MURPHY'S YARD

AN APPLICATION BY FOLGATE ESTATES LIMITED

ARBORICULTURAL IMPACT ASSESSMENT

JUNE 2021


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Murphys Yard/Arboricultural Impact Assessment/**Report for Folgate Estates Ltd**

Murphy's Yard

Arboricultural Impact Assessment

Report for Folgate Estates Ltd

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Contents

Executive Summary

Arbeco Ltd was commissioned by Folgate Estates Ltd to undertake a ground level survey of trees that could be affected by future works associated with the development of land at Murphy's Yard and to produce an Arboricultural Impact Assessment for the proposed development of the site. A qualitative assessment of each tree was carried out according to British Standard BS 5837:2012, Trees in Relation to Design, Demolition and Construction–Recommendations, focusing on arboricultural values (categories A1, B1, C1)[1] and landscape values (categories A2, B2, C3)[2].

The main findings of the survey are as follows:

- There were 57 individual trees and 20 groups[3] in and adjacent to the proposed development site each described in Appendix 1 of this report.
- Of the trees surveyed, 22 individual and 12 groups were attributed Category B status and 35 individuals, and eight groups were attributed Category C status.
- A tree constraints check was carried out with the London Borough of Camden and it was confirmed that no trees located adjacent to or in the proposed development site were subject to Tree Preservation Order or Conservation Area restrictions.
- Root protection area radii were calculated in accordance with BS 5837:2012 for each of the surveyed trees and ranged from 0.8m to 8.4m.
- Any work to trees should consider the potential presence of protected species, including breeding birds and roosting bats. The Preliminary Ecological Appraisal (The Ecology Consultancy, 2019) and any subsequent ecological reports should be consulted prior to the commencement of works.

1 Categorisation grading in accordance with BS 5837 2012. Trees suitable for retention: - Category A. Trees of high quality with an estimated remaining life expectancy of at least 40 years.
Category B. Trees of moderate quality with an estimated life expectancy of at least 20 years.
Category C. Trees of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm.
Category U. Trees of very low quality normally with a life expectancy of less than 10 years or requiring immediate removal due to health and safety concerns.

2 British Standard BS 5837 2012 recommends that these categories may be further broken down into sub categories A1 A2 A3 pertaining to Arboricultural, Landscape or Cultural values respectively.

3 The term "group" is intended to identify trees that form cohesive arboricultural features either aerodynamically (e.g. trees that provide companion shelter), visually (e.g. avenues or screens) or culturally, including for biodiversity (e.g. parkland or wood pasture).

1 Introduction

BACKGROUND

1.1 Arbeco Ltd was commissioned on 10 April 2019 by Trium to carry out an Arboricultural Impact Assessment of trees at Murphy's Yard and provide a report to inform future design proposals and tree protection. The survey is required to assess the condition of trees that could be affected by future development of the site and provide sufficient information for the development of site layouts and construction exclusion zones to enable the protection of existing trees. A supplementary Arboricultural Impact Assessment (AIA) was commissioned on the 14 May 2021 and can be found in Section 3 of this report.

SCOPE OF REPORT

1.2 This report has been produced in accordance with British Standard BS 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations (hereafter referred to as BS 5837:2012). It provides information on the current condition of trees at the site, their suitability for retention, and the above and below ground constraints to development.

1.3 Any clear flaws or hazards have been identified in the Schedule of Trees provided in Appendix 1. Preliminary recommendations for the management of retained trees are provided, but a full hazard risk assessment comprising a more comprehensive analysis of tree condition and potential risk to target areas is beyond the scope of this report. Any recommendations relating to the management of potentially hazardous trees should be carried out as soon as possible[4].

SITE CONTEXT AND STATUS

1.4 The site is situated in the London Borough of Camden, directly south-east of Gospel Oak Rail Station and directly north-west of Kentish Town Rail Station. The site currently comprises industrial land with a number of buildings including storage units, offices and warehouses and measures 6.23ha in extent. The northern boundary of the site is formed

[4] All tree works should be undertaken by a suitably qualified Arboricultural Contractor. No arboricultural works to trees subject to planning constraints shall be carried out without the written consent of the relevant Local Planning Authority (LPA). Any proposed tree works should be undertaken in accordance with British Standard BS 3998:2010 Treework - Recommendations. Works to trees that are the subject of a Tree Preservation Order or within a Conservation Area which are deemed to be dangerous under Regulation 14 of the Town and Country Planning (England) (Regulations) 2012 may under certain circumstances be undertaken without needing to seek the prior written consent of the LPA.

by the Gospel Oak to Barking Line, with commercial and residential properties on Highgate Road to the East, the North London Line to the west and the Midland Main Line to the south. The Ordnance Survey National Grid reference for the centre of the site is TQ 28574 85463.

DESCRIPTION OF THE PROPOSALS

1.5 Outline planning permission with all matters reserved for the demolition of existing buildings and structures and redevelopment to be carried out in phases (with each phase being an independent act of development) comprising the following mix of uses: residential (Use Class C3), residential institution (Use Class C2), industrial (Use Class B2 and/or B8), commercial floorspace (Class E), flexible commercial and Sui Generis floorspace (Use Class E and/or Sui Generis Use), Community (F1 and/or F2), Sui Generis, and cycle and vehicle parking, refuse and recycling storage, plant, highway and access improvements, amenity space, landscape and public realm improvements, and all associated works.

2 Methodology

TREE SURVEY

2.1 The tree survey was conducted in accordance with BS 5837:2012 the results of which are presented in the Schedule of Trees (Appendix 1) and include a sequential numbering of each tree, species listed by common name; tree dimensions including overall height, canopy spreads measured against the cardinal compass points; crown height; age class; physiological condition; structural condition, life expectancy; root protection areas and preliminary management advice.

2.2 Each tree has been assigned a category grade in accordance with BS 5837:2012 categories A, B, C and U ranging from high to low quality. Definitions of tree quality are provided in Table 2 Appendix 1.

2.3 For the purposes of this report, arboricultural as well as landscape sub-categories have been used in the Schedule of Trees. BS 5837:2012 points out that each sub-category should be given equal weighting when grading trees against these criteria.

2.4 A tree constraints plan is presented in Appendix 2 showing the recommended root protection areas (RPA) for all surveyed trees, and highlighting each grading category using the colour key system as described in BS 5837:2012.

2.5 The site was visited on 18 July 2019, weather conditions were rainy and overcast.

2.6 All trees likely to be affected by works inside the red line boundary of the site were visually assessed using the Visual Tree Assessment Method (VTA) (Mattheck and Beloer, 1994).

2.7 Stem diameters were measured using diameter tape. Canopy spreads were estimated by pacing and where possible, verified using a laser range finder. Height measurements were taken using a laser clinometer.

2.8 Formal assessments of topography, drainage, service conduits and soil conditions including specific laboratory investigations of soil properties (i.e. plasticity index, moisture content, suction pressure) were not undertaken and are beyond the scope of this report.

DESK STUDY

2.9 A tree constraints check was undertaken by contacting the London Borough of Camden planning department to search for Tree Preservation Order and Conservation Area restrictions to tree works in and adjacent to the site.

SUPPORTING DOCUMENTS

2.10 Drawing Reference: *0360-SEW-ZZ-ZZ-DR-A-001003* (SEW, 2021) was provided for the purposes of compiling this report.

PERSONNEL

2.11 The tree survey was carried out by James Potts BSc (Hons), MArborA, an Arboricultural Consultant with over 5 years' experience within the sector, working as both a contractor and private consultant.

LIMITATIONS

2.12 Only preliminary recommendations for tree management are provided. A full hazard risk assessment comprising a more comprehensive analysis of the condition and potential risk to target areas is beyond the scope of this report.

2.13 The trees were inspected at ground level and no decay detection equipment was used. There is therefore a risk that any internal decay that may be present has gone undetected.

2.14 Of the trees surveyed, a total of three individuals and eight groups were situated in areas where access to the main stem was not possible. As such, assumptions have been made relating to dimensions of the main stem, and the overall condition is based upon the visible parts of the tree only.

2.15 Trees are living organisms and their health and condition change with time. Therefore, this assessment remains valid for 12 months from the date of inspection, or until a severe storm is experienced, after which time a new inspection is required. For the purpose of this report, a severe storm is defined as a period of violent weather, involving rain, hail, wind, snow, lightning or any combination of these, likely to cause damage to trees.

3 Results

TREE SURVEY

3.1 The results of the tree survey are provided in the Schedule of Trees in Appendix 1. A Tree Constraints Plan illustrating the BS 5837:2012 categories of each tree, their crown spread and RPA is presented in Appendix 2 and photographs of the site are provided in Appendix 8.

3.2 The survey recorded 57 individual trees and 20 groups which could potentially be affected by future development. These comprised: cherry plum *Prunus cerasifera*, chusan palm *Trachycarpus fortunii*, common ash *Fraxinus excelsior*, common whitebeam *Sorbus aria*, foxglove tree *Paulownia tomentosa*, hybrid black poplar *Populus* x *canadensis*, Italian cypress *Cupressus sempervirens*, Jacquemonts birch *Betula utilis* var. *jacquemontii*, Japanese cherry *Prunus serrulata*, large leaved lime *Tilia platyphyllos*, lawson cypress *Chamaecyparis lawsoniana*, Norway maple *Acer platanoides*, red oak *Quercus rubra*, silver birch *Betula pendula*, Southern evergreen magnolia *Magnolia grandiflora*, sycamore *Acer pseudoplatanus*, weeping willow *Salix babylonica* and wild cherry *Prunus avium*.

