

“But Guelph ... was, like all cities fated with a high destiny, the cause of quarrels; Romulus slew his brother for hopping over the walls of Rome, and although the history of my city is not likely to be honoured by warlike events, it yet gave rise to a controversy as worthy of commemoration, for from the day that I announced the birth of this metropolis to the directors of the Canada Company, my troubles and vexations began.” – *John Galt, Autobiography, 1833, pp.17*

In order to fulfill its destiny Guelph sacrifices its physical, civic and symbolic heart to stimulate and promote growth and development. The unified experience offered by Guelph's baroque inspired plan of radiating streets; it's vistas, squares and interconnected urban artifacts (churches, markets and mills), is undermined by the introduction of the Grand Trunk Railway in 1856.<sup>1</sup> Connecting Toronto to Guelph, the rail-line slices through Priory Place; the foundation of the town, bisects the main public square and marketplace, and appropriates a Victorian lined boulevard thus creating a divide. This divisive element brought expansion and industry to the



**Figure 1** – A bird's eye view of Guelph in 1872: post rail-line insertion. From [www.uoguelph/history/urban/mod\\_04.html](http://www.uoguelph/history/urban/mod_04.html)

city; one set of tracks bred another. Industries once using the rail corridor have since departed, leaving behind abandoned factories. Surrounding residential neighbourhoods are unable to reconcile with these elements; intermediating spaces are left empty, as many screens and volumes are placed between city and rail as possible. This is the heritage of the Eco-house Guelph project.

Situated at an intersection of Victorian Guelph, rail corridor and major traffic thoroughfare the house draws inspiration from surrounding elements recognizing their influence on the site and city. In an effort to reconstitute the urban fabric straddling the tracks, particular focus is paid to the visual consistency created by nearby Victorian neighbourhoods. A Survey of these houses reveals three vernacular Victorian house types to be investigated. An account and analysis of their form, composition and siting, an investigation and comparison of Victorian cultural ideologies, and the identification of innate ecological principles are each used as a point of reference to compose the massing, to clad the exterior and to inform and direct the project's building systems.

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<sup>1</sup> From [www.railways.incanada.net](http://www.railways.incanada.net)

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**Figure 2 – The “Divide”** (from left to right) - The Site at the corner of Preston Street and Edinburgh Road, Typical Factory Shed, Abandoned tracks and cars.



**Figure 3 – Inspirations** (from left to right) - Arkell House: an Ontario House, Typical Foursquare along Edinburgh Road in Guelph and Guthrie House: an Italianate manor.

### Figure 4 – Examples of Victorian Housing

Title (date built) by Architect/Owner, Address – style/type

Maplebank (1850) by William Stevenson, Grange & Stevenson Streets - Gothic

Ker Cavan/Tyrcathleen (1855) by Archdeacon A. Palmer, 26 Stuart St. - Gothic

Matthew Bell house (1870) - Ontario House

Sunset (18-?), 74 Paisley Road – Italianate

House on Kent (1913) by William Mahoney, Kent Street - Foursquare

Maxwellton by Thomas Sandilands, Paisley Rd. at the Hanlon Expressway – (large scale) Ontario House

Wyoming (1925), 67 Queen Street – Italianate massing w/ Queen Anne Detailing

Wells House (19-?), 25 Manor Park Crescent – Ontario House

Riverslea (19-?), The Homewood Sanitarium Grounds on Delhi Street – Romanesque

An inventory of the houses found along the rail-corridor reveals a cross-section of Victorian architectural history in Guelph. The pointed windows and steeply pitched roofs of the Gothic Revival (1840), the dormered mansard upper storey(s) of the Second Empire (1870), the liberal use of vibrant colour and excess of intricate woodworking of the Queen-Anne (1880-1910), and the rustic minimalist construction and lack of applied detail of the Romanesque (1880) are all found along this section<sup>2</sup>. However it is the vernacular, neo-classical “Ontario House”, the Folk Victorian inspired “Foursquare” and “Italianate” manor estates from which particular inspiration is drawn. These types represent the majority of houses found in the area who, in community and in competition with one-another, create a texture that visually unifies the neighbourhood. Both the Ontario House and Foursquare are rectangular boxes, with simple roofs and facades arranged symmetrically about their centres. Distilled, the Italianate manor is composed of similar rectangular volumes then arranged asymmetrically to visually increase the impact on a large site. Sitting elevated on a terraced plinth or atop high foundations, with entrances, bayed windows or porches projecting outwards to the street, each postures for a strong connection with the street: simultaneously trying to project an individual character while acknowledging the collective city. There is a common reduction in detailing. Interest is created using surface texture; façades are clad in locally quarried, irregularly cut, amber-hued limestone or red brick. Maintaining a direct relationship with a site, the terracing minimizes the abrupt connection of house to ground, the projecting bays and porches have a softening effect, reducing the scale and bulk of the core as one moves outward and into the landscape, while stones exposed to the surface by the elements exactly match the character of the facades. Commonplace is a centrally located hearth and fireplace rising, seemingly from the earth and anchoring these houses to place. Each of these factors unifies the streetscape and is referenced by the Eco-house Guelph project. The main volume of the house sits on the highest point in the site, the office, resting on a high foundation projects outwards to the street. The service spaces and fireplace are clad in limestone and seemingly emerge from the site. Detailing is focused at the meeting of parapet and roof or in the operable screens.

