

1.0 MAINTENANCE

1.1 GENERAL

- .1 The Contractor shall commence the maintenance of the work immediately after the work has been Substantially Complete, and shall continue until the date of Total Completion of the work.
- .2 Program timing of maintenance activities to growth, weather conditions and use of site.
- .3 Do each maintenance activity continuously and complete within a reasonable time period.

1.2 TURF AND AUTOMATED IRRIGATION

.1 GENERAL

Such maintenance shall include all measures necessary to establish the turf in a vigorous growing condition, including but not limited to the activities noted in this section.

.2 SPRING CLEAN UP

- .1 Remove and dispose of all sanding gravel or any other material that may be deposited on the turf, as a result of snow removal activities by the City.
- .2 Rake turf to remove dead vegetation, leaves and debris.

.3 MOWING

- .1 At regular intervals as required to maintain turf at a minimum height of 75 mm (3.0 inches) and maximum of 100 mm (4 inches). Grassed areas shall be neatly mowed and all edges shall be neatly trimmed. No more than 1/3 of the grass blade height shall be removed at any single mowing. Pattern or direction of mowing shall be changed by 45° for each time the area is mowed.
- .2 All excess grass clippings shall be removed by the end of the next calendar day. All grass clippings shall be removed from all hard surfaces, playground areas and/or flower/shrub beds, immediately after each mowing.

.4 IRRIGATION

- .1 Irrigate when required and with sufficient amounts to ensure germination, prevent turf and underlying soil from drying out and with sufficient time between watering to promote deep root growth.
- .2 Monitor and adjust the irrigation system as required.
- .3 Protection and maintenance of the irrigation system as required.
- .4 The Backflow Prevention Device shall be tested by a Certified tester when the irrigation system is activated in the spring.

.5 FERTILIZING

- .1 Application of fertilizer in accordance with standard horticultural practice, to establish a vigorous stand of grass. The Contractor shall contact the Project Manager prior to fertilizing.
- .2 Fertilizer must be applied during active growing months from May 1 to August 15. Use good horticultural practises and consider the stage of development. In general, during root development stage apply 1N (nitrogen) – 2P (phosphorous) – 0K (potassium) ratio. During more mature stage, include application of a fertilizer with a blended ratio of 2N (nitrogen) - 1P (phosphorus) - 1K (potassium). Desired nitrogen makeup: 25% water soluble 75% sulphur coated urea (slow release). Application rates are to provide .48 kg of actual N (nitrogen) for every 100 sq m.

.6 WEED CONTROL

- .1 Shall be carried out when required to keep landscaped areas free of weeds. When herbicides are used, they shall be applied by a Provincially recognized (licensed) applicator in accordance with the manufacturer's recommendations, and the Province of Alberta Weed Control Act and Agricultural Chemical Act. Any damage resulting from the Contractor's use of herbicides shall be remedied at his expense.
- .2 Seeded areas shall have less than five percent (5%) weed cover. Weeds prohibited by the Weed Control Bylaw (No. 2758) shall not be permitted.

.7 EROSION

- .1 Repair areas that have eroded. Fill eroded areas with topsoil and reseed.

.8 RESEEDING/RESODDING

- .1 Shall be carried out over all areas which are sparse, show deterioration or are bare and are larger than 60 cm² (9 in ²) in size.
- .2 Remove existing and dead sod, weeds and debris. Scarify as required to prepare a smooth, loose surface for seeding or sodding.
- .3 Roll sodded areas where necessary, to remove depression and irregularities.

.9 REGRADING

- .1 Regrade areas where differential settlement has occurred and for areas which do not drain properly.
- .2 Remove excess material from site or supply and spread fill or additional topsoil to bring grade to required elevations.
- .3 After regrading subgrade, supply and spread topsoil to an appropriate depth for the area to be seeded or sodded.

.10 AERATING

- .1 Aerate areas where soil has become compacted through pedestrian traffic or other causes.
- .2 Aerate using aerating equipment which extracts and deposits earth plugs a minimum of 60 mm (2.5 inches) deep. Verify location of all irrigation components.

.11 PROTECTION OF SITE

All landscaped (seeded, sodded, etc.) areas shall be adequately protected by necessary fences at the Contractor's expense until such time as grass has sufficiently caught to allow foot traffic.

.12 WINTERIZE IRRIGATION SYSTEM

- .1 Winterize the irrigation system in the fall by turning off, draining and blowing out the entire system.
- .2 Activate the irrigation system in the spring, making any necessary corrections and repairs.

1.3 SHRUBS

.1 GENERAL

- .1 Shall include all measures necessary to establish and maintain all plant material in an acceptable, vigorous and healthy growing condition including but not limited to the activities noted in this section.

.2 GARBAGE/DEBRIS

All planting areas shall be kept clean and free of refuse, debris, garbage, stones, bottles, etc.

