Campus East Car Park,
College Way,
Welwyn Garden City,

Arboricultural Impact Assessment

October 2022
11176_AIA.001

Project Details	
Client:	Bellway Homes Limited (North London)
Project:	Campus East Car Park, College Way, Welwyn Garden City
Report Title:	Arboricultural Impact Assessment
Project Number:	11176
File Reference:	11176_AIA.001
Date:	28/10/2022

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Executive Summary

i) **Introduction.** Aspect Arboriculture are commissioned by Bellway Homes Limited (North London) to prepare an Arboricultural Survey and Impact Assessment relating to the proposed redevelopment of Campus East Car Park, College Way, Welwyn Garden City.

ii) **Proposals.** The proposals comprise the "*Demolition of all existing buildings and structures followed by the erection of five buildings to provide 313 residential units (Use Class C3) including 30% affordable housing, plus ancillary community building, resident's car parking, cycle storage, refuse storage, hard and soft landscaping, external lighting, drainage, infrastructure and all associated works*."

iii) **Surveys.** The site was surveyed by Aspect in October 2021 and extended in September 2022 following the guidance contained within BS5837:2012. Copies of the tree survey information are available within appendices A and B.

iv) **Statutory Designations.** Background checks reveal that the site does occur within the Welwyn Garden City Conservation Area, and that there are a number of trees present within influence of the site which are afforded protection by two separate Tree Preservation Orders ref: 827(2018) and 722 (2018).

v) **Arboricultural Impact.** The arboricultural impact of the proposed development is described by net tree losses, totalling the removal of thirty-one trees of individual distinction, and the clearance of a single group of ornamental shrubs, and the partial clearance of a further four groups. A preliminary tree protection drawing is appended to this document to demonstrate the deliverability of safeguarding measures. Conclusions drawn against Welwyn Hatfield Borough Council's development control policies and the Framework, conclude that the redevelopment proposal is acceptable from the arboricultural perspective, subject to appropriate safeguards for retained trees during construction.

1 Introduction

1.1 Background & Proposals

1.1.1 Aspect Arboriculture are instructed by Bellway Homes Limited (North London) to prepare an Arboricultural Survey and Impact Assessment relating to the proposed development of Campus East, Welwyn Garden City.

1.1.2 The development proposals comprise the "*Demolition of all existing buildings and structures followed by the erection of five buildings to provide 313 residential units (Use Class C3) including 30% affordable housing, plus ancillary community building, resident's car parking, cycle storage, refuse storage, hard and soft landscaping, external lighting, drainage, infrastructure and all associated works*."

1.2 Site Overview

1.2.1 The application area falls within the administrative control of Welwyn Hatfield Borough Council and comprises the curtilage of a car park associated with Oaklands College, within the centre of Welwyn Garden City. The northern boundary abuts existing residential development associated with Gresley Close and Blakemore Road, whilst the southern boundary abuts Waitrose supermarket and associated car park. The eastern boundary is defined by the East Coast Main Line, and the western boundary abuts College Way.

1.3 Existing Tree Stock

1.3.1 There are one hundred and five trees of individual distinction and eight groups of trees recorded within the tree survey. They have all been considered in full during the design stages of the project in accordance with BS5837:2012.

1.3.2 Trees within influence of the application area are a mix of low to high arboricultural interest, varying in quality and arboricultural interest comprising all BS5837 categories. The extant tree cover is largely confined to the site's boundaries with a number of additional trees and groups set within amenity areas of soft landscaping providing separation between the parking bays or adjacent to the entrance to the car park.

1.3.3 The principal arboricultural features identified during the survey comprise five English Oak and seven Sessile Oak (refer to T1, T4, T18-T23, T27, T28, T38 and T64 within appendix B). With the exception of T64 these trees are located within areas of soft landscaping bordering the car park entrance, all are of high arboricultural quality and provide a significant contribution to amenity as visually prominent trees. Collectively, the trees make a positive and important contribution to visual amenity commensurate to BS5837:2012 category A. The remaining English Oak (T64) is located adjacent to the northeast boundary and is a principal component of the adjacent collection. Accordingly, it is considered to be a good example of the species at maturity, equivalent to BS5837 category A i.e. a tree of high arboricultural quality.

1.3.4 Moderate quality trees worthy of individual distinction are more varied in their species composition comprising English Oak, Elm, Ash, Sweet Chestnut, Himalayan Birch, Hornbeam, Lime, Sycamore, Corsican Pine, Norway Spruce, Balsam Poplar and Lombardy Poplar (refer to T2, T3, T10-T12, T14, T15, T24, T25, T29, T30, T33, T35, T37, T39, T50-T52, T56, T57, T62, T71, T83, T89, T94-T96, T98 within appendix B). Similar to the principal composition, these trees also hold a prominent visual presence within the site and from views outside the site. Although they lack the special quality necessary to warrant BS5837:2012 category A, they nevertheless make a positive contribution to the amenity and green credentials of the site. Accordingly, they are recorded as moderate quality trees and warrant to category B within BS5837 guidance.

1.3.5 In addition there are also two cohesive assemblages of native and naturalised trees, including a number of species listed above along with Cherry, Cherry Plum, Hawthorn, Horse Chestnut, Silver Birch, White Poplar, Purple Plum, Larch and Portuguese Laurel (refer to G2 and G6 within appendix B). They form large canopy areas which provide a sense of maturity adjacent to the northern and southern boundaries, respectively. Although trees within these collections are of limited individual merit, value is acknowledged by virtue of their collective presence and contribution to amenity, i.e. trees present in numbers that attract a higher categorisation than they would as individuals, and therefore warrant BS5837:2012 category B as moderate landscape features.

1.3.6 The remaining lower quality tree cover occurs intermittently throughout the application area and comprises unremarkable examples of their type (refer to T5, T7-T9, T13, T17, T31, T34, T36, T40, T41, T43-T49, T53-T55, T58-T61, T63, T65-T70, T72-T82, T84-T88, T90, T91, T93, T97, T99, T100, T102-T105, G1, G3-G5, G7 and G8 within appendix B). Due to their low arboricultural value and being unremarkable examples of their species these trees and groups warranted Category C only.

1.3.7 There are seven trees which are incompatible with the existing setting owing to hazardous structural condition or terminal physiological decline that is to say that their removal is recommended irrespective of the redevelopment proposal (refer to T6, T16, T26, T32, T42, T92 and T101 within appendix B). These trees have, therefore, been assessed individually as Category U due to their poor or hazardous quality.

2 Statutory Designations

2.1 Conservation Area

2.1.1 Background checks have revealed that the application area occurs within the Welwyn Garden City Conservation Area (Welwyn Hatfield Borough Council, cited September 2022).

2.2 Tree Preservation Orders

2.2.1 Background checks have also confirmed that a number of trees within influence of the site are scheduled within two separate Tree Preservation Orders ref: 827(2018) and 722 (2018) (Welwyn Hatfield Borough Council, cited September 2022). Trees included are 3no. English Oak (refer to T6, T37 and T38 within appendix B).

3 Policy Review

3.1 The National Planning Policy Framework

3.1.1 The NPPF (2021) provides planning policy guidance at a National level. Paragraph 131 of the Framework details the aspiration to secure increased tree cover within new developments, comprising both new tree planting, and the retention of existing trees where possible: *'Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible.'*

3.1.2 Building upon paragraph 131, the Framework also considers that 'decisions should contribute to and enhance the natural and local environment by: recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland' (para 174b).

3.1.3 In respect of Veteran Trees and Ancient Woodland, paragraph 180c requires that development proposals award particular consideration to these important features; *'development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists'.*

3.1.4 For clarity, there are no veteran or ancient trees, or any designated areas of ancient woodland within influence of the site, against which the tests of para. 180c can be applied.

3.1.5 In addition, paragraph 180d also emphasises the benefit that can be secured through the provision of public access to, and resultant appreciation of, retained tree cover, stating: *'…opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can… enhance public access to nature where this is appropriate.'*

3.2 Welwyn Hatfield District Plan

3.2.1 In terms of development control at a local level, Welwyn Hatfield Borough Council has a statutory obligation to ensure adequate provision is made for the preservation of trees through Section 197 of the Town and Country Planning Act (1990). The Welwyn Hatfield District Plan (adopted 2005) is the current adopted Local Plan and is understood to be the Council's current primary development control document which relates to trees within the context of development; Policies R17 and TCR5 set out the Council's tests concerning trees and development (relevant parts reproduced overleaf).

3.2.2 **POLICY R17** – Trees, Woodland and Hedgerows

'The Council will seek the protection and retention of existing trees, hedgerows and woodland by the use of planning conditions, section 106 agreements, hedgerow retention notices and tree preservation orders where applicable. New development will be required to incorporate wherever appropriate new planting with locally native species and should be in accordance with Policy D8 Landscaping.'

3.2.3 **POLICY TCR5** – Campus East Development Site

'Land at Campus East in Welwyn Garden City, as defined on Inset Map 2, is identified for a mixed use development comprising retail, office and residential uses. The retail element shall be for convenience goods floorspace only, to address the qualitative requirement for convenience goods floorspace in the town centre identified in the plan. The site will be developed in a comprehensive manner, according to a Planning Brief to be subject to public consultation and approved by the Council as supplementary planning guidance.

The Council will require any development to be designed to a high standard to:

(i) Preserve and enhance the character of the Conservation Area, in particular to preserve the mature trees within and around the site;

(ii) Achieve good pedestrian access and linkage with the rest of the town centre;

(iii) Seek to improve passenger transport provision in the town centre;

(iv) Maintain efficient vehicle movement on surrounding roads; and

(v) Provide adequate parking to meet the needs of the development and the strategic parking needs of the town centre as a whole.'

4 Arboricultural Impact

4.1 Net Tree Removals[1]

4.1.1 Trees are recommended for removal where: a) it is necessary and unavoidable to site development within proximity to existing trees, such that they cannot be confidently retained in the long-term as living features, and/or b), where the amenity value of the tree will be significantly reduced as a result of the proposals, particularly if already of a low retention priority.

4.1.2 Tree removals will be necessary to redevelop the allocated site and are shown at Table 1 below and can be quantified as the removal of thirty-one trees of individual distinction, the clearance of a single group of ornamental shrubs, and the partial clearance of a further four groups.

4.1.3 **Table 1:** Net Tree Removals by BS5837 Category.

Category A	Category B	Category C
None	**T29, T30** Hornbeam	**T36, T45, T46, T47** English Oak
	T35 Lime	**T40** Wild Service
	T50, T51 Corsican Pine	**T41** Scots Pine
	T52 English Oak	**T43, T44** Silver Birch
	T56, T57 Norway Spruce	**T48** Lombardy Poplar
	T62 Ash	**T49, T79** Hornbeam
	T89 Lombardy Poplar	**T53, T102** Apple
		T58, T60, T66, T67, T70 Cherry
		T59 Hazel
		T61 Elder
		T63 Sycamore
		G1+Δ
		G3+
		G4+Δ
		G7+Δ
		G8+Δ

+ Denotes mixed species assemblage of three or more species – refer to Appendix B
Δ Denoted partial clearance

4.1.4 The removals detailed within Table 1 are necessary and unavoidable to make efficient use of the site due to the level changes across the site. It is evident that the removals have, by design, been focussed upon lower quality elements of the tree stock and where possible the more significant trees are retained. Trees providing an important contribution to amenity are being retained, particularly on the boundaries and either side of the access. The quantum of trees to be removed is not commensurate with good quality and the majority are arboriculturally insignificant, though do soften the appearance of the existing setting.

[1]All tree works should be timed to avoid the main nesting season for birds between 1st March and 31st August. If scheduled within this period it is recommended that an ecologist is present to advise on any necessary protective measures, and on hand to confirm that tree works are not likely to cause disturbance to nesting birds.

4.1.5 It will subsequently be possible to mitigate for the loss of trees detailed at Table 1 through the provision of replacement planting of feature trees of a comparable scale and assemblage, without any undue concerns for harm occurring to the amenity of the site

4.2 Vulnerable Trees

4.2.1 The proposals will require works within the root protection areas of retained trees, both during the demolition of the existing development and during the construction of the proposals. The extent and type of encroachment within retained trees' RPAs is detailed within Table 2 below and overleaf and is illustrated within the Tree Protection Plan provided within appendix C.

4.2.2 **Table 2:** RPA Incursions by Type and Extent.

