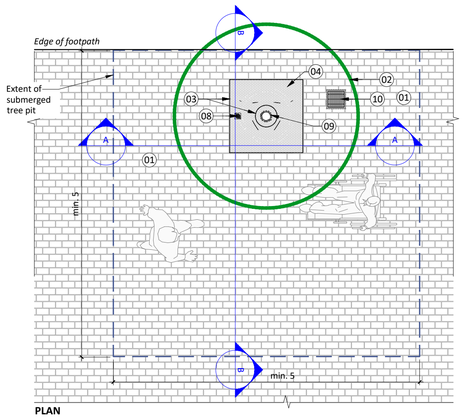
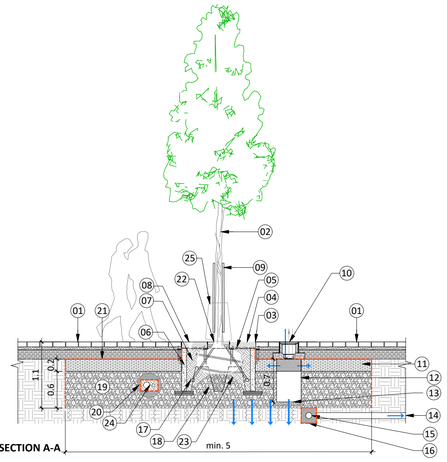
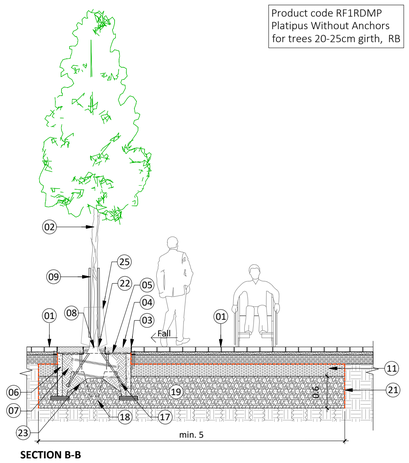


PLAN



SECTION A-A

Product code RF1RDMP
Platipus Without Anchors
for trees 20-25cm girth, RB



SECTION B-B

KEY:

1. Adjacent footpath surface and build-up to Engineer's drawings
2. Proposed semi-mature tree planting 20-25cm girth, RB
3. Aluminium edge 120mm high, used also as Protective tree collar installed 75-100mm from the base of trunk to allow for growth (e.g. Kinley AluExcel or equivalent)
4. Gold colour stone, UV Porous Resin surface (Addastone TP or equivalent approved) with translucent epoxy/polyurethane binder (0.5mm dia. grit cast onto uncured surface). Select aggregates must be washed, clean and dry, grading 6-10mm for greater perlocation
5. Clean loose aggregate infill
6. Concrete planting frame 1.2x1.2m, 0.7m deep (available from stockholmtreepits.co.uk, or equivalent) adjusted 2-4mm on crushed coarse stone.
7. Tree soil type A to fill the planting hole (See Soil Notes)
8. Rootball irrigation/aeration system for establishment period, with a fixed non-removable grid inlet complete with a vandal resistant powder-coated aluminium cap on a retainer chain, placed around rootball for watering and liquid fertiliser, Greenleaf RootRain CIVIC or equivalent
9. Tree trunk protected with securely fixed flexible bamboo cane mat
10. Heelsafe, 316L stainless steel B125 gully, 300x300mm with slip resistant finish and Heelsafe 316L stainless steel gully grate with slip resistant finish, certified to EN 1253-1, load class L15, size 268x 268mm
11. 200mm aeration layer (20/40mm clean stone) compressed with a 400 kg soil vibrator.
12. Aeration well (one per tree) adjusted to 2-4mm on 6mm coarse crushed stone.
13. Silt trap at base of aeration well emptied using standard gully sucker
14. Outfall to stormwater management system (only required if there is inadequate ground infiltration)
15. Perforated pipe underdrain
16. Filtration geotextile
17. Underground guying system (Platipus Deadman system RF2RDMP or eq.) with 3no. kerbstones/sleepers, 3 x wire chokes, 5m galv. wire, 1no. ratchet tensioner, 3no. plati-mat.
18. Compacted structural soil platform to support the rootball. Adjust for appropriate planting height (root flare at ground level).
19. Structural soil with 100-150 angular stone (preferably not limestone) laid down in 250-300mm layers). The soil needs to be fully washed down into the voids of the angular stone. Slow release fertiliser (8 mo. leaching time 100g/m2) laid in layers with planting soil
20. Root barrier material of ducting positioned around sewage and surface water pipes only and not around the tree pit. Pipe bed aggregate (4/10mm) installed as protection around pipes and ducting.
21. Separation geotextile 100-300g/m²
22. Do not cover root collar/root flare. Tree root collar shall be placed at the same level as in the nursery. Tree root ball rests on structural soil.
23. Base of tree pit 1% slope for drainage. Loosen subsoil 200mm deep to base.
24. Utility ducting to engineer's details, backfilled with 20mm crushed stone and wrapped in geotextile.
25. Slow release 55L capacity watering bag. Made of green polyethylene with scrim reinforcement, black polypro straps and nylon zippers. For larger trees zip allows multiple bags to be fitted together. Two water release points per bag. Remove watering bags after one full growing season or when the tree is firmly established.

