



REMINGTON
HOMES
VAUGHAN, ONTARIO

(Reprinted with permission from
ArcelorMittal Dofasco Steel Design, 2008)

Design and Construction Team

Developer & General Contractor:
Remington Homes, 905-761-8200

Architect:
Joseph Bogdan Associates Inc.
416-531-7717

**Light Steel Framing Panelized
Wall Assemblies, Lightweight
Steel Roof Truss Framing &
i-SPAN Floor Joists:**
KML Building Solutions
905-832-9286

**Light Steel Framing
Supplier (LSF):**
Bailey Metal Products
1-800-668-2154

Photography: Vyta Beniusis

Photo:

1. KML's engineered and pre-assembled LSF roof truss framing also meets the formula for savings and success. The quality system is installed with great speed and simplicity. These roof truss solutions accommodate a variety of roof styles or geometry and provide added benefits that are inherent of steel frame construction.

Remington advocates the use of Light Steel Systems



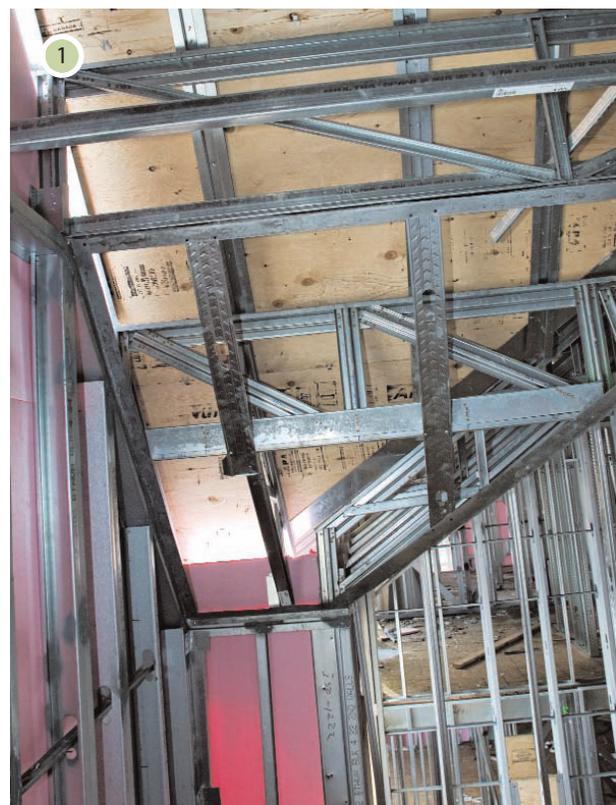
Remington Homes is at the forefront of innovative building construction in premiere communities across the GTA. In one of their projects currently under construction – Bath-Von Townhomes located on Bathurst Street in Vaughan – Remington's high standards of craftsmanship are further enhanced with the use of steel. The three-storey townhouses feature light steel framing panelized wall assemblies, the Genesis i-SPAN steel floor joist system, and engineered and pre-assembled lightweight steel roof truss framing system, all supplied by KML Building Solutions, an affiliated GenesisTP Inc. partner.

"The trend in the industry is to build as green as possible. That can be a challenge, but we've discovered it's easy using steel," emphasizes Walter Zanutel, Remington's Vice President Construction – Low Rise, explaining that the project addresses sustainability issues in its design and construction. "Steel is more environmentally friendly than other products and because each component of the Genesis systems is manufactured to exact lengths, it eliminates waste and scrap in the superstructure. In using it, we're saving trees and energy, and minimizing waste being sent to landfills."

In addition to contributing to the preservation of our natural resources, steel is 100% recyclable, making Genesis a sustainable building method that uses environmentally responsible steel framing products.

Eli Newman of Joseph Bogdan Associates Inc., architects on the project, agrees. "Steel is efficient to use, is sustainable and responds well to most design goals and objectives," he says mentioning that this was the first residential steel construction project his firm has been involved with." Eli adds, "that the speed of erection and construction efficiencies with steel makes it an increasingly popular material for future residential projects."

This is not the first time Remington Homes has used the factory-produced panelized wall assemblies and roof truss system. However,



Photos:

2. i-SPAN floor joist with OSB subfloor and pre-assembled light steel framing wall assemblies at the ceiling.
3. The Bath-Von project consists of a total of 47 units in 9 blocks. The total framing area of the houses is 14,365m² (154,631 sq. ft.).



it is the first time they have used the i-Span joists. "KML did a good job for Remington Homes -- using the Genesis system, which incorporates Galvalume™ and galvanized steel components -- on a similar residential project two years ago," comments Martin Fabek, KML's Director of Corporate Accounts, emphasizing that the reason behind their repeat project performance is a simple formula: speed + quality + simplicity = savings.

