Arboricultural method statement

Phase 2 works comprising
New Pavilion
Associated external works

at

Coram Comunity Campus
Mecklenburgh Square
London
WC1N 2QA

for

The Coram Foundation
(Dr Carol Homden)

Skerratt
Raphael Skerratt BSc(For) M. Arbor. A.
158 Malden Road
London
NW5 4BT

Tel: + 44 (0)1274 566539
Fax: + 44 (0)20 7767 4004
Email: raphaelskerratt@hotmail.co.uk

job no.: 204

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date: 31.12.13

1 Scope and status

1.1 Scope

1.1.1 This method statement sets out measures for the protection of 7 trees - Trees 011, 012, 018, 019, 020, 022 and 024 - in relation to proposed hard and soft landscaping works forming part of the construction of the Children's Pavilion - Phase 2 of the masterplan for Coram Community Campus, Mecklenburgh Square, London WC1N 2QA.

1.1.2 The measures contained in the statement are based on the advice and guidance set out in *BS5837: 2012: Trees in relation to design, demolition & construction – Recommendations.*

1.1.3 The locations of the trees are shown on the **Tree protection plan** in **Appendix a.** Details of their size and species are set out in tabular form in an excerpt from a full survey of the Coram Community Campus tree resource, carried out in 2010, included in **Appendix b.**

1.2 Status

1.2.1 This method statement forms a part of the building contract and its requirements are an integral part of the contract specification and schedule of works.

1.2.2 A copy of the method statement must be available for inspection on site for the duration of construction works.

1.2.3 All persons working on site should be aware of the importance of avoiding damage to trees and should observe the necessary precautions. A guidance leaflet is included in this method statement in **Appendix c**.

2 Preparatory works prior to construction

2.1 Tree works

2.1.1 No preparatory tree works are required

2.2 Protective measures: fencing

2.2.1 The extent and location of protective fencing is shown on the **Tree protection plan** in **Appendix a**.

2.2.2 Protective fencing must be erected before any site works take place. It is particularly important that no demolition, soil stripping, breaking out of existing hard surfaces, re-grading or other excavation takes place before protective fencing has been erected.

2.2.3 Protective fencing will comply with the general advice and guidance contained in BS 5837:2012 *Trees in relation to design, demolition and construction - Recommendations.*

2.2.4 However, as the works to which this method statement applies, are of short duration and necessitate access to all fenced enclosures for the purpose of carrying out approved works, protective fencing will consist of 2000mm high welded steel mesh panels with a heavy duty galvanised tubular steel frame (Heras round or square top panels or equivalent) with two proprietary fixing clamps at each panel join, surface mounted on compatible rubber or concrete feet.

2.2.5 Areas enclosed or separated from the main construction site by protective fencing are **Construction Exclusion Zones (CEZ).**

2.2.6 Except where specifically stated in this method statement, **CEZs** are total exclusion areas. All of the following will be excluded:

- Animals
- Pedestrians
- Vehicles and construction equipment
- Materials and equipment storage
- Contamination from materials used outside the **CEZ** – (for example spillage of diesel or other toxic liquids)
- Surface water runoff from outside the **CEZ**

2.3 Inspection prior to start of works

2.3.1 Protective fencing will be inspected prior to the start of works by the Arboricultural Consultant.

3 Works during construction

3.1 Introduction

3.1.1 Most of the area referred to in this method statement is located within the Root Protection Area (RPA) of one or more of the retained trees specified in 1.1.1 above (see the **Tree protection plan** in **Appendix a).**

3.1.2 Unless otherwise specified below, the working methods set out in this section apply to the complete site.

3.1.3 This method statement should be read in conjunction LDA Design Drawing No. 3946L/011 – Landscape Proposals: General arrangement, to which reference is made below. This drawing with tree protection fencing requirements superimposed, is included in **Appendix a.**

3.2 Storage and use of materials

3.2.1 Phytotoxic materials will be stored at least 10m from the stem of any retained tree.

3.2.2 Phytotoxic liquids (diesel for example) will be stored in a double-bunded container to prevent damage from accidental spillage.

