

**SECTION 02910
SHRUB AND TREE PLANTING**

PART 1 GENERAL

1.01 SUMMARY

- A. Comply with Division 1 - General Requirements.
- B. This Specification shall cover the supply and planting of new trees.
- C. Contractor shall supply all labour, material, equipment and services necessary to complete the Work specified herein.

1.02 SUBMITTALS

- A. Submit landscape plan which demonstrates the effectiveness in providing a visual barrier and aesthetics, including tree types and planting arrangement, to the Contract Administrator for approval prior to commencement.
- B. Submit three copies of a list of plant materials seven days prior to delivery for review by contract administrator.
- C. Include in list:
 - 1. Quantity and type of plant material.
 - 2. Shipping dates.
 - 3. Arrival dates on site.
 - 4. Planting dates.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Store and protect plant material which will not be installed within one hour after arrival on site.
- B. Tie branches of trees and shrubs securely and protect plant material against abrasion, exposure and extreme temperature change during transit. Avoid binding of planting stack with rope or wire which would damage bark, break branches or destroy natural shape of plant. Give full support to root ball of large trees during lifting.
- C. Cover plant foliage with tarpaulin, and protect bare roots by means of dampened straw, peatmoss, saw dust or other acceptable material to prevent loss of moisture during transit and storage.
- D. Remove broken and damaged roots with sharp, clean pruning shears.

- E. Keep plants moist and protected from sun and wind. Heel-in trees which cannot be planted immediately, in shaded areas and water well.

1.04 WARRANTY

- A. Notwithstanding General Condition C13, Submit a warranty against defects in materials and workmanship for plants installed from date of acceptance for a period spanning two complete growing seasons.
- B. End-of-Warranty inspection will be conducted by Contract Administrator.
- C. During warranty period, remove from site plants which are dead, missing, unhealthy, or failed to grow satisfactorily as determined by contract administrator.
- D. Replace defective plant material in the next planting season.
- E. Extend warranty on replacement plant material for a period equal to the original warranty period.
- F. Continue such replacement and warranty until plant material is acceptable.

1.05 MAINTENANCE

- A. Maintain plant materials and planting areas immediately after plants have been planted and continue such maintenance until the end of the warranty period.
- B. Include maintenance measures necessary to establish and maintain plant materials in vigorous, healthy, growing condition.
- C. Maintain plant and tree accessories, such as tree wrapping, tree guys, stakes and tighteners from time of installation until the end of the warranty period.
- D. Adjust tighteners to keep guys taut at all times. Repair or replace accessories where necessary.

PART 2 PRODUCTS

2.01 MATERIAL

- A. Water: Potable and free of impurities which may be detrimental to plant growth.
- B. Stakes: T-bar steel stakes 50 x 50 x 6 x 2440 mm.
- C. Accessories: As recommended by Tree Nursery.

- D. Planting Soils and Fertilizer: As recommended by Tree Nursery
- E. Root ball burlap: 150 g Hessian burlap, biodegradable.
- F. Anti-desiccant shall be a wax-like emulsion to provide film over tree leaf surfaces reducing evaporation but permeable enough to permit transpiration.
- G. Plant material quality and source: Comply with Metric Guide Specifications for Nursery Stock, latest edition of Canada Nursery Trades Association referring to size and development of plant material and root ball.
- H. Move plants indicated as balled and burlapped (B&B) with solid balls wrapped in burlap and drum-laced with twine and/or rope.
- I. Do not use plants when the ball of earth surrounding the roots has been cracked or broken prior to or during the process of planting.

2.02 TREES

- A. Provide trees suitable for providing a year-round visual barrier as shown on the drawings. Trees are to be Pyramidal Cedar, or of one or more species approved equal, with a height of at least 3 meters measured from the ground to tip when planted, arranged and spaced to obscure the view of a new Make-Up Air Unit, as shown on the drawings.

PART 3 EXECUTION

3.01 PREPARATION

- A. Prior to commencement, prepare a landscaping plan indicating the physical arrangement and features of the tree planting plan. Include provisions for the visual barrier and trees or shrubs for the aesthetic blending into the surrounding environment.
- B. Stake out location of trees and planting beds as per planting plan. Obtain Contract Administrator's acceptance prior to excavating.
- C. Apply anti-desiccant in accordance with material manufacturer's instructions.
- D. Co-ordinate operations. Keep site clean and planting holes drained. Immediately remove soil or debris spilled onto pavement.

3.02 INSTALLATION - PLANTS

- A. Trees and shrubs shall be planted during unfrozen ground conditions and suitable weather conditions for plant growth. Trees are to be planted within forty-eight (48) hours of excavation from the nursery. The location of

plantings will be staked out or painted on site in accordance with the approved landscape plan.