1. Sample photo of tree anchoring system Platipus without Anchors - Deadman

2. Structural Soil Tree Pit 3D view

3. Sample photo of irrigation / aeration system, with a vandal resistant cap, e.g. Greenleaf RootRain CIVIC or equivalent

Structured Tree Soil Mix Notes:
Structured Tree Soil Mix for street trees, min 600mm deep to provide CBR min. 15. under paved areas. Soil medium comprises:

- 70% clean crushed stone (stone size 100-150mm) laid in 250-300mm layers compressed by at least four passes with a vibroplate.
- 30% Imported Sandy Clay Loam/Sandy Loam (Type D soil to Q28 of specification) conforming to BS3882 (TII Standard SPW-600) unscreened, comprising:
  - 8%wt-% peat free, organic compost produced to QAS 441 Irish Standard
  - Sandy Clay Loam/Sandy Loam will have the following particle size distribution:

Sieve	Percent passing
6mm	100
4.5mm	95-100
2mm	80-100
1mm	50-85
0.60mm	25-80
0.30mm	40-70
0.15mm	30-60
0.01mm	4-12

Soil to be laid in-situ on the crushed rock and flushed down between the layers of crushed rock with high pressure/low volume water. In order to infiltrate the right amount of soil into the crushed rock, each layer of planting soil must not exceed 20 mm thickness. The planting soil is applied in several layers so that the entire volume of crushed rock is saturated. There should be no surplus soil lying around after application.

Tree Pit Soil (immediately adjoining rootball - Type A)
Imported Sandy Clay topsoil (Type A to Q28 of specification) to be added to planting hole within tree frame, with tree planted at correct depth, guyed and watered.

Note:
Recommended volume of stone based structural soil is based on the mature tree size.

Minimum requirements for tree pit specifications when using structural soils are:

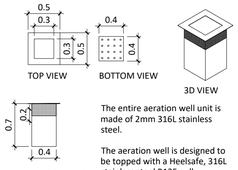
Mature Size of Tree*†

	Very Small (<5m)	Small (5-10m)	Medium (10-15m)	Large (15-25m)	Massive (>25m)
Recommended minimum volume of **stone-based structural soil**	**8m³** (6m³ if shared)	**15m³** (12m³ if shared)	**26m³** (20m³ if shared)	**36m³** (28m³ if shared)	**45m³** (35m³ if shared)
Recommended number of **air/water inlets**	**1** (0.5 if shared)	**1** (0.5 if shared)	**1**	**2** (1.5 if shared)	**2**

Typical detail is based on a small size tree which will require 15 cu.m. of structural soil.

Extract from "Planting beds in the City of Stockholm, A Handbook, 2009.02.23 GH100322"

The pictures above illustrate the procedure for structural soil construction, from laying and compressing the crushed rock layers for the structural volume, through protection of existing pipelines, placement of air inlets having in planting soil fertilisation, laying aerated bearing layer, laying material-separating geotextile and gravel, placement of drain covers for water gutters to final placement of the tree grid and paving.



SIDE AND TOP VIEWS
Individual panel

3D VIEW
4x panels combined to create planting frame

Panel weight approx. 105kg. Unit reinforced with 5 Ø rebar. 25mm minimum concrete cover.

