



Landscaping Guidelines for Development at Big White

A Landscaping Plan is required for all new construction in the Development Permit areas at Big White. Landscaping mitigates the loss of surficial materials through erosion, and controls dust during the summer months.

This guideline is divided into three sections: introduction, factors to consider, and the Landscaping Plan requirements.

Introduction

The Village Core, located at an elevation of 1,755m (5,760'), is within an environmentally sensitive alpine area. Big White receives 7.5m (24') of snow in an average year. Since the growing season is short, the ecosystem is very easily disrupted and difficult if not impossible to return to its natural state. It is therefore desirable to preserve as much of the existing vegetation and soil as possible during the construction phase.

Construction activities often take place on slopes that are highly susceptible to erosion. Rainfall and melting events have caused significant losses of surficial material around foundations and road wash outs in the past. The goal of landscaping at Big White is enhancement and preservation of the natural landscape, and not necessarily to create a manicured appearance. The natural vegetation and rocky terrain should be preserved and augmented as development progresses.

The purpose of this guide is to provide direction to developers as to what specific considerations and items should be included in the Landscaping Plan.

Factors to Consider

A number of factors should be considered when preparing the Plan including: pre-construction inventory, protection of existing trees and vegetation, erosion control, fire protection, selection and planting of vegetation, and maintenance. Those factors are discussed below.

❖ Pre-construction Inventory

A preliminary site assessment should be conducted. Pre-construction site conditions including ground cover, vegetation and the presence of rock outcrops should be noted. The assessment should be used to determine the best location of the building pocket and which trees and vegetated areas will be left undisturbed. An assessment should also be made of the topsoil and whether it should be separated and stock piled for use following construction.

❖ *Protection of Trees and Other Vegetation*

At high altitudes, large trees take 50 years or more to mature, therefore retention of existing vegetation rather than re-planting is desired. Well located and healthy trees should be saved where possible. Trees retained in groups rather than individuals have a better chance of survival. Maintaining the natural grade around tree trunks and avoiding disturbance in the dripline will also provide a better chance of survival. Burying of tree trunks gives trees a poor chance of survival.

Methods to avoid disturbance of existing trees and vegetation during construction include: fencing, construction of tree wells (if ground elevation must be raised greater than 6cm), and construction of retaining walls around the tree to maintain the natural grade. A limited "construction" strip should be limited to the building footprint, driveway and water/sewer trenching area. In addition, locating snow storage areas away from treed areas will result in the better chance of survival.

❖ *Erosion Control*

Sloped areas will require stabilization to minimize loss of surficial material. Stabilization may be achieved by construction of retaining walls or vegetative covers provided they are well established during the short growing season. Drain rock, placed around the perimeter of buildings may be used to provide stability.

❖ *Fire Protection*

Landscaping techniques can be implemented to minimize the hazard of wildfires spreading to buildings. Maintenance of a fuel free zone immediately around all buildings should be maintained. Firefighters at the interface fires fought in the summer of 2003 noted that bark mulch used in landscaping around homes was very difficult to extinguish. Therefore the use of bark mulch should be confined to small areas in garden beds, the main purpose of which is to retain moisture.

Selection of trees and vegetation should take into consideration flammability. Plants with low flammability have the following characteristics: require little water, contain low amounts of volatile oils, are compact and located low to the ground, and grow well in open sunny areas.

It is imperative that the volume of construction debris on site at any time be minimized and removed following project completion.

❖ *Selection and Planting of Vegetation*

The selection of plants to choose from is limited due to the harsh climate and short growing season. Non-native decorative plants have a poor chance of survival; therefore plants should be obtained from nurseries that grow native plant species. There has been limited success with hydroseeding at Big White since the growing season does not allow sufficient development of perennial seeds. Planting of nursery stock will have the most success. Transplanting vegetation from adjacent undisturbed areas is not an acceptable practice. At the time of writing these guidelines there were two nurseries in the Okanagan that supply native plant species: Wild West Nursery in Okanagan Falls (250.809.8400) and Sage Brush Nursery in Oliver (250.498.8898).

