

# Painted Boat ~ Sustainability by Design

Our goal was to develop a luxurious, high quality and sustainable resort that would be appreciated for generations to come. Quality evolves from care. Caring for our environment is essential to achieving our goal.

## Site Selection and Planning

### **Site Selection**

One of the first steps was to select a site within an easy five minute walk from the Madeira Park town centre, which reduces reliance on the automobile. As well, redeveloping an old resort that was no longer economically viable helps preserve wilderness areas by keeping development to land that has already been disturbed.

### **Reduce Site Disturbance**

A habitat consultant and arborist were members of the planning team. Trees, boulders and other natural features were surveyed prior to commencing design work. One of the core strategies was to minimize the overall footprint of the built areas and locate buildings, roads, parking, and other facilities so that natural features and vegetation would be retained with minimal disturbance, preserving the vast majority of the trees and maintaining areas of wildlife habitation. The site supports herons, eagles, ravens, ducks, geese, kingfishers, woodpeckers and many other bird species.

### **Community Consultation**

An essential ingredient for sustainable development is to participate in a community consultation process where the feedback can have a real and direct impact on the final design. Working closely with the local volunteer advisory planning committee we generated a plan to meet the needs of the developer as well as the community at large. When the development plan was presented to the public in the local hall at a packed meeting, the response was unanimous support. We had managed to address the concerns of the local citizens, while also meeting the need to develop an economically profitable project.

### **Compact Development**

Creating multiple story homes allowed us to maximize the potential of the site while still keeping the footprint small (the development has less than 20% site coverage – the original zoning allowed for 50% site coverage).

### **Automobile Infrastructure**

Road widths are as narrow as possible and are mainly comprised of permeable surfaces (eco-grid) with no curbs and vegetative swales at the edges.

### **Storm Water Management**

The use of permeable surfaces for road shoulders and parking areas results not only in reduced quantities of water, but also created a marked improvement in quality for storm runoff flows leaving the site when compared to the original conditions. The bio-swales maximize infiltration and simulate the natural hydrology of the area, which is important for tree retention, and also provides water quality benefits.

### **Water Efficient Landscaping**

Native, drought resistant plants make up the majority of the landscaping. With the permeable road surfaces the hydrology of the site is preserved so less watering is required.

### **Wastewater and Sewage Treatment**

Water saving features such as dual flush toilets and front loading washers were incorporated. The sewage treatment facility far exceeds Ministry of Environment standards. Flows go through a clarifier and UV

disinfecting system and then are distributed to a ground field. Noise and odour control has been extensively considered, using in-ground bio-filters and vault systems.

## **Materials and Resources**

### **Construction Waste Management**

The old cabins, for the most part, found new homes, and materials from other existing structures were recycled as much as possible, rather than contributing to demolition waste. This was much more time-consuming than simply demolishing the structures. As well, construction waste was recycled wherever possible.

### **Envelope Durability**

The buildings have state-of-the-art “rainscreen protection” with building envelope consultants employed to control quality and details. Highly durable, long lasting, and low maintenance materials were used for all exterior finishing.

### **Regional Materials**

Special care was taken to use regional materials and locally made products wherever they were available. Some examples include:

- wood products supplied by local mills
- furniture custom designed specifically for this project and manufactured in Winnipeg
- framed prints created by local artists on the Sunshine Coast
- local potters provided a number of special pieces: ceramic feature tiles, teapots, vases, fruit bowls, platters and coffee mugs

### **Recycled Materials**

Recycled content was specified in insulation and drywall.

## **Energy and Air Quality**

All of the residential heating is powered by electricity. BC Hydro is consistently one of the lowest greenhouse gas emitters in the North American electricity industry. One of BC Hydro's business objectives is to rank among the top 25% of North America's energy companies in terms of their sustainability performance. BC Hydro has an abundant renewable foundation - their large hydroelectric generating facilities - upon which to build an energy portfolio with clean and green resource components.

The homes include all of the following energy saving features:

- Double sealed, low E, argon filled, rain shield casement windows throughout.
- R2000 insulation standards with R20 in walls, R28 in vaults and R40 in flat ceilings.
- Caulking has been painstakingly applied around all openings to decrease air leakage.
- Energy Star rated appliances.
- Compact florescent, halogen and LED lighting throughout.
- The Hydronic Radiant Floor Heating system provides even, comfortable warmth with no drafts. The warmest air is at the floor where it is desired and there is reduced heat loss through ceiling and walls.

### **Low Emitting Materials**

Sealer was applied to all exposed and unexposed faces of material containing formaldehyde glues. VOC and chemical content of all interior paint surfaces conform with LEED standards for new construction.

### **Water Purification**

A water treatment plant was installed on site to ensure a high quality and crystal clear water supply.