	Supervised Excavation (m^2/%)		Above Soil Surfacing (m^2/%)		Hard Surface Replacement (m^2/%)		Hard Surface Converted to Soft (m^2/%)	
T14	-	-	6.8	4.5%	-	-	-	-
T15	-	-	48.1	18.9%	-	-	-	-
T18	-	-	33.4	14.0%	-	-	-	-
T20	-	-	0.3	0.1%	-	-	-	-
T23	-	-	3.9	1.8%	-	-	-	-
T27	6.6	2.3%	52.9	18.2%	-	-	-	-
T28	-	-	17.8	5.8%	-	-	-	-
T31	-	-	3.0	5.4%	-	-	-	-
T33	-	-	2.1	11.6%	-	-	-	-
T34	-	-	18.9	20.5%	-	-	-	-
T38	1.9	0.8%	-	-	-	-	-	-
T54	-	-	-	-	1.6	4.7%	-	-
T55	-	-	-	-	1.5	4.4%	-	-
T68	7.9	5.8%	-	-			-	-
T71	17.8	6.6%	-	-	61.3	22.6%	1.3	0.5%
T73	-	-	-	-			6.3	27.5%
T74	-	-	-	-	9.4	27.5%	0.9	2.6%
T75	-	-	-	-	8.4	29.2%	-	-
T76	-	-	-	-	8.4	29.8%	-	-
T77	-	-	-	-	12.4	36.3%	-	-
T78	-	-	-	-	46.3	40.9%	-	-
T80	-	-	-	-	6.9	17.0%	1.0	2.5%
T81	-	-	-	-	2.8	12.2%	-	-
T82	-	-	-	-	4.1	14.5%	-	-
T83	-	-	-	-	84.1	44.0%	-	-
T84	-	-	-	-	1.2	3.5%	-	-
T85	-	-	-	-	0.2	0.4%	-	-
T87	-	-	-	-	14.5	35.6%	-	-
T88	-	-	-	-	43.5	42.6%	-	-
T90	-	-	-	-	-	-	12.2	25.5%

	Supervised Excavation (m^2/%)		Above Soil Surfacing (m^2/%)		Hard Surface Replacement (m^2/%)		Hard Surface Converted to Soft (m^2/%)	
T91	-	-	-	-	0.8	4.4%	2.7	14.9%
T93	-	-	-	-	8.3	29.3%	-	-
T94	-	-	-	-	123.1	40.0%	-	-
T95	-	-	-	-	59.3	21.8%	-	-
T96	-	-	-	-	19.9	21.7%	-	-
T98	-	-	-	-	104.1	35.9%	-	-
G6	-	-	-	-	30.1	n/a	-	-

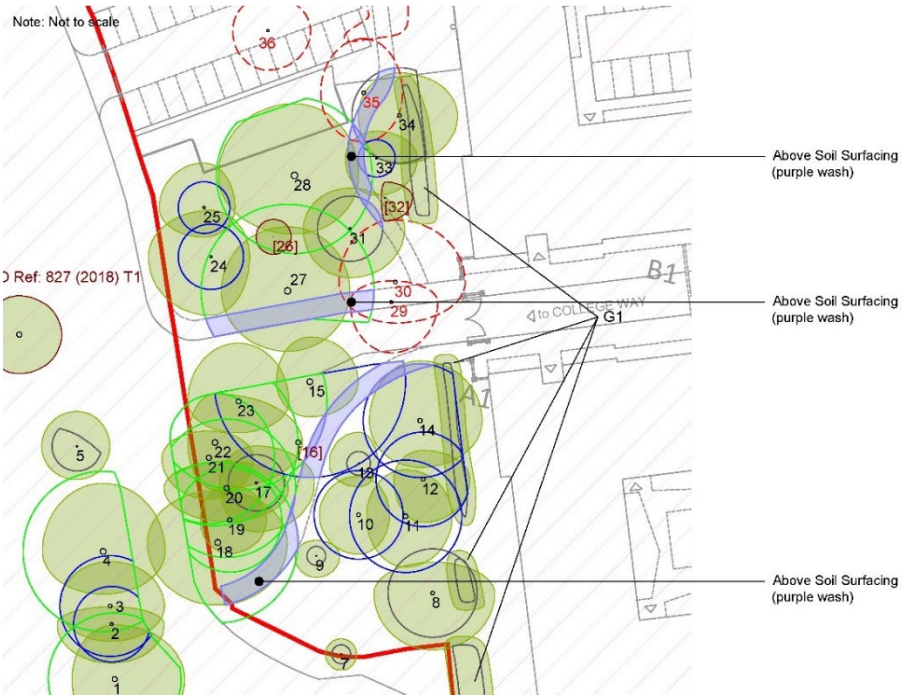
New Hard Surfacing

4.2.3 The proposals currently require works within the root protection area of retained trees within the frontage of the site adjacent to College Way. Three separate sections of footpath are proposed to connect with an existing footpath alongside College Way and a redeveloped car park to the north, wherein it is necessary to introduce new hard surfacing within the RPAs of T14, T15, T18, T20, T23, T27, T28, T31, T33 and T34. Other than for T15, T27 and T34, the extent of RPA coverage presented by the sections of footpath are well below the threshold guideline put forward at BS5837 clause 7.4.2.3 and are well within the trees' capacity to tolerate.

4.2.4 There are, however, two instances (T15 and T27) where the proportion of encroachment approaches 20% of the RPA, and one instance (T34) where it marginally exceeds it. This, however, is based on the theoretical radial and displaced RPAs as illustrated within the Tree Constraints Plan and Tree Protection Plan. In reality the exact rooting area of these trees is not known and, due to development features and the proximity to companion trees it is likely that the impact on each T15, T27 and T34 is less than the theoretical illustration would suggest. It is therefore anticipated that these trees will have the capacity to tolerate the change within their RPAs and the introduction of the proposed footpaths.

4.2.5 CellWeb has been selected as an appropriate and robust solution for forming a footpath within the RPA of T14, T15, T18, T20, T23, T27, T28, T31, T33 and T34 (illustrated with a purple wash in Figure 1 overleaf). CellWeb will provide a durable sub-base on which to construct a permeable wearing course and will prevent RPA compaction, any significant excavation and the associated risk of root severance. The introduction of this feature is therefore considered to be within the trees' capacity to tolerate and is not expected to have a detrimental effect on its future outlook.

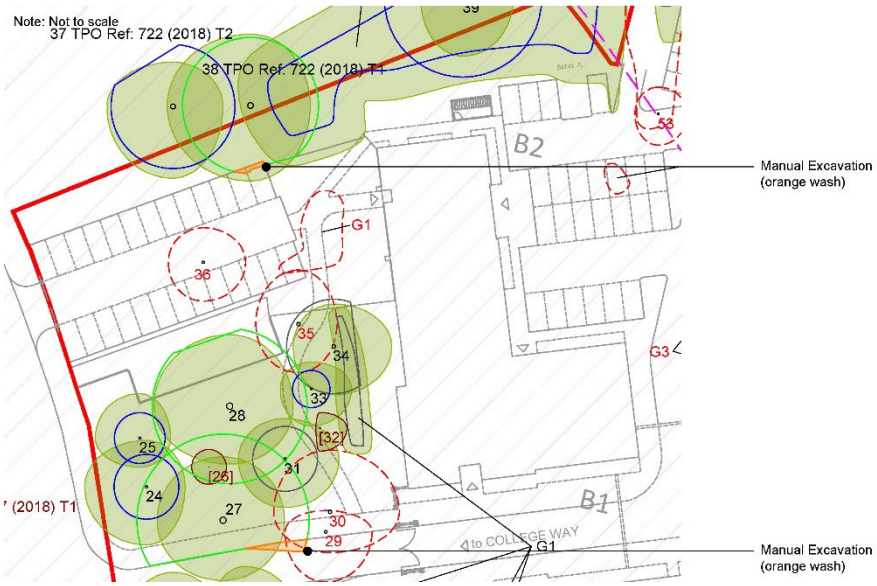
4.2.6 **Figure 1.** Above Soil Surfacing.



Supervised Excavation

4.2.7 Works to accommodate the construction of an access road, an internal road and a parking bay will incur excavation within the periphery of T27, T38, T68 and T71's RPAs (refer to Figures 2, below, and 3 overleaf). The excavation works are expected to be in extent occupying a maximum of c.6.5% and within the retained trees' capacity to tolerate, providing the excavations are undertaken sensitively. By adopting the principles of BS5837 concerning manual excavation techniques and root pruning (with the added precaution of arboricultural auditing), it will be acceptable to permit the excavations to occur without undue concern for the future health or vitality of the trees.

4.2.8 **Figure 2.** Supervised Excavation within T27 and T38's RPA.



4.2.9 **Figure 3.** Supervised Excavation within T68 and T71's RPA.

Replacement of existing hard surfacing

4.2.10 By design, the proposals make best use of previously surfaced ground, however the removal of hard surfacing from within RPAs of retained Crack Willow, Silver Birch, English Oak, Cherry, Aspen, Balsam Poplar, Scots Pine, Sweet Chestnut, Ash and an offsite mixed species group[2] will need to be undertaken sensitively (refer to Figures 4 and 5 overleaf). Overall, the reconfiguration of hard surfacing within the eastern extent of the site will need to be carefully managed but is achievable. The extent and type of hard surface reconfiguration is illustrated within the Tree Protection Plan provided within appendix C.

4.2.11 Where the wearing course is to be removed and replaced, the existing surface must be lifted and broken out manually (where possible) or lifted carefully by a lightweight machine with an adequate reach, operating outside of RPAs or from the footprint of existing hard surfaces, and under arboricultural supervision.

4.2.12 The existing sub-base must be left undisturbed and re-used to form the replacement surface. This will minimise ground disturbance and the potential for harm to occur to the retained trees' rooting environment.

4.2.13 Should roots be discovered, the use of an excavator must cease, and hand operated tools and power tools adopted to avoid damage. Any exposed rooting material must be covered with loosely bound topsoil and/or bark mulch to prevent drying out, prior to the installation of the replacement wearing course/final landscaping.

[2] (refer to T54, T55, T71, T74-T78, T80-T85, T87, T88, T90, T91, T93-T96, T98 and G6 within appendix B)

4.2.14 **Figure 4.** Hard Surface Replacement within retained trees' RPAs.

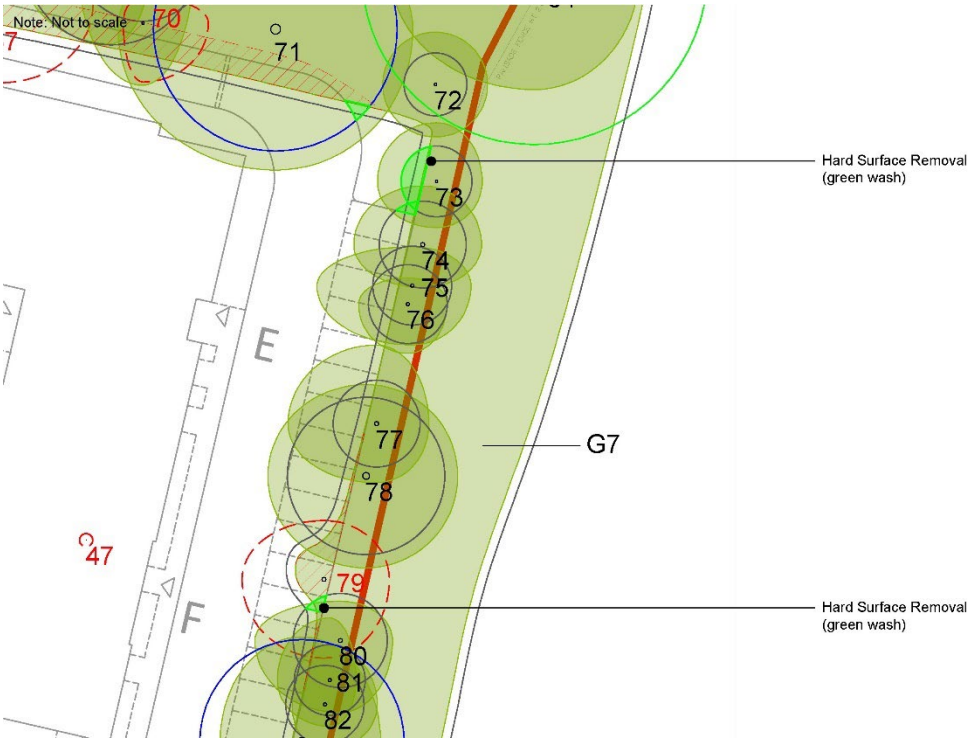
4.2.15 **Figure 5.** Hard Surface Replacement within retained tree's RPAs.

Hard Surface Converted to Soft Landscape

4.2.16 Where hard surfaces are to be removed and converted to soft landscape the same approach described at 4.2.7 can be adopted. Similarly, the existing sub-base should be left undisturbed and in-situ, then capped with screened topsoil. This approach will minimise ground disturbance and the potential for harm to occur to the retained trees' rooting environment. The extent and type of encroachment is illustrated with a green wash within the Tree Protection Plan provided within appendix C.

4.2.17 The removal of hard surfacing will benefit the outlook of trees T71, T73, T74, T80, T90 and T91 substantially by enabling the conversion of not insignificant areas of hard surface to soft landscape within their RPAs (refer to Figure 6, below, and Figure 7 overleaf). This is particularly evident in the case of T73, T90 and T91, which will benefit from net gains of c.27.5%, 25.5% and c.15% soft landscape within their RPAs respectively.

4.2.18 **Figure 6.** Hard Surface Converted to Soft Landscape & Hard Surface Replacement within T71, T73, T74 and T80's RPAs.



4.2.19 **Figure 7.** Hard Surface Converted to Soft Landscape & Hard Surface Replacement within T90 and T91's RPAs.

4.3 Pruning Works[3]

4.3.1 To accommodate several of the proposed parking bays, it is recommended that the southern and western extent of G7's canopy is selectively pruned by up to approximately 3m to provide sufficient room for the reconfiguration of hard surfacing.

4.3.2 The works are anticipated to amount to the shortening of secondary minor branches only and are considered to be achievable without affecting the trees' future potential, amenity value, or health and vitality.

4.3.3 Although not required to facilitate construction, it is also recommended that throughout the entire site, dead branches are removed from the canopies of retained trees. This will help mitigate the risk of future tree related hazards emerging and associated apprehension.