There are numerous benefits to using each of the LSF systems on the Bath-Von townhouses. Advantages of the wall assemblies being used for all exterior load bearing walls and interior partitions are:

- pre-punched holes for electrical and mechanical services
- insulated structural lintels
- precise window, door and mechanical rough openings
- built-in insulated structural posts
- high strength cross bracing
- factory installed uplift anchors
- top of wall load distribution system
- interior non-load bearing partitions, drop ceilings, mechanical boxing are manually framed on-site with light gauge steel studs.

"This process increases the efficiencies, reduces costs and allows for last minute on-

site changes to be made more easily," says Martin.

Remington recognizes the optimized strength, superior performance, practical features and simplicity of the i-Span floor joist system. Less labour is required to install the i-Span because the number of parts and fasteners used is significantly less than in other systems. Its symmetric shape, along with separate chord and web thickness, provides superior strength, stiffness and efficiency. Large utility holes allow for servicing within the floor depth. Martin highlights another unique advantage to the system: "This is the first light-steel floor system with a wooden sub floor to achieve an UL/ULC one-hour fire rating with only one layer of gypsum board."



Photos:

- 4. KML is supplying and installing 254mm (10") Z275 galvanized engineered i-Span floor joist system, joists at 16" on center, complete with site installed 5/8" T&G OSB floor sheathing.
- 5. The i-SPAN floor joist system reduces labour by significantly reducing the number of parts and fasteners required to be installed. Symmetrical shape along with separate chord and web thicknesses provides superior strength, stiffness and efficiency.



Project Specifications

Fire Rating for Floor and Wall assemblies:

Only Party wall (demising wall) fire rated (1 hour)
ULC design No. W449

Acoustic Rating for Walls:

See party wall construction

Acoustic Rating for Floors:

Not applicable

Floor Span:

6.45m (21'-2")

Total Floor Depth (iSPAN joist and deck):

298.5mm (11 3/4") typical floor and
355.6mm (1'-2") i-SPAN roof

Floor Joist Span:

6.45m (21'-2")

Floor Joist Depth:

254mm (10")

Joist Spacing:

406.4mm (16") on centre

Static Load Deflection Criteria:

KML designs to a min. of L/480, the actual design for the Bath-Von project was good for L/600.

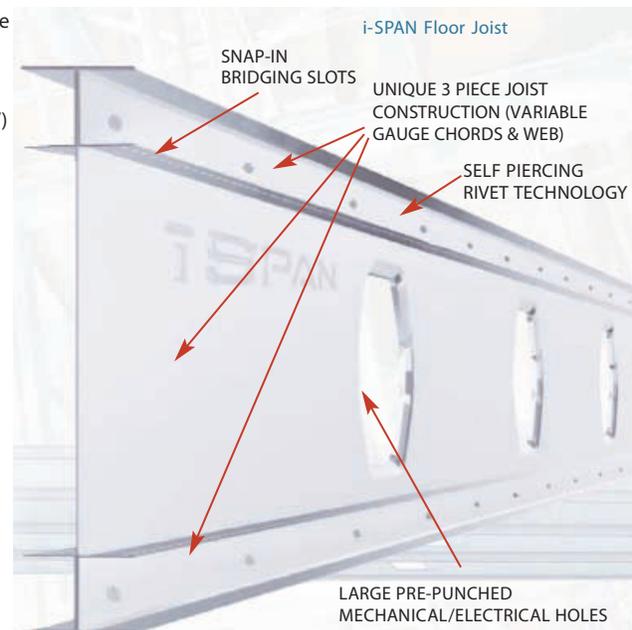
Wall assembly size(s):

- Exterior Wall 92mm (3.6") Studs (Brick) 244.5mm (9 5/8")
- Exterior Wall 152mm (5.98") Studs (Brick) 254mm (1'-0")
- Exterior Wall (Stucco) 177.8mm (7")
- Party Wall (Demising Wall) 241.3mm (9 1/2")

