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LEC1/9E REGENTS CANAL UNDERBRIDGE

ARBORICULTURAL IMPACT ASSESSMENT

NOVEMBER 2022

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ARBORICULTURAL IMPACT ASSESSMENT

NOVEMBER 2022

PREPARED BY:

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CONTENTS

APPENDICES

DRAWINGS	**TITLE**	**SCALE**
GM12516-001 Rev. A	Tree Protection Plan	1:500@A3

1 INTRODUCTION

1.1 Brief

1.1.1 Wardell Armstrong LLP (WA) was commissioned by Story Contracting Ltd to undertake a British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (BS 5837) tree survey on the site and to assess and report on the impacts on the trees and hedgerows in connection with LEC1/9E bridge reconstruction at Gloucester Avenue, Camden, London (Ordnance Survey grid reference TQ 28388 83954). For the purpose of this report this will be referred to as the 'Site' hereafter. This Arboricultural Impact Assessment (AIA) report and attached Tree Protection Plan (TPP) accords with the methodologies and guidance set out in BS 5837.

1.1.2 The purpose of this report is to provide an AIA, in order to evaluate the direct and indirect effects of the proposed development layout design on the trees surveyed. These include trees identified within the Site, as well as those located offsite but within influencing distance of the Site. Where there are impacts from the proposed development, this report recommends, where feasible, mitigation measures to be taken to ensure that important trees are adequately considered during the construction process. Where trees must be removed to enable the development, potential compensation measures are proposed, where feasible.

1.1.3 The BS 5837 tree survey was undertaken by Alan Reid, an Arboriculturist with Wardell Armstrong, on 10th November 2022. This, in combination with the proposed layout, supporting documents/drawing and any liaison we have had with the Site team and the LPA, forms the basis of our assessment.

1.2 Site Context

1.2.1 The Site is located in the London Borough of Camden and comprises an urban street with street trees within the footway, crossing a bridge over a canal with further trees adjacent to the towpath and on an inaccessible bank. A railway bridge (Ref. LEC1/9E) over the canal is to the north of the road.

1.2.2 Buildings abut the footway on both the north and south side of the highway.

1.2.3 The site exists on two separate levels; the street level of Gloucester Avenue, which slopes gradually up from either direction to bridge the canal, is approximately 5 metres above the level of the towpath and canal underneath.

1.2.4 The trees adjacent to Gloucester Avenue form an important part of the local streetscene. In particular, a large London Plane brings a significant amenity value to the area, which has a high volume of pedestrian and vehicular visitor traffic utilising the towpath and local businesses.

1.3 Development Proposal

1.3.1 The proposals comprise the reconstruction of a bridge (LEC1/9E) crossing the Regent's Canal at Gloucester Avenue, Camden. A hanger beam is to be lifted by crane from its transporter located on Gloucester Avenue into its permanent position as part of bridge LEC1/9E. The proposal has been granted Prior Approval as Permitted Development under the Town & Country Planning Act 1990 (as amended).

1.3.2 In order to assess the impacts of the proposed developments the following plans have been overlaid to produce the Tree Protection Plan:

- Crane Study To Lift Into Place 1 x Hanger Beam To Support Existing Structure Using Liebherr LTM1450-8.1 Mobile Crane Ref. 03-22-GMW-0401-02 Rev. P; dated 15/11/22 by Ainscough Crane Hire Ltd.
- PBH Surveys, Topographical Survey, DWG: PBH-001-DWG-SU-004 REV A01; dated 2021/12/03.

1.4 Trees and the Planning Process

1.4.1 The proposed development is classed as Permitted Development, therefore Local Planning Policy is not applicable to the proposed development works.

1.4.2 National Planning Policy in England is detailed in the National Planning Policy Framework (NPPF). Even though this is not applicable to the proposed development, we have reproduced the policies from the last revised version of the NPPF (July 2021) below as the principles are pertinent to Permitted Development:

'NPPF Para. 131: *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. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users'*.

'***NPPF Para. 174:*** *Planning policies and decisions should contribute to and enhance the natural and local environment by:*

b) 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'.

'***NPPF Para 180****: When determining planning applications, local planning authorities should apply the following principles:*

c) 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'

1.4.3 Table B.1 taken from BS 5837gives guidance on the level of information required by LPAs in order to make an informed decision on the impact of development on trees. The production of an Arboricultural Constraints Report and Plan is the first stage of assessment in the context of the planning process.

1.4.4 Even though we have not produced a standalone Arboricultural Constraints Report and Plan, WA have undertaken a tree survey in accordance with BS 5837, with this data and plan being supplied to the client to enable them to consider the arboricultural constraints for the Site. We have plotted the trees on the proposed layout so that the specific impacts on the trees can be assessed, with this informing this report and the associated TPP, which fulfils the requirement to present the impacts of the proposed layout on the trees that are located on and immediately adjacent to the Site. This accords with the recommendations in BS 5837 as detailed in Table B.1 as shown in Figure 1.

Table B.1 **Delivery of tree-related information into the planning system**

Stage of process	Minimum detail	Additional information
Pre-application	Tree survey	Tree retention/removal plan (draft)
Planning application	Tree survey (in the absence of pre-application discussions)	Existing and proposed finished levels
	Tree retention/removal plan (finalized)	Tree protection plan
	Retained trees and RPAs shown on proposed layout	Arboricultural method statement – heads of terms
	Strategic hard and soft landscape design, including species and location of new tree planting	Details for all special engineering within the RPA and other relevant construction details
	Arboricultural impact assessment	
Reserved matters/ planning conditions	Alignment of utility apparatus (including drainage), where outside the RPA or where installed using a trenchless method	Arboricultural site monitoring schedule
	Dimensioned tree protection plan	Tree and landscape management plan
	Arboricultural method statement – detailed	Post-construction remedial works
	Schedule of works to retained trees, e.g. access facilitation pruning	Landscape maintenance schedule
	Detailed hard and soft landscape design	

Figure 1: BS 5837:2012 Table B. 1

1.5 Statutory Legal Protection

1.5.1 The two main sources of protection afforded to trees are i) Conservation Area (CA) control and ii) Tree Preservation Orders (TPO).

1.5.2 Trees within CAs are protected under the Town & Country Planning Act 1990 (as amended), which affords blanket[1] protection to trees with a stem diameter of 75 mm and above when measured at 1.5 m from ground level.

1.5.3 Trees may also be protected by a TPO under the Town & Country Planning Act 1990 (as amended) and The Town and Country Planning (Tree Preservation) (England) Regulations 2012.

1.5.4 It is a criminal offence to carry out any unauthorised works to trees that are either protected by a TPO or located within a CA, including:

- Cutting down, uprooting or wilfully destroying a tree, or wilfully damaging, topping or lopping a tree in such a manner as to be likely to destroy it;
- Any works that contravene the provisions of a TPO; and/or

[1] Protection is similar to that afforded to trees protected by TPO.

- Any works in contravention to the regulations.