4.3.4 Pruning works should be undertaken in accordance with section 7.3 (for removal of deadwood) and section 7.8 (for selective pruning) of BS3998:2010, by a competent tree contractor. This is necessary to ensure that cuts are performed correctly and positioned to avoid future structural defects or physiological issues, facilitate growth and maintain aesthetic value.

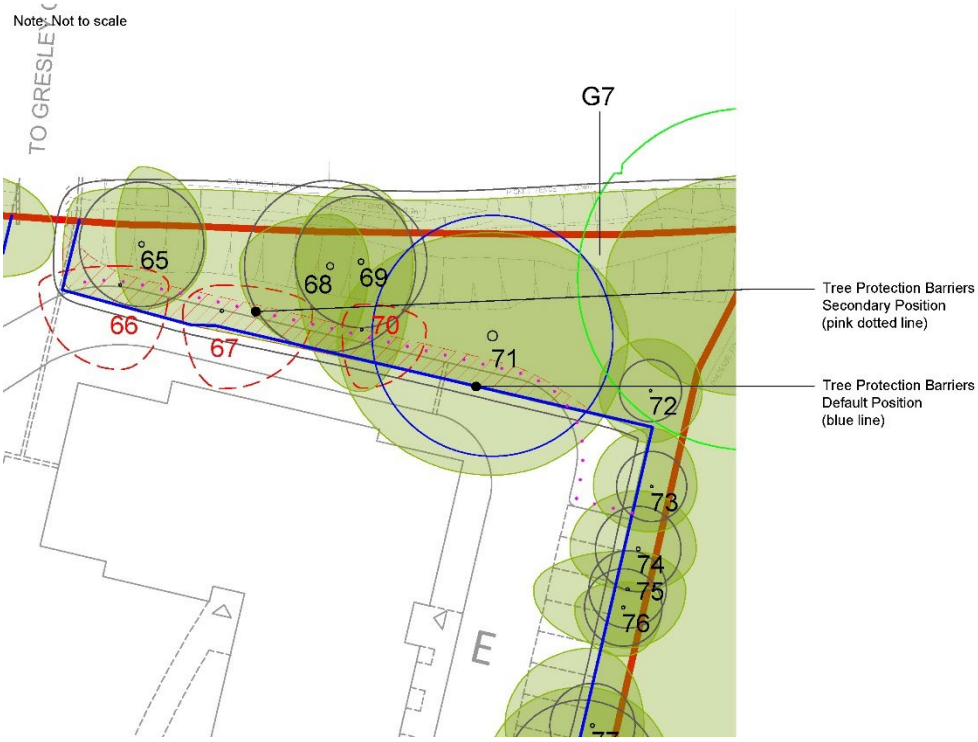
[3] All tree works should be timed to avoid the main nesting season for birds between 1st March and 31st August. If scheduled within this period it is recommended that an ecologist is present to advise on any necessary protective measures, and on hand to confirm that tree works are not likely to cause disturbance to nesting birds.

4.4 Protective Barriers and Ground Boarding

4.4.1 It will be important to protect the retained trees' above-ground structures and underlying RPAs from damage during construction works. To achieve this, tree protection barriers should be erected prior to the commencement of any development works and consist of the default barrier specification provided in BS5837:2012. The locations for protective fencing are illustrated within the Tree Protection Plan (Appendix C) with a bold blue line.

4.4.2 It is anticipated that protective barriers will need to be repositioned during construction to facilitate the introduction of hard surfacing within RPAs. Where this will be necessary, secondary fencing positions are illustrated within the TPP with a dotted pink line.

4.4.3 **Figure 8.** Protective Barriers.



4.5 Mitigation Replanting

4.5.1 The principle of tree removal from within the site's interior generates a requirement for replacement planting, which has been recognised during the design of the layout. Under separate instruction, Macfarlane Associates have produced a Landscape Illustrative Masterplan, which illustrates the proposed approach to maximising replacement trees and new soft landscape within the application area.

4.5.2 The strategy includes the introduction of a significant number of new trees within areas of public open space and throughout areas of soft landscaping within the site. The proposed planting in these areas is anticipated to comprise domestic scale trees and hedgerows, which are appropriate for the setting.

5 Conclusions

5.1.1 Pursuant to Welwyn Hatfield Borough Council's Policy requirements, the proposals have been informed by a survey of the existing tree stock using the guidance provided at BS5837:2012

5.1.2 To facilitate redevelopment of the allocated site there is an unavoidable requirement to incur tree removal as part of the proposal. This effect can be quantified as the removal of thirty-one trees of individual distinction, and the clearance of a single group of ornamental shrubs, and the partial clearance of a further four groups, the majority being low quality. There is a requirement to mitigate for this effect with new tree planting, and there are opportunities within the layout for this to be delivered without concern for a reduction in canopy coverage or its contribution to visual amenity. Planting proposals which demonstrate how this will be achieved have been prepared and are submitted separately.

5.1.3 An effective scheme for safeguarding retained trees has been prepared which relies on the use of recognised construction methodologies; this is reinforced by precautionary reliance on arboricultural auditing where construction is proposed within influence of retained trees.

5.1.4 To inform the planning balance, it is our concluding view that the proposals can be fully supported from the arboricultural perspective and do not conflict with Welwyn Hatfield Borough Council's development control policies R17 and TCR5, or the Framework.

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APPENDICES

APPENDIX A

TREE CONSTRAINTS PLAN (11176 TCP 01 Rev C)

1:1000 @ A3

0m 10m 20m 40m

KEY:

- Site Boundary
- 15 Tree Numbers
- Tree Canopies
- [8] Category 'U' Trees
- Category 'A' RPA
- Category 'B' RPA
- Category 'C' RPA
- Conservation Area

Note: Trees 6, 7, 37-39, 45, 50-52, 57-86, 90-95, 98-101 and Groups G2 & G4-G8 have been plotted using measurements onsite in conjunction with aerial imagery. Their locations were not recorded on the topographical survey of the site.

Note: The RPA footprint for Trees 1-5, 12, 14, 15, 18-23, 27-30, 34, 35, 37, 38, 60, 61, 64, 98, 100 and Group G6 have been displaced to allow for the effect of the adopted highway, existing building foundations and existing retaining features. The surface area of the RPA has not been reduced.

Cited from Google Earth

REV	DATE	NOTE	Drawn	Chk'd

REVISIONS

aspect arboriculture

TITLE

Campus East, Welwyn Garden City
Tree Constraints Plan

CLIENT

Bellway Homes Limited (North London)

SCALE	DATE	DRAWN
1:1000 @ A3	SEP 2022	GW

DRAWING NUMBER	REVISION
11176 TCP 01 Rev C (Overview)	C

Based on: 30853 R1.dwg

Welwyn Garden City
Conservation Area

ef. 722 (2018) T1

1:500 @ A3

0m 5m 10m 20m

KEY:

- Site Boundary
- 15 Tree Numbers
- Tree Canopies
- [B] Category 'U' Trees
- Category 'A' RPA
- Category 'B' RPA
- Category 'C' RPA
- Conservation Area

Note: Trees 6, 7, 37-39, 45, 50-52, 57-86, 90-95, 98-101 and Groups G2 & G4-G8 have been plotted using measurements onsite in conjunction with aerial imagery. Their locations were not recorded on the topographical survey of the site.

Note: The RPA footprint for Trees 1-5, 12, 14, 15, 18-23, 27-30, 34, 35, 37, 38, 60, 61, 64, 98, 100 and Group G6 have been displaced to allow for the effect of the adopted highway, existing building foundations and existing retaining features. The surface area of the RPA has not been reduced.

Cited from Google Earth

REV	DATE	NOTE	Drawn	Chk'd

REVISIONS

aspect arboriculture

TITLE
Campus East, Welwyn Garden City
Tree Constraints Plan

CLIENT
Bellway Homes Limited (North London)

SCALE	DATE	DRAWN
1:500 @ A3	SEP 2022	GW

DRAWING NUMBER	REVISION
11176 TCP 01 Rev C (1/3)	C

Based on: 30853 R1.dwg

37 TPO Ref: 722 (2018) T2

38 TPO Ref: 722 (2018) T1

Welwyn Garden City Conservation Area

[6] TPO Ref: 827 (2018) T1

1:500 @ A3

0m 5m 10m 20m

KEY:

- Site Boundary
- 15 Tree Numbers
- Tree Canopies
- [8] Category 'U' Trees
- Category 'A' RPA
- Category 'B' RPA
- Category 'C' RPA
- Conservation Area

Note: Trees 6, 7, 37-39, 45, 50-52, 57-86, 90-95, 98-101 and Groups G2 & G4-G8 have been plotted using measurements onsite in conjunction with aerial imagery. Their locations were not recorded on the topographical survey of the site.

Note: The RPA footprint for Trees 1-5, 12, 14, 15, 18-23, 27-30, 34, 35, 37, 38, 60, 61, 64, 98, 100 and Group G6 have been displaced to allow for the effect of the adopted highway, existing building foundations and existing retaining features. The surface area of the RPA has not been reduced.

Cited from Google Earth

REV	DATE	NOTE	Drawn	Chk'd

REVISIONS

aspect arboriculture

TITLE

Campus East, Welwyn Garden City
Tree Constraints Plan

CLIENT

Bellway Homes Limited (North London)

SCALE	DATE	DRAWN
1:500 @ A3	SEP 2022	GW

DRAWING NUMBER	REVISION
11176 TCP 01 Rev C (2/3)	C

Based on: 30853 R1.dwg

1:500 @ A3

0m 5m 10m 20m

KEY:

- Site Boundary
- 15 Tree Numbers
- Tree Canopies
- [8] Category 'U' Trees
- Category 'A' RPA
- Category 'B' RPA
- Category 'C' RPA
- Conservation Area

Note: Trees 6, 7, 37-39, 45, 50-52, 57-86, 90-95, 98-101 and Groups G2 & G4-G8 have been plotted using measurements onsite in conjunction with aerial imagery. Their locations were not recorded on the topographical survey of the site.

Note: The RPA footprint for Trees 1-5, 12, 14, 15, 18-23, 27-30, 34, 35, 37, 38, 60, 61, 64, 98, 100 and Group G6 have been displaced to allow for the effect of the adopted highway, existing building foundations and existing retaining features. The surface area of the RPA has not been reduced.

Cited from Google Earth

REV	DATE	NOTE	Drawn	Chk'd

REVISIONS

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TITLE

Campus East, Welwyn Garden City
Tree Constraints Plan

CLIENT

Bellway Homes Limited (North London)

SCALE	DATE	DRAWN
1:500 @ A3	SEP 2022	GW

DRAWING NUMBER	REVISION
11176 TCP 01 Rev C (3/3)	C

Based on: 30853 R1.dwg

APPENDIX B

TREE SURVEY SCHEDULE (11176 TS 01)

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BS 5837:2012 Tree Schedule: Campus East, Welwyn Garden City

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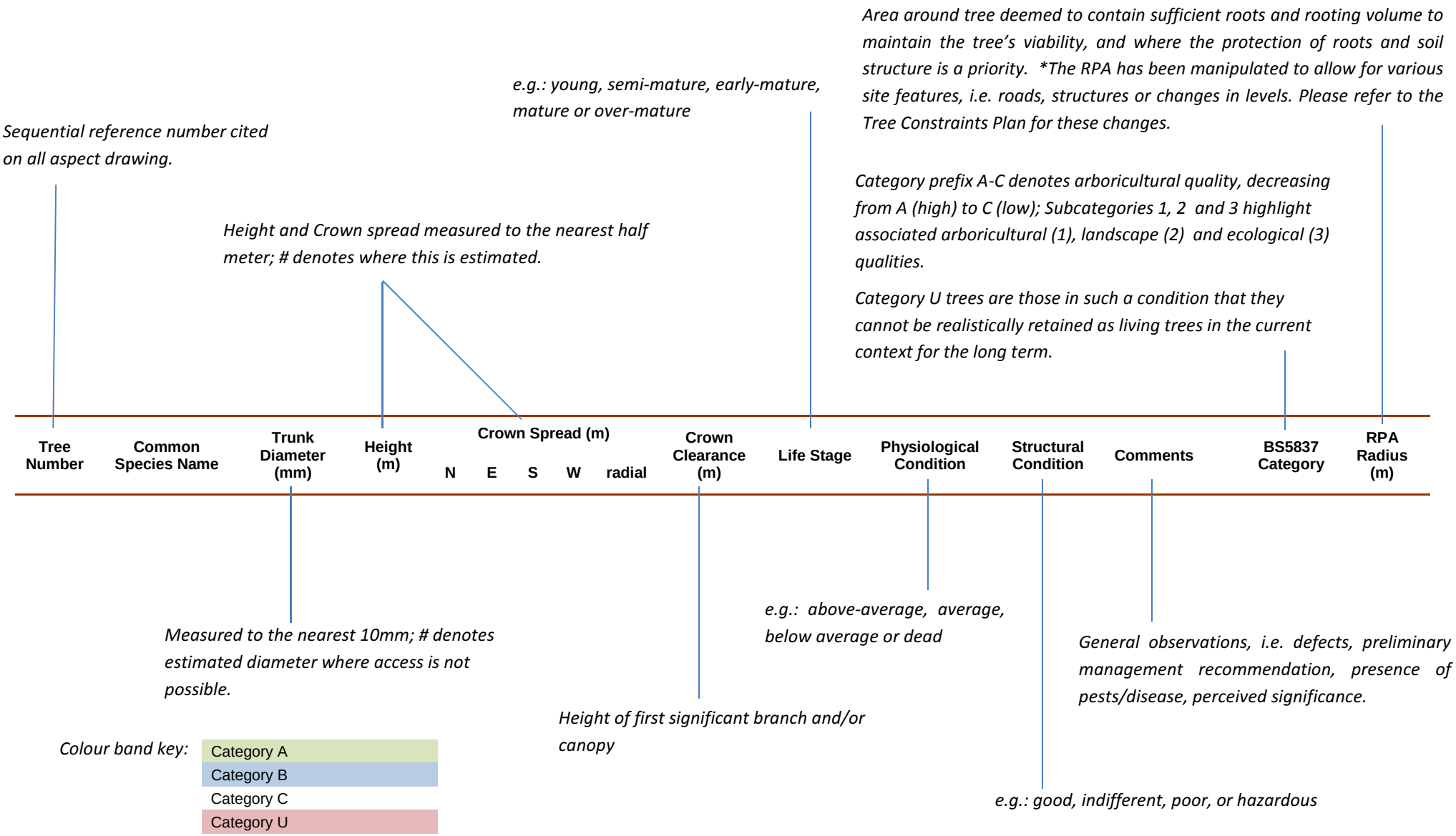
BS5837:2012 Tree Survey: Explanation of Survey Criteria



The following survey should not be interpreted as a report on tree health and safety. Aspect's opinion of tree condition and structural potential is valid for a limited period of 12 months from the date of inspection. Validity is assumed in the absence of inclement weather and no change to the trees existing setting.

