

CASE STUDY
619 Ponce



Southern pine reflects southern
potential for mass timber

With 22 million acres of commercial timberland, the state of Georgia has been working hard to take advantage of the growing demand for mass timber. Recognizing the possibilities, real estate investment and management firm Jamestown blended local wood with innovative design, using mass timber to build this four-story office in Atlanta. 619 Ponce is the first commercial project in Georgia to use mass timber made from southern yellow pine (SYP) timber grown in the state itself.

The project demonstrates the influence that developers and their tenants have in generating demand for mass timber construction, particularly in locations that historically have not had a clear supply and manufacturing chain, and highlights the potential for mass timber market expansion across the country.



While Jamestown was already familiar with the intrinsic carbon benefits of mass timber, they knew that local material sourcing would add further value by supporting the area's economy and by connecting people in Atlanta with wood that can be found in nearby forests. 619 Ponce is also the first project to participate in the State of Georgia's Sustainable Development Carbon Sequestration Registry, a program that allows developers to earn carbon credits by utilizing materials like mass timber in their buildings.

An expansion of the famed Ponce City Market development located in the historic Old Fourth Ward of Atlanta, 619 Ponce serves as a signature business address. The developer has signed a large technology firm as the anchor office tenant, and Pottery Barn occupies most of the ground floor retail space. Both were attracted to the historic location and unique timber aesthetic of the property; the sustainability story added extra value.

"Sustainable building really is in our DNA," said Troy Harris, Jamestown's Managing Director, Timberland and Innovative Wood Products. "We wanted to honor the history found in Atlanta's Old Fourth Ward while bringing sustainable materials and innovative design to this unique community. Plus, when we talk with people about mass timber, we've learned that they want to know where the wood will come from; it's like the 'farm to table movement.' With 619 Ponce, we can tell them exactly where this wood came from—a sustainably managed forest right here in Georgia."

Class A Office Space Considerations

The structure consists of SYP glue-laminated timber (glulam) columns, girders, and purlin beams, combined with SYP cross-laminated timber (CLT) panels for the floors and roof. The efficient purlin-girder system frames a spacious 30x30-foot grid, allowing for a generous floor-to-floor height of 22 feet on the retail level and 14 feet 4 inches on the upper floors.

"The 30x30 grid transfers directly into the concrete podium below, eliminating the need for a transfer slab," said Ryan Lobello, Director at Handel Architects. "Often, grid spacing for these types of office buildings is driven by parking, so being able to design a timber grid that matched what we needed in the concrete podium saved money."

PROJECT DETAILS

619 Ponce

LOCATION:	Atlanta, Georgia
STORIES:	Four
SIZE:	114,000 square feet
CONSTRUCTION TYPE:	Type III-B
COMPLETED:	Summer 2024

PROJECT TEAM

OWNER:	Jamestown
ARCHITECT:	Handel Architects
STRUCTURAL ENGINEER:	StructureCraft (<i>Timber structure</i>) DeSimone Consulting Engineers (<i>Concrete</i>)
GENERAL CONTRACTOR:	J.E. Dunn
MASS TIMBER INSTALLER:	StructureCraft with Seagate
MASS TIMBER:	Georgia Pacific (<i>Lumber</i>) SmartLam (<i>Manufacturer: CLT panels, glulam beams and columns</i>)
CONNECTORS:	Rothoblaas

Connect with the 619 Ponce project team at
<https://www.woodworksinnovationnetwork.org/projects/619-ponce>



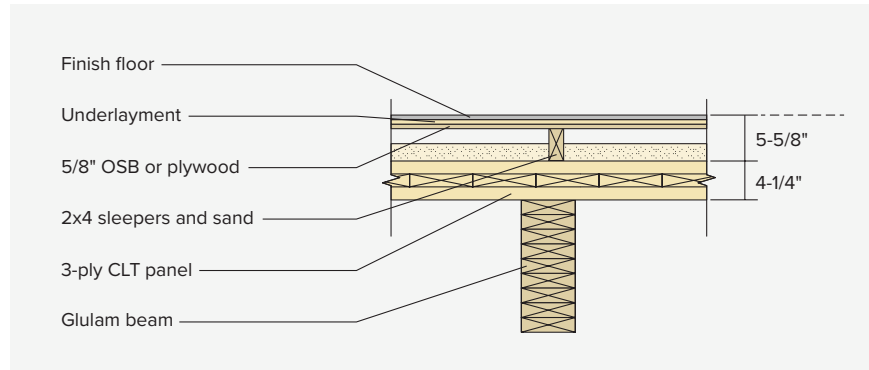
Leif Johnson, Structural Engineering Director at StructureCraft added, "We studied many framing options and found that using purlins at a 10-foot spacing with a 3-ply CLT panel was the most economical system. To further economize the structure, we engineered the CLT to act compositely with the purlins to reduce the purlin sizes."

