Fire Tests Completed for First Mass Timber High-Rise Building in the U.S.
Results include global breakthroughs

6:00 AM ET, Thursday, October 13, Portland, OR — The Framework Project, LLC announced today that the company has successfully completed two significant fire tests on Cross-laminated Timber as a building material, demonstrating for the first time the feasibility of tall mass timber buildings in the US.

The test results are being revealed today by Thomas F. Robinson, Principal, Lever Architecture, during a “Spotlight on Design” talk at the National Building Museum “Timber City” exhibition in Washington, D.C. See the attached Fact Sheet for a complete list of fire tests conducted and in progress.

These two tests provide proof that a mass timber assembly using Cross-laminated Timber (CLT) and Glue-laminated timber (glulam) can be used safely as high-rise construction materials within the US, and meet stringent fire code requirements. Tall wood buildings using CLT and glulam has already been permitted in Europe, Australia, and Canada.

The tests not only show strict compliance with building code of CLT panels to flame spread and fire rating requirements, but also several breakthrough results.

The two-hour fire rating achieved for the project glulam beam to glulam column connection is a fundamental breakthrough in mass timber construction, exceeding results conducted anywhere in the world. Combined with the two-hour fire rating achieved for the cross laminated timber floors, this construction system allows mass timber to be used for high-rise construction, with some of the timber exposed. In previous CLT projects, the structural frame of timber has been concealed under layers of gypsum board.

The tests were made possible by a $1.5 million grant from the USDA, Softwood Lumber Board, and Binational Softwood Lumber Council to The Framework Project, LLC as part of the 2014 U.S. Tall Wood Building Prize Competition. With the results of these tests, Framework, a 12-story tall wood building planned for Portland’s Pearl District, is closer to clearing the permitting process. Framework is being developed by project^ and designed by Lever Architecture. The building design passed Design Review approvals from the City of Portland in July 2016. Construction is planned to begin in March 2017 and be completed by March 2018. Framework is slated to be the first and tallest mass timber high rise in the U.S.

As a condition of the Tall Wood Building grant, the test results will be made public, thus reducing the financial burden on mass timber projects to carry out their own tests and accelerating the adoption of CLT in the building industry.

In addition to testing wood products from other suppliers, The Framework Project, LLC conducted tests on local Oregon CLT from DR Johnson Wood Innovations to confirm

the feasibility of sourcing wood from nearby sources, fulfilling the USDA grant mission to leverage CLT to spur rural economies.
Based on these test results, Framework will stand out because of these factors:

- First high-rise with exposed wood 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 tests now being conducted should be completed by November 2016. They include testing needed to build the tallest post-tensioned rocking wall in the world, a low damage design that is built for extreme earthquake resiliency.

The Framework Project LLC is represented by a collective of strong industry expertise that will drive the project's success and will promote the use of wood technologies in future tall buildings developments. The group includes, in addition to project^ and LEVER Architecture, Home Forward, Walsh Construction Co., KPFF Consulting Engineers, ARUP, and Structurecraft Builders Inc.

"Framework is intended to communicate inside and out an innovative use of wood. These exciting, breakthrough test results establish Framework as a potentially catalytic project, one that can serve as a national case study towards a more sustainable future and a beautiful, building material and technology." - Anyeley Halva, developer, project^