

Section 74 Sustainability Plan



This sustainability plan was prepared on behalf of Highlands 3 Holdings Ltd. The Section 74 developers are taking a sustainable approach to the development and approvals for this parcel of land. The plan documents the many measures proposed, including an environmental review which determined natural areas to be protected. As part of Highlands 3 Holdings Ltd.'s ongoing commitment to sustainable development, this document offers some suggestions on how to carry on their initiative.

Pottinger Gaherty Environmental Consultants Ltd. (PGL) assisted Highlands 3 Holdings Ltd. in a review of the proposed development, using elements of LEED™ Canada for Homes, Built Green™ and Smart Growth principles as evaluation tools. This review is not intended to replicate these systems, but alternatively to articulate the sustainability goals the project has adopted, and the strategies available for achieving those goals under the categories listed below:

1. Energy
2. Environmental Protection
3. Water
4. Indoor Air Quality
5. Materials
6. Waste Management
7. Education

The available sustainability measures are divided into overall goals, specific strategies, and timing as outlined in the following sections.

Many sustainability measures are being implemented by the Section 74 project as part of the rezoning process. These implemented sustainability measures are outlined in Section 1: Sustainability Measures In Place.

Other sustainability measures will be of interest to the purchasers of Section 74 lots wishing to build a high performance and healthy “green” home. It will be the responsibility and opportunity of individual lot owners and their builders to carry this intention forward and implement strategies that best suit their personal goals (Section 2: Optional Sustainability Measures).

Specific details on most of these measures can be obtained from builders or contractors. Purchasers can provide a copy of this document to their builder, and ensure that these measures can be implemented within their overall site and building plans. Most measures do not represent an additional cost to the home owner if they are considered early.

SECTION 1: SUSTAINABILITY MEASURES IN PLACE

1. ENERGY

Energy Goals	Energy Strategies	Timing
Reduce air pollution and ozone depletion impacts of energy sources.	1.1 Air conditioning and refrigeration equipment should not contain HCFCs or halon. All new air conditioning and refrigeration equipment does not contain HCFCs or halon.	Construction

2. ENVIRONMENTAL PROTECTION

Environmental Protection Goals	Environmental Protection Strategies	Timing
Maintain or augment existing biodiversity.	2.1 An environmental review was conducted for the Section 74 project as part of the rezoning phase of the development and a Riparian Area Regulation assessment will be completed during the detailed design phase. The ecological integrity of watercourses and associated riparian zones will be protected. In addition to watercourse buffers, environmentally sensitive areas containing valuable wildlife habitat and unique plant species have been identified and will be protected (see attached map in Appendix 1).	Design
	2.2 The majority of the 83-acre site will remain as natural greenspace including 40.6 acres to be dedicated as conservation area.	Design
	2.3 Home owners can support this work by knowing where the environmentally sensitive areas lie, and respecting them during design, construction and occupancy.	Design

Environmental Protection Goals	Environmental Protection Strategies	Timing
Minimize impacts to environment during construction and occupancy.	2.4 A Construction Environmental Management Plan (CEMP) will be developed to mitigate environmental impacts during construction. The CEMP includes implementation of erosion and sediment control measures (silt fencing, cover stockpiles, etc.), wildlife and vegetation management measures (no tree removal during bird nesting season, flagging off sensitive habitat as no disturbance zones, etc.) and environmental monitoring. The independent third party Environmental Monitor will ensure that the CEMP is followed.	Construction
	2.5 Home owners should provide a copy of the CEMP to their builder and ensure that they implement the CEMP as designed, to minimize construction impacts.	Construction
	2.6 A Home Owner's Environmental Care Manual will be developed. The Home Owner's Environmental Care Manual will be distributed to all home owners. Light pollution will be minimized based on the 'Fatal Light Awareness Program' (FLAP), by implementing educational strategies that carry the message about reducing bird collisions.	Occupancy
	2.7 Home owners should review the Home Owner's Environmental Care Manual and implement the recommended measures as much as possible.	Occupancy

