



2002 City of Whitehorse  
**Landscape Guidelines for Industrial Development**

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INUKSHUK PLANNING & DEVELOPMENT



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## **Introduction**

The purpose of this document is to provide an illustrated set of guidelines for landscaping of new developments within industrial zones. This document is to be read in conjunction with relevant sections of the City of Whitehorse Zoning Bylaw 97-42. Should discrepancies arise, the City of Whitehorse Zoning Bylaw 97-42 shall take precedence.

A detailed landscape plan is required as part of the application for a Development Permit for all industrial developments. In this document, a number of illustrated examples are included to provide the applicant with ideas and to allow for easy comparison between different types of landscape approaches. The minimum requirements necessary for submission of a landscape plan are also outlined. A list of recommended plant species proven hardy in the Whitehorse area is included for reference, along with requirements for landscape establishment and maintenance.

## **Reasons for the Guidelines**

As Whitehorse continues to mature as a city and responsible planning dictates an end to urban sprawl, a mix of different land uses now must of necessity exist in closer proximity. As a result, it is increasingly important that new industrial developments be good neighbours, as always minimizing potential adverse affects on adjacent land uses.

These effects include the visual impacts of new industrial developments and their operations on their neighbourhoods. Changing public perceptions of what constitutes acceptable appearance for industrial developments include an expectation of consistency, not only within a development itself but also with the character of its broader surroundings.

Accordingly, these guidelines offer clarification as to landscaping approaches which are intended to reduce the potential for negative visual impacts often associated with industrial operations. These requirements are to the benefit of both the landowner and the public at large, increasing property values while ensuring that new developments are more in character with their surroundings.

### **Illustrated Examples –Acceptable & Unacceptable Approaches**

The examples are illustrated in a series of photorealistic scenes which show individually and in combination some traditional landscape treatments – site clearing, retention of existing vegetation, planting of new trees and shrubs, fencing of various types and berms.

Unacceptable approaches are illustrated for information only and to provide an easy basis for comparison. Some pros and cons of each of the approaches are included to help land owners make informed decisions about which approach might be best for their specific application, site and budget.

These examples are in no way meant to be a comprehensive list of what constitutes acceptable or unacceptable landscaping approaches but merely provide a reference point for both land owners and City of Whitehorse staff, allowing each to better evaluate whether or not proposed landscaping plans will meet the intent of the guidelines.



### **Site Cleared, No Landscaping or Fencing NOT ACCEPTABLE**

#### **Pros:**

- Total clearing of site simplifies development
- Cost effective

#### **Cons:**

- Total clearing of site without screening vegetation, fencing is unacceptably stark
- Site security may be an issue



### **Site Cleared + Chain Link Fence NOT ACCEPTABLE**

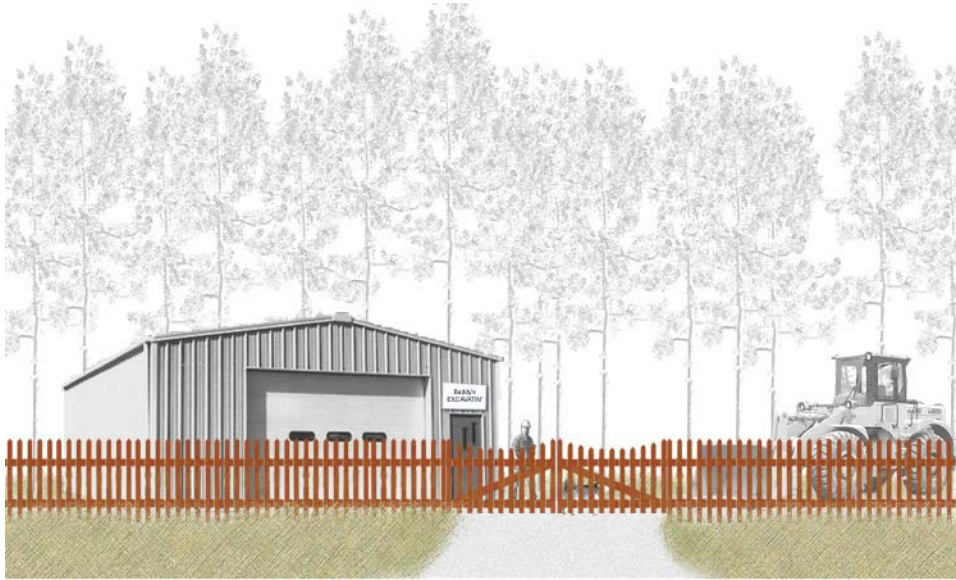
#### **Pros:**

- Total clearing of site simplifies development
- Chain link fence offers good security

#### **Cons:**

- Total clearing of site without screening vegetation, fencing is unacceptably stark
- Fencing can be expensive to install
- Chain link fence requires special skills, tools to install





