WSUD – Raingarden Plants C120.04

DESIGN STATEMENT

Raingardens rely upon specific plants, filter media, and layer depths to function correctly. Using trees in a raingarden should be site-specific and consider the trees' impact on the raingarden system and its maintainability as the trees grow. Raingarden design must comply with Merri-Bek City Council Streetscape WSUD Raingarden and Tree Pit Design Package (WSUD Package).

APPLICABLE LOCATIONS

All raingardens in Merri-Bek municipality.

CROSS-REFERENCE SPECIFICATIONS

- Council technotes C120.01 to C120.07
- Melbourne Water Biofiltration Systems in Development Services Schemes Guidelines (2020).

PLANT TYPE

Please refer to Table 1 when choosing native plants.
Selected species should withstand prolonged periods of ponding and drought. Follow the guidelines below:

- Lay out plants in a random arrangement to look less systematic
- Aim for aesthetics and visual characteristics
- Do not locate woody vegetation (scrub and trees) near inflow locations
- Consider traffic visual requirements (no tall plants within a vehicle's line-of-sight) and safety issues
- Consider using native plants already on the site that will be removed during site construction.

PLANT DENSITY

Typical install size is either tubestock or 140mm pots for groundcovers and shrubs. Planting density should be at least 10 plants / m2 for sedges, rushes, and grasses. This allows for root density and reduces potential for weed invasion.

STREET TREE POSITIONING IN THE RAINGARDEN

Trees are not recommended in the following locations:

- Where filter media depth is less than 700mm
- Where an existing tree will significantly affect the health, vigour and shape of a new tree
- Within 5m of an existing naturestrip tree unless it is proposed to remove the existing tree in the short to medium term or provide tree planting in close proximity to be consistent with the character of the streetscape

- Within 1m of a vehicle crossover
- Within 1m of a stormwater drain
- Within 1m of a residential water/gas service or ferule connection to water mains
- Within 2m of a fire hydrant or drainage pit
- Within 1m of an inspection pit
- Within 3m of an electricity pole (includes Yarra Tram poles, light poles etc)
- Within 1.5m directly beneath overhead service wires to properties
- Where it will inhibit visibility of an intersection or pedestrian crossing (consult with Council Traffic Engineers for possible locations)
- Directly in front of pedestrian access to properties
- Where the planting would interfere with the flow of pedestrian, bicycle or motor vehicles. (Cut-outs are not to extend into bicycle lanes)
- Over incoming gas and water services.

MAINTENANCE

Key design considerations for easily maintainable plants, soil and raingarden layers include:

- Appropriate site-specific plant selection
- Ensure occasional watering of plants as they establish. Once established, native plants will not typically require watering
- Ensure designed raingarden layers accurately represent any water quality modelling parameters utilised. Specifically, depths and hydraulic conductivity.

Refer to WSUD Design Package, Section 8, Maintenance Checklist.

Primary Species	Secondary Feature Species	Tree Species
To comprise at least 75% of total plant numbers: •Carex appressa •Juncus amabilis •Juncus flavidus •Ficinia nodosa	To comprise no more than 25% of total plant numbers: •Anigozanthos species •Brachyscome multifida •Carpobrotus modestus •Dianella longifolia •Dianella revoluta •Leucophyta brownii •Lomandra longifolia •Myoporum parvifolium	•Banksia species •Callistemon species •Callistemon sieberi •Lagerstroemia cultivars •Lophostemon confertus •Pyrus calleryana •Casuarina cunninghamiana •Maclura pomifera 'Witchita' •Brachychiton acerifolius •Tristaniopsis laurina •Ulmus parvifolia •Waterhousea floribunda •Brachychiton hybrid

Table 1: Planting in raingarden filter media