3. WATER

Water Goals	Water Strategies	Timing
Preserve onsite watercourses and nearby coastal zone.	3.1 Watercourses onsite are not fish-bearing streams but they do provide food and nutrients for other aquatic life and wildlife habitat. A buffer (determined during Riparian Area Regulation assessment) will be established from the high water mark of watercourses to protect riparian vegetation, water quality and slope stability (see attached map in Appendix 1).	Design
Reduce the need for treatment of stormwater.	3.2 Site perviousness maximized at over 80%, allowing for natural water filtration.	Design
	3.3 Ensure that the builder implements the CEMP and its associated erosion and sediment control measures (silt fencing, cover stockpiles, etc.), to assist in maintaining water quality during construction.	Construction

4. INDOOR AIR QUALITY

Indoor Air Quality Goals	Indoor Air Quality Strategies	Timing
N/A. Refer to Section 2 for optional indoor air quality sustainability measures that can be implemented.		

5. MATERIALS

Materials Goals	Materials Strategies	Timing
Minimize consumption and depletion of material resources.	5.1 Locally manufactured materials should be sourced wherever possible.	Construction

6. WASTE MANAGEMENT

Waste Management Goals	Waste Management Strategies	Timing
Minimize waste generated from construction.	6.1 Any hazardous wastes generated or brought onsite will be disposed of at the appropriate facilities.	Construction
Encourage better management of waste and minimize waste generated during occupancy.	6.2 Information regarding recycling tips and local contacts will be provided in the Home Owner's Environmental Care Manual.	Occupancy

7. EDUCATION

Education Goals	Education Strategies	Timing
Provide and promote good household practices to achieve sustainability and environmental protection goals.	7.1 Home Owner's Environmental Care Manual will be developed and will be distributed to all home owners. The manual will outline a number of sustainability and environmental initiatives that should be undertaken to mitigate impacts.	Occupancy

SECTION 2: OPTIONAL SUSTAINABILITY MEASURES

1. ENERGY

Energy Goals	Energy Strategies	Timing
Reduce total energy consumption of project.	1.1 Lighting fixtures should be energy efficient. Most fixtures should be ENERGY STAR rated and contain compact fluorescent and halogen bulbs. Compact fluorescent and LED lamps use 50% less energy than standard lamps and last up to ten times longer. Halogen bulbs are slightly more energy efficient, last longer and provide a more effective task light than conventional bulbs.	Occupancy
	1.2 Most appliances including refrigerator, ceiling fans, dishwasher and clothes washer should be ENERGY STAR rated. ENERGY STAR labelled appliances meet strict requirements to reduce energy consumption.	Occupancy
	1.3 Windows in home should be ENERGY STAR rated. ENERGY STAR labelled windows save energy by insulating better than standard windows, making the home more comfortable year round, reducing outside noise, and can result in less condensation forming on the window in cold weather.	Construction
	1.4 Insulation should meet R-value requirements of International Energy Conservation Codes (IECC). This will reduce energy consumption.	Construction
	1.5 Use geothermal system and solar panels to optimize energy performance.	Construction

2. ENVIRONMENTAL PROTECTION

Environmental Protection Goals	Environmental Protection Strategies	Timing
Minimize impacts to environment during construction and occupancy.	2.1 Options to minimize negative impacts of lit buildings and grounds at night will be implemented, such as: adopting lower intensity lighting, reducing perimeter lighting, using blinds and curtains, and installing motion-sensitive lighting.	Construction
	2.2 Landscaping should consist primarily of native plants, with no invasive plants and the amount of conventional lawns should be minimized. Native plants are lower maintenance, and better suited to meet the needs of local wildlife, birds and beneficial insects. A Home Owner's Environmental Care Manual has been developed and includes tips on landscaping.	Construction

