The Neighborhood House

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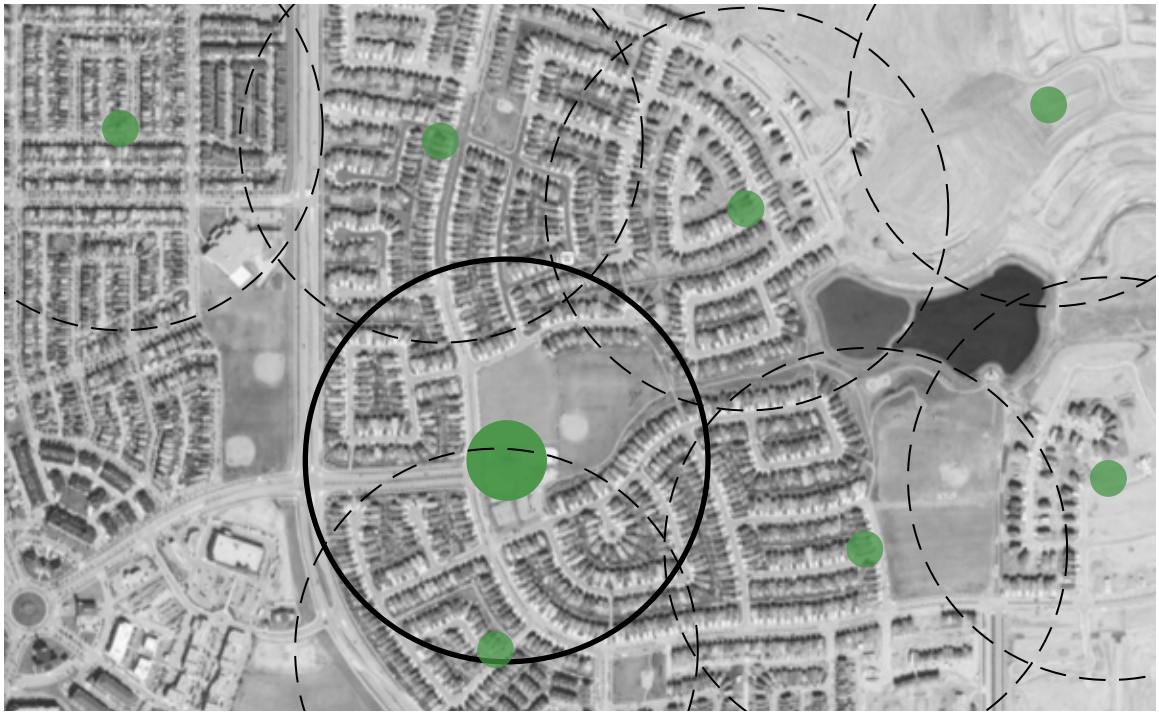
Inspiration comes in many forms. At times we go deliberately looking for it, while other times it seeks us out. An unexpected sequence of events brought me home to stay with my family in Suburban Calgary this winter.

They are new residents in a budding community, surrounded by young families, construction noise, and new houses springing up every week. And as spring wards off the snow, residents appear building decks, discussing fences with neighbors, and laying sod over muddy unfinished property. There is an energy among residents that's exciting; a community rich with potential it will never meet. What is the draw to these neighborhoods that has sent Calgary's real estate network off the charts in past years? The suburban life promises privacy, space, independence, and community all in one. Yet it truly gives a false sense of these conditions, and as the new neighborhood unfolds, it fails in delivering.

Many professionals are taking on the problem of the suburbs and attempting to find solutions for "the greatest misallocation of resources in the history of the world"[1]. Solutions include densifying existing suburbs and building poly centric "downtown cores" to bring the workplace closer to home. The proposed solution for this competition entry is at a much smaller scale and can be more immediate, taking advantage now of the energetic attitudes in newly developing communities. The Neighborhood House aims to create a more sustainable way of life for existing residents. Using minimal intervention, it strives for a stronger sense of community and independence among current residents. At the same time it is a sustainable model for new homes going up, presenting a layout that makes private space more private, and public space more accessible.