Tenants have high expectations of Class A office space. To ensure acceptable vibration performance for 619 Ponce, StructureCraft developed a finite element model of the floor system and utilized a combination of resources, including internal StructureCraft design tools, WoodWorks' *U.S. Mass Timber Floor Vibration Design Guide*,¹ and the Steel Construction Institute's *Design of Floors for Vibration: A New Approach*.² StructureCraft also performed in-situ vibration testing, comparing data with previously completed mass timber floor systems to confirm results and provide an additional level of confidence.

Innovative Design Elements

619 Ponce has several unique design features that keep the timber interior free of visual clutter.

1. The team incorporated a **unique raised floor system** that also helped reduce the amount of concrete needed for the project, adding to its carbon advantages. "Typically, for the required acoustic performance, mass timber office buildings contain an acoustic mat with 2-1/2 to 3 inches of concrete topping," said Johnson. "To eliminate the wet trade of concrete, and to reduce the embodied carbon of the structure, we instead designed a raised floor system that uses 2 inches of sand within a timber sleeper system supporting wood structural panels. The detail meets our acoustic performance goals while allowing the flexibility to route conduit and wiring through the cavity, which also gives tenants future flexibility in their office layouts."



Credit: Handel Architects and StructureCraft

2. The **stacked girder/purlin design** created chases, allowing mechanical, electrical, plumbing and fire protection (MEPF) systems to route above the girders and never drop below the purlins. Girders were dropped an average of 13 inches to allow for duct routing above. This system reduced the number of beam penetrations and provides tenants with the flexibility to easily reconfigure their overhead mechanical systems in the future.



Credit: Handel Architects Lecture Series | @2023

3. The design team wanted to minimize the visibility of steel connectors, so StructureCraft designed a **column-girder connection detail** they refer to as the 'tuning fork.' "The column is notched to accept the girders, but the column sides continue through the depth of the joint," said Johnson. "The girders appear to pass through the columns. The girders are spliced, but the detail allows the splices to be hidden."





Local Focus, Broad Potential

One of Jamestown's primary goals with 619 Ponce was to reduce the building's overall carbon impact; they also wanted to support the area's economy by using sustainable materials that were locally sourced and manufactured. Mass timber met those goals.

Nearly all of the SYP for 619 Ponce was harvested from a forest managed by Jamestown near Lumpkin, Georgia, in a Sustainable Forestry Initiative (SFI) certified forest. Because of a late-stage need for additional material, a small percentage came from mills supplied by other local southern pine stands. The logs were trucked to Georgia Pacific's mill in Albany, Georgia and processed into lumber. This lumber was then shipped to Dothan, Alabama, where it was manufactured into glulam beams and columns and CLT panels by SmartLam, then sent to Sauter Timber in Rockwood, Tennessee for fabrication and hardware installation, and finally back to Atlanta. Altogether, the wood fiber traveled less than 750 miles and the wood was harvested, milled, fabricated, and delivered by local workers, connecting people in cities to the aesthetics of their regional forests.

Southern forests provide promise, said Frances Bohn, Director of Development and Construction for Jamestown. "The growth cycle of southern pine, from seedling to maturity, is just 26 years. We see tremendous market opportunity for mass timber in Georgia and the southeastern U.S., and this project gives us the chance to show our tenants and the entire building industry what's possible with mass timber here."

There were cost tradeoffs to using Georgia wood; initial estimates showed it to be slightly more expensive than other mass timber sources. But Jamestown said reducing the carbon used to transport materials to the site helped them justify the added expense.

Harris is also quick to point out that this local supply chain is still attainable for those who don't own their own forests, like Jamestown does. "And, as more mass timber plants are built in the U.S., this will give developers the ability to focus on logistics, giving them confidence in knowing that supply can meet demand."

Johnson added, "Southern yellow pine is prevalent in this area of the country, so the species can and should be utilized to build mass timber structures. We are excited about helping expand the potential with different species. Our hope is that by using southern pine on this building, it acts as a catalyst for the entire southeast region."

Natural Materials, Happy Tenants

Jamestown wanted this office to be a destination of choice for Atlanta businesses. The project is targeting net zero operational carbon and LEED v4 Core and Shell certification, which they already knew held tenant appeal. But they also decided to pursue Fitwel certification, a materials-based healthy building certification program aimed at improving the wellbeing of building occupants.

