

Public Realm

Master Specification

PR-LS-C2 Planting

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PR-LS-C2 Planting

1 General

- 1.1 This Part specifies the requirements for planting of tubestock, general nursery stock, aquatic plants, native grasses and advanced trees. Lawn Establishment is not covered by this Part (refer Part PR-LS-C3 "Lawn Establishment").
- 1.2 All clauses of this Part apply unless otherwise specified in the Contract Scope or Requirements.
- 1.3 Where a specification differs between the Drawing and the Design Report, the Drawing shall take precedence.
- 1.4 If not specified in the Drawings or Design Report, the clauses in this Part shall be followed.
- 1.5 Where required under the Controlled Substances Act 1984, and the Controlled Substances (Pesticides) Regulations 2017, employees undertaking pest control work shall hold a current Pest Management Technician's License.

2 Soil Testing

- 2.1 Prior to planting, soil testing shall be undertaken in accordance with Part PR-LS-S2 "Topsoiling".

3 Weed Control

- 3.1 Before planting commences, an area of 1200 mm diameter around the individual plant shall be sprayed for weeds. Where existing vegetative growth exceeds a height of 150 mm, vegetative growth shall be slashed to 50 mm prior to spraying of weeds. Trash build-up and cut material shall be removed from the area prior to spraying with a knock down systemic herbicide (Roundup or equivalent) incorporating an herbicide marker dye. Where weed control is to be undertaken in and around waterways and wetlands, Roundup Biactive (or equivalent) shall be used. Herbicides shall be used according to the manufacturer's recommended rates and any off-target damage shall be rectified by the Contractor.

4 Setting Out

- 4.1 Prior to commencing work on site, the Contractor shall set out the location of planting areas and the location of individual plants in accordance with the Drawings and Design Report. The Contractor shall provide 2 days prior notification to the Principal when setting out is to occur to allow for inspection of the set out. Plants shall be set out in accordance with the Austroads Guidelines and other Service Authority Legislation and Regulations. Unless an alternative distance is stated on Drawings:
 - a) Trees and large shrubs shall not be planted within 2 m of any fence or roadside barrier.
 - b) Trees and large shrubs shall not be planted within 3.0 m of any pedestrian or cycle path.
- 4.2 Aquatic plants shall generally be planted along the edges of water channels, swales and detention ponds. In retention ponds with permanent water, planting shall occur at the permanent water level in locations such that the water depth is not more than 100 mm above the base of the plant.
- 4.3 The Contractor shall provide written verification that setting out has occurred in accordance with this Clause.

5 Preparation of Planting Holes

- 5.1 As far as practicable topsoil and subsoil shall be kept separate. Only topsoil free from deleterious material may be used for backfill for planting. Unsuitable material brought to the surface during excavation of planting holes shall be removed from the site by the Contractor. The sides of the holes

shall be rough sided to create an irregular surface which will facilitate root penetration. Minimum hole sizes shall comply with the following:

	Advanced Trees	Tubestock, Viro-tubes and General Nursery Stock	Aquatic Plants planted with a hand trowel, spade or similar tool
Hole diameter	300 mm greater than the diameter of the plant root ball.	150 mm greater than the diameter of the plant root ball.	Large enough to accommodate the plant's root ball.
Hole depth	Depth of the root ball. Subsurface material at the bottom of the hole shall be decompacted to a depth of 150 mm and lightly compacted.	Subsurface material at the bottom of the hole shall be decompacted to a depth of 100 mm and lightly compacted.	Large enough to accommodate the plant's root ball.

5.2 Where underground services are present, planting holes shall be dug by hand.

5.3 Where planting into riplines has been specified, planting areas shall be cross-ripped to a minimum depth of 300 mm at ripline spacings of 500 mm. Riplines shall follow contours. Ripping shall not occur within the extent of existing vegetation to be retained or the dripline of existing trees to be retained.

6 Planting Method

General

- 6.1 Prior to planting, the plant shall be watered and the root ball fully moist. Plants shall be removed from the containers and planted in such a way that the roots are not disturbed. Roots shall not be teased out. The plant shall be placed vertically in the hole or ripline and the hole backfilled. The backfill shall be lightly consolidated to remove air pockets around the root ball and to ensure that the plant remains upright after watering. The plant shall be set at a height such that the surface of the potting medium is at the same level as the surrounding soil surface.
- 6.2 Except for plants placed in riplines and aquatic plants placed in water, a shallow watering basin of a minimum 400 mm diameter (800 mm for advanced trees) by 100 mm deep, capable of holding a minimum of 10 litres of water (50 litres for advanced trees), shall be constructed at the base of each plant.
- 6.3 Each plant shall receive 20 litres (50 litres for advanced trees) of clean potable water within 30 minutes of planting.
- 6.4 After planting, all containers, labels, rubbish, debris, spoil and other surplus material shall be removed from the site.
- 6.5 For advanced trees the following shall apply:
- Before planting, the base and sides of the planting hole shall be moist. When trees are being unloaded and positioned the root ball shall be supported and trees shall not be lifted only by the trunk. The trunk shall be protected and a tree sling shall be attached as close to the root ball as practical. A bar or timber shall be positioned under the root ball for support, and an additional sling shall be used to hold the bar or timber in position when lifting. Trees shall be oriented so that the peg embedded in the root ball or the red dot marked on the stem at the nursery faces north in the new planting position.
 - Balled and Burlapped Stock shall be placed in the hole before the hessian covering is repositioned. Then, to ensure root growth and access to nutrients and water, the hessian shall be pulled down off the root ball and left in the bottom of the hole. The hessian shall not be pulled from under the plant, to prevent root damage.
 - Where a tree is supplied in other containers or root control bags, the container or bag shall be removed immediately prior to planting. If a root control bag is enclosed in a wire basket, the basket can be left around the root ball, but the lifting handles shall be cut off 100 mm below the soil surface.
- 6.6 Where aquatic plants are grown en masse, plants shall be divided into the number of divisions specified in the plant schedule on the Drawings or in the Design Report.

