

BUILDING A NEW TOMORROW



**BUILDING COMPONENT
MANUFACTURERS CONFERENCE**

OCTOBER 16-18, 2002
COLUMBUS, OHIO

BUILDING A NEW TOMORROW

Design To Increase Profit

Presented By
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Scope of Discussion

- Expected Output times for Design Personnel
- Optimization
- Design Quality Control



BUILDING A NEW TOMORROW

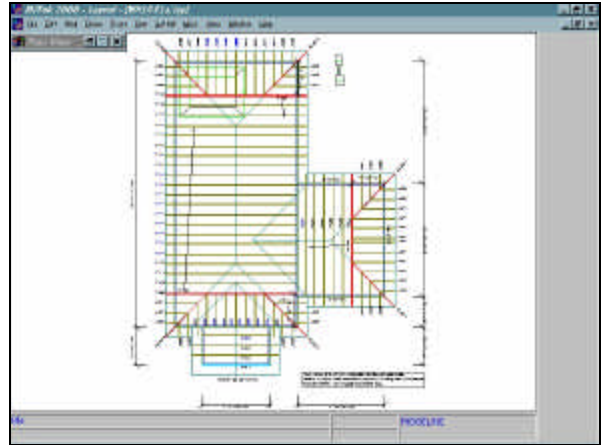
Output Times



- Track homes
- Second time home buyers
- Custom

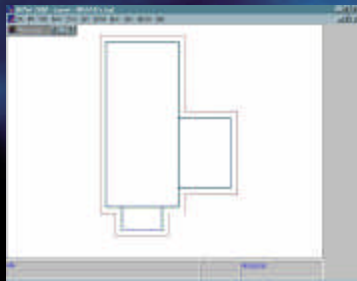
Track Homes

- First time home buyer
- \$100,000 - \$200,000
- 1400sq. Ft. - 2000sq. Ft. - Living



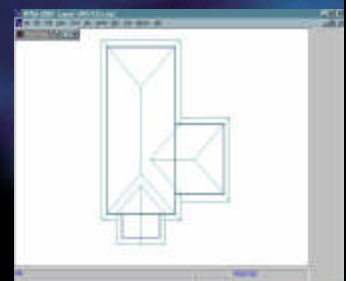
Wall input Time

- 8', 9', and 10' plate heights
- 5 minutes to input and adjust heights



Solving Planes

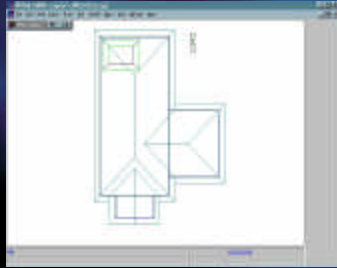
- Hip Roof on main body
- Gable at entry
- 30 seconds to input and solve





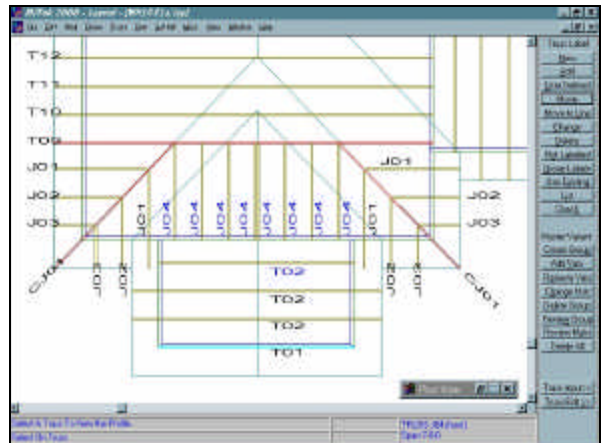
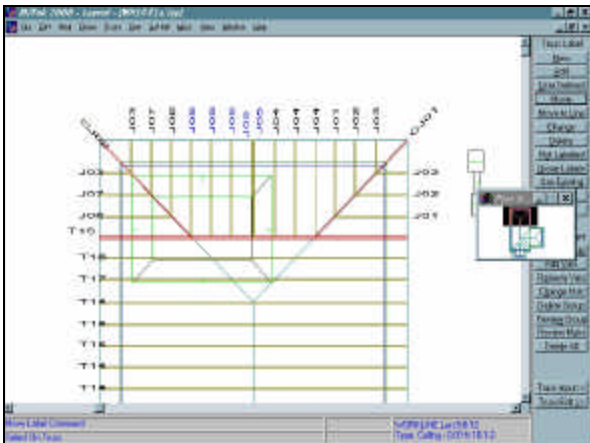
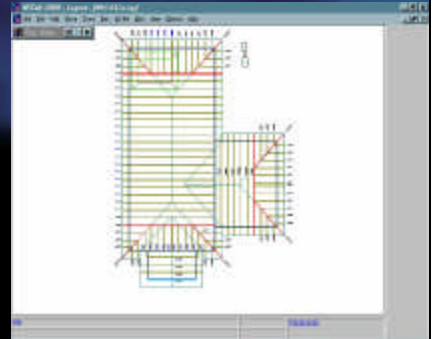
Ceiling Conditions

