LAND AT HAVANT ROAD EMSWORTH HAMPSHIRE

ARBORICULTURAL IMPACT ASSESSMENT & METHOD STATEMENT

ACD ENVIRONMENTAL

Ecology
Archaeology
Arboriculture
Landscape Architecture

BARRATT HOMES

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1.0 Executive Summary

1.1. ACD was initially instructed, to carry out a tree survey, and present constraints details in accordance with BS5837:2012 *Trees in relation to design, demolition and construction.* This was to identify the quality and value of existing trees on site, allowing decisions to be made as to the retention or removal of trees during development. Subsequently, the subject layout has been produced and is in line with recommendations of the British Standard. Adequate protection can be provided to ensure all retained trees are protected throughout development.

1.2. This revision (F) has been drafted to address the latest planning layout ref: 15_105_900 SKETCH LAYOUT (29.09.17).

1.3. A number of residential dwellings are proposed on this field site, the layout of which can be seen on the appended plan.

1.4. Trees to be removed are limited to those within the site. All boundary trees are to be retained. Of the trees to be removed, one individual tree and a linear group are category B (moderate value), all the rest are category C (low value).

1.5. The relationship between the building and retained trees is sustainable and is not likely to result in any pressure to prune requests from future occupants.

1.6. The arboricultural method statement and tree protection plan include details of all tree protection measures required.

1.7. The tree protection must be erected after tree removals and surgery but before any demolition or construction contractor enter the site, and before any soil stripping takes place.

1.8. There will be no changes in levels, service routing, machine activity, storage of materials or site hut positioning within areas to be protected, and the protective fencing shall remain in position for the duration of the construction process.

2.0 Introduction

2.1. Barratt Homes instructed ACD Environmental in July 2016 to prepare the following impact assessment.

2.2. This revision (F) has been drafted to address the latest planning layout.

2.3. Following the recommendations of the British Standard[1], this report includes the necessary information to support a planning application. It demonstrates that the impact, both direct and indirect, of the proposed development within the site, has been assessed and where appropriate, mitigation and tree protection proposed.

2.4. The implementation of the protection methods recommended within this report are critical for ensuring the retained trees are successfully protected through the construction process and must be implemented prior to any work on site.

2.5. This assessment is based upon the supplied layout drawing, ref: 15_105_900 SKETCH LAYOUT (29.09.17) and site survey, ref: 36EM001.

2.6. The controlling authority is Havant Borough Council, who can be contacted at: Civic Centre Road, Havant, Hampshire PO9 2AX, Tel: (023) 9247 4174.

2.7. This assessment considers the impact of the development on the constraints posed by the retained trees (both beneath ground: the root protection area (RPA), and above ground: the canopy).

2.8. Direct impact from development comes in six main forms: 1) Surface installation within RPAs, 2) Root loss from excavation for foundations, drainage and other utilities within RPAs, 3) Soil stripping, removal and level changes within RPAs, 4) Excessive access facilitation pruning to retained trees, 5) Soil compaction from storage and vehicle movements within RPAs, 6) Soil contamination.

[1] *BS5837:2012 Trees in relation to design, demolition and construction- Recommendations,* London: British Standards Institute

2.9. Indirect impact can come from changes to the site hydrology, future pressure to prune or fell, failure of trees exposed by removal of neighbouring trees, and other environmental changes which can take several years to manifest.

2.10. The RPA for each tree represents a minimum area in m² that should be left undisturbed around each retained tree. This is initially represented by a circle but is often adjusted to account for constraints to root growth within the site (primarily highways and buildings). It is therefore important to ensure the protection of trees both above and below ground. Recommendations are provided in the British Standard as to the protection of existing trees before, during and after development. This is achieved by ensuring the tree protection plan and arboricultural method statement are implemented before any commencement on site.

3.0 Arboricultural Impact Assessment

3.1. Overview of proposed development

3.1.1. A number of residential dwellings are proposed on this field site, the layout of which can be seen on the appended plan.

