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ARBORICULTURAL

Arboricultural Implications Assessment and Method Statement for 'Long Acre', The Street, Walberton

Arboricultural Implications Assessment and Method Statement

'Long Acre', The Street, Walberton

Produced by:

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Arboricultural Consultant

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1 INTRODUCTION

1.1 **Instruction:** I am instructed by Vivid Design Studio to report on trees which could be affected by a development proposal at 'Long Acre', The Street, Walberton and prepare an Arboricultural Implications Assessment (AIA) and preliminary Arboricultural Method Statement (AMS) to support a planning application on the site.

1.2 **Document disclosure:** Initially, I was provided with a topographical survey (drawing reference 'Land at Longacre-The Street-Walberton'). This showed the positions of the significant trees on or near the site, together with any existing or nearby buildings and any other important site features. Subsequently, I was supplied with a copy of the proposed layout, (drawing reference '220043_SK12C_proposedsiteplan-A1 SHEET') showing a new site configuration.

1.3 **Scope of report:** All my tree observations are of a preliminary nature, with the tree survey carried out from ground level without any investigations using invasive or diagnostic equipment. I was not able to fully view all the trees detailed in this report from all directions, as some were located on adjacent private property. I have therefore confined observations of these trees to what was visible from within the site. I have not checked the accuracy of the positions of the trees shown on the provided plans and I have estimated all dimensions unless otherwise indicated.

1.4 **The Tree Protection Plan**: This is included in Appendix 1 and is a composite drawing derived from the information provided. It shows the existing landscape features (from the land survey) in grey superimposed over the proposed layout shown in black outline with grey fill. This allows the relationship between the two to be clearly seen and an appropriate analysis of the implications of the proposed site changes to be undertaken. The Tree Protection Plan has also been annotated to show protection measures for any retained trees which could realistically be affected by the proposed development. It shows any activities in Root Protection Areas (RPAs) and if any trees are to be removed, they are shown with a red dashed crown outline.

1.5 **Qualifications and experience:** This report is based on my site observations and I have come to my conclusions in the context of my experience as a former local government tree officer and a private practice arboricultural consultant. I have qualifications in both arboriculture and forestry and details of these, together with a career summary are provided in Appendix 6.

1.6 **Ecological issues and statutory tree protection:** Providing guidance on ecological issues is not within my sphere of expertise. However, trees and other vegetation can often provide nesting, roosting and feeding opportunities for protected species. Therefore, before any tree work proceeds on site, I advise that appropriate advice is sought to see whether the trees to be removed are being utilised by any protected species. At the time of writing, I understand from discussion with the project architect that some of the trees on site have been made the subject of a recently served Tree Preservation Order. Therefore, any person intending to carry out any operations involving trees (before a formal planning consent is issued) should consult the council before any such works are undertaken.

2 SITE VISIT, DESCRIPTIONS, OBSERVATIONS AND SURVEY METHODOLOGY

2.1 **Site visit and description:** I visited the site on 6 October 2023 to gather my tree data. 'Long Acre' is located in The Street, which is situated in the village of Walberton. It is located on the northern side of the road and consists of a single dwelling, with car parking to the front and an access drive to the side. The access drive leads to a large garden area (along with part of a garden of a property adjacent) at the rear of the dwelling. Scattered groups and individual trees are located throughout the site, with the more prominent trees positioned on or close to the site boundaries.

2.2 **Description of proposed development:** This development proposal is to construct seven new dwellings on the garden areas of 'Long Acre' and a neighbouring property.

2.3 **Soil assessment:** British Standard (BS) 5837:2012 Trees in relation to design, demolition and construction – Recommendations advocates that a soil assessment should be carried out to inform decisions relating to Root Protection Areas (RPAs), tree protection, new planting and foundation design. I have consulted the British Geological Survey (BGS) website and their Geology Viewer and this advises that the bedrock geology for the site is London Clay Formation - Clay, silt and sand. I did not undertake any excavations on site to confirm this and a full geotechnical site investigation may need to be undertaken to provide a more in-depth level of information regarding soil type for the site.

2.4 **Tree survey methodology:** My inspection of the trees was visual and did not involve any climbing or exploratory investigations. During my visit, I identified individual trees and any obvious groups/hedges where appropriate and I assigned an identification number to each, as shown on the plan in Appendix 1. Tree stem diameters are also indicated on the Tree Protection Plan and for certain trees assessed as a group feature, I have assigned an additional number to the main group figure (e.g., G5-1) to help aid identification. I then collected the tree data included in Appendix 2 and placed the vegetation in one of four categories (U, A, B or C), as set out in BS 5837:2012. I have included the BS categorisations in Appendix 5 for easy reference. Where of relevance, I also estimated the crown spreads for each tree/group at the appropriate cardinal compass points and this information is also shown in the tree schedule in Appendix 2. Although this document is not a full and detailed report on tree health and safety, any significant visible structural defects or physiological conditions identified, together with preliminary tree works, are also noted in the appropriate columns in the tree schedule. However, this report is not a tree condition survey and a full post development tree inspection is recommended to establish that the trees retained pose acceptable levels of risk once the development has been completed.

