
the Junction

Site Module

Humanity has co-opted enough land- it is time to draw boundaries and declare it enough.

Prerequisite 1- Responsible Site Selection

The chosen site is located in a concentrated urban area in the core of Victoria. By building on this site, we are not threatening or endangering any sensitive ecological habitats, wetlands, farmland or floodplain. Rather, we will be enhancing and restoring the landscape.

Prerequisite 2- Limits to Growth

The site consists of an amalgamation of three lots. Functioning currently as a parking lot, two abandoned heritage buildings and an underutilized public park, the site has enormous potential for improvements.

Prerequisite 3- Habitat Exchange

Over fifty percent of the site has been reclaimed as green space. Currently populated by introduced plant species, the underused and unappealing park space will be slowly restored to its natural Garry Oak ecosystem.

Energy Module

A living building relies solely on current solar income.

Prerequisite 4- Net Zero Energy

In order to achieve Net Zero Energy, we will use a combination of photovoltaic and geothermal energy sources. Solar power will be harvested through the use of solar panels as well as photovol glass. A geo-exchange will design to allow heating and cooling. The building envelope will be at minimum R. 28, and all glass will be triple glazed. We will be tied in to the grid to be able to supplement it in the summer months and pull from it in the winter months, if need be.

Materials Module

Safe, healthy and responsible for all species.

Prerequisite 5- Materials Red List

The first step to lessening our impact on earth is to reduce our consumption of goods and materials. A strong effort will be made to use as much salvaged and recycled building materials as possible. All new materials will be sourced from local and ethical providers. Organic vegetable based paints, Interface natural carpeting and Wildwood timber products will be used. No toxins or chemicals will be used.

Prerequisite 6- Construction Carbon Footprint

CO2 emissions will be calculated for construction. Offsets will be arranged through an office in the on-site sustainability centre. As much uncertainty exists with most offsets in general, we want to attempt to deal with fabricated externalities locally. Offset money will go to fund an energy-efficiency building retrofit in the area. There exists the possibility that this money would fund a project as a loan, with the owners of the building repaying the loan through savings as a result of a lower fee for consuming less energy. This concept is called a 'revolving green fund'. The money would then potentially grow... and grow... and grow... allowing the financing of other 'green' projects as well.

Prerequisite 7- Responsible Industry

We will be using a large portion of salvaged wood products to complete the design. Further, to support and engage responsible local industry we will be using wood products from the Wildwood Working forest, where ecoforestry has been practiced in a sustainable method for over sixty years.

Prerequisite 8- Appropriate Materials/ Services Radius

By acquiring a large portion of materials right here on Vancouver Island, the service radius requirements will not be overstepped. Salvaged products from local demolition sites; wood products from Wildwood; stone from Hattington Island; glass windows, photovol glass and solar panels from no further than the Lower Mainland.

Prerequisite 9- Leadership in Construction Waste

Our aim is zero construction waste. This will be realized by strict enforcement of construction employees and engaging local salvage and recycling companies. Further, any waste that is created would be 'off-set' by the large amount of salvaged and reused materials.

Water Module

A Living Building is Water Independent

Prerequisite 10: Net Zero Water

Net Zero Water will be accomplished through building an ecological wastewater treatment system, which relies on various microorganisms, and plants that view our waste as food filter grey water and collected runoff. Effluent is moved from tank to tank, with each step becoming increasingly complex and fine. The system uses only sunlight, bacteria and plants to clean water and will be divided into two streams, leading to two separate cisterns. One cistern will be for rainwater, which will be potable once filtered through the ecological wastewater system. The other cistern will store grey water and storm water, which will be used for non-potable requirements such as toilets, gardens, etc. A high rough estimate of water consumption, using an on-line calculator tool, is 6000 gallons per day, based on 24 people living in residences and about 80 other frequenters.

Prerequisite 11: Sustainable Water Discharge

There are two drainage outfalls on the site. Both of these will be diverted to pass through the ecological wastewater treatment system, where toxins, chemicals and harmful products will be removed before they are discharged. This treatment system will also slow the rate of discharge; minimizing any impacts velocity might have on the receiving system.

Indoor Quality Module

Healthy for all people

Prerequisite 12- A Civilized Work Environment

A healthy and productive work environment will be created through allowing lots of natural light to touch all spaces. A combination of windows, photovol glass and light funnels will be used to accomplish this.

Prerequisite 13- Healthy Air/ Source Control

Excellent indoor air quality will be ensured through the use of BioWalls which purify the air by sequester carbon and VOCs and emitting oxygen. BioWalls also help in circulating air and could potentially be used as a step in the ecological wastewater filtration system.

Prerequisite 14- Healthy Air- Ventilation

Stairwells are natural ventilation heat stacks. Heated air rises and is released through mechanically controlled skylights. Trickle vents located at floor level will allow cool air into the building.

Beauty and Inspiration Module

A Living Building tells a story

Prerequisite 15- Beauty and Spirit

The function of the building is largely to provide a node that will revitalize the entire area both environmentally and socially. The building will fit nicely into the urban fabric by reflecting the bridge and heritage architecture throughout the city. By doing so, history is being reused and restored as a model for the future.

Prerequisite 16- Inspiration and Education

Education will be one of the main focuses of the on-site Sustainability Resource Center. The center will be open to the public for resources, suggestions and consulting on sustainable technologies. A second focus of the Resource Centre will be the development of a carbon-offset program in which money used to offset carbon emissions is directed to mitigating through sustainable building technologies. The carbon-offset program will inspire socially and environmentally sustainable building practices. Further, inspiration and education will be extended through awarding an artist in residence that will rotate on a bi-annual basis. The artist's studio will be open to the public on a regular basis for the opportunity for knowledge and idea exchange.