

City of Portland: Living Smart Competition 2004
Category: PDX-2

Garden-House



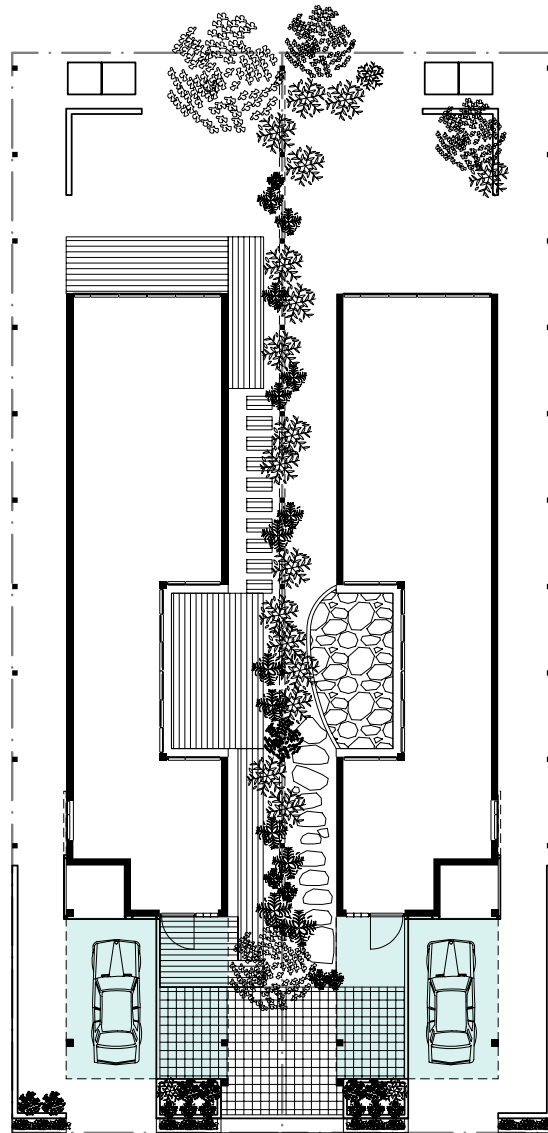
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Urban growth management has become a top priority in many cities as the world enters the second millennium. The Portland Living Smart competition provokes an examination of ways to increase urban residential density without sacrificing variety in housing typology, neighbourhood communities and the vision of a pedestrian friendly city. While there are many developments of new neighbourhoods, existing ones also need to be revitalized and densified to accommodate young families and medium-income homeowners. The City of Portland has encountered many public complaints on redevelopment in existing neighbourhoods, thus, the path to managing urban growth and controlling sprawl is full of obstacles.

Many limits have been applied to this competition: height restrictions and set backs protect adjacent property owners; the requirement of a parking garage to ensure better marketing and sales for the developer; preferences for a certain gross floor area that would suit the lifestyle and needs of a young family; specific aesthetic preferences, especially the façade, to realize the city's vision of a safe and pedestrian friendly city. These parameters reflect the complex relationship between the city, the public, the potential homeowner and the developer. The public want to defend their neighbourhood's real estate value, safety, and character; the city wishes to increase density/ limit sprawl, provide housing for lower income or young families, create mixed income neighbourhoods and advocate variety in housing typology; developers want to ensure good pay-back value and increase marketability. While the interest of the three main parties may seem to be diverging from each other based on the typical Portland house, these needs can be accommodated by introducing a different housing typology into the existing pattern. This project is about the rethinking of the residential detached house in three main design elements:

- 1.0 Edges and boundaries
- 2.0 Planting with Native Species
- 3.0 Relationship between the interior and exterior



1.0 Redefining the edges and boundaries

Whether it be public pressure on preserving neighbourhood characteristics or the city's desire to advocate pedestrian friendly streets, they both reflect the importance of articulating the edges between the lot and its adjacent spaces.

1.1 Frontyard:

One of the project's challenges is to develop an existing large site into two long and narrow half sites. It is advantageous to develop the two small sites together so that certain program areas, such as the frontyard, can be articulated as one unit. This method of selectively morphing areas of the two sites together creates more voluminous spaces. This is especially important in the frontyard since existing developments of this kind has turned most of the frontyard space into a concrete driveway with a narrow path extending from the sidewalk towards the front door. The solution in this project creates a common porch/ entry space for the two units. This platform extends all the way to the sidewalk, eliminating what is commonly a lawn buffer zone. What used to be typically a wasted space is transformed into an animated zone where neighbours meet and chat. The canopy which partially covers the platform creates a semi-private area within this communal space. The area under the canopy would be an ideal location for outdoor furniture. This is the living room of the street. The two planters at each corner of the platform emphasize the central quality of the porch. They also separate the driveway from the pedestrian access, making the entrance sequence more pedestrian friendly. This separation gives a visual hierarchy to the front elevation where the driveway becomes secondary to the main entrance of the house.

