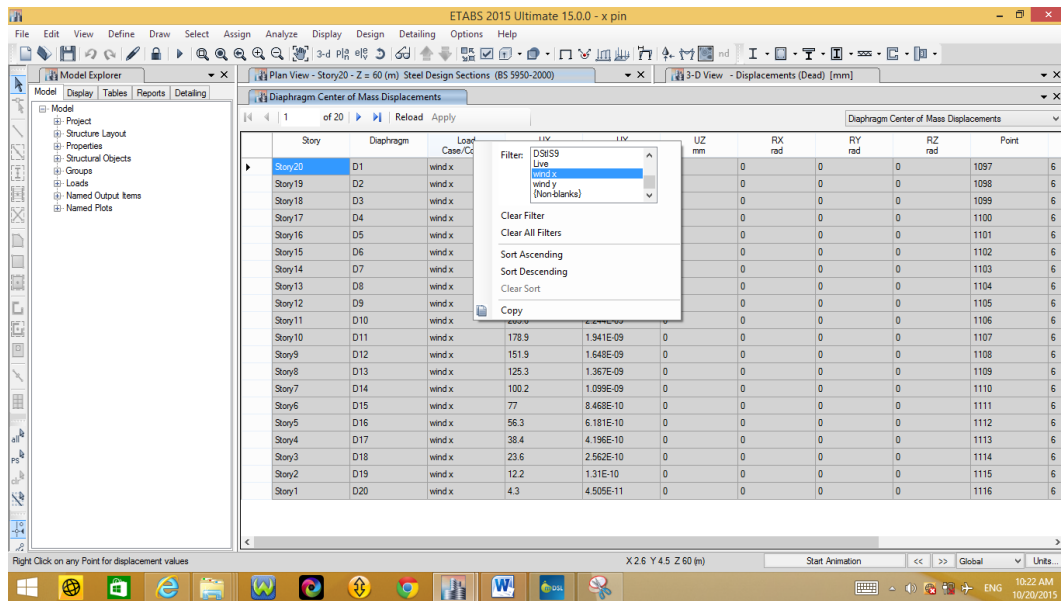


Showing the required results in tables

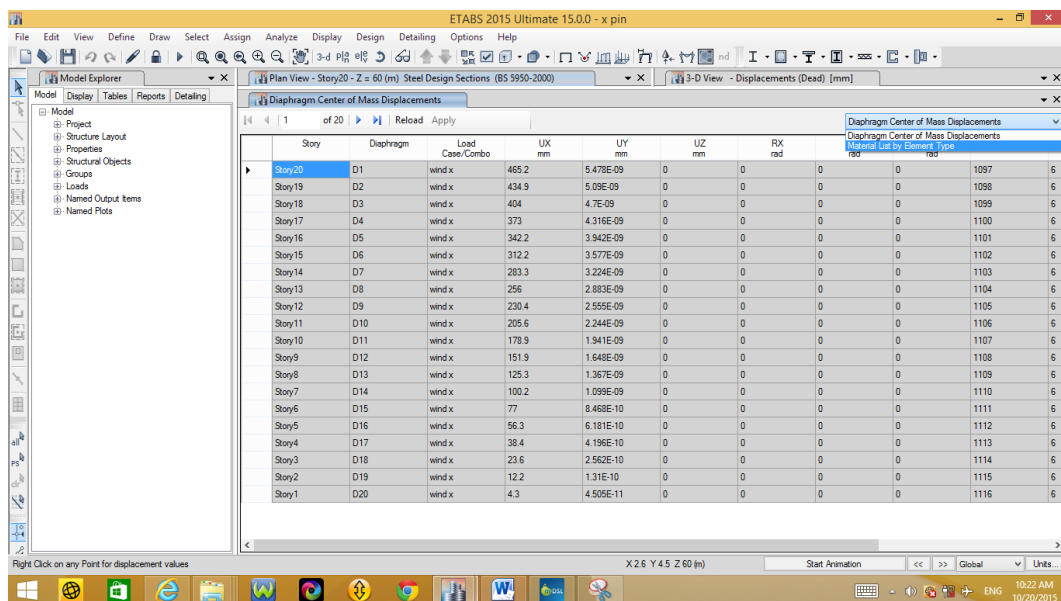


Appendix

required results selection



Displacement results



Appendix

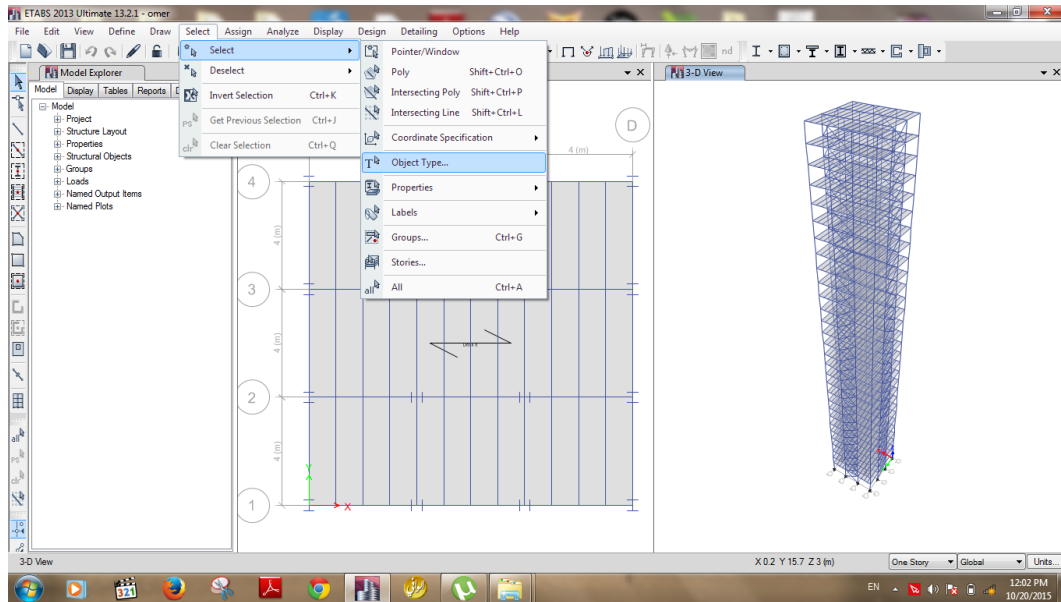
Weights results

Element Type	Material	Total Weight kN	# Pieces	# Studs
Column	A992Fy50	443.5669	320	
