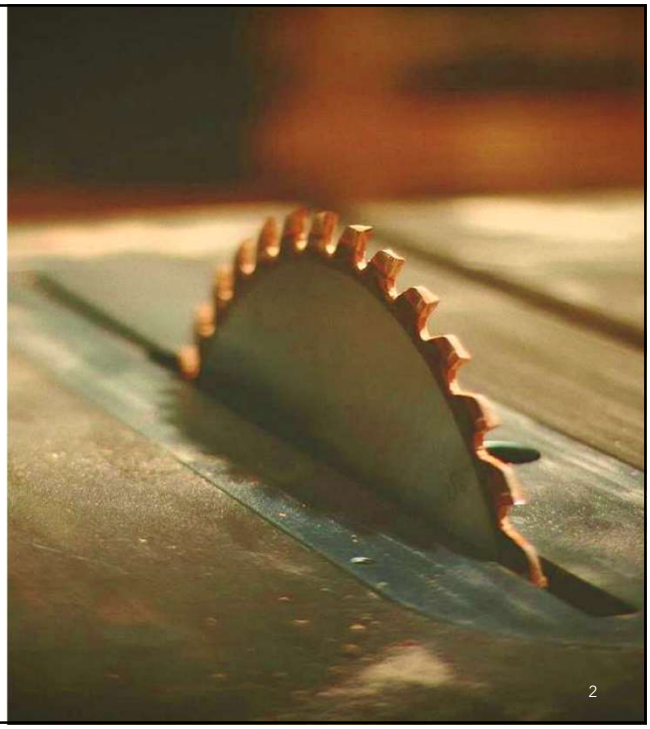
1

Agenda

Introduction
Design
Tools
----Break----
Cutting
Assembly
Raising
Finishing



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Introduction

In the beginning…

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Deron Nelson DVM MBA

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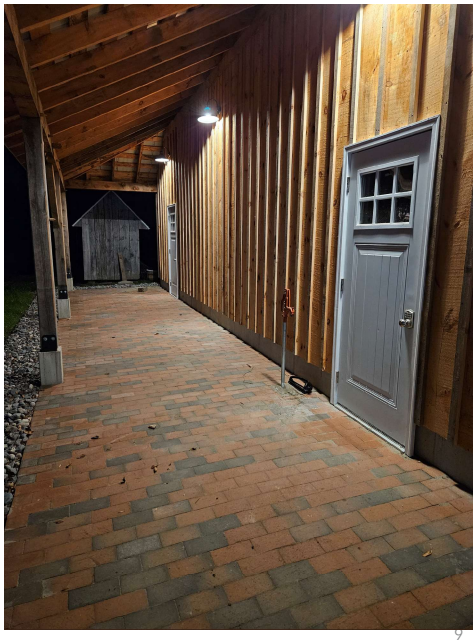

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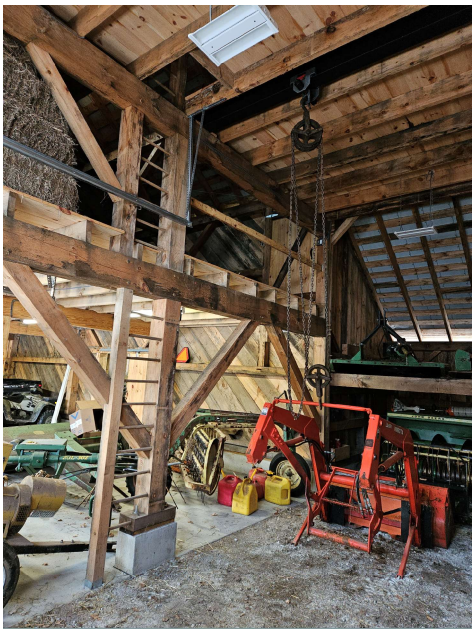

