

**CITY OF WHITEHORSE SERVICING STANDARDS MANUAL**  
**PART 2 - DESIGN CRITERIA**  
**SECTION 2.8 – LANDSCAPING**

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## SECTION 2.8 - LANDSCAPING

### 2.8.1 SCOPE

This section outlines the general design requirements for landscaping on City of Whitehorse property. These specifications supplement project specific landscaping designs and related technical specifications.

Installation and Maintenance requirements for landscaping are outlined in Section 3.22 of this manual.

Requirements for landscaping on private property are outlined in the City of Whitehorse Zoning Bylaw 2016-46.

The intent of this Section is to ensure design of landscaping elements on City property are:

1. Suitable for the proposed location;
2. Functional;
3. Attractive; and
4. Sufficiently robust for local planting and growing conditions.

### 2.8.2 LANDSCAPING GENERAL REQUIREMENTS

#### 2.8.2.1 REQUIRED CLEARANCES

Where possible, trees are to be setback a minimum distance, measured from the center of the tree trunk, as indicated in Table 2.8.2.

**TABLE 2.8.2.1**  
**REQUIRED CLEARANCES FROM TREES**

| FEATURE                             | CLEARANCE                     |
|-------------------------------------|-------------------------------|
| <b>UTILITIES AND PROPERTY LINES</b> |                               |
| Light Standard                      | *3.5 m                        |
| Power Hardware                      | 3.5 m                         |
| Overhead Powerline                  | Consult with utility provider |
| Electrical Boxes                    | 3.5 m                         |
| Fire Hydrant                        | 3.0 m                         |
| Utility Pedestal                    | 1.5 m                         |
| Private Property - Boulevard        | 1.0 m                         |
| Private Property – Walkway R.O.W.   | 1.0 m                         |
| Private Property – Open Parkland    | 3.0 m                         |
| Shallow Utility                     | **1.5 m                       |
| Sanitary and Storm Main             | 1.8 m                         |
| Water Main                          | 3.0 m                         |
| Sanitary and Stormwater Manhole     | 2.0 m                         |
| Water or Sanitary Service           | 1.5 m                         |

Note: Where possible, it is suggested that landscape improvements and plant materials have increased setbacks from underground utilities.

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| <b>URBAN LOCAL ROADWAY</b>  |         |
|---|---------|
| Face of Curb  | 1.25 m  |
| Face of Curb (Boulevard without sidewalk)   | 2.0 m   |
| <b>URBAN MINOR COLLECTOR ROADWAY AND INDUSTRIAL LOCAL ROADWAY</b>   |         |
| Face of Curb (R.O.W. < 20 m)  | 1.25 m  |
| Face of Curb (R.O.W. > 20 M)  | 1.65 m  |
| <b>URBAN MAJOR COLLECTOR AND INDUSTRIAL COLLECTOR ROADWAY</b>   |         |
| Face of Curb  | 1.65 m  |
| <b>HARDSURFACE</b>  |         |
| Edge of Commercial or Industrial Access   | 1.5 m   |
| Edge of Residential Driveway  | 1.0 m   |
| Edge of Sidewalk  | 1.0 m   |
| Mid-block Pararamp  | 3.0 m   |
| Corner Radius   | 3.0 m   |
| Note: Setback distances apply to both Boulevards and Medians  |         |
| <b>STREET FURNITURE</b>   |         |
| Stop Sign   | 3.5m    |
| Yield Sign  | 3.5m    |
| Transit Zone  | ***3.5m |
| Other signs   | 2.0 m   |
| Mailbox   | 1.5 m   |
| * Trees are not permitted to block distribution of light onto the roadway   |         |
| ** Excavation within 1m of a Shallow Utility is not permitted without permission and supervision from the Utility Provider. |         |
| *** Ensure trees do not create sightline obstructions for vehicles approaching transit zones.                               |         |

Setback distances are to be coordinated with minimum protective zones outlined in Section 3.22 – Landscaping, Table 3.22.4.6.7. The greater clearance requirement governs.

Setback distances apply to all tree and tree form shrub species. Species with suckering root systems or large hanging canopies (e.g., poplars and willows) may require increased setbacks.

Setback distances for coniferous trees are subject to review and approval (outside of the above noted requirements) with respect to potential mature size and clearance to fence lines.

Metal bar tree stakes are not allowed within 1.0 m of an underground electrical trench.

A 500 mm setback is to be provided from edge of the bed, fence or sidewalk to the mature spread of shrubs or trees.

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### **2.8.2.2 PLANTING SPECIES**

Planting species are to be herbaceous and/or woody plant species known to be hardy in the Whitehorse area. Where possible, evergreen shrubs and trees and/or deciduous shrubs and trees that have interesting bark, fruit, or form are to be used.

A list of 'Recommended Woody Plant Species for Whitehorse' is available on the City of Whitehorse Land & Building Services Development Permit applications webpage.

Plant species deemed to be invasive are not approved for inclusion in landscape planting features within the City of Whitehorse.

For further information of plant material requirements, refer to Section 3.22 of this manual.

### **2.8.2.3 IRRIGATION**

#### **2.8.2.3.1 General**

Irrigation systems are to be designed to apply a consistent, even, measurable amount of water to the landscape over a period of time.

System design is to consider water cost and conservation, long-term durability and maintenance cost, safety issues, aesthetic issues, climatic issues and site-specific requirements.

#### **2.8.2.3.2 Sprinklers**

The maximum spacing is to be equal to the radius of throw (head to head) with appropriate allowance for wind where applicable.

The selection of pop-up or riser style sprinklers must consider safety, maintenance, risk of vandalism, and appearance on the site.

