2007 Glengarda New Facility / Linen Building Renovation
Windsor Regional Hospital Western Campus

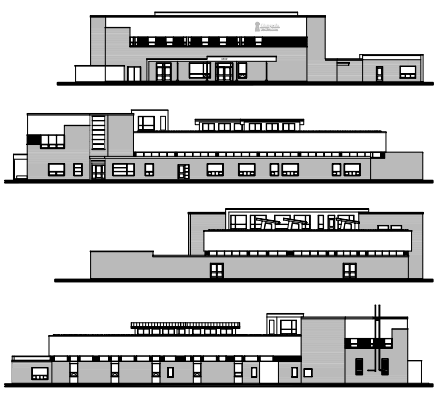
The new home of Glengarda Child & Family Services of Windsor, Ontario is a 32,000 sq. ft. former hospital laundry building on the Windsor Regional Hospital campus which has been renovated into a showcase of energy efficiency and sustainable design. The existing two-storey structure was extensively renovated and was verfied by Natural Resorces Canada's Commercial Building Incentive Program (CBIP) to be 64.4% more energy efficient than a building designed to the MNECB (Model National Energy Code of Canada). The annual energy cost savings is anticipated to be $34,000 at current energy cost rates. This building is currently considered to be the most energy efficient elementary or secondary facility in Ontario and the third most energy efficient in Canada.

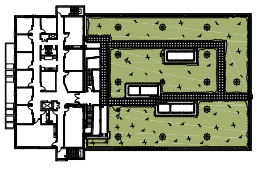
The existing site was minimally affected with the existing asphalt parking areas to remain being resurfaced and some other asphalt surfaces removed to create more green space. Existing plants and trees on the site were maintained or relocated. Following construction, the site had more green space than when construction commenced.

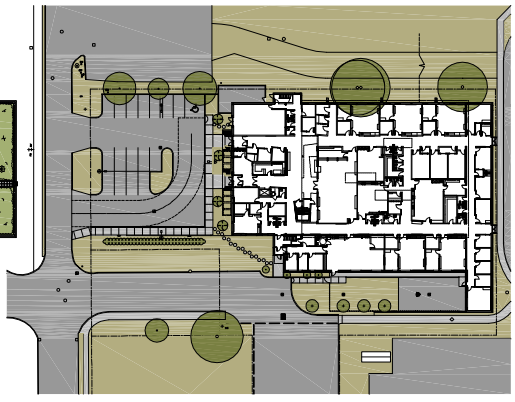
The detailed and intricate renovated building envelope had to be evolved to deal with the lack of insulation in the majority of the exterior walls and roofs. The evolved design provided for a fully insulated and uninterrupted high performance building encapsulation which involved the use of spray applied, rigid and batt insulation in order to eliminate all thermal bridging. The existing brick facade of the second floor exterior walls was removed and EIFS was installed in order to better eliminate thermal bridging occurring at the second floor roof level. To maximize the building envelope performance, fibreglass window frames with argon filled, low-e sealed glazing units were installed in all locations.

Further energy efficiency was attained by incorporating daylight harvesting into the building. in order to take advantage of the existing building's solar orientation, new window openings and rooftop light monitors were installed along with a high atrium space with a raised glazed wall which will allow for vast amounts of natural lighting into the building. This day lighting design combined with the use of high efficiency light fixtures, occupancy sensors and daylighting controls allowed for extremely high energy efficiency and lighting quality. Additional efficiencies resulted from the installation of a high efficiency condensing boiler, rooftop chiller and an in-floor radiant heating and cooling system for the majority of the occupied space. Energy recovery ventilators and a building management system add to the efficient energy use within the building.

The reuse of the majority of the existing main structural and exterior facade elements of the building in the renovation and the extensive salvaging and recycling of other elements of the building are key sustainable features of the project. Additional features of the building include the installation of a 9000 sq. ft. green roof, operable windows, the extensive use of linseed oil linoleum flooring in the corridors and some public areas of the ground floor and the use of low VOC (Volatile Organic Compounds) emitting paints and finishes throughout.







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