- 3 minutes
- 9' main body
- Tray ceiling in master bedroom
- 10' entry
- 8' garage

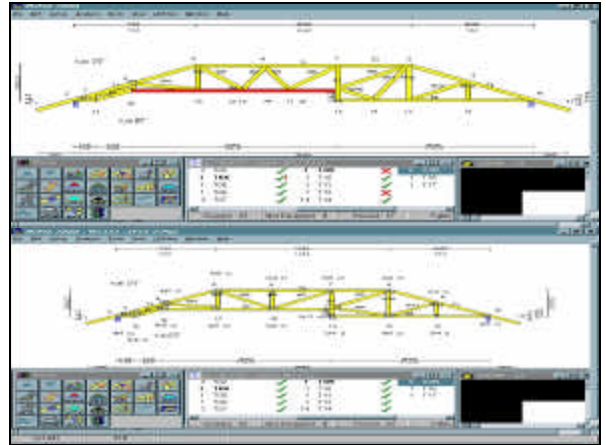


Truss Layout

- 15 minutes



Truss Engineering



Track Home Summary

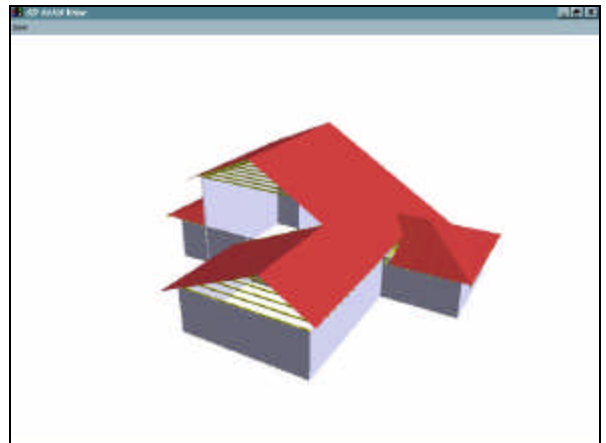
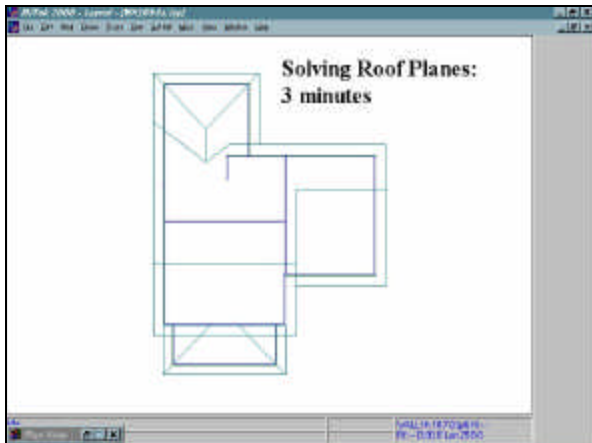
- 5 minutes to input walls
- 30 seconds to cut in the planes
- 3 minutes to input the ceiling conditions
- 15 minutes to layout the roof trusses
- 15 minutes to engineer 23 roof trusses

