

STANDARD SUBDIVISION NOTES FOR LANDSCAPE DEVELOPMENT

(APRIL 2015)

1.0 GENERAL NOTES

1.1 Responsibilities

- The "Owner" means the signatory(s) to the subdivision agreement together with the municipal authorities.
- The Owner is responsible for retaining a qualified landscape architect to coordinate, supervise and inspect all of the required works.
- The Owner is responsible for retaining a professional engineer (i.e.: structural eng., electrical eng., bridge eng., etc.) to inspect all structures for which an engineer's stamp has been required by the City.
- The Owner and its consultants are required to strictly adhere to all of the following procedures. Failure to do so may result in the prolonged retention of securities by the City.
- The Owner shall ensure that all works and the prescribed maintenance are completed in a timely and workmanlike manner and in accordance with these drawings to the satisfaction of the City of Brampton.
- Except by prior agreement with the City, the Landscape Architect shall always be the principal contact between the City, the Owner and the Contractor(s).

1.2 Notifications

Notify the reviewing department a minimum of 5 working days in advance of the commencement of any works and make satisfactory arrangements for City staff to attend a pre-construction meeting prior to authorizing the works to proceed.

The Reviewing City Departments are:

- For walls, fences and grading: Planning and Infrastructure Services, Development Construction section
- For planting and turf: Planning and Infrastructure Services - Open Space Development section, and Parks Maintenance and Operations section.
- For Playgrounds and Pathways Inspections: Planning and Infrastructure Services - Open Space Development section, and Parks Maintenance and Operations section.

1.3 Stakeouts

- Prior to commencement of any of the works, ensure that stakeouts of all the utilities within the project area have been completed. Any conflicts between existing utilities and the proposed works shall be brought to the attention of the reviewing department with recommended adjustments to the proposed works to eliminate the conflict.
- The City shall approve the modifications on-site prior to commencement of construction.

1.4 Inspections & Acceptances

- Upon completion of the works, provide to the reviewing department written certification that the works are in accordance with the approved drawings including certification from subconsultants and suppliers.
- Arrange a site review for preliminary acceptance of the works by the City. Provided that the works are completed in strict compliance with the drawing specifications, preliminary acceptance may be granted subject to correction of any noted deficiencies within 21 calendar days from the date of preliminary acceptance. Then and only then the warranty period will commence.
- The City may conduct periodic site reviews during the maintenance warranty period and notify the Landscape Architect that any dead plant material be replaced and structural defects in the works are corrected within 21 calendar days following notification.
- Weekly safety inspections for all playgrounds are carried out by the City to ensure that all equipment and safety surfaces are in acceptable condition. Any deficiencies that are identified and reported to the Landscape Architect are to be corrected within 48 hours.
- All pathway construction must be regularly inspected to ensure proper depth of excavation, installation of granular bases, level of compaction and asphalt spreading and rolling.
- All signage is subject to the provisions of the sign By-law and applicable guidelines.
- One year after preliminary acceptance, the Landscape Architect shall arrange and conduct an interim inspection with the City no later than October 15th. Any deficiencies identified shall be rectified within 21 calendar days followed by further written certification from the consultant of their completion, failing which the interim inspection will be nullified and a new inspection will be required.
- At the end of the maintenance warranty period, the Landscape Architect shall arrange with the City a review of the works for final acceptance. Final acceptance reviews must be performed between June 1st to September 15th whereby all plant material shall be in full leaf, exhibit healthy, vigorous growth, and be free of insects and disease.

1.5 Maintenance and Warranties

- Failure to perform the following maintenance requirements may result in the City undertaking the work after 48 hours notification and back-charging the Owner for all associated costs including a 40% administration fee.
- The Owner shall ensure that regular maintenance is performed on planting and turf as follows:

Tree and Shrub Planting:

- Watering minimum 3 times during summer (June, July and August). For all plant material, water thoroughly in late fall prior to freeze-up to saturate soil around root systems.
- Fertilizing as required to promote healthy growth.
- Pruning as required to remove dead wood and maintain form.
- All planting beds and tree pits shall be maintained in a weed free condition during the warranty period using mechanical methods only that do not damage the plant material.
- Warranty period for all plant material shall be a minimum of two years until healthy growth is established.