2.5 **Data interpretation:** The Root Protection Area (RPA) figures are included in Appendix 2. As set out in paragraphs 4.6.2 and 4.6.3 of BS 5837:2012, the RPAs may have been adjusted as a matter of arboricultural judgement to indicate the estimated likely position of important tree roots. These modified (or unmodified) RPAs can then help determine the location of the tree protection barriers (which encompass the Construction Exclusion Zones - CEZs) and the position of any ground protection measures. Tree protection details are shown on the plan included in Appendix 1. Where there is a need for incursions into RPAs, an assessment of the implications of these activities is set out in Section 3 (Arboricultural Implications Assessment) of this report. Where appropriate, details of suitable work methodologies to protect trees and also mitigate any impact are set out in Section 5 (Arboricultural Method Statement).

3 ARBORICULTURAL IMPLICATIONS ASSESSMENT

3.1 **Introduction to the implications of the development proposal on trees:** BS 5837:2012 sets out in some detail how trees on development sites should be managed. It is usually accepted amongst arboriculturists that Category A (high quality) and Category B (moderate quality) trees are potential constraints on any development proposal. Trees and hedges belonging to Category C (low quality) are considered to be generally less important and such trees would not normally constrain site development proposals. Any Category U trees/hedges are in such poor condition that they are considered unsuitable for retention. This is because they cannot realistically be retained in acceptable condition in respect of the current land use for longer than 10 years. Therefore, these can be effectively discounted in the context of a planning application. On this site a total of thirty five individual trees, groups and hedges were recorded during the tree survey and these were assigned to the BS 5837:2012 categories, as set out in Table 1 below:

Category A and B trees	Category C trees	Category U trees
A total of ten trees/groups (T8, G16, G17, T21, T22, T25, T29, T31, T34 and T35) were rated Category A and B	A total of eighteen trees, groups and hedges (T1, T2, T3, G5, G9, G11, G12, T13, G15, G18, G19, G20, G23, G26, T28, H30, T32 and T33) were rated Category C	A total of seven trees (T4, T6, T7, T10, T14, T24 and T27) were rated Category U

Table 1: Tree numbers and BS categories

I have focussed on the implications of the development proposal mainly on the important trees on or near the site (Category A and B) in terms of tree loss/retention and by the extent of any incursions into and/or disturbance within Root Protection Areas (RPAs). I have also considered the implications for the Category C trees present. Of the total of thirty five trees, groups and hedges surveyed, ten trees, groups and hedges are scheduled to be wholly or partially removed to facilitate this development proposal. Additionally, five trees/groups will have activities arising from the development occurring within their RPAs. I have summarised the development related implications on trees in Table 2 below and set out the site tree issues in more detail in the following paragraphs.

Trees to be removed for development		Activities in RPAs arising from the development proposal	
Category A and B	Category C	Category A and B	Category C
T8	T1, T2, T3, G5, G9, G12, G19, G23 and H30	T22 (ground protection)	G11 (new surfacing) and T32, T33 and T35 (existing access upgrade)

Table 2: Trees lost and activities in RPAs arising from the development proposal

3.2 **Direct implications of the development proposal - Tree retention and tree loss**

3.2.1 **BS Category B tree to be removed (tree of moderate quality):** Tree T8 is indicated to be removed as it would be under the footprint of the new dwelling indicated on Plot 1 and so it cannot be retained with the new site configuration. The tree is positioned well within the site and is surrounded by trees to be retained on the site boundaries. I therefore feel that its loss is unlikely to have any particular implications in the locality.

3.2.2 **BS Category C trees/hedges to be removed (trees/hedges of low quality):** As discussed, trees belonging to Category C are not normally retained where they would impose a significant constraint on the development or redevelopment of a site. In this instance, ten Category C trees, groups and hedges (see Table 2) are scheduled to be wholly or partially removed to facilitate the development proposal. I set out my view on the implications of the loss of these trees/hedges, as follows:

- **Trees T1, T2, T3 and groups G5, G9 and G12:** These trees are indicated for removal as they would be either under the footprint of new dwellings, or to allow sufficient garden space for incoming residents that would not be overly dominated by trees. They are located well within the site and they are also not especially large in size. As such, I feel that they are not particularly significant in terms of public amenity and so their loss is unlikely to have any significant implications in the locality.

- **Group G19:** These trees are located toward the northern site boundary and are also shown to be lost to provide adequate garden space for some of the proposed new dwellings. The trees in G19 are generally unremarkable, with some not in the best condition, having been severely pruned in the past. Consequently, I feel that these trees are unsuitable for retention if the site is to be redeveloped. Their removal is likely to have limited impact, but new tree planting is indicated on the architects' drawings along the boundary in mitigation for their loss.

- **Group G23:** These trees are shown to be felled as they would again be under a building footprint, or their loss is needed to provide suitable space for the movement of personnel and building materials around the site during the construction phase. The trees are not large in size and screened to some extent from views from outside the site looking in by the position of tree T22 to be retained. I therefore feel that their loss is unlikely to have any significant impact.

- **Hedge H30:** This shaped/clipped hedge feature is to be removed, as it would be under the footprint of the new widened access. It is quite small in size and so not particularly noticeable from outside the site. I therefore feel that its loss is unlikely to have any particular amenity implications.

