

TALL WOOD MASS TIMBER CONSTRUCTION EARLY ADOPTION INITIATIVE



Implementing Tall Wood Construction in BC

Jarrett Hutchinson, Director, Building Policy

Building & Safety Standards Branch





Agenda

1. Why are we doing this?
2. Mass Timber – what is it?
3. What can be built?
4. How do you participate?
5. Timelines?
6. Questions & Answers



[Source: Acton Ostry Architects](#)

3



The Team



Building & Safety Standards Branch

4



Context

- The 2020 National Building Code (NBC) will allow for Encapsulated Mass Timber Construction (EMTC) in buildings up to 12 storeys.
- Province wide adoption is anticipated with the next BC Building Code edition, currently proposed for 2022.
- To facilitate responsible implementation, communities who wish to lead the way in this early adoption initiative have been invited to participate in the process.
- The City of Victoria has expressed interest in being included.

5



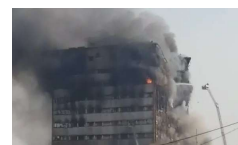
What is EMTC?

1. NEW CLASS: unique qualities of EMTC neither aligns with the Combustible nor Non-Combustible Categories in the Code
2. Guidance on how assemblies can meet existing fire resistance ratings by:



Limiting fire contribution potential

Ensuring adequate structural resistance during a fire



Minimizing fire risk during the construction of a building

6



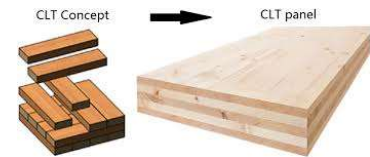
Mass Timber (CLT)



Source: AP/Don Ryan (2016)



Source: Structurlam Mass Timber Corporation (2019)



Source: ASCE (2013)

7



Mass Timber (DLT & Glulam)

Dowel-Laminated Timber

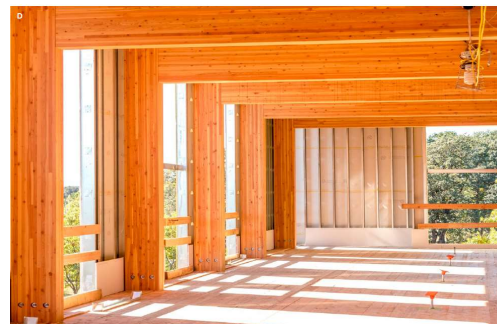


Source: Structure craft

Glulam




Glulam Posts & Beams; CLT Ceiling and Floors

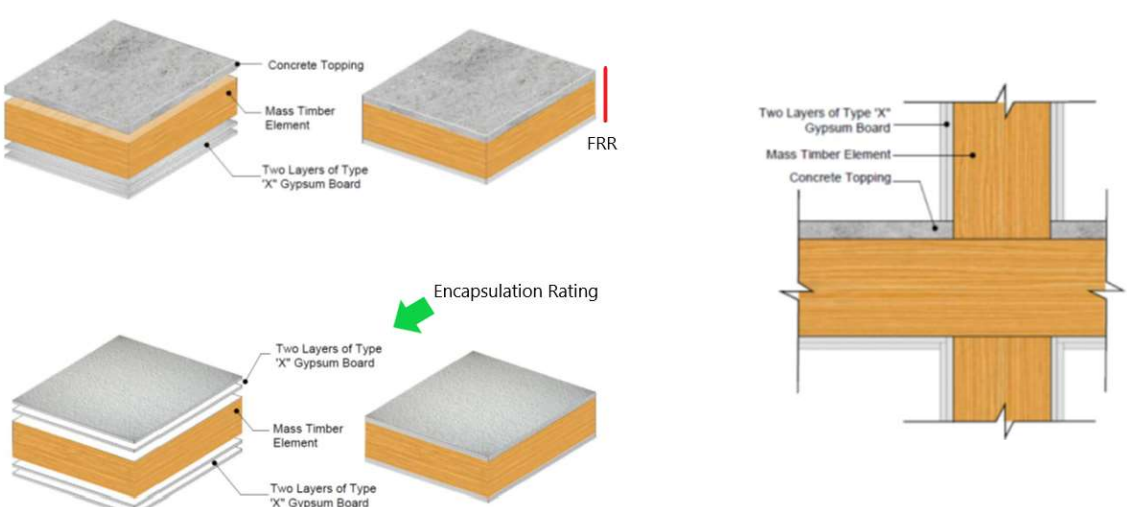


Source: Engineered Wood Association (2018)

8



Encapsulation



Concrete Topping

Mass Timber Element

Two Layers of Type 'X' Gypsum Board

FRR

Encapsulation Rating

Two Layers of Type 'X' Gypsum Board

Mass Timber Element

Concrete Topping

Two Layers of Type 'X' Gypsum Board

Source: Morrison Hershfield (2018)

9



Permitted Occupancies

Main Occupancies: Condominiums, Apartments (Group C), Office Buildings (Group D)