Sod/Seed:

- Any sod that is damaged or missing from the public boulevard is to be repaired / installed at the Owner's expense
- Watering as required to establish healthy, vigorous growth.
- Healthy, vigorous growth must be evident prior to grass cutting acceptance by the City.
- All sodded/seeded areas require a minimum of two cuts prior to City acceptance for grass cutting. Warranty period shall be a minimum of two years until healthy growth and weed free cover is established.

Walls & Fencing:

- Acoustic fences and masonry walls: 3 Years
- All other fences: 1 Years

2.0 CONSTRUCTION NOTES

2.1 Topsoil Stripping and Stockpiling

- Remove topsoil from the development site as prescribed in the pre-servicing agreement for the subdivision. Topsoil shall not be stockpiled on a park site without the prior written consent of the City.

2.2 Topsoil Preparation & Testing:

- All topsoil from the original subdivision stockpile shall be tested, amended and mixed by mechanical shredder or rototiller to the satisfaction of the Landscape Architect and the City of Brampton. Amended and mixed soils shall be retested for desired composition as outlined below. Imported prepared soils will be accepted, providing that soils are tested and meet all specifications and compositional requirements.
- Prepare soil by evenly mixing 6 parts good quality topsoil, 2 parts well-rotted cow manure and 1 part peat moss. The forgoing rates are subject to adjustment as per the soil analysis recommendation for corrections. The prepared soil shall be evenly mixed. Uneven, poorly mixed and compacted soils will not be accepted.
- Prepare a minimum 150mm depth of topsoil with a 10-6-4 commercial fertilizer at 7.4kg/100sqm and superphosphate at 5kg/100sq m. The proportions specified are subject to adjustment depending on the results of the soil analysis report referred to under soil testing.
- Representative samples from the soil stockpile shall be tested by a qualified testing laboratory before delivery to the work site. A City of Brampton representative must be present when the soil samples are obtained.
- The Consulting Engineer or Landscape Architect shall arrange for the testing and shall provide the City with a copy of the soil analysis and recommendations for amendments to sustain vigorous growth of the specified plant material and certify that such amendments were made before mixing the soil.
- Test topsoil from random samples obtained by the Consulting Engineer or Landscape Architect from the source stockpile(s) for:
 - Particle size analysis by hydrometer method;
 - Organic matter, phosphorus (sodium bicarbonate), potassium, magnesium, calcium, soil pH, buffer pH, calculated cation exchange capacity;
 - Sulphur, zinc, manganese, iron, copper, boron and soluble salts contents, and soil sterilant

- The City also may, at its discretion, require additional testing of soil until the desired composition is achieved.
- The topsoil shall exhibit the following characteristics:
 - Thoroughly blended and friable, consisting of 40% sand, 40% silt and 20% clay;
 - oPH of 6.2 to 7.2
 - o Free from subsoil, roots, vegetation, debris, toxic materials, stones over 50mm diameter
 - o Contain minimum 4% organic matter for clay loams and 2% for sandy loams.
- Samples shall be mixed together prior to testing.
- A 0.5kg topsoil sample to be submitted to the testing laboratory indicating: Present and intended uses, type of sub-soil and quality of drainage.
- Topsoil shall be applied to a minimum 150mm consolidated depths for all seeded and sodded areas and as specified on planting details for planted areas.
- In environmentally sensitive areas, the City may request plantings to be installed in native, undisturbed soils at the City's discretion.