.3 WEED AND DISEASE CONTROL

- .1 All beds shall be cultivated to a depth of 75 mm (3 inches) as required and maintained weed (including turf grass that has encroached from adjacent landscape area) free.
- .2 All beds shall be maintained weed free (including turf grass that has encroached from adjacent landscape area). When herbicides or pesticides are utilized, they shall be applied in accordance with manufacturer's recommendation and shall be applied by a licensed pesticide applicator. Herbicides and pesticides shall be used in accordance with the Agricultural Chemicals Act and its regulations. Damage resulting from the Contractor's use of herbicides or pesticides shall be repaired at his own expense.

.4 WATERING

All plant material shall be watered individually. The Contractor shall be responsible for supplying and distributing any water for installation or maintenance purposes.

.5 PRUNING

- .1 Only broken branches shall be removed after planting. The amount of pruning shall be limited to the minimum necessary to remove dead or injured branches.
- .2 Pruning shall be done in such a manner as to preserve the natural character of the plant material. Only clean, sharp tools shall be used. All cuts shall be clean, smooth and cut to the branch collar or carefully made just above a healthy bud, leaving no stubs. Cuts, bruises or scars on the bark shall be tracked back to living tissue and removed. The affected areas shall be shaped so as not to retain water.

.6 DAMAGE TO TURF

Any damage which may occur through washout of sod or soil shall be removed and replaced by the Contractor with new sod, at his expense.

.7 BED MAINTENANCE

- .1 Maintain edge of all beds with a 90 degree vertical edge cut, 75 mm (3 inches) deep around the perimeter of the bed. Beds shall be raised, not level with the final elevation.
- .2 Maintain a minimum of 100 mm (4 inches) depth of mulch. Ensure that crowns of shrubs and bottom branches are not covered with mulch.

1.4 TREES

.1 GENERAL

Shall include all measures necessary to establish and maintain all plant material in an acceptable, vigorous and healthy growing condition including but not limited to the activities noted in this section.

.2 GARBAGE AND DEBRIS

All planting areas shall be kept clean and free of refuse, debris, garbage, stones, bottles, etc.

.3 WEED AND DISEASE CONTROL

- .1 All tree pits shall be cultivated to a depth of 75 mm (3 inches) as required and maintained weed (including turf that has encroached from adjacent landscape area) free.
- .2 When herbicides or pesticides are utilized, they shall be applied in accordance with manufacturer's recommendation and shall be applied by a licensed pesticide applicator. Herbicides and pesticides shall be used in accordance with the Agricultural Chemicals Act and its regulations. Damage resulting from the Contractor's use of herbicides or pesticides shall be remedial at his own expense.

.4 WATERING

- .1 All plant material shall be watered individually and a saucer shaped circle to a depth of 100 mm (4 inches) shall be maintained around each tree for convenient watering. The Contractor shall be responsible for supplying and distributing any water for installation or maintenance purposes.

.5 PRUNING

Only broken branches shall be removed after planting. The amount of pruning shall be limited to the minimum necessary to remove dead or injured branches. Pruning shall be done in such a manner as to preserve the natural character of the plant material. Only clean, sharp tools shall be used. All cuts shall be clean, smooth and cut to the branch collar or carefully made just above a healthy bud, leaving no stubs. Cuts, bruises or scars on the bark shall be tracked back to living tissue and removed. The affected areas shall be shaped so as not to retain water.

.6 DAMAGE TO TURF

Any damage which may occur through washout of sod or soil shall be removed and replaced by the Contractor with new sod, at his expense.

.7 TREE ACCESSORIES

- .1 All accessories such as tree wrapping or tree ties and stakes shall be maintained in good condition and repaired or replaced when required.
- .2 The Contractor shall remove the tree stakes and wires approximately 6 months after the installation.

.8 TREE WELL MAINTENANCE

- .1 Maintain a minimum of 100 mm (4 inches) depth of mulch. All tree wells should be topped up prior to end of maintenance period.

1.5 ASPHALT TRAILS

.1 GENERAL

Such maintenance shall include all measures necessary to maintain the work including but not limited to the activities noted in this section.

.2 EROSION

All repairs resulting from heavy rainfall, seasonal runoff.

.3 ASPHALT REPAIRS

Portions of the asphalt trail that show deterioration shall be repaired.

.4 MOWING

Mow and trim all coarse grass seeded areas as required to control weed growth and shall be continued to be mowed and trimmed until the coarse grass is in a healthy, vigorous growing condition.

.5 RESEEDING

Reseed all areas, which show deterioration, bare spots no larger than 400 cm².

.6 WEED CONTROL

- .1 Seeded areas shall have less than five percent (5%) weed cover. Weeds prohibited by the Weed Control Bylaw (No. 2758) shall not be permitted.
- .2 Control of noxious weeds as per municipal and provincial legislation.

1.6 COARSE GRASS

.1 GENERAL

Such maintenance shall include all measures necessary to maintain the work including but not limited to the activities noted in this section.

.2 EROSION

Remedy all damages, wash-outs and eroded areas resulting from weather, improper protection or of other causes.

.3 RESEEDING

Reseed all areas which show deterioration, bare spots no larger than 400 cm².

.4 WEED CONTROL

.1 Seeded areas shall have less than five percent (5%) weed cover. Weeds prohibited by the Weed Control Bylaw (No. 2758) shall not be permitted.