3.3 **Additional implications arising from the development proposal**

3.3.1 **Trees and activities within RPAs:** Five trees/groups (see Table 2) will have activities arising from the development occurring within their RPAs. My comments on these issues are as follows:

- **Ground protection:** The protective barriers around tree T22 will need to be set back to allow sufficient room for the positioning of scaffolding and to provide suitable space for the movement of materials and personnel around the new building during its construction. The protective barrier positions around the tree are shown on the plan in Appendix 1. The area of the RPA that is outside of the barriers will be covered in ground protection and this will be installed after the erection of the barriers, but before any clearance or construction work starts on site. The provision of ground protection to allow access within RPAs is supported in paragraph 6.2.3 of BS 5837:2012 and I do not perceive this to be a particular problem provided it is implemented correctly and remains in situ during the construction phase of the project.

- **Access upgrade within RPAs:** The existing side access drive is a compacted aggregate formation and is already located within the RPAs of trees T32, T33 and T35. The existing drive will need to be upgraded and widened to service the new development, but I think it likely that the make up of the drive will have had some implications on the extent and abundance of tree root activity from these trees beneath its construction. For the most part, I feel that the trees are likely to be rooting in the surrounding garden areas, where rooting conditions would be expected to be more favourable. The relationship between the trees and the existing/upgraded access is shown on the plan in Appendix 1. The extent of the RPAs that are affected by the existing access drive (and subsequent surfacing upgrade/widening work) are quite modest and so I feel it unlikely that these trees will suffer any long term implications arising from this work.

- **New surfacing:** The position of new car parking on Plot 1 will require an incursion within the RPAs of trees in group G11. I have isolated the affected areas in a CAD drawing programme and can confirm that these will be around 2.9m² for tree G11-1 (of a total RPA of 18m²) and around 0.9m² (of a total RPA of 28m²) for tree G11-2. These represent only around 16% and 3.2% of their total respective RPAs. In my view, these incursions are sufficiently small so that they are unlikely to have any significant long term implications for these trees. Consequently, a low invasive construction approach to the installation of the surfacing is probably not needed in this instance.

3.4 **Additional site tree issues**

3.4.1 **Trees to be pruned:** The low quality trees included within group G20 are not in the best condition, with canopy symptoms indicating declining vitality. Nonetheless, it has bene decided that the trees should be retained in the short term, with appropriate tree surgery works to retain any perceived ecological value. These trees will therefore be cut and maintained as 'conservation pollards' at a height of around 3.5m above ground level.

3.4.2 **BS Category U trees normally removed for management reasons:** Category U trees are in such poor condition that they are considered unsuitable for retention in the longer term. On this site, I have preliminarily assessed trees T4, T6, T7, T10, T14, T24 and T27 as falling into Category U. Consequently, trees T4, T6, T7, T10 and T14are scheduled for removal for management reasons. As they are unsuitable for retention in the context of the current site use, I do not believe that their loss should be a consideration in respect of the current planning application. Trees T24 and T27 are located within an open space/ecology area and so will be

retained as 'conservation pollards' at a height of 3,5m above ground level, along with the trees discussed above in section 3.4.1.

3.4.3 **Tree protection during development:** A preliminary Arboricultural Method Statement is included in Section 5 and it details the various issues associated with successful tree protection in a development context on this site. If deemed appropriate by the council, this can be specifically referred to in a suitably worded planning condition attached to any subsequently issued planning consent.

4 SUMMARY OF THE IMPLICATIONS OF THE DEVELOPMENT ON TREES

4.1 **Summary:** Of the total of thirty five trees, groups and hedges surveyed, ten trees, groups and hedges are scheduled to be removed to facilitate this development proposal. Additionally, five trees/groups will have activities arising from the development occurring within their RPAs. The trees to be removed are either small in size and/or in poor condition or positioned so that their loss is likely to have no particular (or limited) amenity implications in the locality. The existing access into the site will need to be upgraded, with the RPAs of a small number of trees potentially affected. However, the existing access drive is likely to have had an impact on tree root distribution under the existing surfacing and the incursions within RPAs are quite modest. Consequently, provided the tree protection measures set out in this report are realised and care is taken during the sensitive works within tree RPAs, then the proposal is acceptable from an arboricultural perspective and the risk of implications for retained trees is likely to be low.

5 PRELIMINARY ARBORICULTURAL METHOD STATEMENT

5.1 Tree protection issues

5.1.1 **Tree Protection Plan (TPP):** The plan in Appendix 1 is illustrative, but is based on the layout drawings and topographical survey provided. Therefore, all scaled measurements should be checked against the original design documents. The attached plan and all other information in this report should only be used for dealing with the tree protection issues and all other uses are prohibited, unless authorised by **eco**urban ltd. All the existing trees will have been numbered, with any higher categories (A and B) highlighted in green and blue rectangles and any low categories (C and U) highlighted in grey and red respectively. The plan also shows the locations of the proposed protective measures, including areas where special care may be required. Additionally, any trees to be removed are indicated with a red dashed crown outline. The TPP is an important document and a copy of it should be kept on site for reference during the construction phase of the project.

5.1.2 **Protective barriers:** The approximate location of the barriers is illustrated on the plan in Appendix 1 and information on barrier design based on BS 5837:2012 guidance is included in Appendix 3. The protective barriers will be erected before any materials or machinery are brought onto the site and before any clearance or construction activities occur. Once the protective barriers have been positioned, these will stay in situ for the duration of the construction phase, unless previously agreed with the project arboricultural consultant or council's tree officer. There will be no access into the protected areas and the storage of excavated debris and building materials will be prohibited in RPAs, unless authorised by the project arboricultural consultant, after discussion with the council's tree officer. No fires or fuel storage will be allowed within or near to protected areas under any circumstances.