1.5.5 Penalties for non-compliance of a TPO and/or CA can be unlimited, if tried in a County Court or Magistrate's Court. Note, if the LPA decides to also prosecute under the Proceeds of Crime Act 2002 in addition to prosecuting under the Town and Country Planning Act 1990, the fine can be unlimited.

1.5.6 It should be noted that the felling of trees may also require a felling licence under the Forestry Act 1967. This requires that any persons wishing to fell 5 m^3 of trees within any three-month period (i.e. January to March, April to June, July to September and October to December) apply for a felling licence from the Forestry Commission. There are a number of exemptions to this requirement, with some of the more relevant exemptions including:

- Pruning trees;
- Felling fruit trees or trees growing in a garden, orchard, churchyard or designated public open space;
- Felling trees that, when measured at a height of 1.3 m from the ground, have a diameter of 8 cm or less;
- Felling trees immediately required for the purpose of carrying out development authorised by full planning permission;
- Felling necessary for the prevention of danger or the prevention or abatement of a nuisance[2] (e.g. threat/danger to a third party); and
- Felling necessary to prevent the spread of a quarantine pest or disease.

1.5.7 Other legislation that affords a lesser or indirect level of protection to trees includes the following:

- The Wildlife & Countryside Act 1981 (as amended);
- Conservation of Habitats and Species (amendment) Regulations 2017; and
- Hedgerow Regulations (1997).

1.5.8 All of the above provide for the identification and safeguarding of flora and fauna that may be found in association with trees and woodlands.

[2] NB - This only applies when a real and/or immediate danger is present.

1.6 Protected Species

1.6.1 Trees can contain features such as cavities, cracks, splits and loose bark which can offer potential habitat to species such as bats. Bats and their roosts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) as well as the Conservation of Habitats and Species Regulations 2017 (as amended) and are also listed under Section 41 of the Natural Environment and Rural Communities Act 2006.

1.6.2 Trees provide potential nesting habitat for birds and all wild UK birds and their active nests are protected under the Wildlife and Countryside Act 1981. For bird species listed on Schedule ZA1 of The Act it is an offence to take, damage or destroy their nest(s), whether active or not.

1.6.3 The European Union (Withdrawal) Act 2018 ended the supremacy of EU law in the UK, converted EU law as it stood at the moment of the UK's exit from the EU on 31 January 2020 into domestic law and preserved laws made in the UK to implement EU obligations.

2 THE SURVEY

2.1 Desk Study – Legal Constraints

2.1.1 WA contacted CLBC on 7th November 2022 to ascertain whether any trees within and/or immediately adjacent to the Site are protected by TPO's or CA status.

2.1.2 A reply was received from the LPA Planning Assistant, Rav Curry, on 10th November 2022 informing us that a TPO is in place on "*one London Plane at the front of 63 Gloucester Avenue*", adjacent to the proposed Site.

2.1.3 This affords protected status to the following tree (WA reference numbers): T12. No work may be undertaken to this tree unless either full planning permission is gained (which details the works), or by submitting a formal Application for Tree Works to the LPA. The decision notice for this type of application is typically eight weeks, although on occasion it can be longer.

2.1.4 Due to time constraints, a copy of the TPO has not yet been obtained. A copy can be obtained if required subject to the fee charged by CLBC.

2.1.5 We have also been informed that the following CA is in place on/adjacent to the proposed Site:

- Primrose Hill Conservation Area.

2.1.6 This affords protected status to all of the trees within or immediately adjacent to the survey area. No work may be undertaken to these trees unless either full planning permission is granted (which details the works), or by submitting a Section 211 Notification of Proposed Tree Works and the LPA not objecting to the proposed notified tree works.

2.1.7 It is recommended that a Section 211 Notice is submitted to the LPA in order for the proposed tree felling and pruning works to legally proceed. It should be noted, however, that the standard notification process is up to six weeks from the date of receipt by the LPA. Failure to comply with these requirements would be in contravention of S213 of the Town & Country Planning Act 1990 and if prosecuted by the LPA can lead to unlimited fines.

2.2 Field Survey

2.2.1 The arboricultural survey was undertaken by Alan Reid, Arboriculturist with WA on 10th November 2022 using the methodology set out in BS 5837 (see Appendices 2 and 3).

2.2.2 Weather conditions during the survey were overcast and generally conducive to tree surveying.

2.2.3 The trees were surveyed in accordance with the methodology outlined in Appendix 2.

2.2.4 Each individual surveyed tree (T), tree group (G), woodland (W) and hedgerow (H) was given a sequential reference number.

2.2.5 The trees were then classified in accordance with the BS 5837 tree quality assessment categories 'A', 'B', 'C' and 'U' (see category criteria and grading within Appendix 3). 'A' and 'B' category trees are considered as 'high' and 'moderate' quality, respectively, and are considered as a constraint to development. As such, these trees should be retained and afforded appropriate protection during development. 'C' category trees are considered to be of 'lower' quality due to their condition or 'lower' amenity value and are, therefore not usually considered a constraint to development. 'U' category trees are those in such a 'poor' condition that they cannot usually be retained within the current Site context for longer than ten years. It should be noted that in some cases, category 'U' trees may have valuable habitat/ecological value despite being in poor arboricultural condition. In such cases, where it is safe to do so, these trees may be recommended for retention and/or pruning works. Where relevant, we will bring such trees to the attention of the client. Where trees are located outside of the Site boundaries, irrespective of their BS 5837 categorisation, these should be considered as a constraint during the Site layout design process and protected during construction, as such trees are not within the control of the Site owner.

2.2.6 Root Protection Areas (RPAs) are calculated for individual trees utilising the methodology set out in BS 5837, which is calculated by multiplying the stem diameter (measured at 1.5 m from ground level) by 12 for single-stemmed trees and a variant on this for multi-stemmed trees. For surveys in England, individual veteran trees are given a standard BS 5837 RPA and also a secondary veteran tree RPA, to accord with government's standing advice 'Ancient woodland, ancient trees and veteran trees: advice for making planning decisions' [3] and local planning policy, which is based on a calculation of fifteen times the stem diameter or five metres beyond the crown spread, whichever is greater.

2.2.7 For tree groups, woodlands and hedgerows, the calculated RPAs are based on a set distance from the canopy edge of the tree groups, woodlands and hedgerows. This calculation is based on the largest stem diameter of the trees on the edge of the tree

[3] https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-advice-for-making-planning-decisions

groups and woodlands and the crown spread measurement for these edge trees. A variant of the tree group and woodland RPA calculation is used to calculate hedgerow RPAs, with the calculation based on the largest stem diameter of the hedgerow woody plants and the hedgerow width.

2.2.8 Further details for each tree, and the groups of trees surveyed are set out in the Tree Survey Schedule (see Appendix 1) and on the Tree Protection Plan Ref. GM12516-001 Rev. A.

3 SURVEY RESULTS AND EVALUATION

3.1 Tree Population

3.1.1 Thirteen individual trees, which were located on and immediately adjacent to the Site, were assessed and surveyed.

3.1.2 The survey revealed that, one tree was classified as category 'A' quality, five as category 'B' quality and seven as category 'C' quality. No category 'U' quality trees were found during the survey.

