



— Township of —

SEVERN

ENGINEERING STANDARDS

Landscaping



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1 Introduction

The purpose of this section is to outline the minimum requirements for landscaping, including but not limited to the preservation, protection, and planting of trees. These requirements are intended to provide guidance and minimum expectations, but this shall not relieve the practitioner of the responsibility of ensuring a completed product demonstrating competent engineering and full compliance with all applicable legislation.

2 Other Applicable Acts, Codes, Standards, Legislation, Design Guidelines

Practitioners must be fully familiar and ensure compliance with other applicable acts, codes, standards, legislation, and guidelines when carrying out their design, including but not limited to that of the Ministry of the Environment, Conservation, and Parks (MECP) as well as the Ministry of Natural Resources and Forestry (MNRF).

3 Deviation from Standards

If the practitioner deems that a deviation from these standards is required, they must make a formal request to Township, complete with a memorandum identifying the proposed deviation along with an explanation of the rationale behind the requirement and how it will be of benefit. The Township may approve or reject any/all requests and the practitioner must comply with that decision. If a deviation is approved, a copy of the written approval must be included with any submissions to the Township.

4 Tree Inventory and Preservation Plans

Where there are existing trees that may be impacted by a project, the Township may require the completion of a tree inventory and preservation plan by an ISA Certified Arborist or Registered Professional Forester. It is recommended that practitioners confirm this requirement with the Township prior to commencing any design.

When required, the tree inventory must be completed for all trees located within the project area that are greater than 100 mm diameter at breast height (dbh). The inventory may also need to be extended to trees within proximity to the project area whose canopies extend within the project limits. Where the project abuts a forested or densely treed area, the inventory shall extend 10 m from the edge of the project limits. Where the forested or densely treed area is to be removed in its entirety, the Township may, at their discretion, permit the area to be categorized based on species present and range of sizes.

All rare and/or species at risk of any size must be identified and accurately located on the plans. Any existing invasive species shall also be identified.

For all trees that are inventoried, the following minimum information must be provided in a report and accompanying plan:

- Tree number;
- Species (Scientific and Common Name);
- Diameter at Breast Height;
- Canopy Diameter;
- Assessment of Condition, including health, vigour, and structural integrity;
- Suitability for Retention; and
- Minimum Tree Protection Zone (radius in metres).

Additionally, the report/plan shall provide an assessment of the impacts of the proposed project and recommendations for tree retention, preservation, or compensation as well as any recommendations for management of invasive species.

5 Tree Protection Barrier

Where a tree protection barrier is recommended, it shall conform to both the tree preservation plans and OPS. Tree Protection Zone signage must be affixed to all sides of the tree protection barrier.

Where tree protection barrier is on slopes greater than 4%, a swale/ditch must be provided on the elevated side to prevent erosion.

Tree protection measures must remain in place at all times during construction and must not be removed without the authorization of the Township.

6 Tree Planting

6.1 General

Where required by the Township, a tree planting plan identifying the number, type, and size of plantings, shall be prepared and submitted to the Township for review and approval.

6.2 Species Selection

When proposing trees and plantings, the practitioner shall carefully consider the context of the project environment and adjacent areas. Species selection must be site-specific and appropriate, considering street typology, soils, sunlight exposure, salt tolerance, drought resistance, hardiness zone, size at maturity, canopy shape etc. Plantings may be used to provide various functions and must be native species that are consistent with the surrounding landscape, but also sufficiently diversified to prevent mass loss in the event of environmental concerns (i.e. disease, etc.). To ensure biodiversity, the amount of one tree genus shall not exceed more than 20% of all plantings.

All plantings shall be of quality nursery grown stock meeting the Canadian Nursery Landscape Association standards. Trees shall have a minimum dbh of 100 mm and shall be free from physical damage, insects, pests and diseases.

As a “Bee City”, the Township encourages the use of native pollinator plants, where suitable.

Table 6-1 on the following page provides a list of trees approved for planting within the Township. However, the Township will review species selection on a project specific basis and reserves the right to deviate from the approved list at their discretion.

6.3 Location and Spacing

Plantings shall be located such that at maturity, they will not conflict with other essential street functions and services. Further, plantings are not to be placed on top of any municipal servicing.