3.2.3 Inert materials must be stored on areas of existing hard surfacing or on a ground protection layer.

3.3 Lifting, excavating and handling equipment

3.3.1 Lifting, excavating and handling equipment must be of such a size and be located in such a position that, when in use, no part extends into the crown of any retained tree. The crown limits of retained trees (in terms both of spread and height clearance) are specified in the **Tree survey schedule** in **Appendix b**

3.3.2 Within the RPA of any retained tree, the use of heavy lifting and handling equipment will be directed by a banksman.

3.4 Operations

Excavation to reduced levels

3.4.1 Within existing areas of permanent hard surfacing (that is, excluding areas of open ground over which ground protection layers have been installed at the start of the main construction stage) excavation above a level of 20.385 may be carried out using conventional excavation equipment with a ground bearing pressure not exceeding 0.8kgf/cm$^{2.}$

3.4.2 In all other areas, equipment for excavation will not exceed a ground bearing pressure of 0.3kgf/cm^2.

3.4.3 Within Areas marked S6 and S7 on LDA Design Drawing No. 3946L/011 the maximum excavation depth for surface levelling prior to the installation of final surfaces will be **50mm below existing level.**

3.4.4 Excavation to reduced levels in areas marked S5 and S9 will be carried out under arboricultural supervision. The Arboricultural Consultant will be notified by email 48 hours in advance of the start of operations in these areas.

3.4.5 Within areas marked S5 and S9, excavation depths will be amended where necessary as work progresses, to avoid damage to and allow the retention of all roots of 25mm diameter of greater.

Fence posts and pad foundations for signs and other street furniture

3.4.6 Fence post holes will be excavated by hand or hand-held augur of the appropriate size.

3.4.7 Fence posts will be bedded in a dry concrete mix to minimise damage to surrounding roots from leachate contamination.

Preparation of planting areas

3.4.8 There will be no surface cultivation prior to planting in areas marked F9 on LDA Design Drawing No. 3946L/011. Any existing surface vegetation will be cleared by hand and plants will be planted in individual hand-dug pits of the appropriate size. Soil improvers, weed suppressant membranes and mulch layers may be added to a maximum depth of 75mm above the existing ground surface.

3.5 Working within CEZs

3.5.1 The working procedures specified in 3.4 above also apply to CEZs

3.5.2 The Arboricultural Consultant will be be notified in writing at least 48 hours before the start of approved works within any CEZ.

3.5.3 Within CEZs, all excavation of whatever depth will be carried out by hand or with powered equipment with a ground bearing pressure not exceeding 0.3kgf/cm^2 and within 500mm of the stem of any retained tree, all works will be carried out by hand, using hand operated tools only.

3.6 Removal of protective fencing

3.6.1 The Arboricultural Consultant will authorise the removal of temporary protective fencing barriers around individual trees as works progress. See 5.10 below for procedures relating to the complete removal of protective fencing.

4 Summary of methods

4.1 conflicts and remedial actions

4.1.1 The main potential sources of damage to trees are listed in **Table 1** below together with the remedial measures that should be adopted to minimise or avoid damage.

Source of damage	**Remedial actions**	**See**	**Trees at risk**
Damage to tree stems and foliage	Erect protective fencing; plan construction activities to avoid damage to overhead branches:	Sections: 2.2 **Tree protection plan**	All
Damage by surface compaction from site traffic/storage of materials	Observe restrictions applying to **CEZs**	Sections: 3.4 and 3.5 **Tree protection plan**	All
Damage from spillage of toxic materials	No phytotoxic materials to be stored within 10m of any **CEZ**	Sections: 3.2 **Tree protection plan**	All
Damage to tree roots	Observe restrictions applying to **CEZs;** follow sympathetic excavation procedures	Sections: 3.4 and 3.5 **Tree protection plan**	All

Table 1: Summary of Potential Damage Sources and Remedial Measures

5 Supervision and completion

5.1 The Site Manger will be responsible for delivering induction training to all sub-contractors prior to their starting work on site. A guidance leaflet summarising the key points of the induction process is contained in **Appendix c.**

5.2 The Main Contractor's Site Manager will have overall responsibility for the protection of retained trees from the start of works through to completion. No powers will be delegated to others in relation to this responsibility.