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial								
1	English Oak	700	21	7	9	7.5	5.5		5	2	Mature	Average	Indifferent	Dominant component of collection High collective value Roadside planting Cohesive with neighbouring companions	A2	8.4
2	English Oak	400	14.5	2.25	6.75	5	7		4.25	3.75	Early Mature	Average	Indifferent	Prominent within moderate distance views Roadside planting Suppressed by companion T3	B2	4.8
3	English Oak	505	16	5.75	7	4.5	6.5		5.25	2.75	Early Mature	Average	Indifferent	Moderate example of species Prominent within moderate distance views Roadside planting Cohesive with neighbouring companions	B12	6
4	English Oak	720	18	8.75	8	5.5	7.75		4	1	Early Mature	Average	Indifferent	Good example of species Principal component of collection Roadside planting Cohesive with companions Partially occluded impact wound to northern aspect of trunk at c.0.5m	A12	8.7
5	Pin Oak	225	11.5	4.5	4.25	4.25	4.5		2.75	1.75	Semi Mature	Average	Indifferent	Situated within roadside verge Unremarkable example of species	C12	2.7
6	English Oak	635	11	5#	5.5	5	4.5		5	4	Early Mature	Dead	Hazardous	Standing deadwood	U	N/A
7	Cherry	2* 50 70 3* 20	5					2	0.5	0.5	Semi Mature	Average	Indifferent	Readily replaceable at current size, low arboricultural value	C12	1.2
8	Ash	470 oi	15.5	4	8	7.25	7.5		3.25	4	Early Mature	Average	Indifferent	Minor internal deadwood Unremarkable example of species	C1	5.7
9	Himalayan Birch	90	6	2	3	2.75	2.75		1.5	1.25	Semi Mature	Average	Indifferent	Readily replaceable at current size, low arboricultural value	C12	1.2
10	Elm	470	17	5	4	5	5		5.75	2	Early Mature	Average	Indifferent	Structure typical for species within current context Prominent within moderate distance views	B2	5.7
11	Ash	595	19	6	6	6.5	5		5.25	4.75	Early Mature	Average	Indifferent	Average internal deadwood Moderate example of species Prominent within moderate distance views Etiolated form	B12	7.2
12	Sweet Chestnut	495	13	3.75	6	5.5	3.75		1	0.5	Early Mature	Below Average	Indifferent	Short annual extension growth Above average epicormic growth Above average dieback with large amounts of deadwood Unbalanced scaffold structure and crown	B2	6

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)				Radial	First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
				N	E	S	W									
13	Himalayan Birch	135	9	4	2.5	3	3.75		2	1.5	Semi Mature	Average	Indifferent	Readily replaceable at current size, low arboricultural value	C12	1.5
14	English Oak	575	15.5	7.75	8#	6	6.5		4.5	1.5	Early Mature	Average	Indifferent	Prominent within moderate distance views Bifurcates at c.6m, split forming from union Natural bracing occurred at c.7.25m between lateral limb and co-dominant stem	B2	6.9
15	English Oak	745	15.5	5.75	6.25	4.5	4.25		1.75	1.5	Mature	Average	Indifferent	Previously managed in height Reduced future potential	B2	9
16	English Oak	665	5.5					N/A	N/A	N/A	Early Mature	Dead	Hazardous	Standing deadwood	U	N/A
17	Hornbeam	305	10	4.75	7.5	6.25	4.75		1.5	1	Early Mature	Average	Indifferent	Unbalanced scaffold structure and crown Unremarkable example of species	C12	3.6
18	Sessile Oak	730	19	6.75	9	8	9		5.25	1.5	Mature	Average	Indifferent	Good example of species Roadside planting Cohesive with companions	A12	8.7
19	Sessile Oak	540	20	4.5	4.75	4.25	3.75		2.5	0.5	Early Mature	Average	Indifferent	Etiolated form High collective value Roadside planting Cohesive with companions	A2	6.6
20	Sessile Oak	690	19	3.5	8	4.25	8		6.75	7	Early Mature	Average	Indifferent	Good example of species Dominant component of collection Roadside planting Cohesive with companions	A12	8.4
21	Sessile Oak	615	19.5	3.5	5.75	5.25	6		6.5	2.5	Early Mature	Average	Indifferent	Dominant component of collection High collective value Roadside planting Cohesive with companions	A2	7.5
22	Sessile Oak	735	20	6.25	11.25	6	3.5		7	4	Mature	Average	Indifferent	Dominant component of collection High collective value Desiccated fungal bracket at ground level to northern aspect of trunk, consistent in appearance with *Fistulina hepatica* Roadside planting Cohesive with companions	A2	8.7
23	Sessile Oak	700	18	7.5	6.5	4	6.5		6.25	3	Mature	Average	Indifferent	Dominant component of collection High collective value Roadside planting Cohesive with companions	A2	8.4
24	Himalayan Birch	345	13	6	5	7.5	8		2.25	0.5	Early Mature	Average	Indifferent	Structure typical for species within current context Prominent within moderate distance views	B2	4.2

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial								
25	Himalayan Birch	285	12	5.75	4	3.75	5.75		1.75	0.5	Early Mature	Average	Indifferent	Structure typical for species within current context Prominent within moderate distance views	B2	3.3
26	Himalayan Birch	70	7.5					2.25	2.25	2.5	Young	Dead	Hazardous	Standing deadwood	U	N/A
27	Sessile Oak	805	18.5	8.25	8	7.75	8.5		2.5	1.75	Mature	Average	Indifferent	Average internal deadwood Minor epicormic growth on scaffold structure Good example of species Principal component of collection	A12	9.6
28	English Oak	830	15	9.25	8.25	7.5	9.75		1.75	1	Mature	Average	Indifferent	Average internal deadwood Minor epicormic growth on scaffold structure Good example of species Principal component of collection	A12	9.9
29	Hornbeam	420	15.5	2.75	6	6.5	5.25		4	3.25	Early Mature	Average	Indifferent	Average internal deadwood Prominent within moderate distance views	B2	5.1
30	Hornbeam	495	13	8	9	5.25	7.25		2.5	0.5	Early Mature	Below Average	Indifferent	Upper crown appears slightly sparse Average internal deadwood Prominent within moderate distance views	B2	6
31	Hornbeam	345	12	5.25	7	6.25	6		3	2	Early Mature	Below Average	Indifferent	Epicormic growth on lower stem Short annual extension growth Dieback to upper crown Bark necrosis to northern aspect of stem from ground level to c1.75m	C1	4.2
32	Himalayan Birch	90	7	2	3.5	3	0.5		2	1.5	Young	Dead	Hazardous	Standing deadwood	U	N/A
33	Himalayan Birch	205	10.5	3.5	5.25	4.75	4		2.25	1	Semi Mature	Average	Indifferent	Structure appears typical for species within current context Prominent within moderate distance views	B2	2.4
34	Lime	440 oi	10.5	5.5	7.5	6.25	5.25		1.5	1.5	Early Mature	Average	Indifferent	Heavily clad and obscured by Ivy, unable to thoroughly inspect Unbalanced scaffold structure and crown Supressed by T35	C1	5.4
35	Lime	460	14	7	5	6.25	5.5		3.25	1.5	Early Mature	Average	Indifferent	Structure typical for species within current context Moderate example of species Prominent within moderate distance views	B12	5.4
36	English Oak	280	9.5	4.5	5.5	5	4.5		2.5	2.25	Semi Mature	Average	Indifferent	Minor internal deadwood Unremarkable example of species	C12	3.3

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial								
37	English Oak	640	14.5	5.75	6.5	9.25	8.5		2.5	1.5	Early Mature	Average	Indifferent	Structure typical for species within current context Moderate example of species Prominent within moderate distance views	B12	7.8
38	English Oak	735	18	9.25	7.75	9.75	10.75		3.25	1	Mature	Average	Poor	Partially clad and obscured by Ivy Previous lower limb removals to crown lift Good example of species Dominant component of collection Structure typical for species within current context	A12	8.7
39	Sycamore	490 515 465 oi	17	5#	6.5	7.5	5.5		4.5	5	Mature	Average	Indifferent	Heavily clad and obscured by Ivy, unable to thoroughly inspect Forks into three co-dominant stems from c.0.25m, Ivy obscures union Moderate example of species	B12	10.2
40	Wild Service	180	6.5	3.75	3.5	2.25	2.5		2	1	Semi Mature	Average	Indifferent	Readily replaceable at current size Low arboricultural value	C12	2.1
41	Scots Pine	235	9	4.25	4.25	3.75	3		3	2	Semi Mature	Average	Indifferent	Unremarkable example of the species	C12	2.7
42	English Oak	50	3					0.5	1	1	Young	Below Average	Indifferent	In a state of terminal decline, unlikely to offer a long-term future contribution	U	N/A
43	Silver Birch	215	8	4.5	3.75	3.35	3		2 .25	2	Semi Mature	Average	Indifferent	Readily replaceable at current size Low arboricultural value	C12	2.7
44	Silver Birch	215	8.5	3.75	2.25	2.5	2.75		3	1.75	Semi Mature	Below Average	Indifferent	Readily replaceable at current size Low arboricultural value	C12	2.7
45	English Oak	50	3					0.5	1.5	1.5	Young	Average	Indifferent	Readily replaceable at current size, low arboricultural value	C12	0.9
46	English Oak	50	3					0.5	1.5	1.5	Young	Average	Indifferent	Readily replaceable at current size, low arboricultural value	C12	0.9
47	English Oak	50	3					0.5	1.5	1.5	Young	Average	Poor	Leans to the north west from ground level Readily replaceable at current size, low arboricultural value	C12	0.9
48	Lombardy Poplar	170	10	3.25	1.5	2	2.5		0.5	0.5	Semi Mature	Average	Indifferent	Readily replaceable at current size, low arboricultural value	C12	2.1
49	Hornbeam	250	7	4.25	4.25	3.5	3.75		0.5	0.5	Semi Mature	Average	Indifferent	Structure appears typical for species within current context Unremarkable example of species Establishing basal epicormic growth	C12	3

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial								
50	Corsican Pine	770 oi	19.5	5.75	5.5	9	7.5		7.5	0.5	Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Upper crown appears slightly sparse Moderate example of species Prominent within moderate distance views Slight lean to south from ground level Co-dominant stems from c.13m, union appear sound	B12	9.3
51	Corsican Pine	765 oi	18.5	5.75	9.5	6.25	4.5#		9	3	Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Bifurcates at c.2.25m, tight over included union with lobed reactionary growth Moderate example of species Prominent within moderate distance views	B12	9.3
52	English Oak	630 oi	14	7.75	6.5	8.5	10.5		2.5	1.5	Early Mature	Average	Indifferent	Moderate example of species Prominent within moderate distance views Cohesive with T51	B12	7.5
53	Apple	250#	8	3.5	3.75	4	3		1.5	0.5	Semi Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Stem inaccessible due to dense understory Unremarkable example of species	C12	3
54	Crack Willow	270#	12.5	4.5	6.75	8	1.5#		5	1.75	Semi Mature	Average	Indifferent	Inaccessible, offsite within neighbouring residential land, unable to thoroughly inspect Unbalanced scaffold structure and crown Over sails site by c.6.5m	C12	3.3
55	Silver Birch	280#	13					4	5.5	5.5	Semi Mature	Average	Indifferent	Inaccessible, offsite within neighbouring residential land, unable to thoroughly inspect Unremarkable example of species	C12	3.3
56	Norway Spruce	350#	17	4.5#	2.5#	4.5#	4.5#		3#	2#	Early Mature	Average	Indifferent	Located within neighbouring residential land, surrounded by dense undergrowth and unable to thoroughly inspect Stem clad in dense Ivy Prominent within the immediate locality only Cohesive with T57	B2	4.2
57	Norway Spruce	400#	17	4#	4#	3.5#	2.5#		4#	4#	Early Mature	Average	Indifferent	Located within neighbouring residential land, surrounded by dense undergrowth and unable to thoroughly inspect Stem clad in dense Ivy Prominent within the immediate locality only Cohesive with T58	B2	4.8
58	Cherry	390 oi	10.5	3#	5.25	5.25	3		2	2.25	Early Mature	Below Average	Poor	Clad and obscured by Ivy, unable to thoroughly inspect Upper crown appears slightly sparse Unbalanced scaffold structure and crown Low arboricultural quality	C12	4.8
59	Hazel	6x 30	4					3	0.5	0.5	Early Mature	Average	Indifferent	Inaccessible on an embankment within neighbouring residential land, unable to thoroughly inspect Stems obscured by dense understory Unremarkable example of species	C12	0.9