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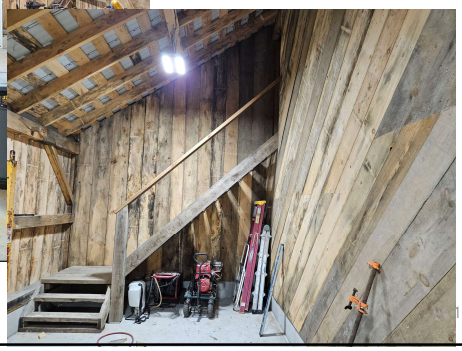

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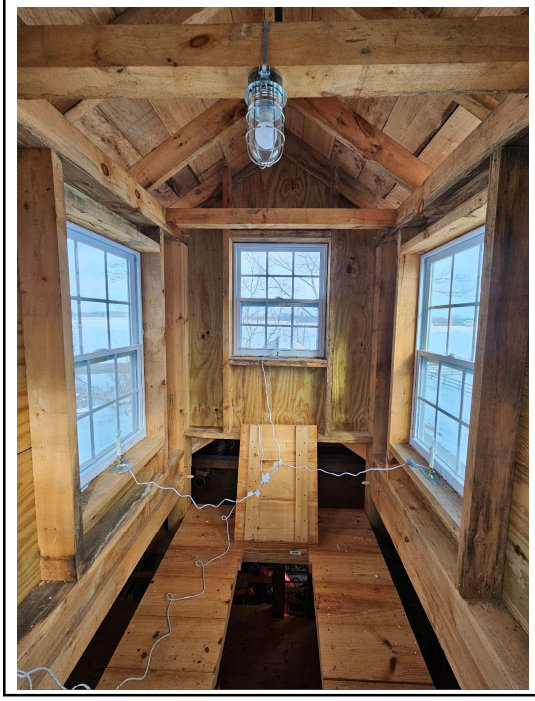

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Design

Aesthetic, function and tradition

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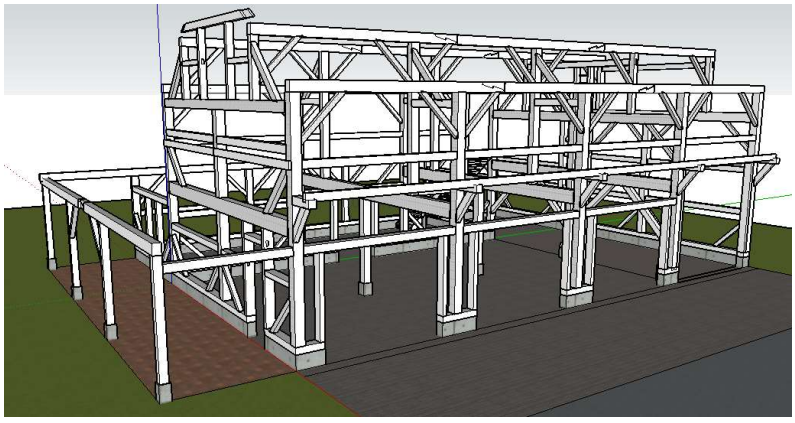
Design

- Priorities
- Balance
- Inspiration
- How
- Sharing



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Priorities

- Structurally Sound
- Buildable
- Manageable
- 'Traditional'
- Aesthetic

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Structurally Sound

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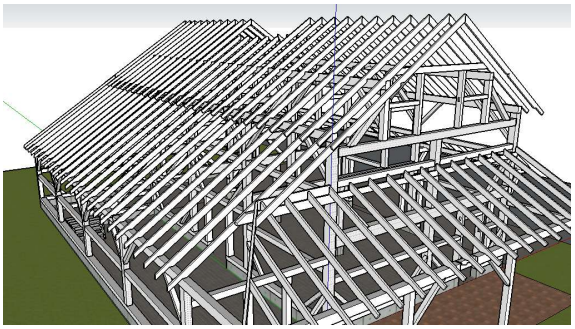
Buildable