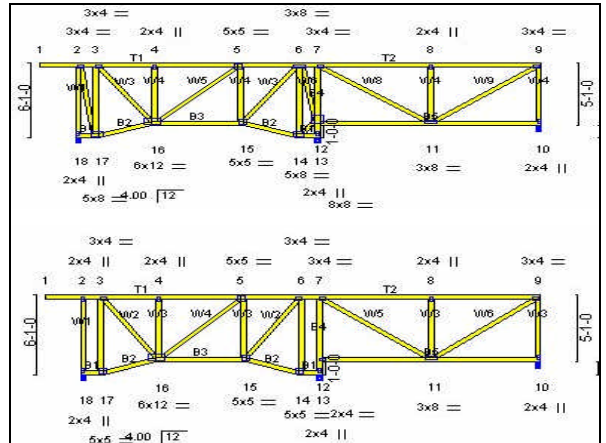
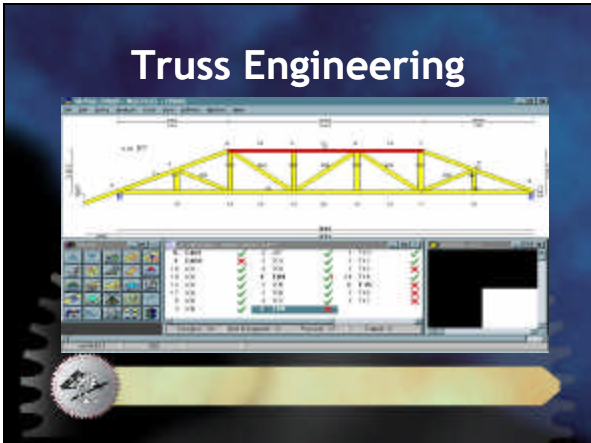
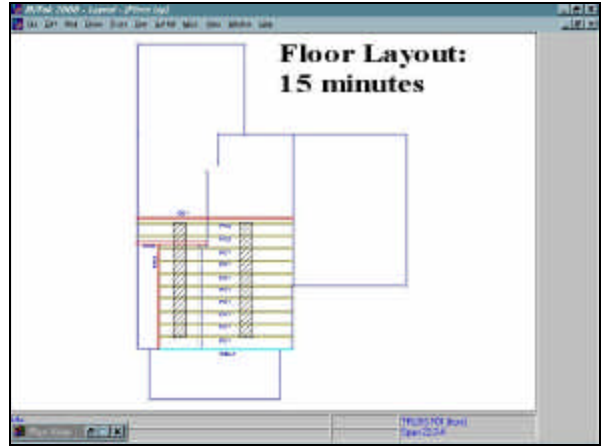
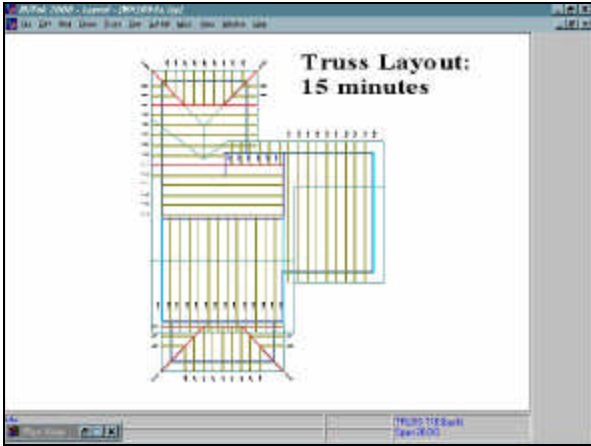
Summary of Track Home

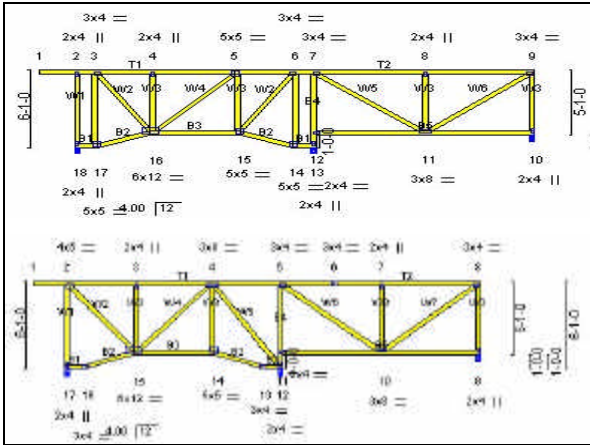
- 38 minutes and 30 seconds
- Living - 1431 sq. ft.
- Total Under Roof - 1972 sq. ft.

