

*Describe your firm’s structural mass timber supply chain. Explain your firm’s access to fiber supply – private/public land, buy on contract/spot, US/Canada/Europe sources, etc. Explain how your firm ensures certainty of supply, including your firm’s breadth and any redundancy of fiber supply, and any optionality there is for different types of fiber in your various products. Explain what materials and sizes are most easily sourced within your supply chain.*

As North America’s mass timber leader with a track record spanning nearly 60 years, Structurlam has developed a raw material supply chain that is resilient and well-positioned to limit disruptions. Today, the majority of Structurlam’s sourcing is based in British Columbia and is sustainably harvested from public forest lands. In July 2021, Structurlam will expand its manufacturing in Conway, Arkansas, and we will apply our lumber procurement best practices in this region.

Through a mix of spot buying and supply contract procurement strategies, Structurlam stabilizes and insulates raw material prices on commodity lumber from market volatility. The certainty of supply is achieved through a diverse vendor base using two purchasing methods:

1. We have established long-term relationships with the world’s largest sawmill companies which grant us preferential access to their unique and robust lumber supply.
2. An integrated wholesaler model that complements the mill-direct relationships and allows us to maintain stable pricing, access to a diverse range of mid-stream suppliers through partnership with lumber brokerage firms, and receive quick replacement or supplemental stock in situations of time-sensitive demand.

Structurlam’s CrossLam® CLT panels utilize widely-available dimensional commodity lumber as a raw material. Given the multi-regional scale of production for this material and the healthy supplier relationships we maintain, Structurlam is well insulated against supply risk. The uniform nature of this product also provides supply redundancy of all lumber sizes and grade assurance between different lumber producers.

Our CrossLam® CLT panels utilize SPF (Spruce, Pine, Fir) in the core layers, with the option for SPF or Douglas fir as the visual layer.

Our GlulamPLUS® beams and columns are manufactured with high-grade Douglas fir lamstock. This premium laminating grade of lumber is sustainably sourced in all standard lumber dimensions allowing us to manufacture a wide variety of beam and column sizes to meet the unique requirements of each project.

The benefit to Google: Structurlam has ready access to the full spectrum of lumber dimensions and volumes (including FSC-certified fiber) required to supply our mass timber products.

- What source mills do you procure lumber from and where are they located? Do you know the primary forests these mills source from – if so, please provide name and location.

DIRECT SUPPLIERS (BROKERS)	SUB-SUPPLIERS (MILLS)	LOCATION	LOG SOURCE DISTANCE (MILES)
Dakeryn Industries	Carrier Lumber	Prince George, BC	281
	Millar Western	Whitecourt, AB	125
		Fox Creek, AB	125
	Weyerhaeuser Canada	Princeton, BC	125
		Drayton Valley, AB	94
		Grande Prairie, AB	81
	Interfor Corporation	Adams Lake, BC	122
		Grand Forks, BC	75
		Castlegar, BC	94
	Sierra Pacific	Burlington, WA	156
	Aberdeen, WA	156	

DIRECT SUPPLIERS (BROKERS)	SUB-SUPPLIERS (MILLS)	LOCATION	LOG SOURCE DISTANCE (MILES)
Dakeryn Industries	JS Jones Timber	Surrey, BC	250
	West Fraser	Blue Ridge, AB	156
		Sundre, AB	156
		Edson, AB	156
		Hinton, AB	156
		Chasm, BC	156
		100 Mile House, BC	156
		Williams Lake, BC	156
		Chetwynd, BC	156
		Smithers, BC	156
		Hampton Affiliates	Babine, BC
	Vaagen Brothers	Colville, WA	188
		Midway, BC	188
	Gorman Bothers	Westbank, BC	219
	Tolko Industries	Williams Lake, BC	109
		Lavington, BC	109
	Conifex	Fort St. James, BC	125
		Makenzie, BC	109
Foothills Forest Products	Grande Cache, AB	119	