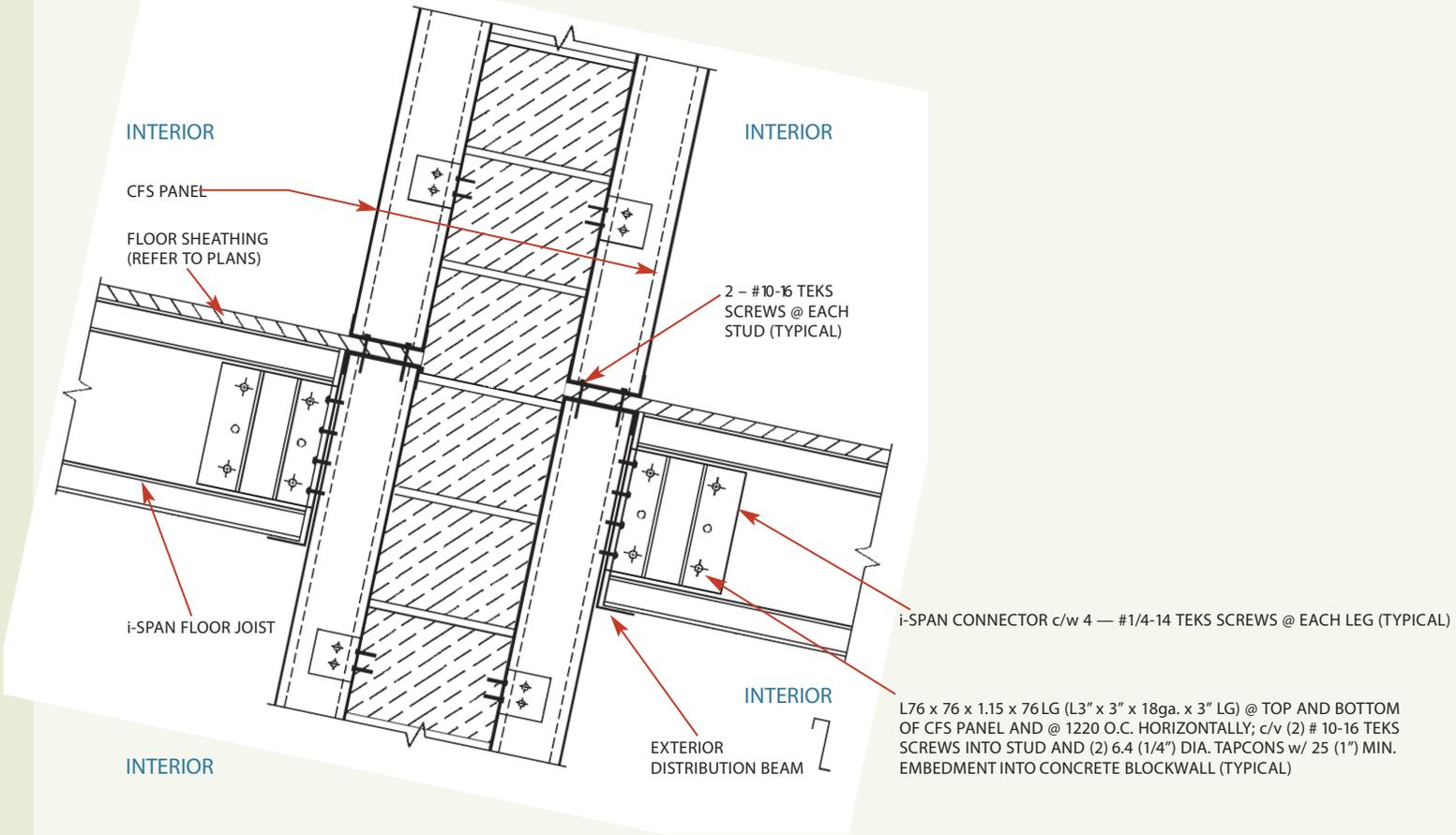
Roof truss assembly sizes:

4.87m & 13.7m (16'-0" & 45'-0" Spans)

"KML has shown a strong commitment to this project and it's coming along very well," emphasizes Walter Zanutel acknowledging that the future is bright for using light steel framing in residential construction. Speaking on behalf of the team that worked with the Genesis system, Walter mentions that at first, some contractors were uneasy about the use of steel mainly because of the cost implications. "The up front costs may be more, but once all the logistical costs are factored in, it works. We are avoiding service callbacks because of our squeaks, nail pops, corner cracks, that type of thing. Contractors have adapted well to using it, so the additional costs aren't there any more. Our main objective is to continue to make it cost effective and when we do, we will be using it more and more and recommending it in the future."



Wall Section



Canadian Sheet Steel Building Institute
 652 Bishop St. N., Unit 2A
 Cambridge, ON N3H 4V6
 Tel: (519) 650-1285
 Fax (519) 650-8081
 www.cssbi.ca