### Site Cleared + Open Board Fence

#### Pros:

- Total clearing of site simplifies development
- Fencing offers traditional “neighbourhood” appearance, less “industrial”
- Fencing available in a wide variety of styles, materials, & colours
- Easy to install, no specialized tools or skills required

#### Cons:

- Total clearing of site not aesthetically pleasing
- Fencing can be expensive to install
- Fencing requires annual maintenance
- Site security may be an issue



### Site Cleared + Solid Screen Fence

#### Pros:

- Total clearing of site simplifies development
- Fencing offers traditional “neighbourhood” appearance, less “industrial”
- Fencing available in a wide variety of styles, materials, & colours
- Fencing offers excellent screening of operations from roadway

#### Cons:

- Total clearing of site not aesthetically pleasing
- Fencing can be expensive to install
- Fencing requires annual maintenance
- Site security may be an issue



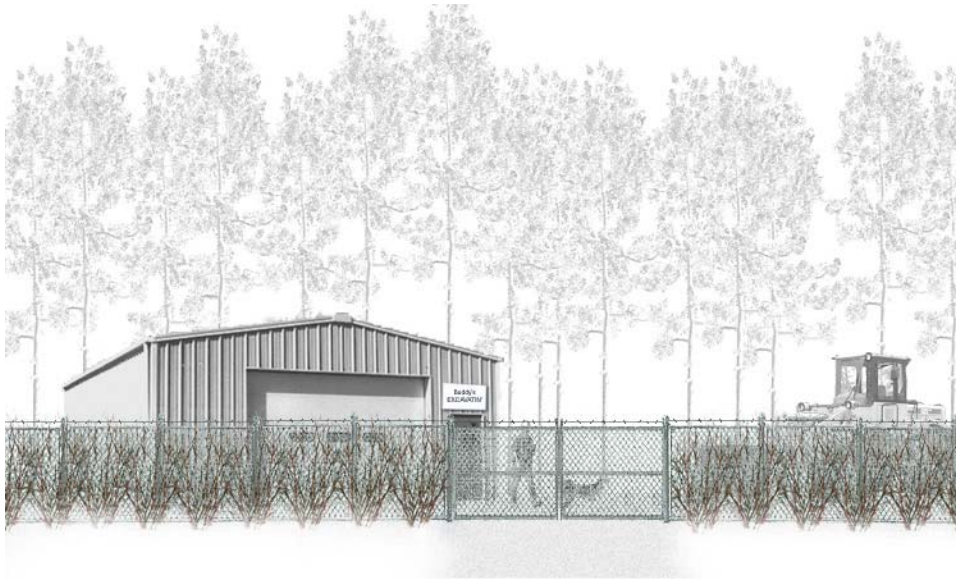
### Site Cleared + Chain Link Fence + Hedge

#### Pros:

- Total clearing of site simplifies development
- Chain link fence offers good security
- Closely spaced hedge offers good screening of operations from road

#### Cons:

- Total clearing of site not aesthetically pleasing
- Fencing can be expensive to install, requires special skills, tools
- Plantings require effort, expense in establishment, maintenance
- Screening ability of hedge diminished somewhat in winter (see below)



### Site Cleared + Chain Link Fence + Hedge (Winter)

#### Pros:

- Total clearing of site simplifies development
- Chain link fence offers good security
- Closely spaced hedge offers some screening of operations from road in winter

#### Cons:

- Total clearing of site not aesthetically pleasing
- Fencing can be expensive to install, requires special skills, tools
- Plantings require effort, expense in establishment, maintenance
- Screening ability of hedge diminished somewhat in winter





### Site Cleared + Open Board Fence + Hedge

#### Pros:

- Total clearing of site simplifies development
- Fencing offers traditional “neighbourhood” appearance, less “industrial”
- Fencing available in a wide variety of styles, materials, & colours
- Fencing with closely spaced hedge offers good screening of operations from road year-round

#### Cons:

- Total clearing of site not aesthetically pleasing
- Fencing can be expensive to install, requires maintenance
- Plantings require effort, expense in establishment, maintenance



### Site Cleared + Solid Screen Fence + Hedge

#### Pros:

- Total clearing of site simplifies development
- Fencing offers traditional “neighbourhood” appearance, less “industrial”
- Fencing available in a wide variety of styles, materials, & colours
- Fencing with closely spaced hedge offers excellent screening of operations from road year-round

#### Cons:

- Total clearing of site not aesthetically pleasing
- Fencing can be expensive to install, requires maintenance
- Plantings require effort, expense in establishment, maintenance



### Site Selectively Cleared, No Fencing

#### Pros:

- Natural vegetation can offer some screening of operations from road
- Cost effective