3.3 A total of 13 groups surveyed comprised mixed species as described in the Schedule of Trees provided in Appendix 1.

3.4 The numbers of each species are provided in Table 1 below.

Table 1: Species key and site frequency for trees potentially affected by development

Species	Frequency	
	Tree	Group
Cherry plum	1	-
Chusan palm	3	-
Common ash	1	-
Common whitebeam	4	-
Foxglove tree	2	-
Hybrid black poplar	3	-

Table 1: Species key and site frequency for trees potentially affected by development

Species	Frequency	
	Tree	Group
Italian cypress	1	-
Jacquemonts birch	14	-
Japanese cherry	1	-
Large leaved lime	2	-
Lawson cypress	5	6
Mixed species	-	13
Norway maple	5	1
Red oak	2	-
Silver birch	3	-
Southern evergreen magnolia	4	-
Sycamore	1	-
Weeping willow	3	-
Wild cherry	2	-

3.5 Physiological and structural condition[5] of the majority of surveyed trees was consistent with Category C status (35 individuals and eight groups), with the remaining 22 individuals and 12 groups assigned Category B status.

3.6 Of the trees surveyed, three individuals were classified to be at a mature life stage[6], three individuals were classified as young, 36 individuals and five group were classified

[5] Physiological and structural condition are terms used to differentiate between a trees physiological condition i.e. annual growth, vigour, presence of disease etc. as opposed to structural condition relating to branch formation, mechanical strength and integrity.

[6] Young. Establishing; usually with good vigour, but as of limited significance within the landscape.
Semi-Mature. Established; normally vigorous and increasing in height. Of increasing landscape significance.
Early Mature. Fully established trees around the middle half of their life span retaining good vigour. Not yet achieved full height and retaining apical dominance.
Mature. Fully established trees retaining moderate vigour. Apical dominance lost but crown still spreading.
Over Mature. Fully mature trees in the last quarter of their usual life expectancy; vigour declining.

as semi mature and 15 individuals and 15 groups were classified as early mature. No trees were found to be in the over mature classification.

3.7 A summary of the number of trees surveyed corresponding to BS 5837:2012 tree quality assessment definitions is provided below in Table 2 below.

Table 2: Grade Classifications

BS 5837:2012 Grades A to U	Trees attributed to each grade	Frequency	
		T	G
B	T1, T2, T4, T5, T7, T8, T11, T17, T18, T19, T20, T21, T23, T31, T32, T38, T39, T51, T54, T55, T56, T57, G1, G2, G3, G5, G6, G7, G8, G9, G10, G13, G14, G15	22	12
C	T3, T6, T9, T10, T12, T13, T14, T15, T16, T22, T24, T25, T26, T27, T28, T29, T30, T33, T34, T35, T36, T37, T40, T41, T42, T43, T44, T45, T46, T47, T48, T49, T50, T52, T53, G4, G11, G12, G16, G17, G18, G19, G20	35	8

3.8 All Category B trees as described in Table 2 should be given priority consideration for retention during any future development which should take full account of above and below ground constraints, as shown on the Tree Constraints Plan (Appendix 2).

3.9 A summary of the condition and value of the most noteworthy trees is provided below, based on information presented in Appendix 1.

- Sycamore T1, was situated off site, adjacent to the western boundary and 35m south-east of the sites north-west corner. The tree was mature, was 20m in height, had a single stem with a diameter of 700mm and a maximum canopy radius extending 6m to the north, east and west. The tree was ivy clad and inaccessible, however its visible sections appeared to be in fair structural and physiological condition.
- Common ash T2, was situated off site, adjacent to the western boundary and 5m south-east of T1. The tree was mature, was 20m in height, had a single stem with a diameter of 700mm and a maximum canopy radius extending 6m to the south, east and west. The tree was ivy clad and inaccessible, however its visible sections appeared to be in fair structural and physiological condition.

- Lawson cypress trees T4 and T5, were situated adjacent to the western site boundary, 125m south-east of T2. The trees were both early mature, were 18m in height, had single stems with an average diameter of 460mm and maximum canopy radii extending 5m to the east. Both trees appeared to be in good structural and fair physiological condition requiring no immediate remedial works.
- Hybrid black poplar T7, was situated off site, 45m south-west of the north-east corner. The tree was early mature, was 18m in height, had two main stems with an average diameter of 425mm and a maximum canopy radius extending 5m to the south. The tree appeared to be in fair structural and good physiological condition requiring no immediate remedial works.
- Group G1 extended around the north-east corner of the site. The group comprised early mature lawson cypress and one aspen and measured approximately 65m in length. The average height of the group was 20m, with an average DBH of approximately 450mm and an average canopy radius of 4m. The base of the group was inaccessible, however, in general, its visible sections appeared to be in fair structural and good physiological condition, requiring no immediate remedial works.
- Group G5, was situated adjacent to the western boundary of the site, approximately 100m south-east of the north-west corner of the site. The group comprised mainly early mature lawson cypress with scattered cherry and poplar and measured approximately 50m in length. The average height of the group was 18m, with an average stem diameter of approximately 470mm and an average canopy spread of 3.75m. The group appeared to be in good structural and fair physiological condition, requiring no immediate remedial works.
- Group G9, was situated adjacent to the western boundary of the site 10m south-east of the southern end of G5. The group comprised early mature lawson cypress, hybrid black poplar, Norway maple and wild cherry and measured approximately 40m in length. The average height of the group was 20m, with an average stem diameter of approximately 490mm and an average canopy spread of 4.25m. The group appeared to be in good structural and physiological condition, requiring no immediate remedial works.

DESK STUDY

3.10 It was confirmed that no trees situated in or adjacent to the site were subject to Tree Preservation Order or Conservation Area restrictions.

3.11 Based on Drawing Reference: *0360-SEW-SK0062 Parameter Plan 03 Demolition* (Studio Egret West, 2021) *and 0360-SEW-ZZ-ZZ-DR-A-001003* (Studio Egret West, 2020) received from the client on the 14 and 18 May 2021 respectively, the impact of the proposal on the existing trees has been assessed and all trees that will potentially be affected by the development are listed in Table 3. Tree numbers in the table correspond to the Schedule of Trees in Appendix 1 and Tree Constraints Plan described in Appendix 2.

3.12 It has been assumed that the height of all construction traffic or goods vehicles accessing the site will be within the standard minimum carriageway clearance of 5m (HSE, 2017).

Table 3: Summary of trees possibly affected by the development

Impact	Reason	BS Cat B	BS Cat C
Trees to be removed	Located within development footprint.	T7, T17, T18, T19, T20, T21, G1 (partial), G14 (partial), G15 (partial)	-
Trees which could sustain damage to RPA	Installation of hardstanding	T4, T5, G1, G2, G5, G7, G8, G10	T14, T15, G4, G11
	Installation of foundations	T8, T31, T32, G14	T7
	Soil compaction through construction traffic access	T1, T2, T4, T5, T23, T31, T32, G1, G2, G5, G6, G7, G8, G9, G10, G13, G14, G15	T3, G4, G11, G12, G16, G17, G19
Trees which could sustain damage to stem or canopy	Impact by construction traffic.	T1, T2, T4, T5, T31, T32, G1, G2, G5, G6, G7, G8, G9, G10, G13, G14, G15	T3, G4, G11, G12, G16, G17, G19
Trees to be pruned	Access facilitation	T8, T31, T32, G13	G17

Tree removal and pruning

3.13 Based on the design proposal, a total of six individual trees and three partial groups will require removal to facilitate development works.

3.14 All of the six trees and partial groups to be removed were attributed Category B status.

3.15 The proposed building line will encroach into the southern canopy extents of T8, T31 and T32, and the northern canopy extents of G14, G15 and T17 all of which will require minor pruning of lateral branches in order to facilitate access.

Trees which could potentially sustain damage to stem, canopy or RPA.

3.16 Development proposals have the potential to indirectly impact the stem, canopy or RPAs of eight individual trees and 17 groups of trees scheduled for retention as displayed in Table 3. In order to ensure that these features are successfully retained during the proposed works, specialist tree protection measures will be required as part of an Arboricultural Method Statement and Tree Protection Plan.

Incursions into RPA of trees effected by the development proposal.

3.17 The proposed development will encroach into the RPAs of nine trees to be retained. As displayed in Table 4.

Table 4: Proposed incursions in RPAs of trees to be retained.

Tree ID	Stem Diameter	Total RPA (m^2)	Area of incursion (m^2)	Area of Incursion (%)
T1	700	221	1.9	0.8
T4	440	87.6	16.1	18.3
T5	440	87.6	13.6	15.5
T6	300	40.7	3.4	8.3
T8	365	60.3	12.3	20.3
T17	450 450	183.2	56.3	30.7
T31	365	60.3	7.2	11.9
T32	365	60.3	12.1	20.6
G1	450 Avg.	687	121.5	17.6

Table 4: Proposed incursions in RPAs of trees to be retained.