5.3 The Arboricultural Consultant will make site visits as necessary and in particular at the start of the following stages:

- Construction of areas marked S5 and S9 on LDA Design Drawing No. 3946L/011
- Hard and soft works within Construction Exclusion Zones (CEZs)

5.4 The Arboricultural Consultant will circulate notes of his inspections by email, directly to the Local Authority and to the Project Team

5.5 The Arboricultural Consultant will notify the Local Authority immediately by email of any contract variations that may affect retained trees.

5.6 Unscheduled incidents affecting retained trees will be reported immediately, verbally and in writing, to the Arboricultural Consultant by the Site Manager. The Arboricultural Consultant will immediately forward the information to the Local Authority and the Project Manager, verbally and in writing

5.7 After notifying the relevant persons the Arboricultural Consultant will visit the site and report in writing on his findings and recommendations for remedial action to the Local Authority and the Project Manager

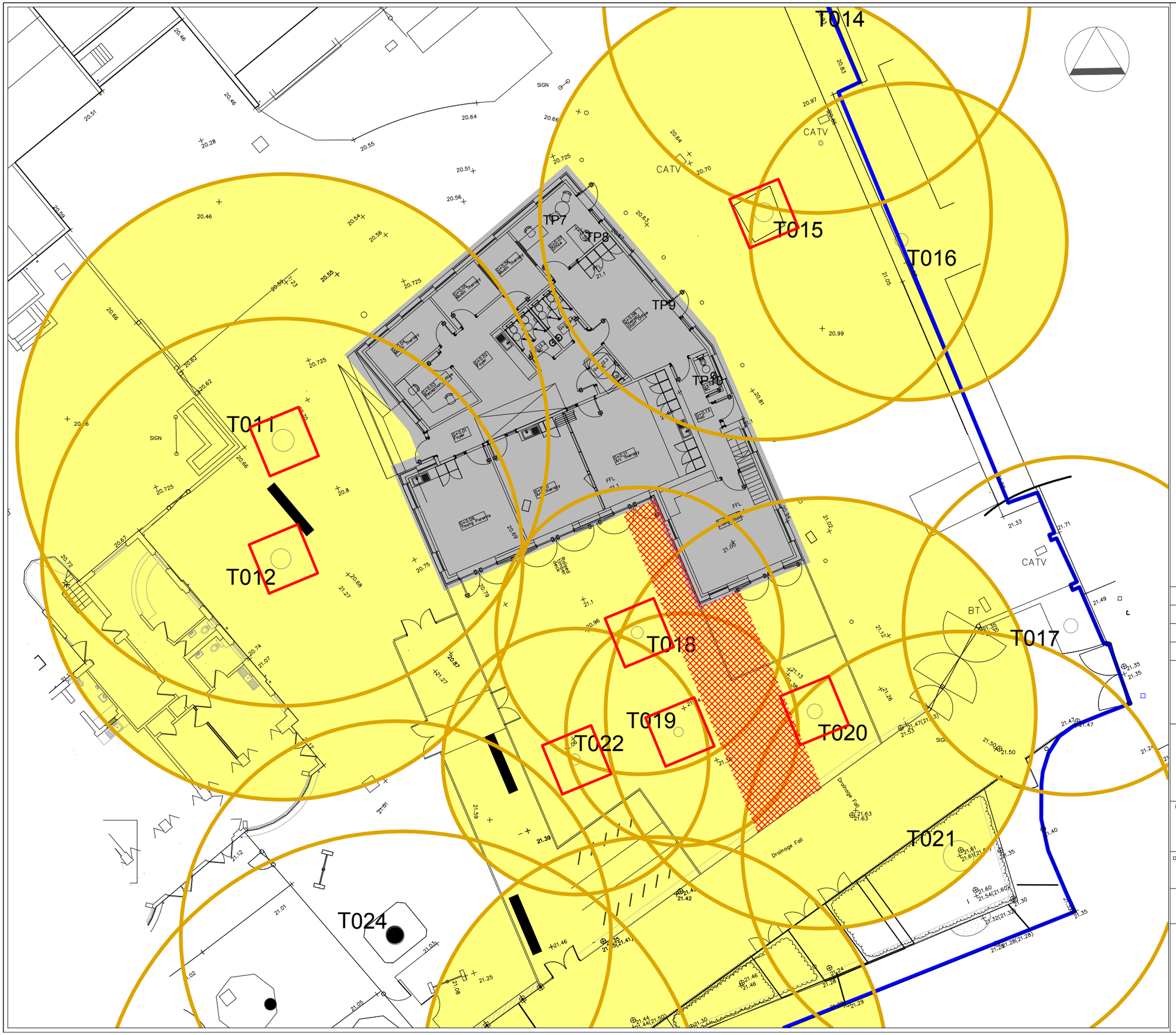
5.8 On completion, the Local Authority will meet on site with the Arboricultural Consultant, the Project Manager and the Main Contractor's Site Manager to sign-off on tree protection measures.