$a^2 + b^2 = c^2$

$8^2 + 12^2 = 64 + 144 = \sqrt{208} = 14.4$

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Manageable

- Size
- Scope
- Complexity
- Time
- Logistics

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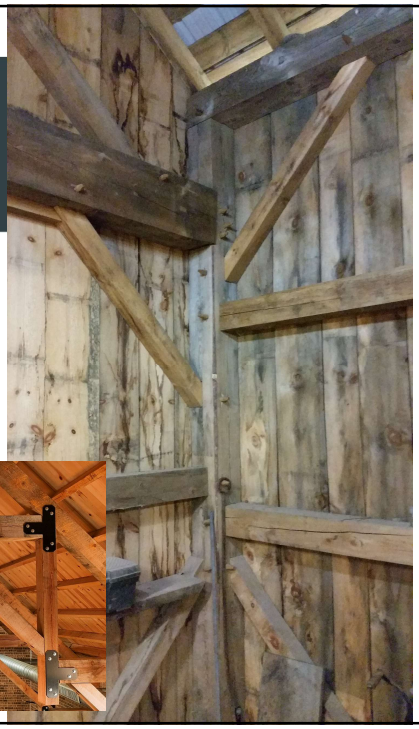
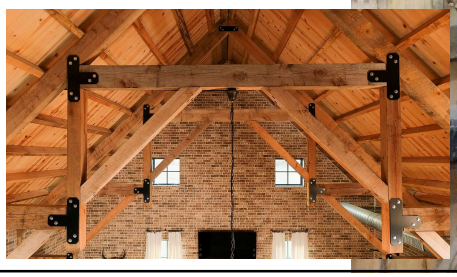
‘Traditional’

- Period in time?
- Geographical variances
- Timber Frame
  - Wood Joinery
  - Mortise, tenon, peg
  - vs. Post and Beam
- Product vs. Process





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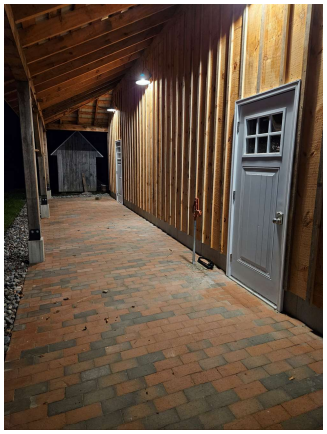
Aesthetic



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Balance

- Material availability
- Practical
- Useable
- New vs. Old
- Engineering
- Code
- Cost

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Material Availability

- Size (length)
- Species
  - White Oak
  - White Pine
- Engineered

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Scarf Joint

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Species

- White Pine
  - Softwood
  - Easy to cut & shape
  - Light weight
  - Stains easily
  - Absorbs moisture
  - Reasonably strong
    - Pay attention to knots
  - Inexpensive
- White Oak
  - Hardwood
  - Harder to cut & shape
  - Heavy
  - Stains (steel)
  - Rot resistant
  - Very strong
  - Expensive

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Species Use

- White Pine
  - Interior Members
  - Rafters & joists
  - Siding

Engineered
- Size and high load requirements

- White Oak
  - Pegs
  - Sills
  - Exterior exposure
  - High load requirements

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White Oak vs. Red Oak

20XX

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Useable

- Building Use
- Floor (loft) loads
- Post Placement
- Access–doors
- Bent widths

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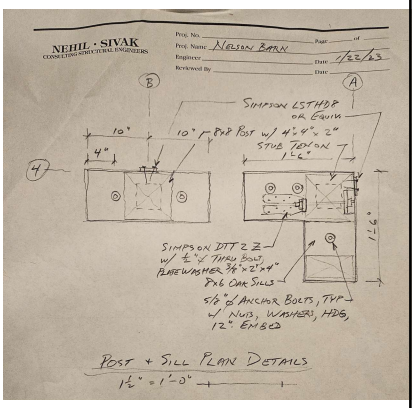
Engineering