#### Cons:

- Retaining adequate natural vegetation for screening may reduce buildable area of site
- Attention must be paid to minimizing potential for “blow-down”
- Site security may be an issue



### Site Selectively Cleared + Chain Link Fence

#### Pros:

- Natural vegetation can offer some screening of operations from road
- Chain link fence offers good security

#### Cons:

- Retaining adequate natural vegetation for screening may reduce buildable area of site
- Attention must be paid to minimizing potential for “blow-down”
- Fencing can be expensive to install, requires special skills, tools





### Site Selectively Cleared + Open Board Fence

#### Pros:

- Fencing offers traditional “neighbourhood” appearance, less “industrial”
- Fencing available in a wide variety of styles, materials, & colours
- Fencing, vegetation offers good screening of operations from road

#### Cons:

- Retaining adequate natural vegetation for screening may reduce buildable area of site
- Attention must be paid to minimizing potential for “blow-down”
- Fencing can be expensive to install, requires maintenance



### Site Selectively Cleared + Solid Screen Fence

#### Pros:

- Fencing offers traditional “neighbourhood” appearance, less “industrial”
- Fencing available in a wide variety of styles, materials, & colours
- Fencing, vegetation offers excellent screening of operations from road

#### Cons:

- Retaining adequate natural vegetation for screening may reduce buildable area of site
- Attention must be paid to minimizing potential for “blow-down”
- Fencing can be expensive to install, requires maintenance





### **Site Selectively Cleared + Additional Screen Planting (Coniferous)**

#### **Pros:**

- Natural vegetation with infill plantings (coniferous) offers excellent screening of operations from road year-round
- Visual effect is softer, less “industrial”

#### **Cons:**

- Retaining adequate natural vegetation for screening may reduce buildable area of site
- Attention must be paid to minimizing potential for “blow-down”
- Plantings require effort, expense in establishment, maintenance
- Site security may be an issue



### **Site Selectively Cleared + Additional Screen Planting (Deciduous) + Fencing**

#### **Pros:**

- Natural vegetation with infill plantings (deciduous) offers good screening of operations from road year-round
- Visual effect is softer, less “industrial”

#### **Cons:**

- Retaining adequate natural vegetation for screening may reduce buildable area of site
- Attention must be paid to minimizing potential for “blow-down”
- Plantings require effort, expense in establishment, maintenance
- Fencing can be expensive to install, requires maintenance



## **Berm Only NOT ACCEPTABLE**

### **Pros:**

- Total clearing of site simplifies development
- Berm can receive site excavation materials, reducing cost of removal off-site

### **Cons:**

- Allowing adequate space for berm may reduce buildable area of site
- Berm requires adequate amount of material, height to be effective
- Total clearing of site and berm without screening vegetation, fencing is unacceptably stark
- Site security may be an issue

## **Berm + Additional Screen Planting (Coniferous)**

### **Pros:**

- Total clearing of site simplifies development
- Berm can receive site excavation materials, reducing cost of removal off-site
- Berm with plantings (coniferous) offers excellent screening of operations from road year-round

### **Cons:**

- Allowing adequate space for berm may reduce buildable area of site
- Berm requires adequate amount of material, height to be effective
- Plantings require effort, expense in establishment, maintenance
- Site security may be an issue







### **Berm + Additional Screen Planting (Deciduous) + Fencing**

#### **Pros:**

- Total clearing of site simplifies development
- Berm can receive site excavation materials, reducing cost of removal off-site
- Berm with plantings (deciduous) and fencing behind berm offers good screening of operations from road year-round

#### **Cons:**

- Allowing adequate space for berm may reduce buildable area of site
- Berm requires adequate amount of material, height to be effective
- Plantings require effort, expense in establishment, maintenance
- Fencing can be expensive to install, requires maintenance

### **Berm + Hedge + Fencing**

#### **Pros:**

- Total clearing of site simplifies development
- Berm can receive site excavation materials, reducing cost of removal off-site
- Berm with hedge and fencing behind berm offers good screening of operations from road year-round

#### **Cons:**

- Allowing adequate space for berm may reduce buildable area of site
- Berm requires adequate amount of material, height to be effective
- Plantings require effort, expense in establishment, maintenance
- Fencing can be expensive to install, requires maintenance



## **Landscape Plan Requirements**

In accordance with Section 5.10 of the City of Whitehorse Zoning Bylaw 97-42, a site landscaping and screening plan shall be included in all development permit applications for industrial developments.