Concrete planting frame 1.2x1.2m
Scale 1:50

TOP VIEW
BOTTOM VIEW
3D VIEW

4 x side panels
SIDE VIEW

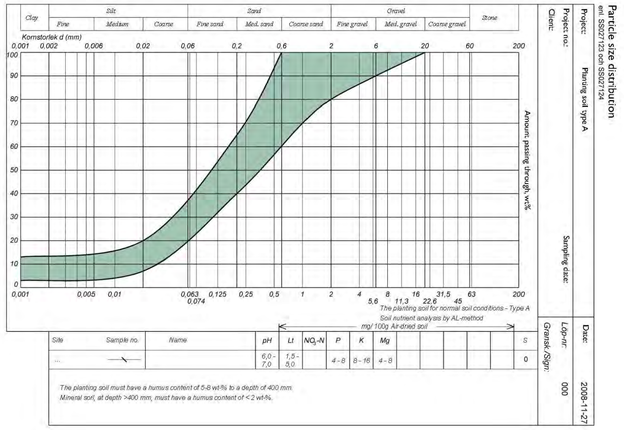
The entire aeration well unit is made of 2mm 316L stainless steel.

The aeration well is designed to be topped with a Heelsafe, 316L stainless steel B125 gully, 300x300mm with slip resistant finish

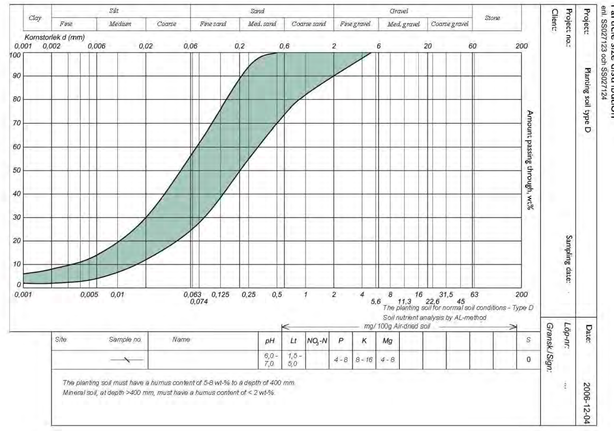
Tree pit Aeration Well specification
Scale 1:50

D1 Structural Soil Tree Pit System Typical Detail

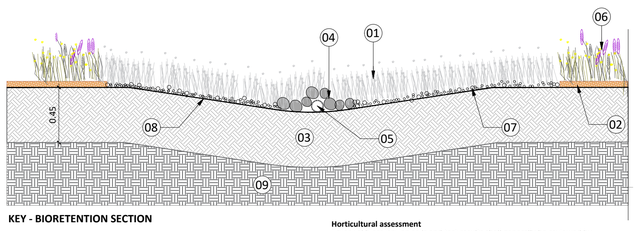
Scale 1:50



Particle size distribution graph for planting soil Type A,
"Planting beds in the City of Stockholm, A Handbook, 2009.02.23 GH100322"



Particle size distribution graph for planting soil Type D,
"Planting beds in the City of Stockholm, A Handbook, 2009.02.23 GH100322"



KEY - BIORETENTION SECTION

1. Planting to Bioretention area
2. 50mm deep bark mulch to ornamental planting
3. 450mm deep Biortention Soil filter material - sandy loam SuDS soil to specification
4. Select 80-100mm layer of 20-55mm river washed glaciated cobble, to cover drainage
5. Drainage to engineer specification
6. Ornamental planting
7. Pea gravel much 16/20mm to bioretention planter, white and grey colour to approval to bioretention area
8. Existing ground
9. Subgrade to Engineers Detail

TREATMENT 1 - 450mm deep Bio-retention Planting

Bioretention Filter Medium /Soil Specification

Saturated hydraulic conductivity (permeability)
The saturated hydraulic conductivity shall be between 100 mm/h and 300 mm/h. This should be checked in situ, using the single ring infiltration test method as described in BS EN ISO 22282-5:2012.

Porosity
The total porosity shall be > 30% when tested in accordance with BS 1377-2:1990).

Particle size distribution
The filter medium shall be well-graded and well-mixed with min. following parameters:-

Sieve size (mm)	% Passing	Soil element
6	100	fine gravel
2.0	90-100	coarse sand
0.6	40-70	medium sand
0.2	5-20	fine sand
0.063	<5	clay and silt

Organic matter content
Organic matter content should be 3–5% (w/w)

pH
pH should be 5.5–8.5 (1:2.5 soil/water extract)

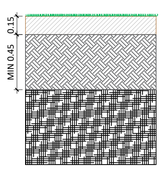
Electrical conductivity (salinity)
Electrical conductivity (EC) shall be < 3300 µS/cm (1:2.5 soil/$CaSO_4$ extract)

Major plant nutrients
Total nitrogen should be 0.10–0.30%
Extractable phosphorus shall be 16–100 mg/l
Extractable potassium shall be 120–900 mg/l
(Methods of analysis in accordance with BS 3882:2015, unless otherwise stated.)

