



Prefabricated Structural Wood

An innovative approach to truss construction is a practical, affordable and beautiful solution

## Tyron Road Residence





This project is an oceanfront property in North Saanich, B.C., with views of the nearby marina and surrounding ocean, so open spaces and light were important. For the roof, this meant that adding depth to the structure would detract from the overall appearance of the project. It was important to the clients that the finished appearance of the building be as close to the architectural pictures as possible.

The original plans for this residential roof structure called for large glulams with a compound curve, as well as other smaller curved roofs that were to be framed on site. The design team asked a local truss manufacturer if it could price those beams; instead, they were given an option to convert the roof to trusses with all the curves built into them, as well as trusses on all the curved and non-curved roofs. The roof structure has a sloped LVL beam in it;

the trusses were designed with a pocket to be inside the truss system, allowing for most of the roof to be constructed with prefabricated components. The result is a more efficient building with abundant ventilation space in the attic, adding to the structure's eco-friendliness.

Loading conditions created by the curved roof and building shape caused special slumping and drift loading on the building. The truss components had to be designed to account for this. The team was faced with a challenge getting the trusses up onto the walls, as the shape was like nothing they had ever done before. They had to invent a method of stabilizing and craning up the trusses one at a time onto the walls, while preventing the trusses from bending too far during the installation process. With careful planning and diligence, all the trusses were placed without incident or delay.

A stick-frame structure would have required a time-consuming process involving lasers, string lines and multiple measurements, whereas the curved trusses were simply dropped in where required. Using these prefabricated trusses reduced the overall roof costs significantly and provided a structure that was easier to install and made-to-order in a very short time frame.

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