Tree ID	Stem Diameter	Total RPA (m^2)	Area of incursion (m^2)	Area of Incursion (%)
G2	390 Avg.	335	117.3	35.0
G4	350 Avg.	286	59.0	20.6
G5	470 Avg.	515	164.5	31.9
G7	550 Avg.	348	39.6	11.3
G8	510 Avg.	250	40.7	16.2
G9	490 Avg.	384	169.0	44.0
G10	475 Avg.	764	169.9	22.1
G11	300 Avg.	79.0	4.0	5.0

3.18 The level of incursions by the proposed access road inside the RPA of tree T1 was calculated to be 0.8%. This RPA incursion is unlikely to impact the health of this tree and as such, specialist root protection measures for the RPA of tree T1 will not be required.

3.19 The incursions by the proposed access road inside the RPAs of T4, T5, G1, G2, G4, G5, G8, G9 and G10 were calculated to be between 15.5% and 44.0% of the total RPAs of these trees. The existing RPAs of these trees and groups were already covered by existing hardstanding. While it is likely that ground conditions beneath the existing hard surfacing are unlikely to change as a result of the development, any excavations inside the RPAs of these trees and groups have the potential to cause significant damage to the structural and physiological condition of the tree. It is recommended that the proposed access road comprises a no-dig system (Cellweb TRP or similar), topped with a permeable hardstanding in order to protect the existing soil strata from overloading while maintaining gaseous and aqueous exchange capacity. If installed correctly, under direct arboricultural supervision and in accordance with the Arboricultural Method Statement, removal and replacement of the existing surfacing is unlikely to significantly impact the structural or physiological condition of these individuals and groups of trees.

3.20 The incursion by the proposed partial demolition and extension to the existing building inside the RPA of T32 was calculated to be 20.6% of the total RPA. The majority of the southern section of the RPA of this tree was already covered by the existing structure and foundations. While it is likely that ground conditions beneath the existing building are unlikely to change as a result of the development, any excavations inside the RPA of T32 have the potential to cause significant damage to the structural and physiological condition of the tree.

3.21 The incursions by the proposed foundations into the RPAs of T8 and T17 were calculated to be 20.3% and 30.7% respectively. Any excavations in the RPAs of these trees has the potential to significantly affect the structural and physiological condition of these trees. Trench foundations should be avoided in these areas and specialist foundations (pile and beam or similar) considered to protect the root plates of T8 and T17 during construction.

3.22 The level of incursions by the proposed foundations, redevelopment of existing structures and bicycle lane inside the RPAs of trees T6, T31 and G11 were calculated to be 8.3%, 11.9% and 5.0% respectively. These RPA incursions are unlikely impact the health of the trees and as such, specialist root protection measures for the RPAs of these trees will not be required.

Impact on visual amenity and local character

3.23 Trees T7, T17, T19, T20 and T21 were all attributed Category B status. Without appropriate mitigation as recommended in section 4 of this report, their removal, and the partial removal of G1, G14 and G15 would represent a significant impact on local visual amenity.

4 Recommendations

TREE WORKS

4.1 Based on the current design proposal the following tree pruning and removal operations would need to be undertaken in order to facilitate development works.

- The retention of all Category B trees on site is recommended. However, if this is not possible trees T7, T17, T19, T20, T21 will require removal. In addition the partial removal of G1, G14 and G15.
- T8, T31 and T32 should have their lateral branches in their southern canopy quadrants shortened in length by 2m.
- T17 and G15 should have their lateral branches in their northern canopy quadrants shortened in length by 3 - 4m back to the site boundary.
- G17 and G18 should have their lateral branches in their northern canopy quadrants shortened in length by approximately 1 – 2m back to the site boundary

4.2 Although not specifically required for the purposes of evaluating design proposals and layouts, preliminary recommendations for tree management are provided below.

- Further evaluation and a full hazard risk assessment of trees T1 and T2 should be undertaken, to establish the extent of decay, weakness or defects present, if it is progressive, and whether immediate intervention such as canopy reduction or removal are necessary.

4.3 All tree works should give due consideration to the potential presence of protected species, including breeding birds and roosting bats. The Preliminary Ecological Appraisal (The Ecology Consultancy, 2019) and any subsequent ecological reports should be consulted prior to the commencement of works.

4.4 Arisings from tree works (e.g. wood piles and standing dead trunks) can provide valuable habitats for wildlife. As such, consideration should be given to their retention on site in areas unlikely to cause issues to public health and safety.

4.5 All tree pruning should be carefully planned and undertaken in accordance with *BS 3998: 2010 Recommendation for Tree Works*.

4.6 Any recommendations highlighting the management of potentially hazardous trees should be reviewed as soon as is practically possible.

MITIGATION

4.7 It is recommended that a scheme of soft landscaping is submitted, including tree planting details which address the potential loss of visual public amenity where tree removal is unavoidable. The tree selection should be appropriate to the site and chosen from a species palette in accordance with local tree planting policies and in accordance with any recommendations provided in the PEA and any subsequent ecology reports.

4.8 The design of any new planting and landscaping proposals should be based upon a soil analysis which considers pH and any nutrient deficiencies or imbalances.

4.9 The planting detail should be considered and planned at an early stage of the design process and feed into the wider landscape design proposal. Ideally, species selected should be native and/or of proven ecological value.

4.10 Often the need for future remedial pruning or tree removal can be avoided through careful species selection and planning during the design of the mitigation planting scheme.

4.11 The positioning of mitigation planting in relation to new or existing buildings should take full account of the final canopy height and spread of all trees included in the planting scheme. Buildings should ideally be located a sufficient distance from the predicted canopy line and RPA to avoid future pressure to undertake remedial pruning or tree removal.

4.12 It is recommended that specifications on aftercare and maintenance, including irrigation, as well as protection and formative pruning during establishment are included as part of the finalised tree planting strategy. Recommendations should be appropriate to the proposed planting and should be in compliance with Section 11 of BS 8545:2014 *Trees from nursery to establishment in the landscape- Recommendations.*

ISSUES FOR THE ARBORICULTURAL METHOD STATEMENT

4.13 Planning of the demolition and partial demolition of existing buildings on site in relation to the RPAs of retained trees and specialist protection methods.

4.14 The positioning of new buildings should take into consideration the maximum canopy height and width of all trees to be retained. Buildings should ideally be located beyond the RPAs of the trees to be retained and allow sufficient distance from the existing

canopy line to avoid future pressure to undertake remedial pruning or tree removal. Where the location of buildings inside the RPA is unavoidable, special engineering of foundations will be required and presented in a future method statement.

4.15 In order to minimise disturbance in the RPAs of retained trees, excavation into the soil or soil regrading should not be a requirement of finalised construction layouts, existing levels should remain intact and should be protected from overloading to prevent soil compaction.

4.16 Protective fencing should be installed in accordance with figure 2 of BS 5837:2012 to enable the safe retention of trees to be retained. The positioning of tree protection and the establishment of construction exclusion zones (CEZ) should initially be based upon the root protection areas as described in Appendix 1, and should be in place prior to the commencement of works.

4.17 All works should be undertaken from outside the RPA wherever possible. Where working in an RPA is unavoidable, ground protective measures fully compliant with section 6.2 of BS 5837: 2012 and agreed by the consulting arboriculturalist should be used.

4.18 Where construction of new buildings or hardstanding inside RPAs is likely to significantly impact a trees physiological or structural condition, specialist methods of construction should be developed and specified as part of the Arboricultural Method Statement.

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Appendix 1: Schedule of Trees

Table 1: Schedule of Trees and Tree Quality Assessment*

* See Table 3 for key to terms
** See Table 2 for definitions of categories

No	Species	Ht.	S	St. 1.5 m	Canopy Spread				Cr. Cl	Ls	SC	PC	Comments /Observation	Preliminary Management Advice	LE	Cat **	RPAm ^{2}	RPA *r*
					N	S	E	W										
T1	Sycamore	20	1	700	6	4	6	6	8	M	Fair	Fair	Ivy clad, off site base inaccessible	Hazard risk assessment	40+	B2	221.7	8.4
T2	Common ash	20	1	700	4	6	6	6	8	M	Fair	Fair	Ivy clad, off site base inaccessible	Hazard risk assessment	40+	B2	221.7	8.4
T3	Norway maple	10	1	225	3	0.5	4.5	3	2.5	SM	Fair	Good	-	No immediate works required	40+	C1	22.9	2.7
T4	Lawson cypress	18	1	440	3	3	5	4	2.5	EM	Good	Fair	-	No immediate works required	40+	B2	87.6	5.3
T5	Lawson cypress	18	1	440	3	3	5	4	2.5	EM	Good	Fair	-	No immediate works required	40+	B2	87.6	5.3
T6	Norway maple	12	1	300	2.5	2.5	2.5	2.5	3	SM	Fair	Fair	-	No immediate works required	20-40	C1	40.7	3.6
T7	Hybrid black poplar	18	2	500; 350	4	5	4	4	2.5	EM	Fair	Good	-	No immediate works required	40+	B1	168.5	7.3
T8	Lawson cypress	16	1	365	4.5	4.5	4.5	4.5	3	SM	Fair	Good	-	No immediate works required	40+	B1	60.3	4.4
T9	Wild cherry	8	1	180	2	2	2	2	2	SM	Fair	Fair	-	No immediate works required	10_20	C1	14.7	2.2
T10	Hybrid black poplar	15	1	450	3	4.5	3	3	3	SM	Fair	Fair	-	No immediate works required	20-40	C1	91.6	5.4