Track Home with Floors

- First time home buyer
- \$100,000 - \$200,000
- 1400sq. Ft. - 2000sq. Ft. - Living







Track Home with Floors Summary

- 10 minutes to input walls
- 3 minutes to cut in the planes
- 30 seconds to input the ceiling conditions
- 15 minutes to layout the roof trusses
- 15 minutes to engineer 26 roof trusses
- 15 minutes to layout floor trusses
- 10 minutes to engineer floor trusses
- 7 minutes to size 2 beams

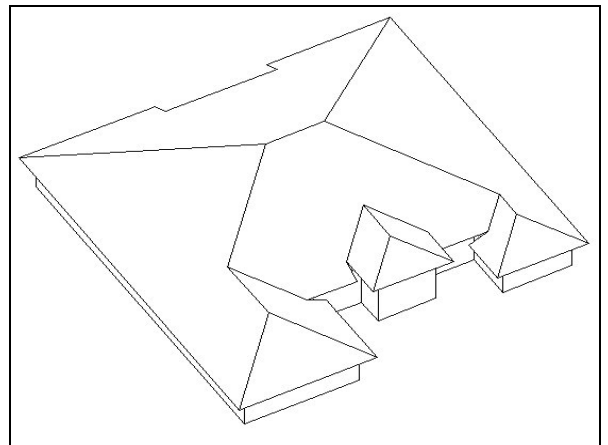
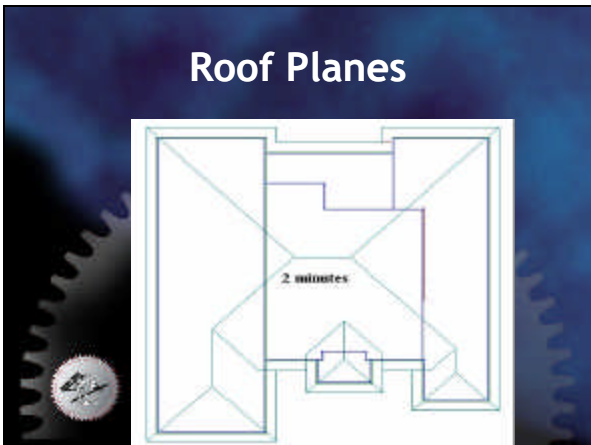
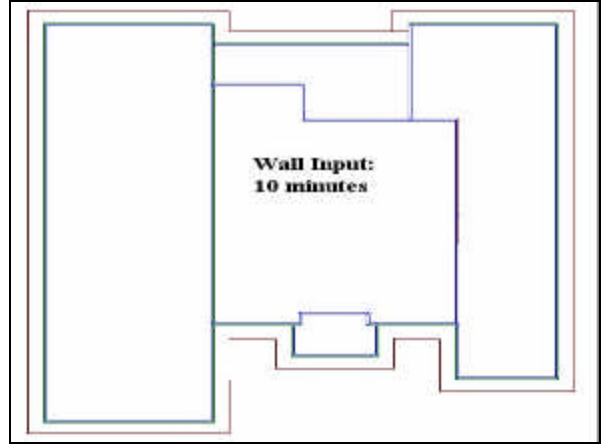
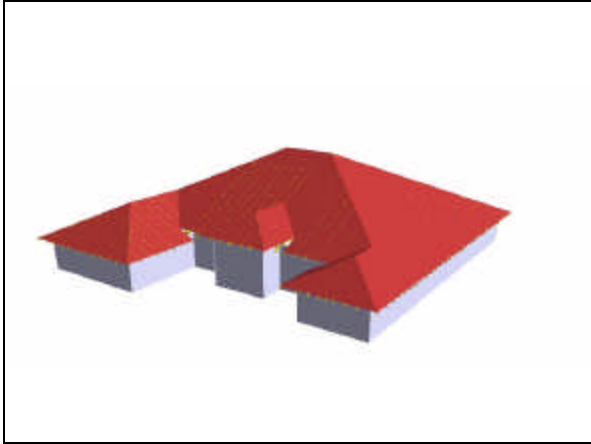
Track Home with Floors Summary