2.3 Tree and Shrub Planting:

- The Contractor must notify the Open Space Development section prior to commencement of any planting.
- Install plant material within 48 hours of delivery or ensure that roots are properly heeled in until site is ready.
- Care must be taken to avoid damage to overhead and underground utilities when planting trees and shrubs. Offset trees 1.0M from underground utilities, sidewalks and driveways, 2.0M from fire hydrants and transformers and 4.0M from light standards unless directed otherwise by the City in consultation with the Landscape Architect. Narrow canopy trees may be offset 3.0m from light standards.
- The Contractor is to stake out locations of tree pits. This stakeout is to be inspected and approved by the Landscape Architect and a City of Brampton representative before any excavation occurs.
- Boulevard trees are to be planted at 12.0M to 15.0M on centre where conditions permit (or as otherwise specified) and not more than 18.0M apart.
- On all flankage lots, narrow canopy trees may be planted in the boulevard spaced at 8.0 - 10.0M on-centre to accommodate utilities and sideyard fences. The Landscape Architect and a City of Brampton representative may, at their discretion, redistribute tree locations prior to planting, in order to minimize conflicts with utilities, driveways and intersection visibility.
- Transformers shall be screened with plant material to the satisfaction of the City of Brampton.
- Excavate tree pits and planting beds to lines and dimensions shown on the planting plans. Tree pits are not to be augered or tree-spaded.
- Provide all shrubs and trees according to the guide specifications for nursery stock in the current edition of the Canadian Nursery Trade Association with regard to quality and grading and sized as per plant list.
- Remove all burlap wrapping from trees prior to inspection by the City. Immediately after planting spray all plantings in leaf with anti-desiccant. Provide all trees with stakes.
- Provide 1.2m trunk protectors on all willow, aspen and poplar trees planted adjacent to valley pathways and road crossings.
- Remove all T-Bars at the conclusion of the warranty period.
- Plants are to be number 1 nursery stock grown under proper horticultural practices that include providing ample spacing, pest and disease control and branch & root pruning
- Trees shall be well branched and balanced with a strong central and straight trunks.
- Deciduous shade trees shall be free of branches less than 1.8M above the ground.
- All shrubs and evergreen trees are to be planted in continuous mulched beds.
- Excavate entire area of shrub bed uniformly to a depth of 450mm and fill with specified soil as per detail L912.
- Establish and maintain continuous neat edges on planting beds throughout.
- Apply 100mm of approved mulch to all trees and shrub beds in accordance with detail L912.

2.4 Rough Grading:

- Rough grade to within 150mm of the finished grade on the approved grading plans for the parks, boulevards and buffers. The Development Engineer in conjunction with the consulting Landscape Architect must certify rough grading. The City representative must approve the rough grade in writing.
- Compaction Requirements:
 - Subgrade 90% S.P.D.
 - General Landscape Areas 85% S.P.D.
 - Asphalt Walkway Subgrade 98% S.P.D. for fill areas; 95% S.P.D. for undisturbed subgrade
 - Granular Base 98% S.P.D.

2.5 Fine Grading:

- Fine grade area free of humps and hollows if required using a mechanical box shredder with compaction roller.
- A Geotechnical Engineer shall certify that all filling and grading associated with the noise barrier if applicable, shall conform to the compaction specifications on the approved plans.

2.6 Sodding/Seeding:

- Refer to topsoil and bedding soil preparation & testing for finished grade establishment.
- Obtain Landscape Architect's approval of topsoil grade and depth before sodding.
- Lay No. 1 Nursery Sod on all areas of the project as specified by the construction drawings. Use No. 1 Grade Kentucky Blue Grass mix.
- Immediately after installation, sod must be well rolled, in two directions and watered for proper root compaction to establish with topsoil.
- The sod must be fertilized three (3) times each growing season as per the soil analysis recommendations for corrections.
- Following the first winter after the sod has been laid it must be aerated and top-dressed during the spring for two (2) consecutive growing seasons.