3.1.3 In an urban environment, constraints to tree rooting are frequent. However, without further detailed inspection we cannot be certain where all of these constraints exist. Where constraints to circular rooting can be ascertained, such as the canal edges, we have amended those trees RPAs to take into account the rooting constraint and adjusted them to maintain their size in accordance with the guidance in BS 5837. As the Site exists on multiple levels, and is almost entirely covered with hard surfacing, we do not foresee any impacts to RPAs, providing the ground is left undisturbed within the trees RPAs as shown on the Tree Protection Plan Ref. GM12516-001 Rev. A.

3.1.4 A detailed description of all trees surveyed and recommended works (irrespective of the proposed development) for these trees can be found in the Tree Survey Schedule in Appendix 1. Table 1 below summarises the BS 5837 quality grading of the trees found on Site, with these figures represented in graph format in Figure 2.

Table 1: Individual Trees Quality Assessment Summary

Tree Quality	A	B	C	U
Individual Trees, Identification	T12.	T1, T5, T8, T11, T13.	T2, T3, T4, T6, T7, T9, T10.	None.
Total	**1**	**5**	**7**	**0**

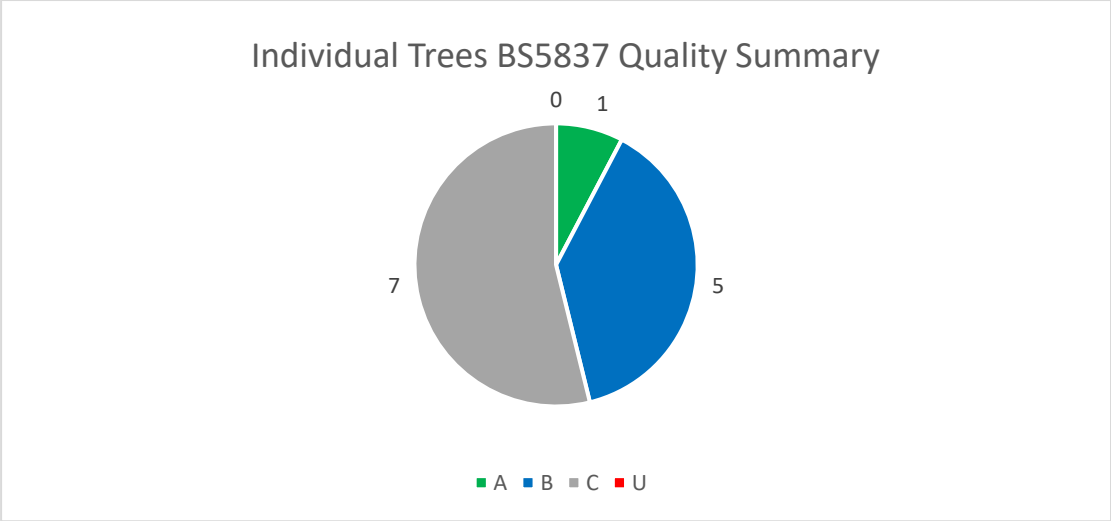


Figure 2: Overview of the BS 5837 quality of individual trees found on Site

3.1.5 An assessment of the age class of the individual tree population on Site, reveals that the population is predominantly made up of semi-mature trees, with these accounting for 46% of the population. The remaining individual tree population is made of early-mature trees, accounting for 39% of the population and mature trees accounting for 15% of the population. No young or late-mature individual trees were found during the survey. A summary of the age class assessment for individual trees is shown in the graph below in Figure 3.

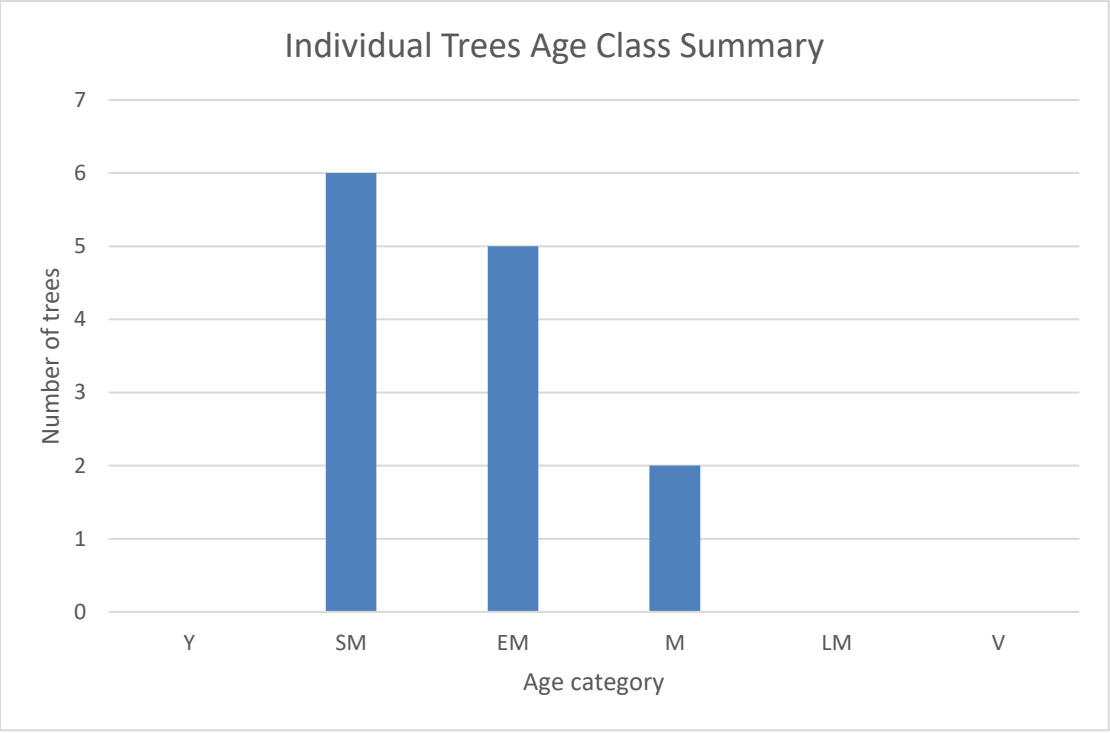


Figure 3: Individual trees age class assessment summary

4 DEVELOPMENT IMPACT TO RETAINED TREES

4.1.1 Implementation of the proposed scheme will necessitate the removal of three Trees, as detailed in full in Table 2.

4.1.2 Pruning works are also required to be carried out to five trees, with possible pruning of a sixth tree, also detailed in full in Table 2.

4.1.3 In assessing the impacts of the proposed development on the trees on and adjacent to the Site and in proposing mitigation for these impacts, the planning application for development of the Site accords with the requirements of BS 5837, and Local and National planning policies for trees and development.