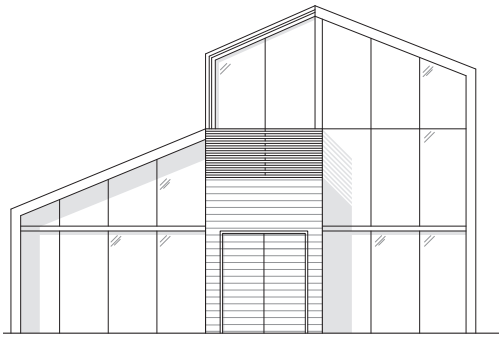
In the current community of New Brighton in South East Calgary, there is one community center for over 4000 residents. Some residents are over 15 minutes walking from the center, and the community is predicted to double in size. The neighborhood house is a blending of community center and private residence, designed specifically for a corner lot to take advantage of both street faces. By constructing a series of these homes, every resident could be within a 5 minute walk of their nearest community center. Smaller, more personal and tangible communities could form within the larger.



aerial view of New Brighton, SE Calgary. 5 minute walking radius from existing and proposed community centers

1 Azure Magazine. Healing the Suburbs, May 2008. "Diagnosis: This is Nowhere," Chris Turner. (originally quoted from "The Geography of Nowhere" by James Howard Kunstler)

The initial plan parti was to use street presence for the community center, use the community center as a buffer for the privacy of the house, and create a permeable buffer of amenities and services between the community center and house. Initial ideas for the appearance and structure of house came from a desire to fit within the comfort zone of New Brighton Residents, but modernize the form and materiality. A clear precedent was the housing project by MVRDV, "Buitenplaats Ypenburg Hageneiland". The design of the structure follows the form of traditional housing that residents here might expect. But it minimizes detail to simplify the structure, allow mass production or pre-fabrication, and reduce cost. The appearance is strong and archetypal[2]. The community also reaps the spatial benefits of its banded layout. The bands create layers of public and private space, much like the three bands of the neighborhood house.



east elevation of Neighborhood House

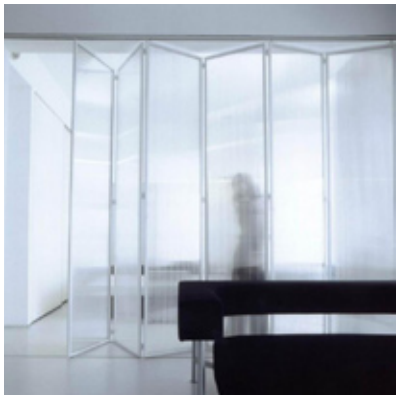
Buitenplaats Ypenburg Hageneiland by MVRDV

The progression of the design focuses on four areas: Economy, Sustainability, Spatial and Social development. The economic goal was simply to make the house as affordable as possible, even to potentially meet the needs of some lower income families in Calgary. The combination of community center and house allows certain costs to be handed over to the community rather than the residents. The lot for example could be owned by the community, saving residents around $150,000.00 in initial property sales and more long term costs in property taxes. This also holds the resident family to some level of accountability for managing and upkeeping the community center.

A large portion of savings can also be attributed to the design of an efficient structure that combines new and old technologies in the construction process. First, inspired by a general rule for tower design, the core of the house contains all services and major structure. This increases the efficiency of the construction by bringing in skilled trades at the beginning, so the remainder of the house can be built with unskilled labor. The remainder of the house is built by local volunteers, and is the first effort to create a stronger sense of community. It's inspired by traditional methods of barn raising where every member of the community is involved in some aspect from lifting, to hammering, to making lemonade. It also limits labor costs to the off-site construction of pre-fabricated panels. After studying many examples of prefab systems[3] as well as product research, the system uses structural insulated panels and prefab greenhouse panels[4] . They both promise high insulation values, are constructed with recycled and recyclable materials, and are extremely fast and easy to install.

