

1.0 **GENERAL**

1.1 **Scope**

- .1 This guideline addresses the quality and scope of landscape maintenance services required during the project maintenance period prior to acceptance of maintenance responsibility by UBC Facilities. Work includes pest, *weed* and disease control, *cultivation, mulching, lawn cutting*, warranty and replacement of plant material, stakes, guywires, manual watering, irrigation adjustment and winterizing, etc.

1.2 **Related Work**

- .1 Section 32 00 13 Integrated Pest Management
- .2 Section 32 01 93.01 Tree and Shrub Preservation
- .3 Section 32 93 05 Relocation of Existing Plant Material
- .4 Section 32 80 00 Irrigation
- .5 Section 32 91 00 Planting Preparation
- .6 Section 32 93 00 Plants
- .7 Section 32 92 00 Turf and Grasses
- .8 Section 32 92 23 Sodding

1.3 **Workmanship**

- .1 All work shall conform to the standards and practices outlined in the Canadian Landscape Standard – current edition; to be executed by skilled tradespersons well equipped and adequately supervised, and performed in accordance with these Standards.

1.4 **Record of Maintenance Operations**

- .1 Work Schedule: *At Substantial Completion*, Properties Trust or Project Services to provide Municipal Services with a schedule outlining the tasks to be undertaken through the *maintenance period*. These shall include as a minimum: fall/spring clean-up, fertilizer application, mulch application, irrigation, garbage clean-up, pruning, turf top-dressing and aeration.

1.5 **Scope of Work**

- .1 Provide all equipment, material and labour for work specified.

1.6 **Duration and Warranty**

- .1 The landscape maintenance period shall begin at Substantial Completion of a landscape for a period of not less than *55* days.
- .2 The warranty on plants and trees will be for one (1) full year commencing from the end of the date of certified Substantial Performance of the Work.
- .3 The Properties Trust or Project Services project manager must schedule an end-of-warranty inspection that includes the Project Manager, the Project Landscape Architect, the landscape contractor, the maintenance contractor (if different from landscape contractor) and a representative from Municipal Services (contact Landscape Architect, UBC Municipal Services).

1.7 **Notification**

- .1 Notify the Project Landscape Architect and UBC Municipal Services Head Landscape

Technologist if any disease or insect problems arise *during the maintenance period*.

- .2 Any pest control measures to be implemented by the Contractor shall be reviewed and approved in writing by UBC Municipal Service prior to their use. Provide the Project Landscape Architect and UBC Municipal Services with a minimum 72 hour notification in writing prior to application of chemical vegetation controls. *Follow all municipal, provincial and federal regulations if pesticides are used.*
- .3 Notify both the Project Landscape Architect and UBC Municipal Services of any physical changes and/or discrepancies which may affect the implementation of the contract as specified herein or which may endanger the public.

2.0 **MATERIALS AND DESIGN REQUIREMENTS**

2.1 **Materials**

- .1 The Maintenance Contractor shall provide all materials, labour and equipment necessary to perform the operations as specified herein and as required to provide the optimum environment for the establishment of the landscape.
- .2 Mulch: If provided during the maintenance period shall conform with requirements in Section 32 93 00 Plants.

2.2 **General**

- .1 The Landscape Maintenance Contractor shall maintain the project free from any defect resulting from work done or material supplied by the Landscape/Maintenance Contractor. The Contractor shall, to the satisfaction of the Project Landscape Architect and UBC Municipal Services, rectify any defect that exists within the Maintenance Period.
- .2 The Maintenance Contractor shall be responsible for regular examination of the site during the term of the Contract and shall adjust the work schedule to suit site conditions.