5.1.3 **Ground protection measures:** Where the positioning of tree protection barriers is not feasible due to the need for construction access, then ground protection measures will be needed to safeguard RPAs. The position of ground protection is shown on the plan included in Appendix 1, with guidance for ground protection design included in Appendix 4 and an installation video for proprietary ground protection is available to view at https://www.youtube.com/watch?v=QiaRgNUacKY. The ground protection will also be installed before any materials or machinery are brought onto the site and prior to any clearance or construction activities occurring. Again, once the ground protection has been positioned, it will stay in situ for the duration of the construction phase, unless previously agreed with the project arboricultural consultant or council's tree officer.

5.2 **Additional tree-related issues**

5.2.1 **Site supervision:** Site personnel will be properly briefed regarding the tree protection issues before any work starts and the tree protection will be inspected periodically to ensure the retained trees are protected in accordance with this document and any conditions imposed by the council.

5.2.2 **Installation of new services or upgrading of existing provision:** Where practicable, all new services will be outside the protected areas indicated on the plan in Appendix 1, but where existing services within RPAs require upgrading or new provision is needed, great care will be taken to minimise any disturbance. Trenchless installation will be the preferred option, but if this is not feasible for any reason, then excavation will be carried out by hand in accordance with the guidelines set out in NJUG Volume 4 - Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.

5.2.3 **Material storage areas and site compounds:** All construction material storage areas, cement silos or cement mixing areas, fuel storage points and compounds for machinery etc. will be outside protected areas, unless otherwise agreed with the council.

5.2.4 **Site offices, welfare facilities and contractor's car parking:** Whilst it is possible to have site offices and welfare facilities within RPAs, care is needed in their positioning and also in the connection of water, electricity and drainage to service them. Therefore, these will generally be sited outside the tree RPAs, unless agreed previously with the council. Contractor's car parking facilities will also be located away from retained trees.

5.2.5 **Tree works:** Any tree pruning or tree removal operations are set out in the tree schedule included in Appendix 2. Additionally, those trees scheduled for removal are also shown on the Tree Protection Plan included in Appendix 1.

5.2.6 **Planning, communication and preliminary timing of events:** It is not unusual for the details of timing of operations which could impact on important trees to only be finalised once planning consent has been given. Site managers, clearance and construction teams and other important personnel are normally only appointed at this stage and it is these people who will be crucial in delivering the tree protection detailed in this report. My experience is that the pre commencement site meeting is critical in terms of avoiding damage to trees and this particular aspect, along with tree protection issues can be specifically referenced in a suitably worded

planning condition imposed by the council. In the intervening time, I propose the following preliminary cascading timetable of events to help minimise the risk of impact on important trees. However, the following schedule may be modified at the pre-commencement meeting, subject to discussion with all parties and agreement with the council:

1. Pre-commencement site meeting
2. Extent of any arboricultural supervision agreed
3. Tree works undertaken
4. Protective barriers erected before any clearance or construction activities occur on site and notification to the council that this is in place
5. Ground protection installed before any clearance or construction activities occur on site and notification to the council that this is in place
6. Tree protection only removed at the end of the construction phase when there is no longer any risk to trees

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Arboricultural Consultant

Date: **5 November 2024**

Appendix 1: Tree Protection Plan

1 A1 plan

Indicative North

G20-4 SWEET CHESTNUT DBH 45
G20-3 ASH DBH 60
T21 OAK DBH 78
G20-1 ASH DBH 61
G20-2 ASH DBH 42
G19-4 LEYLAND CYPRESS DBH 20
G19-3 LEYLAND CYPRESS DBH 22
G19-2 LEYLAND CYPRESS DBH 22
T22 SWEET CHESTNUT DBH 59
G19-5 LEYLAND CYPRESS DBH 41
G19-1 LEYLAND CYPRESS DBH 45
G19-6 LEYLAND CYPRESS DBH 9
G23-1 SWEET CHESTNUT DBH 9
T24 ASH DBH*
T1 PLUM DBH 14+12
T3 BEECH DBH 29
G18-2 PITTO-SPORUM DBH 10+15
G18-3 HOLLY DBH 15
G23-3 BIRCH DBH 13
G18-1 PITTO-SPORUM DBH 7 STEMS @ 9 *
G17-3 LAWSON CYPRESS DBH 27+25+17
G5-1 BAY DBH 25+28
T25 SWEET CHESTNUT DBH 65*
G23-2 OAK DBH 20
T4 HAWTHORN DBH*
T6 HAWTHORN DBH*
G26-1 SWEET CHESTNUT DBH 16
T2 BEECH DBH 43
G17-2 DEODAR DBH 49
T7 FOXGLOVE DBH *
T27 ASH DBH*
G26-2 SWEET CHESTNUT DBH 16
G17-1 BOX ELDER DBH 44
G5-2 NORWAY MAPLE DBH 35
G16-2 LAWSON CYPRESS DBH 17
T28 CHERRY DBH 6+7+4
T29 SWEET CHESTNUT DBH 94
G5-3 NORWAY MAPLE DBH 27
G9-1 LAWSON CYPRESS DBH 12
T8 TULIP DBH 20+18+14
G9-2 LAWSON CYPRESS DBH 14
H30 BAY DBH 8 STEMS @12
T10 HAWTHORN DBH
G16-1 DEODAR DBH 42
T14 PALM DBH
G12-1 WILLOW PEAR DBH 15
G15-2 LAWSON CYPRESS DBH 24@1M
T31 WALNUT DBH 62
G9-4 BAY DBH 15+15
G11-2 CHERRY DBH 25*
G12-2 MAGNOLIA DBH 18
G9-3 BAY DBH 15+9+14+18
G11-1 HAWTHORN DBH 20*
G15-1 FALSE ACACIA DBH 57@0.7M
G15-3 PALM DBH 9 STEMS @12
T13 NORWAY MAPLE DBH 7
T32 SYCAMORE DBH 20*
T33 MAGNOLIA DBH 14+16+7+9
T34 BEECH DBH 57
T35 BIRCH DBH 18*