traditional barn raising

installing SIP panels

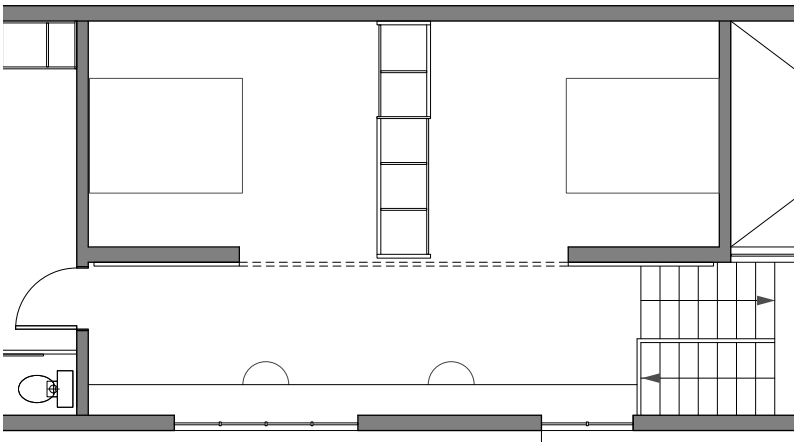


creative use of polycarb greenhouse panels

2 MVRDV, Buitenplaats Ypenburg Hageneiland Housing. http://www.mvrdv.nl/#/projects/housing/071hbuitenplaatsypenburghageneiland
3 Green Prefab. Jetson Green. http://www.jetsongreen.com/prefab/
4 Polygal Thermogal sheets, Greenwall Solutions Inc, Canada.
http://www.greenwallsolutions.com/index_files/Product_list_MultiWall_thermogal.htm

One final initiative to lower costs and ease the construction of the house, is to use readily available products where possible. This was an idea inspired and given relevance by a recently published home in Belgium[5]. In the architect's own home, he uses ikea shelves instead of partitions, an unfinished standard stair construction package, and industrial greenhouse glass. In the neighborhood house, standard wall shelves are used in place of finished cabinetry, and wardrobes are used as movable partitions.

House by Jan Demuynck



Upper floor, Neighborhood House, loft divided by wardrobes

The sustainable focus for the design put emphasis on encouraging sustainable lifestyles for the community in addition to using green systems and materials in the house itself. The slope and orientation of the roof provides a large south facing surface for solar panels and solar hot water tanks. These service a portion of the electricity and the radiant floor heating installed in the concrete ground floor. Because of irregular use of the community center and attention to day versus night use of the house, individual thermostats are programmed for the community hall, living area, and upper floor. All materials used are local, recyclable, or renewable. SIP panels use wheatboard made of agricultural waste from local Alberta farms. Concrete block in the core comes from the city's prominent cement industry. And the polycarb greenhouse panels are made in Canada and are 100% recyclable. The idea to use greenhouse panels was inspired by another home in Belgium that adopts the heat absorbing abilities of a traditional greenhouse, to increase thermal comfort and passive heating in the home[6].

Greenhouse by Carl Verdickt

Neighborhood House, diffused light through greenhouse windows

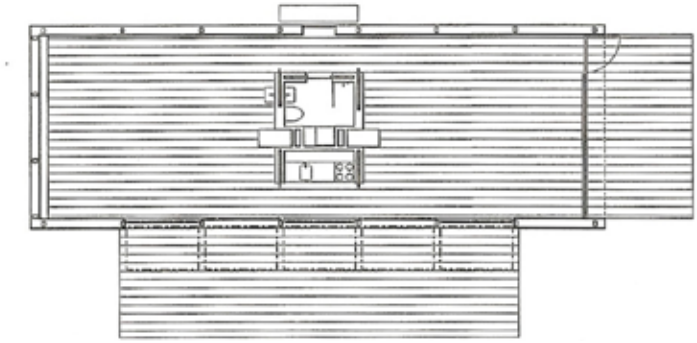
But the larger sustainable focus is on building a network that allows the community to become more self-sufficient. It's an idea about sharing resources and skills, an idea I think many current residents would find appealing provided that it was convenient and organized. The networks could branch out from the Neighborhood house, where facilities and learning programs would be located. Two prime networks are embedded in the design of the Neighborhood house; first is a gardening initiative that begins with a well-stocked kitchen and garden shed in the community center. The construction of the center also sparks a relationship with greenhouse panel suppliers, that residents of the community can take advantage of to build their own home greenhouses. The second network begins with a community workshop and aims to teach residents to do their own maintenance, renovations, and other "do-it-yourself" projects. There is a blatant disconnect between residents and their homes in terms of understanding