Table 2: Overview of Arboricultural Impacts and Proposed Mitigation				
Tree/ Group No.	**Proposed Works**	**Impact**	**Mitigation/Compensation**	**BS 5837 Quality Categorisation**
T4, T5, T6	The removal of trees to facilitate the proposed development	Low to Moderate Impact In order to facilitate the proposed scheme, three trees are proposed for removal. These include one category 'B' quality tree and two category 'C' quality trees. The trees to be removed are all semi-mature street trees that offer a reasonable amenity value to the streetscene. The trees proposed for removal have a relatively low ecological value and their habitat can be replaced by new planting. The proposed removals will have a low to moderate impact on local amenity values.	It is recommended that the removed trees are replaced following the bridge reconstruction on a metric basis required by the Local Authority.	**B**, C
T7, T8, T9, T10, T13	Pruning works to allow the manoeuvring of the hanger beam from street level to its position on Bridge LEC1/9E	Moderate Impact The height of a total of five trees (2 category 'B' quality and 3 category 'C' quality) are proposed to be reduced in order to provide clearance and separation from the manoeuvring of the hanger beam by crane from the transporter at street level to its eventual position, as part of the reconstruction of bridge LEC1/9E. • Category 'C' quality ash tree T7 is proposed to be reduced by approximately half of its current height of 13.4 m. Note, several cavities were noted on tree T7 that have potential to provide roosting habitat for bats. The tree has been identified as having low bat roosting potential, however sensitive pruning to ensure retention of potential bat roosting features was recommended by the Project Ecologist (see report GM12229-001 V0.1 Table 1). • Category 'B' quality alder tree T8 and category 'C' quality sycamore trees T9 and T10 are proposed to be reduced to the level of the surrounding brick wall located between the two bridges, a height of approximately 5 m when measured from ground level. • Category 'B' quality tree T13 is proposed to be reduced by approximately	All pruning works are to be undertaken by a suitably qualified and insured tree work contractor. The pruning of tree T7 is to be undertaken in a sensitive manner as recommended by the Project Ecologist as detailed in Table 1 in report GM12229-001 V0.1. The proposed pruning accords with the recommendations given by the ecologist. Appropriate future management of the trees to be pruned will be required to ensure they will continue to provide amenity value on a long-term basis.	**B**, C

Table 2: Overview of Arboricultural Impacts and Proposed Mitigation				
Tree/ Group No.	**Proposed Works**	**Impact**	**Mitigation/Compensation**	**BS 5837 Quality Categorisation**
		3 metres, to a height just below the top height of the adjacent lamp post. The proposed pruning works are not in accordance with best practice as detailed in the British Standard BS 3998:2010 – Tree work: Recommendations. The pruning may lead to the shortening of the trees Safe Useful Life Expectancy (SULE), especially if future management is not undertaken and in the short term a loss of amenity value. Overall, the proposed pruning is considered to constitute a moderate arboricultural impact.		
T1, T2, T3	The vertical lift of a hanger beam from its transporter on Gloucester Avenue	<u>Low Impact</u> The position of the transporter lorry from which the hanger beam will be lifted by crane should take into account the crown spread of the category 'B' quality tree T1 and the stems and aerial parts of trees T2 and T3. Providing a suitable position can be found for the vertical lifting of the beam from the transporter, so that the lifted beam avoids contact with the aerial parts of T1, there will be no impact on the tree. If no suitable position can be found, the tree will require the pruning of its north-eastern crown to provide clearance and avoid impact damage to the tree's crown. The pruning shall entail the removal of the least amount of foliage volume that is practical to provide sufficient clearance. Protection of the trees using fencing in accordance with BS 5837 is not considered to be expedient in this situation, however vehicular and crane movements should be supervised and directed by a banksman to avoid any contact with trees stems and crowns. Because the entire area is hard surfaced, no ground protection will be required.	Pruning works are to be undertaken by a suitably qualified and insured tree work contractor, working in accordance with BS3998:2010 – *Tree work. Recommendations* and industry best practice. The Local Authority Tree Officer to be consulted and advised of the date of the pruning, so that they can attend and direct the pruning, if required. The vertical lift and any vehicular movements will be supervised and directed by a banksman to avoid contact with trees, including their crowns.	**B**

Table 2: Overview of Arboricultural Impacts and Proposed Mitigation				
Tree/ Group No.	**Proposed Works**	**Impact**	**Mitigation/Compensation**	**BS 5837 Quality Categorisation**
T12	Movement of equipment in proximity to a tree protected by TPO	Low Impact The manoeuvring of the hanger beam will be done in proximity to aerial parts of category 'A' quality tree T12. No approval has been given by the LPA for work to this tree, therefore it is imperative that no damage occurs during the process. Providing, care is taken during the lifting of the hanger beam into position, the development will have no impact on tree T12.	A banksman in constant communication with the crane operator will supervise and direct the lift, ensuring that no contact is made with any parts of tree T12.	**A**

5 SUMMARY AND RECOMMENDATIONS

5.1.1 The requirements of BS 5837 have been complied with in assessing the arboricultural impacts arising from the proposed bridge reconstruction in this report.

5.1.2 CLBC informed WA by email on 10th November 2022 that "*one London Plane at the front of 63 Gloucester Avenue*" (WA reference number T12) is protected by a Tree Preservation Order and also that the entire area falls within the Primrose Hill Conservation Area, thus all of the other surveyed trees are protected by the CA status. In order to proceed with the prescribed tree felling and pruning works, submission of a Section 211 Notification of the tree works to the Local Planning Authority (LPA) will be required. The tree works can only then be undertaken after six weeks and one day have elapsed following the validation by the LPA of the S211 notification or beforehand if the LPA issues a ' No Objection' decision notice. Failure to follow these legal procedures will constitute a breach of the Town & Country Planning Act 1990 and, if prosecuted, fines for non-compliance can be unlimited.

5.1.3 In order to facilitate the bridge reconstruction works a total of three trees are proposed for removal. They include one category 'B' quality tree and two category 'C' quality trees, all of the species variety Silver Birch 'Dalecarlica'. The trees are all semi mature and their removal will have a low to moderate impact on local visual amenity.

5.1.4 In addition, five trees are proposed to be pruned to facilitate the manoeuvring of the hanger beam from a transporter positioned on Gloucester Avenue to its position on bridge LEC1/9E. Full details are given in Table 2 above. The proposed pruning will have a moderate impact on the amenity value that the trees provide to the locality.

5.1.5 One tree (T7) was identified by an ecologist (report ref. GM12229-001 V0.1) as having low bat roosting potential. The ecologist's report recommends sensitive pruning of the tree to ensure the retention of the potential bat roosting habitat.

5.1.6 A further tree (WA T1) may require pruning to provide separation from the vertical lift of the hanger beam if a suitable position for the transporter is not available that avoids the crown spread of the tree. If required these pruning works will be undertaken in accordance with BS 3998:2010 Tree work – Recommendations.

5.1.7 It is not considered expedient to utilise Tree Protection Fencing in this situation due to the potential impacts occurring at a height above 2m from ground level, above the protective height of standard fencing.