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<sup>2</sup> These dates represent the approximate height of popularity of each architectural style.

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**Figure 5 – Eco-House Guelph** an exterior perspective illustrating siting, massing and asymmetric composition

These common, unifying elements are the product of ideas and ideals prevalent in Victorian culture. Of particular influence is the dichotomy between individualism and cultural uniformity, in the romance inspired by the natural environment, and in the concept of privatism. As a symbol of independence and an expression of one's individuality Victorian homes were a statement of one's taste, wealth, and education, of one's core values. The gothic style expressed a family's Christian values while the Italianate expressed elegance in artistic taste and an interest in world travel and relaxation. Similarly the mansard roofs of the Second Empire style evoke the boulevards of Paris.

"...As a rural style, expressing country life, the Italian is inferior to pointed and high-roofed models. If it is not so essentially country-like in character, it is however remarkable for expressing the elegant culture and variety of accomplishment of the retired citizen or man of the world, and as it is capable of the most varied and irregular as well as very simple outlines, it is also very significant of the multiform tastes, habits, and wants of modern civilization. On the whole, then, we should say that the Italian style is one that expresses not wholly the spirit of country life nor of town life, but something between both, and which is a mingling of both." - A. J. Downing, 1850, pp.6

Yet the ability and freedom of the common man to own and to build his own home; to determine his own destiny, is contrasted by mass production inspired standardization, by prescriptive manuals on etiquette and by architectural pattern books: there is really no basic difference between the design of the mansion and that of the cottage, tending only to be a scaled-down version. In a similar fashion Eco house Guelph expresses the necessity of reducing the load: of minimizing the effect of modern living on both the environment and on a city's infrastructures. It's green roof and extensive, visible, rooftop solar mechanical systems advertise these values. Yet it

also represents a set of general and specific (responsive) rules to be applied to (every) other sites paralleling the tracks (*Refer to Figure 8*).

The Victorian ideal of the natural and the unspoiled is a romantic principle that is embodied in the yards of its homes and in the design of its public parks. It celebrates the wild and the overgrown but in reality denudes the landscape, shaping the environment into gently meandering paths and picturesque backdrops for the events of public/private life. The Eco-house



**Figure 6** – *A Sunday Afternoon on the Island of La Grande Jatte* by Georges Seurat

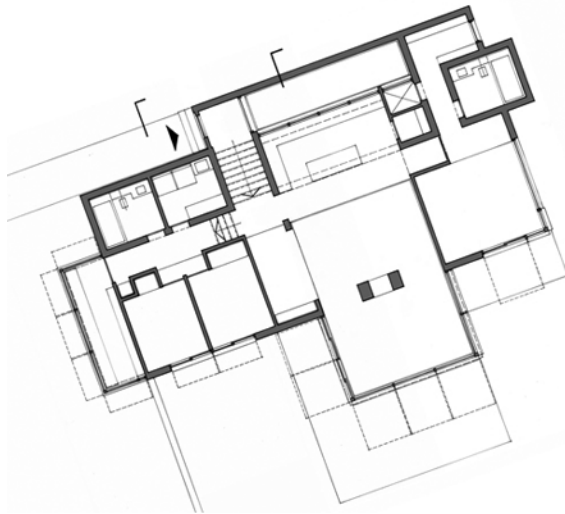
is caught in a similar romantic contradiction. While it attempts to recognize, reconstitute and reference the surrounding urban fabric it simultaneously tries to extricate from it, relying on site specific, environmental processes rather than complex integrated mega-infrastructures; energy used to heat the home is generated by the sun and collected in panels on the roof rather than drawing from power lines. Similarly, grey

wastewater is collected in cisterns for landscape maintenance while excrement is collected in composting toilets rather than flushed into the city's network of sewers and storm drains.

