Framework

an urban + rural ecology

FACT SHEET
***Updated:* March 16, 2018**

OVERVIEW

Beneficial State Bank, a triple bottom line community bank, teamed with project^, a values-based commercial real estate developer; and Home Forward, the public housing authority for Multnomah County, Oregon to reimagine their existing Pearl District property in Portland, Oregon into *Framework,* the nation's first wood high-rise building. The building seeks to develop a model for a sustainable urban ecology by promoting social justice, sustainable building, and economic opportunity thus yielding broad advancement of these objectives at a national scale. *Framework* is supported by a $1.5 million-dollar award from the U.S. Tall Wood Building Prize Competition which was sponsored by the United States Department of Agriculture (USDA), Softwood Lumber Board, and Binational Softwood Lumber Council. The focus of the competition is to promote the use of domestically sourced engineered wood products in the United States, thereby increasing demand from domestic rural lumber mills, which will in turn boost their respective rural economies.

FIRSTS IN THE USA, NORTH AMERICA, AND WORLD

Based on the successful passing of fire and structural tests *Framework* will likely be the first building in the following areas:

Fire Achievements

- First high-rise building with wood from ground floor, as the load-bearing construction, in the US
- First high rise building with exposed wood (of any %) in North America
- First project carrying out fire tests on exposed glulam connections, CLT and glulam beam-floor assembly in North America
- First fully loaded exposed CLT connection requiring a two-hour fire rating in the world
- First fully loaded exposed glulam connections requiring a two-hour fire rating in the world

Structural Achievements

- First post-tensioned rocking CLT wall system in the USA
- Tallest Mass Timber Building in the USA
- Tallest ALL Mass Timber Building in North America
- Tallest post-tensioned rocking wall project in the world

PROJECT ADDRESS

Framework
430 Northwest 10th Avenue
Portland, OR 97209

PROJECT TEAM

Owners:	The Framework Project, LLC and Home Forward
Developer:	project^ Anyeley Hallova, Partner / Project Lead Tom Cody, Managing Partner Brad Lawliss, Director of Finance
Affordable Housing / Investor:	Home Forward Jonathan Trutt, Director of Development and Community Revitalization Julie Livingston, Senior Project Manager
Land Owner:	Beneficial State Bancorp Kat Taylor, President
Architect:	LEVER Architecture Thomas Robinson, Principal Doug Sheets, Project Architect Jonathan Heppner, Project Manager
General Contractor:	Walsh Construction Mike Steffen, President Dan Snow, Senior Project Manager
Structural Engineer:	KPFF Consulting Engineers Blake Patsy, Managing Partner Eric McDonnell, Associate
Timber Design-Assist &: Construction	StructureCraft Builders Inc. Lucas Epp, Engineering + 3D Manager
M/E/P Engineer:	PAE Consulting Engineers Paul Schwer, PE, President Jeff Becksfort, PE, LEED AP, Associate
Fire & Acoustic Engineer:	ARUP David Barber, Associate Denis Blount, Associate
Landscape Architect:	2.ink Studio DBE, ESB, and WBE business (No. 4689) Melinda Graham, Principal
Civil Engineer:	KPFF Consulting Engineers Daan Dommels, Project Engineer

FAST FACTS

Project Type:	New Construction
Zoning:	EXd
Building Height:	Approximately 148' / 12 floors
Building Uses:	Ground floor bank and retail, 5 office floors, 5 apartment floors, and rooftop amenity
Unit Count:	60 total units
Unit Mix:	Studios, one-bedroom and two-bedroom apartments
Bike Parking:	102 spaces (80 spaces on ground floor)
Site Area:	10,000 sf (1/4 block)
Affordable Housing:	42,000 sf
Office:	39,000 sf
Retail/Ground Floor:	9,000 sf
Total Building Area:	90,000 gross sf
Total Project Costs:	TBD

PROJECTED TIMELINE

Design:	September 2015 – November 2016
Testing:	July 2016 – December 2016
Permitting:	March 2016 – May 2017
Construction Start:	Mid 2018
Construction Completion:	Late 2019

BUILDING PROGRAM

- **Ground Floor:** Lobby, Albina Community Bank, 'Tall Wood Exhibit', retail kiosk, leasing office, bike room (80 long term spaces), utilities, and recycling/trash.
- **Second Floor:** Community room, deck and garden, public restrooms, utility rooms, an ecoroof and offices for Albina Community Bank.
- **Third - Sixth Floors:** Offices
- **Seventh – Eleventh Floors:** 60 Apartments (60% AMI Affordable Housing)
- **Twelfth Floor:** People's Garden, outdoor room with farm table, roof deck and green roof.

COMMUNITY IMPACT

- **Urban-Rural Connection:** *Framework* is a part of a symbiotic cycle between natural resources, the rural industries that rely on these resources, wood products manufactured by these rural industries, buildings constructed from these wood products, and the cities served by the completion of these buildings. The relationship completes and perpetuates the cycle as demand for tall wood buildings in urban areas drives economic opportunity in rural areas by the creation of jobs and manufacturing of wood products to meet the market demand.