6 REFERENCES

- British Standard, BS 3998:2010 Tree work. Recommendations. (The British Standards Institution, 2010).
- British Standard, BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations. (The British Standards Institution, 2012).
- NJUG Volume 4 - Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees (Issue 2:16th November 2007).
- Quantified Tree Risk Assessment User Manual, (QTRA User_Manual_V5.1.4_ 2015_01). (Incorporating extracts).
- Ministry of Housing, Communities and Local Government (2014) Tree Preservation Orders and Trees in Conservation Areas.

  https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas
- Forestry Commission (2007) Tree Felling – Getting Permission.
- Claus Mattheck (2007) Updated field guide for Visual Tree Assessment.
- Forestry Commission & Natural England (Updated 14th January 2022) Ancient Woodland and Veteran Trees: Protecting them from Development – Guidance.

  https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences#veteran-trees

Appendix 1

Tree Survey Schedule

Location: Gloucester Avenue, Camden **(Job. No.** GM12516**)**

Estimated Stem Diameters & Other Measurements highlighted in this colour

Surveyor: Alan Reid

Weather: Overcast

Survey Date: 10th November 2022

						Crown Spread (m)											Condition									
Item type: T (tree), **G** (group), **H** (hedge), **W** (woodland)	**Tree/ Group Ref. No.**	**Previous Tree Survey No./ Tree Tag No. (Where Different from Tree No.**	**Common Name**	**Height(m)**	**Crown Clearance (m) & compass direction**	**North**	**East**	**South**	**West**	**Stem Diameter @ 1.5m (mm)**					**Number of stems**	**Age Class: Y** (Young), **SM** (Semi-Mature), **EM** (Early-Mature), **M** (Mature), **LM** (Late-mature), **V** (Veteran)	**Physiological Condition: G** (Good), **F** (Fair), **P** (Poor), **D** (Dead)	**Structural Condition: G** (Good), **F** (Fair), **P** (Poor)	**Estimated Remaining Contribution: (<10, 10+, 20+, 40+)**	**BS5837 Categorisation Grading**	**Sub Category**	**Comments**	**Preliminary management recommendations/ further works**	**Bat potential: L (Likely) U (Unlikely)**	**BS 5837 Root Protection Area (m²)**	**BS 5837 Root Protection Radius (m)**	**Veteran Tree Root Protection Radius (m)**
T	1	N/A	Norway Maple	11	4 N	5.2	4.2	4.5	5.2	390					1	EM	F	F	20+	B	2	Street tree previously crown reduced to an approximate height of 10 m from ground level. Extensive epicormic growth throughout congested crown. Previous contact damage to north at 3 m above ground level. Major surface root 200 mm diameter to northwest at edge of kerb. Girdling root to east of stem base. Paving slabs lifted on footway; highway surface appears undisturbed.	Advise Local Highway Authority of raised paving slabs.	U	69	4.7	N/A

T	2	N/A	Silver Birch 'Dalecarlica'	10.9	3.4 S	2.6	2.6	3.1	3.3	190					1	SM	F	F	20+	C	1,2	Tree of cut leaf variety with slightly uneven crown weighted approximately 70% to west. Small round hole 20 mm diameter on south of stem 2.4 m from ground level, probed to depth of 40 mm. Previous tear out wound on south of lowest eastern branch 2.3 m from ground level. Branches to south previously pruned for road clearance. Minor dieback in upper crown. Witches broom in upper crown.	None required.	U	16	2.3	N/A
T	3	N/A	Silver Birch 'Dalecarlica'	6.2	2.7 W	1	1.6	1.9	1.8	120					1	SM	G	F	20+	C	1	Small tree of cut leaf variety with high, uneven crown weighted approximately 80% to south towards road. Vitality appears good. Contact damage in centre of crown adjacent to highway. Narrow stem for height.	None required.	U	6.5	1.4	N/A
T	4	N/A	Silver Birch 'Dalecarlica'	7.5	3.1 E	1.6	2.3	3.4	2.4	150					1	SM	G	F	20+	C	1	Small tree of cut leaf variety. High crown weighted approximately 60% to south towards road. Minor branch approximately 5 m above ground level previously torn, epicormic growth around wound. Previous damage to south side of lower stem partially occluded. Lower tertiary branches previously removed for road clearance.	None required.	U	10	1.8	N/A

T	5	N/A	Silver Birch 'Dalecarlica'	11.8	3.8 S	3	2.9	3.1	1.9	200					1	SM	G	G	20+	B	1,2	Largest of row of similar cut leaf variety trees adjacent to highway. Good form and vitality. Previously crown raised to south for road clearance.	If, retained, crown raise to 5.2 m above highway within 1 month.	U	18	2.4	N/A
T	6	N/A	Silver Birch 'Dalecarlica'	9.6	2.9 E	1.6	1.9	1.8	2	140					1	SM	G	F	20+	C	1,2	Small tree of cut leaf variety with narrow stem for height. Crown slightly weighted to south towards road with a little self correction. Previous wound to southeast of lower stem partially occluded.	None required.	U	8.9	1.7	N/A
T	7	7685 / 9247	Ash	13.4	5.7 E	4.5	10.8	6.4	4.5	630					1	M	F	P	20+	C	1,2	Tree adjacent to railway bridge over canal and several walkways and steps. Previously topped at approximately 10 m above ground level. Several cavities as a result of previous pruning works, particularly to east of crown. Cerioporus squamosus (Dryads saddle) fruiting bodies on western limb near to cavities and a large one on ground to east of stem. Dead branch over canal to east. Rooting constraint due to canal. RPA to edge of canal.	If retained, reduce dead western branch to 2 m from union within 6 months to reduce likelihood of failure, maintaining potential bat roosting habitat. Note, an ecologist must be consulted to check for the presence of roosting bats prior to work being carried out.	L	180	7.6	N/A
T	8	N/A	Common Alder	12	4.1 W	5.5	3	2.5	5.5	280					1	EM	G	G	40+	B	1	Tree on bank of canal encroaching on railway bridge over canal. Unable to access. Lean in lower stem, self corrected in upper crown. Good vitality throughout crown. Rooting constraint to west due to canal. RPA to edge of canal.	Reduce northern lateral crown to give 1 m clearance from bridge within 1 year.	U	35	3.4	N/A

T	9	N/A	Sycamore	11.9	2.6 W	4	3.5	3	5.5	300					1	EM	P	F	20+	C	1	Self seeded tree located on bank of canal, unable to access. Fair to poor form and poor vitality. Small diameter deadwood in centre of crown. Rooting constraint to west due to canal. RPA to edge of canal.	Consider long term viability of the tree and thus potential management options.	U	41	3.6	N/A
T	10	N/A	Sycamore	9.4	4.3 S	1.5	3	2	2.5	120					1	SM	P	F	20+	C	1	Small self seeded tree on bank of canal within crown spread of larger tree. Unable to access. Narrow stem for height.	Consider long term viability of the tree and thus potential management options.	U	6.5	1.4	N/A
T	11	N/A	Norway Maple	11.2	3.4 N	4.1	6.1	4.8	6.1	380					1	EM	F	F	20+	B	2	Tree previously crown reduced to an approximate height of 10 m above ground level. Adjacent to road with significant contact damage to southern branches. Several tight unions at 2 m from ground level. Minor girdling surface roots and lifting of slabs to northeast.	If retained, re-inspect for safety/ risk management purposes within 18 months.	U	65	4.6	N/A
T	12	N/A	London Plane	25.6	4.2 W	10.6	8.3	12	10.3	1600					1	M	G	G	40+	A	1,2	Prominent tree adjacent to canal and road bridge located on neighbouring property. Unable to fully access. Excellent form and vitality. Important tree in local streetscene. Tree does not appear on topographical survey plan, plotted manually utilising GPS. Rooting constrained by canal, thus RPA to edge of canal.	None required.	U	707	15.0	N/A