0 1 2 3 4 5 6 8 10 12 14 16
SCALEBAR 1/200

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ECO 5 - TREE PROTECTION AT LONG ACRE, THE STREET, WALBERTON

SCALE: 1:200 @ A1

COMPOSITE PLAN:
LAND SURVEY OUTLINED IN GREY,
PROPOSED DEVELOPMENT OUTLINED IN BLACK

This drawing was originally produced in colour, therefore any subsequent monochrome photocopies may not show appropriate levels of detail and should not be relied upon for the purposes of dealing with site tree issues

T1 XXX **BS Category A:** Trees of high quality

T1 XXX **BS Category B:** Trees of moderate quality

T1 XXX **BS Category C:** Trees of low quality

T1 XXX **BS Category U:** Trees unsuitable for retention

Tree protection barriers with construction exclusion zone

Area outside barriers requiring ground protection

Trees to be removed

Trees subject to conservation pollarding (cut to height of 3.5m)

Root Protection Areas (RPAs): Below ground tree constraints for retained trees based on BS 5837 guidance

Appendix 2: Tree Schedule and Inventory

Background fill colour represents BS 5837:2012 categories: A Category trees have green backgrounds, B Category trees have light blue backgrounds, C Category trees have grey backgrounds and U Category trees have red backgrounds.

Tree No.	Species	Ht. (m)	Height (Hgt.) or Girth (Gth.) (cm)	Est. Dbh. (cm)	STEM DIAMETER(S) (MEASURED)								Branch spread (m)				Lft. above ground (m)	Age class	Notes	Management proposals	SA (m²)	RPA radius (m)	RPA radius (m)
					Multi stemmed trunk with 1 - 5 stems (cm)					Multi stemmed trunk with 1 - 5 stems (cm)		Multi branched trunk 5 + stems											
					1	2	3	4	5	Measure immediately above root flare (cm)	Measure 1.5m above ground (cm)	No. of stems	N	E	S	W							
All trees/ hedges																				Where needed for construction access, crown lift trees by up to 4m over site. Cut back any hedges where appropriate.			
T1	Plum	6	-	-	14	12	-	-	-	18	-	-	2	2	2	3	2	M	Small tree, severely pruned.	Fell.	C1	15	2.2
T2	Beech	10	43	-	-	-	-	-	-	-	-	-	4	3	4	4	3	MA	Tight fork with included bark union.	Fell.	C1	84	5.2
T3	Oak	12	29	-	-	-	-	-	-	-	-	-	3	3	2	2	3	Y	Small tree, some dead wood lower canopy, influenced by proximity to adjacent tree.	Fell.	C1	38	3.5
T4	Hawthorn	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M	Dead.	Fell.	U	-	-
G5	Norway maple and bay	11	-	* Lgst	25	28	-	-	-	38	-	-	4	4	3	5	3	MA/ M	Internal site trees, either pruned previously or twin stemmed with tight fork.		C1/ C2	64	4.5

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE): Multi stemmed trees with 2 - 5 stems (cm)					Multi stemmed trees with 2 - 5 stems combined (cm)	Multi stemmed trees >5 stems		Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)
					1	2	3	4	5		Mean stem dia (cm)	No. of stems	N	E	S	W							
T6	Hawthorn	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M	Dead	Fell.	U	-	-
T7	Foxglove tree	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MA	Dying	Fell.	U	-	-
T8	Tulip tree	10	-	-	20	18	14	-	-	30	-	-	3	3	2	3	2	Y/ MA	Some crown asymmetry.	Fell.	B1	42	3.6
G9	Lawson cypress and bay	8	-	* Lgst	15	9	14	18	-	29	-	-	1	2	1	3	2	Y/ MA	Unremarkable small sized domestic conifer/ornamental type planting.		C2	37	3.4
T10	Hawthorn	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MA	Dead.	Fell.	U	-	-
G11	Cherry and hawthorn	11	25	* Lgst	-	-	-	-	-	-	-	-	3	4	-	3	3	MA	Offsite/boundary trees, limited/no direct access to survey. Small/declining.	Cut back where needed for construction access.	C1	28	3.0
G12	Willow leaved pear and magnolia	7	18	* Lgst	-	-	-	-	-	-	-	-	3	1	1	3	2	Y	Small trees.		C1	15	2.2
T13	Norway maple	6	7	-	-	-	-	-	-	-	-	-	1	1	1	1	2	Y	Small tree.		C1	2	0.8
T14	Palm	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MA	Dead.	Fell.	U	-	-