5.9 If post-contract remedial works are required they will be specified at the completion meeting and confirmed in writing.

5.10 After sign-off, protective fencing may be removed in its entirety.

Appendix a

Tree protection plans



KEY

T005

ROOT PROTECTION AREA
as defined in *BS5837:2005*
Trees in relation to construction
- Recommendations

RPA WITHIN CONSTRUCTION AREA

WORKING AREA

TREE PROTECTION FENCING

GROUND PROTECTION LAYER

REVISION		CHCK'D	APP'D	DATE

Client:

THE CORAM FOUNDATION

Job Title:

CORAM COMMUNITY CAMPUS
49 MECKLENBURGH SQUARE
LONDON
WC1N 2QA

Drawing Title:

TREE PROTECTION PLAN
PHASE 2 - PAVILION

Drawing Number:	Scale:
204.3.00	1:200 (A3)
Date:	Drawn by:
31.12.13	RS

Skerratt
arboricultural advice

158 MALDEN ROAD, LONDON NW5 4BT
01274 566539

Appendix b

Tree survey schedule

Tree survey schedule

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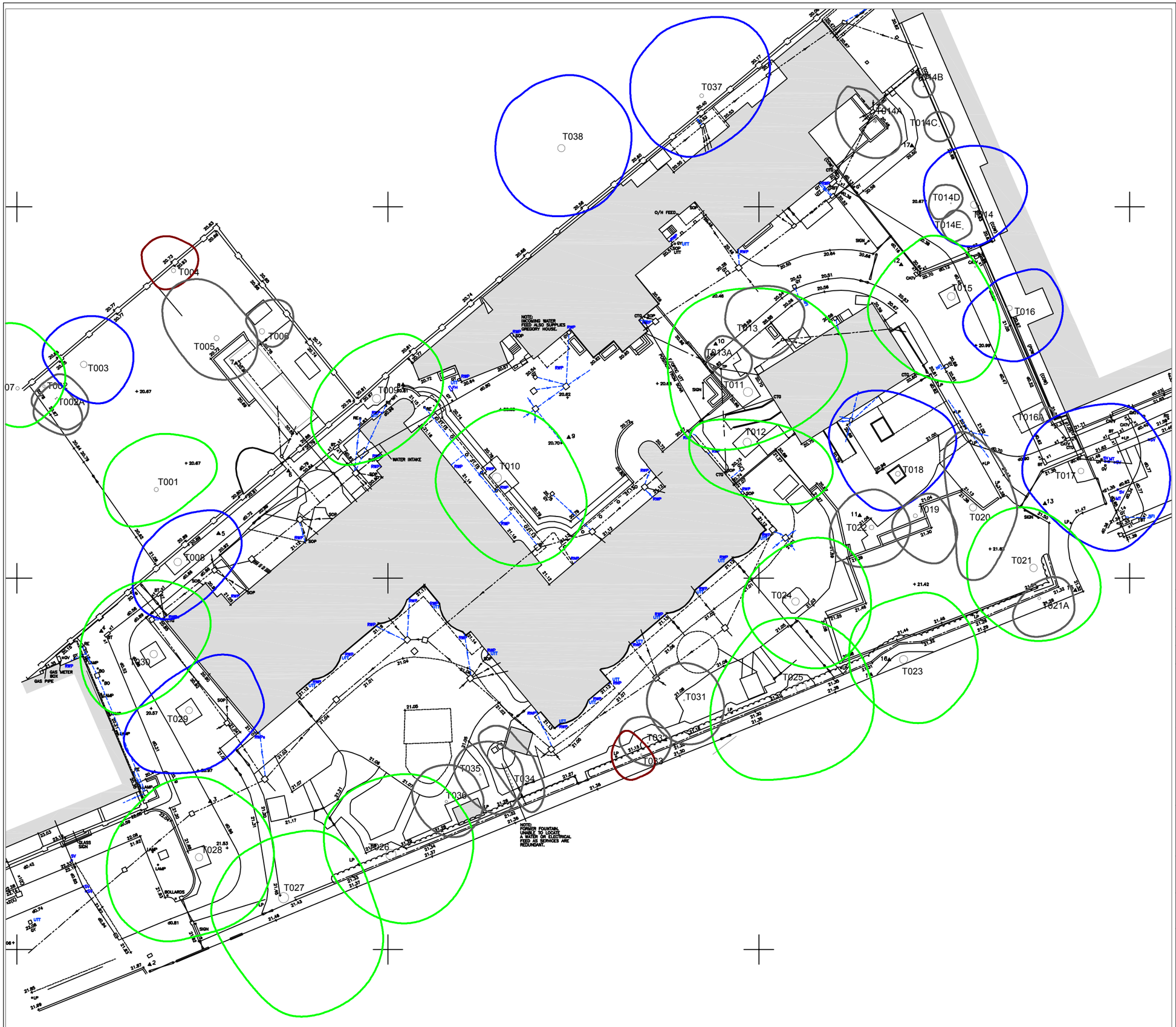
Tree No.	Species	Height (m)	Diam (mm)	Crown Spread (m)				Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Recommendations	Priority	Life Expectancy	Retention Category	Retention Sub-category
				N	E	S	W										
Western boundary																	
010	London Plane (*Platanus x hispanica*)	31	130	8	10	13	8	6	M	G	G	A massive well balanced crown on a single stem: stands in a paved area with stepped change in level within crown spread: forks at 4m into 2: cable and spotlight attached to main stem: callused growth at 9m on subsidiary stem	Review (general condition)	20-40	A	1	
011	London Plane (*Platanus x hispanica*)	33	126	14	15	7	10	5	M	G	G	011 and 012 make up an interdependent key group; single stem: stands in a small patch of open ground surrounded by tarmac:: close to buildings: telephone wires run below the crown spread	No action required	20-40	A	1	
012	London Plane (*Platanus x hispanica*)	24	114	8	3	12	7	9	M	G	G	See 011: single stem with one sided crown : stands in tarmac area: close to buildings	No action required	20-40	A	1	
014	London Plane (*Platanus x hispanica*)	30	101	8	8	5	6	6	M	G	F	Single stem with slight curvature (sweep): close to boundary wall and buildings: stands in open ground: large subsidiary branch originates at 2.5m: 014 -016 inclusive make up a significant east boundary group	Remove subsidiary branch: Review (general condition)	20-40	B	1	