3.2. Tree Preservation Orders

3.2.1. There are no Tree Preservation Orders (TPOs) present on any trees on, or adjacent to the site, nor is the site within a Conservation Area.

3.3. Previous planning applications and consents

3.3.1. There are no relevant past applications or extant planning consents for this site.

3.4. Trees proposed for removal & surgery

3.4.1. The following trees are proposed for removal:

- Category C (low quality): G1, T7, T14, T15, G16, G24, T26 & T28.

- Category B (moderate quality): T17 and one tree from the southern section and all of the northern section of G6.

3.4.2. It should be noted that although G6 has been granted category B, this is a group assignation and the individual tree quality is lower (category C).

3.4.3. In relation to the conception and design of development proposals, BS5837:2012 section 5.1.1 states: The constraints imposed by trees, both above and below ground should inform the site layout design, although it is recognised that the competing needs of development mean that trees are only one factor requiring consideration. Certain trees are of such importance and sensitivity as to be major constraints on development or to justify its substantial modification. However, care should be taken to avoid misplaced tree retention; attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal.

3.4.4. It is therefore deemed acceptable to remove the trees listed and, as part of the detailed landscape design for the scheme, include suitable and sustainable replacements as and where appropriate. This will more than mitigate any loss that may be felt from tree removals, by providing robust long-term tree cover in keeping with the proposal and surrounding properties.

3.5. Demolition, site clearance & archaeology

3.5.1. To ensure damage does not occur to trees highlighted for retention, tree protection fencing must be erected before ANY plant/vehicles entering site whatsoever. This should be subject to a pre-commencement site meeting between the developer, their project arboriculturist and a representative from the Local Authority.

3.5.2. No special demolition procedures need be observed on this site, other than respecting the tree protection fencing.

3.6. Protection fencing

3.6.1. Figure 2 of the British Standard recommends a standard fencing design for tree protection. This is a weld mesh panel design, mounted upon a well-braced scaffold framework. This is perfectly adequate for this site and all the retained trees can be suitably protected by its erection before any works start on site whatsoever.

3.7. Shade and future pressure to prune

3.7.1. ACD have worked with the design team from the start of this project and we feel that the resulting proposed layout is both sustainable and results in juxtapositions between trees and buildings which will not bring future requests for excessive pruning and/or tree removal.

3.8. Services

3.8.1. Full details of the service and utility provisions for the site remain to be finalised. However, there is adequate space for utility trenches to access the site whilst avoiding RPAs and exclusion zones.

4.0 Arboricultural Method Statement

TO BE READ IN CONJUNCTION WITH THE APPENDED TREE PROTECTION PLAN REF: BDWS20345-03

4.1. Phasing of operations & site supervision

4.1.1. The tree protection and other arboricultural works must be carried out in the following order:

	Operation	Present	Notes
1	Tree removals	Tree contractor	See Tree Protection Plan for trees to be removed
2	Protection barriers erected	Fencing contractor	See Tree Protection Plan for position and type of barriers
3	Pre-start meeting	ACD, site manager, groundwork, foreman, demolition foreman	To 'sign-off' protection prior to any plant activity, demolition & groundworks on site
4	Removal of protection barriers and landscape work	ACD, landscape contractor, site manager	See method statement

4.1.2. Supervision is required should any unplanned access and/or work be required in the construction exclusion zone.

4.1.3. Supervision will require the arboriculturist to be present throughout the task, to ensure all the arboricultural objectives are met. If the task is to take a long period of time, provided the arboriculturist is satisfied, and after an initial 'tool-box talk', the supervision may be reduced to telephone contact between the site foreman/contractor and arboriculturist.

4.2. Construction exclusions zone

4.2.1. Barriers and/or ground protection must be used to protect all retained trees before any machinery or materials are brought onto the site, and before any demolition, development or stripping of soil commences.

4.2.2. Where all activity can be excluded from the RPA, vertical barriers must be erected to create the construction exclusion zone (CEZ). The default position of which is shown on the appended Tree Protection Plan.