- "You can draw anything"
- Big is does not always mean strong
- "If it's worth doing, it's worth doing right"
- Match member size with load requirements
- Tension joints
- Code requirements
- Consult a professional



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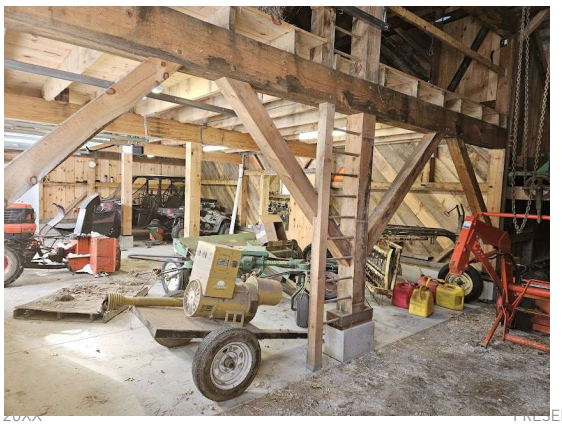
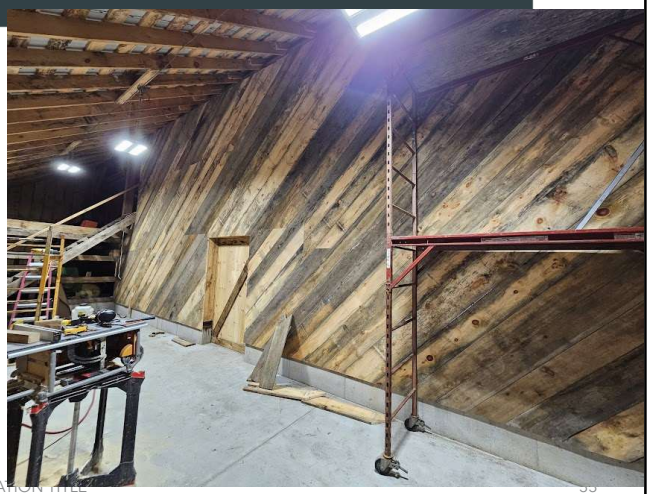
Engineering





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Inspiration

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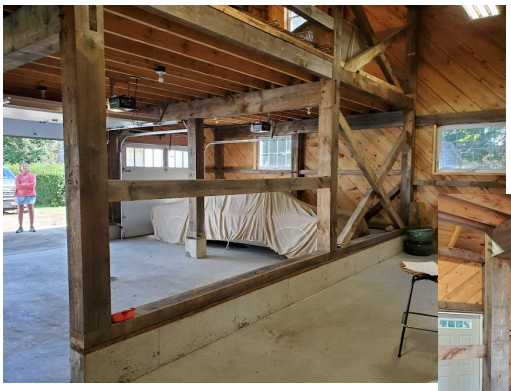
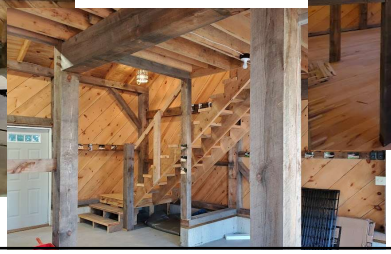
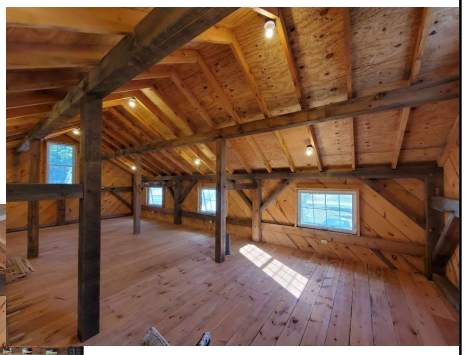
Inspiration







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Inspiration

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How?