015	London Plane (*Platanus x hispanica*)	36	107	9	5	11	11	7	M	G	G	Single stem: stands in tarmac: metal bracket embedded in main stem: telephine wires pass below crown: see 014	No action required	40+	A	1	
016	London Plane (*Platanus x hispanica*)	29	75 est	4	7	7	7	10	M	G	F	Single stem: stands outside boundary fence: very close to retaining wall and adjacent buildings: see 014	No action required	40+	B	1	
017	London Plane (*Platanus x hispanica*)	24	80	8	11	12	7	2	M	G	F	Single stem forks at 2m into 2: stands in small patch of open ground surrounded by tarmac: by access gate: long, spreading limb (cable braced) over access restricts headroom:	Review: (general condition)	20-40	B	1	
018	London Plane (*Platanus x hispanica*)	25	68	12	10	4	6	8	M	G	G	Trees 018 - 025 inclusive make up a very prominent interdependent group in the south eastern corner of the campus: individual crowns overhang existing buildings, an access road and open grass: single stem: larger than average for group; forks at 3m into 3; stands in a small raised enclosure within tarmac	No action required	20-40	B	1/2	
019	London Plane (*Platanus x hispanica*)	25	55	2	4	7	4	12	M	G	F	See 018: single leaning stem:high, narrow, unbalanced crown: changes in level within crown spread (250-300mm high sleeper wall)	No action required	20-40	C+	2	
020	London Plane (*Platanus x hispanica*)	26	102	10	6	10	3	12	M	G	F	See 018: forks at 3m into 3: stands in open ground adjacent to tarmac: small change in level within crown spread area: large branch stub from major limb breakage	Review (general condition)	10-20	C+	2	
021	London Plane (*Platanus x hispanica*)	29	104	9	7	10	9	6	M	G	G	See 018: single stem: a key boundary tree: floodlight adjacent: public footpath and lamp standard below: small cavity at 6m (no signs of significant structural decay)	No action required	40+	A	1/2	
022	London Plane (*Platanus x hispanica*)	26	63	5	5	5	6	12	M	G	F	See 018:single stem with slight lean: in tarmac area: subsidiary stem originates at 3m	Review (general condition)	20-40	C+	1/2	