4.2.3. Where, due to site constraints, construction activity cannot be fully or permanently excluded from all, or part of a tree's RPA, appropriate ground protection can be installed.

4.2.4. It is the responsibility of everyone engaged in the construction process to respect the tree protection measures and observe the necessary precautions within and adjacent to them.

4.2.5. Inside the exclusion zone, the following shall apply:

- No mechanical excavation whatsoever.
- No excavation by any other means without arboricultural site supervision.
- No hand digging without a written method statement having first been approved by the project arboriculturist.
- No lowering of levels for any purpose (except removal of grass sward using hand tools).
- No storage of plant or materials.
- No storage or handling of any chemical including cement washings.
- No vehicular access.
- No fire lighting.

4.2.6. In addition to the above, further precautions are necessary adjacent to trees:

- No substances injurious to tree health, including fuels, oil, bitumen, cement (including cement washings), builders sand, concrete mixing and other chemicals shall be stored or used within or directly adjacent to the protection area of retained trees.
- No fire shall be lit such that flames come within 5m of tree foliage.

4.3. Tree protection barriers

4.3.1. The construction exclusion zone will be protected as per the appended tree protection plan that shows the default alignment of the tree protection barriers, to be installed prior to any of the following taking place:

- Archaeology
- Demolition
- Plant and material delivery
- Soil stripping
- Utility installation
- Construction works
- Landscaping

4.3.2. <u>Stages for installation of barriers:</u>

1) Hand clearance of any vegetation to allow clear working access.
2) Setting out of node points
3) Barriers erected
4) Site meeting with project arboriculturist to 'sign-off' tree protection fencing.
5) Site accessible to demolition/construction traffic

4.3.3. Once erected, all barriers will be regarded as sacrosanct, and will not be removed or altered without prior recommendation by the project arboriculturist and approval of the local planning authority.

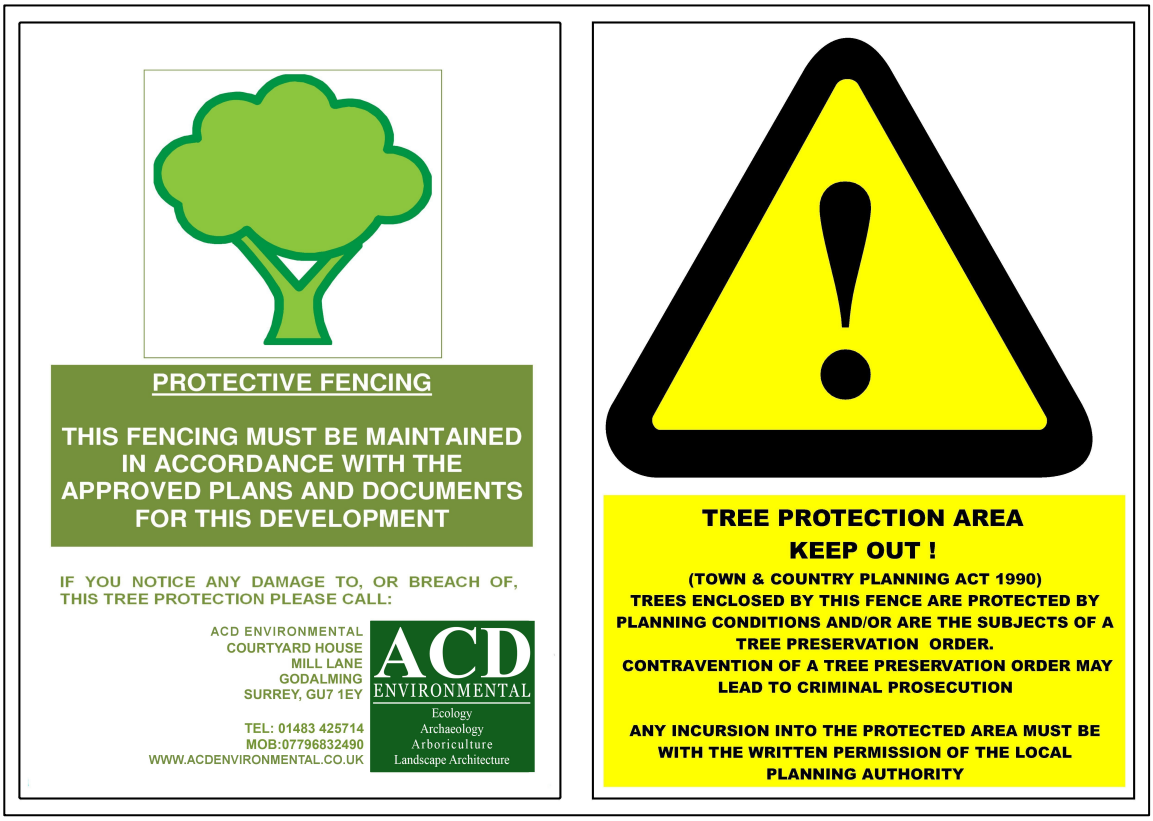
4.3.4. The default barrier construction is suitable for areas of high intensity development, and shall comprise of interlocking weld-mesh panels, well braced to resist impacts by attachment to a scaffold framework that is set firmly into the ground. A detailed specification can be found on the TPP.