Table 1: Schedule of Trees and Tree Quality Assessment*

* See Table 3 for key to terms
** See Table 2 for definitions of categories

No	Species	Ht.	S	St. 1.5 m	Canopy Spread				Cr. Cl	Ls	SC	PC	Comments /Observation	Preliminary Management Advice	LE	Cat **	RPAm ^{2}	RPA *r*
					N	S	E	W										
T11	Lawson cypress	16	1	450	4	4	4	4	2.5	EM	Fair	Fair	-	No immediate works required	40+	B2	91.6	5.4
T12	Weeping willow	10	1	400	4	2	0.5	3.5	0	SM	Fair	Fair	-	No immediate works required	20-40	C1	72.4	4.8
T13	Norway maple	14	1	350	4	3	3	2	3	SM	Fair	Fair	-	No immediate works required	40+	C1	55.4	4.2
T14	Lawson cypress	11	2	400; 100	3.5	3.5	3.5	3.5	3	SM	Fair	Fair	-	No immediate works required	20-40	C1	76.9	4.9
T15	Weeping willow	6	1	300	3.5	3.5	3.5	3.5	0	SM	Fair	Fair	Base inaccessible	No immediate works required	20-40	C1	40.7	3.6
T16	Norway maple	6	1	150	2.5	2.5	2.5	2.5	2	SM	Fair	Fair	-	No immediate works required	20-40	C1	10.2	1.8
T17	Hybrid black poplar	17	2	450; 450	5.5	5.5	5.5	5.5	3.5	EM	Good	Good	-	No immediate works required	40+	B1	183.2	7.6
T18	Weeping willow	12	1	500	5	4	4	4	2.5	EM	Good	Good	-	No immediate works required	40+	B1	113.1	6.0
T19	Southern evergreen magnolia	8	1	250	3	1.5	3	3	1	EM	Good	Fair	In low planter, growing hard up against wall	No immediate works required	40+	B1	28.3	3.0
T20	Southern evergreen magnolia	8	1	250	3	1.5	3	3	1	EM	Good	Fair	In low planter, growing hard up against wall	No immediate works required	40+	B1	28.3	3.0

Table 1: Schedule of Trees and Tree Quality Assessment*

* See Table 3 for key to terms
** See Table 2 for definitions of categories

No	Species	Ht.	S	St. 1.5 m	Canopy Spread				Cr. Cl	Ls	SC	PC	Comments /Observation	Preliminary Management Advice	LE	Cat **	RPAm ^{2}	RPA *r*
					N	S	E	W										
T21	Southern evergreen magnolia	8	1	250	3.5	1.5	2.5	3	1	EM	Good	Fair	In low planter, growing hard up against wall	No immediate works required	40+	B1	28.3	3.0
T22	Jacquemont's Birch	9	1	220	3.5	2.5	3	3	2.5	SM	Fair	Fair	-	No immediate works required	40+	C1	21.9	2.6
T23	Norway maple	12	1	330	4.5	3	4	4	4	EM	Good	Good	-	No immediate works required	40+	B1	49.3	4.0
T24	Jacquemont's Birch	10	1	150	2.5	1.5	1.5	1.5	3	SM	Fair	Fair	-	No immediate works required	40+	C1	10.2	1.8
T25	Jacquemont's Birch	10	1	150	2.5	1.5	1.5	1.5	3	SM	Fair	Fair	-	No immediate works required	40+	C1	10.2	1.8
T26	Jacquemont's Birch	10	1	150	2.5	1.5	1.5	1.5	3	SM	Fair	Fair	-	No immediate works required	40+	C1	10.2	1.8
T27	Jacquemont's Birch	10	1	150	2.5	1.5	1.5	1.5	3	SM	Fair	Fair	-	No immediate works required	40+	C1	10.2	1.8
T28	Jacquemont's Birch	10	1	150	2.5	1.5	1.5	1.5	3	SM	Fair	Fair	-	No immediate works required	40+	C1	10.2	1.8
T29	Jacquemont's Birch	10	1	150	2.5	1.5	1.5	1.5	3	SM	Fair	Fair	-	No immediate works required	40+	C1	10.2	1.8
T30	Japanese cherry	5	1	75	1.5	1.5	1.5	1.5	2	Y	Fair	Fair	-	No immediate works required	40+	C1	2.5	0.9

Table 1: Schedule of Trees and Tree Quality Assessment*

* See Table 3 for key to terms
** See Table 2 for definitions of categories

No	Species	Ht.	S	St. 1.5 m	Canopy Spread				Cr. Cl	Ls	SC	PC	Comments /Observation	Preliminary Management Advice	LE	Cat **	RPAm ^{2}	RPA *r*
					N	S	E	W										
T31	Large leaved lime	13	1	365	3.5	3.5	3.5	3.5	2	SM	Good	Good	-	No immediate works required	40+	B1	60.3	4.4
T32	Large leaved lime	13	1	365	3.5	3.5	3.5	3.5	2	SM	Good	Good	-	No immediate works required	40+	B1	60.3	4.4
T33	Italian cypress	5	1	75	0.5	0.5	0.5	0.5	0	SM	Good	Good	-	No immediate works required	40+	C1	2.5	0.9
T34	Jacquemont's Birch	10	1	150	2.5	2.5	2.5	2.5	3	SM	Fair	Fair	-	No immediate works required	40+	C1	10.2	1.8
T35	Jacquemont's Birch	10	1	150	2	2.5	2	2	3	SM	Fair	Fair	-	No immediate works required	40+	C1	10.2	1.8
T36	Jacquemont's Birch	10	1	150	1.5	2.5	2.5	1.5	3	SM	Fair	Fair	-	No immediate works required	40+	C1	10.2	1.8
T37	Jacquemont's Birch	10	1	200	2.5	2.5	2.5	2.5	3	SM	Fair	Fair	Stem forks at 1.5m co dominant compression union	No immediate works required	40+	C1	18.1	2.4
T38	Wild cherry	12	1	340	4	3.5	4	3.5	8	EM	Good	Good	-	No immediate works required	40+	B1	52.3	4.1
T39	Southern evergreen magnolia	10	1	300	3.5	3.5	3.5	3.5	2	M	Good	Good	-	No immediate works required	40+	B1	40.7	3.6
T40	Chusan palm	5	1	165	2	2	2	2	2	SM	Fair	Fair	-	No immediate works required	20-40	C1	12.3	2.0

Table 1: Schedule of Trees and Tree Quality Assessment*

* See Table 3 for key to terms
** See Table 2 for definitions of categories

No	Species	Ht.	S	St. 1.5 m	Canopy Spread				Cr. Cl	Ls	SC	PC	Comments /Observation	Preliminary Management Advice	LE	Cat **	RPAm ^{2}	RPA *r*
					N	S	E	W										
T41	Chusan palm	5	1	165	2	2	2	2	2	SM	Fair	Fair	-	No immediate works required	20-40	C1	12.3	2.0
T42	Chusan palm	5	1	165	2	2	2	2	2	SM	Fair	Fair	-	No immediate works required	20-40	C1	12.3	2.0
T43	Foxglove tree	6	2	50;50	1.5	1	1	1	3	Y	Fair	Fair	-	No immediate works required	20-40	C1	2.3	0.8
T44	Foxglove tree	6	2	50;50	1	1.5	1	1	3	Y	Fair	Fair	-	No immediate works required	20-40	C1	2.3	0.8
T45	Red oak	12	1	260	2.5	2.5	2.5	3	3.5	SM	Fair	Fair	-	No immediate works required	40+	C1	30.6	3.1
T46	Cherry plum	5	2	100; 75	1.5	1.5	1	2	1	SM	Fair	Fair	-	No immediate works required	20-40	C1	7.1	1.5
T47	Silver birch	10	1	120	1.5	2	1	2	1.5	SM	Fair	Fair	-	No immediate works required	20-40	C1	6.5	1.4
T48	Silver birch	10	1	120	1.5	1.5	2	1	1.5	SM	Fair	Fair	-	No immediate works required	20-40	C1	6.5	1.4
T49	Jacquemont's Birch	10	1	250	2.5	2.5	2.5	2.5	1.5	SM	Fair	Fair	-	No immediate works required	20-40	C1	28.3	3.0
T50	Jacquemont's Birch	10	1	175	1.5	1.5	1.5	1.5	1.5	SM	Fair	Fair	-	No immediate works required	20-40	C1	13.9	2.1