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial								
60	Cherry	285 oi	8.5	6.5	6.5	4	5.75		2.5	1.5	Semi Mature	Below Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Unbalanced scaffold structure and crown Low arboricultural quality	C12	3.3
61	Elder	250#	8	6.75	5.5	2.5#	3.25		3.25	1.75	Semi Mature	Average	Poor	Inaccessible within dense undergrowth within neighbouring residential land, unable to thoroughly inspect Unbalanced scaffold structure and crown Low arboricultural quality	C12	3
62	Ash	1030	19.5	8.5	8.5	11	10		6.25	3.5	Mature	Below Average	Indifferent	Located within neighbouring residential land Clad and obscured by dense Ivy, unable to thoroughly inspect Slightly sparse crown for species Above average internal deadwood Signs of past management from previous reduction works Prominent within the immediate locality only	B2	12.3
63	Sycamore	350 oi	14.5	5.5	6	4.25	4#		6	3.25	Early Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Unremarkable example of species Leans to the east from ground level	C12	4.2
64	English Oak	1100#	20	8#	8#	9#	11#		4#	5#	Mature	Average	Indifferent	Inaccessible, unable to thoroughly inspect Surveyed from distance Clad and obscured by Ivy, unable to thoroughly inspect Good example of species Principal component of collection	A12	13.2
65	Ash	400#	14.5	6#	5#	5	2#		3.5#	7#	Early Mature	Average	Indifferent	Stem inaccessible due to dense understory Unremarkable example of species Leans to north from ground level, corrects at c.2.5m	C12	4.8
66	Cherry	130 2* 100 #	9.5	1.5	3.75	6.5	6.25		3.5	2.25	Semi Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Stem inaccessible due to dense understory Unbalanced scaffold structure and crown Unremarkable example of species	C12	2.4
67	Cherry	250#	8.5	2#	7	6	3		3.25	1.5	Semi Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Stem inaccessible due to dense understory Unremarkable example of species	C12	3
68	Ash	550#	14	4#	3#	6.5	7		5#	4#	Early Mature	Below Average	Indifferent	Heavily clad and obscured by Ivy, unable to thoroughly inspect Stem inaccessible due to dense understory Sparse crown for species Short annual extension growth Above average internal deadwood Low arboricultural quality	C12	6.6

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial								
69	Ash	420	13	6#	4#	10	5#		4.5#	1	Early Mature	Below Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Stem inaccessible due to dense understory Slightly sparse crown for species Unremarkable example of species Surveyed from distance	C12	5.1
70	Cherry	200#	9	2#	5	4.5	1.5#		1.5	3	Semi Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Unbalanced scaffold structure and crown Unremarkable example of species	C12	2.4
71	English Oak	770 oi	20	8#	10.5	10.75	12		1.75	1.5	Mature	Average	Indifferent	Heavily clad and obscured by Ivy, unable to thoroughly inspect Prominent boundary feature Moderate example of species Limb removals from lower southern aspect of crown	B12	9.3
72	Field Maple	200#	8					4	1.75	1.75	Semi Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Stem inaccessible due to dense understory Readily replaceable at current size, low arboricultural value	C12	2.4
73	Ash	220 oi	9.5	4.5	3.5#	3.5	4.5		3.5	2.5	Semi Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Unremarkable example of species	C12	2.7
74	Cherry	2* 200#	9.5	4.5	4.5#	3.25	5.25		3.5	1.75	Semi Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Stem inaccessible due to dense understory Unremarkable example of species	C12	3.3
75	Cherry	200 150 #	9	3	4.5#	4.5	7.25		4	2.25	Semi Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Stem inaccessible due to dense understory Unremarkable example of species	C12	3
76	Cherry	250#	8.5	2#	3#	3.75	3.75		1.5	2.25	Semi Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Stem inaccessible due to dense understory Unremarkable example of species	C12	3
77	Cherry	2* 200#	11	6	4#	4.5	6.75		2.25	1.5	Semi Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Stem inaccessible due to dense understory Unremarkable example of species	C12	3.3
78	Aspen	505 oi	15	7	7	7	7.5		2	3	Early Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Unremarkable example of species	C1	6
79	Hornbeam	300 oi	10	4.5	5#	6	6.25		0.5	2.25	Early Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Unremarkable example of species	C12	3.6
80	Cherry	200 235 #	11	3#	4#	5.5	6.5		3.25	2.5	Semi Mature	Average	Indifferent	Heavily clad and obscured by Ivy, unable to thoroughly inspect Stem inaccessible due to dense understory Unremarkable example of species	C12	3.6

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial								
81	Cherry	230	12	4.75	2#	3.5#	4		2.5	3	Semi Mature	Average	Indifferent	Unremarkable example of species Co dominant stem removed at c.1.5m	C12	2.7
82	Cherry	250#	8	4.5	4#	3.5	2.5		4.5	4	Semi Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Stem inaccessible due to dense understory Unremarkable example of species	C12	3
83	Balsam Poplar	645 oi	22.5	8	6#	6.5	6.25		4.75		Early Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Structure appears typical for species within current context Prominent within moderate distance views	B2	7.8
84	Balsam Poplar	280#	18	2.5#	4#	4.5	4		3.5#		Semi Mature	Average	Indifferent	Stem inaccessible due to dense understory Unremarkable example of species	C1	3.3
85	English Oak	320#	12	5.75	4#	3.5	7.25		3#	2.25	Early Mature	Average	Poor	Inaccessible, offsite within adjacent third-party land, unable to thoroughly inspect Unremarkable example of species	C12	3.9
86	Sycamore	300#	13	3#	4#	4.5#	4.75		3#	3.5	Early Mature	Average	Indifferent	Inaccessible, offsite within adjacent third-party land, unable to thoroughly inspect Unremarkable example of species	C1	3.6
87	Aspen	290 oi	14.5	5	2.5#	3	4.25		3.75	3.5	Semi Mature	Average	Indifferent	Clad and obscured by Ivy, unable to thoroughly inspect Unremarkable example of species	C1	3.6
88	Balsam Poplar	300 280 200 120 #	15.5	5	5#	6.5	5.25		4.5	3.25	Early Mature	Average	Indifferent	Partially clad and obscured by Ivy Stem inaccessible due to dense understory Unremarkable example of species	C1	5.7
89	Lombardy Poplar	650	23	4.75	4	3	3.25		2.75	1.25	Early Mature	Average	Poor	Structure typical for the species within the current context Prominent within moderate distance views	B2	7.8
90	Scots Pine	325	12	4.25	3#	4.5	4.75		2.75	4	Early Mature	Average	Indifferent	Minor internal deadwood Unremarkable example of species Slight lean to north from ground level	C12	3.9
91	Silver Birch	200	12.5	4.25	3#	3.25	4.5		2.5	3.25	Semi Mature	Average	Indifferent	Average internal deadwood Unremarkable example of species	C12	2.4
92	Scots Pine	420#	10.5	9.5	6#	0.5#	2		8	5	Early Mature	Below Average	Poor	Stem inaccessible due to dense understory In a state of terminal decline, unlikely to offer a long-term future contribution Significant lean to north from ground level	U	N/A

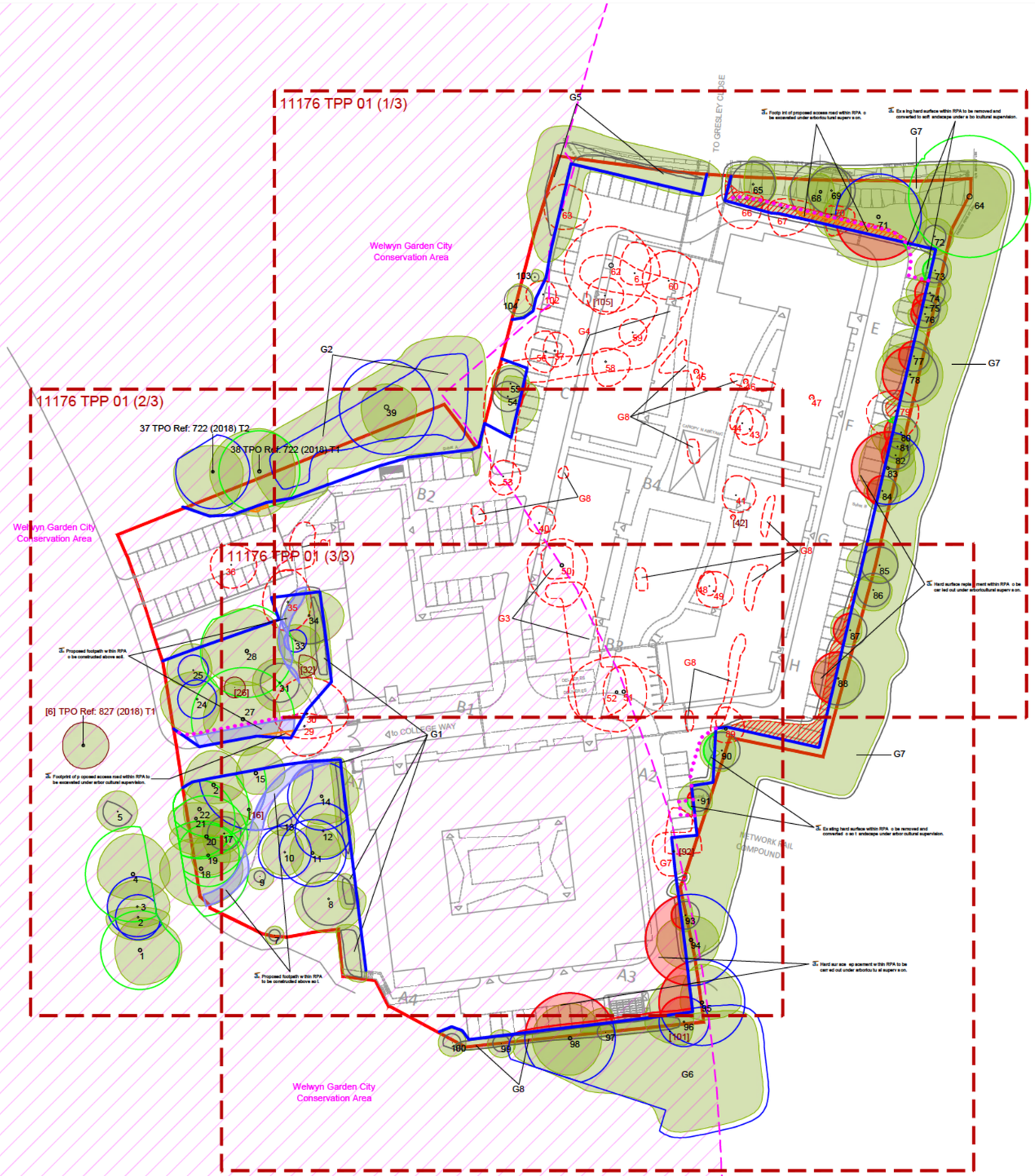
Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial								
93	Scots Pine	255	13	3.5	1.5#	3.5	3.25		9.5	8	Semi Mature	Below Average	Indifferent	Sparse crown for species Unremarkable example of species	C12	3
94	Sweet Chestnut	835	13.5	5.25	6#	6.5	7.5		1.75	2	Mature	Below Average	Indifferent	Dieback to upper crown Prominent within moderate distance views	B2	9.9
95	Sweet Chestnut	765	18	8.25	8.5#	3.75	4.75		1.5	1	Mature	Below Average	Indifferent	Upper crown appears slightly sparse Moderate example of species Prominent within moderate distance views	B12	9.3
96	Ash	460	19.5	10	2	5#	8.5		3.75	1.75	Early Mature	Average	Poor	Average small diameter internal deadwood Significant lean to north from c.1.75m	B2	5.4
97	Ash	150	10.5	5.25	2.25	0	5.5		4	2.5	Semi Mature	Average	Indifferent	Self set specimen Readily replaceable at current size, low arboricultural value	C12	1.8
98	Sweet Chestnut	800#	18	7.5	6.75	8#	8.25		2.5	1.75	Mature	Below Average	Indifferent	Inaccessible, offsite within neighbouring third party land, unable to thoroughly inspect Upper crown appears slightly sparse Moderate example of species Prominent within moderate distance views	B12	9.6
99	Ash	160#	9					3	5	5	Semi Mature	Average	Indifferent	Self set specimen Readily replaceable at current size, low arboricultural value	C12	1.8
100	Ash	2*100	7					3	3	2.25	Semi Mature	Average	Indifferent	Self set specimen Readily replaceable at current size, low arboricultural value	C12	1.8
101	Larch	300#	14								Early Mature	Dead	Hazardous	Standing deadwood	U	N/A
102	Apple	190	5	3	2.75	3.25	3.75		0.5	0.5	Mature	Average	Indifferent	Ornamental garden tree Stem leaning to the west slightly Minor dieback of the western crown Low arboricultural value	C1	2.4
103	Damson	40 60	3.75	1.75	2	1	0.75		1	1.25	Semi Mature	Average	Indifferent	Ornamental garden tree Pruning wounds on branches Suppressed by 102 Low arboricultural value	C1	0.9
104	Magnolia Grandiflora	240	7	3.5	3.25	3.5	2.5		0.5	3 E	Mature	Average	Indifferent	Ornamental garden tree Stem reduced at the top Low arboricultural value	C1	3
105	Laburnum	150 200 300 #	7.5					4	2	1.75	Mature	Dead	Hazardous	Stem and crown in decline with above average deadwood Stem clad and obscured in dense Ivy Inaccessible all round stem	U	N/A