Environmental Protection Goals	Environmental Protection Strategies	Timing
	2.3 Pesticides are not to be used. They are known to be poisonous to birds and other wildlife, and indirectly to humans as well. A Home Owner's Environmental Care Manual will be developed and will include tips for a healthy yard.	Occupancy
Reduce Local Heat Island Effects	2.4 Keep existing trees that provide shade to driveways, patios, etc. Install light-colored, high-albedo (reflective) materials (white concrete, grey concrete etc.) or vegetation for areas adjacent to house (driveways etc.).	Occupancy

3. WATER

Water Goals	Water Strategies	Timing
Conserve and/or reuse potable water.	3.1 New BC water efficiency standards for toilets should be followed with the maximum water usage of 6L/flush.	Construction
	3.2 Install high-efficiency water fixtures and equipment: faucets, showers and dishwashers.	Construction
Conserve and/or reuse potable water (continued).	3.3 Native drought-resistant species should be used for landscaping. These species will require less irrigation.	Construction
	3.4 Install a rainwater harvesting system. Design and install a roof rainwater harvesting and storage system for landscaping irrigation.	Construction

4. INDOOR AIR QUALITY

Indoor Air Quality Goals	Indoor Air Quality Strategies	Timing
Minimize production and transmission of air pollution.	4.1 Low VOC (volatile organic compounds) products will be used for paints and coatings where possible. VOC content of less than 200g/L.	Construction
	4.2 Low VOC adhesives and sealants will be used where possible. VOC content of less than 150g/L.	Construction
	4.3 If carpet is being installed, low VOC carpet will be used where possible. Carpet and Rug institute (CRI) labels should be on all carpet and underlay installed in home.	Construction
	4.4 Low VOC composite wood products will be used where possible.	Construction
	4.5 Tightly seal shared surfaces between garage and conditioned paces. Strategies could include weather-strip door, seal all penetrations and install carbon monoxide detectors in adjacent rooms that share a door with the garage.	Construction
	4.6 These indoor environmental quality strategies above all contribute to a healthier home.	Construction