T	13	N/A	Sycamore	15.1	4.9 S	5.1	5.4	5	6.3	420					1	EM	G	G	20+	B	1,2	Tree adjacent to canal towpath and road bridge with above average form and vitality. Fly tipped material and tent immediately adjacent to stem. Unable to fully access. Small diameter deadwood to south of crown. Lamp post within crown spread. Tree does not appear on topographical survey plan, plotted utilising GPS. Rooting constrained by canal, thus RPA to edge of canal.	Non required.	U	80	5.0	N/A

Appendix 2
Survey Methodology

Appendix 2

Survey Methodology

The following process has been followed and the features of each tree, group of trees or woodland have been recorded in the Arboricultural Data Sheets (See Appendix 1):

- Each individual surveyed tree (T), tree group (G), woodland (W) and hedgerow (H) was given a sequential reference number.
- Where a number of surveyed trees formed a cohesive feature, such as groups, woodland compartments or whole woodlands, they were recorded, assessed and plotted as groups (G) or as woodland (W). Whilst not every tree within groups are surveyed, a representative sample of the largest edge trees were measured in order to be able to plot the group or woodlands crown spreads and RPAs. Where detailed plans show development proposed within a group or woodland, all trees within influencing distance of the development proposals are usually recorded, plotted and assessed.
- The surveyed trees and hedgerows were then identified by their common and/or Latin name.
- Tree height measured in metres from the stem base using a TruPulse 200L laser. Where the ground has a significant slope, the higher ground is selected. This informs crown/stem ratio and shading.
- Crown height/ height of lowest branches is measured in metres above ground level using a TruPulse 200L laser and is an indication of the average height at which the main crown begins.
- Stem diameter is measured in millimetres at 1.5m above the adjacent ground level (upslope on sloping ground) with a standard diameter measuring tape to enable RPAs to be calculated.
- Crown spread is measured in metres using a TruPulse 200L laser and taken at the four-cardinal compass points to derive an accurate representation of the crown to be plotted on the TPP.
- Age class of the tree is described as:
    - Young – Newly planted trees and self-seeded trees;
    - Semi-mature – Large nursery stock that can be newly planted or self-seeded trees still in the early stages of establishment;

  - Early mature – Trees in the first third of their life cycle which is characterised by their quickness of growth and subsequently significant increase in size;
  - Mature – Trees in the second third of their life cycle, characterised by reaching their ultimate size and slowing of annual incremental growth;
  - Late mature – Trees in the final third of their life cycle, often characterised by showing signs of decline; and
  - Veteran – Trees that show ancient tree characteristics irrespective of their age, such as crown retrenchment and decaying wood habitat.

- Physiological condition is assessed and classed as G (good), F (fair), P (poor) or D (dead). This is an indication of the health of the tree and takes into account vitality, presence of disease and dieback.
- Structural condition is assessed and classed as G (good), F (fair) or P (poor). This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.
- Life expectancy is classed as: less than 10 years (<10), at least 10 years (10+), at least twenty years (20+) or at least 40 years (40+). This is an indication of the number of years before the removal of the tree is likely to be required.
- The trees were then classified in accordance with the BS5837:2012 tree quality assessment categories ‘A’, ‘B’, ‘C’ and ‘U’ (see category criteria and grading within Appendix 3).
- Comments include a brief description of the tree with comments on the form, vitality, health and any significant defects that may be present.
- Recommendations for work are based on the existing land use.

Appendix 3

Tree Categorisation Method

Appendix 3

Tree Categorisation Method

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

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
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**.*			See Table 2
	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)	See Table 2
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	See Table 2
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	See Table 2

A single tree, group or woodland can come under one or more sub-headings. This does not confer on it a higher value than a tree with a single value. For the purposes of this report.

Appendix 4

General Tree Constraints

Appendix 4

General Tree Constraints

- Trees impose a constraint to development in a variety of ways. These principally include their rooting areas, referred to as Root Protection Areas (RPAs), their current and future crown spread, and their species characteristics (e.g. branch and fruit drop, production of 'honey dew', density of foliage etc). Where located on shrinkable clay soils, trees can also contribute to subsidence damage to buildings.
- Consideration should be given during the design stage to any incompatibilities between the design and tree retention. These include (but are not limited to) the effects on the amenity value provided by existing trees, working space required during construction, infrastructure/utility requirements, highway visibility requirements and foundation design to prevent the effects of subsidence.
- The RPA is calculated using the tree's diameter at 1.5m and represents the minimum area which should be left undisturbed around each retained tree to enable its survival following development.
- Tree root morphology is influenced by many factors including, but not limited to; past land use, the presence of roads, structures and underground services, drainage and soils. Any of these factors may result in non-uniform root growth and therefore result in an RPA represented as a polygon RPA that reflects suitable protection of the root system.
- The majority of tree roots are generally found within the top 600mm of soil, depending on soil types and profiles. Any disturbance or sudden changes to the rooting environment can result in damage being caused to roots and alterations to the roots physiological ability to absorb water, nutrients and undertake gaseous exchange.
- Where alterations have been made within the trees' rooting environment, the damage can often be observed within the crown of the trees, reduced vitality and increased deadwood production. Trees are likely to decline progressively, or in some circumstances may become a hazard where stability and structural integrity has been compromised by Site operations.
- The RPA must be protected by the installation of tree protection fencing prior to the commencement of development work on Site. The fencing provides a physical barrier that is secured, to prohibit activities considered detrimental to the retention of healthy trees (e.g. excavations, soil stripping, discharge of substances harmful to trees, storage of materials, fires). In addition to this, it may be necessary to install specialist temporary

ground protection which enables access within the RPA, without causing long-term detriment to the health of the tree/s.

- No traditional construction works should take place within the RPA of retained trees. However, in some circumstances and where there is an overriding requirement for construction and the retention of trees, it may be appropriate to employ techniques and use materials that allow trees to be retained, whilst enabling the construction. For hard surfacing, such as drives, roads and footways, utilising no-dig construction techniques and using three-dimensional geogrids and permeable wearing course materials may be appropriate. For built structures within RPAs, the use of pile and above ground level beam foundations and/or cantilevered engineering solutions can enable structures to be constructed within RPAs. The project arboriculturist should be consulted on the appropriateness of building within retained tree RPAs, as this is not appropriate for all trees and soil types.
- Where aerial parts of the tree crowns extend beyond the edge of the RPA, consideration should be given to protection of these parts, allowing for protection during development processes including working space. It may be appropriate to consider pruning of aerial parts to allow construction clearances and future nuisance abatement, this however must be considered by the project arboriculturist and the LPA. Where development proposals identify a need for working within the RPA/crown spread of retained trees and it can be demonstrated that retained trees remain viable, then it is important that the project arboriculturist is contacted to advise and prepare an AMS and identify appropriate stages of supervision.