Table 1: Schedule of Trees and Tree Quality Assessment*

* See Table 3 for key to terms
** See Table 2 for definitions of categories

No	Species	Ht.	S	St. 1.5 m	Canopy Spread				Cr. Cl	Ls	SC	PC	Comments /Observation	Preliminary Management Advice	LE	Cat **	RPAm ^{2}	RPA *r*
					N	S	E	W										
T51	Red oak	12	1	280	2.5	2.5	2	3.5	3.5	SM	Fair	Fair	-	No immediate works required	40+	B1	35.5	3.4
T52	Silver birch	10	1	175	1.5	1.5	1.5	1.5	1.5	SM	Fair	Fair	-	No immediate works required	20-40	C1	13.9	2.1
T53	Jacquemont's Birch	10	1	175	1.5	1.5	1.5	1.5	1.5	SM	Fair	Fair	Growing through gantry adjacent to building	No immediate works required	20-40	C1	13.9	2.1
T54	Common whitebeam	10	1	325	4	4	4	4	4	EM	Good	Good	-	No immediate works required	20-40	B1	47.8	3.9
T55	Common whitebeam	10	1	325	4	4	4	4	4	EM	Good	Good	-	No immediate works required	20-40	B1	47.8	3.9
T56	Common whitebeam	10	1	325	4	4	4	4	4	EM	Good	Good	-	No immediate works required	20-40	B1	47.8	3.9
T57	Common whitebeam	10	1	400	4.5	4.5	4.5	4.5	4	EM	Good	Good	-	No immediate works required	20-40	B1	72.4	4.8
G1	Lawson cypress	20	1	450	4	4	4	4	2	EM	Fair	Good	Base inaccessible, comprising lawson cypress and field maple with aspen and silver birch at south-west corner	No immediate works required	20-40	B2	-	687
G2	Mixed species	18.5	1	390	3.5	3	5	5	3	EM	Fair	Fair	Linear group, predominantly lawson cypress with scattered hybrid black poplar and silver birch	No immediate works required	40+	B2	-	335

Table 1: Schedule of Trees and Tree Quality Assessment*

* See Table 3 for key to terms
** See Table 2 for definitions of categories

No	Species	Ht.	S	St. 1.5 m	Canopy Spread				Cr. Cl	Ls	SC	PC	Comments /Observation	Preliminary Management Advice	LE	Cat **	RPAm ^{2}	RPA *r*
					N	S	E	W										
G3	Mixed species	16	1	670	4	4	4	4	2.5	EM	Good	Good	Linear boundary group comprising lawson cypress, wild cherry and Norway maple	No immediate works required	40+	B2	-	359
G4	Mixed species	10	1	350	3	3	3	3	3	SM	Fair	Good	Linear group of silver birch, oak and sycamore	No immediate works required	40+	C2	-	286
G5	Lawson cypress	18	1	470	3	3	4.5	4.5	3	EM	Good	Fair	Linear group extending along site boundary, comprising mainly lawson cypress with scattered hybrid black poplar, sycamore, cherry and Norway maple	No immediate works required	40+	B2	-	515
G6	Mixed species	12	1	350	4	4	4	4	1	SM	Fair	Fair	Group situated off site extending along boundary comprising Norway maple, wild cherry, aspen and sycamore	No immediate works required	20-40	B2	-	1036
G7	Mixed species	15	1	550	4	4	4	4	3.5	EM	Fair	Fair	Linear group comprising lawson cypress, Norway maple and hybrid black poplar	No immediate works required	40+	B2	-	348
G8	Mixed species	17	1	510	4	4	3.5	2	3	EM	Fair	Fair	Linear group comprising lawson cypress, Norway maple and cherry	No immediate works required	20-40	B2	-	250

Table 1: Schedule of Trees and Tree Quality Assessment*

* See Table 3 for key to terms
** See Table 2 for definitions of categories

No	Species	Ht.	S	St. 1.5 m	Canopy Spread				Cr. Cl	Ls	SC	PC	Comments /Observation	Preliminary Management Advice	LE	Cat **	RPAm ^{2}	RPA *r*
					N	S	E	W										
G9	Mixed species	20	1	490	4	4	5	4	2.5	EM	Good	Good	Linear group comprising lawson cypress, hybrid black poplar, Norway maple and cherry	No immediate works required	40+	B2	-	384
G10	Mixed species	15	1	475	4	4	5	4	2.5	EM	Good	Good	Linear group extending along western boundary comprising lawson cypress, hybrid black poplar, Norway maple and cherry	No immediate works required	40+	B2	-	764
G11	Mixed species	12	1	300	3	3.5	3	3	2.5	SM	Fair	Fair	Small group situated off site, comprising aspen, sycamore and cherry	No immediate works required	40+	C1	-	3.6
G12	Norway maple	11	1	300	3	3.5	3	3	2.5	SM	Fair	Fair	Small group off site, inaccessible	No immediate works required	40+	C1	-	3.6
G13	Mixed species	15	1	450	4.5	4.5	5	3	2.5	EM	Good	Fair	Linear group extending along western site boundary comprising lawson cypress, cherry, Norway maple and hybrid black poplar	No immediate works required	40+	B2	-	5.4
G14	Mixed species	16	1	445	5.5	4.5	4	4	2.5	EM	Fair	Fair	Linear group comprising hybrid black poplar, lawson cypress and weeping willow	No immediate works required	40+	B2	-	5.3

Table 1: Schedule of Trees and Tree Quality Assessment*

* See Table 3 for key to terms
** See Table 2 for definitions of categories

No	Species	Ht.	S	St. 1.5 m	Canopy Spread				Cr. Cl	Ls	SC	PC	Comments /Observation	Preliminary Management Advice	LE	Cat **	RPAm ^{2}	RPA *r*
					N	S	E	W										
G15	Mixed species	14	1	400	5	4.5	4	4	2.5	EM	Fair	Fair	Linear group comprising hybrid black poplar, lawson cypress and weeping willow	No immediate works required	40+	B2	-	4.8
G16	Lawson cypress	10	1	250	2	2	2	2	2.5	EM	Poor	Fair	Linear group off site, topped at 10m	No immediate works required	40+	C2	-	3.0
G17	Lawson cypress	10	1	250	2	2	2	2	2.5	EM	Poor	Fair	Linear group off site, topped at 10m	No immediate works required	40+	C2	-	3.0
G18	Lawson cypress	8	1	175	2	2	2	2	2.5	EM	Poor	Poor	Linear group off site, topped at 8m, minimal canopy	No immediate works required	40+	C2	-	2.1
G19	Lawson cypress	12	1	350	3.5	3.5	3.5	3.5	2.5	EM	Fair	Fair	linear group off site	No immediate works required	40+	C2	-	4.2
G20	Mixed species	10	1	200	2	2	2	2	1	SM	Poor	Poor	Group of scattered trees off site, some extending over boundary, comprising mainly wild cherry, silver birch and ash	No immediate works required	10_20	C1	-	2.4

Table 2: BS: 5837 2012 Tree Quality Assessment Definitions

TREES FOR REMOVAL		
Category & Definition	**Criteria**	**Identification on Plan**
Category U Those in such a condition that they cannot realistically be retained as a living tree in the context of the current land use for longer than 10 years.	• Trees that have a serious, irremediable structural defect such that their early loss is expected due to collapse, including those that will become unviable after removal of other U category trees (i.e. Where for whatever reason the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant immediate or irreversible overall decline. • Trees infected with pathogens of significance to the health and or safety of other trees nearby by or very low quality trees suppressing adjacent trees of better quality.	RED

TREES TO BE CONSIDERED FOR RETENTION				
Category & Identification	**1 Mainly arboricultural values**	**2 Mainly landscape values**	**3 Mainly cultural values including conservation**	**Identification on plan**
Category A Trees of High Quality with an estimated remaining life expectancy of at least 40 years	Trees that are a particularly good example of their species, especially if rare or unusual, or essential components of groups or of formal or semi-formal arboricultural features e.g. the dominant and/or principal trees in an avenue)	Tree groups or woodlands of particular visual importance as arboricultural and/or landscape features.	Tree groups or woodlands of significant conservation historical, commemorative or other value (e.g. veteran trees or wood pasture)	GREEN
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	Trees that might be included in the high category but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage).	Trees present in numbers, usually as groups or woodlands such that they attract a higher collective rating than they might as individuals: or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural benefits.	BLUE

TREES TO BE CONSIDERED FOR RETENTION				
Category & Identification	**1 Mainly arboricultural values**	**2 Mainly landscape values**	**3 Mainly cultural values including conservation**	**Identification on plan**
Category C Trees of a low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands but without this conferring on them significantly greater landscape value and/or trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural benefits.	GREY

Table 3: Key Schedule of Trees

Column Heading	Explanation
Tree No	Sequential number corresponding to number on plan.
Species	English names.
Ht.	Height in metres.
S	Number of main stems.
St. 1.5 (Stem Diameter)	Stem diameter when measured in accordance with Annex C of BS 5837:2012.
NSEW	Crown radius in metres to cardinal points of the compass.
Cr. Cl. (Crown Clearance)	Height in metres between the ground and underside of canopy.
Ls.	Life stage definitions. Y= Young. SM = Semi-mature. EM = Early mature. M = Mature. OM = Over mature.
SC	Brief description of structural condition.
PC	Brief description of physiological condition.
Preliminary Advice	Preliminary tree works advice and recommendations.
LE	Estimated remaining useful life contribution in years. <10, 10+, 20+ and 40+ yr.
Cat. (Category)	Categorisation grading in accordance with BS 5837 2012. Trees suitable for retention: - Category A trees of high quality and amenity value. Category B trees of moderate quality and amenity value. Category C trees of low quality or amenity value. British Standards BS 5837:2012 recommends that these categories may be further broken down into sub-categories A1 A2 A3 pertaining to Arboricultural, Landscape or Cultural values respectively.
RPA m^2	Root Protection Area (RPA). Indicative area around a tree measured in m^2 and calculated in accordance with Annex C of BS 5837:2012 deemed to contain sufficient rooting volume to maintain the viability of a tree and where the protection of roots and soil structure is treated as a priority.
RPA *r*	Root Protection Area (RPA) radius calculation centred on the base of the tree and calculated in accordance with Annex C of BS 5837:2012