Planting locations must consider the following minimum setbacks from various other infrastructure:

- 2.0 metres from property lines*¹, daylight triangles, driveways, mailboxes, utility pedestals;
- 3.0 m from fire hydrants and hydro transformers;
- 5.0 m from light standards;
- 15.0 m from intersections; and
- 18.0 m from warning signs.

Where trees are removed from within the right-of-way to facilitate a project, the requirement for and extent of any tree compensation plantings shall be discussed and approved by the Township.

In low-density residential developments, on local roadways, at least one tree shall be planted in front of each lot and where the lot frontage exceeds 25 metres, a second tree shall be planted. Trees shall be placed along the flankage of lots at the same spacing interval required for the frontages.

In medium and high-density residential areas, the Township requires that at least one tree be planted per unit; however, the location and spacing can be distributed throughout the plan, where spacing permits.

For collector, arterial, and industrial roads, trees must be planted at a maximum interval of 25.0 m.

¹ Within developments, trees are to be planted 2 m from property line on the private property side and not within the municipal right-of-way.

Table 6-1: Approved Tree List

Common Name*	Botanical Name	Maximum Height		Maximum Width		Maintenance Level	Zone **	Prime Planting Time	Selected Tree (Initial Size) 40mm Or Greater
		m	ft	m	ft				
Prospector Elm	Ulmus wilsoniana 'prospector'	13	43	10	33	Medium	4	Fall/Spring	Disease resistant
Accolade Elm	Ulmus japonica x wilsoniana 'Morton'	21	69	18	59	Medium	4	Fall/Spring	Disease resistant
Ruby Red Horse Chestnut	Aesculus carnea briotii	10	33	10	33	Medium	4	Fall/Spring	Red flowers
Serviceberry-Juneberry (N)	Amelanchier canadensis	8	26	3	10	Low	3	Fall/Spring	Small red fruit
Ivory Silk Tree Lilac	Syringa reticulata `Ivory Silk'	7	23	5	16	Low	3	Fall/Spring	White flowers
Autumn Blaze Pear	Pyrus calleryana 'Autumn Blaze'	10	33	8	26	Medium	4b	Fall/Spring	Ornamental pear
Little Leaf Linden	Tilia cordata	15	49	8	26	Medium	3	Fall/Spring	a.k.a 'lime tree'
Greenspire Linden	Tilia cordata "Greenspire"	15	49	10	33	Low	3	Fall/Spring	Strong growing
Greencolumn Maple	Acer nigrum 'Greencolumn'	15	49	7	23	Low	4	Fall/Spring	Drought tolerant
Flowering Crab	Malus "Subspecies"	8	26	8	26	Medium	4	Fall/Spring	Non-fruiting varieties
Autumn Blaze Maple	Acer x freemanii 'Jeffersred'	16	52	12	39	Low	4	Spring	Red-Silver hybrid
Red Maple 'Cultivars'	Acer rubrum `Subspecies'	15	49	5 to 13	<42	Low	3	Spring	
Red Maple (N)	Acer rubrum	20	66	12	39	Low	3b	Spring	Tolerates wet soils
Sugar Maple (N)	Acer saccharum	20	66	15	49	Medium	4	Spring	Varietals available
English Oak	Quercus robur	18	59	16	52	Low	4b	Fall/Spring	Fast growing
White Oak (N)	Quercus alba	20	66	12	39	Low	3	Fall/Spring	Slow growing
Burr Oak (N)	Quercus macrocarpa	20	66	20	66	Low	3	Fall/Spring	Very hardy
Planetree, Am. Sycamore	Platanus occidentalis	20	66	20	66	Low	4	Fall/Spring	Golfball-sized fruit
Shademaster Locust	Gleditsia triacanthos `Shademaster'	16	52	10	33	Medium	4	Fall/Spring	Honey locust varietal
Hackberry (N)	Celtis occidentalis	20	66	18	59	Low	3	Fall/Spring	Very hardy

6.4 Construction

All planting is to be completed during either the spring or fall season in unfrozen soil conditions. Planting shall be in accordance with the Township Standard Detail Drawings and OPS.