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m) N	E	S	W	Radial	First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
G1	Ash Cockspur Thorn Elm Hawthorn Hazel Hornbeam Sessile Oak	180 max 75 av	5.5 av					3.5 max 2 av	0.5 av	0.5 av	Young to Semi Mature	Average	Indifferent	Collection of establishing plantings Readily replaceable at current size, low arboricultural value	C12	2.1 max 0.9 av
G2	Ash Cherry Cherry Plum Elm English Oak Hawthorn Horse Chestnut Sycamore Silver Birch Sweet Chestnut White poplar Purple Plum	420 oi av	18 max					9 max	1 to 8	1 to 8	Young to Early Mature	Average	Indifferent	Typically etiolated form within woodland context Components predominately Ivy clad Individually of low merit, conferred moderate value as collection	B2	5.1
G3	Ash Cherry Elm Field Maple Guelder Rose Hawthorn Laburnum Spindle Snowberry	400 oi max	13.5 max					5 max	0.5 av	0.5 av	Young to Semi Mature	Average	Indifferent	Parcel of car park plantings Provides understory for T50-T52 Unremarkable collection	C12	4.8
G4	Ash Blackthorn Cherry Dogwood Elm Goat Willow Holly Pyracantha Sumac	80 av	7 max					2 av	0.5	0.5	Young	Average	Indifferent	Cohesive collection lining car park boundary Readily replaceable at current size, low arboricultural value	C12	0.9
G5	Ash Blackthorn Cherry Dogwood Elder Hawthorn Viburnum	100# max	9 max					5 max	0.5 av	0.5 av	Semi Mature	Average	Indifferent	Inaccessible, offsite within neighbouring residential land, unable to thoroughly inspect Readily replaceable at current size, low arboricultural value Occasionally intermittent	C12	1.2
G6	Corsican Pine Elm Hornbeam Larch Portuguese Laurel Sweet Chestnut	600 max	20 max					6 max	1 to 9.5	1 to 9.5	Semi Mature to Early Mature	Average	Indifferent	Inaccessible, offsite within neighbouring third party land, unable to thoroughly inspect Cohesive collection fronting sites southern boundary Structures appear typical for the species within current context	B2	7.2

Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m)					First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
				N	E	S	W	Radial								
G7	Ash Aspen Blackthorn Cherry Cherry Plum Crack Willow Dogwood Elm English Oak Guelder Rose Hawthorn Holly Hornbeam Hybrid Black Poplar Norway Maple Portuguese Laurel Pyracantha Spindle Viburnum	250 max# 100 av #	8.5 max 4.5 av					2 av	0.5 av	0.5 av	Young to Semi Mature	Average	Indifferent	Cohesive collection lining car park boundary Predominantly readily replaceable at current size, low arboricultural value	C12	3 max 1.2 av
G8	Ash Cotoneaster Dogwood Elm English Oak Field Maple Guelder Rose Hawthorn Hornbeam Pyracantha Broom	75 max	1 to 5.5					1 max	0.25 av	0.25 av	Young to Semi Mature	Average	Indifferent	Multiple parcels of ornamental car park plantings and shrubs Readily replaceable at current size, low arboricultural value	C12	0.9

APPENDIX C

TREE PROTECTION PLAN (11176 TPP 01)



1:1000 @ A3

0m 10m 20m 40m

KEY:

- Site Boundary
- 15 Tree Numbers
- Tree Canopies
- [8] Category 'U' Trees
- Category 'A' RPA
- Category 'B' RPA
- Category 'C' RPA
- Conservation Area
- Pruning Works
- 8 Trees to be Removed
- Tree Protection Barrier
- Tree Protection Barrier (Secondary Specification)
- Tree Protection Barrier (2nd Position)
- Manual Excavation
- Above Soil Surfacing
- Hard Surface Replacement
- Hard Surface Removal

Note: Trees 6, 7, 37-39, , 5, 50-52, 57-66, 90-95, 99-101 and Groups G2 & G -G8 here been plotted using measurements one te in conjunction with aerial imagery. Their locations were not recorded on the topograph cal survey of the s te.

Note: The RPA footprint for Trees 1-5, 12, 1 , 15, 18-23, 27-30, 3 , 35, 37, 38, 60, 61, 6 , 98, 100 and Group G6 here been disp aced o al ow for the ef ect of the adopted highway, existing building cu tail ine and existing retaining eatures. The sur ace area of the RPA has not been reduced.

Cited from Google Earth

REV	DATE	NOTE	Drawn	Chk'd

REVISIONS

aspect arboriculture

TITLE

Campus East, Welwyn Garden City
Tree Constraints Plan

CLIENT

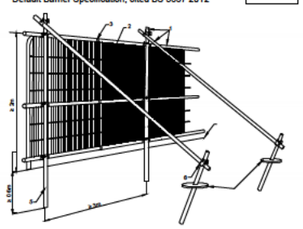
Bellway Homes Limited (North London)

SCALE	DATE	DRAWN
1:1000 @ A3	OCT 2021	GW
DRAWING NUMBER		REVISION
11176 TPP 01 (Overview)		B

Based on: 30853 R1.dwg

DRAFT

Default Barrier Specification, cited BS 5837 2012



Key
1 Standard scaffold poles
2 Heavy gauge 2m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6m)
6 Standard scaffold clamps

Welwyn Garden City Conservation Area

TO GRESLEY CLO

a1 Footprint of proposed access road within RPA to be excavated under arboricultural supervision.

a1 Existing hard surface within RPA to be removed and converted to soft landscape under arboricultural supervision.

a1 Hard surface replacement within RPA to be carried out under arboricultural supervision.

B1 B2 B3 B4 C D E F G H

CANOPY IN ABEYANCE

DELIVERIES

Subst. A

Subst. B

ef. 722 (2018) T1

1:500 @ A3

0m 5m 10m 20m

KEY:

- Site Boundary
- Tree Numbers
- Tree Canopies
- Category 'U' Trees
- Category 'A' RPA
- Category 'B' RPA
- Category 'C' RPA
- Conservation Area
- Pruning Works
- Trees to be Removed
- Tree Protection Barrier
- Tree Protection Barrier (Secondary Specification)
- Tree Protection Barrier (2nd Position)
- Manual Excavation
- Above Soil Surfacing
- Hard Surface Replacement
- Hard Surface Removal

Note: Trees 6, 7, 37-39, , 5, 50-52, 57-66, 90-95, 98-101 and Groups G2 & G -G8 have been plotted using measurements one te in conjunction with aerial imagery. Their locations were not recorded on the topograph cal survey of the site.

Note: The RPA footprint for Trees 1-5, 12, 1 , 15, 18-23, 27-30, 3 , 35, 37, 38, 60, 61, 6 , 98, 100 and Group G6 have been disp aced o al ow for the ef ect of the adopted highway, existing building curved one and existing retaining eatures. The sur ace area of the RPA has not been reduced.

Cited from Google Earth

REV	DATE	NOTE	Drawn	Chk'd

REVISIONS

aspect arboriculture

TITLE
Campus East, Welwyn Garden City
Tree Protection Plan

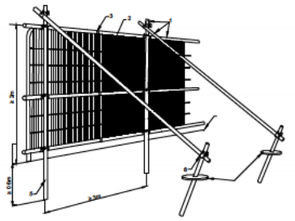
CLIENT
Bellway Homes Limited (North London)

SCALE	DATE	DRAWN
1:500 @ A3	SEP 2022	GW

DRAWING NUMBER	REVISION
11176 TPP 01 (1/3)	

Based on: 8375_SK111_Site Layout_level 0.dwg

Default Barrier Specification, cited BS 5837 2012



Key
1 Standard scaffold poles
2 Heavy gauge 2m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6m)
6 Standard scaffold clamps

Welwyn Garden City Conservation Area

37 TPO Ref: 722 (2018) T2

38 TPO Ref: 722 (2018) T1

[6] TPO Ref: 827 (2018) T1

Proposed footpath within RPA to be constructed above soil.

Footprint of proposed access road within RPA to be excavated under arboricultural supervision.

Proposed footpath within RPA to be constructed above soil.

to COLLEGE WAY

CANOPY IN ABEYANCE

DELIVERIES

1:500 @ A3

0m 5m 10m 20m

KEY:

- Site Boundary
- Tree Numbers
- Tree Canopies
- Category 'U' Trees
- Category 'A' RPA
- Category 'B' RPA
- Category 'C' RPA
- Conservation Area
- Pruning Works
- Trees to be Removed
- Tree Protection Barrier
- Tree Protection Barrier (Secondary Specification)
- Tree Protection Barrier (2nd Position)
- Manual Excavation
- Above Soil Surfacing
- Hard Surface Replacement
- Hard Surface Removal

Note: Trees 6, 7, 37-39, , 5, 50-52, 57-66, 90-95, 99-101 and Groups G2 & G -G8 have been plotted using measurements one to in conjunction with aerial imagery. Their locations were not recorded on the topograph cal survey of the s te.

Note: The RPA footprint for Trees 1-5, 12, 1 , 15, 18-23, 27-30, 3 , 35, 37, 38, 60, 61, 6 , 98, 100 and Group G6 have been disp aced o al ow for the ef ect of the adopted highway, existing building cu vat ure and existing retaining ea tures. The sur ace area of the RPA has not been reduced.

Cited from Google Earth

REV	DATE	NOTE	Drawn	Chk'd

REVISIONS

aspect arboriculture

TITLE

Campus East, Welwyn Garden City
Tree Protection Plan

CLIENT

Bellway Homes Limited (North London)

SCALE	DATE	DRAWN
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DRAWING NUMBER	REVISION
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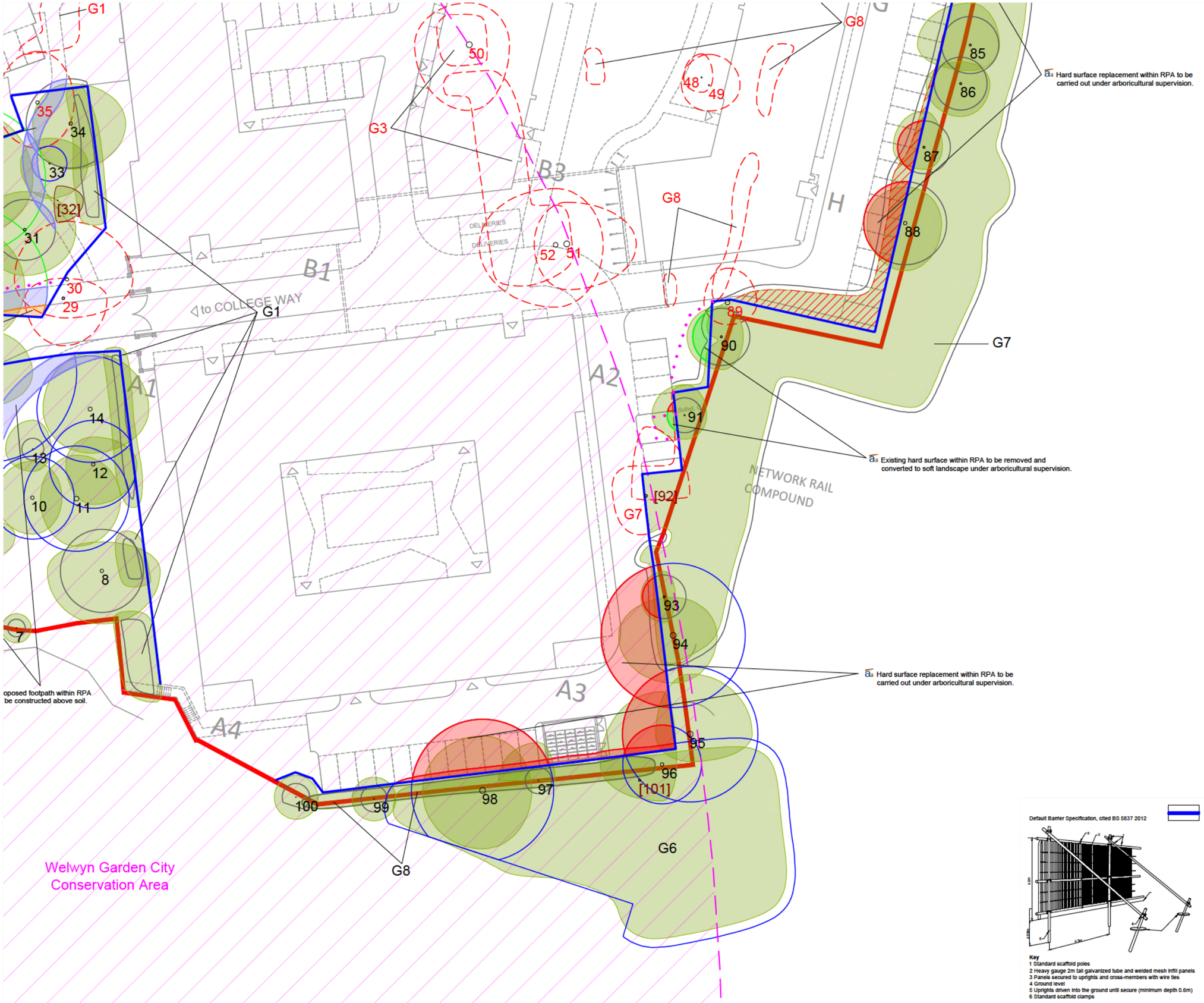
Based on: 8375_SK111_Site Layout_level 0.dwg



1:500 @ A3

0m 5m 10m 20m

KEY:

- Site Boundary
- 15 Tree Numbers
- Tree Canopies
- [8] Category 'U' Trees
- Category 'A' RPA
- Category 'B' RPA
- Category 'C' RPA
- Conservation Area
- Pruning Works
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- Tree Protection Barrier
- Tree Protection Barrier (Secondary Specification)
- Tree Protection Barrier (2nd Position)
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- Hard Surface Removal

Note: Trees 6, 7, 37-39, , 5, 50-52, 57-66, 90-95, 98-101 and Groups G2 & G -G8 have been plotted using measurements one te in conjunction with aerial imagery. Their locations were not recorded on the topograph cal survey of the s te.

