

Tree Pit in Hard Landscape Detail: Section
scale 1:25

**NOTE: Refer to External Works Specification:
Soft Landscape (OTH-PLA-EE-ES-SPE-L-0003)
in conjunction with this drawing**

1. Semi-Mature Tree Rootball & Wrapped

Refer to drawing OTH-PLA-EE-ES-DWG-L-2000 and planting schedules for details.

2. Arbovent Aeration

Ventilation and irrigation pipe, to be connected to 150 double inlet system with cast inlets fitted to RootSpace Airflow inlet RRARBV150A. 4no to each tree. Supplier: GreenBlue Urban. Installed to suppliers instructions, submit proposals.

3. Tree Grille

Product reference: Castle tree grille CASTLE18A. Heavy duty recessed tray system to be infilled with natural stone paving to match adjacent footway as indicated on detail drawings.
• Size: 1800x1800mm twin tray.
• Material: Hot dip galvanised steel.
Supplier:GreenBlue urban or equal and approved.
- To have integrated aperture for irrigation/aeration system.
- To have integrated aperture for inground lighting (2no to each tree). Refer to Arup Public Realm Lighting Drawing OTH-ARU-EE-ES-DWG-E-15401 and any associated drawings and specifications.
- to take loading (BS EN 124 Class B125), anchored to concrete strip foundation.
Steel frame to be mechanically fixed to concrete road base. Refer to specification clause Q10 305B

4. RootDirector System

RootSpace, RootDirector, medium, modular root barrier system. RD1000-RS. Supplier: GreenBlue Urban. Installed to suppliers instructions, submit proposals.

5. Gravel Mulch

To centre of resin bound tree grilles
Product reference: SuperCEDEC by CED Ltd. or equal and approved, silver colour, no lime content.
Refer to specification clause Q23 131A

6. Irrigation System

RootRain Hydrogrille with cast inlet RRHYDR1A to be integrated within tree grille. Supplier: GreenBlue Urban. Installed to suppliers instructions, submit proposals.

7. Natural Stone Paving and Build-up

Refer to drawing OTH-PLA-EE-ES-DWG-L-5000

9. Root Cell Modules

Stratacell 60 modules - typical arrangement: 4 modules deep x 10 modules across (void below root ball as required to accommodate). Stratacell 60 modules to be back-filled with soil in carefully compacted layers (92% soil by volume). The upper 2 modules (500mm) with topsoil to to BS3882:2015 (clause Q28 245A), the lower 2 modules (500mm) with subsoil to BS8601:2013 (clause Q28 247A). General installation and load bearing requirements to be in accordance with manufacturer's recommendations. Final layout to allow 25m3 soil volume and to be adjusted as necessary on site to coordinate with underground services. Supplier: GreenBlue Urban. Installed to suppliers instructions, submit proposals.
Supplier to produce layout for all tree pits for approval.

10. Soil Infill Layer

Soil backfill around rootball to surface of tree pit, above Stratecell modules. Topsoil to to BS3882:2015 and clause Q28 245A.

11. Reinforcing Mesh

Plastic open reinforcing mesh GRN30, 30mm aperture laid below and around sides of RootSpace structure. Supplier: GreenBlue Urban. Installed to suppliers instructions, submit proposals.

12. ReRoot 2000 Linear Root Barrier

Installed around the sides of the tree pit trench along any sides adjacent to underground utilities and drainage. Supplier: GreenBlue Urban. Installed to suppliers instructions, submit proposals.

13. Drainage Layer

200mm clean stone (chemically inert), no fines. Base of tree pit trench loosened and shaped to aid root penetration and pit drainage. To be wrapped with geotextile to prevent migration of particles.

14. Sub-base

To be installed below RootSpace system to engineer's details / requirements.

15. Water Monitoring Pipe

Twin wall pipe for monitoring water levels in tree pit. 100mm dia., bottom 200mm to be perforated. To have cast inlet cover to match aeration system (2).

16. Inground Lighting Element and Ducting

Lighting element to be integrated within tree grille, to Arup specification. Opening in tree grille to be sized to suit specified lighting element. Duct for lighting supplies to be fed through StrataCell units as indicated.

17. Backfill to sides of tree pit

Backfill material, to civil engineer's specification.

18. Tree Guying System:

Arborguy strapped anchor system SASLCB c/w ground anchors. Supplier: GreenBlue Urban. Installed to suppliers instructions, submit proposals.