4.3.5. The images below are alternative barrier designs that have been successfully used on site and that ACD are happy to support if a variation from the default style

is required. If such a variation is necessary, the approval of the project arboriculturist will be obtained prior to any implementation on site.

4.3.6. Once barriers and/or ground protection have protected the exclusion zone, construction work can commence.

4.3.7. All weather notices should be erected on the barriers (for example see figure below).



Tree protection sign (download from http://www.acdenvironmental.co.uk)

Weld-mesh panels on scaffold uprights

Weld-mesh panels on wooden posts

Chain-link on angle-iron uprights

4.4. Ground protection

4.4.1. If required, ground protection is to be installed as follows. It must be capable of supporting the expected loads and avoiding rutting, compaction and damage to the soil: as advised in section 6.2.3 of the British Standard.

4.4.2. Stages for ground protection installation:

1) No plant machinery to be used in the area of ground protection for whatever reason
2) Dismantle primary TPF and re-erect in secondary location as shown on TPP (if required) OR erect fencing to protect any newly exposed CEZ not to be covered by ground protection.
3) Any shrubs, saplings or trees to be removed, are to be cut, or ground out to just below ground level rather than grubbed or winched out, which can damage roots of retained trees.
4) Lay woven geotextile over existing ground surface by hand
5) Cover the area with compressible layer, woodchip for example, using hand tools only
6) Cover compressible layer with side butting scaffold boards or plywood boards
7) Confirm surface is acceptable for use with project arboriculturist
8) Area ready for construction access

4.4.3. Any scaffolding required within the area will be erected with the uprights placed on spreader boards.

4.4.4. The boarding will be left in place until the construction works are finished.

4.4.5. A single thickness of boarding laid on the soil surface will provide sufficient protection for pedestrian loads. However, for wheeled or tracked construction traffic movements within the RPA, ground protection will involve the use of temporary cellular confinement systems, reinforced concrete slabs or track-board systems details of which are to be specified by the project engineer and approved for use by the project arboriculturist and local authority before construction commences.

4.4.6. Track-boards can be sourced from Trakmats Europe Ltd, 0845 6435388, www. trakmatseurope.com, or groundguards.com

4.4.7. There is to be no-excavation within ground protection area whatsoever. This includes installation of services and associated utilities.

Scaffold board pedestrian ground protection

Vehicular ground protection trackway

4.5. Site storage, parking, welfare facilities, etc.

4.5.1. The site will require provision for; site storage, contractor parking, welfare facilities, temporary services/drainage, material drop off points, etc.