- 43 minutes and 30 seconds for the roof
- 32 minutes for the floors
- Total Time 1hr 15min and 30 seconds
- Total Living 1653 sq ft
- Total Covered 2288 sq ft

Second Time Home Buyer

- 2500 sq. ft. - 4000 sq.ft. -Living
- \$150,000 - \$200,000
- Taller ceilings
- More than 2 types of ceiling conditions

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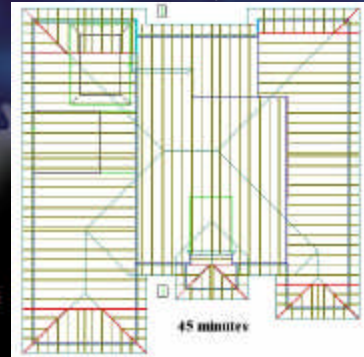


Ceiling Conditions

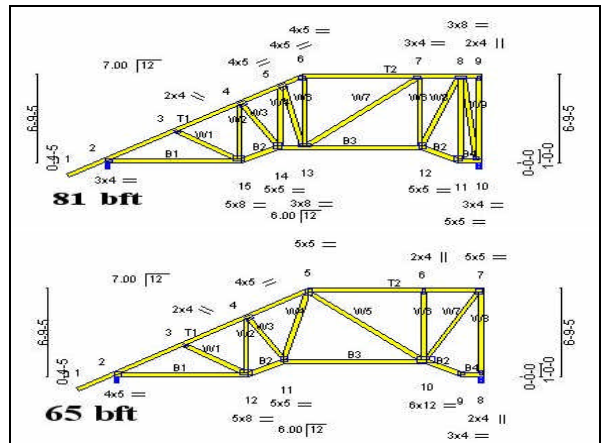
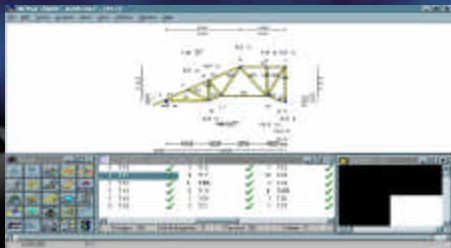
- 10 minutes
- Hip Tray in master
- Vault in master bath
- 10' ceilings in main body
- 11' ceiling in foyer
- 8' ceilings in bedrooms 2,3,4



Truss Layout



Truss Engineering





Second Time Home Summary

- 10 minutes to input walls
- 2 minutes to cut in the planes
- 10 minute to input the ceiling conditions
- 45 minutes to layout the roof trusses
- 30 minutes to engineer 56 roof trusses