NOTES

1. Prior to tree planting a representative sample of the tree pits need to be excavated and completely filled with water. The percolation rates need to be recorded and adjustments made to the drainage detail as appropriate. It is ESSENTIAL that the Landscape Architects are consulted at this stage and approval given to proceed with planting.

2. Drawing to be read in conjunction with following NBS Specification Clauses:
Q28: Topsoiling,
Q30: Seeding and turfing,
Q31: External planting,
Q35: Landscape maintenance

3. At the commencement of each phase of works, all proposed tree pits within that phase should have a trial pit / slit trench (300mm wide) excavated to establish whether there are any service clashes and to allow trees to be relocated accordingly.

4.Landscape Archtiect to be invited to inspect works. Allowance for integrated drainage connections as shown on drainage engineer's (Ramboll) drawings.

5. Allowance for integrated lighting and connections as shown on lighting engineer's (Arup) drawings.

6. Greenleaf StrataCell system may be cut on site to match foundation or other elements, all cutting to manufacturer's specification.

7. Greenleaf StrataCell system may be omitted in singular elements to match foundation or other elements, in accordance with manufacturer's specification. Free space to be filled with concrete, to manufacturer's specification.

Tree Pit Detail: Plan
scale 1:50

Extent of tree pit and root cell modules below ground (indicative). Final layout of pit subject to coordination with underground utilities. Refer to drawing OTH-PLA-EE-ES-DWG-L-1015 for tree pit locations.

2

3

2000

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14

16

17

18

5000

200

310

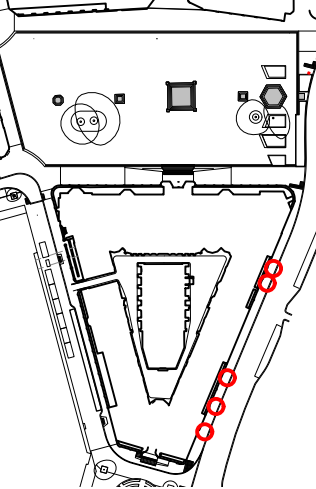
1000

1

NOTES:

1. Do not scale from this drawing.
2. Always work to noted dimensions.
3. All dimensions are in millimetres unless otherwise stated.
4. All setting out, levels and dimensions to be agreed on site.
5. The dimensions of all materials must be checked on site before being laid out.
6. This drawing must be read with the relevant specification clauses and detail drawings.
7. Order of construction and setting out to be agreed on site.

Location Plan
NTS



NOTE: PERCOLATION TEST

To be performed on all tree pits and any planting areas where insufficient permeability might be an issue.

Instructions for performing a percolation test:

1. With a spade or soil auger, dig a hole 45-60 cm deep at the bottom of the proposed tree pit. The hole diameter should be a minimum of 10 cm. The diameter of the hole should be uniform from top to bottom with the bottom being flat.

2. Pre-wetting: Fill hole with water to the top and allow to stand for at least an hour to pre-wet the soil.

3. Refill hole to within a 5 cm of the top. Don't overflow the hole.

4. To aid in measurement, place a stick across the top of the hole and use a ruler or measuring tape to mark periodic drops in water level.

5. Allow the hole to drain for at least one hour. A longer period of time (2 to 3 hours) will give a more accurate reading of average percolation rates.

6. Determine the average drop in water level per hour and refer to the table below to interpret results.

Water level in hole drops:

• Less than 1.25 cm per hour: Poorly drained and suited to wet-site species

• 1.25-2.50 cm per hour: Moderately well drained and acceptable for many species including wet site species

• More than 2.5 cm per hour: Well drained and suitable for all species including sensitive species.

The site manager of the main contractor/client must be informed of the tests and must be involved in the decision of the timing prior to undertaking the tests. Please report the results to the landscape architect and the site manager prior to filling the tree pit.

Revision Notes:

1. Construction Issue

C01	01/04/21	Construction Issue	SR	MS/KR
03	10/01/20	Revised as clouded and notes above	SR	MS/KR
02	06/09/19	Planning Issue	SR	MS/KR
01	25/07/19	Stage 4 issue	SAB	MS/KR

Revision	Date	Description	Drawn	Approved
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Client Manchester City Council

Project Our Town Hall

Dwg Title Softworks Detail
Tree Pit in Hard Landscape 2

Created on 29-11-18 Created by TF Approved by MS

Scale As Shown Size A3 Workstage Stage 5

Dwg No. OTH-PLA-EE-ES-DWG-L-6006 Suitability \$4 Revision C01