Appendix 5

Report Limitations

Appendix 5

Report Limitations

- Trees are influenced by a variety of environmental variables, which can affect the health of trees causing biomechanical and physiological changes. All comments made on tree health reflects their physical condition at the time of the survey. Due to the changeable nature of trees and other site/environmental conditions, which may influence trees, the preliminary management recommendations/ further works for the surveyed trees undertaken, which can be found in Appendix 1 of this report, are only valid for a period of 12 months from the date of the Site survey (10th November 2022). These recommendations relate specifically to the general maintenance of tree health and safety and do not affect the implications of this Arboricultural Impact Assessment and therefore, the results of the survey remain valid beyond (10th November 2023).
- This AIA report and the associated TPP is based on a topographical survey plan supplied by the client. Where tree stem locations are not shown on the topographical survey, these are plotted using GPS plotting and/ or the utilisation of site features to manually plot the tree stem locations and canopy spreads for tree groups. Aerial photography is also utilised to plot tree group canopy spreads, where utilisation of GPS is not feasible. These methods provide a good representation of the surveyed trees; however, please note that the GPS used is not sub-metre accurate. WA cannot be held responsible for inaccurate tree locations, where we are not supplied with a topographical plan showing tree locations or where trees are not shown on the topographical survey plan supplied to us by the client.
- Although comments and recommendations on the safety of particular trees may have been made, this survey is not a Tree Risk Management Survey and thus should not be treated as such. All trees were surveyed from ground level only and in a solely visual nature. However, where trees have been identified as presenting an imminent safety risk due to structural defects, this has been brought to the attention of the client and treated as a separate matter. Should trees require further detailed assessment (decay detection, aerial inspections) and do not present an imminent safety risk, the information will be detailed within the survey schedules.
- Any management recommendations have been made in accordance with BS3998: 2010 Tree Works – Recommendations; and/or industry best practice. Works have been recommended in accordance with any statutory obligations on the landowners or occupiers.

- This survey did not include an ecological survey of vegetation or habitat areas. Any ecological issues incidentally observed during the survey are reported on in the tree schedule.
- For the purpose of this report no samples were obtained from Site for analysis or any other reason.
- The survey did not include soil sampling or assessment.

Appendix 6

Glossary of Common Terms Used in Arboriculture

Appendix 6

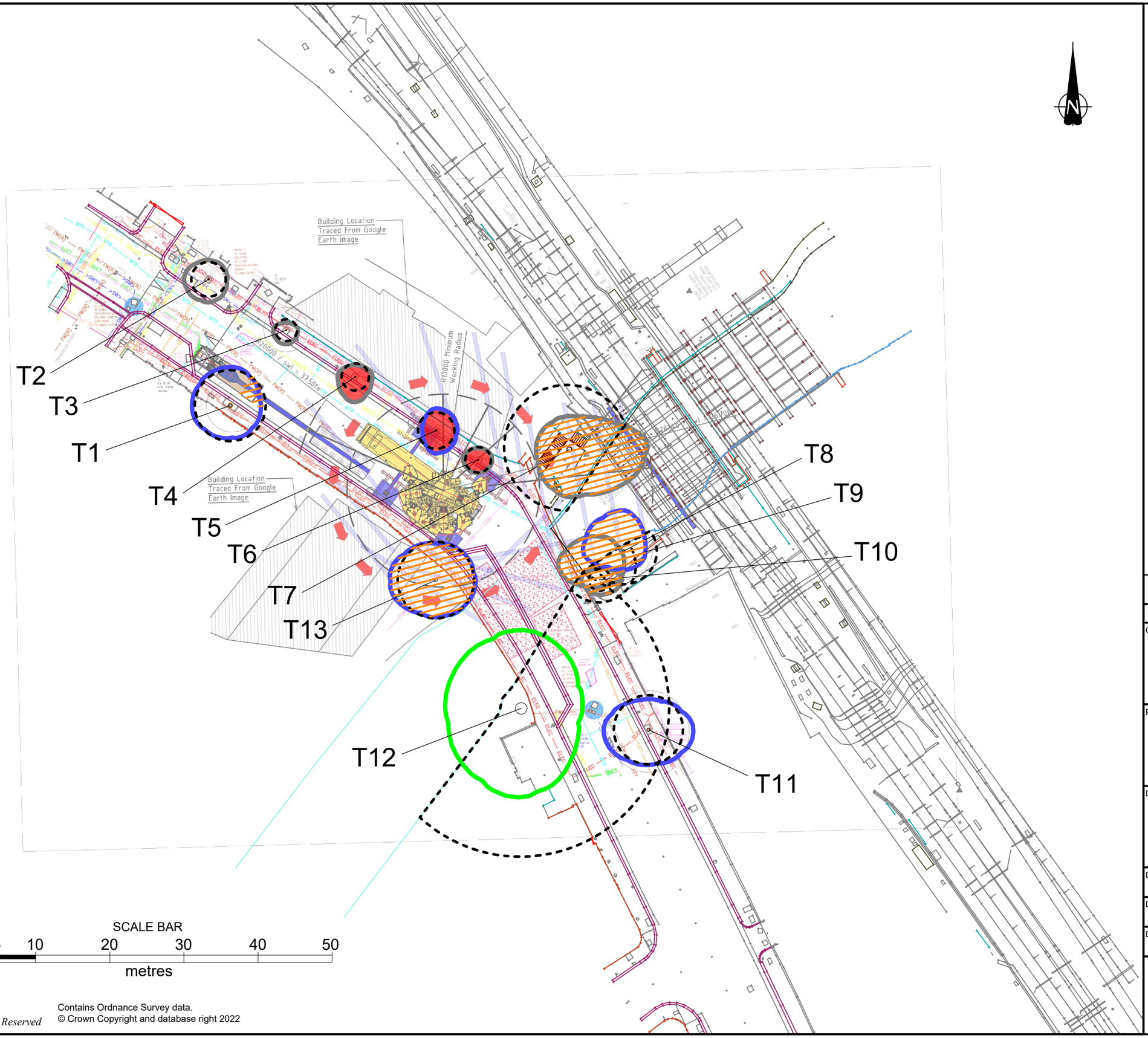
Glossary of Common Terms Used in Arboriculture