4.5.2. It is acceptable to place site cabins and walkways within the CEZ provided they are installed sensitively:

- Cabins must be placed on sleepers (or similar) to spread the load, avoiding point loading and associated soil compaction.
- The delivery of cabins should ensure that any unloading via 'hi-ab' crane can be carried out without impact on the crowns of retained trees.
- Walkways, if required, should be installed as per the ground protection specification.
- Any utilities for site compounds must be run above ground. For example, WC foul pipes/drainage and temporary electrical connections.

4.5.3. It is imperative that if cabins and walkways are installed, that fencing is erected to limit access to the protected areas. If amendments are made, the project arboriculturist should sign off the proposals prior to their implementation.

4.5.4. Contractor parking and storage areas should be sited outside the CEZ.

4.6. Tree surgery and removal

4.6.1. All trees to be removed are indicated on the TPP.

4.6.2. If any surgery work is proposed, details will be submitted to, and approved by, the council, before being carried out.

4.6.3. All work will be carried out in accordance with BS3998[2] industry best practice and in line with any works already agreed with the council.

[2] *BS3998:2010- Recommendations for Tree Work*. London: British Standards Institute

4.6.4. The tree surgeon shall ideally be chosen from The Arboricultural Association's Approved Contractor list. All work shall be undertaken at the appropriate time and with the consent and approval of the site agent.

4.6.5. The statutory protection[3] [4] will be adhered to. If further advice is required, particularly if bats are discovered during tree work, it will be obtained from Natural England or other competent persons and recommendations adhered to.

4.6.6. The stumps of any trees removed from within the Construction Exclusion Zone or the RPAs of retained trees will be either cut flush to ground level and left in situ or ground out using a stump grinder. They will not be winched out.

4.6.7. All operations shall be carefully carried out to avoid damage to the trees being treated or neighbouring trees. No trees to be retained shall be used for anchorage or winching purposes.

4.7. Soft landscaping

4.7.1. All landscaping and associated ground preparation within exclusion zones will be carried out sensitively to ensure root damage is minimised as much as is practicable.

4.7.2. At no time is any heavy plant to be used within any protected area.

4.7.3. Removal of existing vegetation (including turf) will be carried out with hand tools only.

4.7.4. Should the soil be compacted or have a poor structure that may hinder the development of any new planting, soil decompaction techniques may be used upon consultation with the project arboriculturist.

4.7.5. Tree protection barriers may be removed to allow access and then replaced as required/per approved documents (in liaison with the arboricultural clerk of works)

[3] *Wildlife and Countryside Act.* (1981) London: HMSO.
[4] *Countryside and Rights of Way Act.* (2000) London: HMSO.

4.7.6. Levels (high spots) will not be reduced or excavated in any way. Use good quality top-soil to level any low-lying areas and hollows, and provide a fine tilth to lay turf on. This imported soil must not result in a level increase of more than 100mm in any area.

4.7.7. Import materials by hand in wheelbarrow or using a digger sited outside the sensitive area.

4.7.8. Any excavation for planting pits must be dug using hand tools only.

4.7.9. No works will be carried out within any protected areas if the soil moisture is of a level likely to allow compaction to occur.

4.8. Installation of underground services

4.8.1. Mechanical trenching for the installation of underground apparatus and drainage severs any roots present and can change the local soil hydrology in a way that adversely affects the health of the tree. For this reason, particular care should be taken in the routing and methods of installation of all underground apparatus. Wherever possible, apparatus should be routed outside RPAs. Where this is not possible, it is preferable to keep apparatus together in common ducts. Inspection chambers should be sited outside the RPA.