Horticultural assessment
Potential bioretention soils and test results shall generally be reviewed by the landscape consultant to ensure that they are capable of supporting a healthy vegetation community. Any component or soil found to contain high levels of salt (as determined by EC measurements), high levels of clay or silt particles (exceeding the particle size limits set above), or any other extremes which may be considered retardant to plant growth shall be rejected.

D2 Topsoil Treatment

Scale 1:25

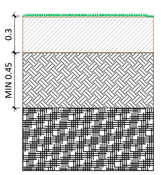


TREATMENT 2 - Grass areas

TOPSOIL (Class 5A Material)
•Topsoiled, fertilized with enrich compost or organic equivalent and farmyard manure & seeded to specification

SUBSOIL (Class 4 Material) TO TII EARTHWORKS SERIES 600 SPECIFICATION
• Clean subsoil, free draining, free form rubbishbuilding contamination, large stones rocks >150mm
• Laid in layers max 250-300mm
• Depth varies to make up site levels to allow 150mm Class 5A material to stand 30mm proud of all kerbs, paths edgings, manhole covers etc.

SUB-FORMATION TO TII EARTHWORKS SERIES 600 SPECIFICATION
• Remove all debris, building contamination, stones/rocks >150mm from formation surface.
• Decompact during dry weather by;
(i) back-actor of 'Hymac' to 450mm depth; or,
(ii) 3-5 tyne ripper mounted on crawler tractor @1200mm ctrs
• Ascertain location of all service runs prior to decompaction. Where affected, they shall be sealed off and protected.



TREATMENT 3 - Shrubs

TOPSOIL (Class 5A Material)
• Topsoiled, fertilized with enrich compost or organic equivalent and farmyard manure.

SUBSOIL TO TII EARTHWORKS SERIES 600 SPECIFICATION
(Class 4 Material)
• Clean subsoil, free draining, free form rubbish building contamination, large stones rocks >150mm
• Laid in layers max 250-300mm
• Depth varies to make up site levels to allow 150mm Class 5A material to stand 30mm proud of all kerbs, paths edgings, manhole covers etc.

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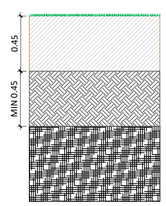

TREATMENT 4 - Hedgerows

TOPSOIL (Class 5A Material)
• Topsoiled, fertilized with enrich compost or organic equivalent and farmyard manure.

SUBSOIL TO TII EARTHWORKS SERIES 600 SPECIFICATION
(Class 4 Material)
• Clean subsoil, free draining, free form rubbish building contamination, large stones rocks >150mm
• Laid in layers max 250-300mm
• Depth varies to make up site levels to allow 150mm Class 5A material to stand 30mm proud of all kerbs, paths edgings, manhole covers etc.

SUB-FORMATION TO TII EARTHWORKS SERIES 600 SPECIFICATION
• Remove all debris, building contamination, stones/rocks >150mm from formation surface.
• Decompact during dry weather by;
(i) back-actor of 'Hymac' to 450mm depth; or,
(ii) 3-5 tyne ripper mounted on crawler tractor @1200mm ctrs
• Ascertain location of all service runs prior to decompaction. Where affected, they shall be sealed off and protected.

Rev	Date	Drawn	Checked	Description
00	YYYY/MM/DD	XX	XX	XXXXXXXX

Notes

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File Ref: Y:\6835_LITTLE_ISLAND_SHD\6835_WORKING\6835_CAD\6835_300_Planning\6835_Updated_2022_LRD\6835_LRD\6835-310_Landscape Planting Details
Modified By: Agata Kostecka
Modified Time:5/23/2024 3:58:21 pm
Plot Time: 5/23/2024 3:59:00 pm

Project	PROPOSED RESIDENTIAL DEVELOPMENT COURTSTOWN, LITTLE ISLAND, CORK
Project No.	6835
Drg.	Structural Soil Tree Pit & Topsoil Treatment Details
Drawing No.	310
Rev.	00
Scales	1:25 & 1:50 @ A1
Status	PLANNING
Date	23/05/22
Drn.	AK
Chd.	GD
Passed	

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BSM Est. 1968