Client: The Coram Foundation
Location: Coram Comunity Campus EC1N 2QA
Date: 31.12.13
Job No.: 204

Tree No.	Species	Height (m)	Diam (mm)	Crown Spread (m)				Crown Height (m)	Age	Physiological Condition	Structural Condition	Comments	Recommendations	Priority	Life Expectancy	Retention Category	Retention Sub-category
				N	E	S	W										
023	London Plane (*Platanus x hispanica*)	33	110 est	8	10	9	7	8	M	G	G	See 018: a key single stem boundary tree: stands outside community campus fence in enclosure on south edge of public footpath: cable brace in crown: 4m high sports pitch fence adjacent	No action required	40+	A	1	
024	London Plane (*Platanus x hispanica*)	36	102	7	10	10	7	6	M	G	G	See 018: single stem: stands in nursery outside space: rubberised surface to base: well balanced crown	Review (general condition)	20-40	A	1	



KEY

T005

EXISTING TREE

Trees are coloured on plan to correspond to the Retention Categories specified in: *BS5837:20 05 Trees in relation to construction - Recommendations* as follows:

Category A - GREEN
Category B - BLUE
Category C - GREY
Category R - RED

REVISION		CHCK'D	APP'D	DATE

Client:

THE CORAM FOUNDATION

Job Title:

PROPOSED MASTER PLAN

Drawing Title:

TREE SURVEY PLAN

Drawing Number:	Scale:
128.01.01	1:500 (A3)
Date:	Drawn by:
08.02.10	RS

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arboricultural advice

GREENMOUNT 36 PRIESTTHORPE ROAD BINGLEY
WEST YORKSHIRE BD16 4LL 01274 566539

Appendix c

Tree protection notes

CORAM COMMUNITY CAMPUS
NEW PAVILION

CARE OF TREES

TREE PROTECTION NOTES

Trees are thin skinned and easily damaged

Their roots spread widely and run close to the ground surface.

All of the following can cause serious damage:

- Heavy traffic over and the storage of heavy materials above tree roots
- Direct damage to stems and branches from badly handled construction equipment,
- Root damage caused by unnecessary excavation
- Leakage of toxic liquids and powders above roots and close to tree stems.

Please keep the trees on site safe by following these simple rules carefully and in full.

There is a protective fence round each retained tree. These fenced-off areas are CONSTRUCTION EXCLUSION ZONES (CEZ). Don't enter any CEZ unless authorised to do so

In Construction Exclusion Zones

- Don't store any materials
- Don't use heavy machinery
- Don't handle toxic materials
- Stick to the planned work programme. Don't undertake unscheduled variations
- Don't light fires
- Report any damage to protective fencing to the Site Manager

Work Planning

Plan your work so that construction machinery does not come into contact with and cause damage to branches and stems of retained trees.

Appoint someone to supervise movement of machinery and equipment close to CEZs

Tell the Site Manager if tree pruning is needed to get machinery in, out or around the site. Don't do it yourself