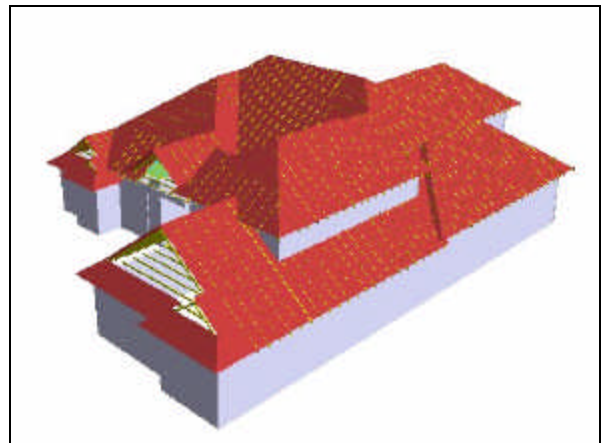
Second Time Home Summary

- 1 hour 37 minutes
- Total Living 2557 sq ft
- Total Covered 3585 sq ft

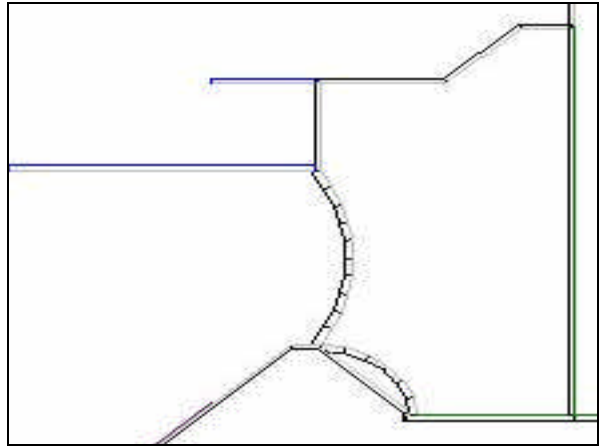
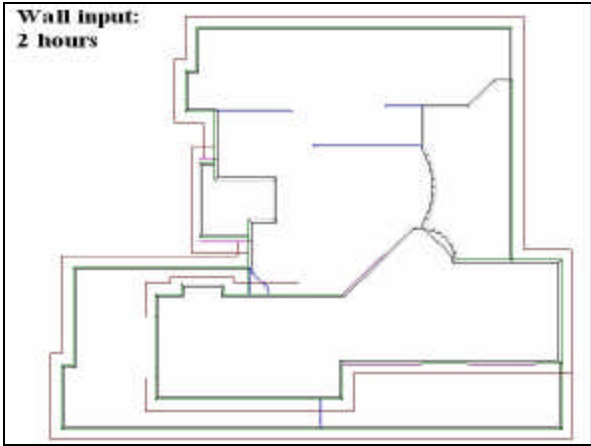


Custom Home

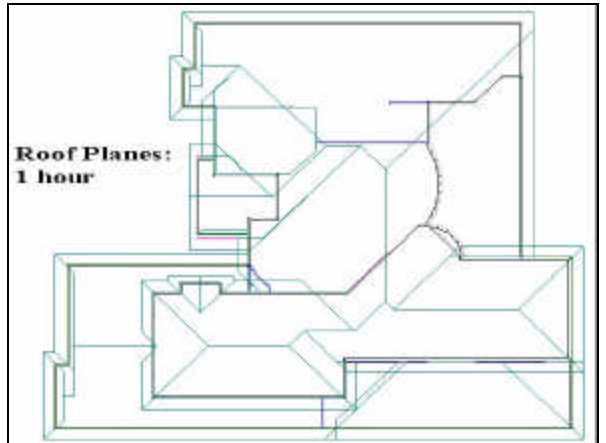
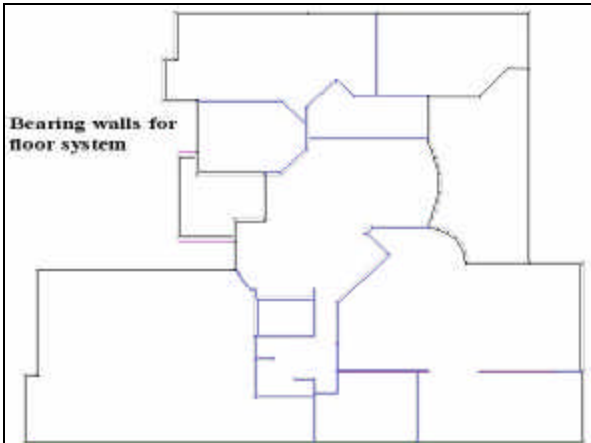
- 4000sq.ft. and above living
- \$400,000 - \$2,000,000
- More than 3 types of ceiling conditions
- More than 1 story
- Greater roof pitches