- **Permitting Pathway:** In the current regulatory environment, approval for a high-rise wood structure requires an alternative approach, "Performance-based Path", to the prescriptive building code involving the City of Portland and State of Oregon building officials. This process includes extensive testing of engineered wood products to meet equivalencies of a steel and/or concrete conventional building. The fire, structural, and acoustic research and testing to support *Framewo*rk, in part with the funding from the U.S Tall Wood Building Prize Competition, is intended to provide a permitting pathway for future tall wood buildings by clearing specific permitting hurdles related to fire and life safety and structural requirements.

- **Affordable Housing:** Social equity and economic opportunity will be supported and advanced by providing five floors of housing to an underserved community of residents earning less than 60% of Area Median Income (AMI). The impact is amplified by the fact that the site is immediately adjacent to jobs and transportation in Portland's Pearl District, a high-amenity neighborhood.

- **Certified B Corporations**: An Albina Community Bank branch, Beneficial State Bank and Albina Community Bank offices, and other B Corporations will activate the lower levels of *Framework*. B Corps are certified by the nonprofit B Lab to meet rigorous standards of social and environmental performance, accountability, and transparency. Albina and Beneficial have a combined annual community impact of approximately just over $500 million in assets to date. Combined co-tenancy with like-minded B Corps will provide synergies for business development and increased community impact with the ability to provide services directly to the residents of the building.

- **Low Carbon Building:** *Framework* is positioned to introduce a new model of sustainable construction to what has otherwise become a (largely) technological pursuit. Sustainability is embodied in the profound and positive environmental impact of utilizing regionally sourced wood, applying new and innovative manufacturing technology, and building a smart (low-carbon) high-rise building. More specifically, Framework is expected to be significantly more sustainable (compared to a LEED certification) by providing a high-density, mixed-use building on an infill site immediately adjacent to jobs and transit that:

    - Provides the construction industry with a new material and a new way to build
    - Expects to demonstrate a measurable reduction in carbon emissions and increase in carbon sequestration through new and sustainable supply chains
    - Expects to use significantly less energy than a traditional building due to envelope design, natural ventilation, and integrated green roofs
    - Incorporates locally sourced materials

ARCHITECTURAL COMPONENTS

- **Expressive Design:** Framework's design is intended to showcase the nature of an innovative mass timber structure at both the street level and on the city skyline. The building mass is split around a central vertical core and lifted at the north street corner to create a double height daylit community space that showcases the building structure and brings together the main entries into retail, housing, and office spaces. Laminated wood columns and a cross-laminated timber ceiling frame this space and connect to a second floor community room and garden deck. A daylit stair flanked on the west side of the building provide a glimpse of circulation and the nature of the wood structure from a distance. A roof deck and People's Garden is framed by the building and extends the expression of the tall wood structure into the skyline. The ceilings of the apartments and offices are intended to be CLT with building services grouped around "cores" that stack through the building mass.

- **Cross Laminated Timber (CLT):** The proposed building will be constructed primarily of an innovative structural system and the innovative wood products of Cross Laminated Timber. CLT will be used for the floors and the Lateral Force Resisting System (LFRS), in conjunction with Glue Laminated Beams (GLB) and Glue Laminated Columns (GLC). The super structure will be supported on a conventionally reinforced concrete mat foundation.

- **Resilient Design:** Framework has chosen enhanced seismic performance criteria of economically repairable for the 1:500-year design basis earthquake and little to no damage for 1:100-year serviceability earthquake. These enhanced criteria are in line with the sustainability goals of the project, and should provide an economic advantage in terms of reduced repair, replacement costs, downtime, and potentially insurance costs. To achieve this goal, the lateral force-resisting system includes posttensioned rocking CLT shear walls, with "Low Damage Design" features pioneered in New Zealand. These features include a pre-determined rocking plane at the base of the walls; replaceable energy dissipating "fuses"; special detailing at the floor-to-wall connections; and the self-centering characteristics of the post-tensioning system. Testing for Framework was successfully undertaken at Oregon State University (OSU) and Portland State University (PSU) to demonstrate this seismic performance.

- **Fire Testing:** Mass timber has resistance to fire due to its charring properties. The resistance assessment is based on the worst possible fire that could occur within an apartment or office space and the duration of that fire. The expected performance is that the building will survive full burn and remain structurally intact, in the unlikely event of the sprinklers failing and the Fire Department not intervening. For these standards, the project conducted component testing of the CLT panels and Glulam beams/columns. The testing was undertaken to meet ASTM E11 and carried out for a fire resistance rating of up to 2 hours. Testing also included connections between beam and columns; the floor and ceiling area; and beam-to-floor assemblies.

- **Sustainability Targets:** Framework is aggressively targeting innovative sustainable building strategies when compared to an average building of the same size.
    - Energy savings of 60% when compared to code, which is equivalent to 33 single-family homes being powered for a year
    - Water savings exceeding 30% compared to code, which is equivalent to the yearly water needs of 19 single-family homes
    - Will result in 1,824 tons of CO2 emissions offsets*, which is equivalent to taking 348 cars off the road for a year

    **Based on industry averages for North America responsibly sourced wood.*

- **Tall Wood Exhibit:** The main community space will include a public exhibit and resources related to the realization and design of the building as well as the relationship between the methodologies and resources employed to rural economic development and the environment.

- **Mixed Use Program and Community:** The project will be an example of a mixed-use tall wood project that combines retail, office, housing, and community space. Mixed-use buildings create a more vibrant urban environment and better utilization of shared resources, both building wide and within the context of the city. Circulation and building services will be carefully organized to promote interaction and use of resources on a constricted site.

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