Tree stakes shall be heavy duty gauge T-bars, 50 mm x 50 mm x 2400 mm long. Ties shall be 25 mm burlap strips or a proprietary flexible tie system which allow the tree a reasonable degree of movement to help build trunk taper. Plastic hoses and wire ties are not acceptable. Stakes and ties shall be removed after one year.

Mulch shall be shredded pine or cedar bark, free of dyes and chemicals that inhibit plant growth.

Rodent guards shall be used on deciduous trees and shall consist of corrugated plastic drain pipe or plastic spiral wrap wound around the base of trunk, up to a height of 0.5 m. Guards shall not be installed until after planting and inspection and shall be removed after one year.

Biodegradable and bioengineering options will also be considered and must be approved by the Township.

Unless otherwise indicated, such as in the case of land development projects, all plantings shall be guaranteed for a minimum period of one year. During that first year, maintenance must be completed to promote growth, including measures such as watering, application of fertilizer, pruning or removing dead material, and taking measures to suppress weed growth.

7 Topsoil, Seed, and Sod

All topsoil, seed, and sod must conform with the latest version of OPS.

For all applications, clean, weed-free topsoil shall be used at a minimum depth of 150 mm.

No. 1 nursery sod shall be used for all boulevard areas, ditches, swales, and new development lots. Where grades exceed 6%, sod shall be staked.

Seeding, including hydroseeding and terraseeding, will only be considered in specific applications and locations, including SWM Facilities, parkland, rural roadsides, steep slopes around watercourses, etc.

Seed mixes must be selected based on the proposed application and location and must be approved by the Township.

A permanent seed mix, supplemented with an annual nurse crop seed mix, and fertilizer shall be applied on a well-worked seedbed. Cover shall be applied either at the same time or immediately following the application of seed and fertilizer.

Where required, erosion control blankets are to be placed over top of seeded areas immediately after application. Erosion control blankets shall be anchored into position using U-shaped staples and must be in full contact with the ground surface (i.e. no “tenting”). On slopes, the uppermost edge of the erosion control blanket shall be anchored in a 150 mm wide by 150 mm deep trench, which is to be backfilled with earth and compacted.

Sodding and seeding must be completed at a time of year to ensure the best possible uptake and growth.

8 Streetscape Elements

Streetscape elements such as street furniture (benches, bicycle racks, waste receptacles), hardscapes, and decorative treatments may be required on a project specific basis depending upon the location and context of the project (i.e. within a downtown or cultural heritage area).

The table below provides a list of elements that are accepted by the Township. Any additional elements not in the table below must be approved by the Township.

Table 8-1: Approved Streetscape Elements

Element	Approved Manufacturer/Model
Waste Receptacles	Global Industries Item # T97237726BK Part # 237726BK
Planters	CANAAN Site Furnishings SKU: CAP-103
Benches	Barco Products Canada Model # 02CL1371 Black Onyx
Bicycle Racks	Barco Products Canada SKU: 05CL1694BK
Park Picnic Tables	Enviro-curb 6' Picnic Table Model # 174514-6 Colour - Cedar

9 SWM Facilities

Planting for a Stormwater Management (SWM) Facility must be specifically designed to achieve the desired objectives of being low maintenance, providing slope stability, providing screening and deterrence, minimizing thermal impacts, and providing nutrient uptake.

Native plants, grasses, and wildflowers shall be used and sod/seed with a high percentage of non-native species and Kentucky Bluegrass is discouraged.

The design must also consider the anticipated water level fluctuations and frequencies. In this regard, the planting design shall be divided into zones with planting schemes provided for each zone, including:

- Submergent (Deep Water);
- Aquatic Fringe (Shallow Water);
- Shoreline Fringe (Extended Detention Areas);
- Flood Fringe (Up to 100-Year Water Level); and
- Upland (All Other Areas Outside of Flood Fringe).

In cases where there are residential lots adjacent to a SWM Facility, a minimum 6 m wide landscaped buffer will be required between the maintenance access route and the residential lots to provide separation.

10 Parkland

10.1 General

The design of all parkland, open and play spaces, structures, and equipment within the Township must be compliant with Canadian Safety Association (CSA) and Accessibility for Ontarians with Disabilities Act (AODA) Standards and Regulations.

Where parkland is to be developed or redeveloped or where a road is to be reconstructed adjacent to parkland, the following requirements may apply and shall be confirmed with the Township prior to commencing any design.