- Sheridan Park Pavilion

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Sharing

- Sheridan Park Pavilion

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Tools

Uncertainty and Certainty

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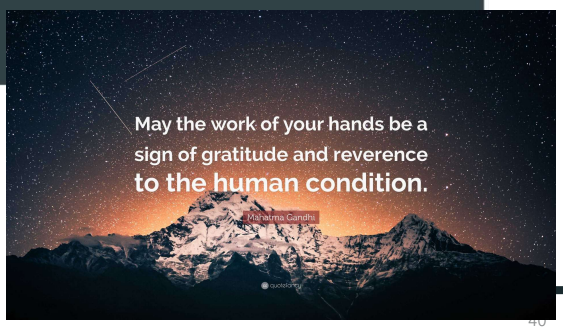
Cutting

The joy is in creating.



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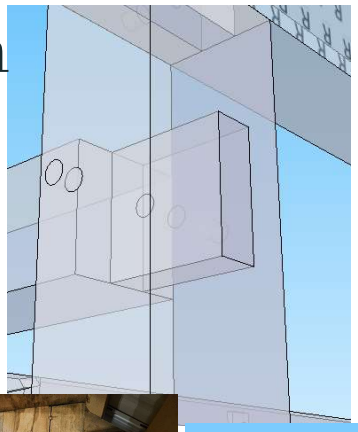
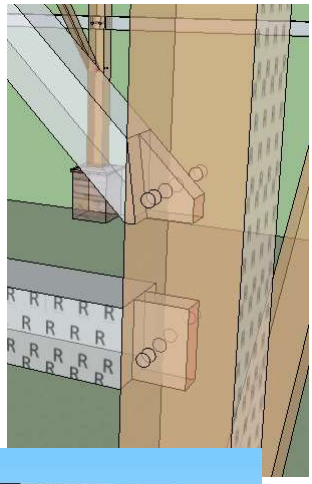
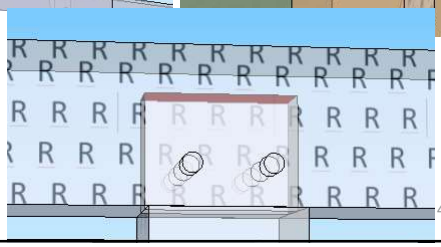
Mortise & Tenon

- 2” in from edge
- 2” Wide
- Tension joint: Depth of 6” (minimum)
  - Longer tenons for more tension
  - Through tenon
- Compression joint: Depth of 4”
- Peg placement
  - 2” in from edge
  - 4” from next peg







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Pegs

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Top Plates

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Sills

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Door Posts

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Porch Posts

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Eyebrow

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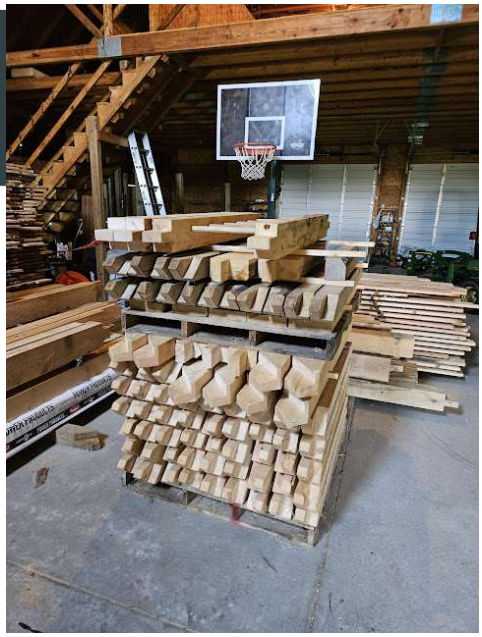
Knee Braces