2.7 Hydroseeding:

- Use appropriate seed mix in areas as specified.
- Ensure that areas to be seeded have been cultivated to a depth of 25mm and are moist to a depth of 150mm before seeding. Fine grade area free of humps and hollows if required using a mechanical box shredder with compaction roller.
- Obtain Landscape Architect's approval of topsoil, grade and depth before starting to seed.
- Fertilizer to be applied at a ratio and rate subject to the recommendations in the soil analysis report.
- Approved tackifier to be applied at a rate of 88kg/hectare or according to manufacturer's specifications.
- Apply seed mix at a rate as specified by supplier.
- Standard seed mix for locations to receive regular cutting:
 - 25% RTF Tall Fescue
 - 30% Per. Ryegrass
 - 25% Creeping Red Fescue
 - 5% Ky. Bluegrass
 - 5% White Dutch Clover
 - 10% Birdsfoot Trefoil
- Special seed mix for locations identified for 'low grow' turf:
 - 35% Crossbow Creeping Red Fescue
 - 29% Jamestown IV Chewings Fescue
 - 15% Rhino Hard Fescue
 - 15% SOS Annual Ryegrass
 - 3% White Dutch Clover
 - 3% Shark Creeping Bentgrass
- Standard seed mix for naturalized meadows:

Upland Mix:	Lowland Mix:
25% Per Ryegrass	25% Perennial Ryegrass
20% Hard Fescue	15% Meadow Fescue
20% Creeping Red Fescue	20% Red Clover
10% Birdsfoot Trefoil	25% Alsike
15% Red Clover	15% Birdsfoot Trefoil
10% Alsike	

2.8 Clean-up:

- Remove all extraneous debris from the work area immediately after any part of the works is completed and generally keep the site in a tidy and safe condition during the construction period.

2.9 Fencing:

- All chain-link fencing and components shall have a black gloss enamel finish by powder coat application. Prior to application of finish, treat with Parker Bondrite and chloroethenesolvent applied in a thickness of 4-5mm by electrostatic coat and oven cured smooth and even surface. All chain-link fabric also to be black vinyl coated. Bottom rail required only at active sports fields.
- All noise barrier fences and masonry walls to be centred 0.3M inside private property where abutting public property.
- All other fences to be centred 0.15M inside private property where abutting public property.
- Privacy fences to be placed on property line between residential properties.

3.0 STANDARD TREE PRESERVATION NOTES

- All existing trees, that are designated to remain, must be fully protected with solid wood hoarding or tree protection fencing in accordance with City of Brampton detail L110, which is to be erected beyond the drip line. Consulting Landscape Architect or Arborist to provide written confirmation to the City of Brampton stating that all tree preservation measures have been performed prior to issuance of topsoil stripping and grading permit. Tree preservation measures must be reviewed and verified on-site according to detail L110 City of Brampton, by Planning and Infrastructure Services.
- No construction equipment or motorized vehicles are permitted within the tree protection zone and all tree protection zones must remain undisturbed at all times.
- Any backfilling or topsoil/storage of materials must remain outside the limits of the tree protection zone.
- Any roots or branches that extend beyond the tree protection zone, which require pruning, must be pruned by a qualified Arborist and must be performed in accordance with good arboriculture practices. The Consulting Landscape Architect must advise the Open Space Development section a minimum of 48 hours prior to commencing any specified work.
- Trees that were designated for preservation but have died or have been damaged beyond repair will be removed and replaced by the Developer with trees of a size and species as approved by the Open Space Development section.
- Trees will be given an overall pruning as required, to the satisfaction of the City of Brampton Urban Forestry section.
- Tree protection fencing must not be removed without the written authorization of the Consulting Landscape Architect or Arborist. Fencing must remain in place for the full duration of all construction activities.