2.3 **Maintenance of Lawn *and Meadow* Areas**

- .1 The Maintenance Contractor shall be responsible for the maintenance of all project lawn *and meadow* areas *including areas inside or outside the project area that have been damaged by project construction or pedestrian or vehicular traffic*. Maintenance of lawn *or meadow* areas shall include all measures necessary to maintain *and protect* lawn *or meadows* in a vigorous, healthy, normal growing condition. Begin maintenance immediately after installation and continue for *not less than 60 days and as long as needed to establish lawn in condition equal to or better than what existed prior to damage*.
- .2 All mowed lawn areas shall be cut to *maintain a* maximum height of *3-1/2" (90mm)*. Not more than 1/3 of the blade shall be cut at any one mowing. *Meadow areas shall be cut once or twice per season as appropriate to desired appearance and weed suppression*.
- .3 Equipment shall be sharp, level and prevent burning or gouging of lawn.
- .4 All clippings and debris shall be removed at the time of mowing, and disposed of off-site. This includes but is not limited to wet or dry grass clippings on bollards, lamp posts, concrete walls, curbs and steps, sidewalks and other paved areas, signs, sign posts, benches, tree trunks and stakes, shrub planting, etc.
- .5 The Maintenance Contractor shall monitor the site for lawn *or meadow* areas that are not in a

- healthy growing condition and reseed them as soon as conditions are favourable. Areas showing shrinkage due to lack of watering shall be top dressed and seeded with the original mix.
- .6 Regular and adequate watering shall be provided in order to promote healthy lawn *or meadow* growth. In the event of watering restrictions which prohibit the use of the automatic irrigation system or in areas which lack an automatic irrigation system, manual watering shall be performed in quantities and at intervals required to promote healthy, vigorous grass *or meadow* growth.
 - .7 *Do not use line trimmers around trees and shrubs. Sprinkler heads shall be trimmed to clear as often as necessary to keep them operating properly. Hard surface areas adjacent to the lawns shall be swept and cleaned after each operation.*
 - .8 *Rolling shall be carried out when required to remove any minor depressions or irregularities.*

2.4 Maintenance of Plants and Planted Areas

- .1 The Maintenance Contractor shall be responsible for the maintenance of all plants and trees. Maintenance shall include all measures necessary to maintain plants in a vigorous, healthy, normal growing condition, providing an appearance characteristic of their species and appropriate to their surroundings. Such maintenance shall include but not be limited to general cultivation, weed, pest and disease control, mulching, moisture conservation and watering, fertilizing, plant protection, pruning, and general clean-up.
- .2 All plant material shall be alive and in a healthy growing condition at the end of the maintenance period. Plant material which is not in such a condition shall be removed from the site and replaced before project Final Completion.
- .3 Remove and replace dead plants and plants not in healthy growing condition upon notification. Make replacements in same manner as specified for original plantings and within 10 days of written request from Project Landscape Architect or UBC Municipal Services, weather and conditions permitting.
- .4 For maintenance contracts two months or greater, it shall be the responsibility of the Maintenance Contractor to maintain an adequate level of soil fertility through the regular application of mulches, suitable fertilizers, and the control of soil acidity where required. Lime shall be applied to plant areas where acidity is inappropriately excessive (i.e. below pH 4.5). For lawns, 23-3-23 spring and summer feeder. For shrubs and trees, 8-12-10. No lime shall be applied where specific planting requires an acid condition such as Ericaceous shrubs, rhododendrons and other acid liking broadleaf evergreens.
- .5 For maintenance contracts two months or greater, the Maintenance Contractor shall apply, slow release fertilizers to all plants (as described above) once per year. Apply fertilizer to plants once in early spring, after danger of frost has past, and not later than June 30, at manufacturer's suggested rate or as required to promote health growth. Fertilizer shall be slow release, sulphur coated urea base, such as Agrico-Evergro Total (23-3-23) or approved equal.
- .6 Regular and adequate watering shall be provided in order to promote healthy plant growth. In the event of watering restrictions which prohibit the use of the automatic irrigation system or in areas which lack an automatic irrigation system, manual watering shall be performed in quantities and at intervals required to promote healthy, vigorous plant growth. Planted areas shall be watered at frequencies required to replace moisture at the root zone. Reform damaged watering saucers at the base of all trees.
- .7 Replace or respread damaged, missing or disturbed mulch. Remove dead, broken or hazardous branches from plant material.
- .8 All trees shall be protected against wind and snow damage by adequate staking, guying, tying or wrapping as conditions require. Guys, wire ties and stakes shall be examined at frequent

intervals, and adjustments or renewals made to prevent abrasions or other damage to plants. Keep tree supports in proper repair and adjustment. Remove tree supports and level watering saucers at the end of the one year maintenance period.

