NASHVILLE WAREHOUSE COMPANY

Presented by Michael Hines and Rachel Killion

*Disclaimer: This presentation was developed by a third party and is not funded by WoodWorks or the Softwood Lumber Board.*
PROJECT TEAM

+ **Owner**
  AJ Capital Partners

+ **Project Manager**
  CapEx

+ **General Contractor**
  DPR Construction

+ **Architect**
  Hartshorne Plunkard Architecture

+ **Structural Engineer**
  Forefront Structural Engineers, Inc.

+ **Mass Timber Engineer**
  StructureCraft

+ **MEP Engineer**
  IMEG Corp.

+ **Civil Engineer**
  Barge Cauthen & Associates

+ **Landscape Architect**
  Hodgson Douglas

+ **Elevator Consultant**
  Jenkins & Huntington
PROJECT LOCATION

NASHVILLE WAREHOUSE CO. SITE
PROJECT LOCATION
PROGRAMMING/EARLY DESIGN CONCEPTS

- Gross Project Area: 663,194 SF
- Gross Office Area: 166,294 SF
- Gross Residential Area: 271,631 SF
- Exterior Site Area: 131,500 SF

Parking:
- 606 Spaces

Public Bandshell - Lawn

Residential:
- 198,717 SF Leasable
- 305 Total Residential Units

Office:
- 137,887 SF Leasable

Lazy River
HEAVY TIMBER AND THE DESIGN CONCEPT

+ Industrial Inspiration

The use of heavy timber construction is a contemporary nod to the historic framing used in industrial buildings of the historical period.

+ Expressed Architectural Forms

Allow for interior expression of the overall architectural forms, including the gable roofs and cross gable framing prominent on the building exterior.

+ Exposed Interior Framing Aesthetic

Provide infrastructure for exposed architectural framing within tenant spaces consistent with Type IV Heavy Timber construction. Minimizes tenant fit out costs for interior finishes and provides a unique aesthetic.

+ Filling a Market Demand

Provide heavy timber office space available within the Nashville market given the lack of existing inventory in the market.
BUILDING PARTI AND STRUCTURAL CONCEPT

BUILDING A

BUILDING B/C

TYPICAL COLUMN BAY SPACING

HEAVY TIMBER SLABS AND FRAMING (TYP.)

CIP CONCRETE CORES AND LATERAL ELEMENTS (IN RED)

STRUCTURAL STEEL TERRACE FRAMING
INTERIOR FRAMING - BUILDING A

Flush Framing Approach

The proposed framing approach places the top of girders and purlins at the bottom of the slab depth above.

The proposed option was selected by the office tenant brought on early in the project and was enabled by girder-free bays at narrow column spans.

MEPFP routing is primarily to be run below the bottom of girder and purlins and exposed in the final installed condition.
INTERIOR FRAMING - BUILDING A
**INTERIOR FRAMING - BUILDING B/C**

**High Purlin Framing Approach**

The proposed framing approach leaves a gap at the purlin and girder intersection to accommodate MEPFP routing.

MEPFP routing stays primarily higher along the bottom of slab. Girder and purlin framing becomes the primary aesthetic interior finish.

The proposed framing option was available given the project’s 14'-0" floor to floor height.
INTERIOR FRAMING - BUILDING B/C
Structurally Efficient
2X Framing is friction fit with premilled boards together on edge, creating a structurally efficient panel for horizontal spans, specifically for one way spans.

All Wood
DLT panels are the only all wood mass timber product, in concept they provide no glue or nails.

Expressed Materiality and Profile Flexibility
Allow for interior expression of timber material in its natural form and CNC routing of jointing allows for significant profile and aesthetic options at exposed locations.

Installation Efficiency
Large, preassembled panels can be installed quickly
DOWEL LAMINATED TIMBER (DLT) - ARCHITECTURAL PROFILES

These standard profiles give the designer a variety of aesthetic options at no extra cost. Variations of these can be easily incorporated.

Depth available: 2x4 to 2x12, 3x4 to 3x12, 4x4 to 4x12. Max depth = 12 1/4” without sheathing

Source: StructureCraft
DOWEL LAMINATED TIMBER (DLT) - DESIGN SOLUTIONS

FIFTH FLOOR - OFFICE
EL: +524' - 0"

- MIN. 2", MIN R-8 CONT. MINERAL WOOL INSUL. AT SLAB EDGE
- IF EXT. OF ENCLOSURE SYSTEM WATER LINE, PROVIDE CONTINUOUS SHEET APPLIED VAPOR PERMEABLE AIR AND WATER BARRIER AT SLAB EDGE BTWN HEAD AND SILL OF WINDOW WALL
- HIGH PERFORMANCE THERMALLY BROKEN ALUMINUM EXTERIOR WINDOW WITH 1" INSUL. VISION GLAZING, ARGON FILL, AND LOW-E COATING AT #2 SURFACE.
- PROVIDE CONTINUOUS SHEET APPLIED VAPOR PERMEABLE AIR AND WATER BARRIER AT SLAB EDGE BTWN HEAD AND SILL OF WINDOW WALL

- ACUSTIC ISOLATION BETWEEN TOPPING AND HT SLAB TO MEET IC 50 REQ. TYP.
- PROVIDE 10 MM (MIN.) MAXXON OR EQUAL DECOUPLING LAYER TYP. AT ALL FLOORS
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Source: StructureCraft
GABLED ROOF DESIGN - BUILDING B/C
GABLE ROOF FRAMING AT ROOF PERIMETER

- Connect gutter to interior downspout. Enter building in line with centerline of columns only. Refer to plumbing drawings. Flash, seal, and insulate facade penetrations.
- Insulate facade penetrations. Refer to plumbing drawings. Seal, and signature halten protestors. Facade Drawings for drain size.
- Reference plumbing drawings for drain size.
- Interior drywall by tenant. TYP. U.A.O.
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- Min. 2 layers, min. 5", min. R-25 polyiso insulation with overlapping joints. Fluid applied vapor permeable air and water barrier.
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NORTH FACADE - CANTILEVERED ROOF

Gable End Architectural Expression

The architectural design intent was to express a thin edge profile at the perimeter of the gable frame. Spanning the DLT parallel to the gable profile meant the weak axis of the panel cantilevered at these conditions requiring a framing solution.
For the exterior expression of the terraces on the south facade, structural steel was preferred. The steel framing extends and connects to the interior timber framing in limited locations with careful coordinated detailing.
CONSTRUCTION PROGRESS
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QUESTIONS?

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