



## TOLLEDALE VILLAGE NURSING HOME

BARRIE, ONTARIO

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ArcelorMittal Dofasco Steel Design, 2011)

### DESIGN AND CONSTRUCTION TEAM

ARCHITECT:  
OCA Architects Incorporated

GENERAL CONTRACTOR:  
Melloul-Blamey Construction

CONSULTING ENGINEER:  
Finelli Engineering Inc.

STEEL FRAMING SYSTEM  
SUPPLIER/INSTALLER:  
Magest Building System

STEEL FRAMING SUPPLIER:  
Steelform Building Products

FLOOR SYSTEMS:  
Hambro Joist Systems

ROOF JOISTS:  
Canam Group

## Pre-assembled, lightweight, cold formed steel wall panel assemblies offer speed of installation



The Tollendale Village Nursing home, located on Hurst Drive in Barrie, is a prime example of the effectiveness of steel for institutional construction. For multiple room/lodging requirements, steel is lightweight, easier to manage, requires less time to erect when compared to market alternatives and results in less on site clutter. The three-story, 2,600m<sup>2</sup> (28,000 sq. ft.) facility, which opened in July 2010, has a 160-bed capacity and is one of the largest nursing homes in the city.

"The building is a combination of structural steel in the larger open area and cold formed steel (CFS) in the residence areas," explains Dan Finelli, Project Design Engineer of Finelli Engineering. "One of the outstanding features is a protruding entrance canopy, extending over an existing building, which offers a visually appealing curved steel profile."

Commenting that traditional load bearing masonry walls were initially considered for Tollendale Village Nursing Home, Finelli emphasizes that CFS walls were chosen because they offered more benefits. "CFS panels are pre-made in the shop and installed on site, which speeds up construction." Magest Building Systems manufactured and pre-assembled the galvanized cold formed steel wall sections in their plant in Stratford then shipped them to the site ready for installation. All cold formed steel sections feature a protective corrosion-resistant galvanized minimum coating weight of G60 (Z180).

Craig Wood of Magest Building Systems emphasizes there are unlimited benefits to using pre-assembled wall panels on multi storey buildings, such as Tollendale. "The speed of installation is a major advantage. The wall panels are assembled in our plant under controlled conditions. They are assembled on compression

Finelli emphasizes that CFS walls were chosen for the three-storey 2,600m<sup>2</sup> (28,000 sq. ft.) facility, because they offered more benefits. "CFS panels are pre-made in the shop and installed on site, which speeds up construction thus reducing insurance costs".

tables to ensure the studs are seated tightly to both the top and bottom tracks to minimize settlement once the building is loaded. In addition to the swift assembly, there is reduced garbage disposal on site and the chance of material theft from the worksite is less with these wall panels."

Tollendale Village Nursing home features galvanized steel framing, ranging from 33mm to 68mm (1.3" to 2.7"), supplied by Steelform Building Products. Roland Jonker of OCA Architects, comments, "We chose the steel stud system for the efficiencies it would allow in the field".

The roofing system on Tollendale is an open web steel joist design, with Parapet 224.3m (736 lin. ft.) supplied by Canam Group. The Hambro D500 Series joists were used for the floor system.



**WALL SPECIFICATIONS OF THE TOLLENDALE PROJECT:**

- The first floor load bearing interior and exterior walls are 152.4mm (6") wide studs, 1.9mm (.075") thick, 412.3m (1,353 lin. ft.) Stud designation is 600S162-68 at 406mm (16") o.c. Wall height is 3.5m (11'6").
- The second floor load bearing interior and exterior walls are 152.4mm (6") wide studs, 1.52mm (.060") thick, 739m (2,425 lin. ft.) Stud designation is 600S162-54 at 406mm (16") o.c. Wall height is 3.5m (11'6").
- The third floor load bearing interior and exterior walls are 152.4mm (6") wide studs 1.22mm (.048") thick, 712m (2,336 lin. ft.) Stud designation is 600S162-43 at 406mm (16") o.c. Wall height is 3.53m (11' 6.75"). Actual stud wall size is 406mm (6") wide.



For multiple room/lodging requirements, steel is lightweight, easier to manage, requires less time to erect, does not support combustion and is totally recyclable when compared to market alternatives and, it results in less on site clutter.

Light steel framing is a proven technology which reflects the superior strength and consistency of steel. Steel, being inorganic, does not support the growth of mould nor does it give off gas, thus contributing to excellent indoor air quality.

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- Dan Finelli, Project Design Engineer, Finelli Engineering Inc.



Cold formed steel wall assemblies are lightweight, strong, fire resistant and easy to manoeuvre and they allow for the structure to be closed in more quickly than competing materials.



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