Note: The RPA footprint for Trees 1-5, 12, 1 , 15, 18-23, 27-30, 3 , 35, 37, 38, 60, 61, 6 , 98, 100 and Group G6 have been disp aced o al ow for the ef ect of the adopted highway, existing building curved one and existing retaining eatures. The sur ace area of the RPA has not been reduced.

Cited from Google Earth

REV	DATE	NOTE	Drawn	Chk'd

REVISIONS

aspect arboriculture

TITLE

Campus East, Welwyn Garden City
Tree Protection Plan

CLIENT

Bellway Homes Limited (North London)

SCALE	DATE	DRAWN
1:500 @ A3	SEP 2022	GW

DRAWING NUMBER	REVISION
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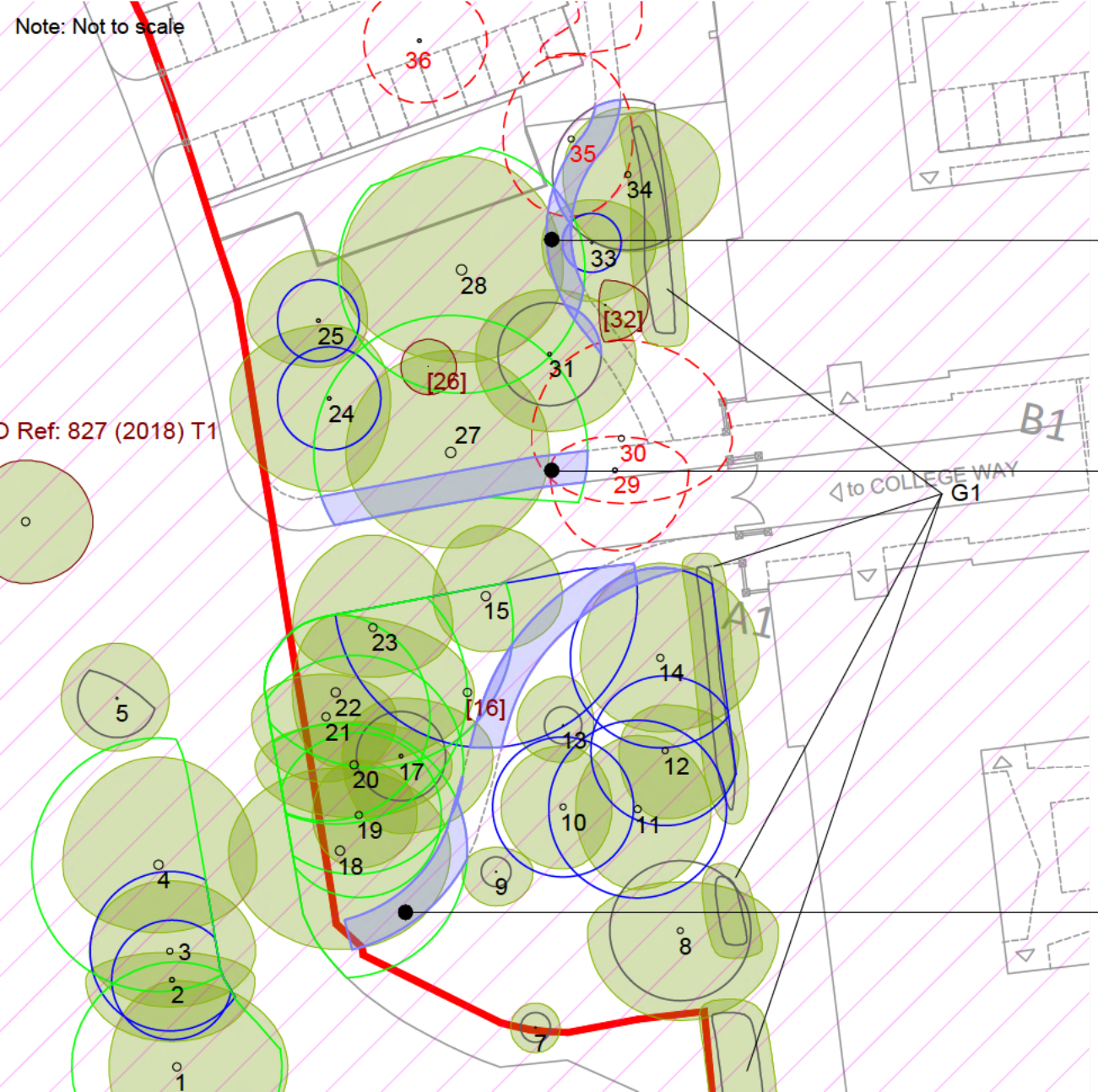
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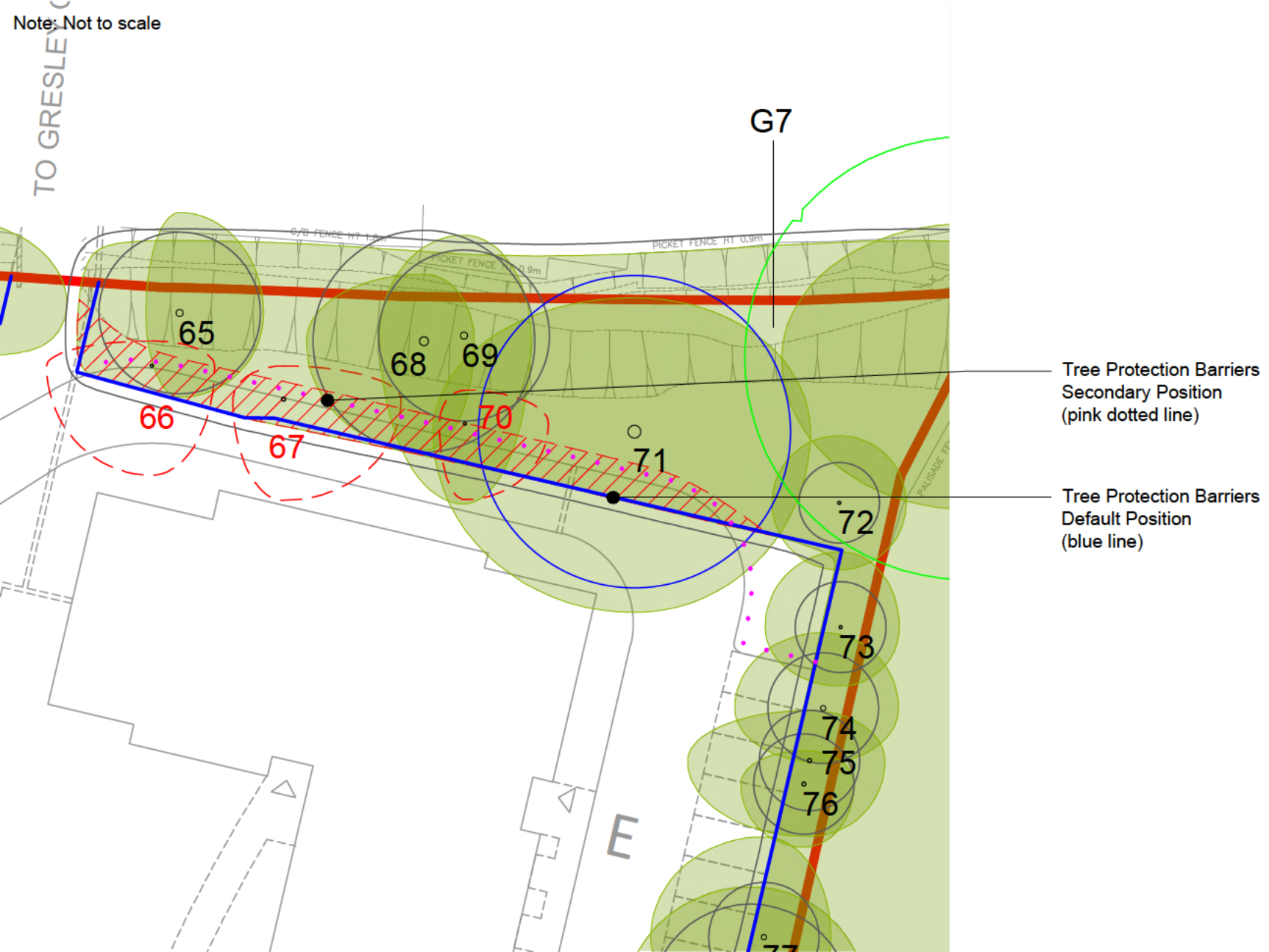
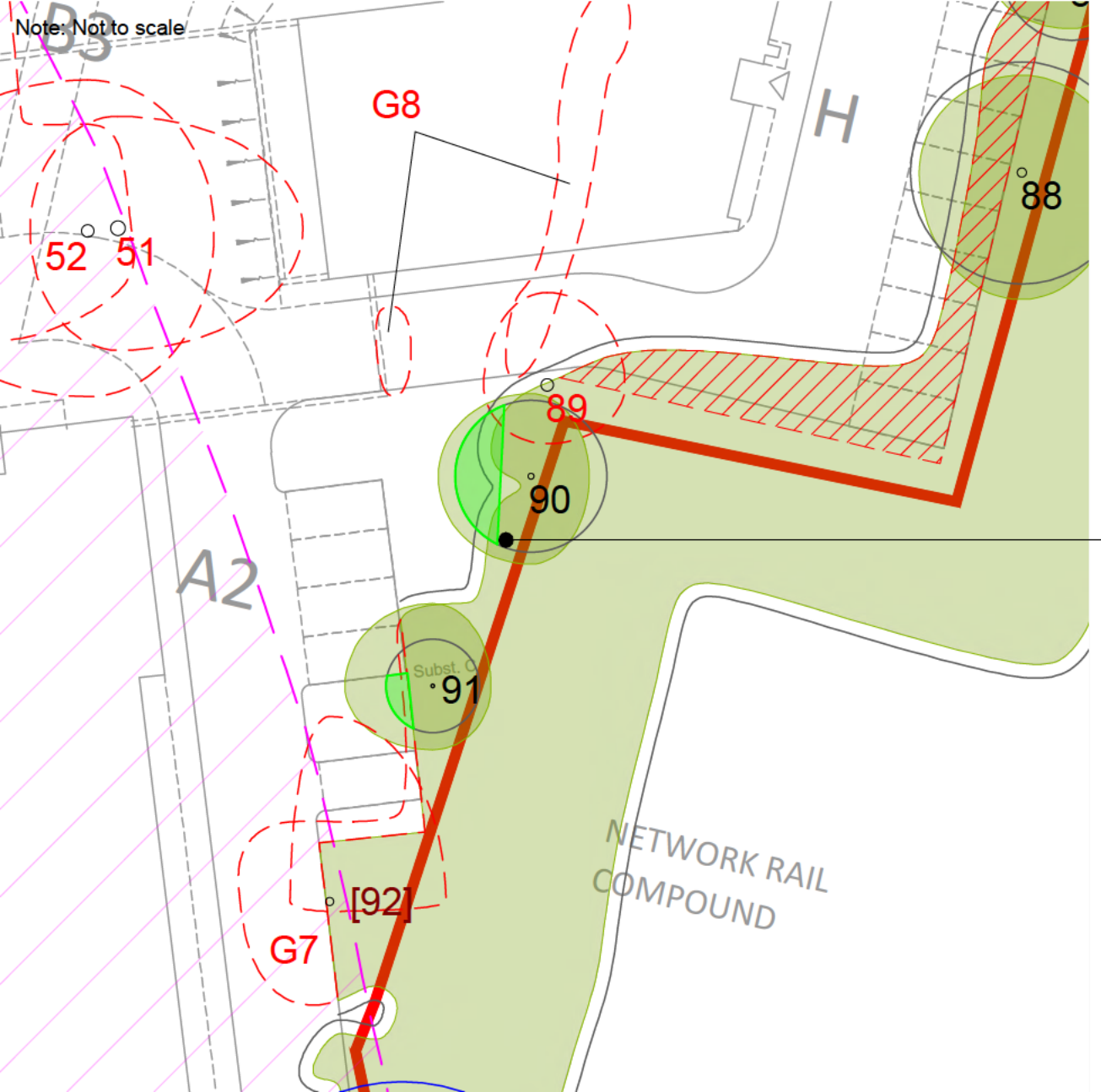
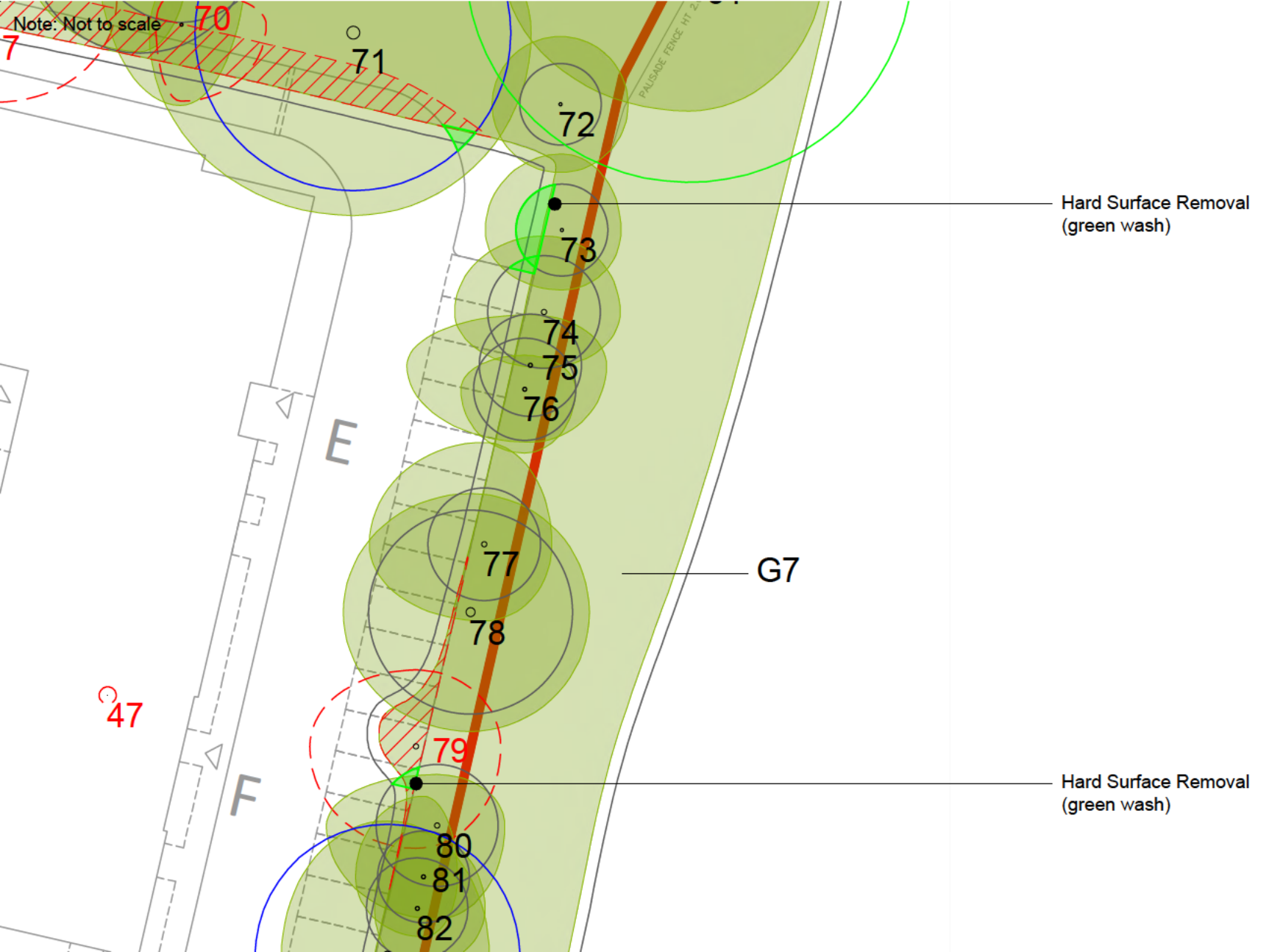
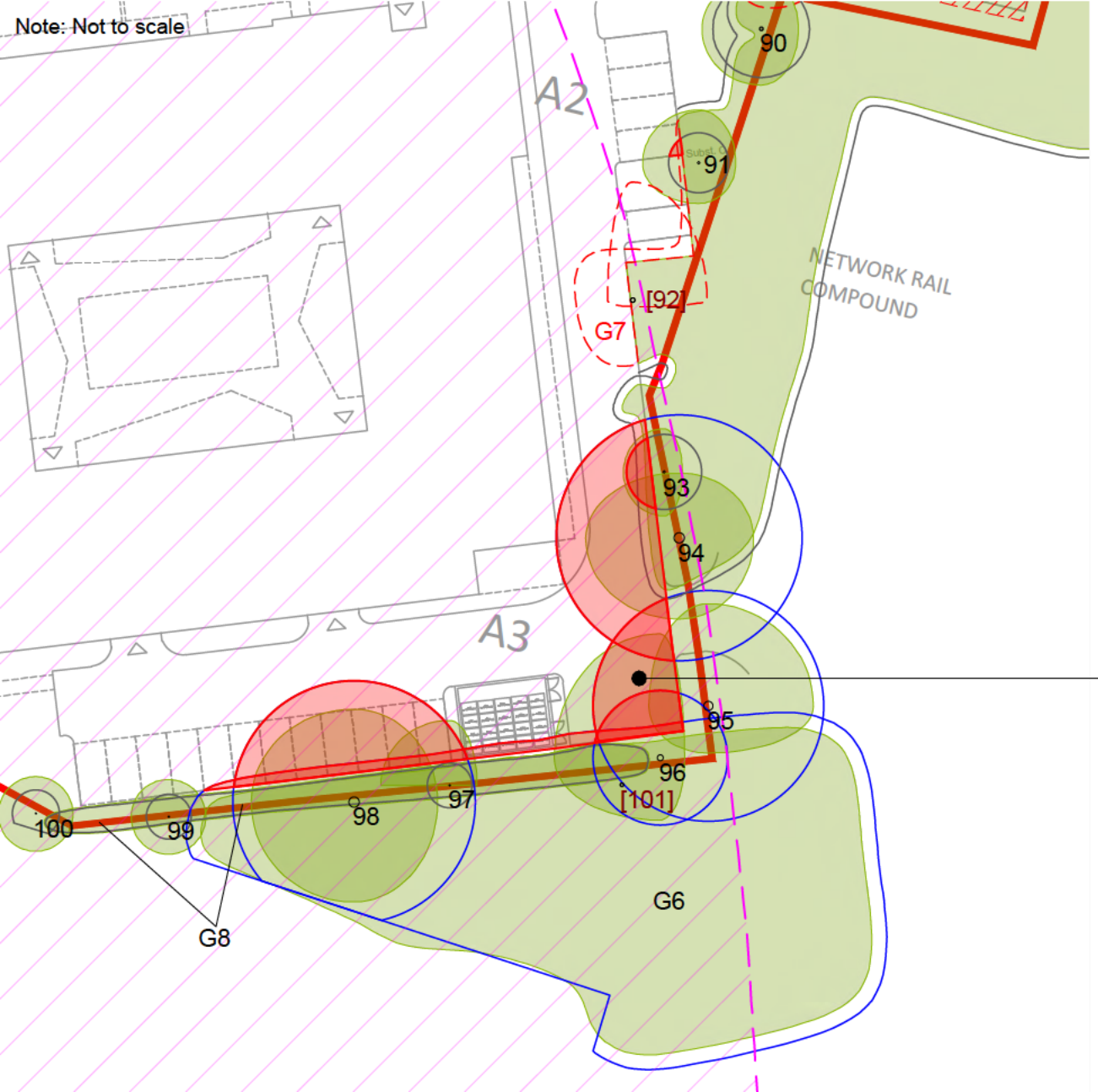
36
35
34
33
28
[32]
25
31
[26]
24
27
30
29
B1
to COLLEGE WAY
G1
A1
15
23
14
5
22
[16]
21
13
12
20
17
19
10
11
18
4
9
8
3
2
7
1
Above Soil Surfacing (purple wash)
Above Soil Surfacing (purple wash)
Above Soil Surfacing (purple wash)