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Stairs

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Girts

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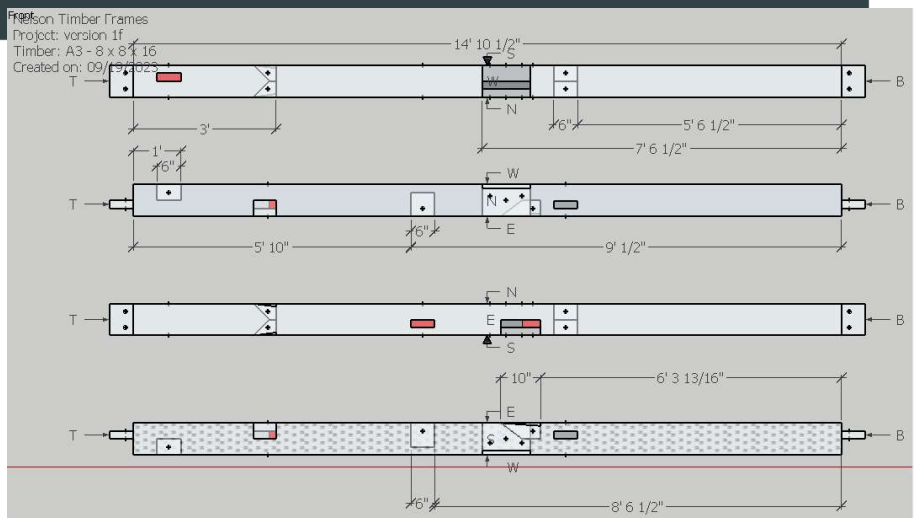
Posts



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Assembly

Putting it all together.

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Overview in Sketchup

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Raising

People working together toward a common goal can accomplish significantly more than any individual thinks possible

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Intro

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Bent 1

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Bent 2

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Bent 3

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Bent 4

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Bent 5

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Bent 6

66

66

Intermediates

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67

Top Plates

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End of Day

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Finishes

"…in the details"

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Rafters

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Cupola

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Roof Decking

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73

Steel Roof

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Siding

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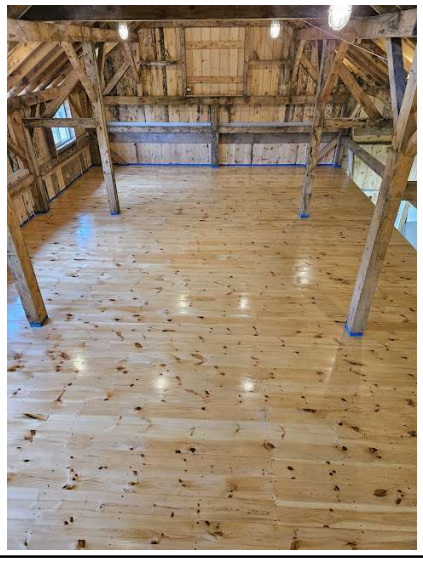
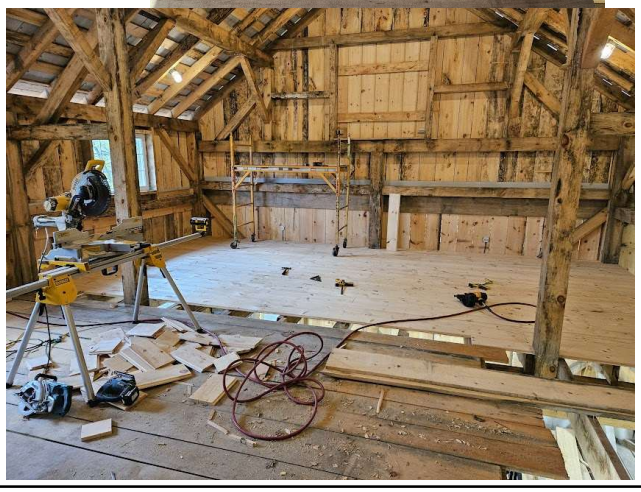
75