Max. Footprint
6 000 m²
(~ 64 500 ft²)



Max. Footprint
7 200 m²
(~ 77 500 ft²)

12 Storey (42m/~138 ft)



[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

Option (Group A-2):
Library, Daycare,
Restaurant
(1st to 3rd Storey)

Option (Group E):
Grocery Store
(1st and 2nd Storey)

10



Participation

1. **Land Use Bylaws** permit building height above six storeys;
2. Building Official on staff with **BOABC Level III Certification**;
3. **Organizational Alignment** to work with initiative;
4. **Council Resolution** submitted by June 30, 2019;
 - *....THAT Council gives permission to the Province of B.C. to include the (Legal Name of Local Government) as a participating local authority in the regulation for the Tall Wood Early Adoption Initiative...*
5. **Commitment** to share learning.

11

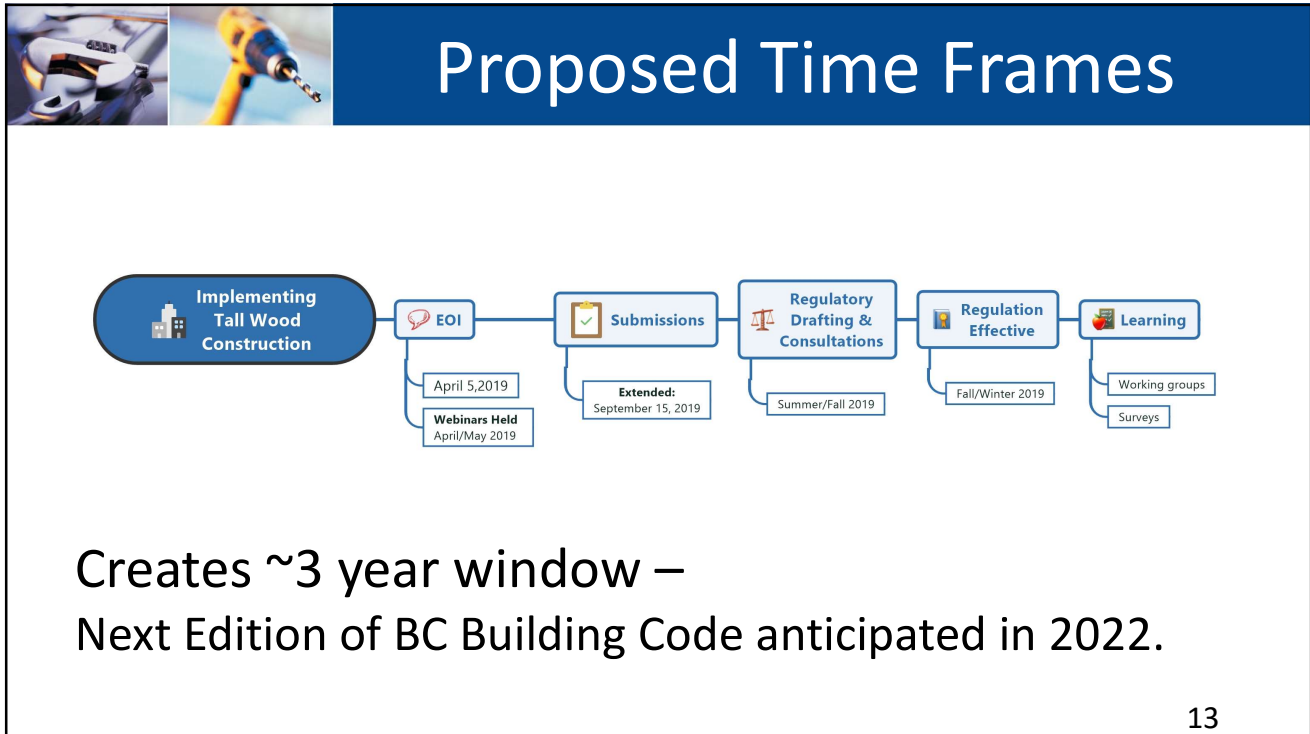


Local Government Feedback

- Jurisdiction staff participation & feedback:
 - Specified project information
 - Sharing lessons learned
 - In person group discussions/surveys etc.
- Rationale
 - To help inform BSSB of issues encountered in practical application of new Code language.
 - Help guide future National and BC Building Code development.



12



Upcoming Resources

- Professional Practice Guidelines (EGBC/AIBC)
 - Structural Technical Issues
 - Fire Protection Issues (*incl. during course of construction*)
 - Building Envelope Technical Issues
 - Building Acoustic Technical Issues
- Encapsulation Guidebook – (FP Innovations)
- Assistance from BSSB Staff and Code Bulletins

14



Thank you!

Time for Q&A




BRITISH COLUMBIA
Office of Housing and Construction Standards

Recommendation

That Council supports participation in the Province of British Columbia's Tall Wood Early Adoption Initiative and directs staff to request the Province of British Columbia to include the City of Victoria as a participating local authority in the initiative.



History - Regulatory Approaches