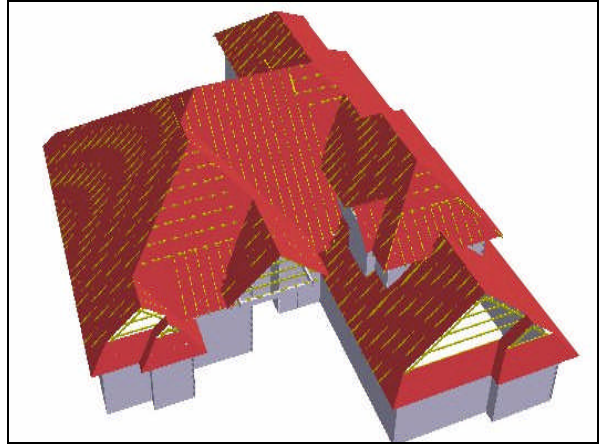
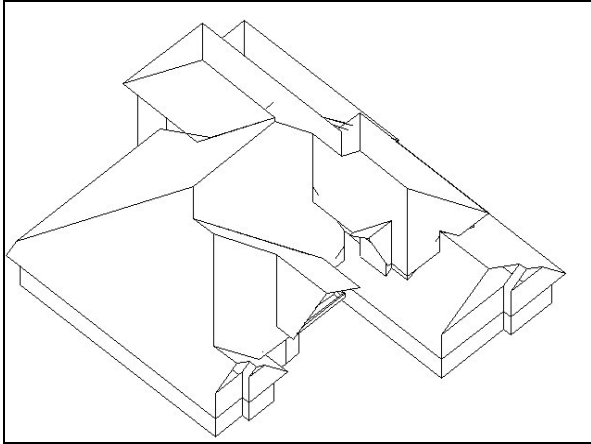


**Wall input:
2 hours**



**Bearing walls for
floor system**





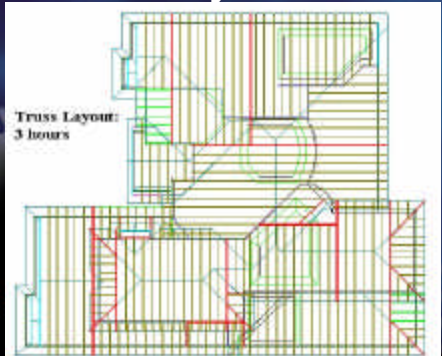
Ceiling Conditions

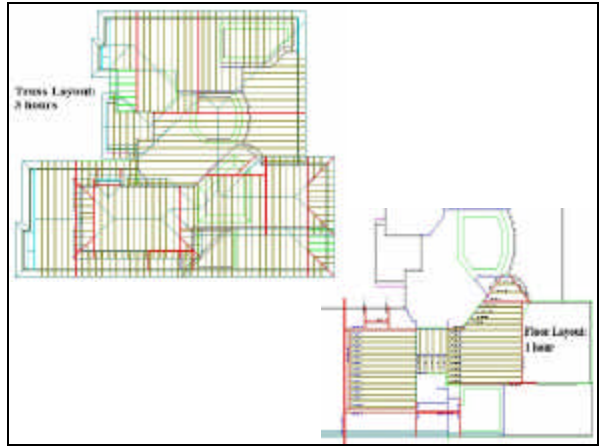
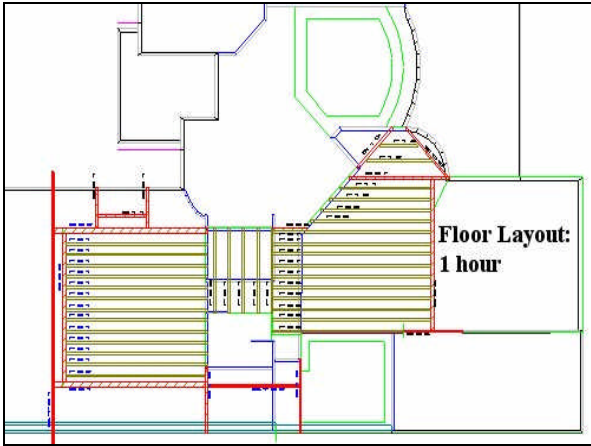
- 60 minutes
- Step Tray in master 10' to 11'
- Step tray in living room 10' to 12'
- Step tray in bedroom 2 9' to 10'
- Hip tray in loft on the second floor / 9' to 10'