Loft Floor





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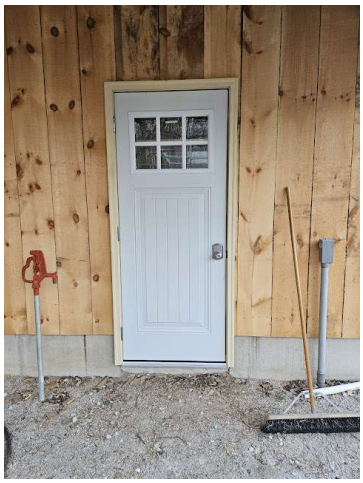
Doors



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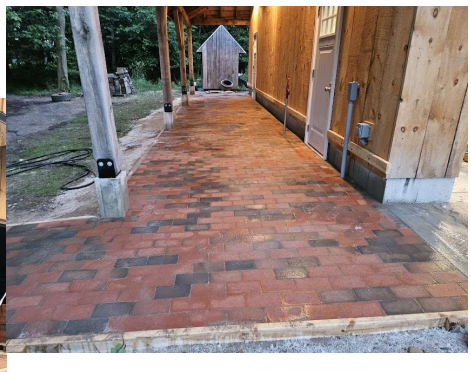
Brick Pavers



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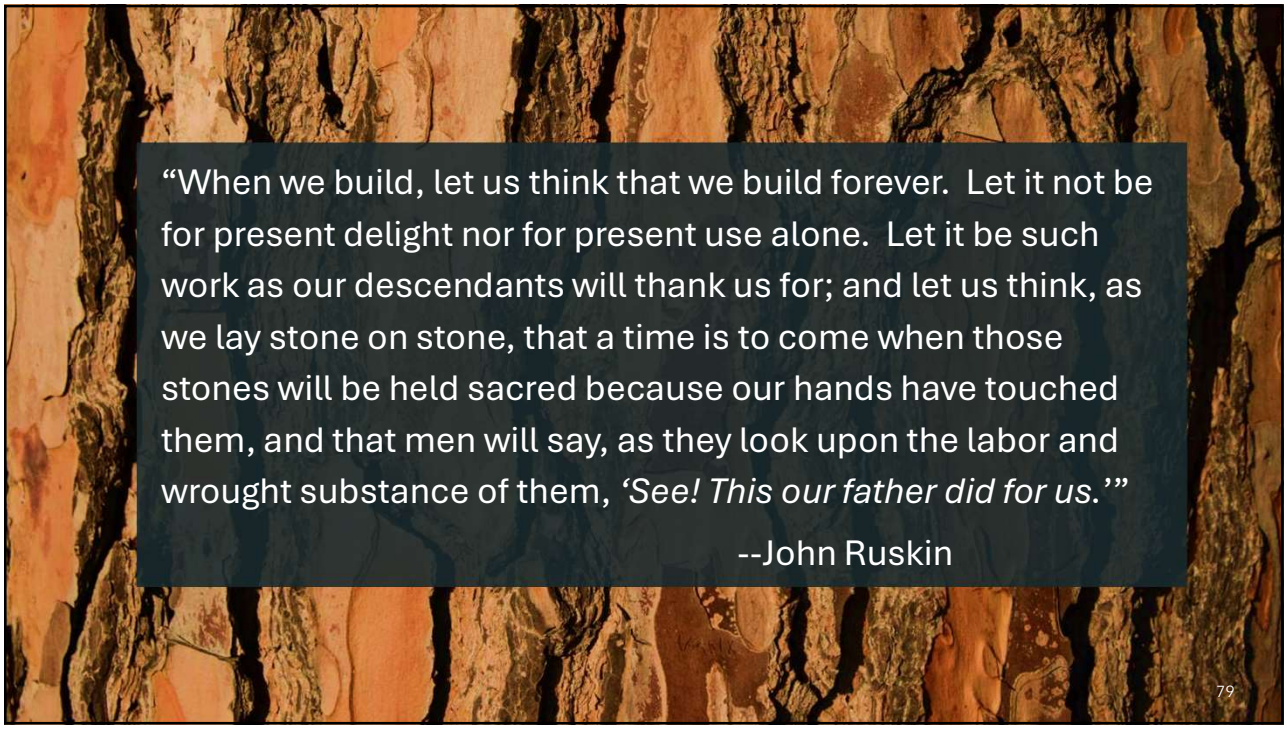
"When we build, let us think that we build forever. Let it not be for present delight nor for present use alone. Let it be such work as our descendants will