4.8.2. Where underground apparatus is to pass within the RPA, detailed plans showing the proposed routeing should be drawn up in conjunction with the project arboriculturist. In such cases, trenchless insertion methods should be used: Microtunnelling, Surface-launched directional drilling, Pipe ramming or Impact moling (see BS5837:2012 Table 3), with entry and retrieval pits being sited outside the RPA. Provided that roots can be retained and protected, excavation using hand-held tools might be acceptable for shallow service runs. If this is case, the following methodology must be followed:

4.8.3. Stages for installing services by hand within tree protection areas:

No plant machinery to be used in the area for whatever reason

1) Contact project arboriculturist to hold pre-start site meeting and 'toolbox' talk before starting work.
2) Remove just enough tree protection fencing to allow access to area and facilitate trenching.
3) Remove any surface vegetation or existing hard surfaces using hand tools.
4) Using and air-pick excavate the trench, keeping to minimum dimensions required.
5) Roots occurring in clumps of 25 mm diameter and over are encountered they will be retained, and kept damp by covering with hessian (re-wetted as required). If required, these should be severed only following consultation with an arboriculturist; as such roots might be essential to the tree's health and stability.
6) Feed in services.
7) Back fill trench with 200-300mm depth of excavated soil, or a mixture of excavated and imported top-soil to BS3882 (BSI, 2007), firming down with heels.
8) Repeat step 7 until trench is filled.
9) Re-erect tree protection fencing as per approved plan.

4.8.4. The method of excavation above, for trenching within RPAs, is using air excavation. This tool utilises compressed air to remove soil from around tree roots causing minimal damage and can be run off a typical site compressor. ACD can provide details of contractors supplying air excavation services if required.

4.8.5. Alternatively, trenchless technology, such as thrust boring can be used in some instances and is particularly effective as it can pass directly under the tree, at a depth which is likely to avoid almost all impact on roots of the subject tree. As no access/thrust pits will be located within the RPAs of the subject trees, the need for arboricultural supervision is limited.

4.8.6. Reference can be made to NJUG Vol 4[5] for guidance, but any approach must be approved by the project arboriculturist and brought to the attention of the local authority tree officer.

4.9. Excavation within RPAs

4.9.1. Stages of excavation within RPAs:

1) Contact project arboriculturist to hold pre-start site meeting, 'toolbox' talk and supervise the operation.
2) Remove TPF to allow access to area (if required).
3) Identify sensitive area.
4) Remove hard surface if necessary (see relevant section of this report).
5) Excavate with no-tines bucket, or by hand, under close supervision.
6) If roots are found, clear by hand around them.
7) If roots found are greater than 25mm diameter, then cover with damp hessian and keep moist until backfilled. If excavation requires all roots to be severed, then proceed as below.
8) Cleanly sever roots with bypass secateurs, loppers or pull cut saw at right angles to root. Avoid tearing or ripping the root.
9) Backfill as soon as possible to cover cut root ends.

4.9.2. If for whatever reason, the project arboriculturist feels that a tree's stability has been compromised during the operation, then the LPA shall be contacted and the arboricultural officer (or appropriate landscape officer) notified. A decision can then be made as to the best way forward.

[5] National Joint Utilities Group. (2010). *Volume 4: NJUG Guidelines For The Planning, Installation And Maintenance Of Utility Apparatus In Proximity To Trees (Issue 2) – Operatives Handbook.* NJUG.

4.10. Installation of boundary fencing within protected areas

4.10.1. Stages for installing wooden fence posts:

No plant machinery to be used in the area for whatever reason

1) Contact project arboriculturist to hold pre-start site meeting and 'toolbox' talk before starting work.
2) Remove TPF to allow access to area.
3) Dig postholes using hand tools, avoiding damage to the protective bark covering larger roots. Roots smaller than 25mm diameter may be pruned back using either secateurs or a hand saw, leaving a clean cut.
4) Damage or severance of roots above 25mm diameter must be avoided. If roots of this size are discovered, the hole should be relocated. If there are a large number of such roots it may be necessary to relocate the hole by half a fence panels length and adjust the fence panels accordingly.
5) Line hole with non-porous lining, for example durable polythene bag.
6) Insert post and fill post-hole with concrete to just below ground level.
7) Trim polythene to ground level and fill with clean topsoil.