Appendix 2: Tree Constraints Plan

arbeco
Ecology, Tree & Habitat Services

Job title: Murphy's Yard
Job no. ARB2017

Client: Folgate Estates Ltd

Map title: Tree Constraints Plan

Section: 1/5

Scale (at A3): 1:750

Date of survey: 18/07/2019

Surveyor: James Potts

Drawn	Approved	Date
JP	JD	19/07/2019

Legend

- Crown spread of category C - Trees with low quality and value
- Crown spread of category B - Trees with moderate quality and value
- Root Protection Area (RPA)
- Crown spread of Category B groups
- Crown spread of Category C groups

N

This plan is provided solely for the purpose of supporting the description of the arboricultural features of the site as contained in the accompanying report

arbeco
Ecology, Tree & Habitat Services

Job title	Murphy's Yard Job no. ARB2017
Client	Folgate Estates Ltd
Map title	Tree Constraints Plan
Section: 2/5	Scale (at A3) 1:750
Date of survey	18/07/2019
Surveyor	James Potts

Drawn	Approved	Date
JP	JD	19/07/2019

Legend

- Crown spread of category C - Trees with low quality and value
- Crown spread of category B - Trees with moderate quality and value
- Root Protection Area (RPA)
- Crown spread of Category B groups
- Crown spread of Category C groups

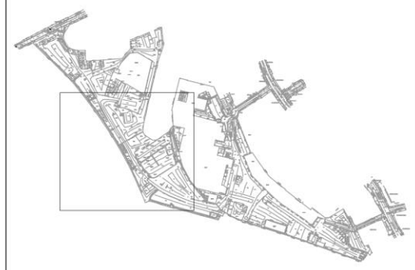
N

This plan is provided solely for the purpose of supporting the description of the arboricultural features of the site as contained in the accompanying report

arbeco
Ecology, Tree & Habitat Services

Job title	Murphy's Yard Job no. ARB2017
Client	Folgate Estates Ltd
Map title	Tree Constraints Plan
Section: 3/5	Scale (at A3) 1:750
Date of survey	18/07/2019
Surveyor	James Potts

Drawn	Approved	Date
JP	JD	19/07/2019



Legend

- Crown spread of category C - Trees with low quality and value
- Crown spread of category B - Trees with moderate quality and value
- Root Protection Area (RPA)
- Crown spread of Category B groups
- Crown spread of Category C groups

N

This plan is provided solely for the purpose of supporting the description of the arboricultural features of the site as contained in the accompanying report

arbeco
Ecology, Tree & Habitat Services

Job title	Murphy's Yard Job no. ARB2017
Client	Folgate Estates Ltd
Map title	Tree Constraints Plan
Section: 4/5	Scale (at A3) 1:750
Date of survey	18/07/2019
Surveyor	James Potts

Drawn	Approved	Date
JP	JD	19/07/2019

Legend

- Crown spread of category C - Trees with low quality and value
- Crown spread of category B - Trees with moderate quality and value
- Root Protection Area (RPA)
- Crown spread of Category B groups
- Crown spread of Category C groups

N

This plan is provided solely for the purpose of supporting the description of the arboricultural features of the site as contained in the accompanying report

arbeco
Ecology, Tree & Habitat Services

Job title	Murphy's Yard Job no. ARB2017
Client	Folgate Estates Ltd
Map title	Tree Constraints Plan
Section: 5/5	Scale (at A3) 1:750
Date of survey	18/07/2019
Surveyor	James Potts

Drawn	Approved	Date
JP	JD	19/07/2019

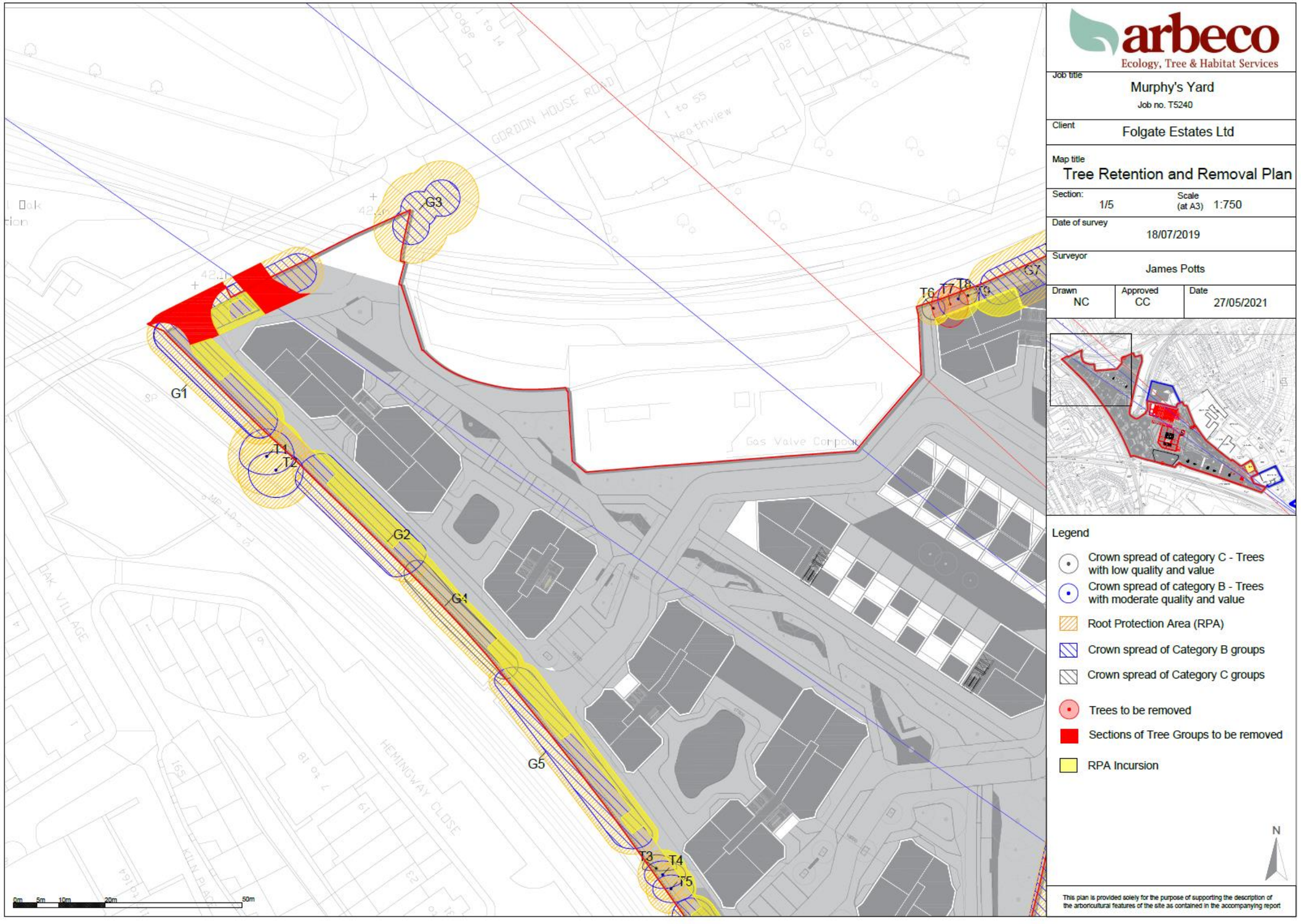
Legend

- Crown spread of category C - Trees with low quality and value
- Crown spread of category B - Trees with moderate quality and value
- Root Protection Area (RPA)
- Crown spread of Category B groups
- Crown spread of Category C groups

N

This plan is provided solely for the purpose of supporting the description of the arboricultural features of the site as contained in the accompanying report

