

PART I - GENERAL

- 1.1 Related Work**
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|----|--------------------------|---|---------------|
| .1 | Topsoil and Finish Grade | : | Section 02212 |
| .2 | Seeding | : | Section 02933 |
| .3 | Hydraulic Seeding | : | Section 02934 |
| .4 | Sodding | : | Section 02938 |
- 1.2 Scope of Work**
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| .1 | Work under this section shall comprise the supply of all labour, materials and equipment for the supply and installation of all trees, shrubs and ground cover planting, as shown on the drawings. This shall include but not necessarily be limited to the following: excavation, soil preparation, fertilization, staking, mulching, watering and maintenance. |
| .2 | The contractor is responsible for obtaining all utility stakeouts prior to excavation for tree pits or planting beds. |
| .3 | Coordinate work in this section with work in all other sections. |
- 1.3 Quality Assurance**
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| .1 | Contractor: |
| .1 | The contractor shall supervise all work in this section including implementation and all maintenance until Final Acceptance of completed park. |
| .2 | All materials and substitutions must be approved by Community Services staff prior to installation. |
| .2 | Source: |
| .1 | Make all plant material available for inspection at source of supply. |
| .2 | Give two working days notice, in writing, to the Community Services Department when materials are available for inspection at the source. |
| .3 | Approval of plant materials at source of supply shall not impair the right of the Community Services Department to inspect plants upon arrival on the site or during the course |

of construction and to reject plants which have been damaged or which, in any way, do not conform to the specifications.

1.4 Shipment and
 Pre-Planting Care

- .1 Co-ordinate shipping of plants and excavation of holes to ensure minimum time lapse between digging and planting.
- .2 Do not remove labels attached to plants until after preliminary acceptance.
- .3 Protect plant materials against damage and drying out from the time of digging until planting on site.
- .4 Deliver all plant material to the site in such a manner as to prevent wilt, broken branches, damage to trunk and bark, or injury to the root system.
- .5 Protect plant materials which cannot be planted immediately upon arrival on site with soil or similar material to prevent drying out. Keep all plant material moist until planted.
- .6 Remove broken and damaged roots with sharp pruning shears.
- .7 Any material damaged while being stored or installed will be rejected by the Community Services Department and the contractor will replace any such material at his own expense.

1.5 Adherence to
 Specifications and
 Details

- .1 Installed material that has not been approved by Community Services staff will be removed and replaced with the approved material at the expense of the contractor.
- .2 All substitutions must be approved in writing by the Community Services Department.
- .3 Should the contractor proceed to install plant materials contrary to the specifications and standard details, the Community Services Department shall have such works corrected at the contractor's expense.

1.6 Inspections

- .1 Following the completion of the planting works, the Community Services representative reserves the right to choose a minimum of one tree, at random, to be removed from its planting pit for

inspection of the planting method, planting pit, and condition of the root ball.

1.7 Guarantees
and Replacements

- .1 The contractor hereby warrants that plant material, as itemized on the plant list, will remain free of defects for two years from date of Preliminary Acceptance by the City.
- .2 Maintain all plant material and accessories, including planting beds, until expiration of guarantee period.
- .3 Throughout the guarantee period plant material will be replaced **immediately** by the contractor at the contractor's expense if any or all of the following conditions apply:
 - .1 Plant material is found dead or unhealthy as determined by the Community Services representative;
 - .2 Plant material is found in an unsatisfactory growing condition as determined by the Community Services representative;
 - .3 Plant material does not meet the requirements of the specifications.
- .4 Required replacements of deficient plant material shall be plants of the same size and species as specified on planting list and supplied in accordance with drawings and specifications.
- .5 The contractor shall not be responsible for the cost of replacements resulting from theft or vandalism.

PART II - PRODUCTS

2.1 Plant Materials

- .1 All plant materials shall meet the most current horticultural standards of the Canadian Nursery Trades Association with respect to size, grading and quality.
- .2 Plant materials shall be nursery grown, under proper horticultural practices as recommended by the Canadian Nursery Trades Association.