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht. (m)	Height & dia. of highest trunk (m)	Est. DBH. (cm)	STEM DIAMETERS (MEASURED)								Branch spread (m)				Ht. above ground (m)	Age class	Notes	Management proposals	SPA cat.	RPA (sq.m)	RPA (radius m)
					Multi-stemmed trees with 1 - 5 stems (mm)					Multi-stemmed trees with 6 or more stems (mm)													
					1	2	3	4	5	Mean DBH (mm)	No. of stems		N	E	S	W							
G15	False acacia, palm and Lawson cypress	10	57 @ 0.7m	* Lgst	-	-	-	-	-	-	-	-	4	2	3	3	3	MA	Small sized or severely pruned.		C1	147	6.8
G16	Deodar and Lawson cypress	10	42	* Lgst	-	-	-	-	-	-	-	-	1	3	2	3	3	MA	Boundary trees.		B2	80	5.0
G17	Box elder, deodar and Lawson cypress	16	-	* Lgst	27	25	17	-	-	41	-	-	3	4	4	-	3	MA/ M	Boundary trees.		B2	74	4.9
G18	Pitto-sporum and holly	9	-	* Lgst	10	15	12	6	-	22	-	-	2	3	1	-	1	Y/ MA	Small boundary trees, severely pruned or canopy symptoms indicating declining vitality.		C1	23	2.7
G19	Leyland cypress	10	45	* Lgst	-	-	-	-	-	-	-	-	-	3	2	4	2	Y/ MA	Unremarkable small sized domestic conifer. Severely pruned or declining.		C1	92	5.4

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht. (m)	Height from GL to 1st br. (m)	Dia. (mm) @ 1.5m	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Ht. above ground (m)	Age class	Notes	Management proposals	SPA ref.	BPA value (£)	RPA (sq.m)
					Multi-stemmed from ground level: 1	2	3	4	5	Multi-stemmed above 1.5m (mm)	Multi-stemmed above 3.0m: Mean dia. (mm)	Multi-stemmed above 3.0m: No. of stems	N	E	S	W							
G20	Ash and sweet chestnut	18	61	* Lgst	-	-	-	-	-	-	-	-	-	4	7	8	5	MA	Ash with thinning canopies suggesting early onset of Ash Dieback Disease onset and/or decay. Sweet chestnut also declining and unbalanced due to proximity to adjacent tree.	Conservation pollard at height of 3.5m.	C1/ U	168	7.3
T21	Oak	13	78	-	-	-	-	-	-	-	-	-	-	-	6	6	5	M	Some epicormic main stem and scaffolds, early perhaps early onset of decline.		B1	275	9.4
T22	Sweet chestnut	14	59	-	-	-	-	-	-	-	-	-	5	-	3	3	4	MA/ M	Thinning canopy and some localised dieback of branch extremities. Marginal Cat B tree.		B1	157	7.1
G23	Sweet chestnut, oak and birch	9* Avg	20	* Lgst	-	-	-	-	-	-	-	-	2	2	3	2	2	Y	Small trees.		C1	18	2.4
T24	Ash	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M	Extensive limb dieback east side of tree. Dying.	Conservation pollard at height of 3.5m.	U	-	-
T25	Sweet chestnut	13	65	*	-	-	-	-	-	-	-	-	6	-	6	6	5	MA/ M	Some thinning of canopy. Marginal Cat B tree.		B1	180	7.6

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE): Multi stemmed trees with 2 - 5 stems (cm)					Multi stemmed trees with 2 - 5 stems combined (cm)	Multi stemmed trees >5 stems		Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m^2)	RPA radius (m)
					1	2	3	4	5		Mean stem dia (cm)	No. of stems	N	E	S	W							
G26	Sweet chestnut	8	16	* Avg	-	-	-	-	-	-	-	-	2	3	3	3	2	Y	Small trees.		C1	12	1.9
T27	Ash	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M	Extensive limb dieback east side of tree. Dying.	Conservation pollard at height of 3.5m.	U	-	-
T28	Cherry	5	-	-	6	7	4	-	-	10	-	-	2	1	2	2	2	Y	Small tree.		C1	5	1.2
T29	Sweet chestnut	13	94	-	-	-	-	-	-	-	-	-	5	-	6	5	4	M	Access restricted by dense basal growth, limited access to survey. Some scattered deadwood in canopy and epicormic main stem scaffolds.		B1	400	11.3
H30	Bay	2	-	* Avg	-	-	-	-	-	-	8	12	1	1	1	1	n/a	MA	Clipped hedge feature.		C1	0	0.0
T31	Walnut	13	62	-	-	-	-	-	-	-	-	-	8	-	10	7	4	MA/ M	Tree located to rear of building, restricted access to survey. Slightly thinning canopy.		B1	174	7.4
T32	Sycamore	7	20	-	-	-	-	-	-	-	-	-	3	2	3	-	3	Y	Small offsite tree, no direct access to survey and restricted clear line of sight.		C1	18	2.4

Appendix 2: Tree Schedule and Inventory

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	Est. Dia. *	STEM DIAMETERS (MULTIPLE): Multi stemmed trees with 1 – 5 stems (cm)						Multi stemmed trees >5 stems		Branch spread (m)				Ht above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)
					1	2	3	4	5	Multi stemmed trees with 1 – 5 stems combined (cm)	Mean stem dia (cm)	No. of stems	N	E	S	W							
T33	Magnolia	5	-	-	14	16	7	9	-	24	-	-	5	5	4	4	1	MA	Small tree/shrub.	Cut back where needed for construction access.	C1	26	2.9
T34	Beech	13	57	-	-	-	-	-	-	-	-	-	6	6	6	7	3	MA	Minor crown asymmetry. Some conjoined branches.		A1	147	6.8
T35	Birch	11	18	*	-	-	-	-	-	-	-	-	2	2	2	-	4	Y/ MA	Offsite tree, no direct access to survey and restricted clear line of sight. Some thinning if branch extremities.		B1	15	2.2