The recommended species listed below were selected from a consultants report prepared for the Regional District in 1994. The list of species in that report was extensive, and has been narrowed to include those plants that may be readily available, have low maintenance characteristics and have low flammability (see Table 1). Although juniper may grow well at Big White, its use should be avoided since it is highly flammable.

Table 1. Selected plant species suitable for landscaping at Big White.

Species	Height (cm)	Comments
Flowers:		
Yarrow <i>Achillea millefolium</i>	20-50	Dry, poor soils, to sub-alpine elevations, aboriginals used it for repelling mosquitoes
Pearly Everlasting <i>Anaphalis margaritacea</i>	30-60	Dry, poor soils, roadsides, to sub-alpine elevations
Yellow Columbine <i>Aquilegia flavescens</i>	60-90	Moist soils, partly shaded roadsides and glades, sub-alpine meadows
Western Columbine <i>Aquilegia formosa</i>	60-90	Moist soils, partly shaded roadsides and glades, sub-alpine meadows
Arctic Lupin <i>Lupinus arcticus</i>	30-60	Adaptable to a wide variety of soils, likes sun and moisture, as legumes, lupines enrich the soil with nitrogen, often with trees, middle to sub-alpine elevations
Shrubs:		
Mountain Alder <i>Alnus tenuifolia</i>	3m	Seeks wet ground, creek edges, usually found in pure clumps and borders where there is good exposure, sprawling and shrub like at high elevations, leaves do not turn brown in fall, but remain green until they fall
Kinnickinnick <i>Arctostaphylos uva-ursi</i>	5-10	Coarse gravel soil, exposed well drained soil, can form large, unbroken ground cover in open, dry forest, found to timberline
Shrubby Cinquefoil <i>Potentilla fruticosa</i>	90	Exposed, roadside, high sub-alpine to alpine
Prickly Rose <i>Rosa acicularis</i>	30-100	Low ground cover in partly open forest stands
Wood's Rose <i>Rosa woodsii</i>	to 90	Dry sites at high elevations
Creeping Oregon-Grape <i>Mahonia repens</i>	15-30	Dry, sub-alpine
Trees:		
Lodgepole Pine <i>Pinus contorta var. latifolia</i>	to 30m	To sub-alpine elevations, only 2 needle pine in BC
Trembling Aspen <i>Populus tremuloides</i>	to 9m	Grows in low spreading groves where there is evidence of moisture

Soil development in the alpine landscape is poor and should therefore be retained wherever possible. Where there is very little topsoil consider adding topsoil, providing a starter fertilizer and watering. Establishment of plants early in the growing season is very important since the growing season is short.

Plantings should be placed in areas where they will be protected from snow plow damage.

❖ *Maintenance*

The advantage to using native plant species is that once the plants are established very little maintenance is required. Irrigation will however be required following planting until the roots become established. Container plants may require water for up to two growing seasons to ensure development of their root base.

Most owners will want to choose plant species that require minimal maintenance, however some year round residents may want to have more manicured look and can provide more intensive maintenance program. For large areas owners may want to consider underground irrigation particularly on south facing slopes.

Landscaping Plan Requirements

This section provides details on the type of information to include in the Landscaping Plan. The Plan must be site specific due to differences in on-site features, slope, aspect, micro-climate, and soil. Both a site plan and written text must be included in the Plan. A registered Landscaping Professional should be retained to prepare the Plan and to supervise installation of the landscape work.

❖ *What the Site Plan Should Include*

The site plan should be scaled with a north arrow and contour lines. The site plan should show the location of existing and/or proposed building(s) and hard surfaces such as walkways and driveways. Natural drainage features should also be shown and areas to be retained in a natural state should be identified. Other items to include are: areas to be planted with trees, shrubs, flowers, or other horticultural elements, and screening. The site plan should also indicate the location of any areas that will require bank stabilization and if so the method that will be used. Snow storage areas should also be indicated on the site plan.

❖ *What the Written Text Should Include*

The written text will address details such as methods to: preserve existing vegetation including trees, preserve existing topsoil, control erosion, protect structures from fire, and prepare areas to be planted. The text should also list species to be planted and the size and density of the plantings and a description of the maintenance requirements.