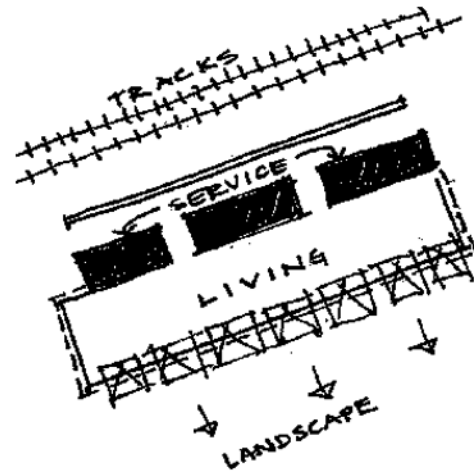
The concept of privatism<sup>3</sup>; maintaining a separation from the private life of the family and the public life of the city, is exemplified in the Victorian (North American) ideal of the detached, privately owned, single family house set in a spacious lot outside the city centre. It is also the projection and maintenance of successful private enterprise into the public realm. This ideal informed the organization of homes and sequence of public spaces - porch, entry and parlour – found in the Ontario cottage, Italianate and Foursquare influences in particular. Placed at the front, beside the entry foyer and nearest to the street, the porch allowed for public (neighbour) interaction and transaction while the parlour provided the stage set from which the unity of the family could be acted out. In the Eco-House Guelph project the porch is supplanted by the office, the only space facing the street, as the venue for public (business) interaction; physical contact replaced by fax, cable and byte. All other familial zones refer to the private landscape of the

<sup>3</sup> A discussion on Gwendolyn Wright's *Building the Dream: A Social History of Housing in America* (1981). From <http://www.uoguelph.ca/history/urban/mod09>

backyard lawn.



**Figure 7 - Eco-House Guelph: Floor Plan**



**Figure 8 - Eco-House Guelph: Parti**

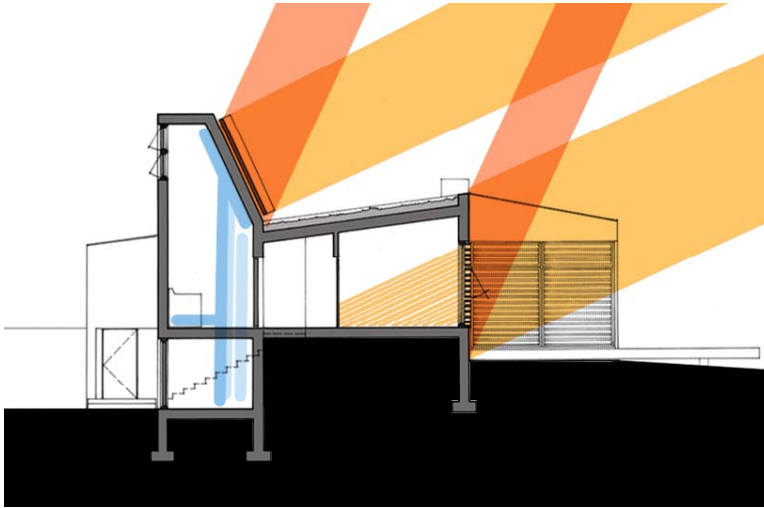
Prior to the advent of more complex systems of heating/cooling and plumbing, the invention and widespread use of electricity or the insertion of urban infrastructures<sup>4</sup>, Victorian houses relied on natural processes and events to provide or assist in creating a (more) comfortable living environment. A large roof collected rainwater that is then stored in tanks in attic spaces: height and drama of towers born from functional necessity. Bathroom and kitchen are stacked one on top of the other using gravity to facilitate the distribution of this water and the disposal of excrement. Coal or oil-fired furnaces placed centrally in the basement rely on natural convection for distribution and are supplemented by central or multiple fireplaces: the cool air is drawn down into the basement through vents along the perimeter facilitated by the advent of the balloon framing system. The simple plans facilitated these needs; most rooms shared a common wall from which these services could be run. Seasonal variation is regulated by porch and shutter, determining the amount of sun shaded from or penetrating into the building. The large roofs also served to heat the attic during the summer inducing a stack effect. Double hung windows installed in opposite walls were left open to allow for natural ventilation. Each of these processes is used as a template by the Eco house project and is emulated in its building systems. Rainwater is collected. Plumbing is centralized in the service cores where it is stored, heated by the sun and distributed directly to the appliances below. These same cores are solar chimneys

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<sup>4</sup> The air (temperature and humidity) conditioning system is invented by Willis Haviland Carrier in 1902. Following several years of development by multiple scientists and inventors the life of the light bulb is extended to upwards of 1200 hours by Thomas Edison in 1880.



and in combination with operable “shuttered” windows regulate the temperature during the summer months. Composting toilets and cisterns collecting grey water reduce the home’s dependency on the city’s infrastructures. Modern technology references period standards of construction.



**Figure 9** - Eco House: Guelph - cross section highlighting major eco building systems

In using modern technologies that parallel typical building practices; by investigating and comparing cultural ideologies influencing the perception of house and status of occupant; and through a literal interpretation of siting, massing and composition of the Ontario House, the Foursquare and the Italianate manor, a better understanding of the streetscape surrounding the rail corridor is achieved. Using these inspirations as a platform to generate, compose and texture the exterior and to inform the organization of the interior, the Eco House Guelph project attempts to suture back together the city fabric stranded on opposite sides of the tracks.

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