4.0 RESTORATION / MAINTENANCE OF PARKS AND NATURAL AREAS

- All areas beyond the Plan of Subdivision that are disturbed during construction shall be restored to the satisfaction of the City of Brampton at the Developer's expense.
- All blocks that are undeveloped within the subdivision are to be fine graded, covered with 150mm topsoil and sodded or seeded to the satisfaction of the City unless otherwise noted. Developer to perform regularly scheduled maintenance on all undeveloped blocks in compliance with the City of Brampton property standards By-law.
- All areas of natural open space that are disturbed during construction shall be restored to pre-construction condition to the satisfaction of the City of Brampton.
- Open space blocks shall not be used for the purpose of stockpiling or for the placement of construction trailers.
- All open space, valleyland and SWM blocks shall be maintained free of garbage construction debris and hazard trees by the developer until assumption of the subdivision by the City of Brampton. The developer is to perform regularly scheduled monthly maintenance on these blocks throughout the entire warranty period.
- All public boulevards as part of this development are to be fine graded to a 150mm depth of topsoil and sodded.

5.0 SUPPLEMENTARY PARK DEVELOPMENT NOTES

- All 1.2 m high, black vinyl chain link fence shall be installed prior to or concurrently with park construction. Refer to detail L830.
- Boulevard sod and street tree planting adjacent to the park shall be installed concurrently with park construction according to City standard specifications.
- The Developer shall supply and maintain a pad lock on the electrical service pedestal and provide the keys to Parks Maintenance and Operations prior to electrical activation.
- The play equipment manufacturer must inspect the installed structures and resilient surfaces and provide written documentation to the City that they meet or exceed the latest CSA Guidelines.

6.0 STANDARD VALLEYLAND DEVELOPMENT NOTES

- The Developer is responsible for the installation and maintenance of all silt fencing and any check dam details for erosion control and siltation as per City of Brampton standard requirements.
- Any erosion, other than natural stream activity, that occurs along the valleyland or open space block slopes throughout the construction and warranty period of this development shall be corrected by the Developer to the satisfaction of the City of Brampton.
- All dead wood, invasive species and trees/limbs deemed hazardous to the public, at the top of bank, in valleylands and in woodlots shall be removed by the Developer to the satisfaction of the City of Brampton.
- Tree removal in woodlots will be confined to marked trees as approved by the City of Brampton.
- The Developer is required to retain the services of an Arborist who will be responsible for the pruning of deadwood and selective thinning in the valleylands and open space blocks abutting the subject property. The noted work must be performed in consultation with the City of Brampton Arborist and Landscape Architect.
- All dead limbs are to be pruned and left on-site.
- All valley trails located behind residential properties must be roughed in prior to plan registration.
- All pedestrian bridges must be designed and stamped by an approved bridge engineer and peer reviewed to the satisfaction of the City's senior bridge engineer in the Maintenance and Operations Division prior to fabrication.

7.0 STANDARD STORMWATER MANAGEMENT POND DEVELOPMENT NOTES

- All headwalls and exposed concrete structures shall be finished with a natural stone facing form liner, or approved finished concrete surface. The Developer's Consulting Engineer shall submit the proposed headwall design to Planning and Infrastructure Services for approval prior to construction.
- All formwork to conform to City standard formwork specifications and City approval shall be required prior to concrete pour.
- The edges of all rip rap splash pads and outlet weirs shall be finished in random, irregular patterns. Rigid geometric arrangements will not be accepted.
- All corrugated metal sides of Hickenbottom risers are to be covered with 50mm to 500mm dia. washed river stone above permanent water level portion of stone jacket in lieu of rip rap. Below permanent water level 200mm rip rap is acceptable.
- Layout of outfall and overflow channels through existing vegetation to be adjusted onsite to minimize removal of existing vegetation.
- No rear yard gates are permitted from residential lots to SWM, Valley or Woodlot blocks. Gates may be permitted to tableland park blocks at the discretion of the City where there is safe access.
- All SWM blocks require the placement of permanent Stormwater Management Facilities Warning Signs as per the City of Brampton's specifications. Minimum 5 signs around pond.
- Upon completion of the SWM Pond Block the contractor is to notify Parks Maintenance and Operations for the supply of a standard life saving station(s) to install according to City Detail - Safety Station for Ponds and Waterways L850, at a minimum 200M spacing.
- A 2.4M wide granular path must be provided around each SWM block placed over the maintenance access route.