Abbreviations:

Abbreviations	Meaning	Abbreviations	Meaning	Abbreviations	Meaning
T	*Individual tree*	**M**	*Mature*	>	*More than*
G	*Groups of trees*	**MA**	*Maturing*	<	*Less than*
H	*Hedge*	**Y**	*Young*	**Lgst**	*Largest tree diameter within group*
W	*Woodland*	**RPA**	*Root Protection Area*	**Avg**	*Average tree diameter within group*

Appendix 2: Tree Schedule and Inventory

Tree Schedule Notes:

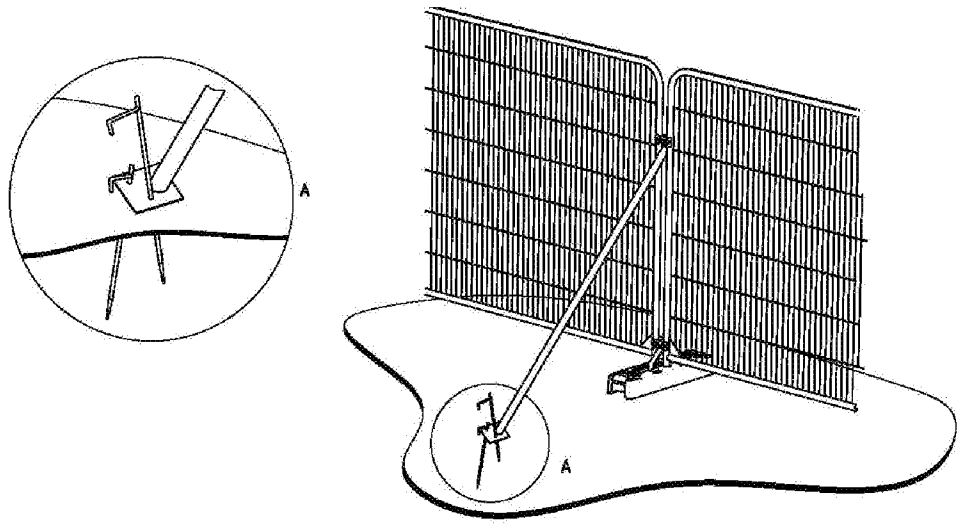
Tree number	*Assigned during the site visit and also referenced on the plan in Appendix 1.*
Species	*Common name and referenced to scientific name in the above list. Where I have some doubt over the actual tree species, the genus will have been noted followed by sp. Where trees are numerous and present in groups, not every individual species may have been noted.*
Height	*Measurement of total tree height using a laser hypsometer to nearest metre or where clear line of site is not possible then an estimate based on interpolation of heights of nearby measured trees.*
Stem diameter	*Measurement of stem diameter either at 1.5m above ground (or in accordance with BS guidance where trees have multiple stems) with a forester's girth measuring tape.* ***Diameters followed by asterisk symbol indicate estimated diameters because of access difficulties, presence of ivy or other obstructions.*** *Where trees are present in a group, the tree with the largest stem diameter within the group will have been measured/estimated.*
Est. DIA	*Estimated diameters due to access restrictions are indicated with an asterisk*
Branch spread	*Where appropriate and where ground conditions allow, an estimate of the crown spread at each of the cardinal compass points. Where only part of the site is affected by trees, measurement may be in one or two directions only*
Existing height above ground level	*Distance in metres to first significant branch or canopy or a height above which crown lifting operations would not be appropriate*
Age class	*Simplistic estimate of tree age in one of FOUR categories (young, maturing, mature or over mature).*
Notes	*Although this document is not intended to be a full and detailed report on tree health and safety, any significant structural defects or physiological conditions have been identified where these were visible. Where no entries are recorded, this indicates no observable issues were identified. Where there is restricted access to the base of a tree, its attributes are assessed from the nearest point of access. Climbing inspections are not carried out during a walkover tree survey and, if heavy ivy is present, tree condition is assessed from what can be seen from the ground.*
Management proposals	*The inspection of all trees was of a preliminary nature and only defects visible from the ground have been identified. Each individual tree may not have been inspected closely because of access difficulties and only defects visible from the inspection point have been identified. Monitoring may be indicated where tree risk can be adequately managed by increased frequency of site inspections. Further investigation may be indicated where additional data may be required beyond a purely visual assessment. However, a full post development tree inspection is recommended to establish that the trees retained during construction pose acceptable levels of risk once the development has been completed.*
Retain, and Category	*Either U, A, B or C based on the BS 5837:2012 guidance.*
RPA and RPA radius	*RPA and RPA radius calculations have been undertaken in accordance with the guidance set out in BS 5837:2012.*