Abscission. The shedding of a leaf or other short-lived part of a woody plant.
Abiotic. Pertaining to non-living agent's e.g. environmental factors.
Absorptive Roots. Non-woody short-lived roots, generally having a diameter less than one millimetre, the primary function of which is the uptake of water and nutrients.
Access Facilitation Pruning. One off pruning operation to provide access for development operation. Pruning that will not be detrimental to trees health or amenity.
Arboricultural Method Statement (AMS). A methodology for the implementation of development where encroachment within the RPA has the potential to cause damage or loss of retained trees.
Arboriculturist. Someone who through relevant training and experience has gained knowledge in the expertise of trees.
Adaptive Growth. The process by where wood formation rates increasing in the cambial zone, as well as wood quality, responds to gravity and other forces acting on the cambium.
Adaptive Roots. The adaptation of existing roots; or a production of new roots in response to damage or decay.
Adventitious Buds, Roots, Shoots. Which grow in other than primary apical control.
Anchorage. The process in which a tree uses its roots system to support itself within the soil structure.
Ancient: A tree that has passed beyond maturity and is old, or aged, in comparison with other trees of the same species.
Arisings. Parts of the tree that has been removed for disposal, branches, leaves, roots etc.
Canker. Area of dead cambium killed by overlying pathogenic tissues.
Cavity. A hole in the woody structure of the tree; often caused through decay.
Cleaning Out. The removal of dead, diseased crossing branches, damaged branches and alien structures.
Competent Person. Person with training and experience in accordance with the proposed matter being addressed, having an understanding of a particular matter being approached.
Condition. An indication of the physiological vitality of a tree, but not the stability of a tree.
Construction. A Site based operation that has the potential to affect retained trees.
Construction Exclusion Zone. An area based on the RPA from which construction activity is prohibited.
Coppicing. Removal of all aerial parts of the tree leaving a stump for regeneration of new shoot.
Crown/Canopy. The parts of the tree that supports the leaves.
Crown Lifting. The removal of limbs and small branches to a specified height above ground level.
Crown Thinning. The removal of a proportion of secondary branch growth throughout the crown to produce an even density well balanced crown structure.
Crown Reduction/Reshaping. Removal in the height to a specified description to maintain a flowing crown structure.
Deadwood. Non-functional branches which no longer support natural growing conditions of the tree but may be beneficial for the support of habitats and species, possibly including rare saproxylic invertebrates. Thus, may also be referred to as 'Decaying Wood Habitat' or 'Dysfunctional wood'. Size ranges for deadwood referred to in this report and/or Appendix 1: - Small (<75 mm diameter), Medium (76 – 150 mm), Large (151-

300) mm and Very large >301 mm. For some species such as oak etc, the risk of deadwood falling from the tree can be lesser than for other species, due to the variety of wood strengths of different tree species.
Defect. Any area of the tree that no longer has an optimal mechanical uniformity of stress. Defects may or may not affect the long-term retention of the tree(s), depending upon severity, the likelihood of the defect(s) failing and the location of the tree(s) (Target).
Dieback. Death of woody parts of the tree starting at distal ends of the tree.
Disease. Damage occurring to living organisms as a result of pathenogenic micro-organisms.
Distal. Furthest distance away from the main body of the tree.
Dysfunction. In woody tissues, the loss of physiological function, especially water conduction, in sapwood.
Epicormic Growth. Growth from dormant or adventitious buds, not developing from the first shoot.
Girdling Roots. A circling root which constricts the stem or roots, with the potential to cause death and the restriction of flow within the phloem.
Heartwood. Dysfunctional xylem which no longer has conductive properties, but which has become an integral structural part of the tree.
Heave. The swelling of shrinkable clay soils, often when vegetation has been removed allowing soil rehydration to develop, with the potential for listing structures (e.g. walls).
Included Bark/Acute Forks. Face to face contact of bark usually at fork unions, or branch unions.
Lopping/Topping. A term used to describe the removal of large sized branches
Monolith. Removing some or most of the trees crown and sometimes the upper stem, in order to retain as much of the tree as standing deadwood habitat for ecological reasons.
Pathogen. A micro-organism that causes disease within another organism.
Phytotoxic. Toxic to plants.
Pollarding. The removal of the tree canopy to produce knuckles where new growth develops and is removed cyclically usually performed on young trees.
Pruning. Selective removal of parts of the tree to achieve a desired outcome.
Root Protection Area (RPA). An area around a tree identified by multiplying the stem diameter at 1.5 m from ground level by 12 to produce a radial area or rooting volume around a tree to be protected Ref. BS 5837: 2012.
Service. Any above and below ground structure or apparatus for utility provision.
Size of part. Relating to risk assessments, identifying the size of the hazard, or parts of a tree which may cause harm if failure occurs.
Stem(s). The main structure from the ground up supporting the crown.
Stress. In plants, the physiological depletion as a result of environmental influences.
Structure. A manufactured object, such as building, roads, path, wall or excavated structures.
Structural Roots. The primary larger diameter roots which hold and support the aerial parts of the tree.
Subsidence. The shrinkage of soil through the absorption of water via vegetation and the sinking effects on surrounding architectural structures.
Targets. In risk assessment, persons or property at risk of harm as a result of a hazard (falling tree, branch, etc.).
Transitioning Veteran Trees: Trees with some veteran features, but not sufficient veteran features to be considered full veteran trees. They contribute to the veteran tree resource and, through the ageing process

are expected to become true veterans in time, before which they offer bridge and continuity habitat for important saproxylic invertebrates and fungi.
Tree Protection Plan (TPP). A scaled drawing informed by descriptive text where necessary, based upon finalised Site proposals, showing trees for retention and illustrating the tree and landscape protection measures.
Veteran Tree. Tree that, by recognized criteria, shows features of biological, cultural or aesthetic characteristics of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.
Windthrow. The blowing over a tree at its roots.

DRAWING



KEY

TREES REMOVED DUE TO CONDITION AND/OR TO ENABLE DEVELOPMENT

EXTENT OF PRUNING

TREES

Quality categories based on BS5837:2012 Trees in relation to design, demolition and construction - Recommendations
RPA - Root Protection Area
Where RPA is not visible it extends to the same distance as the canopy.
The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

CATEGORY A CROWN SPREAD

CATEGORY B CROWN SPREAD

CATEGORY C CROWN SPREAD

CATEGORY U CROWN SPREAD

ROOT PROTECTION AREA

VETERAN TREE BUFFER ZONE

T1 TREE NUMBER

NOTES:

REFERENCED DRAWING(S):
AINSCOUGH CRANE HIRE LTD, HANGER BEAM, PDF: 03-22-GMW_0401-02 REV P

PBH SURVEYS, TOPOGRAPHICAL SURVEY, DWG: PBH-2614-001-DWG-SU-004 REV A01

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D
A	First Issue	18/11/22	MAB	AR	MS

CLIENT

STORY CONTRACTING LTD

PROJECT

REGENT CANAL

DRAWING TITLE

TREE PROTECTION PLAN

DRG No.	REV	SUIT.
GM12516-001	A	

DRG SIZE	SCALE	DATE
A3	1:500	14/11/2022

DRAWN BY	CHECKED BY	APPROVED BY
MAB	AR	MS

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\\WA.LOCAL\PROJECTS\GM\GM12516 - REGENT CANAL ARB REPORT\03 - DESIGN\AUTOCAD\GM12516-001-A TREE PROTECTION PLAN.DWG

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