TA'TALU ELEMENTARY SCHOOL

Surrey, BC | Design Phase

Role of the firm: Structural Engineer of Record
Budget: CA$39 million
Architect: Thinkspace
Client: School District No.36

Ta'talu Elementary School in Surrey, BC, was gifted the name "Ta'talu" by the Semiahmoo First Nation, which means Little Campbell River. This pioneering project will be the first three-storey hybrid mass timber elementary school in British Columbia. The building provides learning spaces for 80 kindergarten students, 575 grades 1 to 7 students and will also feature on-site childcare facilities.

The three-storey structure consists of stacked learning neighbourhoods on the east and west ends, each made up of four or five classrooms opening onto a shared project space. The structural framework for the building is a mix of mass timber, light wood framing, and steel construction. Post-and-beam glulam is the predominant structure, with load-bearing members made of mass timber, while shear walls are light wood framing.

An accelerated construction schedule was possible due to the use of pre-fabricated timber components. The faster construction time, which meant less time set up on site as well as reduced manpower hours, provided the School District with significant financial savings. An added benefit of the pre-fabricated design was the relatively quiet nature of construction - fewer truck deliveries to site was a positive experience for this established neighbourhood.

An embodied carbon analysis conducted by RDH Building Science during the construction documents noted that the total global warming potential of the steel version of the building would be 283kg/m2 CO2eq, 27 kg/m2 CO2eq (9.5%) higher than that of the wood version – meaning that the wood version would be more environmentally sustainable. The project's hybrid mass timber structure offers not only environmental benefits but also aesthetic and biophilic advantages, making Ta'talu Elementary School both an innovative and sustainable project.

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