"The warmth of this material aligns nicely with the Fitwel pillars because it helps connect tenants to a natural environment," said Lobello. "Wood also helped us in our overall goals for biophilic design. As architects, we're aware of the productivity benefits of working in a wood building. That's also one of the reasons we used Type III-B construction; we wanted to leave as much wood exposed as possible."

Jamestown also believes that their use of mass timber will help tenants attract top talent, entice people back to the office, and demonstrate a commitment to sustainability. "We believed we would achieve a premium at market," said Bohn. "In addition to having a mass timber office building, we also have one with natural light, operable windows, enhanced ventilation, and balconies on three of the four sides of each floor. But the wood is the real differentiator here. Every time Troy (Harris) leads a tour, he urges everyone to hug a wood column because it just makes you happy."

Georgia's Sustainable Development Carbon Sequestration Registry

619 Ponce is the first project to participate in the Sustainable Development Carbon Sequestration Registry, managed by the Georgia Forestry Commission. The Registry awards carbon credits to developers of commercial buildings in Georgia, rewarding them for utilizing qualifying sustainable structural building materials.

Devon Dartnell, Director of Forest Services, Utilization, and Marketing for the Georgia Forestry Commission, said, "the 619 Ponce project is a great fit for this program because it demonstrates the many benefits of mass timber. Jamestown will be issued carbon credits for the increased carbon stored in the structural building materials as well as credits for avoided carbon emissions. These credits can be sold in the carbon markets or retired by Jamestown to offset other emissions."

Market Expansion for Mass Timber

Perception is key to public opinion about mass timber. Jamestown brought a unique local perspective to the project, literally bringing the trees from a local forest to the building itself. It's a perspective and a story they're working hard to share.

"In terms of leasing, a lot of our marketing has been defined by the differentiators that mass timber brings to 619 Ponce," Bohn said. "Biophilic design adds comfort, improved mental wellbeing, higher creativity levels, less illness and absenteeism.... all of these are positive things that employers want. It's also a story that has resonated with tenants because we're using familiar products."

It's an advantage that Lobello thinks can be leveraged across other parts of the U.S.

"Seeing the southern pine potential in this region gives me hope for expanding the mass timber supply chain to other parts of the country," he said. "Doing so will also help us speak to things like authenticity of materials in terms of where they're from. The southern pine aesthetic is an important differentiator for 619 Ponce. And the fact that it's local can be applied to many other places in the U.S., like using Ponderosa pine for mass timber in Denver. I think if we really want mass timber to start replacing concrete at the scale that is required, this is the type of investment we need to be making."

Telling a Good Wood Story

From the beginning, Jamestown recognized the opportunity to educate people about the uniqueness of the mass timber used in 619 Ponce. They've given building tours to hundreds of people and are also a sponsor of **Seedlings to Solutions**, a group that built an educational mass timber display next door at Ponce City Market.

Seedlings to Solutions, funded by the Georgia Forestry Foundation, U.S. Department of Agriculture, and others, has developed videos and other support materials to tell the story of mass timber in Georgia and help people understand sustainable forestry. "Education efforts like this are important for us," said Bohn. "We want this sustainability message to resonate. The public isn't our primary audience from a tenant's standpoint, but they still have impact."



619 Ponce



Volume of wood products used:
63,495 cubic feet



U.S. & Canadian forests grow this much wood in:
5 minutes



Carbon stored in the wood:
1,687 metric tons of CO₂



Avoided greenhouse gas emissions:
653 metric tons of CO₂



TOTAL POTENTIAL CARBON BENEFIT:
2,339 metric tons of CO₂

EQUIVALENT TO:



495 cars off the road for a year



Energy to operate 247 homes for a year

Source: US EPA

Estimated by the Wood Carbon Calculator for Buildings, based on research by Sarthre, R. and J. O'Connor, 2010, A Synthesis of Research on Wood Products and Greenhouse Gas Impacts, FPInnovations. Note: CO₂ on this chart refers to CO₂ equivalent.

Reducing Carbon Impact

The use of wood lowers a building's carbon impact in two ways. Wood continues to store carbon sequestered by the trees while they were growing, keeping it out of the atmosphere for the lifetime of the building—longer if the wood is reclaimed at the end of the building's service life and re-used. Meanwhile, the regenerating forest continues the cycle of carbon absorption. Wood products also require less energy to produce than other building materials, and most of that comes from renewable biomass (e.g., bark and sawdust) instead of fossil fuels. Substituting wood for fossil fuel-intensive materials is a way to avoid greenhouse gas emissions and reduce embodied carbon.

¹ WoodWorks. (2023, February). *U.S. Mass Timber Floor Vibration Design Guide*.

² The Steel Construction Institute (SCI). (2009). *SCI P354 – Design of Floors for Vibration: A New Approach*.

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