D F Clark Bionomique Ltd

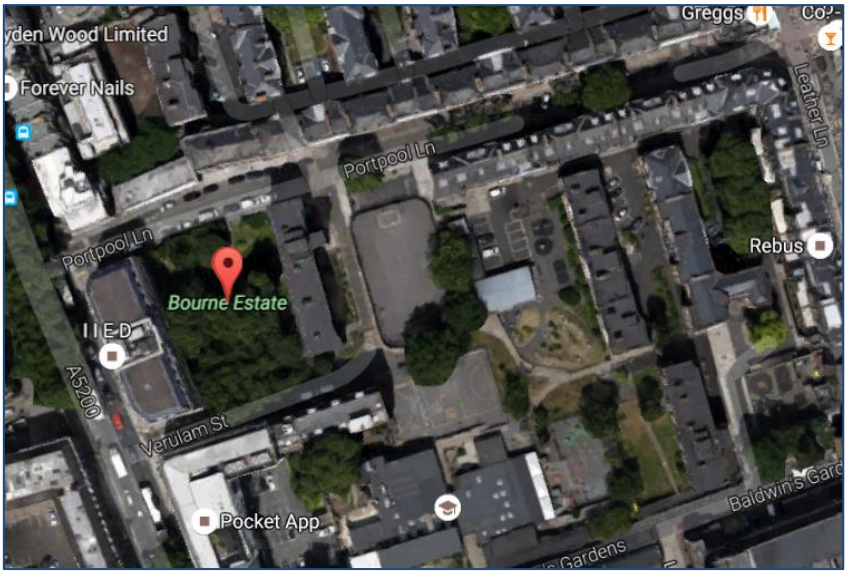
Arboricultural Feasibility Report

of

The Bourne Estate, EC1N.

on behalf of

Higgins Construction



02.08.16

Our Reference DFCP 2681

Edward Cleverdon BSc (hons) Arboriculture

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1.0 Introduction

1.1 Instruction

1.1.1 DF Clark Bionomique Ltd was instructed by Higgins Construction Ltd to carry out an arboricultural feasibility study, concerning proposed tree-planting within a hard surfaced area with several service utility runs.

1.1.2 It has been produced in accordance with the principles of British Standard *BS 5837:2012, Trees in relation to design, demolition and construction - Recommendations* (BS 5837); and assess the suitability of planting new trees and aid design layout from an arboricultural perspective.

2.0 Observations

2.1 The location

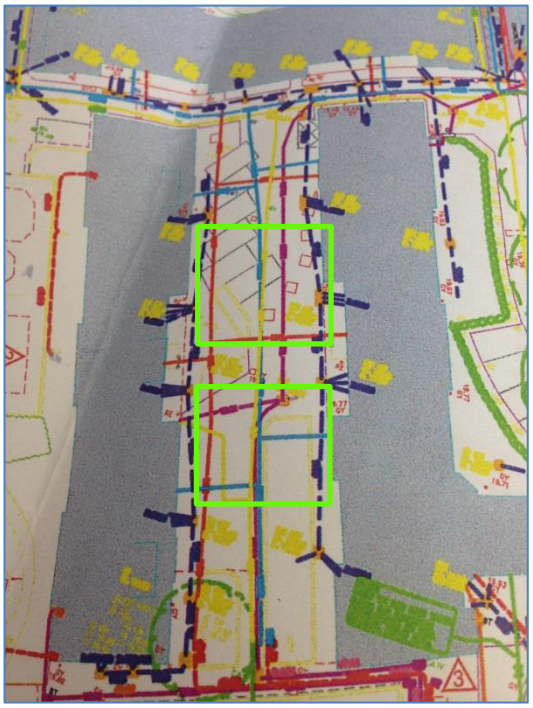
2.1.1 The location set within the Bourne Estate development includes vehicle access, parking bays and recently landscaped block-paving.

2.1.2 Several utility runs are located beneath the surface, forming both central and perimeter lines as well as 'T' section junctions that intersect and connect the separate runs.

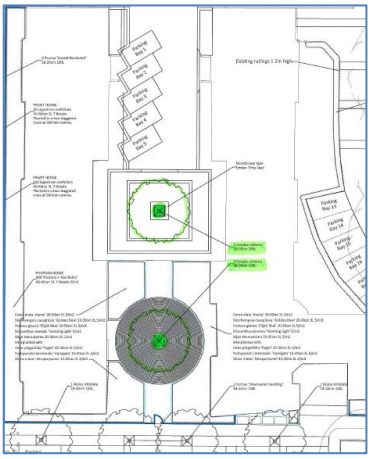
2.1.3 The services are shallowly located within the first 500mm below existing ground level. Although there were no trial holes present to inspect below ground conditions; due to the level of activity involved in installing the number of services present there is a high chance of made-ground and backfill within the proposed planting locations.