Backfill

- 6.7 Backfill shall consist of soil, which may be material excavated from the planting hole or suitable topsoil sourced from the immediate worksite. Where suitable soil is not available from the planting hole or immediate worksite, imported soil shall be used. Imported soil shall be in accordance with AS 4419 "Soils for Landscaping and Garden Use". Organic matter shall not be added to the backfill material.
- 6.8 Soil tests shall be conducted by a laboratory accredited under ISO 9001 and the soil test results supplied to the Principal as a Soil Test Report prior to application of soil amendments or importation of soil for landscape areas.
- 6.9 Soil for tree containers shall be as specified in the Drawings or Design Report.

7 Fertiliser

- 7.1 TerraCottem Universal or equivalent shall be installed at the time of planting in accordance with the manufacturer's recommended installation methodology and rates. Proposals to use alternatives to TerraCottem Universal shall be submitted to the Principal for approval and shall be accompanied by appropriate supporting documentation. Approval for the use of alternatives will be at the sole discretion of the Principal.

8 Root Control

- 8.1 Refer to the Drawings or Design Report for the root control, root barrier and root director requirements. Installation of root control, root barrier and root director shall be in accordance with the manufacturer's instructions.

9 Tree Stakes for Advanced Trees

- 9.1 Advanced trees shall be planted with two 50 x 50 x 2,500 mm hardwood stakes installed vertically to a minimum of 750 mm deep into the ground, located a minimum of 500 mm from the trunk to avoid damage to the root ball.

10 Marker Stakes

- 10.1 All plants other than advanced trees shall be identified by marker stakes. Stakes shall be straight, free from knots or twists and pointed at one end, and driven a minimum of 250 mm into the planting hole with no less than 500 mm remaining above ground level.
- 10.2 Refer to the Drawings or Design Report for the marker stake requirements.
- Bamboo Stakes 750 mm long, 10-12 mm diameter.
 - Hardwood Stakes 750 mm long, 25 x 25 mm.

11 Tree Ties

- 11.1 Where tree ties are specified in the Drawings or Design Report, they shall be polyethylene 50 mm wide and installed in accordance with the manufacturer's instructions.
- 11.2 When tying, one loop or figure-eight tie shall be placed between each stake and the tree trunk. Each tie shall be secured near the bottom of its stake and should permit some movement under normal wind conditions without allowing the roots to move or the trunk to rub against the stake. The tie shall have a broad, smooth surface where it meets the trunk and enough elasticity to minimise trunk abrasion cutting. Where Advanced Trees are subject to lateral movement in areas of high wind, 100 mm of black carpet underlay shall be wrapped around the trunk and secured by the tree tie.

12 Tree Guards

- 12.1 Where tree guards are specified on the Drawings, they shall be rigid polypropylene fluteboard (or equivalent) - 450 mm high with 230 mm wide sides and shall be installed in accordance with the manufacturer's instructions.
- 12.2 Rigid polypropylene fluteboard tree guards shall be installed with one hardwood and one bamboo stake to prevent the tree guard from spinning.
- 12.3 Support stakes shall extend 50 mm above the tree guard, and be driven a minimum of 250 mm into the ground.

13 Weed Mats

- 13.1 Where weed mats are specified on the Drawings or in the Design Report, they shall be Jutemat Biodegradable (or equivalent) 750-800 gsm, 600 x 600 mm and shall be installed in accordance with the manufacturer's instructions.

14 Mulch

- 14.1 At a minimum, mulch shall be evenly spread to the following requirements:

	Advanced Trees	General Nursery Stock	Tube Stock	Native Grasses
Average Thickness (mm)	100	100	100	20
Minimum coverage, measured from plant (m)	1.0	1.0	1.0	0.5

- 14.2 All mulch material shall slope toward the base of stems of plants so that the mulch is not in contact with the stems of the plants, and shall be raked to an even surface flush with the surrounding finished levels. The mulch shall be well leached, free from deleterious material such as soil, weeds, sticks, sawdust and plastic. Mulch available from the removal of on-site vegetation shall be used only when approved for this use by the Principal.
- 14.3 Unless specified on the drawings or in the Design Report, imported mulch shall be hardwood or equivalent. Proposals to use alternatives to hardwood mulch shall be submitted to the Principal for approval. Approval for the use of alternatives will be at the sole discretion of the Principal.

15 Plant Survival Rates

- 15.1 At a minimum, plant survival rates shall meet the following benchmark requirements:

Maintenance Year	Tubestock and General Nursery Stock Survival Rates (% survival)	Advanced Tree Survival Rates (% survival)
Year 1	100%	100%
Year 2	95%	100%
Year 3	90%	100%