Pop-up or riser height must consider the planting design, regarding plant growth potential, landscape features, etc. to ensure optimum coverage for as long as possible.

All sprinklers must be suitably adjustable and located to keep the water within the soft landscape area and minimize overthrow.

Sprinklers with built in check valves must be used when low head drainage creates a problem. Sports fields and public parks are to be equipped with sprinklers with rubber covers in turf areas.

#### **2.8.2.3.3 Pipe**

The velocity of flow in any piping must not exceed 5 feet/s.

Pipe routing must consider site elevation changes to minimize low head drainage.

Selection of the strength and/or flexibility of the pipe material and its installation criteria must consider site-specific requirements such as frost, traffic, soil depth, etc.

Pipe sizing and routing must include pressure loss calculations to ensure that the required pressure will be delivered under all circumstances and that pressure variation within the lateral is at a minimum.

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**2.8.2.3.4 Zoning**

All sprinklers grouped into a zone must have the same precipitation rates, matched through the arcs of coverage.

The potential for low head drainage must be minimized for each zone.

Landscape areas that have different water requirements must be identified and a determination made regarding the significance of the differences and if they require separate zoning. The type of plant material and its location on site (sun exposure and natural drainage), and varying soil and slope conditions must be considered.

The pressure variation within each zone from the first to the last head must not exceed 15%.

**2.8.2.3.5 Controllers**

Controllers must be CSA approved, suitable for their mounting location, and suitably flexible to allow for optimum operation of the designed system.

Moisture sensors or other "rain off" devices are a desirable enhancement of any irrigation system and are recommended for effective water management.

Valves must meet the pressure and flow requirements of the zone being controlled.

**2.8.2.3.6 Pressure Regulation**

The design must include suitable regulation of the pressure throughout the irrigation system.

The pressure at every head must be within the range recommended by the manufacturer of the head/nozzle combination being used.

**2.8.2.3.7 Winterizing**

The system design must make the water connection and all the system components safe from winter freezing damage.

A suitable and convenient blowout point and connection is the most desirable method of purging the system of water.

If automatic drain valves are used, suitable sump and drainage provisions must be provided.

**2.8.2.3.8 Low volume/Micro-irrigation**

Any low volume irrigation included in a system must be separately zoned.

Filtration and pressure control, as recommended by the manufacturer of the low volume devices, must be provided together with suitable controller capabilities.

**2.8.2.3.9 Control Wire**

Control wire must be sized according to the manufacturer's recommendations for the zone control valves being wired, and the length of run.

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For further information on irrigation submittals, installation, and inspection refer to Section 3.22 of this manual.

#### **2.8.2.4 SITE DRAINAGE**

Landscaping designs that promote on-site infiltration and percolation prior to entering the City's stormwater system are preferred as they encourage on-site turf, tree and shrub growth.

Prior to installation of landscaping, grading is to be carried out to ensure surface runoff does not undermine subgrade at sidewalk and curb locations.

### **2.8.3 ROAD RIGHT OF WAYS**

#### **2.8.3.1 GENERAL**

Where possible, utility-free planting corridors within boulevards and medians are to be provided to accommodate planting requirements with appropriate setbacks.

Every landscaping design is to address project specific sightline requirements. Under no circumstance is landscaping to negatively impact sightlines along roads at traffic circles, pedestrian crossings, and driveway locations.

#### **2.8.3.2 BOULEVARDS**

Tree spacing within boulevard areas is to comply with setbacks outline in Table 2.8.2.3.

Prior to installation of landscaping, grading is to be carried out to ensure surface runoff does not undermine subgrade of sidewalks and curb.

#### **2.8.3.3 MEDIANS, TRAFFIC ISLANDS AND TRAFFIC CIRCLES**

All traffic islands, medians and traffic circles are to be designed to incorporate landscaping elements that require little maintenance.

Naturalized trees, shrubs, grasses and wildflowers are acceptable landscaping elements on medians, traffic islands and traffic circles in applications deemed appropriate based on sightline requirements, suitability of plant materials and the aesthetic of the surrounding environment.

Shrubs and Perennials must be low growing with a maximum mature height of 750mm. Under no circumstance is vegetation to impede sightlines at pedestrian crossing areas.

A setback of 1.25 m minimum is required behind the face to curb with mature plant material not extending into the setback (to accommodate snow storage and spring sediment removal).

Planting within setbacks is subject to annual pre-winter mowing to accommodate snow storage in winter months.

A minimum 5% cross slope is to be provided from center of median or island to back of curb.

Where possible, below grade utilities are not to be located under landscaped medians, traffic islands or traffic circles to prevent conflicts with landscape improvements.

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**2.8.4 TRAIL AND EMERGENCY RIGHT OF WAYS**

Trail and emergency R.O.W. areas must be graded and landscaped with cobble, mulch or other approved ground cover to the satisfaction of the City of Whitehorse Parks and Community Development Department.

Other landscaping elements such as planting beds, trees and shrubs are to be installed on a project specific basis as required by the City of Whitehorse. Shrubs are not to exceed a mature spread of 2.0 m.

Where a walkway is designated as an emergency access route, plant material locations must maintain a minimum unobstructed clearance of 4.0 m to provide emergency vehicular access.

**2.8.5 GREENSTREETS**

Areas designed as Green Streets are to have a minimum 14 m width unencumbered with utilities or easements to accommodate pathways, site furniture and associated planting.

Variances to this requirement will be considered on a site-specific basis.

**2.8.6 EROSION CONTROL AND BIOSWALES**

Landscaping for erosion control of banks and bioswales is to consist of naturalized grass varieties to the satisfaction of the City of Whitehorse Parks and Community Development Department.