The following are minimum requirements for a landscape plan to be submitted for review:

- A key plan with North arrow, property lines and dimensions of the site with the building footprint at grade including the limits of any easements;
- The location of overhead and underground utilities, lighting, parking structures, fire hydrants and boulevard trees;
- Existing and final site grading including direction of surface drainage;
- The location of all existing and proposed physical features including grassed areas, shrubs, trees, flower beds, walls, fences, outdoor furniture and decorative paving;
- A plant list including the quantity, size, common and botanical names of the plant material to be used along with a list of the type and quantity of site furniture to be used;
- The location and manner in which garbage bins, propane tanks, postal kiosks, utility structures, storage and parking areas will be screened including the height and materials to be used for fencing, screen and walls; and
- The location and manner in which public areas and recreation amenity features such as playgrounds will be developed.

## Recommended Plant Species

The following is a list of recommended tree and shrub species (by both common and botanical name) which have been proven hardy in the Whitehorse area. These species are readily available from local landscape suppliers. Best availability for nursery-grown stock is generally in the spring, with some native species also being available in the fall. Your local nursery may make additional recommendations for your specific site.

Wherever possible, the planting of native species of trees and shrubs is encouraged as they are the best adapted to local climatic and soil conditions, typically require less effort for establishment and maintenance and provide the greatest benefit to wildlife.

### Coniferous Trees

Lodgepole pine <sup>n</sup>	<i>Pinus contorta</i> var. <i>latifolia</i>
White spruce <sup>n</sup>	<i>Picea glauca</i>

### Deciduous Trees

Balsam poplar <sup>n</sup>	<i>Populus balsamifera</i>
Northwest poplar	<i>Populus x jackii</i> 'Northwest'
Trembling aspen <sup>n</sup>	<i>Populus tremuloides</i>
White birch <sup>n 1</sup>	<i>Betula papyrifera</i>

### Ornamental Trees

American mountain-ash <sup>1</sup>	<i>Sorbus americana</i>
Mayday tree <sup>1</sup>	<i>Prunus padus</i> var. <i>commutata</i>

### Shrubs

Late lilac	<i>Syringa villosa</i>
Siberian peashrub	<i>Caragana arborescens</i>
Tatarian honeysuckle	<i>Lonicera tatarica</i>
Willow species <sup>2</sup>	<i>Salix</i> spp.

### Hedges

Hedge cotoneaster <sup>1</sup>	<i>Cotoneaster lucidus</i>
Late lilac	<i>Syringa villosa</i>
Siberian peashrub	<i>Caragana arborescens</i>
Willow species <sup>n 2</sup>	<i>Salix</i> spp.



Leaves of trembling aspen (*Populus tremuloides*), native to the Yukon

- NOTES: n Native species  
 1 May require special consideration depending on site microclimate (i.e. sheltered spot)  
 2 Check local nurseries for species availability; some species are native

## Landscape Establishment and Maintenance

### Establishment and Maintenance Plan

As part of the landscape plan, an establishment and maintenance plan will be required for new plantings for the first two growing seasons following installation. This plan need not be complex but should include at least the following:

- Schedule for watering new plant material (i.e. thoroughly once a week or more as weather dictates – indicated by whether or not the soil is dry to the touch immediately under the mulch layer); a description of the means of watering should be included (i.e. on-site irrigation system, water truck)
- Fertilization schedule, including timing, type(s) and application rates (i.e. 6-12-10 root starter fertilizer or bone meal at planting, 31-3-10 all-purpose fertilizer during growing season according to manufacturer's recommended rate)
- Pruning schedule (i.e. prune out dead or broken branches in spring before bud break)
- Weeding/mulching schedule (i.e. hand-pull weeds on monthly basis, top up mulch in spring and fall)

It is recommended that land owners consult publications such as those offered by the International Society of Arboriculture ([www.isa-arbor.com](http://www.isa-arbor.com)) for general information on post-planting care and maintenance of new plantings.

### Minimum Size of Plant Material

The following is a list of minimum recommended size for new plant material, with the measures most commonly used by nurseries for the respective plant types:

Coniferous Trees	Height <sup>3</sup> - 200 cm
Deciduous Trees	Trunk diameter - 80 mm caliper <sup>4</sup>
Ornamental Trees	Trunk diameter - 60 mm caliper <sup>4</sup>
Shrubs	Pot size - #5 pot (5 ga.) <u>OR</u> Height <sup>3</sup> - 60 cm
Hedges	Pot size - #5 pot (5 ga.) <u>OR</u> Height <sup>3</sup> - 60 cm (maximum 150 cm spacing)

NOTE: 3 Height is measured from soil surface & does not include pot, root ball

4 Caliper is the trunk diameter as measured at a point 15 cm (6") above the ground

Exceptions to these minimum sizes may be considered. For example, substitution of 25 shrubs in #2 (2 gallon) pots for 15 shrubs in #5 (5 gallon) pots and a decrease in plant spacing to ensure a fuller look may be acceptable if the substituted material is of reasonable size.