5. MATERIALS

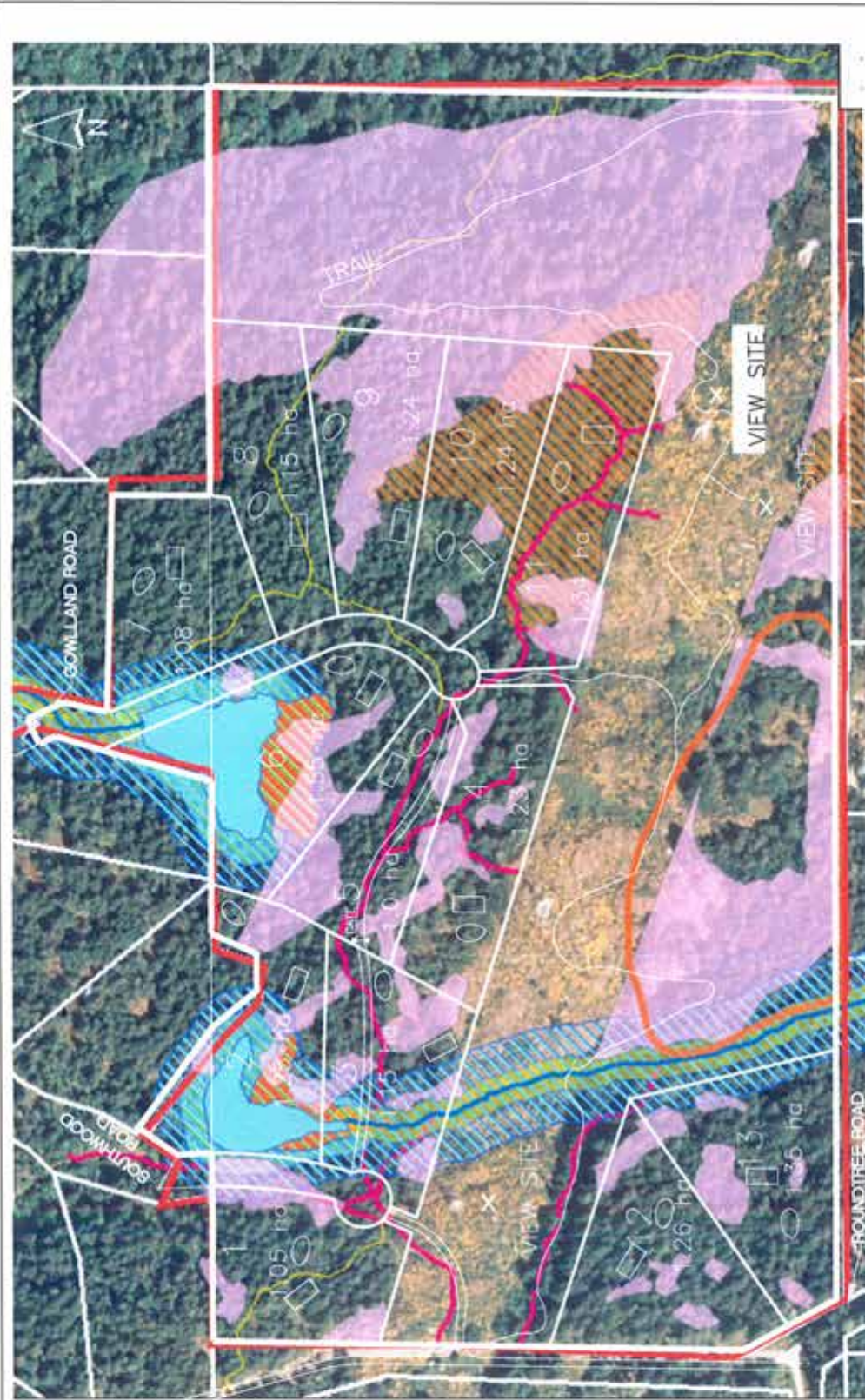
Materials Goals	Materials Strategies	Timing
Minimize consumption and depletion of material resources.	5.1 Source locally manufactured materials wherever possible.	Construction
	5.2 Do not purchase products containing tropical wood unless it is Forest Stewardship Council (FSC) certified. Use regional produced FSC-certified or reclaimed wood.	Construction
	5.3 Conduct efficient framing so that less than 10% of framing material is wasted.	Construction
Minimize the life-cycle impact of materials on the environment.	5.4 Waste management will focus on reuse and recycling. Building materials will focus on quality and durable products.	Occupancy

6. WASTE MANAGEMENT

Waste Management Goals	Waste Management Strategies	Timing
Minimize waste generated from construction.	6.1 Recycle construction waste wherever possible. Develop and implement a waste management plan, quantifying material diversion goals. Recycle and/or salvage 50% (weight or volume) of construction, demolition and land clearing waste.	Construction

Together, purchasers and Highlands 3 Holdings Ltd. can make a significant contribution to the goal of building green and healthy homes.

Appendix 1
Map of Environmentally Sensitive Areas



LEGEND

- Study Area
- Sharp tailed snake habitat
- Steep slopes
- Water body
- Water course
- Shade 7 to S 30m
- SOP 10m
- RAP 10m
- RAM 10m
- Existing trails
- Existing logging roads
- Disposal Field Area
- House Site
- Driveway
- Emergency Road
- Public Trail (Conceptual)

Other Items

- Brown Hatching is provincial SEI
- Green Hatching is the 10m stream SPEA
- Green under the blue hatch is the 15m wetland SPEA

HIGHLANDS 3 HOLDINGS LTD.
 DISTRICT OF HIGHLANDS
ENVIRONMENTAL CONSTRAINTS MAP

26744 - 01 - D1
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