DIRECT SUPPLIERS (MILLS)	SUB-SUPPLIERS (MILLS)	LOCATION	LOG SOURCE DISTANCE (MILES)
Canfor		Elko Sawmill	188
		Radium Sawmill	188
		Canal Flats Sawmill	188
		Chetwynd Sawmill	188
		Fort St. John Sawmill	188
		Grand Prairie Sawmill	188
		Houston Sawmill	188
		Isle Pierre Sawmill	188
		Mackenzie Sawmill	188
		Plateau Sawmill	188
		Polar Sawmill	188
		Prince George Sawmill	188
	Vaagen Brothers		Colville, WA
		Midway, BC	188
Tolko Industries		Williams Lake, BC	109
		Lavington, BC	109
Kalesnikoff Lumber		Thrums, BC	155
Weyerhaeuser Canada		Princeton, BC	125
		Drayton Valley, AB	94
		Grande Prairie, AB	81
Interfor Corporation		Adams Lake, BC	122
		Grand Forks, BC	75
		Castlegar, BC	94

- Please name any sustainability attributes these mills or forests provide beyond business as usual practices (ex. selective harvest practices, ecological restoration, stream buffers, chemical usage/application limitations, forest opening limitations, etc.).

Covering more than 65 percent of the province, British Columbia forests are a natural resource to be nurtured and safeguarded, so much so that BC has some of the most stringent forest regulations in the world. To help preserve the region’s biodiversity, only native species can be used in the province’s tree-planting programs, and significant portions of land remain protected in one of the largest park systems in the world.

British Columbia’s diverse terrain and climate combine to produce a multitude of ecological conditions that provide suitable habitat for a greater number of plant and animal species than any other region in Canada. British Columbia occupies an area of approximately 234 million acres, of which 136 million is covered by forest. By comparison, the state of California occupies an area of 105 million acres. Approximately 55 million acres are available for harvesting. A fraction of 1% of BC’s forests (1.3 million acres) are harvested annually, and by law these lands are reforested promptly.

The majority of this forest land is publicly owned. Approximately 6% is privately owned and managed for forestry values. The remaining is managed by the Provincial Government.

The right to harvest timber from publicly owned forest land is granted through a contractual system of tenures and licenses which commit the license holder to performing various forest management activities to achieve the environmental and

socio-economic objectives of the Crown (the BC Provincial Government). The Forest & Range Practices Act (FRPA) outlines how all forest and range practices and resource-based activities are to be conducted on Crown land in BC, while ensuring protection of everything in and on them, such as plants, animals and ecosystems.

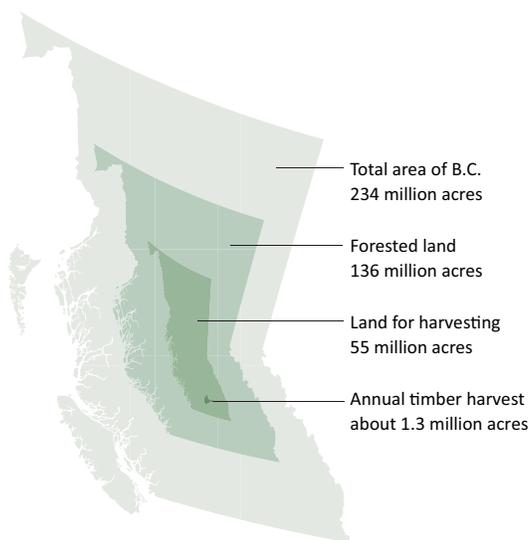
All forest and range licensees’ activities are governed by FRPA and its regulations during all stages of planning, road building, logging, reforestation, grazing and recreation. FRPA has strategies set out within it that are designed to achieve the objectives established by the BC Provincial Government and stakeholders, including First Nations (Native Canadians) and local communities, in its strategic planning processes.

These strategies specify maximum opening sizes and minimum buffers around streams, lakes and wetlands. Small patch and selective harvesting are used to preserve, protect and enhance ungulate winter ranges, wildlife travel corridors and landscape visual values.

Pesticide use is permitted for use on Provincial Forest Land and for control of invasive and/or competing vegetation, however, it is not widely used.

Restrictions on application rates, aerial application, water and road buffering have affected the cost/benefit ratio to the point where manual brushing is more typically used.

### PROVINCE OF BRITISH COLUMBIA



Premier of BC John Horgan visiting Structurlam to announce BC Tall Wood building code changes on March 13, 2019

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*Describe the physical properties of the timber source. Outline the fiber species that your firm can currently access, specifically noting FSC certified sources. Detail your firm's preferred species for each product type.*

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Structurlam utilizes two primary lumber species at our British Columbia operations: Spruce Pine Fir (SPF) and Douglas fir (DF). Physical property descriptions are as follows. Please refer to Structurlam's U.S. Mass Timber Technical Guide for more information (pages 70 and 85).