thank us for; and let us think, as we lay stone on stone, that a time is to come when those stones will be held sacred because our hands have touched them, and that men will say, as they look upon the labor and wrought substance of them, 'See! This our father did for us.'"
--John Ruskin
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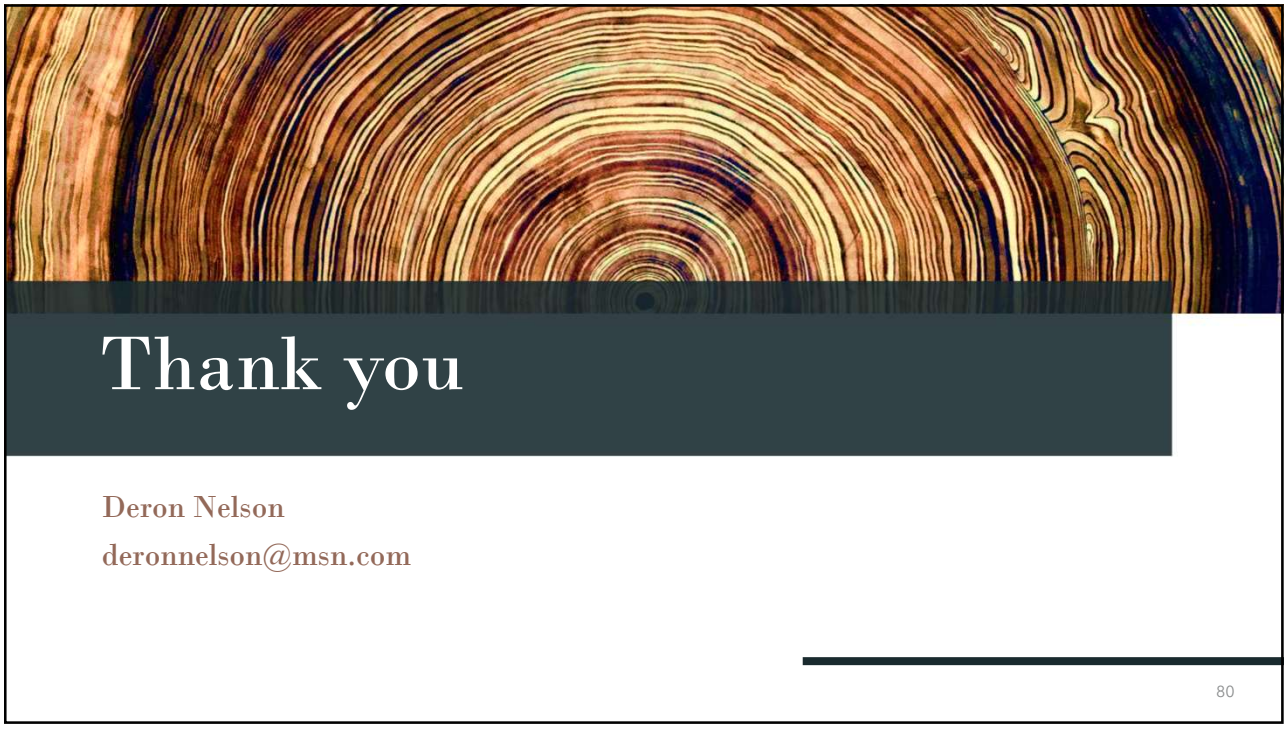
Thank you
Deron Nelson
deronnelson@msn.com
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