2.1.4 The two proposed planting locations have service lines running both centrally within the planning locations, and intersecting the position with 'T' junctions.

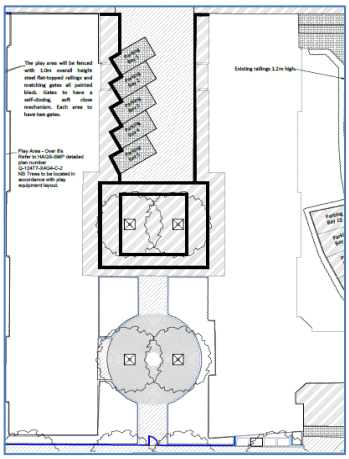
2.1.5 The hard landscaping plan originally sought to plant two 18-20cm girth Turkish hazel *Corylus colurna* trees, an updated version then included two parallel specimens either side of the central service lines.



Location with existing service runs and indicative tree planting locations within the lime green boxes.



Orignial landscaping plan with 2no. 18-20cm girth Turkish hazel trees.



Updated landcaping plan with two parralell specimens within the planting locations to sit either side of services.

2.2 Comments and feasibility of proposed planting

2.2.1 It will not be feasible to plant within the locations, and more suitable planting options are available. Planting within the location will not be suitable for the following reasons:

- The services are shallowly located within the first 500mm below existing ground level. This the minimum depth of substrate required for healthy tree establishment. The majority of the rooting area will be occupied by the services, causing limited root growth and poor establishment.

- Even if the services were adequately shuttered to prevent root damage to the runs from intertwined growth, future maintenance of the services would likely cause significant root damage and unnecessary constraint to maintenance operations.

- Following the extensive utility works involved in installing this number of services in the location there is a high likelihood that the substrate is compacted, void of organic matter and nutrient deficient with an unbalanced pH level. The sum of these factors creates an environment which is unsuitable for tree establishment.

2.3 Alternative planting options and benefits

2.3.1 Contact has been made with the project landscape architect, Mark Cooper BA(Hons) DipLA CMLI Chartered Landscape Architect; to discuss alternative options. We concluded that the most suitable option would be the inclusion of one large planter in each location (1.8m x 1.8m x 1m deep), which incorporated seating/bench structure around the outside.

2.3.2 The original species choice will remain suitable in a planter of this size, and a good choice both for hardiness and amenity value.

2.3.3 Within a planter location, a suitable substrate may be included with a mix of structural soil with organic matter to aid tree establishment.

2.3.4 An open topped planter will allow rainwater percolation and gaseous exchange between the soil and air that would have been restricted by the hard surface.

2.3.5 The incorporation of a bench will prevent damage to the tree from vehicles using the area.

2.4 Requirements for healthy establishment of the trees within the planter

2.4.1 With the incorporation of large planters, it will be feasible to plant a specimen for development into an established tree, providing amenity to the location rather than typical high street planters with small olive or other species.

2.4.2 This will require a cyclical watering regime during establishment, a gravel/stone base or aeration system to the bottom of the planter and a root-guying system to increase stability of the tree as it develops.

3.0 Photos

Photo 1: Proposed tree location 1 (north).

Photo 2: Proposed tree location 2 (south).

Photo 3: Service at 300mm below existing ground level of planting location 2.

4.0 Conclusions and recommendations

4.1 Due to the shallow nature of existing surfaces, intertwining root growth posing a constraint on future service maintenance works and the assumed poor quality of the substrate; it is not feasible to plant proposed trees in the location.

4.2 A more viable option would be to emplace large planters in the locations within an incorporated bench/seating structure, which would allow the proposed trees greater substrate quality, water percolation/gaseous exchange, and protection from the surroundings.

4.3 In a large planter 1.8m x 1.8m x 1m deep the species choice is still viable and establishment of the tree achievable. To ensure successful establishment the planter will require a root-guying stem to increase stability of the tree, an aeration system or gravel base layer and watering regime within the first year at least.

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Arboricultural Site Appraisal

of

St Georges Wharf, Plough Way, SE16 7FL.

on behalf of

Southwark Council

02.08.2016

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