SPF is comprised of Lodgepole pine, interior spruce and sub-alpine fir and are marketed together as a single species group: spruce-pine-fir (SPF). Kiln-dried SPF lumber is used as a structural framing material in all types of residential, commercial, industrial and agricultural building applications.

All yield high-grade timber with relatively small, sound tight knots. SPF is a distinctly white wood, with very little color variation between springwood and summerwood. The wood has a bright, clean appearance, ranging in color from white to pale yellow, with a fine straight grain and smooth texture.

The dimensional stability of SPF and the superior gluing properties make it popular in the prefabrication industry. Due to its high strength-to-weight ratio, it is ideal for mass timber production.



Douglas fir is one of the world's best-known and most widely used wood species. In British Columbia, there are two varieties of Douglas fir: Coastal and Interior. The sapwood is light in color and of narrow width. The heartwood ranges from yellowish to reddish-brown. Earlywood and latewood have a pronounced difference in color with the latewood having darker, more sharply defined bands. This color difference results in a distinctive grain pattern when flat-sawn. The wood has a fine to medium texture, straight grain and is non-porous.

Due to its strength, Douglas fir is primarily used for building and construction. This species has excellent strength properties and is well known for its workability. It is one of the strongest species for heavy structural purposes, including mass timber building products.

Structurlam maintains access to significant volumes for each species in FSC-certified wood (see the following section). Structurlam's preferred species for CrossLam® CLT panels is SPF with the option for Douglas fir visual layers. For our GlulamPLUS® beams and columns we currently only provide Douglas fir.

In July 2021 we will be able to offer sustainably-harvested Southern Pine for mass timber building products for both CrossLam® CLT and GlulamPLUS® from the timber basket in Arkansas.

## SFI AND FSC LUMBER AND LEED CERTIFICATION

Structurlam has the systems, experience and long-standing relationships with lumber producers that have unique access to high-value and high-volume certified timber baskets. These producers provide SFI and FSC-certified softwood lumber to produce CrossLam® CLT and GlulamPLUS® mass timber products to meet the strict demands designated by LEED certification. Although it is incumbent on the owners' representative to document LEED certification for mass timber projects, Structurlam can provide the necessary SFI and FSC-certified documentation support for the mass timber building products supplied to the project.

Within the available spectrum of SFI and FSC certifications, Structurlam has been certified to both the Controlled Wood Standard and Mixed Credit Standard. Having these dual certifications allows us access to a larger range of SFI and FSC-certified softwood lumber than most companies in the mass timber industry. For both GlulamPLUS® and CrossLam® CLT, Structurlam has access to consistently available certified lumber to meet the quality and scale demand for large projects. Through our Mixed Credit System, we can flexibly allocate SFI and FSC credits to projects and reduce lead times for certain raw materials. This allows us to expedite SFI and FSC-certified projects to accommodate tight project deadlines.

Structurlam maintains up-to-date information about all suppliers of SFI and FSC-certified products and materials to ensure accurate insight into the Chain of Custody process. Our internal documentation process is modeled after industry-best practices concerning reporting, tracking, audit-readiness and sourcing transparency. Our sophisticated tracking and SFI and FSC claim mechanisms provide quick and simple access to the critical SFI and FSC Chain of Custody requirements. Additionally, the Structurlam Chain of Custody administrator conducts training initiatives to ensure adherence to the SFI and FSC standards is understood by staff members involved in administering the standards.

Structurlam also can help your project earn LEED Credits towards Platinum Certification by purchasing SFI and FSC-certified lumber to produce SFI and FSC-certified mass timber products. In the LEED v4 commercial rating system, SFI and FSC is recognized in the Building Product Disclosure and Optimization: Sourcing of Raw Materials credit. The requirements for use of SFI and FSC-certified wood in LEED stipulate that the vendor, Structurlam, must be SFI and FSC Chain of Custody certified. Vendors are defined as companies that sell products to the building contractor or subcontractor. These products must carry an SFI and FSC Claim (FSC MIX, FSC Recycled, FSC 100%), which Structurlam is positioned to supply to any project.

Based on our experience, Structurlam is able and well qualified to supply CrossLam® CLT and GlulamPLUS® mass timber products with the SFI, FSC and LEED documentation support needed.