- .3 Nomenclature of specified plants shall conform to the International Code of Nomenclature for Cultivated Plants and shall be in accordance with the approved scientific names given in the latest edition of Standardized Plant Names. Names of varieties not named therein are generally in conformity with the names accepted in the nursery trade.
- .4 Container grown stock shall conform to the Canadian Nursery Trades Association specifications found in Landscape Canada Guide Specifications for Nursery Stock.
- .5 Plants dug from native stands, wood lots, orchards or neglected nurseries which have not received proper cultural maintenance as advocated by the Canadian Nursery Trades Association, shall be designated as "Collected Plants" and shall not be permitted.
- .6 Plants shall be true to type, structurally sound, well branched, healthy, vigorous, free of disease, insect infestation, rodent damage, sun scald, frost cracks and abrasions or scars to the bark. Plants shall be densely foliated when in leaf and have healthy, well developed root systems.
- .7 Pruning wounds shall show vigorous bark on all edges and all parts shall be moist and show live, green cambium tissue when cut.
- .8 Plant materials shall conform to the measurements specified in the plant list. Plants larger than specified may be used if approved by the Community Services Department. The use of larger plants shall not increase the contract price. When larger plants are used, increase the root ball proportionally to the size of plant.
- .9 Measure plants when the branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant not from branch tip to root base nor from branch tip to branch tip.
- .10 The size of root balls shall conform to Canadian Nursery Trades Associations Specifications found in Landscape Canada; "Trade Specifications for Nursery Stock".
- .11 All root balls less than 450 mm in diameter shall be burlapped

with 142 gr (5 oz.) Hessian burlap or approved equal. Balls from 450 mm to 750 mm in diameter shall be double burlapped. Balls 750 mm and larger in diameter shall be double burlapped and drum laced with 6mm rope at 200 mm spacing.

2.2 Topsoil

- .1 In all cases, a minimum of 150 mm of topsoil will be used on all park surfaces intended for sodding, seeding, planting, or naturalizing.
- .2 Topsoil will be free of subsoil, roots, grass, weeds, toxic materials, stones, and foreign objects. Topsoil will have an acidity range (pH) of 6.0 to 7.5. **Refer to Section 02212 for complete topsoil specifications.**
- .3 Native backfill material shall be in a friable condition free from lumps, stones and other debris, construct topsoil saucer around base of trees. Backfill planting beds/ tree pits according to the following recommendations:
 - .1 *Sandy, excessively drained soil:* Add 30 - 40% by volume of organic material to the backfill.
 - .2 *Intermediate (loamy), well to adequately drained soil:* Use native backfill only.
 - .3 *Clayey, poorly drained soil:* Do not amend clayey or poorly drained soil, loosen soil in a wide area and use native backfill only.

2.3 Plant Accessories

- .1 **Stakes:** shall be new T-Rail steel stakes 37 mm x 37 mm x 2.1 m long.
- .2 **Wires for fastening:** shall be pliable #11 gauge minimum galvanized iron wire fastened around the tree in a figure eight using rubber hose specified below.
- .3 **New Black Rubber Hose:** two-ply, reinforced and 25 mm in diameter, or approved equal, shall be used to encase wires where they circle the trunk or branches.
- .4 **Tree Wrapping Material:** new, clean, plain burlap strips minimum 2.5 kg/m mass and 150 mm wide. Tree wrap shall be removed

prior to final inspection by the City.

- .5 Mulch: shredded bark mulch. Supply sample of mulch to the Community Services representative prior to product delivery to the site.
- .6 Fertilizer: each planted tree shall receive one Aquiform (or approved equal) fertilizer tablet at 20-10-5 NPK ratio.

PART III - EXECUTION

3.1 Pre-inspection

- .1 Verify areas to receive work in this section and report any conditions or defects encountered to the Community Services Department, before construction commences.
- .2 Do not commence work until such conditions or defects have been corrected.

3.2 Workmanship

- .1 The contractor shall arrange for all planting locations to be staked and obtain approval from the Community Services representative prior to commencing planting.
- .2 Apply anti-desiccant in accordance with material manufacturer's instructions, as necessary.
- .3 Co-ordinate operations. Keep site clean and planting holes drained. Immediately remove soil or debris spilled onto pavement or other adjacent surfaces.