Beam	A992Fy50	901.7034	1020	2160
Brace	A992Fy50	237.138	160	
Floor	4000Psi	8482.7238		
Metal Deck	N.A.	317.1589		

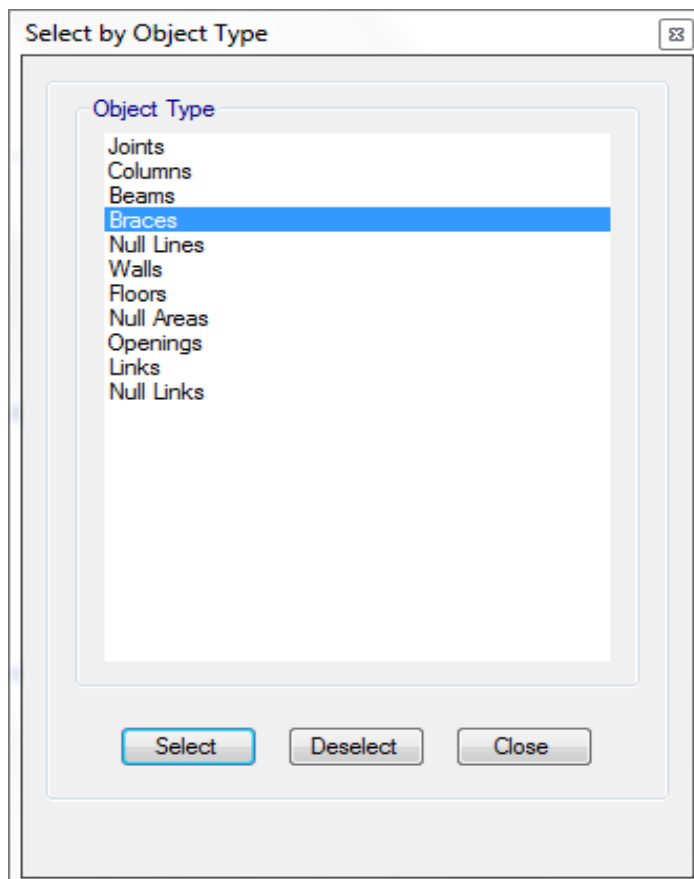
In comparison :

Redrawing the braced frames:

Selection of the frame members

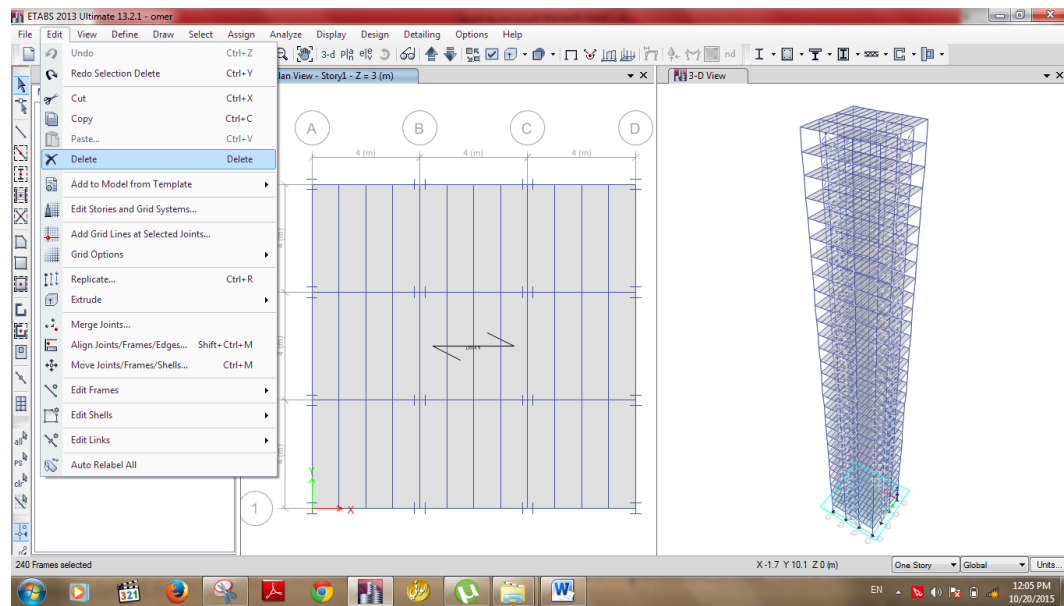


Selection of bracing



Appendix

Elimination of the bracing



Drawing of the new bracing types