- B. Excavate planting pits as indicated by the stakes or paint marks. Excavated soil shall be removed off Site. Remove any water that enters excavations prior to planting.
- C. Loosen bottom of planting hole to depth of 150 to 200 mm, cover the bottom with a minimum of 150mm topsoil mixture and incorporate within the subgrade.
- D. Plant trees vertically with roots placed straight out in hole. Orient plant material to give best appearance in relation to roads, walks and adjacent structures to the acceptance of the Contract Administrator
- E. With balled and burlapped root balls, loosen burlap and cut away minimum top 1/3 without disturbing root ball. Do not pull burlap or rope from under root ball. With container stock, remove entire container without disturbing root ball. Remove non-biodegradable wrappings.
- F. Tamp planting soil mixture around root system in layers of 150 mm eliminating air voids. Frozen or saturated planting soil is unacceptable. When 2/3 of planting soil has been placed, fill hole with water. After water has completely penetrated into soil, complete backfilling.
- G. Build 100 mm deep saucer around outer edge of hole to assist with maintenance watering.
- H. When planting is completed, give surface of planting saucer dressing of organic 1:2:2 fertilizer at rate of 40 to 50 g/m² of caliper for trees. Mix fertilizer thoroughly with top layer of planting soil and water in well.

3.03 TREE SUPPORT AND PROTECTION

- A. Provide support and protection as recommended by the Tree Nursery.

3.04 PRUNING

- A. Prune trees after planting as directed to compensate for loss of roots suffered during transplanting. Employ clean sharp tools and make cuts flush with main branch. Remove dead and injured branches and branches that rub causing damage to bark. Trim out crown of trees and shrubs without changing their natural shape. Do not damage lead branches or remove smaller twigs along main branches.

3.05 MAINTENANCE

- A. Water once a week for first 4 weeks and then sufficiently thereafter to maintain optimum growing conditions. Ensure adequate moisture in root zone at freeze-up.
- B. Keep soil, within confines of planting saucer around trees, cultivate shallow and free from weeds.
- C. Spray plants to combat pests and diseases in accordance with provincial and federal regulations.
- D. Provide adequate protection against winter damage including damage caused by rodents as recommended by the Tree Nursery.
- E. Maintain plant material from date of planting up to end of warranty period.
- F. Remove from site rubbish and debris.
- G. Maintain areas neat and tidy.

END OF SECTION

**SECTION 02933
SEEDING AND LANDSCAPING**

PART 1 GENERAL

1.01 SUMMARY

- A. Comply with Division 1 - General Requirements.
- B. Topsoil and Seeding shall be in accordance with City of Winnipeg Standard Specifications CW 3540-R5 and CW 3520-R7 as noted herein.
- C. Landscaping fabric and landscaping stone products and installation shall be in accordance with CW 2165-R2 as noted herein.

1.02 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed in original containers showing seed mixture.
- B. Deliver fertilizers in bags, clearly marked with the name of the manufacturer, contents, weight and analysis.
- C. Geotextile fabric must clearly show manufacturers product number.

1.03 SITE CONDITIONS

- A. Do no seeding under adverse conditions, such as high wind, frozen ground, ground covered with snow, ice or standing water.

1.04 WARRANTY

- A. Re-seed areas which have failed to establish into a healthy, vigorously growing grass.
- B. Make bi-weekly inspections of seeded areas during the warranty period and notify the Contract Administrator in writing of any corrective or preventative measures necessary to maintain grass in good healthy condition.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Imported fill material will consist of low to medium plastic clays or mixtures of sand and clay, uniform in nature, free of wood, vegetation, concrete rubble or stones larger than 25 millimeters in diameter.
- B. Geotextile:, Amoco 4530 Landscape Fabric, or equal

- C. Top soil: Conform to CW 3540-R5
- D. Fertilizer: Conform to CW 3540-R5
- E. Grass seed: Conform to CW 3520-R7 for general park areas.
- F. Landscaping Stone: 25 millimeters and down, submit sample.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine site before commencement of work, and inform the Contract Administrator if site conditions will not permit completion of work of this Section as specified.
- B. Ensure backfilling and grading has been completed and approved by the Contract Administrator prior to application of top soil and seeding.

3.02 APPLICATION

- A. Remove vegetation and top soil in area below MAU.
- B. Site is to be positively graded to avoid water ponding. Place and compact imported fill to achieve drainage cross slopes and smooth surface for geotextile fabric in area below MAU as shown on the drawings or as directed by the Contract Administrator.
- C. Apply soil sterilant to surface area beneath MAU in conformance with CW 2165-R2.
- D. Place geotextile fabric in accordance with CW 2165-R2, cover with landscaping stones to a depth not less than 50 millimeters.
- E. Backfill and grade excavated areas and areas disturbed by construction. Grade to match existing.
- F. Place topsoil in accordance with CW 3540-R5.
- G. Apply seed mulch to topsoiled areas as specified in CW-3520-R7
- H. Reseed at two week intervals where germination has failed.
- I. Keep site well drained and maintained.
- J. Keep site clean and immediately clean up soil or debris spilled onto pavement and dispose of deleterious materials.

3.03 MAINTENANCE

- A. Maintain the seeded area as specified in CW 3520-R7.

3.04 PROTECTION

- A. Provide adequate protection of seeded areas against damage from pedestrian. Remove this protection after lawn areas have been accepted by the Contract Administrator

END OF SECTION