3.3 Planting Time

- .1 Plant during suitable weather conditions.
- .2 When deciduous plant material has been planted after buds have broken, spray plants with anti-desiccant to slow down transpiration prior to transplanting.
- .3 Plant only under conditions that are conducive to health and physical conditions of plants.
- .4 Provide planting schedule. Extending planting operations over long periods using limited crew will not be acceptable to the Community Services Department.

3.4 Planting Pits

- .1 Dig the planting pit 2 -3 times the diameter of the rootball and to a depth that is approved by the City representative. In heavy soils, increase the width of planting holes by 50 mm for each 100 mm of root ball diameter.
- .2 Provide drainage for planting holes in heavy soil if natural drainage does not exist. Have method approved by the Community Services Department prior to planting.
- .3 Protect bottom of excavations against freezing.
- .4 Remove water which enters excavations prior to planting. Ensure source of water is not ground water.
- .5 Locate planting pits and obtain approval from the Community Services Department prior to excavation. Planting pits must not be left uncovered if the installation of plant material in all pits cannot be completed.
- .6 When trees are located in a mass planting arrangement, planting pits will be combined to form a large continuous planting bed. Loosen or till the entire landscape bed.

3.5 Planting

- .1 Plant trees and shrubs vertically with roots in natural position. Orient plant material to give best appearance in relation to structures, roads and walks.
- .2 Plant tree at proper depth: The rootball should be set so that the trunk flare is exactly at the existing grade in loamy or sandy soils, and up to 1/3rd above the existing grade in clayey or poorly drained soils. Final depth of planting to be approved by the City representative.
- .3 Remove all burlap, ropes, wires and any other biodegradable binding away from the top 1/3 of the ball. Non-biodegradable pots must be entirely removed. With trees in wire baskets, remove wire from the top 1/3rd of the rootball after tree has been placed in the pit.
- .4 Plants specified S.B. or W.B. shall be moved with solid well formed balls wrapped in burlap. S.B. indicates string balled, W.B. indicates wire basket.

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- .5 Plants with burlap or ropes removed prior to planting shall not be used and shall be rejected by the Community Services Department.
- .6 Backfill soil mixture in layers not exceeding 150 mm in depth. Tamp each layer firmly in place in such a manner that the plant retains its vertical position. Ensure that no air pockets remain under or around the roots.
- .7 Construct an earth saucer as per planting detail. The saucer shall have a diameter as large as the excavated area.
- 3.6 Tree Support
- .1 The tree tie shall be fastened around the tree in a figure eight (8) using wire and rubber hose as specified. Hose length encasing the wire shall be of sufficient length to ensure wire does not touch bark at any point.
- .2 Allow sufficient slack in wire loop to permit two years of growth for the tree.
- 3.7 Pruning
- .1 Only prune trees after planting to remove dead or broken branches and to maintain natural form of tree crown. Employ clean sharp tools and make cuts flush with main branch, smooth and sloping as to prevent accumulation of water. Remove projecting stumps on trunks or main branches. Remove dead and damaged branches and branches that rub causing damage to bark. Trim crown of trees and shrubs without changing their natural shape. Do not damage lead branches or remove smaller twigs along main branches.
- 3.8 Mulching
- .1 Obtain approval of planting before mulching material is applied. Loosen soil in planting beds and pits and remove debris and weeds. Spread mulch to uniform depth of 75 mm.
- 3.9 Clean Up
- .1 Clean all fertilizer bags, burlap, twine and any other such material from site immediately after completion of work.
- 3.10 Maintenance
- .1 Water when required and sufficient to saturate the root system. In no case shall the foliage be allowed to wilt or evergreens be allowed to dry out.
- .2 Prune as required including the removal of dead or broken branches.

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- .3 Maintain all accessories in good condition.
 - .4 Maintain all planting and shrub beds and tree wells free of weeds until expiration of the guarantee period.
 - .5 Provide adequate protection against winter damage including damage caused by rodents.
 - .6 Maintain plant material from date of planting up to end of warranty period.
 - .7 Remove trunk wrapping and tree stakes at end of warranty period, or as directed by the Community Services representative.
 - .8 Maintain depth of mulch throughout warranty period.

3.11 Final Acceptance

- .1 All plant materials shall be healthy, vigorous, and free of insects and disease at time of Final Acceptance.
- .2 All planting beds and tree wells shall be free of weeds at time of Final Acceptance of complete park works.

END OF SECTION 02950