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Director & Principal Arboriculturist
14 July 2016

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Appendix 1: Tree Categories Explained

BS5837:2012 Table 1 -**Cascade chart for tree quality assessment**			
Category and definition	**Criteria (including subcategories where appropriate)**		
Trees unsuitable for retention (see Note)			
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	*Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) *Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline *Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7.***		
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**
Trees to be considered for retention			
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

Appendix 2: Tree Survey Schedule

For additional s278 trees

Tree Survey Schedule (for s278 area)

No.	Name	Ht (crown)	Dia (stems)	Crown spread (NESW)	Life stage	ERC	Comments & preliminary recommendations	BS Cat
T31	Acer pseudoplatanus (Sycamore)	11(3)	610(1)	As shown on plan	M	40+	No obvious significant defects.	A2
T32	Acer pseudoplatanus (Sycamore)	11(2)	720(1)	As shown on plan	M	40+	No obvious significant defects.	A2
T33	Ulmus (New Horizons)	4.5(1)	120(1)	2, 2, 2, 2	SM	40+	Small with limited current landscape value.	C1
T34	Ulmus (New Horizons)	4(1)	100(1)	2, 2, 2, 2	SM	10+	Small with limited current landscape value. Poor shape and form. Dieback in crown.	C1
T35	Populus nigra 'Italica' (Lombardy Poplar)	12(2)	710(1)	As shown on plan	M	10+	Fungal fruiting bodies at base. Previously topped: now regrown with several leaders.	C1
T36	Ulmus (New Horizons)	4.5(1)	120(1)	2, 2, 2, 2	SM	40+	Small with limited current landscape value.	C1
T37	Ulmus (New Horizons)	4.5(1)	120(1)	2, 2, 2, 2	SM	40+	Small with limited current landscape value.	C1
T38	Acer pseudoplatanus (Sycamore)	14(2)	650(1)	As shown on plan	M	40+	No obvious significant defects. Good quality with high landscape value.	A2

Notes: Dia (stems): trunk diameter in mm at 1.5m above ground level (number of stems) | **HT (crown):** Tree height (crown clearance) | Life stage: Y: Young (obviously planted within the last three years (unless as a heavy or extra-heavy standard)). SM: Semi-mature (recently planted and yet to attain mature stature; up to 25% of attainable age.). EM: Early mature (almost full height, crown still developing and seed bearing; up to 50% of attainable age.). M: Mature (full height, crown spread, seed-bearing; over 50% of attainable age.). OM: Over mature (full size, die-back, small leaf size, poor growth extension.).| **FSB:** First significant branch (& compass bearing) | ERC: Expected remaining contribution in years- <10, 10+, 20+, 40+ (assuming that there will be no physical changes to its immediate environment.| BS Category: Refer to appendix 1 of this report or BS5837:2012 Table 1 for detailed descriptions.

No.	Name	Ht (crown)	Dia (stems)	Crown spread (NESW)	Life stage	ERC	Comments & preliminary recommendations	BS Cat
T39	Acer pseudoplatanus (Sycamore)	14(2)	630(1)	As shown on plan	M	40+	No obvious significant defects. Fair quality with some landscape value. Cavity at main crown break	A2
T40	Populus nigra 'Italica' (Lombardy Poplar)	15(3)	500(1)	As shown on plan	M	20+	No obvious significant defects. Fair quality with some landscape value. Diameter estimated due to undergrowth.	B2
T41	Quercus robur (Common Oak)	3(1.5)	60(1)	2, 2, 2, 2	Y	40+	Small with limited current landscape value. Plotted by eye on plan.	C1
T42	Acer pseudoplatanus (Sycamore)	3.5(0)	300(2)	As shown on plan	M	10+	Low quality and value. Diameter is estimated average.	C1
T43	Acer platanoides (Norway Maple)	9(1.5)	370(1)	As shown on plan	M	40+	No obvious significant defects. Fair quality with some landscape value.	B2
T44	Ulmus (New Horizons)	5(1)	200(1)	As shown on plan	M	40+	No obvious significant defects. Small with limited current landscape value.	C1
T45	Acer platanoides (Norway Maple)	8(1.5)	430(1)	As shown on plan	M	40+	No obvious significant defects. Fair quality with some landscape value.	B2