.2 Control of noxious weeds as per municipal and provincial legislation.

.5 MOWING

Mow and trim all coarse grass seeded areas as required to control weed growth and shall be continued to be mowed and trimmed for weed control until the coarse grass is in a healthy, vigorous growing condition.

2.0 ACCEPTANCE

2.1 GENERAL

.1 The Project Manager shall accept the work at the time of total completion provided all work is complete and the work is fully functional.

.2 The Project Manager shall NOT accept the work at the time of total completion unless the as built drawings are submitted in the proper format.

.3 The Project Manager shall NOT accept portions of the work, with the exception of the 2 year maintenance period for the storm water pond landscaping.

- .4 No acceptance of any work after August 30 of the current year.
- .5 The Project Manager will accept the work, subject to, the Contractor completing the initial winterizing of the irrigation system and activating it in the spring.
- .6 The Contractor shall have the Backflow Prevention Device tested by a Certified Tester. This shall be completed once per season at the time of the activation of the irrigation system in the spring.
- .7 The Contractor shall submit an as-built drawing, as per the City's standard format, prior to the Total Completion of the project.
- .8 The Manufacturer shall complete the Playground Equipment Compliance Inspection Report (Annual Comprehensive Report) as prepared by the Canadian Playground Safety Institute. This report shall be submitted to the Parks and Outdoor Recreation Department.

2.2 TURF

- .1 The work is accepted at the time of total completion, provided all the work is complete, the work is fully functional and the following conditions have been met:
 - .1 The turf must be in a healthy, vigorous growing condition, properly established and free of bare spots larger than 60 cm² (9 inches²).
 - .2 The turf must be mowed and neatly trimmed a **minimum** of 3 times.

2.3 SHRUBS

- .1 The work is accepted at the time of total completion, provided all the work is complete, the work is fully functional and the following conditions have been met:
 - .1 All beds or pits shall be free of weeds (including turf grass that has encroached from adjacent turf area).
 - .2 Leaves and debris and shall be in a tidy condition.
 - .3 Edge of all beds shall have a 90 degree vertical edge cut, 75 mm (3 inches) deep around the perimeter of the bed. Touch up or re-cut as required.

- .4 Mulch shall be topped up to the specified amount.
- .5 All plant material shall be in a healthy growing condition.

2.4 TREES

- .1 The work is accepted at the time of total completion, provided all the work is complete, the work is fully functional and the following conditions have been met:
 - .1 All tree pits shall be free of weeds, leaves and debris and shall be in a tidy condition. Mulch shall be topped up to the specified amount.
 - .2 All plant material shall be in a healthy growing condition.

2.5 ASPHALT TRAILS

- .1 The work is accepted at the time of total completion, provided all the work is complete, the work is fully functional and the following conditions have been met:
 - .1 The native grass shall be in a healthy, vigorous growing condition, properly established and free of bare spots larger than 400 cm².

2.6 COARSE GRASS

- .1 The work is accepted at the time of total completion, provided all the work is complete, the work is fully functional and the following conditions have been met:
 - .1 The coarse grass shall be in a healthy, vigorous growing condition, properly established and free of bare spots larger than 400 cm².

3.0 GUARANTEE

3.1 GENERAL

- .1 The Work shall be inspected by the Project Manager, and those components which show deterioration due to faulty materials and/or workmanship, shall be replaced at the Contractor's expense within the following periods:
 - .1 Landscaping 10 days (pending seasonal conditions)

- .2 Irrigation 10 days (pending seasonal conditions)
- .3 Shrubs/Trees 30 days (pending seasonal conditions)
- .4 Trails 10 days (pending seasonal conditions)
- .5 Coarse Grass 10 days (pending seasonal conditions)
- .2 If the Contractor fails to comply with the replacement of the components within the specified time period, and does not provide the Project Manager with an acceptable schedule for the replacement of the components, the Project Manager will have the components replaced and invoice the Contractor for all costs associated with the replacement.
- .3 All components must be replaced prior to the Final Acceptance of the Work.
- .4 The following outlines the period for which various components of the work shall be guaranteed, from the date of the Total Completion of the Work:
 - .1 Landscaping 1 Year
 - .2 Irrigation 1 Year which must include turn on in Spring
 - .3 Shrubs 2 Years
 - .4 Trees 2 Years
 - .5 Trails 1 Year
 - .6 Coarse Grass 1 Year
- .5 The Work may be guaranteed for longer periods from the date of Total Completion of the Work, as may be specified for certain products or work.

3.2 TREE AND SHRUB REPLACEMENTS

- .1 All plant materials found dead or diseased, or not in a healthy, satisfactory growing condition, or which in any other way, do not meet the requirements of the specifications, shall be replaced by the Contractor at his own expense.
- .2 All plant material that has been damaged as a result of carelessness on the part of the Contractor shall be replaced by the Contractor at his own expense.

- .3 All required replacements shall be by plants of the same size and species as specified on the Plant List and shall be supplied and planted in accordance with the approved drawings and specifications.

END OF SECTION