1.2 Courtyard

The simultaneous development of the two sites also allows the pairing of two “C” shaped houses to create a central courtyard. This configuration allows more sun to filter into the house. By morphing the two volumes into one, the courtyards become more spacious and a microclimate is created. The two yards are separated by a dynamic screen. It is a trellis construction where supports are built in place of the typical chainlink fence. These supports act as an infrastructure for the plants: a structural support for vines or simply a visual order. Using plants as a screen is very efficient. Porosity of the screen changes with the season. In the winter, when the leaves fall off, the screen becomes more porous allowing more sun to penetrate through the courtyard into the house. This also corresponds to frequency at which outdoor spaces are used. Outdoor spaces are less used in the winter, thus, the reduced privacy has little effect on the homeowner. In the summer, on the other hand, the courtyard will be used most often. This is when the plants become more dense creating not only privacy but also shade. This plant wall helps to filter heat from entering the house - a natural cooling devise.

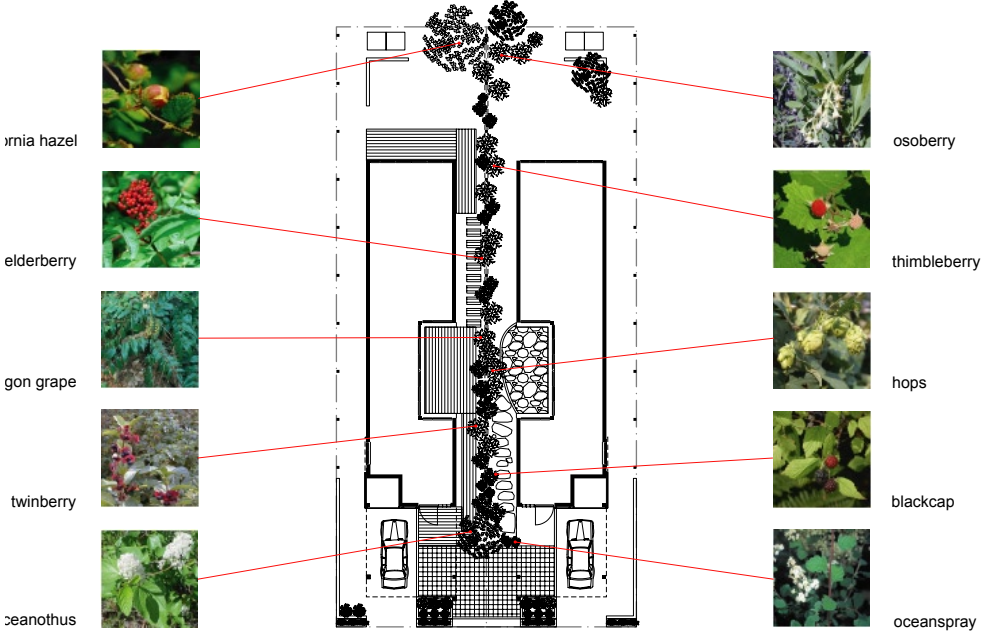
1.3 Backyard and Sideyard

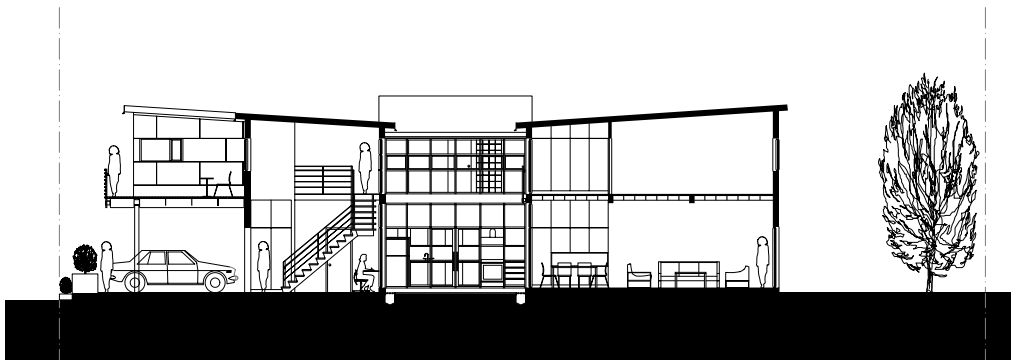
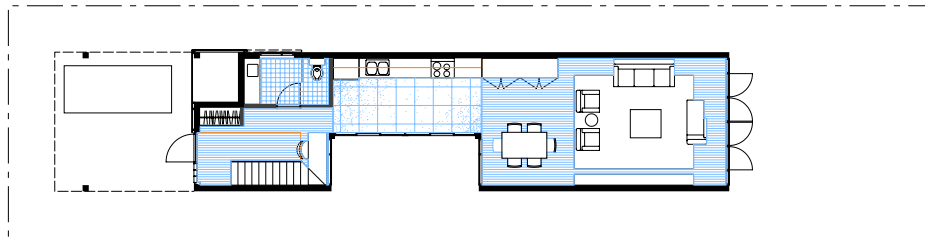
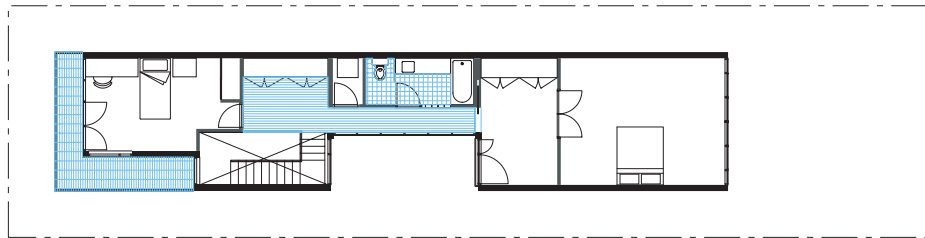
This large space is the most private outdoor space on the lot. The edge of the lot is defined by large trees and shrubs for added privacy. A low wall located at the corner of this space hides the compost and garbage. The sideyard, extending from the driveway to the backyard is used as a utilitarian space. Since the parking garage has been replaced by the carport, an outdoor storage is created for the general storage of equipments, yard tools, and bicycles.



2.0 Planting Native Species

Plants are an important part of the project as well. In many instances, plants with different heights and porosity become screens that create different degrees of privacy. In this project, plants replace hard fences. The selection and location of plants is based entirely on the orientation of the yard. This project advocates planting on all sides of the lot to take advantage of the different orientations, thus, increasing the variety of native species. Not only are native plant species easier to grow since they are adapted to the local climate, they can also provide a micro-environment for local animal and insect species such as birds and butterflies. For example: the Tall Oregon Grape produces blue berries that attract many birds; Oceanspray