10.2 Services

Where required by the Township, the following shall be provided:

- A 25 mm diameter water, 125 mm diameter sanitary, and 300 mm diameter storm sewer connection to the right-of-way limit;
- Metering for the water service; and
- Underground primary or secondary electrical services to designated locations within the parkland.

10.3 Grading and Drainage

Grading shall be carefully designed to avoid damage or impact to any existing vegetation or features that are to remain.

The grading design must ensure positive drainage using slopes that are a minimum of 2% and a maximum of 5%.

10.4 Restoration

All park blocks less than 0.5 hectares shall be reinstated with 150 mm of topsoil and sod.

For park areas larger than 0.5 hectares, the restoration plan may include topsoil and seed, but it is to be confirmed with the Township.

10.5 Access and Parking

A 2 m wide pedestrian access/pathway system must be provided to connect the main pedestrian entrance to the main features and/or facilities within the park.

Where the pathway is to be used as a multi-use trail, the width shall be increased to a minimum of 3 m.

A minimum of one vehicular access for maintenance is required. Where the access is combined for both vehicular and pedestrian use, a lockable bollard shall be considered. Where the adjacent road is urbanized, a curb cut, may be required.

Where there is no adjacent parking, the Township may require the provision of a parking area.

10.6 Play Spaces, Structures, and Equipment

Depending upon its location and designation, the Township may require the inclusion of play areas, structures, and/or equipment of various types and for various age levels within the parkland.

10.7 Site Furnishings

Where appropriate, other site furnishings such as benches and waste receptacles shall be considered and incorporated within the design. A list of elements that are accepted by the Township has been provided in Section 8, above.

10.8 Signage

Where required, park name and advisory signs shall be included in the design.

11 Fencing

All fencing shall be in accordance with the latest version of OPS and Township standard details and drawings.

Fencing is generally to be placed in the following locations:

- on the common property line between residential properties;
- on private property abutting a SWM facility;
- on private property abutting a pedestrian pathway;
- on private property abutting parkland;

- on private property abutting industrial/commercial property;
- on private property abutting agricultural lands; and
- in any other locations as directed by the Township.

The Township prefers not to unnecessarily require fencing around SWM Facilities; however, public safety must be considered in the design. The Township may require fencing at the rear of lots backing onto SWM Facilities; however, fencing around the full perimeter may not be required if suitable public safety measures can be incorporated into the design (such as safe slopes and buffers).

For additional information, refer to the Township's Fence By-Law.

11.1 Chain Link Fence

In general, 9-gauge, galvanized chain link fence is required as per the following table.

Table 11-1: Fence Requirements by Property Type

Property Type	Fence Height (m)
Commercial, Institutional	1.8 m (Preferred), 2.0 m (Maximum)
Industrial	1.5 m (Minimum), 2.4 m (Maximum)
Residential	Privacy: 1.8 m (Maximum) Front Yard: 1.2 m (and open construction)
Environmental, Parks, Public Walkways, SWM Facilities (where required)	1.5 m
Case-By-Case Basis	1.2 m

11.2 Wood Privacy Fence

A 1.8 m high wood privacy fence may be installed where two residential properties abut one another and where residential property abuts commercial/industrial, unless acoustic fence is required.

Wood privacy fences between commercial/industrial and residential properties should be located on the commercial/industrial property.

11.3 Acoustic Fence

Acoustic fence, including type, height, and location, shall be provided in accordance with the recommendations of an approved Noise Study.

A maximum height of 2.5 m is permitted for acoustic fence. Where additional height is required to achieve mitigation, this must be accomplished by installing the fence atop a berm.

Acoustic fences that are to be maintained by the Township shall require a minimum 3 m easement for access.

11.4 Other

Fencing adjacent to roads or properties under the jurisdiction of other operating authorities (i.e. MTO, County of Simcoe, CN, CP, etc.) shall be in accordance with the requirements of the respective authority.

In rural areas, and only where approval is received from the Township, the installation of highway fence (farm fence) may be permitted.

Fencing for pools shall be in accordance with the Township's Pool Fence By-Law.

11.5 Gates

Gates for access from private to municipal property or open spaces are not permitted.