Truss Layout

Truss Layout:
3 hours

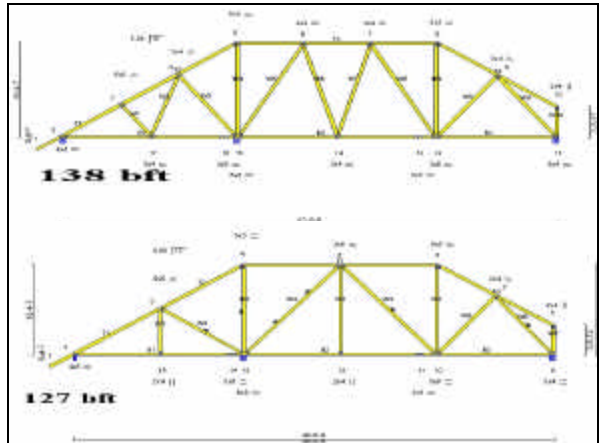


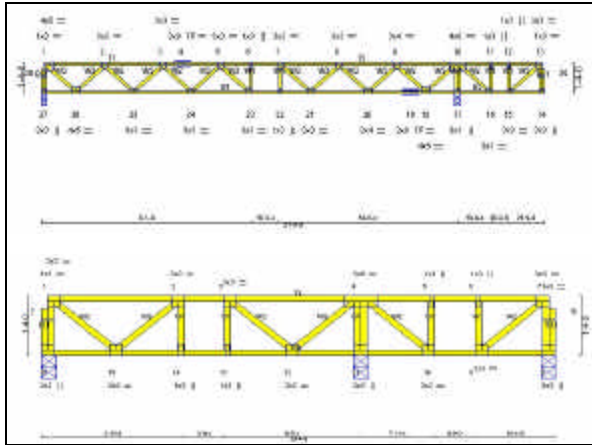


Truss Engineering

The screenshot shows a software interface for truss engineering. At the top, a yellow truss structure is displayed on a white background. Below it is a software toolbar with various icons. A table lists the members of the truss, with columns for member ID, type, and status. A small inset shows a zoomed-in view of a truss joint.

Member ID	Type	Status
1	CHS	OK
2	CHS	OK
3	CHS	OK
4	CHS	OK
5	CHS	OK
6	CHS	OK
7	CHS	OK
8	CHS	OK
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100	CHS	OK

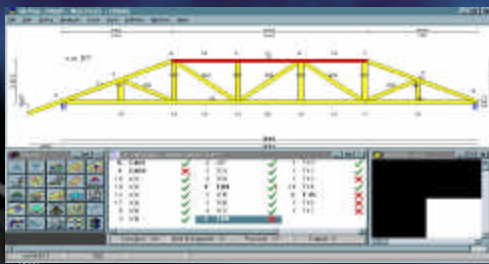




Sizing Beams

- 13 Beams in the floor system
- 2 hours to size all the beams

Truss Engineering



Custom Home Summary

- 2 hours to input walls for roof and floor
- 1 hour to cut in the planes
- 1 hour to input the ceiling conditions
- 3 hours to layout the roof trusses
- 1 hour to layout the floor trusses
- 3 hours to engineer 124 roof trusses
- 1 hour to engineer 15 floor trusses
- 2 hours to size 13 beams

Summary of Custom Home

- 14 Total Hours
- Total Living: 4302 sq ft
- Total Covered: 5700 sq ft

Optimizing

- When to optimize and when not to optimize
- A million dollar question

Truss Profile

- After optimizing
- Most difficult profile profile

Design Quality Control

- Truss Technician Check List
- Design Manager Check List
- Structural Engineer



Technician Check List

- Elevations
- Interior Bearing
- Ceiling Conditions
- New Codes
- Overall dimensions



Manager's Check List

- Interior Bearing
- Elevation
- Hangers
- Special Loads
- Deflection
- Codes
- Truss repair log



Structural Engineer

- Final review
- Adding verticals
- Picking up more Bearing



Blank for Barry

- Final review
- Adding verticals
- Picking up more Bearing

Discussion Forum

Goal

- No question is a bad question
- Discussion to maximize everyone's learning
- Let's begin – First Question or Comment



Thank You for Your Participation

Further questions and or comments can be directed to the presenter and BCMC Staff at:

info@bcmcshow.com