Note: Not to scale
TO GRESLEY
G7
65
66
67
68
69
70
71
72
73
74
75
76
E
Tree Protection Barriers
Secondary Position
(pink dotted line)
Tree Protection Barriers
Default Position
(blue line)


Note: Not to scale
B3
G8
H
88
52
51
89
90
A2
Hard Surface Removal
(green wash)
Subst. C
91
NETWORK RAIL
COMPOUND
[92]
G7


Note: Not to scale
70
71
72
73
74
75
76
77
78
79
80
81
82
47
E
F
G7
Hard Surface Removal
(green wash)
Hard Surface Removal
(green wash)


Note: Not to scale
G7
Hard Surface Replacement
(red wash)
G7
G8
G8
G8
G8
G3
A
B
B4
B3
C
D
E
F
G
H
A2
CANOPY IN ABEYANCE
DELIVERIES
DELIVERIES
[105]
[42]


Note: Not to scale
A2
A3
NETWORK RAIL
COMPOUND
90
91
[92]
G7
93
94
95
96
[101]
97
98
99
100
G8
G6
Hard Surface Replacement
(red wash)


Note: Not to scale
TO GRESLEY
G7
Manual Excavation
(orange wash)
G7
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
64
60
45
46
47
44
43
41
E
F
B4
CANOPY IN ABEYANCE

Manual Excavation (orange wash)

Manual Excavation (orange wash)

APPENDIX D

TREE SURVEY METHODOLOGY

Tree Survey Methodology

The tree survey is a form of Visual Tree Assessment undertaken during October 2021. Tree locations are identified via a topographical survey; locations of any trees excluded from the topographical survey were plotted on site. The purpose of the survey is to record information about trees on or adjacent to the site to inform design options. In keeping with clause 4.4 of BS5837: 2012 'Trees in Relation to Design, Construction and Demolition', the survey provides a record of the following parameters:

Tree Numbers: all individual trees are sequentially numbered. Groups of trees, woodlands and hedgerow are also sequentially numbered with a corresponding prefix relevant to their type e.g. G, W or H respectively; the identification of trees as woodland, groups of trees or within hedgerows is undertaken where appropriate. The identification of trees as individuals within collections has been made where it is considered sensible to make such a differentiation.

Species: listed by common name

Stem Diameter: given in millimetres and obtained by measuring single/multiple stems at 1.5m using a diameter tape in accordance with Annex C within BS5837:2012. Diameters of inaccessible trunks are estimated and provided with the suffix '#'.

Tree Heights: determined using a clinometer and measured to the nearest 500mm. Heights are estimated where specific triangulation is not achievable and by reference to measured trees nearby (provided with the suffix '#').

Crown Spreads: measured at cardinal points using a Leica Disto™ laser distance measurer. Measurements were recorded to the nearest 250mm. Inaccessible crown spreads are estimated based on measured canopies nearby and provided with the suffix '#'

Crown Clearance: The height of the first significant living branch and/or canopy (as appropriate) is recorded using a Leica Disto™ laser distance measurer to inform vertical ground clearance. Crown clearance may be higher or lower than the first significant branch. Estimated clearances are provided with the suffix '#'. Height of first significant branch will be provided where considered advantageous to make the distinction.

Life Stage – The age of trees, groups of trees, hedges and woodlands are defined as follows:

- Young (within the first 1/4th of life expectancy)
- Semi-mature (within the second 1/4th of life expectancy)
- Early Mature (within the third 1/4th of life expectancy)
- Mature (within the fourth 1/4th of life expectancy)
- Over Mature and Veteran (exceeding normal life expectancy)
- Veteran (significantly exceeding normal life expectancy)

Physiological and structural condition: physiological condition defined as follows; good, above average, average, below average, poor or dead. Structural condition is defined as: good, moderate, indifferent, poor or hazardous

Comments: further observations were recorded where necessary i.e. details regarding defects, preliminary management recommendations, presence of pest/disease and perceived significance.

BS5837 Category: pursuant to BS5837:2012 section 4.5 and cascade chart for tree quality assessment (refer to reproduced Table 1 overleaf). Trees qualifying under a given category (A-C and U) and any appropriate subheading (1-3) are considered to fall within the scope of that category's definition.

Estimated Remaining Contribution. Described` as a guideline only and in terms of years: <10, 10+, 20+ and 40+ relevant to category U, C, B and A respectively. This information is not provided on the tree schedule to avoid conclusions based upon 'life expectancy'.

Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)		
Trees unsuitable for retention (see Note)			
Category U Those in such a condition that they cannot realistically be retained as living trees 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 category U trees (e.g. 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, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*		
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**
Trees to be considered for retention			
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing 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 value
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 150 mm	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 collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

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