Notes: Dia (stems): trunk diameter in mm at 1.5m above ground level (number of stems) | **HT (crown):** Tree height (crown clearance) | Life stage: Y: Young (obviously planted within the last three years (unless as a heavy or extra-heavy standard)). SM: Semi-mature (recently planted and yet to attain mature stature; up to 25% of attainable age.). EM: Early mature (almost full height, crown still developing and seed bearing; up to 50% of attainable age.). M: Mature (full height, crown spread, seed-bearing; over 50% of attainable age.). OM: Over mature (full size, die-back, small leaf size, poor growth extension.).| **FSB:** First significant branch (& compass bearing) | ERC: Expected remaining contribution in years- <10, 10+, 20+, 40+ (assuming that there will be no physical changes to its immediate environment.| BS Category: Refer to appendix 1 of this report or BS5837:2012 Table 1 for detailed descriptions.

No.	Name	Ht (crown)	Dia (stems)	Crown spread (NESW)	Life stage	ERC	Comments & preliminary recommendations	BS Cat
T46	Populus nigra 'Italica' (Lombardy Poplar)	18(2)	700(1)	As shown on plan	M	20+	No obvious significant defects. Diameter estimated due to undergrowth. Buttresses lifting footpath	B1
T47	Fraxinus excelsior (Ash)	5(1.5)	210(1)	As shown on plan	EM	10+	Small with limited current landscape value.	C1
T48	Chamaecyparis pisifera (Sawara Cypress)	5(0)	200(1)	2, 2, 2, 2	M	10+	Small with limited current landscape value. Plotted by eye on plan. Inaccessible: diameter estimated.	C1
G49	Acer pseudoplatanus (Sycamore)	10(2)	350(1)	As shown on plan	EM	20+	No obvious significant defects. Moderate quality and value. Off-site and inaccessible: diameter estimated.	B2
T50	Prunus avium (Wild Cherry)	5(1)	200(1)	4, 2.5, 4, 2.5	M	10+	Small with limited current landscape value.	C1

Notes: Dia (stems): trunk diameter in mm at 1.5m above ground level (number of stems) | **HT (crown):** Tree height (crown clearance) | Life stage: Y: Young (obviously planted within the last three years (unless as a heavy or extra-heavy standard)). SM: Semi-mature (recently planted and yet to attain mature stature; up to 25% of attainable age.). EM: Early mature (almost full height, crown still developing and seed bearing; up to 50% of attainable age.). M: Mature (full height, crown spread, seed-bearing; over 50% of attainable age.). OM: Over mature (full size, die-back, small leaf size, poor growth extension.).| **FSB:** First significant branch (& compass bearing) | ERC: Expected remaining contribution in years- <10, 10+, 20+, 40+ (assuming that there will be no physical changes to its immediate environment.| BS Category: Refer to appendix 1 of this report or BS5837:2012 Table 1 for detailed descriptions.

Appendix 3: Tree Protection Plan

BDWS20345-03

LEAP
(400sqm)
OPEN SPACE
LAP
Bin Store
Cycle Store
Gas Meter
Electric Meter
Water Meter
Telecom Box
Sub Station
Pump Station
Tyrpan Box
Drainage Pump
Bin Collection Point
Footway
Carriageway
Kerb
Edge of Road
Footway
Footway
Footway

Head Office
Rodbourne Rail Business Centre
Grange Lane
Malmesbury
SN16 0ES

Tel: 01666 825646

Surrey Office
Courtyard House
Mill Lane
Godalming
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ECOLOGY * ARBORICULTURE
ARBORICULTURAL SITE MONITORING AND SUPERVISION * ARCHAEOLOGY
LANDSCAPE & VISUAL IMPACT ASSESSMENT * LANDSCAPE DESIGN & PLANNING
LANDSCAPE AUDIT * PROJECT MANAGEMENT * EXPERT WITNESS
LANDSCAPE MANAGEMENT