Appendix 3: Tree Retention and Removal Plan



arbeco
Ecology, Tree & Habitat Services

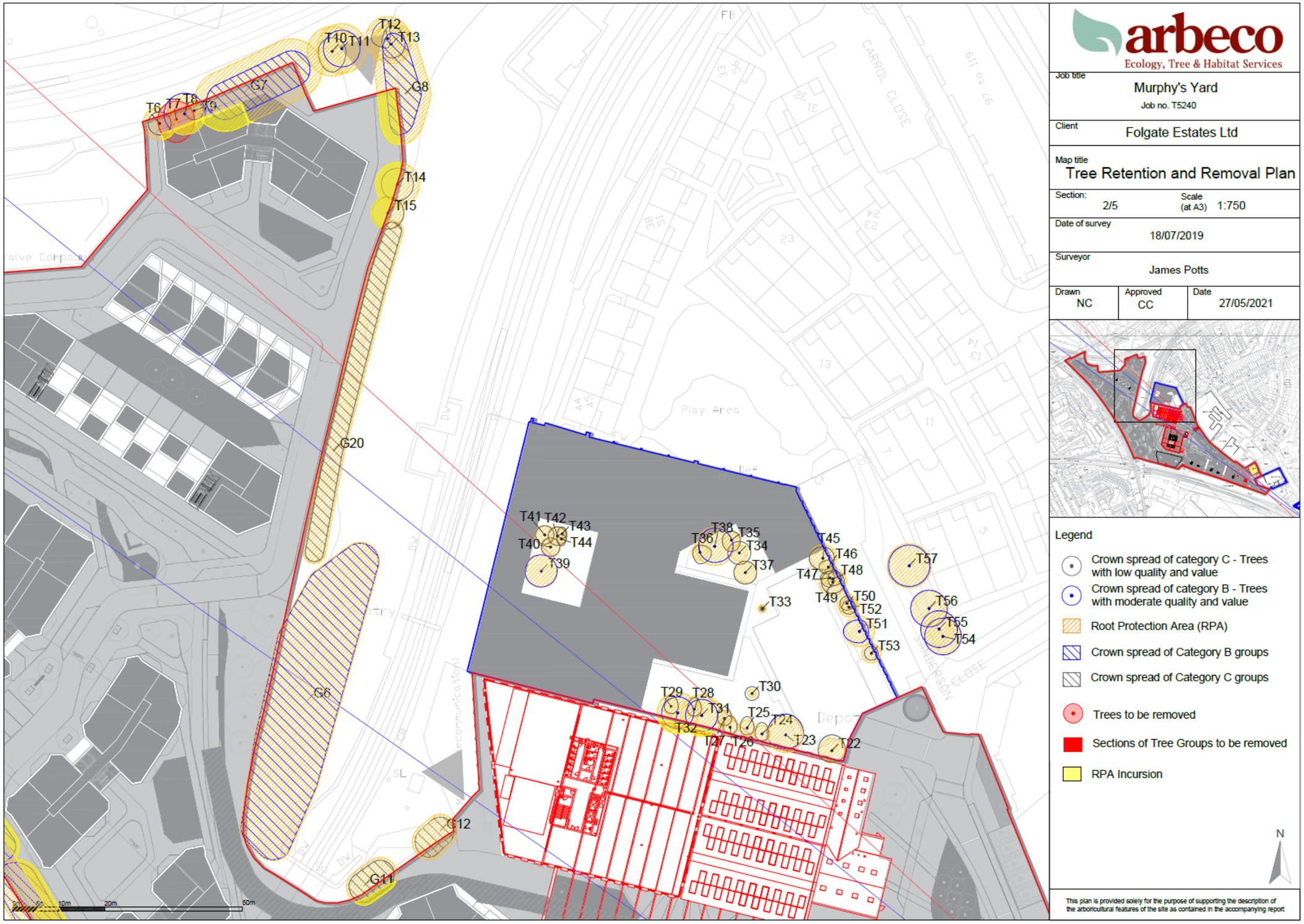
Job title	Murphy's Yard Job no. T5240
Client	Folgate Estates Ltd
Map title	Tree Retention and Removal Plan
Section: 1/5	Scale (at A3) 1:750
Date of survey	18/07/2019
Surveyor	James Potts
Drawn: NC / Approved: CC / Date: 27/05/2021	

Legend

- Crown spread of category C - Trees with low quality and value
- Crown spread of category B - Trees with moderate quality and value
- Root Protection Area (RPA)
- Crown spread of Category B groups
- Crown spread of Category C groups
- Trees to be removed
- Sections of Tree Groups to be removed
- RPA Incursion

N

This plan is provided solely for the purpose of supporting the description of the arboricultural features of the site as contained in the accompanying report



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Ecology, Tree & Habitat Services

Job title	Murphy's Yard Job no. T5240
Client	Folgate Estates Ltd
Map title	Tree Retention and Removal Plan
Section: 2/5	Scale (at A3) 1:750
Date of survey	18/07/2019
Surveyor	James Potts
Drawn: NC / Approved: CC / Date: 27/05/2021	

Legend

- Crown spread of category C - Trees with low quality and value
- Crown spread of category B - Trees with moderate quality and value
- Root Protection Area (RPA)
- Crown spread of Category B groups
- Crown spread of Category C groups
- Trees to be removed
- Sections of Tree Groups to be removed
- RPA Incursion

N

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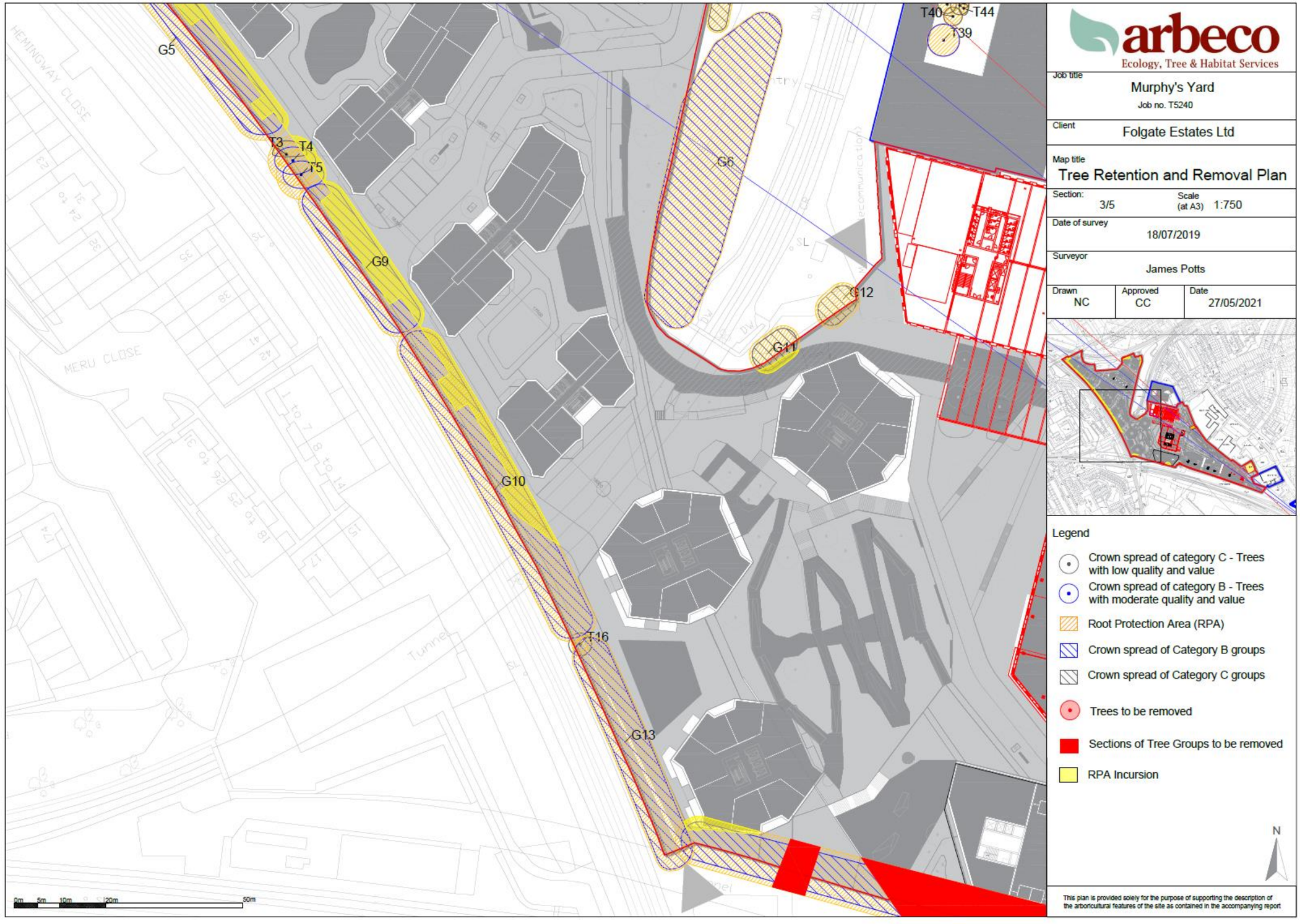

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Job title	Murphy's Yard Job no. T5240
Client	Folgate Estates Ltd
Map title	Tree Retention and Removal Plan
Section: 3/5	Scale (at A3) 1:750
Date of survey	18/07/2019
Surveyor	James Potts

Drawn	Approved	Date
NC	CC	27/05/2021

Legend

- Crown spread of category C - Trees with low quality and value
- Crown spread of category B - Trees with moderate quality and value
- Root Protection Area (RPA)
- Crown spread of Category B groups
- Crown spread of Category C groups
- Trees to be removed
- Sections of Tree Groups to be removed
- RPA Incursion

N

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Ecology, Tree & Habitat Services

Job title
Murphy's Yard
Job no. T5240

Client
Folgate Estates Ltd

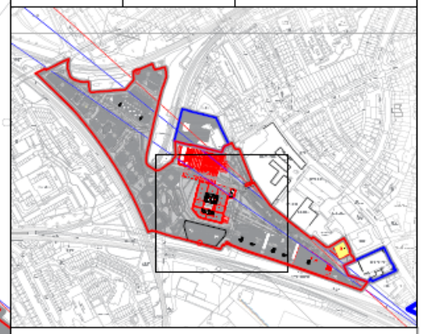
Map title
Tree Retention and Removal Plan