is a caterpillar host plant for butterflies. The south-east orientation of the courtyard makes it an ideal location to grow vegetables and herbs. A native Blackcap produces edible raspberries. The north-facing backyard is ideal for a shady garden, creating a private oasis at the rear of the house. Hops is a fast growing vine plant used in the dynamic screen to provide the courtyard with privacy. The different plant varieties grown in the different yards surround the house informs the location of program and also the character of the interior space.





3.0 Relationship between interior and exterior

The configuration of the house is based on the courtyard typology. The central opening allows light and air to penetrate into all parts of the house. The central living space is wrapped around the courtyard on the ground level. The kitchen and dining room has become a more important living space where the most animated domestic activities take place. In this spacial relationship, the courtyard is the secondary kitchen and dining room during the summer. The vegetable garden is also at a convenient location from the kitchen.

The living room is located at the rear side of the house where it is most private. This space is directly adjacent to the shady garden, which creates a tranquil environment - a contrast from the bright and lively kitchen and dining area.

An other element that wraps around the central courtyard is the main staircase. This double height space at the foyer of the house creates a expansion of space after the compression at the front door under the canopy. The upper level is divided into two wings. The master bedroom is located at the rear and the second bedroom is at the front. The den adjacent to the master bedroom is a flexible space that could be used as a home office or a baby room for young families.

The architecture of the house defines three distinctive voids on the site. By integrating the domestic programs and articulating the permeability between the interior and exterior spaces, a more humane way of living on a long and narrow site is achieved. The fenestration around the courtyard serves a dual purpose of allowing natural light into the house and creating an ideal strategy for cross ventilation. By creatively weaving program of the interior with that of the exterior (such as the relationship between the kitchen and dining room of the interior with the vegetable garden of the courtyard), a more sustainable way of practising domestic activities may be achieved. The roof system is a rain collector that funnels rain into the courtyard cistern used for irrigating the gardens.