- .9 Any plants maintained as hedges must be level and not parallel with the ground.

2.5 Weed Control

- .1 The Contractor shall be responsible for detection, recognition and timely control of plant pests and diseases. The Contractor shall have an up-to-date knowledge of the most effective, non-toxic, organic insecticides, miticides and fungicides, together with the ability to diagnose ailments. Obtain written approval from UBC Municipal Services prior to their application.
- .2 The Maintenance Contractor shall be responsible for the regular inspection and removal of weeds from all landscape portions of the project. *Chemical pesticides are strongly discouraged from use on the campus except where heavy infestation makes this the only viable option.* Obtain written approval from UBC Municipal Services prior to application of toxic chemical pesticides for any extenuating circumstances. Weeding shall be done at a weekly interval during the maintenance period. Any weeds that are identified shall be removed within 1 week of inspection. In no cases shall weeds be allowed to be greater than 50 mm in spread. Weeds must be removed in their entirety, including root systems or any other below-ground parts.
- .3 Weeds are defined as undesirable plants and will include all plant species not intentionally planted or seeded, unless mutually agreed upon by the Project Landscape Architect and/or UBC Municipal Services Head Landscape Technologist and Maintenance Contractor. Weeds will include, but not be limited to such plants as *Horsetail, Morning Glory*, annual bluegrass, barnyard-grass, chickweed, crabgrass, clover, couch-grass, dandelion, groundsel, horsetail, mallow, morning glory, prickly lettuce, mustards, oxalis, pigweed, pineapple weed, plantain, shepherd's purse, smart weed, snapweed, sowthistle, stork's bill, thistle and will also include invasive, non-native species such as Scotch broom, Himalayan blackberry, and purple loosestrife. Weeds will also be defined as any of the grass seedlings that germinate and develop in the mulched shrub bed areas that are caused by an over-application in the seeding or hydroseeding operation.
- .4 The Maintenance Contractor shall monitor the site for the presence of weeds growing in project hardscape. All weeds in these areas shall be removed once per month.
- .5 The type of weeds in an area shall determine the method of treatment. Weed control may consist of, but is not limited to the following:
 - .1 hand-pulling, digging, cultivation,
 - .2 encouraging the growth of desired plants which can compete with weeds, and
 - .3 timing the mowing of grass areas to correspond with the seeding cycle of weeds.
- .6 In situations where there is doubt concerning the necessity or effectiveness of a weed control *strategy*, the decision of the Project Landscape Architect in consultation with UBC Head Landscape Technologist will finalize the best course of action.

2.6 Irrigation

- .1 Regulate proper application of water through the irrigation system to ensure healthy plant growth.
- .2 Complete blow out and drainage of the irrigation system prior to winter and the complete reinstatement of system operations in the spring.
- .3 Damage to the sprinkler heads or other parts of the system resulting from Maintenance Contractor's operations shall be replaced without charge to UBC.

- .4 Failures in the irrigation components due to other causes, such as wear, vandalism, accidents caused by others, etc., shall be reported to the Project Landscape Architect and UBC Municipal Services Head Landscape Technologist.
- .5 All irrigation heads shall be kept clear of debris so that good coverage results.

2.7 Litter and Waste Clean-Up

- .1 Clean-up of litter and landscape waste shall be considered part of normal maintenance work. Litter shall include, but not be limited to, bottles, cans, plastic, rubber and all paper. Landscape waste shall include, but not be limited to, windfall, prunings, weeds, grass clippings, fallen leaves, stones and surplus or other waste materials as a result of landscape maintenance and construction operations.
- .2 All waste shall be gathered and removed from the site at the end of each day's maintenance operations. All litter shall be gathered and removed from the site weekly.

*****END OF SECTION*****