Appendix 2: Tree Schedule and Inventory

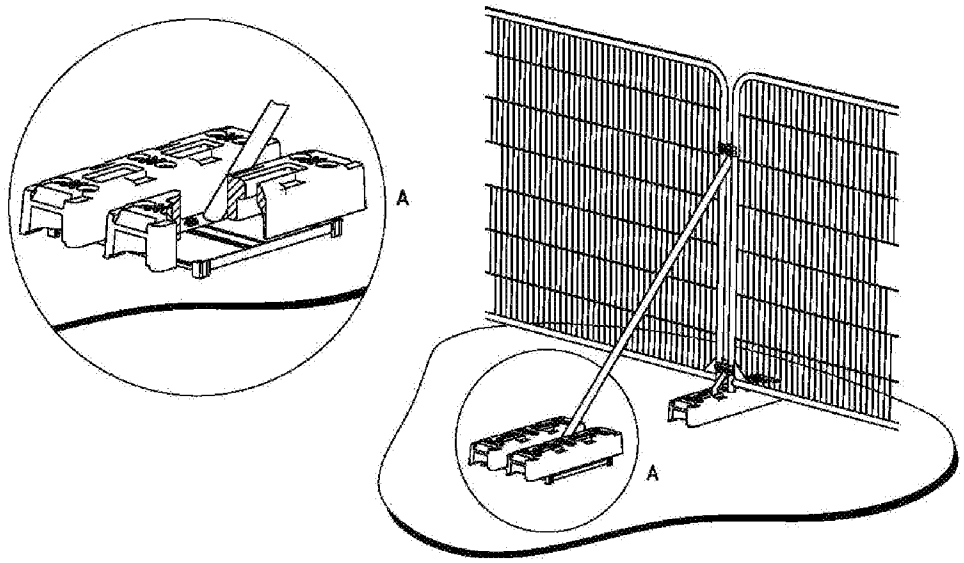
Tree Inventory:

Common Tree Names	Scientific Tree Names		Common Tree Names	Scientific Tree Names
Ash	*Fraxinus excelsior*		Lawson cypress	*Chamaecyparis lawsoniana*
Bay	*Laurus nobilis*		Leyland cypress	x *Cupressocyparis leylandii*
Beech	*Fagus sylvatica*		Magnolia	*Magnolia* sp.
Birch	*Betula pendula / pubescens*		Norway maple	*Acer platanoides*
Box elder	*Acer negundo*		Oak	*Quercus robur*
Cherry	*Prunus* sp.		Palm	*Cordyline australis*
Deodar	*Cedrus deodara*		Pittosporum	*Pittosporum tenuifolium*
False acacia	*Robinia pseudoacacia*		Plum	*Prunus* sp.
Foxglove tree	*Paulownia tomentosa*		Sweet chestnut	*Castanea sativa*
Goat willow	*Salix caprea*		Sycamore	*Acer pseudoplatanus*
Hawthorn	*Crataegus monogyna*		Tulip tree	*Liriodendron tulipifera*
Holly	*Ilex aquifolium*		Willow leaved pear	*Pyrus salicifolia*

Appendix 3: Illustrative Specification for Tree Protection Barriers



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Illustration taken from British Standard 5837:2012 -
Trees in relation to design, demolition and construction – Recommendations.

2m tall welded mesh panels on rubber or concrete feet might provide an adequate level of protection from cars, vans, pedestrians and manually operated plant. In such cases, the fence panels should be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers should be at least 1 m and should be uniform throughout the fence. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins
– BS 5837:2012

Ref: Tree Protection Barriers (Type 2)	Drawing No. TPB2
Scale: N/A	

Appendix 4: Illustrative Specification for Ground Protection within RPAs

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

NOTE The ground protection might comprise one of the following:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;

b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards, placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

– BS 5837:2012

Ref: Ground Protection	Drawing No. GP1
Scale: N/A	

Appendix 5: BS 5837:2012 – Assessment Categories

TREES FOR REMOVAL

Category and definition	Criteria	Identification on plan
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.*	RED

TREES TO BE CONSIDERED FOR RETENTION

Category and definition	Criteria — Subcategories			Identification on plan
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
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)	GREEN
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	BLUE
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 m	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	GREY

Appendix 6: Qualifications and Experience of Barrie Draper

1 **Qualifications:** I have a BSc degree (with Honours) in Arboriculture from the University of Central Lancashire. I also hold a BTEC Higher National Diploma (HND) in Forestry (Lowland Management), the Arboricultural Association's Technician's Certificate in Arboriculture (Tech Cert), the Royal Forestry Society's Certificate in Arboriculture (Cert Arb) and the National Examinations Board Certificate in Forestry.

2 **Career experience:** I began my arboricultural career in 1993 as an arborist with Portsmouth City Council. During my time with the council I worked for both the direct labour organisation and for a private contractor where I obtained valuable hands on experience in all aspects of arboriculture. From 1999 to 2002 I was employed as Senior Arborist by Parchment Housing Group, a housing association based near Portsmouth. I managed the Groups' tree stock on their behalf, carrying out tree inspections and practical management operations. I have also worked in local government, spending time with Thurrock Borough Council in Essex where I was the Tree and Landscape Officer, and with Winchester City Council, where I was Arboricultural Officer for a period of 2 years. During my time working in local government, I was responsible for making Tree Preservation Orders, administering applications to work on protected trees and advising on planning applications when trees were considered material constraints on development. Working within a planning environment allowed me to gain valuable experience in the management of trees in development situations and an understanding of the planning process and how it relates to trees. From January 2005 I worked for Barrell Tree Consultancy Ltd advising clients on a wide range of tree related issues. I left the company in September 2008 and set up **eco**urban ltd.

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