5 MARK, Another Architecture. No 17, Dec 08 – Jan 09. "Good Neighbours," Jana Malfroid. Pg 149

6 A Unique Greenhouse in Belgium, March 4th 2009. http://www.yatzer.com/1557_a_unique_greenhouse_in_belgium

the way it's built. A workshop network could physically reconnect people with their homes. The notion of sharing and networking is one already developing in Calgary and elsewhere, though at a slow rate. It involves a major shift in lifestyle and attitude, but offers huge benefits for residents and the environment. In a recent article in one of Calgary's lifestyle magazines[7], the author offers up such precedents as car, laundry, childcare, and even pet sharing. She states, "Sharing is one of the first lessons we teach children, and yet for adults, it's looked upon with more than a bit of skepticism." Perhaps this skepticism is a result of mistrust and inconvenience. The Neighborhood house offers a solution for residents: it's a central point of departure for sharing that is close by and very convenient; it also offers a place to build relationships and trust in the community.

The spatial aim of the house was to create more usable, flexible space for growing and changing families. By centralizing all services, the spaces surrounding the core are free to adapt. The Summer House by Henning Larsens Tegnestue takes a similar approach, where the services become the only dividing component[8].



Summer House by Henning Larsens Tegnestue

The neighborhood house uses a flexible method on both floors. On the second level, the open loft is easily closed off from the hall with sliding doors. Movable wardrobes divide the loft into two bedrooms if needed. Large room openings and sliding doors are used throughout the house, allowing rooms to be closed off or spill into adjacent space. The second aim was to create more enjoyable private space. Suburban life boasts generous outdoor space, but finding privacy in the outdoors is impossible with current house models. The neighborhood house lays out 4 outdoor zones, each integrated with an interior space. The largest is a greenspace the community hall opens into, for gatherings and games. The second is smaller and sheltered behind the garden shed and greenhouse. It opens solely to the home's living space. Upstairs there are two outdoor patios where residents can find privacy from both the community and their own family members.

One further focus in the spatial design was the choice of an open or exposed kitchen. When researching green cabinet options, I discovered the "Farm Project" which eliminates cabinets and aims to reconnect people with the food they eat[9]. The project is an over the top example of displaying everything we eat and cook with from herbs, to pots and pans, to the animals themselves. It literally makes a farm out of the kitchen. The simple truth is that most people use their pantry to hideaway boxed and processed foods. Fresh fruits, home baking, and spices are often left out for display. The kitchen in the Neighborhood house opts for open shelving to encourage healthy food choices, allow people to value the food they eat, and to build the most green and affordable kitchen possible (no cabinets are better than green cabinets). With the kitchen cleanly tucked away, off axis from the open halls of the house, it is easily turned inside out and exposed.

The Farm Project, Meire und Meire

The Neighborhood House, exposed kitchen

7 Avenue. April 2009. "Share & Share Alike," Susan Pederson. Pg 63
8 Cristina del Valle. "Compact Houses". Universe Publishing, 2005. Pg 395
9 Meire und Meire. The Farm Project. http://www.meireundmeire.de/projectgroups/group/the_farm_projectevolution

The final goal, social development, has already been discussed throughout. From building a stronger community, to inviting lower income families into the neighborhood, the design relies on the energy and excitement of a newly developing residential area. The recent progress and success of the Grand House in Cambridge is an encouraging tribute to community involvement. Much of the enthusiasm for the Grand House was based on students building for students. In a similar way, the neighborhood house is built by the community as a future amenity. And by involving the community in construction, they might further value and appreciate the final product, potentially increasing usage. This spring in New Brighton, residents are working together to build fences and fill in their yards. It's a prime time to harness this cooperative energy and take advantage of the summer months. Although suburban communities uphold a long list of detrimental effects on the environment, they also carry some potential in developing more sustainable lifestyles. The Neighborhood house is an attempt to unlock potential with minimal means.