Section: 4/5
Scale (at A3) 1:750

Date of survey
18/07/2019

Surveyor
James Potts

Drawn	Approved	Date
NC	CC	27/05/2021



Legend

- Crown spread of category C - Trees with low quality and value
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- Root Protection Area (RPA)
- Crown spread of Category B groups
- Crown spread of Category C groups
- Trees to be removed
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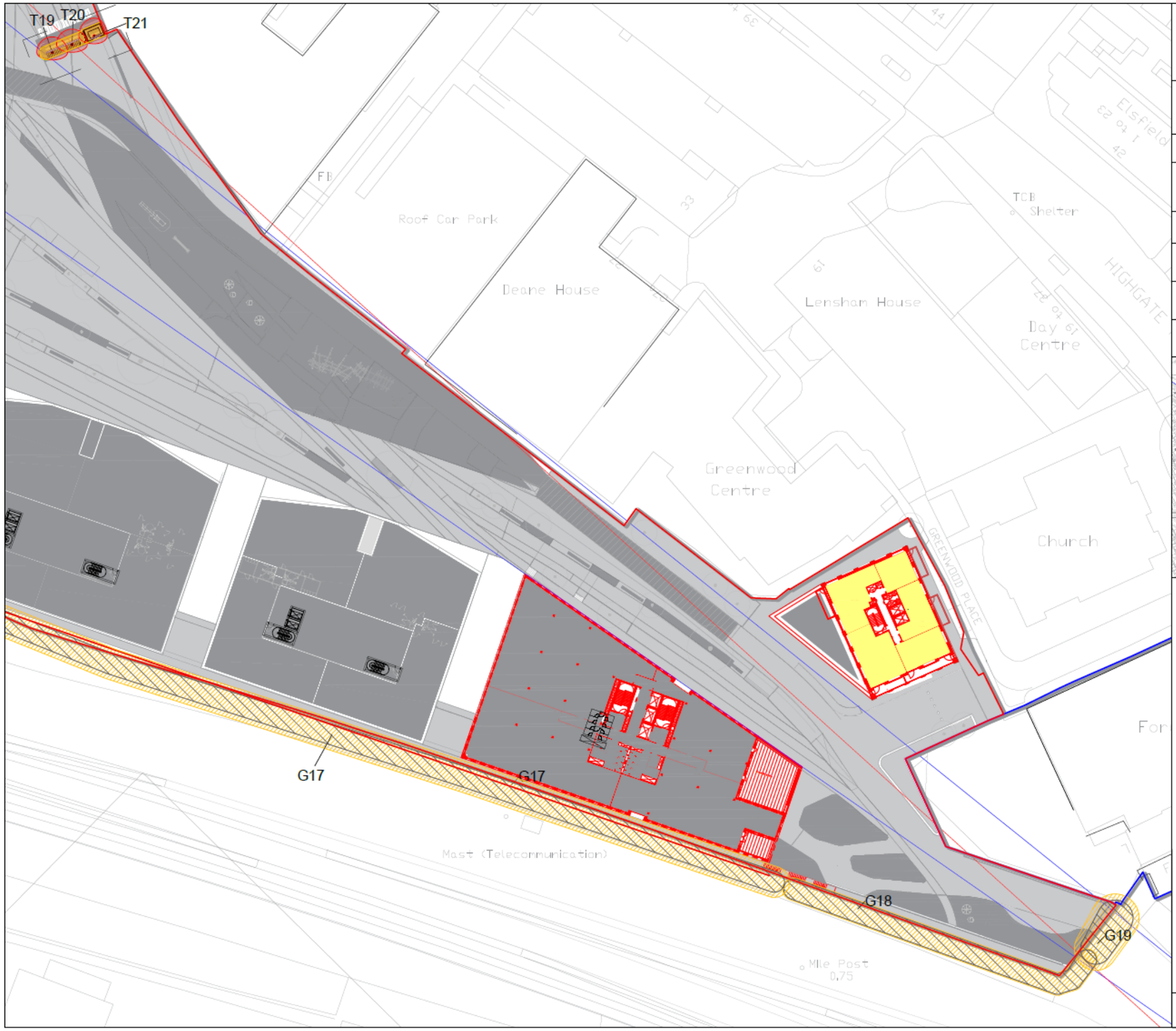

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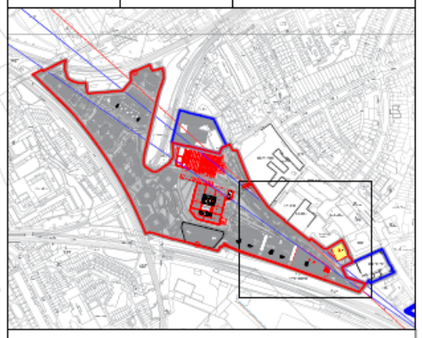
Ecology, Tree & Habitat Services

Job title	Murphy's Yard Job no. T5240
Client	Folgate Estates Ltd
Map title	Tree Retention and Removal Plan
Section: 5/5	Scale (at A3) 1:750
Date of survey	18/07/2019
Surveyor	James Potts

Drawn	Approved	Date
NC	CC	27/05/2021



Legend

- Crown spread of category C - Trees with low quality and value
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- Root Protection Area (RPA)
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- Trees to be removed
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Appendix 4: Glossary of Terms

Glossary of Terms

Term	Explanation
Arboricultural Impact Assessment (AIA)	Evaluation of direct and indirect effects of a proposed design and/or construction.
Arboricultural Method Statement (AMS)	Methodology for the implementation of any aspect of development that is in the root protection area or has the potential to result in the loss of or damage to a tree to be retained.
Branch structure	Qualitative description of formation of main framework of limbs and branches.
Canopy face	Orientation of canopy relative to cardinal points of the compass
Canopy radius	A measurement taken from the centre of a tree to the furthest radial extension of tree canopy relative to the cardinal points of the compass.
Competent Person	Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached.
Conservation Area	Local Planning Authority special designation generally prohibiting tree works without 6 weeks prior written notification.
Construction Exclusion Zone (CEZ)	Area based upon the calculated root protection area prohibiting access.
Cavity	Open and exposed aperture where wood tissue has internally degraded.
Constraints check	Formal search of local authority records to determine legal and statutory constraints on tree works.
Crown lifting	Removal of lower branches to achieve a stated vertical clearance above ground level or other surface.
Crown reduction	Pruning of a trees canopy in both height and width.
Decay	Deterioration and breakdown of tree wood fibres resulting in structural and/or physiological dysfunction of a tree.
Dieback	Continual decline and death of wood tissue including twigs and branches.
Failure	Description of structural failure or wood fibres including fracture of branches, limbs and main stems.
Fork	Area or point of union between one or more limbs or branches.
Hazard Risk Assessment	Qualitative and quantitative appraisal of the potential for tree failure and the possible risk of harm or damage to persons or property.
Local Planning Authority	Body responsible for the administration of Statutory duties relating to Development Management.
Multi-stem	A single tree formed from 2 or more codominant main stems
Occlusion	Wood development enclosing an extant wound or pruning cut.
Pruning	The targeted removal of branches or limbs using saws or other tools.

Glossary of Terms

Term	Explanation
Physiological Condition	Observation relating to a trees physiology for example vigour, leaf area, growth rate, the presence of pests or disease.
Root Protection Area	Root Protection Area (RPA). Indicative area around a tree deemed to contain sufficient rooting volume to maintain the viability of a tree.
Shelter belt	A wind break normally made up of one or more trees planted in such a way to provide cover from the wind.
Structural Condition	Observation relating to a trees structural integrity and the presence of any physical defects.
Suppressed	Where a trees development has been influenced or effected by the presence of competing vegetation.
Tree Constraints Plan	A scaled plan indicating above and below ground constraints relating to the protection of trees
Tree Preservation Order	A legal order made by the local planning authority protecting specific trees in the interests of amenity.
Visual Tree Assessment (VTA)	A method of assessment based upon the research developed to recognise dynamic responses of a tree to its surroundings.
'V' Shaped Branch Union	The union point between two branches that have grown at a tight angle, forming the 'V' shape. This structure is inherently weaker than the 'U' shaped union.
'U' Shaped Branch Union	The union point between two branches that have grown at a wider angle, forming the 'U' shape. This structure is considered to be the strongest and most optimised shape that a union can form.

Appendix 5: Photographs

Photograph 1

View looking north-west towards group G1.

Photograph 2

View looking west towards tree groups G1 (right) and G2 (left) and trees T1 and T2 (central).

Photograph 3

View looking south towards the northern end of group G6.

Photograph 4

View looking north towards tree group G12.

Photograph 5

View looking west along the eastern edge of group G14.

Photograph 6

View looking south towards group G18.

Photograph 7

View looking north-east along the western edge of group G20.

Photograph 8

View looking south-east towards southern evergreen magnolia trees T18-T21 (right to left).

Photograph 9

View looking east towards trees T45 to T51 (left to right).

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